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

# Rules ~~and Regulations~~ Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of ~~Individual Sewage~~ ~~Disposal~~ Onsite Wastewater Treatment Systems


## January 1, 2008

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, and 23-24.3, of the Rhode Island General Laws of 1956, as amended.

*Stricken text: Proposed to be deleted Stricken, double underlined, bold text proposed to be deleted after August 17, 2007.*

*Double underlined text: New text proposed to be added or current text that has been moved out of its original context (in most such cases the current section of the rule is referenced, e.g. "partially from SD 13.04"). Bold double underlined text indicates changes made after August 17, 2007.*

*Bold italicized text: Notes, which will not be included in final rules.*

**TABLE OF CONTENTS**

## LIST OF FIGURES

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

# RULES ~~AND REGULATIONS~~ ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION, AND MAINTENANCE OF ~~INDIVIDUAL SEWAGE DISPOSAL~~ ONSITE WASTEWATER TREATMENT SYSTEMS (OWTSs)

## ~~ADMINISTRATIVE FINDINGS AND POLICY~~

***[Administrative Findings moved in part to Rule 6]***

~~Whereas, the Environmental Standards Board and the Director of the Department of Environmental Management have been delegated authority by Chapters 42-17.1, 46-12 and 5-56 of the General Laws of the Rhode Island, 1956, as amended, and~~

~~Whereas, the people of the State should be assured that adequate and sanitary individual sewage disposal facilities have been and are being provided and maintained for all dwellings and buildings not served by public sewage systems, and~~

~~Whereas, the public health may be imperiled by the diseases and other health hazards which may result from the improper treatment or discharge of sanitary sewage, and~~

~~Whereas, the public health and interest may be harmed by contamination of ground water aquifers which are now used and which may be used as sources of public water supply which can result from the improper location, design, construction and maintenance of individual sewage disposal systems, and~~

~~Whereas, the public health and interest may be harmed by contamination of drinking water wells and other water supplies or tributaries thereto which has and can result from improper location, design, construction or maintenance of individual sewage disposal systems, and~~

~~Whereas, freshwater and coastal waters of the State may be imperiled by high nutrient and bacteriological contamination that has and can result from improper treatment or discharge of sanitary sewage, and~~

~~Whereas, the people of the State may be inconvenienced or harmed by nuisance conditions such as odors and overflows that have and can result from improper location, design, construction or maintenance of individual sewage disposal systems, and~~

~~Whereas, the public use and enjoyment of the recreational resources of the State may be disrupted or imperiled by contamination of those resources which has and can result from improper location, design, construction and maintenance of individual sewage disposal systems, therefore~~

~~It is the policy of the Department of Environmental Management to prohibit package treatment plants which discharge into the ground without specific authorization by the Director.~~

~~It is the policy of the Department of Environmental Management to prohibit holding tanks as a replacement for in-ground sewage disposal systems. The only exceptions shall be 1) where the applicant provides the variance board with sufficient proof that public sewers will be available within one year of construction or 2) for marine toilet pump-outs, to abate water pollution, if: a) on-site systems are unavailable and b) the owner of the property enters into a consent agreement to limit discharge to marine units which are not permanently attached to off-shore connections and to forbid the connecting of any shoreside facilities.~~

~~It is the policy of the Department of Environmental Management to assure the proper location, design, construction and maintenance of individual sewage disposal systems. The public health and environmental quality and public interest of this State requires that the hereinstated regulations be promulgated and enforced pursuant to the authority of the General Laws.~~

~~These regulations are designed to provide minimum standards for the location, design, construction and maintenance of individual sewage disposal systems.~~

~~The following types of disposal systems may be subject to approval by the Department of Environmental Management, Division of Groundwater & Freshwater Wetlands, Underground Injection Control Program (UIC):~~

~~1. Individual sewage disposal systems discharging more than 5,000 gallons per day of wastewater; and~~

~~2. Surface impoundment systems (pits, ponds and lagoons) having no surface water discharge and designed to dispose of sewage as that term is defined in Section 46-12-1 of the General Laws of Rhode Island (1956, as amended), not subject to the provisions of the Hazardous Waste Management Act (Chapter 23-46.2 of the General Laws of Rhode Island, 1956, as amended).~~

## RULE 1. PURPOSE

The purpose of these Rules is to protect public health and the environment by establishing minimum standards for the proper location, design, construction and maintenance of onsite wastewater treatment systems (OWTSs) used for the treatment and dispersal of wastewater. ***[Partially from current rules "Administrative Findings"]***

## RULE 2. AUTHORITY

These Rules are promulgated pursuant to Chapter 42-17.1 Environmental Management; Chapter 5-56 Installers of Individual Sewage Disposal Systems; Chapter 5-56.1 Designers of Individual Sewage Disposal Systems; Chapter 23-19.5 Percolation Tests and Water Table Elevations; Chapter 23-24.3 Substances or Compounds Used as Sewerage System Cleaners; in accordance with Chapter 42-35 Administrative Procedures, of the Rhode Island General Laws of 1956, as amended.

## RULE 3. LIBERAL APPLICATION

The terms and provisions of these Rules shall be liberally construed to allow the Department to effectuate the purposes of state laws, goals, and policies.

## RULE 4. SEVERABILITY

If any provision of these Rules, or application thereof to any person or circumstances, is held invalid by a court of competent jurisdiction, the validity of the remainder of the Rules shall not be affected thereby.

## RULE 5. APPLICABILITY

5.1 These Rules apply to the discharge of wastewater to an OWTS. Other wastewater that does not meet the definition in Rule 7 discharged to the subsurface must be done in accordance with the Department's "Underground Injection Program Rules and Regulations." ~~SD 14.07 Commercial and Industrial Wastes~~ Where an ~~individual sewage disposal system~~ OWTS is approved for discharge of ~~sanitary~~ wastewater from commercial or industrial uses, the Director may require the applicant to obtain an approval from the ~~UIC~~ Underground Injection Control Program if in the opinion of the Director, there is a reasonable risk that materials used in commercial or industrial processing may be discharged to the system.

5.2 These Rules provide minimum requirements for the design of an OWTS and its components. In addition, the Rules provide for the approval of alternative or experimental technologies (Rule 37) that may be used in conjunction with, or as an alternative to, the OWTSs and components specified herein.

5.3 ~~SD 24.00 Consistency~~ No provision of these ~~regulations~~ Rules nor ~~approval~~ permit granted hereunder shall be construed to prevent enforcement of any other state, federal or local laws and regulations duly adopted for the purpose of protecting the public health ~~and/~~or environmental quality.

5.4 Nothing in these Rules shall affect the Director's power and duty to issue an immediate compliance order or take any other action pursuant to the General Laws of Rhode Island, 1956, as amended.

5.5 These Rules shall apply to all applications submitted to the Department after the effective date of these Rules established in Rule 55. Applications submitted to the Department prior to the effective date of these Rules shall be governed by the Rules in effect at that time.

## RULE 6. ADMINISTRATIVE FINDINGS

6.1 OWTSs are an integral part of our total wastewater infrastructure, representing the decentralized systems on the Rhode Island landscape. The people of the State should be assured that adequate OWTSs have been and are being provided and maintained for all dwellings and buildings not served by public sewage systems. ***[This last sentence taken from current rules "Administrative Findings and Policy"]***

6.2 OWTSs must be viewed as wastewater treatment and dispersal systems, not merely as disposal systems. OWTSs must be located, designed, constructed, operated, and maintained in a manner to produce an effluent that, when released into the environment, will not cause adverse public health or environmental impacts.

6.3 The improper location, design, construction, operation and maintenance of OWTSs may have the following harmful effects: ***[6.3.1-6.3.6 taken from current rules "Administrative Findings and Policy"]***

6.3.1 Public health may be imperiled by diseases and other health hazards relating to inadequately treated wastewater;

6.3.2 The public health and interest may be harmed by contamination of groundwater resources that are now used or which may be used in the future as sources of public or private drinking water supply;

6.3.3 The public health and interest may be harmed by contamination of public or private drinking water wells and other water supplies or tributaries thereto;

6.3.4 Freshwater and coastal waters of the State may be imperiled by high nutrient and bacteriological contamination;

6.3.5 The people of the State may be inconvenienced or harmed by nuisance conditions such as odors and OWTS overflows; and

6.3.6 The public use and enjoyment of the water resources of the State for recreational endeavors may be disrupted or imperiled by contamination of those resources.

6.4 The science and technology for onsite wastewater treatment and disposal is rapidly advancing, necessitating that licensed professionals and the Department continue to evaluate and share information and knowledge in order to more effectively protect the public health and the environment.

6.5 Properly functioning OWTS, other than those employing nitrogen reducing technologies, remove only a small percent of nitrogen in the wastewater. Excess nitrogen is a contaminant in drinking water. Excess nitrogen in estuarine environments causes eutrophication, which results in depleted dissolved oxygen conditions and habitat loss.

6.6 Phosphorus in OWTS wastewater is a contaminant that can cause eutrophication in fresh water environments, which results in habitat loss.

6.7 Cesspools are not an approved method of wastewater disposal under these Rules, and all existing cesspools are considered to be substandard.***[From cesspool definition]***

## RULE 7. DEFINITIONS

~~SD 1.00 Definitions~~

As used in these Rules ~~and regulations~~, the following terms shall, where the context permits, be construed as follows:

~~**"Alteration"** means any modernization, modification or change in the size or type of an existing individual sewage disposal system, including, but not limited to, any and all work performed in relation to a building renovation and/or change of use, or work performed to accommodate any increase in sewage flow to the system.~~ ***[Addressed in Rule 18]***

~~**"Alteration Test Hole"** means a dry season test hole excavated in soil other than unconsolidated sand or gravel outwash to obtain field data for an application for alteration.~~

**"Alternative OWTS ~~System~~ Component"** means any part of an ~~ISDS~~ OWTS that does not meet the design or construction requirements as provided by these ~~regulations~~ Rules, but has been demonstrated through field testing, calculations and other engineering evaluations to be equal to, or provide the equivalent performance of any part of an ~~ISDS~~ OWTS within these ~~regulations~~ Rules or to enhance or facilitate treatment, maintenance, longevity or efficiency of an ~~ISDS~~ OWTS, and for which a certification from DEM has been issued.

**"Alternative ~~System or~~ Technology"** means any ~~ISDS~~ OWTS technology ~~that does not meet the location, design or construction requirements as provided by these regulations,~~ for which design parameters are not specified in these Rules, but has been demonstrated through field testing, calculations and other engineering evaluations to comply with performance standards consistent with these ~~regulations~~ Rules, and for which a certification from DEM has been issued.

**"Applicant"** means the owner or owners of the property or easement that is the subject of the application, or it must be the person who holds a valid puchase and sales agreement for said property.

**"Area Subject to Storm Flowage"** means drainage swales and channels which lead into, out of, pass through, or connect other watercourses, and which carry flows resulting from storm events but may remain relatively dry at other times.

**"Bedrock"** means rock, commonly called ledge, that forms the earth's crust. Bedrock includes rotten rock.

**"Bedroom"** means any room in a residential structure which is greater than ~~100~~ seventy (70) square feet in area, which is susceptible to present or future use as a private sleeping area and which satisfies all of the following requirements ~~has at least~~:

(1) Has at least one (1) window that meets the four point four (4.4) square foot minimum size and all other requirements of the "Rhode Island State Building Code SBC-1 **or SBC-2**"; ~~and~~

(2) Has at least one (1) interior method of entry and egress, excluding closets and bathrooms, allowing the room to be closed off from the remainder of the residence for privacy; and

(3) Is a heated living space that is unrestricted for year-round use.

Rooms located below grade that are not recognized as bedrooms by the "Rhode Island State Building Code SBC-1 **or SBC-2**" are not recognized as bedrooms under these Rules.

> ~~Note: In determining the number of bedrooms contained in any residence, it shall be presumed that all residences contain a living room, kitchen, bathroom, and at least one bedroom.~~ ***[Included in Rule 21 on Flows/Number of bedrooms]***

~~**"Black Water"** means that portion of sanitary sewage constituted substantially of human or animal excrement.~~

**"Blackwater"** means liquid and solid human body waste and the carriage waters generated through toilet usage. ***[From EPA Manual]***

~~**"Building Renovation"** means any addition, replacement, demolition and reconstruction, or modification of an existing structure~~

**"Building Sewer"** means the pipe ~~which~~ that begins outside the building foundation wall and extends to ~~any place or mechanism of sewage disposal, including, but not limited to a cesspool, leaching chamber,~~ the septic tank~~.~~, the pipe that begins outside the building foundation wall and extends to the grease tank, the pipe from a grease tank to a septic tank, ~~**and**~~ **or** the pipe carrying laundry wastes directly to a leachfield.~~, or pressure or gravity sewer leading to a leaching system.~~

**"Cesspool"** means any buried chamber, including, but not limited to, any perforated metal tank, perforated concrete vault or covered hollow or excavation, which receives discharges of ~~sanitary sewage~~ wastewater from a building sewer for the purpose of collecting solids and discharging liquids to the surrounding soil. ~~Cesspools are not an approved method of sewage disposal under these regulations, and all existing cesspools are considered to be substandard.~~ ***[Moved to Findings in Rule 6.6]***

**"Change of Use"** means any change in use or occupancy of any structure or part thereof which would violate any provision of the Rhode Island State Building Code, R.I. General Laws Chapter 23-27.3, as amended, ~~and~~/or any regulation promulgated thereto without first obtaining ~~the approval of the appropriate building official and/or without the issuance of~~ a certificate of occupancy indicating that the structure complies with the provisions of the state building code for the proposed new use. Change of use shall also be held to mean a conversion of a seasonally used structure to a structure for year-round use.

**"Coastal Shoreline Feature"** means a part of the shore as categorized by the State of Rhode Island Coastal Resources Management Program using the following categories: coastal beaches; barrier islands and spits; coastal wetlands; coastal headlands, bluffs and cliffs; rocky shores; manmade shorelines; and dunes.

**"Compost Toilet"** means any self-contained toilet from which no liquid or solid waste materials are regularly discharged and from which a humus-like end product is produced. ***[Was previously defined as Humus Toilet]***

~~**"Conventional System"** means a traditional ISDS with a septic tank, pump chamber with pump or siphon (if needed), distribution box and a leachfield with gravity distribution.~~

**"Department" or "DEM"** means the Rhode Island Department of Environmental Management.

**"Director"** means the Director of the Rhode Island Department of Environmental Management or any subordinate(s) to whom the Director has delegated the powers and duties vested in him/her pursuant to Rhode Island General Laws Chapters 46-12 and 42-17.1, as amended, or any other duly authorized Agent.

~~**DISPOSAL BED** - A "disposal bed" for sewage shall be held to mean a shallow excavation in the ground, backfilled with stone, in which perforated distribution lines, or other suitable distribution devices, are laid and over which a cover of earth is placed.~~

**"~~Disposal~~ Dispersal Trench"** means a shallow ditch with vertical sides, filled with stone, in which a single perforated distribution line or other suitable distribution device~~s~~ is laid and over which a cover of earth is placed.

**"Distribution Box"** means a watertight compartment ~~which~~ that receives ~~septic tank~~ effluent and distributes it in approximately equal portions to two (2) or more ~~pipe~~ distribution lines leading to some type of ~~seepage system~~ leachfield.

**"Distribution Line"** means ~~a~~ the imperforated and perforated pipe or other suitable distribution device used to disperse ~~septic tank~~ effluent that extends from the distribution box.

~~**DIVISION** - The term, "Division," shall refer to the Rhode Island Department of Environmental Management's Division of Groundwater and ISDS.~~

**"Dosing"** means the pumped or regulated flow of wastewater.

~~**"Dosing Tank"** means a watertight structure equipped with one or more siphons or pumps designed to discharge sewage intermittently into a seepage system.~~ ***[See "Pump Tank"]***

~~**"Dry Season Test Hole"** means a test hole excavated in the proposed leachfield area as determined by the Director.~~

**"Experimental ~~System or~~ Technology"** means any ~~innovative ISDS~~ OWTS technology that does not meet the location, design or construction requirements as provided by these ~~regulations~~ Rules, but ~~may demonstrate through field testing, calculations and other engineering evaluations the ability to comply with the performance standards consistent with these regulations.~~ has been demonstrated in theory to meet the requirements of these Rules and may not be in use in Rhode Island or elsewhere as an approved technology for wastewater treatment.

**"Failed ~~System~~ OWTS"** means any ~~sewage disposal system~~ OWTS that does not adequately treat and ~~dispose of~~ disperse ~~sanitary sewage~~ wastewater so as to create a public or private nuisance or threat to public health ~~and~~/or environmental quality, as evidenced by, but not limited to, one or more of the following conditions:

(1) Failure to accept wastewater into the building sewer;

(2) Discharge of ~~sanitary sewage~~ wastewater to a basement; subsurface drain; ~~surface drain~~ stormwater collection, conveyance, or treatment device; or ~~surface water~~ watercourse unless expressly permitted by the Department;

(3) ~~Sanitary sewage~~ Wastewater rising to the surface of the ground over or near any part of ~~an individual sewage disposal system~~ OWTS or seeping ~~downgradient~~ from the absorption area at any change in grade, bank or road cut;

(4) The invert of the inlet or the invert of the outlet for a septic tank, distribution box, or pump tank is submerged;

(5) The liquid depth in a cesspool is less than six (6) inches from the inlet pipe invert;

(6) Pumping of the cesspool or septic tank is required more than two (2) times per year;

(7) OWTS is shown to have contaminated a drinking water well or watercourse;

(8) If a septic tank, pump tank, distribution box, or cesspool is pumped and groundwater seeps into it; or

(9) ~~(4)~~ Any deterioration, ~~or~~ damage, or malfunction relating to any ~~individual sewage disposal system~~ OWTS that would preclude adequate treatment and ~~disposal~~ dispersal of wastewater. ~~(For example, contact between the bottom of the ISDS and the groundwater table.~~

(10) Excessive solids are evident in the distribution box or distribution lines.

~~**FILL TEST HOLE** – The term "Fill Test Hole" shall mean test holes excavated to determine the depth of original ground surface in relation to fill material in the proposed leachfield area.~~

~~**FILLED SYSTEM** – The term, "filled system", shall be held to mean any system where the groundwater table is less than four feet from the original ground surface and depth to ledge is less than six feet from original ground surface.~~

**"Financial Surety"** means a general obligation bond , revenue bond, performance bond, or any other type of financial guaranty, in fully marketable form, as evidence to the commitment of the construction of a sewer project.

**"Floodplain"** means that land area adjacent to a river or stream or other body of flowing water which is, on the average, likely to be covered with flood waters resulting from a one hundred (100) year frequency storm. A one hundred (100) year frequency storm is one that is to be expected to be equaled or exceeded once in one hundred (100) years; or may be said to have a one percent (1%) probability of being equaled or exceeded in any given year. Rainfall intensity data for a one hundred (100) year frequency storm are those established for New England locations by the National Weather Service. ***[From DEM Wetlands Regulations]***

**"Foundation Drain"** means any mechanical or gravity drainage system**, including all porous media installed to facilitate drainage,** that lowers the groundwater elevation beneath a building foundation and which has an outlet for the collected groundwater. ~~**For the purposes of these Rules, the foundation drain shall include all porous media installed to facilitate drainage.**~~

**"Freshwater Wetland"** is defined as set forth in Rhode Island General Laws Section 2-1-20~~(d)~~(4), as amended, and as further defined by the Department's "Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act." The term shall further be held to include those wetland types defined by the remainder of section 2-1-20 and the wetland regulations, including, but not limited to: marshes, swamps, bogs, ponds, rivers, river and stream floodplains and banks, areas subject to flooding or stream water, including rivers and streams, and that area of land within fifty (50) feet of the edge of any bog, marsh, swamp or pond or that area within one hundred (100) feet of a flowing body of water less than ten (10) feet wide or that area within two hundred (200) feet of a flowing body of water greater than ten (10) feet in width.

~~**"Grey Water"** means any wastewater discharge from a structure excluding the waste discharges from water closets and waste discharges containing human or animal excrement.~~

**"Graywater"** means wastewater drained from sinks, tubs, showers, dishwashers, clothes washers, and other non-toilet sources. ***[From EPA Manual]***

**"Groundwater Table"** means the upper surface of the zone of saturation in an unconfined aquifer; includes a perched groundwater table.

~~**HIGHLY PERMEABLE** The term "highly permeable" shall be held to mean any gravel and/or coarse sand fill or naturally occurring soil with a percolation rate (equivalent permeability) faster than 3 minutes per inch.~~

**"Holding Tank"** means a closed watertight structure used to contain wastewater prior to being removed from the premises. A holding tank does not discharge wastewater to the surface of the ground or to the subsurface.

**"Human Transported Material"** means any materials, other than those emplaced pursuant to these Rules, including but not limited to artifacts, organic materials, soil, rock, or sediment moved horizontally by directed human activity.

~~**"Humus Toilet"** means any self-contained toilet from which no liquid or solid waste materials are regularly discharged and from which a humus-like end product is produced~~

***[Moved to definition of Compost Toilet]***

**IMPERVIOUS** - The term, "impervious", shall be held to mean any ledge, shale, bedrock or rotten rock and, for the purpose of these regulations, any soil with a percolation rate slower than 40 minutes per inch.
***[Replaced with "Restrictive Layer" and "Bedrock"]***

**"Individual Sewage Disposal System"** means any system of piping, tanks, disposal areas, alternative toilets or other facilities designed to function as a unit to convey, store, treat and/or dispose of sanitary sewage by means other than discharge into a public sewer system. ***[See "Onsite Wastewater Treatment System"]***

**"Invert"** means the lowest portion of the interior of a pipe or fitting.

**"Large Onsite Wastewater Treatment System"** means an OWTS that meets any of the following:

(1) Any single OWTS designed to treat five thousand (5,000) gallons or more per day;

(2) Multiple OWTSs for any project on one or more parcels of land, excluding residential subdivisions, where the total design flow for the project is five thousand (5,000) gallons or more per day; or

(3) All OWTSs serving more than one (1) unit in a residential subdivision, provided that the total design flow of these OWTSs, each serving more than one unit, is five thousand (5000) gallons or more per day.

**"Large Capacity Cesspool"** means a cesspool that serves any non-residential facility that has the capacity to serve more than twenty (20) people per day or serves any multi-family residence or apartment building.

**"Leachfield"** means a group of one or more disposal dispersal chambers or trenches or beds designed for the final treatment and disposal dispersal of a septic tank or equivalent effluent in wastewater into the underlying soil. The leachfield shall be held to mean the horizontal and vertical lines circumscribing the outermost edges including the area between the chambers or trenches and the depth to the bottom of stone.

**"Leachfield Area"** means the leachfield and the leachfield perimeter.

**"Leachfield Perimeter"** means the twenty-five foot area surrounding the leachfield.

**"Leaching Chamber"** means any of a number and type of shallow, hollow, open bottom structures with perforated sidewall into which septic tank effluent is discharged for leaching into the ground.

**LEDGE TEST HOLE** - The term "Ledge Test Hole" shall mean test holes excavated to determine the depth to impervious material in the proposed leachfield area.

**"Linear Loading Rate"** means the loading rate per linear foot of leachfield (gallons per day per linear foot) along the land's contour.

**"Maintenance"** means the regular cleaning, replacement, or servicing of any leaching chamber, cesspool, septic tank, building sewer, distribution lines or any other portion or component of an ISDS OWTS for the purpose of removing any accumulated liquid, scum and/or sludge. The term, "maintenance," shall also be held to include any regularly required servicing or replacement of any related mechanical, electrical, or other component equipment.

**MAXIMUM GROUND WATER TABLE ELEVATION** - The term, "maximum ground water table elevation," shall mean the elevation of the water table that is observed when the ground water is at its highest

~~level during the year or highest level observed in past years when such information is available.~~ ***[replaced with "seasonal high groundwater table"]***

**"Nitrogen reducing technology"** means a wastewater treatment technology that is accepted by the Department as capable of reducing the total nitrogen concentrations by at least 50% and meeting an effluent concentration of less than or equal to 19 mg/l.

**"Onsite Wastewater Treatment System (OWTS)"** means any system of piping, tanks, dispersal areas, alternative toilets or other facilities designed to function as a unit to convey, store, treat or disperse wastewater by means other than discharge into a public sewer system. ***[From ISDS definition]***

**"Original Ground"** means those soils ~~or other natural geological features which~~ that have been deposited or developed by natural processes, excluding storm deposited sand in the backdune environment.

**"Owner"** means any person who ~~alone, or jointly or severally with others~~: ~~(a)~~ holds legal title to any real property; or ~~(b)~~ has possession or control of any real property through any agent, executor, executrix, administrator, administratrix, trustee or guardian of the estate of a holder of a legal title, ~~or has possession or control through any lease or purchase and sale agreement~~. Each such person is bound to comply with the provisions of these Rules ~~and regulations~~.

~~**PACKAGE TREATMENT PLANT** – The term, "package treatment plant," shall be held to mean a modular treatment facility of the extended aeration type, which design shall be consistent with criteria set forth for the activated sludge process in "Guides for the Design of Wastewater Treatment Works," (NEIWPCC, TR-16, latest edition), or other acceptable design standards. The effluent shall normally be disposed of into the soil through a surface sand filter.~~

~~**PERCOLATION TEST** – The term, "percolation test," shall be held to mean a test to determine the absorption capacity of the soil.~~

**"Person"** means any individual, group of individuals, firm, corporation, association, partnership or any federal, state or municipal governmental entity.

**"Private Drinking Water Well"** means any manmade opening into the ground developed for the purpose of meeting ~~all or part of~~ a person's current potable drinking water need~~s~~ provided said well does not supply a public water system. This definition shall include proposed private drinking water wells on other properties with an approved OWTS permit. Wells serving non-potable or non-drinking water needs are not considered private drinking water wells under these Rules. A well on a property that is served by a public water system is not considered a private drinking water well under these Rules.

~~**PRIVY** – The term, "privy," shall be held to mean any facility used for a toilet lacking the flushing aid of water and consisting of a pit or vault into which the waste matter falls.~~

**"Probe"** means any exploratory test employing a driving rod, tool or other device to establish the depth of ~~ledge~~ bedrock. ~~in the proposed leachfield perimeter.~~

~~**PROPERTY IMPROVEMENT** – The term, "property improvement," shall be held to mean any structure or residence, as defined herein, or any other building, construction, excavation or other manmade feature added to a raw, unimproved parcel of real property.~~

**"Public Drinking Water Supply Well" or "Public Well"** means any manmade opening into the ground developed for the purpose of meeting all or part of a public water system needs.

**"Public Water System"** means any water system that provides piped water to the public for human consumption, provided that such system has at least fifteen (15) service connections or serves an average of twenty-five (25) individuals daily at least sixty (60) days out of the year. A public water system shall include all sources and facilities involved in collecting, treating, storing and distributing the water.

**"Pump Tank"** means a watertight structure equipped with one or more pumps designed to discharge wastewater intermittently into a leachfield.

***[Taken from definition of "Dosing Tank"]***

~~**"Repair"** means work performed on an ISDS in order to mend or remedy a specific defect or deficiency after the failure, injury, deterioration or partial destruction of a previously existing ISDS or component thereof. A repair shall not include any work performed on an existing ISDS which increases the flow capacity of the system.~~ ***[Addressed in Rule 17]***

**"Residence"** means any structure used for housing purposes, including, but not limited to, single or multiple family dwellings, duplexes, tenements, apartment buildings, residential condominiums, mobile homes, recreational vehicles or trailers.

**"Restrictive Layer"** means a soil horizon that is assigned to a soil category 10 as defined in Rule 15.11.

**"Rotten Rock"** means any ~~highly~~ decomposed but still coherent rock.~~, including, but not limited to, highly weathered granitic bedrock.~~ Rotten Rock is greater than 50% coherent rock and lies above equal or more coherent rock.

~~**"Sanitary Sewage"** means any human or animal excremental liquid or substance, any putrescible animal or vegetable matter and/or any garbage and filth, including, but not limited to, any grey water or black water discharged from toilets, laundry tubs, washing machines, sinks, and dishwashers. as well as the content of septic tanks, cesspools, or privies.~~ ***[Modified and moved to "Wastewater"]***

~~**SEEPAGE PIT** - The term, "seepage pit," shall be held to mean a covered pit with open jointed sidewalls and bottom, from which septic tank effluent or waste containing little or no solids is leached into the soil.~~

**"Seasonal High Groundwater Table"** means the elevation of the groundwater table during that time of the year at which it is highest. ~~**as determined by direct observation or by interpretation of hydromorphic features in the soil profile.**~~

**"Septage"** means any solid, liquid or semi-solid removed from septic tanks, cesspools, privies, domestic wastewater holding tanks or other similar onsite wastewater treatment systems.

**"Septic Tank"** means a watertight receptacle which receives the discharge of ~~sanitary sewage~~ wastewater from a building sewer, and is designed and constructed to permit the deposition of settled solids, the digestion of the matter deposited, and the discharge of the liquid portion into ~~a leaching system~~the next treatment component or distribution box.

**"Septic Tank Effluent Pipe"** means the gravity-flow pipe that begins at the outlet of the septic tank or other treatment tank and extends to the next treatment component or distribution box.

***[Shoreline feature changed to "coastal shoreline feature"]***
~~**"Shoreline Feature"** shall be held to include, but not be limited to, the following:~~

~~(1) Barrier Beaches: Barrier beaches are narrow strips of land made of unconsolidated material, usually extending parallel to the coast and separated from the mainland by a coastal pond, tidal water body or coastal wetland. In most cases, barrier beaches contain dunes or dune fields. The lateral limits of barrier beaches are defined by the area where unconsolidated sand or cobble abut rock, glacial till or other sediments unrelated to deposits made by the forces of the wind and water. This definition of a barrier beach system is commonly associated with many geomorphic descriptions. These descriptions include, but are not limited to, barrier islands, bay barriers, and spits. Spits are further described as tombolo, shingle, cuspate and flying spits. The terms "bar" and "ridge" were once used to describe a barrier system but have since been replaced with the term "barrier".~~

~~(2) Coastal Beaches: Coastal beaches include expanses of unconsolidated, usually unvegetated sediments that are commonly subject to wave action. They generally parallel the coastal trend and extend from low water landward to an upland rise, usually the foot of a dune, cliff, bank or manmade structure.~~

~~(3) Dunes: Dunes are hills, mounds or ridges of sand formed by wind action and usually follow the general coastal trend immediately inland of a coastal beach. Dunes which are undisturbed are usually vegetated with beach grass and shrubs.~~

~~(4) Coastal Cliffs, Bluffs and Banks: Coastal cliffs, bluffs and banks are the seaward face of any elevated landform directly abutting coastal waters, a beach, coastal wetland or rocky shore.~~

~~(5) Manmade Shorelines: Manmade shorelines are those characterized by manmade shoreline protection structures and other alterations that have effected the shoreline to such an extent that natural shoreline features are no longer dominant.~~

~~(6) Rocky Shores: Rocky shores include naturally occurring shorelines composed of bedrock ledge or cobble or boulder strewn areas, extending from below the mean low water mark to above the mean high water mark. These areas frequently contain tide pools.~~

**"Single-service articles"** means tableware, carry-out utensils, and other items such as bags, containers, placemats, stirrers, straws, toothpicks, and wrappers that are designed and constructed for use one time by one individual. ***[DOH Food Code]***

~~**"Siphon"** means a hydraulic device designed to discharge the contents of a dosing tank rapidly when a predetermined level is reached.~~

~~**"Slope" or "Grade"** means the rate of rise or fall of a pipeline or of the ground surface in reference to a horizontal plane. Slope or grade are commonly referred to as 'rise over run;' a measurement which is a function of the rise or fall of the pipe or ground surface (as measured in inches or feet or a metric equivalent) divided by the linear distance over which the rise or fall occurs (as measured in inches or feet or a metric equivalent, respectively).~~

~~**"Specially Engineered System"** means any ISDS which does not meet the location, design or construction requirements as provided by these regulations but which, through additional field testing, calculations and other engineering evaluations, may be demonstrated to comply with intent of these regulations.~~

**"Storm Drain"** means any pipe or structure designed to collect, carry and~~/or~~ divert surface water runoff.

**"Structure"** means any residence (as defined herein), building, garage, shack, trailer or other permanent or semi-permanent facility, whether commercial or non-commercial in use, which is proposed to be placed or has been built or otherwise placed on a parcel of real property.

**"Subdivision"** means ~~three (3) or more contiguous lots of record under common ownership or the division of a single lot, or parcel of land into three (3) or more lots or other divisions of land for the purpose of making said lot(s) more susceptible to present or future development, sale or transfer.~~ the division or re-division of a lot, tract, or parcel of land into two (2) or more lots, tracts, or parcels. ***[From subdivision state law RIGL 45-23-32]*** For the purpose of these Rules, subdivisions will also include two (2) or more contiguous lots of record under common ownership when either located on a paper street or where property line changes are proposed.

**"Subdivision Layout"** means any proposed design or arrangement of lots, roads, structures, easements, utilities or other features to be incorporated into a subdivision.

**"Subsurface Drains"** means any system of below surface piping ~~and/~~or highly permeable material intended to lower the groundwater table of an area, and which has an outlet to the surface for the collected groundwater. ~~A foundation drain is a category of subsurface drain for the purpose of protecting the building foundation.~~

**"Test Hole"** means any excavation ~~hole~~ in the proposed leachfield area to ~~establish~~ collect information on the soil profile~~, density, structure, texture, mottling, color,~~ depth to ~~impervious material~~ a restrictive layer or bedrock, depth to seasonal high groundwater table or any other applicable field information. ~~The five types of test holes are alteration, dry season, fill, ledge and wet season.~~

~~**"Tidalwater" or "Tidewater"** means any watercourse, coastal wetland, freshwater wetland, river, stream, brook, pond, lake, swamp, marsh, bog, fen, wet meadow or any other standing or flowing body of water effected by the tides.~~

**"Tributary"** means any flowing body of water or watercourse that provides intermittent or perennial flow to down-gradient watercourses that eventually discharge to the waters of concern (e.g., reservoir impoundment or salt pond). ***[Adopted from CRMC definition in SAM Plans]***

**"Tributary Wetland"** means freshwater wetlands within a watershed that are connected via a watercourse to the waters of concern (e.g., drinking water supply impoundment or coastal wetland or tidal waters). ***[Adopted from CRMC definition in SAM Plans]***

**"Wastewater"** means human or animal excremental liquid or substance, putrescible animal or vegetable matter or garbage and filth, including, but not limited to, water discharged from toilets, bath tubs, showers, laundry tubs, washing machines, sinks, and dishwashers. Both blackwater and graywater are considered wastewater under these Rules.

**"Watercourse"** means any river, stream, brook, pond, lake, swamp, marsh, bog, fen, wet meadow, area subject to storm flowage, ~~tidewater~~ or any other standing or flowing body of water, including such watercourses that may be affected by the tides.

~~**WET SEASON TEST HOLE** The term "Wet Season Test Hole shall mean a test hole excavated in the proposed leachfield area for monitoring during the designated "wet season" as determined by the Director.~~

**"Wellhead Protection Area"** means the area as designated by the Director in the DEM "Rules and Regulations for Groundwater Quality"surrounding a public well or wellfield through which water will move toward and reach such well or wellfield.

## RULE 8. PROHIBITIONS

8.1 No individual shall prepare plans, applications, certifications or specifications for the design of an OWTS that is to be submitted to the Department pursuant to these Rules, unless such individual has a valid license in accordance with the provisions of these Rules to conduct such activity. ***[From SD 25.01(a)]***

8.2 No individual shall install, construct, alter, or repair an OWTS pursuant to these Rules unless such individual has a valid license in accordance with the provisions of these Rules to conduct such activity. This prohibition does not apply to a property owner installing, constructing, altering, or repairing an OWTS to serve a building the owner occupies or will occupy as the owner's intended permanent domicile, provided that the owner has obtained written permission for that work and has obtained the Director's approval of the plans and specifications for that work prior to the start of any construction. ***[From RIGL 5-56-1, see also Rule 44.1]***

8.3 No person shall install, construct, alter or repair or cause to be installed, constructed, altered or repaired any OWTS without first obtaining the Director's written approval of the plans and specifications for such work and without adhering to each and every term of the approval. ***[From SD 2.01(a)]*** OWTS repairs in accordance with Rule ~~**18.6.4**~~ **17.7.4** are exempt from this prohibition.

8.4 ~~SD 2.04~~ Use ~~The use of an individual sewage disposal system shall conform to the terms of the approval; its designed capacity must not be exceeded.~~ No person shall utilize an OWTS permitted under these Rules:

8.4.1 In a manner that causes wastewater flow to exceed the OWTS's design capacity;

8.4.2 For other wastewater that does not meet the definition in Rule 7;

8.4.3 For disposal of wastes from marine pump-out facilities; or

8.4.4 In a manner that does not conform with the terms of the Department issued permit.

8.5 Use of a failed OWTS is prohibited except in accordance with the requirements of an enforcement notice or order issued by the Director.

8.6 No person shall install an OWTS leachfield in an area designated as a freshwater wetland unless approved by the DEM Freshwater Wetlands Program.

8.7 ~~SD 2.07 Discharge to a Watercourse -~~ No person shall discharge or ~~permit~~ allow the entrance of ~~sanitary sewage~~ wastewater, treated or untreated, into any watercourse, nor shall they discharge or permit the entrance of such ~~sanitary sewage~~ wastewater into any open or covered drain tributary to such ~~waters~~ watercourse, without ~~having obtained an order for the Director approving the same~~ the approval of the Director.

8.8 ~~SD 2.08 Discharge on or to the Surface of the Ground~~ - No person shall discharge ~~or permit the overflow or spillage of~~ any treated or untreated ~~sanitary sewage~~ wastewater ~~on or~~ to the surface of the ground ~~unless permitted by~~ without the approval of the Director. However, this shall not interfere with the spreading of animal manure or compost containing wastewater biosolids originating from a DEM-approved municipal composting facility on the surface of the ground in accordance with normal agricultural practices.

8.9 ~~SD 2.12 Septic System Additives -~~ The use of acid and organic chemical solvents in any ~~individual sewage disposal system~~OWTS is hereby prohibited. The Department does not recognize any additive product as being beneficial to the operation of an OWTS.

8.10 ~~SD 2.13 Septic Tank Cleaners - Reference Chapter 23-49 Rhode Island General Laws of 1956, as amended Entitled: Septage, Industrial Wastes, Waste Oil Pumping, and Cleaning and Transportation.~~ No person shall engage in the business of pumping, cleaning or transporting septage unless such person has obtained a Hazardous Waste Transporter Permit from the Director in accordance with the Rhode Island Rules and Regulations for Hazardous Waste Management, as amended.

8.11 ~~SD 2.18 Laundromat Wastes~~ Commercial laundromat(s) shall not be permitted to discharge to an ~~individual sewage disposal system.~~ OWTS. Self-service laundry facilities operating in compliance with R.I.G.L. 46-29-3, "Phosphate Reduction," are exempt from this prohibition.

8.12 Deep concrete chambers (galleys) as described in Rule 34 are prohibited for OWTSs Applications for New Building Construction and OWTS Applications for Alterations to a Structure (Rule 17).

8.13 Roof drains, surface drains, and subsurface drains shall not be permitted to discharge to an OWTS.

8.14 Floor drains that receive wastewater that does not meet the definition in Rule 7 shall not be permitted to discharge to an OWTS. The Department may prohibit any floor drain from discharging to an OWTS where there is a reasonable likelihood that such wastewater may enter such floor drain.

8.15 Holding tanks for wastewater are prohibited for new construction and alterations.

8.16 Siphons are prohibited for OWTS with a design flow less than five thousand (5000) gallons per day unless used as part of an approved Alternative or Experimental Technology approved pursuant to Rule 38.

8.17 The use of large capacity cesspools is prohibited in accordance with US Environmental Protection Agency "Revisions to the Underground Injection Control Regulations for Class V Injection Wells", December 7, 1999, 40 CFR Parts 9, 144, 145 and 146. Any such large cesspool shall cease to be used and shall be properly removed or abandoned in accordance with Rule 52.

## RULE 9. CLASS I, II, III, AND IV LICENSES

~~SD 25.00 Licenses~~

~~SD 25.01 License Required:~~

~~(a) Beginning one year after the issuance of the first Class I, II, or III Designer's License, No person shall prepare plans, applications, certifications and specifications for the design of an ISDS that is to be submitted to the Department pursuant to these regulations, unless such person has a valid license in accordance with the provisions of this section to conduct such activity.~~ ***[Moved, in part, to Rule 8.1]***

~~(b) Beginning one year after the issuance of the first Class IV Soil Evaluator's License, No person shall submit a site evaluation report required by these regulations unless the soil evaluation component of the site evaluation is completed by a person holding a valid license in accordance with the provisions of this section.~~

~~SD 25.02 Licenses:~~

9.1 ~~(a)~~ Class I Designer's License -- A Class I license authorizes the design of a repair to an ~~existing~~ ~~ISDS~~ OWTS, or any component thereof, provided that the repaired ~~system~~ OWTS meets one of the criteria below:

9.1.1 ~~(1) Conventional ISDS~~ OWTS, other than alternative or experimental systems, permitted under these Rules for residential use with a design flow of less than or equal to nine hundred (900) gallons per day; or

9.1.2 ~~(2)~~ Alternative or experimental ~~system~~ OWTS for residential use designated by the Director as suitable for a Class I designer with a design flow of less than or equal to nine hundred (900) gallons per day.

9.2~~(b)~~ Class II Designer's License -- A Class II license authorizes the design of the following:

9.2.1~~(1)~~ The design of an OWTS Repair or OWTS for an Alteration ~~for~~ to a ~~an Existing~~ ~~system~~ Structure as defined in Rule 17, provided that the ~~repaired or altered system~~ OWTS meets one of the criteria below:

(A) ~~Conventional ISDS~~ OWTS, other than alternative or experimental systems, permitted under these Rules for residential use with a design flow of less than or equal to two thousand (2000) gallons per day;

(B) Alternative or experimental ~~system~~ OWTS for residential use designated by the Director as suitable for a Class II designer with a design flow of less than or equal to two thousand (2000) gallons per day;

(C) ~~Conventional ISDS~~ OWTS, other than alternative or experimental systems, permitted under these Rules for commercial use with a design flow of less than or equal to nine hundred (900) gallons per day; or

(D) Alternative or experimental ~~system~~ OWTS for commercial use designated by the Director as suitable for a Class II designer with a design flow of less than or equal to nine hundred (900) gallons per day.

9.2.2 ~~(2)~~ The design of ~~a new system~~ an OWTS for New Building Construction as defined in Rule 17, provided that the ~~system~~ OWTS meets one of the criteria ~~above~~ in ~~(b)(1)~~ Rule 9.2.1 (A)-(D) and the ~~system~~ OWTS is on a lot that does not require a variance from any of the following provisions of the ~~regulations~~Rules:

(A) ~~SD 15.02~~ Rule 32 -- in regards to ~~the prohibition of~~ ~~system~~ OWTS installation in areas where there is a shallow depth to the seasonal high groundwater table or to ~~an impervious~~ a restrictive layer or bedrock from the original ground surface;

(B) ~~SD 3.05(6) and 3.05(10)~~ Setbacks in Table 22.2 and Table 22.5 for drinking water supplies; or

(C) ~~In critical resource areas, as defined in SD 19.00, setbacks established in Table 19.1 and SD 3.05(1)~~ Setbacks in Table 22.3 for the Salt Pond and Narrow River Critical Resource Areas.

9.3 ~~(c)~~ Class III Designer's License -- A Class III license authorizes the design of any ~~ISDS~~ OWTS provided for under these ~~regulations~~ Rules.

9.4 ~~(d)~~ Class IV Soil Evaluator's License -- A Class IV license authorizes the performance of soil evaluations described in ~~SD 26.00~~ Rule 15. ~~Persons~~ Individuals holding a Class IV license will be referred to herein as soil evaluators.

9.5 Class I, II, III, and IV licenses shall be in effect for a period not to exceed three (3) years following the date of issuance.

## RULE 10. OBTAINING A CLASS I, II, III OR IV LICENSE

~~SD 25.03 Obtaining a License~~

10.1 ~~(a)~~ Examination- Any ~~person~~ individual seeking a license under these ~~regulations~~ Rules will be required to pass the appropriate examination administered or sanctioned by the Department. An examination shall be given for each class at least once per year. Each applicant for an examination shall submit a completed application to the Director, which shall include the non-refundable examination and new license application fee ~~of $50~~. In the event that ~~a person~~ an individual fails an examination given pursuant to these ~~regulations~~ Rules, the individual ~~there~~ shall ~~be a~~ ~~$50~~ pay the examination and new license fee for each subsequent time an examination is taken.

10.2 ~~(b)~~ Minimum Qualifications- In order to qualify for an examination, the applicant must demonstrate to the Department with appropriate documentation that the minimum qualifications below are met for the respective examination:

10.2.1 ~~(1)~~ Class I -- A valid installer's license authorizing the installation of ~~ISDSs~~ OWTSs pursuant to ~~RI General Laws Chapter 5-56~~ Rule 13, or registration as a Professional Land Surveyor with the Rhode Island State Board of Registration for Professional Land Surveyors, or Registration as a Professional Engineer with the Rhode Island State Board of Registration for Professional Engineers. Professional Engineers registered in Rhode Island after December 31, 1994 must be registered as a Civil Engineer or Environmental Engineer.

10.2.2 ~~(2)~~ Class II -- Registration as a Professional Land Surveyor with the Rhode Island State Board of Registration for Professional Land Surveyors or Registration as a Professional Engineer with the Rhode Island State Board of Registration for Professional Engineers. Professional Engineers registered in Rhode Island after December 31, 1994 must be registered as a Civil Engineer or Environmental Engineer.

10.2.3 ~~(3)~~ Class III -- Registration as a Professional Engineer with the Rhode Island State Board of Registration for Professional Engineers. Professional Engineers registered in Rhode Island after December 31, 1994 must be registered as a Civil Engineer or Environmental Engineer.

10.2.4 ~~(4)~~ Class IV

(A) The minimum qualifications for the Class IV exam shall be satisfied by meeting any one of the following:

(i) Registration as a professional soil scientist by the Society of Soil Scientists of Southern New England or the American Registry of Certified Professionals in Agronomy, Crops and Soils; ~~or~~

(ii) Four (4) years professional experience in soil studies ~~and percolation testing~~ for ~~septic system~~ OWTS design in Rhode Island or in soil classification, mapping, interpretation or a combination thereof; and successful completion of nine (9) semester hours in soil science from an accredited college or university; or

(iii) Two (2) years professional experience in soil studies ~~and percolation testing~~ for ~~septic system~~ OWTS design in Rhode Island or in soil classification, mapping, interpretation or a combination thereof; and a bachelor's degree or graduate degree from an accredited college or

university in soil science, geology, engineering or similar discipline with successful completion of nine (9) semester hours in soil science~~;~~.

(B) The Director reserves the right to determine which courses are acceptable in meeting the requirement for nine (9) semester hours in soil science in (A)(ii) and (iii) above. The Director may determine that certain courses or training other than those from an accredited college or university are an equivalent and acceptable alternative to all or part of the requirement in (A)(ii) and (iii) above for nine (9) semester hours in soil science.

~~(c) An examination shall be given for each class at least once per year. once the first examination in that class has been given.~~***[Moved to Rule 10.1]*** ~~Minimum passing score for an examination shall be a 70% percent correct response for all questions comprising the examination.~~***[Moved to Rule 10.6]***

10.3 ~~(d)~~ Examination Descriptions:

10.3.1 ~~(1)~~ The examination for a Class I designer's license shall be a written examination that, at minimum, addresses the following:

(A) Principles of on-site ~~sewage~~ wastewater treatment and ~~disposal~~ dispersal;

(B) Understanding of the applicable state ~~regulations~~ rules;

(C) Analysis of ~~ISDS~~ OWTS failures; and

(D) Design and construction of ~~ISDS~~ OWTS repairs, with consideration given to soil types and related constraints.

10.3.2 ~~(2)~~ The examination for a Class II designer's license shall ~~be a two part written examination that~~, at minimum, address~~es~~ the following:

(A) ~~Part One shall consist of the test given for a Class I license; and~~ Principles of on-site wastewater treatment and dispersal;

(B) ~~Part Two shall, at minimum, address the following:~~ Analysis of OWTS failures;

(C) Design and construction of OWTS repairs, with consideration given to soil types and related constraints;

(D) ~~(i)~~ Advanced principles of on-site ~~sewage~~ wastewater treatment and ~~disposal~~ dispersal;

(E) ~~(ii)~~ Understanding of the applicable state ~~regulations~~ rules; and

(F) ~~(iii)~~ Design and construction of new ~~ISDSs~~ OWTSs, including constraints to design imposed by soils.

10.3.3 ~~(3)~~ The examination for a Class III designer's license shall be a two (2) part written examination, each of which will be graded separately. The first part shall consist of the test given for the Class II license. Passage of the first part makes the applicant eligible for the Class II designer's license. The two parts of the Class III examination do not have to be passed concurrently. However, if more than three (3) years elapse after the applicant passes one of the components of the examination, the applicant must

retake that portion of the examination originally passed more than three (3) years earlier. In addition to including the Class II examination, the Class III examination shall address the following:

~~(A) Part One shall consist of the test given for a Class II license; and~~

~~(B) Part Two shall, at minimum, address the following:~~

(A) ~~(i)~~ Understanding of additional applicable state ~~regulations~~ rules;

(B) ~~(ii)~~ Groundwater hydrology;

(C) ~~(iii)~~ Commercial wastewater treatment;

(D) ~~(iv)~~ Advanced wastewater treatment technologies; and

(E) ~~(v)~~ Operation of electrical and mechanical components of ~~wastewater treatment systems~~ OWTSs.

10.3.4 ~~(4)~~ The examination for a Class IV soil evaluator's license shall have a written and field component, each of which shall be graded separately. The written and field examinations for Class IV do not have to be passed concurrently. However, if more than three (3) ~~2~~ years elapses ~~between the applicant passing the written and field~~ after the applicant passes one of the components of the examination, the applicant must retake that portion of the examination originally passed more than three (3) ~~2~~ years earlier. The soil evaluator's examination shall at minimum address the following:

(A) Principles of on-site ~~sewage~~ wastewater treatment and ~~disposal~~ dispersal;

(B) Understanding of the applicable state ~~regulations~~ rules;

(C) Geology and soils of Rhode Island;

(D) Soil textural analysis and profile descriptions;

(E) Estimating mean seasonal high groundwater elevations using soil morphology; and

(F) Soil moisture and drainage characteristics of soils.

10.4 ~~(e)~~ Examination Application Submission- Completed applications for examinations, fees and evidence that the applicant meets the minimum qualifications specified in ~~SD 25.03(b)~~ Rule 10.2 shall be received by the DEM at least forty-five (45) days prior to the date of the applicable examination. ~~(f)~~ Within thirty (30) days of receipt of an application for an examination, the applicant shall be notified as to whether the minimum qualifications in ~~SD 25.03(b)~~ Rule 10.2 have been met, if more information is needed, or if the applicant is eligible for the examination. If the applicant is determined ineligible, the Department shall provide the applicant with reasons for the determination. The applicant may appeal the Director's decision of ineligibility with the Administrative Adjudication Division.

~~(g) Applicants who meet the minimum qualifications in SD 25.03(b) and hold a license from another state or federal agency having licensing requirements substantially equivalent to those in Rhode Island may petition the Director to waive the portion of the examination requirements concerning technical competency within the respective class of license. All applicants will, at minimum, be required to take that portion of the exam regarding the applicable Rhode Island regulations.~~

10.5 ~~(h)~~ Examination Results- The Department shall notify the applicant of examination results no later than sixty (60) days after the examination date. Minimum passing score for an examination shall be a seventy percent (70%) correct response for all questions comprising the examination. For those applicants that pass the examination, the notification will include a license. ~~registration form to be submitted to the Department along with the license fee.~~

~~(i) A license fee of $100 shall be received by the Department prior to the Department issuing the license. Initial Licenses issued pursuant to this Rule shall be in effect for a maximum of 2 years.~~

10.6 ~~(j)~~ The license shall be issued to natural persons only and is not transferable or assignable.

## RULE 11. EXPIRATION AND RENEWAL OF A CLASS I, II, III OR IV LICENSE

~~SD 25.04~~ ~~Expiration, Renewal and Reinstatement of License~~

11.1 ~~(a)~~ Expiration- Once a license issued pursuant to this Rule has expired, the ~~person~~ individual that held such license is prohibited to practice as a licensed designer or soil evaluator.

11.2 ~~(b)~~ Renewal Prior to Expiration- A license issued pursuant to this Rule may be renewed provided that:

~~(1) The application for renewal is received at least (30) days prior to the license's expiration date;~~

11.2.1 ~~(2)~~ The applicant pays the renewal fee; ~~of $100 for the two year renewal period;~~

11.2.2 ~~(3)~~ The applicant certifies that he/she continues to hold the professional license(s) required as a minimum qualification to obtain the designer's license in ~~SD 25.03(b)(1) (3)~~ Rule 10.2; ~~and~~

11.2.3 ~~(4)~~ The applicant demonstrates satisfactory completion of a minimum of ~~eight classroom hours~~ **twelve (12) four (4)** continuing education units of appropriate professional development ~~continuing education~~ **per year** since the applicant's license was ~~last~~ issued or renewed. Events eligible for this continuing education shall be rated by the Director with consideration of their value and applicability to the relevant design class. Eligible events will be assigned "continuing education units." The Director shall ~~develop and~~ maintain a list of approved ~~training courses~~ continuing education events and the units assigned to each; and, ~~which shall be distributed annually to licensees~~.

11.2.4 The applicant demonstrates satisfactory compliance with any unresolved OWTS regulatory requirements, including submission of properly completed Certificates of Construction.

11.3 ~~(c)~~ Renewal After Expiration- If a license has expired for less than one year, the license may be ~~reinstated~~ renewed in accordance with ~~SD 25.04(b)(2) (4)~~ Rule 11.2 ~~above~~. If the license has expired for greater than one year, the license may be ~~reinstated~~ renewed provided the request is made within three years of the license expiration, the applicant pays ~~a reinstatement~~ the renewal fee, ~~equal to the number of years the license has expired multiplied by $100,~~ a late fee, and the applicant demonstrates compliance with ~~SD 25.04(b)(3) and (4)~~ Rule 11.2.2, 11.2.3 and 11.2.4 ~~above~~. The licensing exam may not be taken in lieu of satisfying the renewal provisions herein. If the license is not ~~reinstated~~ renewed within the three (3) year period after expiration, the applicant must ~~reapply for the license and take~~ retake and pass the appropriate examination, then reapply for the license.

## RULE 12. DISCIPLINARY ACTION FOR CLASS I, II, III AND IV LICENSEES

~~SD 25.05~~ ~~Disciplinary Action~~

12.1 ~~(a) The Director shall establish a means to monitor licensed designers' and soil evaluators' compliance with the provisions of these regulations~~. Where the Director has identified negligence, incompetence or misconduct on the part of a licensee in fulfilling the requirements of these ~~regulations~~ Rules, the Director may issue a notification letter to the licensee documenting the transgression. A copy of the notification shall be placed in the licensee's file, and a copy shall be provided to the Review Panel established pursuant to ~~SD 25.05(d)~~ Rule 12.5 ~~below~~.

12.2 ~~(b)~~ Denial, Suspension, or Revocation of License- The Director may deny, suspend or revoke a license if the ~~person~~ individual has failed to comply with the requirements in these ~~regulations~~ Rules or where the ~~person~~ individual:

12.2.1 ~~(1)~~ Provided incorrect, incomplete or misleading information in obtaining the license;

12.2.2 ~~(2)~~ Demonstrated gross or repeated negligence, incompetence or misconduct in representation of site conditions; design of an OWTS; preparation of any plans, certifications or applications submitted ~~in an application~~ to the ~~Director~~Department~~,~~; ~~design of an ISDS,~~ ~~or~~ in the inspection ~~or certification~~ of an installation of an ~~ISDS~~ OWTS; in the supervision of subordinates performing work covered under these Rules; or by lack of responsiveness to inquiry by the Department pursuant to a complaint being investigated by the Department;

12.2.3 ~~(3)~~ Committed a felony involving moral turpitude; or

12.2.4 ~~(4)~~ Has a professional license that is a minimum qualification to obtain the designer's license in ~~SD 25.03(b)(1) (3)~~ Rule 10.2 which has expired, is suspended or is revoked.

12.3 ~~**Penalty Fees**~~**Penalties**- The Director may assess ~~**penalty fees**~~ **penalties** in association with any suspension or revocation of a license or where a licensee has failed to comply with the requirements in these Rules. ~~**Fees**~~ **Penalties** shall be assessed in accordance with the Department's "Rules and Regulations for the Assessment of Administrative Penalties."

12.4 ~~(c)~~ Denial of License Renewal- The Director may deny the renewal of a license if the ~~person~~ individual has failed to comply with the requirements in these ~~regulations~~ Rules or where the ~~person~~ individual:

12.4.1 ~~(1)~~ Provided incorrect, incomplete or misleading information in obtaining the license;

12.4.2 ~~(2)~~ Demonstrated gross or repeated negligence, incompetence or misconduct in representation of site conditions; design of an OWTS; preparation of any plans, certifications or applications submitted ~~in an application~~ to the ~~Director~~Department;~~,~~ ~~design of an ISDS, or~~ in the inspection ~~or certification~~ of an installation of an ~~ISDS~~ OWTS; or in the supervision of subordinates performing work covered under these rules;

12.4.3 ~~(3)~~ Committed a felony involving moral turpitude;

12.4.4 ~~(4)~~ Failed or neglected to comply with the professional development continuing education requirements; ~~or~~

12.4.5 Failed to comply with a quality control plan submission or requirements as required by the Department to address deficiencies in application submittals; or

12.4.6 ~~(5)~~ Has a professional license that is a minimum qualification to obtain the designer's license in ~~SD 25.03(b)(1) (3)~~ Rule 10.2 which has expired, is suspended or is revoked.

12.5 ~~(d)~~ Review Panel- The Director shall appoint a Review Panel which shall consist of five (5) members, at least three (3) of whom shall be licensed under this Rule and not be employed by the Director. Members of the Review Panel shall be appointed for a two year term. The Review Panel shall conduct regular meetings as needed, but shall meet not less than once every six (6) months. The Review Panel shall have the authority to:

12.5.1 ~~(1)~~ Review complaints against licensed designers and soil evaluators, including requesting information to aid such review;

12.5.2 Review the performance related deficiencies identified pursuant to Rule 12.1; and

12.5.3 ~~(2)~~ Recommend to the Director to suspend or revoke a license, including ~~recommendations on~~ the time period for the suspension or revocation, and other remedial actions that may be appropriate, which would depend on the characterization of the severity of the ~~actions~~ violations involved.

12.6 ~~(e)~~ The Director shall be responsible for all final decisions regarding denial, suspension and revocation of licenses issued pursuant to these ~~regulations~~ Rules as well as any other disciplinary actions to be brought against a licensee. Nothing herein shall prevent or restrict the Director from initiating any disciplinary action regarding denial, suspension or revocation of a license without the recommendation of the Review Panel.

12.7 ~~(f)~~ Complaint Review- The procedure for Departmental review of complaints regarding Licensed Designers or Soil Evaluators is described below. At any time during the review of the complaint, the Director may request an informal meeting with the licensee to discuss the complaint.

12.7.1 ~~(1)~~ Upon receipt of a written complaint regarding a licensed designer or soil evaluator, the Director shall contact the licensee and all relevant parties to the complaint as part of the Director's preliminary review.

12.7.2 ~~(2)~~ If as a result of the preliminary review, the Director concludes that the complaint lacks merit or is not within the Department's jurisdiction under these ~~regulations~~Rules, the Director shall dismiss the complaint and no record of the complaint shall be placed in the licensee's file.

12.7.3 ~~(3)~~ If as a result of the preliminary review, the Director concludes that the complaint may have merit, the Director shall forward the complaint and a report of any findings to the Review Panel.

12.7.4 ~~(4)~~ The Review Panel shall review the complaint and make recommendations appropriate to its authority to the Director.

12.8 ~~(g)~~ Notice of Intent- In accordance with R.I.G.L. Section 42-35-14, ~~B~~before the Director denies renewal of, suspends or revokes a license, the Director will issue a Notice of Intent ~~to Revoke/Suspend a license~~ by certified mail or hand delivery to the licensee notifying the licensee of the Director's intention to deny renewal of, revoke or suspend the license and the reasons why the Director intends to take such action. The licensee receiving the Notice of Intent ~~to Revoke/Suspend~~ may request a preliminary hearing before the Director or his or her designee to show cause why the Director should not deny, revoke or suspend the license. Such hearing shall be held within thirty (30) days of the Director's receipt of a written request by the licensee or an attorney representing the licensee for such preliminary hearing. If the licensee fails to request a preliminary hearing within ~~(10)~~ twenty (20) days of receipt of the Notice of Intent ~~to Revoke/Suspend~~, fails to make himself or herself reasonably available to attend a preliminary hearing, or fails to show cause to the Director or his or her designee why the Director should not deny renewal, revoke or suspend the license, the Director may deny

renewal, revoke or suspend the license in accordance with these ~~regulations~~Rules and other applicable statutes or regulations. If the Director finds that public health, safety, or welfare imperatively requires emergency action, and incorporates a finding to that effect in its order, summary suspension may be ordered pending proceedings for revocation or other action.

12.9 Request for Hearing-~~(h) The licensee may request~~ Requests for a hearing on the denial of examination eligibility, denial of renewal, suspension, or revocation of a license ~~with~~ must be filed with a the clerk of the Department of Environmental Management, Administrative Adjudication Division within thirty (30) days of the date of the licensee's receipt of such notice by certified mail or hand delivery. ~~Pursuant to Rhode Island General Laws section 42-17.1-2, as amended, and the Rules of Practice and Procedures for the Administrative Adjudication Division for Environmental Matters, a request for hearing must be received by the Administrative Adjudication Division within 30 days in order to be timely filed.~~

12.10 ~~(i)~~ Censure- The Director may publicly censure any licensed designer or soil evaluator whose license has been ~~suspended or revoked~~ subject to an official enforcement action.

12.11 ~~(j)~~ Suspension- Any ~~person~~ individual with a suspended license is prohibited from practicing any work allowed under the license, renewing the license, or applying for a new license for the period of the suspension.

12.12 ~~(k)~~ Revocation- Any ~~person~~ individual who has a license revoked pursuant to this Rule shall not petition the Director for reinstatement for a period of time to be determined by the Director.

## RULE 13. INSTALLER'S LICENSE

***[Much of this Rule comes from RI General Laws 5-56, and earlier rules herein for designers]***

13.1 Installer's License- An Installer's License authorizes an individual to install, construct, alter or repair an OWTS. A licensed installer shall install an OWTS in accordance with Rule 44.

13.2 Obtaining an Installer's License

13.2.1 Each applicant for an Installer's License shall submit a completed application to the Director along with a non-refundable application fee.

13.2.2 Applicants for an Installer's License will be required to demonstrate possession of and ability to properly use a level or transit and to obtain a passing grade on a written examination given by the Director. The examination shall be intended to demonstrate an applicant's understanding of the Rules and the ability to read and interpret approved plans and specifications for OWTSs.

13.2.3 Installer's licenses are not transferable or assignable and shall automatically become invalid upon suspension or revocation.

13.2.4 Installer's licenses shall be in effect for a period not to exceed three (3) years following the date of issuance.

13.3 Expiration, Renewal, and Reinstatement of Installer's Licenses

13.3.1 Once an installer's license issued pursuant to this Rule has expired, the individual that held such license is prohibited to practice as a licensed installer.

13.3.2 An installer's license shall be renewed upon payment of a renewal fee and the submittal of proof of completion of any professional development continuing education required by the Director.

13.3.3 If an installer's license has expired for less than one year, the license may be reinstated in accordance with 14.3.2. If the license has expired for greater than one year, the license may be reinstated provided the request is made within three years of the license expiration; the applicant pays a reinstatement fee; and the applicant demonstrates completion of any professional development continuing education as required by the Director. If the license is not reinstated within the three (3) year period after expiration, the applicant must reapply for the license and take the installer's examination.

13.4 Denial, Suspension and Revocation of Installer's Licenses

13.4.1 The Director may deny, suspend or revoke an installer's license if the individual has failed to comply with the requirements in these Rules or where the individual:

(A) Provided incorrect, incomplete or misleading information in obtaining the license; or

(B) Demonstrated gross or repeated negligence, incompetence or misconduct in installing OWTSs.

***[13.4.2-13.4.6 are copied from Licensed Designers Rule 12.8 –12.12 (old SD 25.05(g)-(k))]***

13.4.2 In accordance with R.I.G.L. Section 42-35-14, before the Director suspends or revokes a license, the Director will issue a Notice of Intent to Revoke/Suspend a license by certified mail or hand delivery to the licensee notifying the licensee of the Director's intention to revoke or suspend the license and the reasons why the Director intends to take such action. The licensee receiving the Notice of Intent to Revoke/Suspend may request a preliminary hearing before the Director or his or her designee to show cause why the Director should not revoke or suspend the license. Such hearing shall be held within thirty (30) days of the Director's receipt of a written request by the licensee or an attorney representing the licensee for such preliminary hearing. If the licensee fails to request a preliminary hearing within twenty (20) days of receipt of the Notice of Intent to Revoke/Suspend, fails to make himself or herself reasonably available to attend a preliminary hearing, or fails to show cause to the Director or his or her designee why the Director should not revoke or suspend the license, the Director may revoke or suspend the license in accordance with these Rules. If the Director finds that public health, safety, or welfare imperatively requires emergency action, and incorporates a finding to that effect in its order, summary suspension may be ordered pending proceedings for revocation or other action.

13.4.3 The licensee may request a hearing on the denial, suspension, or revocation of a license with the Department of Environmental Management, Administrative Adjudication Division within thirty (30) days of the date of receipt of such notice.

13.4.4 The Director may publicly censure any licensed installer whose license has been suspended or revoked.

13.4.5 Any individual with a suspended installer's license is prohibited from practicing any work allowed under the license, renewing the license, or applying for a new license for the period of the suspension.

13.4.6 Any individual who has an installer's license revoked pursuant to this Rule shall not petition the Director for reinstatement for a period of time to be determined by the Director.

## RULE 14. ONSITE WASTEWATER TREATMENT SYSTEMS -- GENERAL

14.1 ~~SD 2.09 Dwelling or Building - Each~~ Any dwelling or other building having plumbing fixtures from which ~~sanitary sewage~~ wastewater is produced, in a location where no public ~~sanitary sewage~~ wastewater system is available or accessible, shall be provided with an ~~individual sewage disposal system~~ OWTS of type and design approved by the Director. All of the components of such ~~system~~ OWTS shall be located within the property boundary upon which the building or dwelling is located. Exemption to this requirement may be granted for OWTSs serving more than one (1) unit in a proposed subdivision or for any OWTS repair. ~~Exception to this requirement shall only be granted where a valid, recorded easement exists over adjacent property sufficient to allow for the construction, repair and maintenance of all components of the system not located within the property boundaries whereupon the building or dwelling is located.~~

14.2 Household Laundry Systems- ~~SD 3.03 Type of System Required - Except as provided in Section SD 14.00, an individual sewage disposal system shall consist of a septic tank followed by a subsurface seepage system or other sewage disposal method approved by the Director. In the case of~~ For OWTS designed to receive household laundry waste only, a ~~subsurface seepage system~~ leachfield sized to accept twenty percent (20%) of the design flow may be used without the installation of a septic tank.

14.3 ~~SD 2.00(b)~~ Issuance of Building Permits For Activities Requiring Approval Under These ~~Regulations~~ Rules - A municipality shall not issue a building permit pursuant to Rhode Island General Laws Chapter 23-27.3, as amended, unless all written approvals by the Director required by these ~~regulations~~ Rules have been presented to the municipality and said approvals are valid at the time of the issuance of the building permit.

14.4 ~~SD 2.10~~ Connection to a Public Sanitary Sewer - An ~~individual sewage disposal system~~ OWTS application shall not be approved ~~for use on any premises~~ if such OWTS is proposed to serve a premises for which a public sanitary sewer is reasonably accessible ~~to such premises~~ as determined by the Director, and for which permission to enter ~~it~~ the public sanitary sewer can be obtained from the authority having jurisdiction. ~~When problems are encountered in the operation of an individual sewage disposal system and public sewage service is reasonably accessible as determined by the Director and available to the property on which it is located and where permission to enter such a sewer can be obtained from the authority having jurisdiction over it, the Director may require the owner or occupant of an existing building or buildings to be connected thereto within a period of time as specified by him.~~ The Director shall require the owner or occupant to connect the structure to a public sanitary sewer within a specified period of time if the following occur:

14.4.1 The OWTS is failing;

14.4.2 Public sanitary sewer is reasonably accessible as determined by the Director; and

14.4.3 Permission to connect to the public sanitary sewer can be obtained from the authority having jurisdiction over it.

14.5 Component Substitution- For an OWTS approved, but not yet installed, with a septic tank, grease tank, pump tank, or distribution box that does not meet the updated construction standards in these Rules, a substitution of components complying with these Rules may be made provided as-built plans are submitted to the Department upon completion of construction.

14.6 Data Quality - Effluent samples and water quality samples shall be collected, stored, transported, and analyzed in accordance with the United States Environmental Protection Agency approved procedures.

~~SD 2.14 Construction in Area Served by Private Wells - Before an approval can be granted to construct an individual sewage disposal system for a building being served by a private well, sufficient additional area must be available for the replacement of the disposal field, in case of failure. This area must be on the property of the individual seeking approval and meet all the minimum distance requirements set forth in these regulations.~~

~~SD 2.15 Location of Wells - No person shall locate or cause to be located, any part of an individual sewage disposal system within 100 feet of a private well or within 400 feet of a public well, consistent with SD 3.05.~~

## RULE 15. ~~SITE~~ SOIL EVALUATION
~~SD 26.00~~

15.1 Soil Evaluation Required- ~~SD 2.01(b)(1)~~ Except as provided for in ~~(A) (D) below~~ Rule 15.1.1 and 15.1.2, a ~~site~~ soil evaluation shall be ~~performed at the proposed site of any new system~~ required for an OWTS Application for New Building Construction and for an OWTS Application for Alteration of a Structure in accordance with Rule 17. ~~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.~~ ***[Moved to 19.3.3]*** A ~~site~~ soil evaluation will not be required for the following, provided the applicant has ~~valid field data, as defined by SD 2.02(g), for~~ groundwater table elevations compiled prior to January 31, 2001 that have been approved by the Department. ~~in accordance with SD 17.01 or SD 17.02~~:

15.1.1 ~~(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 Certification, provided that ~~the field data~~ groundwater table elevations ~~was~~ were compiled ~~on or after July 21, 1987~~ after July 20, 1987;

~~(B) Applications submitted to the Director prior to May 10, 2002;~~

~~(C) Applications submitted to the Director after May 10, 2002 where the field data is less than five years old; or~~

15.1.2 ~~(D)~~ Applications submitted to the Director ~~after May 10, 2002 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~~ for lots not within a subdivision where the following criteria are met:

(A)~~(i)~~ The ~~field data was~~ groundwater table elevations were compiled after ~~January 1, 1993~~ Dec 31, 1992;

(B) ~~(ii)~~ The approved groundwater table is at a depth of four (4) feet or greater from the original grade; and

(C) ~~(iii)~~ The test hole where the ~~field data was~~ groundwater table elevations were collected is not located in any of the following areas:

(i) ~~(aa)~~ Within one hundred (100) feet of any watercourse;

(ii) ~~(bb)~~ Within two hundred (~~150~~200) feet of the shoreline feature of the Narrow River or the shoreline feature of one of the ~~coastal~~ South Shore Salt Ponds ~~ponds~~ as specified in ~~SD 19.00(c)(1)~~Rule 38.3.1; or

(iii)~~(cc)~~ Within two hundred (200) feet of a surface water drinking water supply impoundment and adjacent wetlands.

***[Formerly SD 2.02(g)]***

15.2 ~~SD2.02(g)~~Validity of Field Data – Field data shall be considered valid for a period of five (5) years from the time of initial certification by the Department or five (5) years from the date of initial approval of any ~~ISDS~~ OWTS application, design, or subdivision suitability where the data were used, whichever occurred most recently. ~~(1) Field data compiled prior to July 21, 1987 may not be revalidated. (2)~~ Field data older than five (5) years may be used provided that 15.2.1 – 15.2.3 are met. Field data can not be renewed independent of an OWTS application or subdivision suitability application.

15.2.1 ~~(A)~~ The field conditions are essentially unchanged;

15.2.2 ~~(B)~~ The field data was initially compiled and certified ~~on or~~ after July ~~21~~ 20, 1987 for subdivisions or after December 31, 1992 for individual lots; and

15.2.3 ~~(C)~~ Its continuing validity is properly certified on the OWTS application or Application for Subdivision Site Suitability Certification. ~~using the Department's affidavit form (i.e., Designer's Affidavit of Continuing Validity of Field Data);~~

~~(D) The affidavit submittal is accompanied by the submission of a complete ISDS or subdivision suitability application; and~~

~~(E) The proper fees accompany the submittal.~~

~~(3) Affidavits will not be accepted to renew field data only, apart from an ISDS application/suitability submittal. The affidavit does not renew an ISDS system approval. A new original application and four sets of new plans meeting all current regulations must be submitted. The old approval is not renewable even if the design is unchanged.~~

~~(4) Previously renewed field data older than July 21, 1987 are not affected provided that the data are part of a currently approved ISDS application or subdivision suitability. All currently approved applications are valid until their expiration date regardless of field data age.~~

~~(5) When an application is received for an approved lot within a subdivision with a valid Subdivision Suitability certification issued pursuant to SD 18.01 the field data within that subdivision is considered valid for a period of five (5) years from the date the suitability was approved.~~

~~SD 26.00(a) Site evaluations required by the Department in accordance with SD 2.01 shall be done in a manner described in this section. The site evaluation shall provide information that will determine the acceptable types of ISDSs for a site. The site evaluation report shall:~~

~~(1) Describe and interpret soil morphology in regards to the proper functioning of ISDSs utilizing the soil as part of the treatment process;~~

~~(2) Characterize the lithologic and hydrologic limiting layers affecting the siting and functioning of ISDSs; and~~

~~(3) Document site limitations for the placement of ISDSs.~~

15.3 Soil Evaluation Requirements- ~~SD 26.00(b)~~ The ~~site~~ soil evaluation ~~report~~ shall be prepared on forms approved by the Director. The ~~site~~ soil evaluation ~~report~~ shall contain a site sketch and the information in 15.3.1 – 15.3.6. ~~identification of specific site conditions and limitations relative to the proposed disposal area. The report shall include, but not be limited to, the information below.~~ The information in 15.3.1 and 15.3.2 ~~(1) and (2) below, which shall be referred to as the soil evaluation,~~ shall be completed by a Class IV soil evaluator, and may be required to be witnessed by the Director in accordance with ~~SD 26.00(c) and (d)~~ Rule 15.5 ~~The soil evaluation shall be done in accordance with SD 26.01.~~ The information in items ~~(3) (11)~~ 15.3.3 –15.3.6 shall be ~~completed~~ determined by a Class II or III designer or Class IV soil evaluator. The soil test holes excavated for the soil evaluation shall be within the area of the proposed leachfield as described in Rule 15.9.

15.3.1 ~~(1)~~ Comprehensive soil profile description and textural analysis identifying the characteristics of the soil and using the terminology in ~~Appendix 1~~ the DEM Soil Evaluation Guidance Document; ***[Guidance document to include former Appendix 1]***

15.3.2 ~~(2)~~ Identification of the seasonal high groundwater table in accordance with Rule 15.12;

15.3.3 ~~(4)~~ General description of slope;

15.3.4 ~~(5)~~ Presence of any watercourse, wetlands, or surface water bodies~~, existing and proposed private drinking water wells~~ within two hundred (200) feet of the proposed leachfield;

15.3.5 Presence of any drains that may influence the seasonal high groundwater table; and

15.3.6 ~~(10)~~ Approximate location of property lines.

~~(3) Assessment of depth to bedrock done in accordance with SD 15.04(d);~~

~~(6) Presence of any public drinking water wells within 500 feet;~~

~~(7) Determination if the site is within the watershed of a public drinking water reservoir or other critical area defined in SD 19.00;~~

~~(8) Areas on the site where soil has been excavated and where fill has been deposited determined in accordance with SD 15.04(e);~~

~~(9) The site's potential for flooding;~~

~~(11) Any other relevant information about the site.~~

15.4 Soil Evaluation Application- ~~SD 26.00(c) The Director shall determine if the soil evaluation component (SD 26.00(b)(1) and (2)) of the site evaluation must be witnessed by the Department. An application to schedule the soil evaluation~~ An application form shall be submitted to the Director prior to conducting the soil evaluation field work on the site. Such application will be on forms approved by the Director and will require at minimum a locus map and photocopy of the relevant page or section thereof from the US Department of Agriculture Soil Survey with the site location marked. The Director shall determine if the soil evaluation

~~component (SD 26.00(b)(1) and (2)) of the site evaluation~~ must be witnessed by the Department. The Director shall notify the applicant within ten (10) business days of receipt of the application as to whether or not the soil evaluation must be witnessed by the Department.

15.5 ~~SD 26.00 (d)~~ Soil Evaluation ~~to be~~ Witnessed by the Department

15.5.1 ~~(1)~~ At the time of the notification in ~~SD 26.00(c)~~ Rule 15.4 ~~above~~, an appointment will be scheduled for the Department to witness the soil evaluation. This ~~time~~ appointment shall be within fifteen (15) business days of the Director's notification in ~~SD 26.00(c)~~ Rule 15.4 ~~above~~.

15.5.2 ~~(2)~~ Requests for cancellation of the soil evaluation appointment will be accepted by the Director ~~up to~~ a minimum of twenty-four (24) hours in advance of the scheduled appointment, and if requested, will be rescheduled for the next available date. All other cancellations, including instances where the Director is on-site and the licensed designer or soil evaluator is not present, will require reapplication to the Director. If the Director is not on-site for the scheduled appointment, the completed ~~site~~ soil evaluation ~~report~~ shall be submitted to the Director prior to the submission of the application for an ~~individual sewage disposal system~~ OWTS permit.

15.5.3 ~~(3)~~ The soil evaluator shall complete the soil evaluation form prior to the arrival of the Director on-site for the scheduled appointment with the Department. While in the field, the Director shall determine which of the following apply:

(A) The Director concurs with the determination of the soil evaluation. ~~An application for an individual sewage disposal system permit may be submitted to the Director along with the submission of the complete site evaluation report; or~~ ***[Moved to Rule 17.4.3 and 17.5.3]***

(B) The Director and the soil evaluator concur that results of the seasonal high groundwater table determination are inconclusive, and a determination will have to be made during the wet season in accordance with Rule 15.12.4; or

(C) ~~(B)~~ The Director does not concur with the soil evaluation.~~, in which case the complete site evaluation shall be submitted to the Director in accordance with SD 26.00(f) prior to the submission of the application for an individual sewage disposal system permit.~~ If soil conditions are in dispute, the Department, upon request of the soil evaluator, shall provide an additional field review in an effort to resolve the dispute.

(i) If the determination of the seasonal high groundwater table remains in dispute after the additional field review and all other elements of the soil evaluation are agreed upon, the soil evaluator has the option to conduct a wet season determination of the seasonal high groundwater table in accordance with Rule 15.12.4.

(ii) If elements of the soil evaluation other than the seasonal high groundwater table remain in dispute after the additional field review, the Department shall disclaim the determinations of the soil evaluation and provide an explanation for not accepting it.

15.6 ~~SD 26.00(e)~~ Soil Evaluation Not ~~to be~~ Witnessed by the Department – If the Director determines that the Department need not witness the soil evaluation, the licensed designer or soil evaluator shall notify the Department during normal business hours by telephone of the date and time of the soil evaluation at least twenty-four (24) hours prior to conducting the soil evaluation. The Department, at its discretion, may make unannounced inspections of any soil evaluation. The ~~complete site~~ soil evaluation ~~report~~ shall be submitted to

the Director prior to the submission of the application for an ~~individual sewage disposal system~~ OWTS permit. After review of the soil evaluation, the Director shall either:

15.6.1 Accept the determination of the soil evaluation;

15.6.2 Determine that the soil evaluation is not in compliance with these Rules or that more information must be collected, in which case a revised soil evaluation must be submitted to the Director; or

15.6.3 Disclaim the determinations of the soil evaluation, and provide an explanation for not accepting it.

~~SD 26.00(f) The site evaluation report shall be submitted to the Director within 90 days of the date of the soil evaluation. unless wet season monitoring is necessary in accordance with 26.01(c)(4) to determine the seasonal high water table, in which case the site evaluation shall be submitted to the Director with the wet season monitoring data. After review of the site evaluation report, the Director shall either:~~

~~(1) Approve of the site evaluation;~~

~~(2) Determine that the site evaluation is not in compliance with these regulations or that more information must be collected, in which case a revised site evaluation report must be submitted to the Director; or~~

~~(3) Disclaim the determinations of the site evaluation, and provide an explanation for not accepting it.~~

15.7 Soil Evaluation Certification ~~SD 26.00(g) The site evaluation report shall be accompanied by a certification, on a form approved by the Director, that the site~~ Individuals conducting a soil evaluation shall certify that the soil evaluation was conducted in a manner consistent with these ~~regulations~~ Rules and that it is an accurate portrayal of site conditions on the day and time ~~they were~~ it was conducted. If more than one ~~person~~ individual licensed under these ~~regulations~~ Rules participated in the development of the ~~site~~ soil evaluation ~~report, the report must specify~~ it must be specified who prepared which part and include a certification from each licensee.

15.8 Department Acceptance- ~~SD 26.00(h) Approval~~ Acceptance of a ~~site~~ soil evaluation indicates only that the Department accepts the data for design of an OWTS, however, the Department reserves the right to question the data. ~~site evaluation was conducted in compliance with these regulations. It~~ This acceptance is not an indication of the correctness or quality of the ~~site~~ soil evaluation.

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

15.9 ~~SD 26.01(a) Soil Observation Pits~~ Soil Profile Analysis

15.9.1 A minimum of two soil test holes within twenty-five (25) feet of the proposed leachfield, ~~observation pits~~ shall be excavated at least twenty-five (25) feet apart ~~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~~ test hole where the conditions indicate that such ~~pit~~ test hole is not necessary.

15.9.2 ~~(1)~~ The ~~observation pits~~ test holes shall be excavated to a depth of five (5) feet, unless site conditions prevent doing so (e.g., a flooded pit due to a high water table) 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~~ the DEM Soil Evaluation Guidance Document. ***[Guidance to include former Appendix 1]***

15.9.3 ~~(2)~~ From ~~5 feet~~ the depth excavated for Rule 15.9.2 to a minimum of ten (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~~ test hole without entering the ~~pit~~ test hole. 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~~ test hole, or in the ~~pit~~ test hole used to complete work for ~~26.01(a)(1)~~ Rule 15.9.2 after such work has been witnessed by the Department, if required.

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

15.9.5 ~~(4)~~ It is recommended that ~~persons~~ individuals performing the soil evaluation not enter into portions of a soil ~~observation pit~~ test hole ~~which~~ that have been excavated to depths greater than five (5) feet below the surrounding ground surface. It is the responsibility of ~~persons~~ individuals performing or witnessing the soil evaluation to comply with all applicable federal, state and local laws and regulations governing occupational safety.

15.10 ~~SD 26.01(b)~~ Soil ~~Profile Analysis~~ Class – ~~On forms approved by the Director, the soil evaluator shall evaluate each soil horizon for depth, color, presence of redoximorphic features, texture, structure and consistence using the terminology in Appendix 1.~~ The information collected from the soil test hole shall be used to assign the soil to one of the soil classes below, except for Class G soils in which case the soil class for the substratum shall also be indicated. (Additional information about each soil class is located in ~~Appendix 2~~ the DEM Soil Evaluation Guidance Document.) ***[Guidance to include former Appendix 2]***

15.10.1 ~~(1)~~ Class A– Glacial Lodgement Till: Silt loam to loamy sand texture. Lower profiles tend to have a platy structure and are dense to very dense. Excavation is difficult. High probability of hydraulically restrictive lower layers. Angular rock fragments and occasional cobbles and stones.

15.10.2 ~~(2)~~ Class B – Glacial Ablation Till: Silt loam to loamy sand throughout the profile. Lower horizons tend to be more sandy. These soils tend to be looser than lodgement tills and typically do not have hydraulically restrictive layers. Lower horizons may be firm. Angular rock fragments and occasional cobbles and stones.

15.10.3 ~~(3)~~ Class C – Proglacial Outwash ~~Deposit~~: Also referred to as stratified drift, soil textures range from silt loam to loamy sand (in the upper horizons) to a sandy/gravely substratum. Stratified layers of water sorted materials may be present. Entire profile tends to be loose and easy to dig except saturated horizons may be firm or cemented or both. Horizons of rounded rock fragments are common. ~~A silty eolian mantle may also be present.~~

15.10.4 ~~(4)~~ Class D – Glacial Ice Contact Deposit: Outwash deposits of well to poorly sorted sands and gravel. Texture can be highly variable over short distances and may include pockets or lenses of silt or silt loam. Stratification may be irregular or absent. Sub-rounded to rounded stones and cobbles are possible.

15.10.5 ~~(5)~~ Class E – Coastal Dune ~~Deposit~~: Fine to coarse sands, well sorted, often finely stratified. Little or no silt and clay. Typically no sediment larger than coarse sand. Deposited by wind action or storm overwash.

15.10.6 ~~(6)~~ Class F – Alluvial Deposits: Material transported and deposited by streams and rivers. Typically well sorted, stratified, fine textured sediment that may have dark layers in the substratum which were at one time surface layers. Subject to seasonal flooding.

15.10.7 ~~(7)~~ Class G – Eolian Deposits: Wind blown silts deposited after the retreat of the Wisconsin glaciation~~. Typically brown to dark brown silt~~ ranging in thickness of several inches to several feet. Underlain by outwash, ablation till, or lodgement till.

15.11 Soil Category – Each observed soil horizon shall be assigned to one of the soil categories from Table 15.11 below. Soil category will be used to determine the minimum leaching area by the licensed Class II or III designer in accordance with Rule 32.

Table 15.11 Soil Category

***[This is the Soil Category table from SD 26.01(d).***
***- Column from table in SD 26.01(d) titled "Relative Occurrence in RI" has been deleted.***
***- Column from table in SD 26.01(d) titled "Assigned Percolation Rate" has also been deleted. Loading rates (replace percolation rates for applications with a soil evaluation) are assigned to each soil category in Rule 32.]***

| Soil Category | Soil Texture | Soil Structure | Soil Consistence | | Typical Soil Class |
|---|---|---|---|---|---|
| | | | Consistence In-Hand Using Soil Clods | Excavation Difficulty | |
| 1 | cos, s, lcos, ls, cosl, fs | structureless- single grain<br><br>subangular blocky | Loose, friable | N/A | Outwash (Class C), ice contact (Class D) and coarse ablation till (Class B) deposits |
| 2 | vfs, ~~fs~~ lvfs | structureless- single grain<br><br>~~structureless- massive~~ | Loose, ~~very friable~~ | N/A | Outwash (Class C) and ice contact (Class D) deposits |
| 3 | ~~lfs,~~ ls, ~~fsl~~, sl, l | granular, subangular blocky | very friable to friable | low | Lodgement Till (Class A), Ablation Till (Class B), Outwash (Class C), or Ice Contact (Class D) |
| 4 | lfs, lvfs, ~~vfsl,~~ fsl, ~~sil -~~vfs | granular, subangular blocky | very friable to friable | low | Lodgement Till (Class A), Ablation Till (Class B), Outwash (Class C), or Ice Contact (Class D) |
| ~~5~~ | ~~lcos, ls, cosl~~ | ~~subangular blocky~~ | ~~friable~~ | | |
| ~~6~~ | ~~lfs, ls, sl, l~~ | ~~structureless- massive~~ | ~~friable~~ | | |
| 5 | sil, si, vfsl | subangular blocky | very friable to friable | low | Typically Eolian deposits (Class G) |
| 6 | lcos, cosl, lfs, ls, sl, l, | structureless massive | very friable to friable | low | Ablation till (Class B) |
| 7 | fsl, vfsl, sil, si, vfs | structureless- massive | very friable ~~or~~ to friable | low to moderate | Ablation till (Class B) |
| 8 | ~~lcos, ls, cosl~~ all textures | structureless- massive | firm to very firm | moderate | Lodgement till (Class A) |
| 9 | ~~fs, sl, l, fsl, vfsl, sil, sicl~~ all textures | platy, structureless- massive | firm to very firm | high | Lodgement till (Class A) |
| 10 | all textures | platy, structureless- massive | extremely firm | very high to extremely high | Lodgement till (Class A) |

~~* 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.~~

Note: Refer to the DEM Soil Evaluation Guidance Document ***[To be compiled from Appendices 1 & 2 from current ISDS Regulations]*** for explanation of soil texture, soil structure, soil consistence and excavation difficulty. Higher Soil Category number governs when there is a conflict between any elements in Table 15.11.

15.12 ~~SD 26.01(c)~~ Determination of Seasonal High Groundwater Table – Using the soil test holes required in Rule 15.9, the seasonal high groundwater table determination that is closest to the original ground surface shall be used for OWTS design.

15.12.1 ~~(1)~~ The soil evaluator shall use the depth to, type, location and abundance of hydromorphic features and other characteristics to determine the depth to the seasonal high groundwater table. The criteria to use in evaluating hydromorphic features include, but are not limited to the following:

(A) Redox depletions and~~/or~~ redox concentrations occupy two percent (2%) or more of the exposed horizon surface;

(B) Soil matrix and redox concentrations~~/~~ or depletions vary two (2) or more units in chroma; or

(C) Presence of a ~~reduced soil matrix~~ depleted horizon, which is ~~often indicated by a color chroma less than or equal to 2~~ a soil layer that has a chroma of two (2) or less and a value of four (4) or more that develops or maintains gleyed colors because of substantial saturation.

15.12.2 ~~(2)~~ In cases where the soil is class C or D as determined in ~~26.01(b)~~ Rule 15.10 and there are no observable hydromorphic features to use to make a determination in accordance with ~~(1)~~ Rule 15.12.1 ~~above~~, an adjustment factor may be applied to the observed groundwater table in order to correct to the seasonal high groundwater table. This adjustment factor shall be determined by the Director. When groundwater is not encountered in a soil ~~observation pit~~ test hole at least ten (10) feet deep, the adjustment factor may be applied as measured from the bottom of the ~~pit~~ test hole.

15.12.3 ~~(3)~~ A perforated pipe at least four (4) inches in diameter shall be installed to the full depth of the excavation in each soil ~~observation pit~~ test hole at the conclusion of the soil evaluation, unless such requirement is waived by the Director. The pipe shall be wrapped in filter fabric that meets the requirements of Rule 32.11, capped at the top and mounded to prevent the accumulation of surface water.

***[SD 26.01(c)(4) below is addressed in Rule 15.5.3]***
~~SD 26.01 (c)(4) The soil evaluator has the option to determine the seasonal high water table during the wet season in accordance with SD 17.01. The seasonal high water table shall be determined during the wet season in accordance with SD 17.01 when either of the following occurs:~~

~~(A) The soil evaluator and the representative of the Department disagree on the determination of the seasonal high water table during a witnessed soil evaluation; or~~

~~(B) The soil is determined to be one of the following soil series as described in the United States Department of Agriculture Soil Survey of Rhode Island: Mansfield, Newport, Pittstown or Stissing.~~

15.12.4 ~~SD 17.01~~ Wet Season Determinations - ~~The ground water table elevation determination~~ Determination of the seasonal high groundwater table during the wet season done pursuant to Rule 15.5.3 shall be made by a licensed Class II, III, or IV designer January 1 through April 1.~~when the water table is highest; this occurs usually during the months of January through April. (Specific dates may be determined on a yearly basis by the Director).~~

(A) The groundwater table observations shall be made using the pipe placed in the soil test holes in accordance with Rule 15.12.3 or using a pipe that meets these requirements placed in a minimum of two (2) excavations to a depth of ten (10) feet within the area in Rule 15.9.1. ~~In making this determination it is necessary to bore or dig an adequate number of holes of convenient size in the proposed leaching area to a depth of at least five (5) feet below the lowest point of the proposed subsurface seepage system. An open perforated pipe at least 4 inches in diameter shall be installed.~~ Such pipe should remain in place until a permit has been issued by the Director. ~~This pipe shall be capped at the top and mounded to prevent the collection of surface water.~~

(B) ~~All~~ Groundwater table observations ~~should~~ shall be made ~~during the wet season~~ no sooner than forty-eight (48) hours after excavation and shall be ~~witnessed by an agent of~~ verified by the Director unless otherwise waived. ~~It is recommended that multiple water table observations be made.~~ At least three (3) groundwater table observations shall be made and the observations shall be a minimum of five (5) days apart. The groundwater table observations shall be submitted for review by April 1 on forms approved by the Director.

(C) Wet season determinations are intended to measure the groundwater table at its annual highest level. Yearly fluctuations in the groundwater table may necessitate that the Department add adjustment factors to compensate for periods of low groundwater recharge that results in the seasonal high groundwater table to be lower than normal.

15.12.5 The soil evaluation that is submitted to the Director by the Class IV soil evaluator shall include wet season data, if applicable, along with the final determination of the seasonal high groundwater table.

***[SD 26.01(d) Moved to Rule 32 –Leachfield sizing]***

~~SD 26.01(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.~~

## RULE 16. ADDITIONAL SITE TESTING

16.1 Determination of depth to bedrock and the presence of storm deposited sand in the backdune environment or human transported material, as required in Rule 16.2 and Rule 16.3, shall be made by a licensed Class II, III or IV designer on forms approved by the Director.

16.2 ~~SD 15.04(d) Ledge Test Hole~~ Determination of Depth to Bedrock

16.2.1 Bedrock test holes, conducted in accordance with Rule 16.2.2, shall be required when any of the following occur:

(A) Bedrock is encountered within eight (8) feet of original ground surface in the excavation of any of the soil test holes for the soil evaluation;

(B) Bedrock outcrops are visible in the surrounding area; or

(C) Landscape conditions warrant bedrock test holes.

16.2.2 Bedrock test holes

(A) ~~Ledge~~ Bedrock test holes shall be excavated to a depth of ten (10) feet in the center and four corners of the proposed leachfield. ~~When ledge is encountered,~~ Additional test holes and/or probe tests shall be required within twenty-five (25) feet of ~~in~~ the proposed leachfield, the number and location depending on the site. ~~perimeter~~. ~~Ledge~~ Bedrock depth shall be determined ~~both up-gradient and down-gradient~~ on all sides of the proposed leachfield ~~area~~. In order for DEM approval, testing ~~shall~~ must demonstrate that:

i) ~~ledge~~ Bedrock is at least five (5) feet below the bottom elevation of the stone in the leachfield in the area of the proposed leachfield ~~area~~ and within twenty-five (25) feet of the proposed leachfield. The five (5) foot vertical separation requirement may be waived on the up-gradient side as long as ~~ledge~~ bedrock is no higher than the bottom of the stone in the leachfield ~~of system elevation~~ within ~~the~~ twenty-five (25) ~~foot~~ feet of the proposed leachfield ~~perimeter~~ (Figure 1~~).~~ ); and ~~If ledge outcrop is visible beyond the leachfield area on the down-gradient side, then additional testing shall be required to provide evidence that the leachfield is not surrounded by ledge.~~

ii) Depth to Bedrock from original ground surface must be a minimum of four (4) feet within twenty five (25) feet on all sides of the leachfield, including the upgradient side.

(B) A ~~ledge~~ bedrock test hole shall be witnessed by an agent of the Director unless the Director waives this requirement in writing. If bedrock is encountered within a soil test hole during a soil evaluation not witnessed by the Department, the licensed designer shall apply to the Department for bedrock testing. ~~All data concerning depths to groundwater and impervious material observed from ledge test holes and probe tests shall be submitted to the ISDS Section for review.~~ If during the ~~ledge~~ bedrock exploration work the Director determines that additional ~~ledge~~ bedrock test holes or probes tests are not warranted, then the ~~agent of the~~ Director may waive such additional testing ~~as contained in the above paragraph~~.

16.3 Human Transported Material and Storm Deposited Sand– If storm deposited sand in the backdune environment or human transported material is encountered in the excavation of any test hole or is evident within twenty-five (25) feet of any test hole, an adequate number of additional test holes shall be excavated to a sufficient depth to determine the lateral and vertical extent of this material within twenty-five (25) feet of the leachfield. Limitations for OWTS design regarding depth to groundwater and depth to bedrock shall be determined from original ground surface. The Director may require that this material existing in the area of the proposed leachfield be removed. Test holes in storm deposited sand in the backdune environment or human

transported material shall be witnessed by the Director unless the Director waives this requirement in writing. ***[From SD 15.04(e)]***

16.4 ~~SD 16.00~~ Percolation Test ~~Procedure~~

16.4.1 Percolation test data can be used to determine the minimum leaching area for the OWTS if the applicant has valid seasonal high groundwater table determinations, as defined by Rule 15.2, collected prior to January 31, 2001. The percolation test shall be conducted in accordance with (A)- (F) below:

(A) ~~SD 16.01 - (a)~~ Dig two or more test holes within the area of the proposed ~~seepage system~~ leachfield, not less than ten (10) feet apart. One of the holes should be at the depth of the bottom elevation of the proposed ~~seepage system~~ leachfield, and the second hole should be at a depth of ~~about 18 inches~~ three (3) feet below the bottom elevation of the proposed ~~seepage system~~ leachfield. This is to evaluate the consistency with depth of the seepage qualities of the soil. The size of the ~~seepage system~~ leachfield must be based on the slowest percolation rate obtained. The holes shall not be less than six (6) inches in diameter or six (6) inches square, nor should they be greater than eight (8) inches in diameter or eight (8) inches square.

(B) ~~(b)~~ Scarify the bottom and sides of the test holes and remove all loose material. Place about two (2) inches of coarse sand or fine gravel in the holes to prevent bottom scouring.

(C) ~~(c)~~ Fill the holes with clear water to a minimum depth of twelve (12) inches above the coarse sand or fine gravel. Keep water in each hole for at least four hours and preferably overnight by refilling. If necessary to maintain water in each hole for this period, provide a reservoir of water and an automatic siphon to deliver it to the holes intermittently, or the percolation test holes should be soaked and maintained full for not less than four hours before the percolation test is made. In uncompacted sandy soils containing no clay or silt, the above saturation procedure is not necessary, the test can be made as soon as the water from one filling has seeped away.

(D) ~~(d)~~ The percolation test should be made following the saturation process. When the saturation process is complete, the water depth should be adjusted to six (6) inches over the coarse sand or fine gravel before the test is begun. The drop in water level should be measured from a fixed reference place, such as a board laid across the hole, over thirty (30) minute intervals, refilling the holes to a depth of six (6) inches as necessary.

(E) ~~(e)~~ When three consecutive readings at thirty (30) minute intervals read the same rate, the test may be considered complete. If no stability is reached between three (3) thirty (30) minute readings, not less than four (4) hours of readings must be followed. The drop in water level which occurs during the final thirty (30) minute period is used to calculate the percolation rate. This rate is expressed in minutes per inch.

(F) ~~(f)~~ Soils in which the first six (6) inches of water seeps away in less than thirty (30) minutes, after the saturation period, the time interval between measurements should be reduced to ten (10) minutes and the test run over a period of one hour. The drop in water level which occurs during the final ten (10) minute period is used to calculate the percolation rate. This rate is expressed in minutes per inch.

16.4.2 ~~SD 16.02 -~~ If an unanticipated cut in topography is made, the results of any percolation test made prior to the cut is invalid. A new percolation test shall be made under the changed conditions.

16.4.3 ~~SD 16.03 -~~ In no case shall a percolation test be made in filled or frozen ground. If a ~~seepage system~~ leachfield is to be located in filled ground, a percolation test must be made in the original ground.

16.4.4 ~~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~~ OWTS (greater than ~~2,000~~ five thousand (5,000) gallons per day) is required.

16.4.5 Percolation tests shall be carried out by a licensed Class II, III or IV designer, Rhode Island Registered Professional Land Surveyor, or Rhode Island Registered Professional Engineer.

~~SOIL STUDIES AND PERCOLATION TESTING~~

~~SD 15.00 Subsoil Exploration~~

~~SD 15.01 General - The suitability of the soil for disposal of sewage by leaching shall be determined through the consideration of the type of soil, the results of percolation tests, the maximum groundwater table elevation, the occurrence of impervious formations, and any other relevant data. The Director may waive the requirement of percolation tests and groundwater table determinations on lots in subdivisions or parts thereof which have been reviewed and the soil found suitable for the installation of individual sewage disposal systems and in areas where available information makes such tests unnecessary.~~

~~SD 15.02 Site Suitability~~

~~(a) The installation of an individual sewage disposal system is prohibited in any area where the groundwater table is within 4 feet of the original ground surface, or where an impervious layer is within 6 feet of the original ground surface, except under the following conditions:~~

~~(b) Areas Not Meeting (a) Above - Approval may be granted in areas where the groundwater table is within 2 to 4 feet of the original ground surface or where an impervious layer is within 4 to 6 feet of original ground surface if the following additional requirements are met:~~ ***[Provisions herein are addressed by other sections of the revised rules]***

~~(1) Only disposal trenches shall be constructed on such property and the minimum sidewall to sidewall trench spacing shall be 10 feet with no credit allowed for sidewall area.~~ ***[Addressed in Rules 33.1, 33.5 and 33.6]***

~~(2) The trench design percolation rate shall be based on percolation tests run in the original ground; however, in no case shall the design percolation rate be faster than 10 minutes/inch.~~

~~(3) At least two soil exploration holes shall be dug over the area of the proposed disposal system. The soil exploration holes shall assess the soil and ground water table conditions on both the uphill and downhill sides of the proposed system.~~

~~(4) All applicable tests may be witnessed by the Director.~~

~~(5) The excavation preparation procedures given in SD 11.06 shall be followed.~~

~~(6) The design shall consider the need for diversion of surface water runoff so as not to increase stormwater runoff to adjacent properties.~~

~~(7) Where excavation into the groundwater table is a potential problem the excavation work shall not be permitted, unless otherwise authorized by the director.~~

(8) Use of the Dry Season determination of SD 17.02 may not be allowed in areas not meeting the requirements of SD 15.02(a).

(9) The system design must be stamped by a registered professional engineer or registered land surveyor and the system installation must be supervised and certified by the designer.

SD 15.03 Percolation Test - At least one percolation test, carried out in accordance with the procedure outlined in Section SD 16.00 shall be made at the site of each disposal system. 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 15.04 Test Holes - Test holes shall be excavated within the proposed leach field area. All test holes except fill test holes shall be excavated to at least five feet below the bottom elevation of the proposed leach field. Test holes shall be excavated, if possible, to a minimum depth of ten (10) feet from original ground surface. If impervious material is encountered or the test hole becomes unstable due to lack of soil cohesion and/or the presence of groundwater, the test hole may be terminated at a depth of less than ten (10) feet. Sites with test holes which have been terminated at less than ten (10) feet may require additional testing as determined by the Director.

(a) Dry Season Test Hole - Dry Season test holes shall be performed in accordance with SD 17.02 Dry Season Determination. Dry season test holes may be used to predict the maximum groundwater table elevation. Dry season test holes shall be witnessed by an agent of the Director unless the Director waives this requirement in writing. A wet season test hole shall be required when a dry season test hole fails to establish the maximum groundwater table elevation.

(b) Wet Season Test Hole - Wet Season test holes shall be performed in accordance with SD 17.01 Wet Season Determination. If, for any reason, a test hole or the measurement to soil or limiting layer on the inside of the groundwater test pipe is found to measure less than eight (8) feet below the original ground surface, ledge test holes shall be required. Wet season test holes shall also be required when a dry season test hole fails to establish the groundwater table.

(c) Alteration Test Hole - Alteration test holes shall be excavated to a depth of at least eight (8) feet to obtain field data when determining site suitability for a proposed system alteration. The alteration test hole shall demonstrate that the site is capable of accepting and treating effluent from the individual sewage disposal system in soil other than unconsolidated sand and gravel outwash. A percolation test as outlined in Section SD 16.00 shall be required for every alteration test hole. Alteration test holes and the percolation tests shall be witnessed by an agent of the Director unless the Director waives such a requirement in writing.

(d) Ledge Test Hole - Ledge test holes shall be excavated in the center and four corners of the proposed leach field. When ledge is encountered, additional test holes and/or probe tests shall be required in the proposed leach field perimeter. Ledge depth shall be determined both up gradient and down gradient of the proposed leach field area. Testing shall demonstrate that ledge is at least five (5) feet below the bottom elevation of the leach field in the proposed leach field area. The five (5) foot vertical separation requirement may be waived on the up gradient side as long as ledge is no higher than the bottom of system elevation within the twenty-five (25) foot leach field perimeter (Figure 1). If ledge outcrop is visible beyond the leach field area on the down gradient side, then additional testing shall be required to provide evidence that the leach field is not surrounded by ledge. A ledge test hole shall be witnessed by an agent of the Director unless the Director waives this requirement in writing. All data concerning

depths to groundwater and impervious material observed from ledge test holes and probe tests shall be submitted to the ISDS Section for review.

If during the ledge exploration work the Director determines that additional ledge test holes or probes tests are not warranted, then the agent of the Director may waive such additional testing as contained in the above paragraph.

(e) Fill Test Hole – Fill test holes shall be excavated to a sufficient depth to determine any site limitations, and the depth to original ground surface. Limitations such as depth to groundwater table and ledge shall be measured from the original ground surface. The Director may require that fill existing in the proposed leach field be removed prior to septic system installation. Fill test holes shall be witnessed by an agent of the Director unless the Director waives this requirement in writing.

***[SD 15.04(d) and (e) moved in part to Rule 16 "Additional Site Testing"]***

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.

SD 15.06 Recording Results – The results of percolation tests, ground water table determinations, the description of soil, and the location of impervious formations in the area shall be recorded on forms provided by, or approved by the director. Any person making and/or witnessing the determination shall certify to the accuracy of the technical data recorded.

SD 17.00 Procedures for Ground Water Table Elevation Determinations

SD 17.01 Wet Season Determinations – The ground water table elevation determination shall be made when the water table is highest; this occurs usually during the months of January through April. (Specific dates may be determined on a yearly basis by the director). In making this determination it is necessary to bore or dig an adequate number of holes of convenient size in the proposed leaching area to a depth of at least five (5) feet below the lowest point of the proposed subsurface seepage system. An open perforated pipe at least 4 inches in diameter shall be installed. Such pipe should remain in place until a permit has been issued by the director. This pipe shall be capped at the top and mounded to prevent the collection of surface water. All water table observations should be made during the wet season no sooner than 48 hours after excavation and shall be witnessed by an agent of the director unless otherwise waived. It is recommended that multiple water table observations be made.***[Moved to Rule 15 Soil Evaluations]***

SD 17.02 Dry Season Determinations – Although the groundwater table is more accurately measured in the wet season, data may be available or developed throughout the year to predict the maximum groundwater table elevation during the wet season. To make a dry season determination, the applicant shall dig a ten (10) foot test hole in the location of the proposed leach field area. Each test hole shall be witnessed by an agent of

the Director. In addition, the applicant shall submit data and comply with the procedures set forth in either (a) or (b) below whichever is applicable.

(a) In cases where the soil consists of: unconsolidated sand or gravel outwash to a depth of at least ten (10) feet; has a percolation rate not greater than five (5) minutes per inch; and groundwater or ledge is not encountered within ten (10) feet of original ground surface, an adjustment factor may be applied to the observed groundwater table in order to correct to the Maximum Groundwater Table Elevation. This adjustment factor is to be determined by the Director. If the corrected groundwater table depth is less than four (4) feet, or if ledge and soil other than unconsolidated sand and gravel outwash is encountered less than ten (10) feet below the original ground surface, the groundwater table must be determined in the wet season or in accordance with 17.02(b) below. A test hole shall be witnessed by an agent of the Director, and the Director or his/her agent shall make the final determination as to all factual matters.

(b) Where soil conditions are other than those described in SD 17.02(a) above, the designer shall collect, evaluate and provide to the ISDS Section all pertinent information relative to accurate groundwater table elevation determination in conjunction with the designer's specific professional conclusions and sworn affidavit as to groundwater table elevations. Such "pertinent information" to be provided to the ISDS Section shall be as follows:

(1) Groundwater table data from an approved lot in the immediate area;

(2) Seasonal water elevations in nearby wells and/or surface water bodies;

(3) USDA Soil Conservation Service maps;

(4) Any other data deemed necessary by the ISDS Section.

The Director may require that the above data be verified by one of his/her agents, and shall make the final determination as to all factual matters involved.

(c) The above procedures for dry season determinations set forth in SD 17.02(b) above may **not** be available to determine the groundwater table where;

(1) The groundwater table is estimated to be within four (4) feet of the original ground surface; or

(2) an impervious layer is within six (6) feet of the original ground surface; or

(3) sewage flows from the proposed system are anticipated to meet or exceed 2,000 gallons per day; or

(4) a variance is requested for projects not meeting procedures in SD 17.02(a); or

(5) the existing soil is a dark silt loam such as, a Mansfield, Newport, Pittstown and/or Stissing soil series as defined by the United States Department of Agriculture Soil Survey of Rhode Island.

(d) Until such time that a site evaluation is required pursuant to SD 2.01(b)(1), the Department may allow a dry season determination under conditions that do not meet the requirements of 17.02(a)-(c) if the determination is conducted by a licensed Class IV soil evaluator done in accordance with the soil evaluation procedures in 26.01.

APPLICATION AND CONDITIONS FOR APPROVAL

SD 2.00 Construction, Renovation and/or Change of Use of Structures Using Individual Sewage Disposal Systems

***[The focus of SD 2.00 System Suitability Determination has been significantly modified and now exists in Rule 17.3]***

(a) No person shall begin any building construction, building renovation and/or change of use of any structure from which sewage is being or will have to be disposed of by means of an individual sewage disposal system, including improvements which will result in increased sewage flow, without first obtaining the Director's written approval in accordance with this section:

(1) Construction of New Structures - Whenever an applicant proposes to construct a new structure from which sewage will be disposed of by means of an individual sewage disposal system, an application for new system shall be made in accordance with SD 2.01(b) and SD 2.02 below. All applications for new systems shall conform with all requirements under these regulations.

(A) Construction of New Structures in Subdivisions - No person shall begin construction of any new structure in a subdivision located in an area where sewage will have to be disposed by means of an ISDS until he/she has applied for and obtained a Certification of Site Suitability from the Director in accordance with SD 18.00 et seq. An approved Certification of Site Suitability shall not operate as an approval for the construction of any ISDS as required by SD 2.01.

(2) Building Renovations and Changes of Use to Existing Structures - Whenever an applicant proposes any building renovation or change of use (as defined in SD 1.00) of an existing structure from which sewage is disposed of by means of an ISDS, an Application for a System Suitability Determination shall be made. For the purposes of this section, the term "building renovation," shall also be defined as including any addition, replacement, demolition and reconstruction, or modification of an existing structure on the subject property which:

(A) Results in an increase in sewage flow into the system*; or

(B) Affects fifty (50%) percent or more of the floor space of the existing structure; or

(C) Is valued at greater than twenty-five (25%) percent of the current replacement value of the subject structure where the existing sewage disposal system is a cesspool. For the purposes of this section, current replacement value may be established by using the BOCA cost index, or the owner may provide the pre-renovation replacement value as established by a qualified appraiser or estimator.**

* NOTE: All sewage flows shall be determined in conformance with SD 3.00.

** NOTE: The Department recommends that whenever an owner proposes a building renovation or change of use of a structure using a cesspool-type ISDS, that the owner consider proceeding directly to an Application for Alteration under SD 2.01(c) rather than applying for a System Suitability Determination (see SD 2.00(a)(4), below).

(3) Application for System Suitability Determination - An Application for System Suitability Determination shall be required as specified in SD 2.00(a)(2), above, in order to determine whether the

existing individual sewage disposal system is suitable for the purposes proposed by the applicant. In reviewing any Application for System Suitability Determination, the Director may consider the cumulative effects resulting from past Change of Use Applications, Applications for System Suitability Determination, building permits and/or deed restrictions relating to the subject property. After reviewing an Application for System Suitability Determination, the Director shall determine whether the existing system:

(A) Is suitable to adequately dispose of the proposed sewage flows so as to protect the public health and the environment; or

(B) Is unsuitable and requires an approved Application for New System or Application for Alteration, in conformance with SD 2.01(b) or 2.01(c), respectively, and SD 2.02 before the proposed building renovation or change of use may be allowed.

(4) System Suitability Determinations for Structures Served by Cesspools - Cesspools are defined by these regulations to be a substandard method of sewage disposal. Accordingly, any Application for System Suitability Determination relating to a structure serviced by a cesspool which is filed for review with the Department pursuant to SD 2.00(a)(2) and (3), above will be presumed to be unsuitable and an Application for New System or Alteration will be required in accordance with SD 2.00(a)(3)(B), above.

(A) For System Suitability Determinations required under SD 2.00(a)(2)(C) only, the Department's presumption of unsuitability may be rebutted by supplying the Department with affirmative engineering and geohydrological data indicating that the cesspool functions adequately to protect the public health, public interest and the environment in accordance with these regulations.

(B) In rebutting the Department's presumption of unsuitability, the applicant shall be required to demonstrate the following minimum criteria and setback requirements:

(i) 75 feet to private well;

(ii) 200 feet to public well;

(iii) 3 feet separation between seasonal high groundwater table and the bottom of stone under cesspool;

(iv) 200 feet to surface drinking water supply or tributary stream or drain thereto;

(v) 150 feet to critical resource area as defined in these regulations;

(vi) fecal coliform measured in groundwater within 50 feet of cesspool does not exceed an MPN of 10 per 100 ml;

(vii) no history of sewage overflow or other septic system failure.

(5) Exceptions to Requirement for Application for System Suitability Determination - No Application for System Suitability Determination shall be required where a valid permit for New System or Alteration exists at the time of the issuance of the building permit and the ISDS design approved by said permit accounts for the proposed improvements to be performed.

~~(b) Issuance of Building Permits For Activities Requiring Approval Under These Regulations - A municipality shall not issue a building permit pursuant to Rhode Island General Laws Chapter 23-27.3, as amended, unless all written approvals by the Director required by these regulations have been presented to the municipality and said approvals are valid at the time of the issuance of the building permit.~~

***[Moved to Rule 14 – OWTS General]***

**RULE 17. OWTS APPLICATIONS**

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

17.1 Applicant's Responsibilities -- The applicant shall be responsible for providing all information required by these Rules in a complete, accurate, clear and legible manner. The applicant for an OWTS must be the owner or owners of the property or easement that is the subject of the application, or it must be the person who holds a valid purchase and sales agreement for said property.

17.2 Designer's Responsibilities -- Class I, II and III licensed designers shall design an OWTS for a site that is in compliance with these Rules. The design shall be based on the information provided in the soil evaluation report. This design shall be submitted to the Director in accordance with Rules 17 and 18. ***[from SD 27.00(a)]***

17.3 Local Ordinances -- It is the applicant's responsibility to ensure that the OWTS application to the Department is in compliance with local ordinances regarding the location, design, construction and maintenance of an OWTS prior to submission to the Department. Municipalities may petition the Department to require municipal review for compliance with local ordinances prior to DEM initiating its review. The petition must state the local standard(s) that is more stringent than the standard(s) in these Rules and the municipal official responsible for local review. In municipalities where the petition has been approved, applicants must submit documentation to DEM on forms approved by DEM that the municipality has certified that the application is in compliance with all local ordinances.

17.4 OWTS Suitability Determination – An OWTS Suitability Determination is a determination as to whether or not an existing OWTS is suitable for a proposed building construction, renovation or change of use so as to protect public health and the environment. An OWTS Suitability Determination Application to the Department is required only when explicitly indicated herein or requested by the Department or a local building official. However, an OWTS Suitability Determination Application may be submitted to the Department in order to determine the applicability of this Rule. OWTS suitability is determined by the following:

17.4.1 For OWTSs installed with state approval on or after April 9, 1968:

(A) The OWTS is suitable and no application to the Department is necessary for any building construction, renovation or change in use, that does not result in an increase in the number of bedrooms in a residential structure beyond the number in the original state approval; or an increase in the wastewater flow greater than the OWTS approved design flow for any OWTS. However, the OWTS is unsuitable and an OWTS Application for Alteration to a Structure must be submitted when any of the following in (i)-(iii) apply, even if there is no increase in flow:

(i) Whenever the proposed construction or renovation changes the structure's footprint such that the OWTS is not in compliance with these Rules;

(ii) If the proposed change of use is from a facility that does not prepare food to a restaurant or other facility that prepares food; or

(iii) For a change in use, if the OWTS for the new use meets the definition of a large OWTS pursuant to Rule 36.1.

(B) The OWTS is unsuitable for any building construction, renovation or change of use, that results in an increase in the number of bedrooms in a residential structure beyond the number in the original state approval; or an increase in the wastewater flow greater than the OWTS approved design flow for any OWTS. An OWTS Application for New Building Construction or an OWTS Application for Alteration to a Structure shall be required in accordance with Rule 17.5 or Rule 17.6, respectively, whichever is applicable, before the proposed building construction, renovation or change of use may be allowed.

17.4.2 For OWTSs installed without state approval, OWTSs installed prior to April 9, 1968 and cesspools: Whenever a person proposes any building construction, renovation, or change of use (as defined in Rule 7) of a structure served by such an OWTS, the OWTS is unsuitable and shall be upgraded to the standards herein. An OWTS Application for New Building Construction or an OWTS Application for Alteration to a Structure shall be required in accordance with Rule 17.5 or Rule 17.6, respectively, whichever is applicable. For the purposes of this Rule, the term "building construction or renovation," shall be defined as any addition, replacement, demolition and reconstruction, or modification of a structure on the subject property which:

(A) Results in any increase in wastewater flow into the OWTS, which for residential structures is equivalent to the addition of one (1) or more bedrooms;

(B) Involves demolition or replastering or replacement of interior wallboard, interior walls, ceilings, flooring, windows, plumbing fixtures, electrical wiring or kitchen cabinetry, which in total affects over fifty percent (50%) or more of the living area of the existing structure;

(C) Involves adding an additional floor level or portion of floor level of living space to the structure; or

(D) Increases the footprint of the living space of the structure.

17.4.3 Imminent Sewer Exemption – An owner subject to the requirements of Rule 17.4.1(B) or Rule 17.4.2 whose property is proposed to be sewered in the future shall be exempt from those requirements, provided an OWTS Suitability Determination Form is submitted to the local building official, demonstrating that all of the conditions in Rule 17.4.3(A) and (B) are met. A copy of the completed form shall be provided to the Department.

(A) A licensed Class II or Class III designer, as applicable, certifies that:

(i) The OWTS is not failed;

(ii) For a residential structure, any increase in wastewater flow to the OWTS is limited to that equivalent to one bedroom. For all other uses, no increase in wastewater flow to the OWTS is allowed; and

(iii) The municipality holds a form of financial surety for expansion of sewers to the area of the structure served by the OWTS within five (5) years of the date of the submission of the OWTS Suitability Determination Form; and

(B) The owner certifies that the structure will be connected within sixty (60) days of sewers becoming available.

~~SD 2.01(a) no person shall install, construct, alter or repair or cause to be installed, constructed, altered or repaired any individual sewage disposal system without first obtaining the Director's written approval of the plans and specifications for such work. *[This first portion moved to Rule 8 Prohibitions]*Certifications of Site Suitability approved in accordance with SD 18.00 et seq. shall not be construed to operate as an approval for the construction of any ISDS.~~ ***[Last statement moved to Rule 20 Subdivisions]***

17.5 ~~SD 2.01(b)~~OWTS Application for New ~~System~~ Building Construction – All OWTS ~~a~~Applications for ~~new systems~~ New Building Construction shall be made in conformance with all requirements under these ~~regulations~~ Rules. Applications not in conformance with these ~~regulations~~Rules may be approved only through the variance procedures set forth in ~~SD 20.00 through SD 20.03~~ Rule 47.

17.5.1 ~~(3)~~ An OWTS ~~a~~Application for ~~a new system~~ New Building Construction shall be made whenever an applicant proposes to:

(A) Construct a new structure from which ~~sanitary sewage~~ wastewater will ~~have to~~ be disposed of by means of an ~~ISDS~~ OWTS; ~~or~~

(B) Modify a~~n existing~~ structure, not previously permitted to dispose of ~~sanitary sewage~~ wastewater, ~~so as~~ to require the disposal of ~~sanitary sewage~~ wastewater to an ~~individual sewage disposal system~~ OWTS; ~~or~~

(C) Increase ~~sewage~~ wastewater flow to an ~~existing~~ ~~system~~ OWTS by an amount greater than twenty-five percent (25%) of the original design flow with all flows adjusted using the design flows in Rule 21, provided that using the design flows and loading rates in these Rules would result in a leachfield larger than that previously approved by the Department; or

(D) Improve ~~an existing~~ a residence through the addition of more than one bedroom.

~~(E) Change the use of a structure in conformance with SD 2.00(a)(2)(A) and, as a prerequisite thereto, has been required to install a new system as the result of a System Suitability Determination.~~

17.5.2 ~~(2)~~ All plans and specifications for ~~a new system~~ an OWTS Application for New Building Construction shall be prepared by a Class II or Class III ~~licensed~~ designer licensed in accordance with ~~SD 25.00~~ Rules 9 and 10.

17.5.3 ~~SD 2.01(b)(1)~~ ***[Material deleted here moved to Rule 15]*** ~~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~~ an OWTS for New Building Construction without first obtaining the Director's ~~approval~~ acceptance of a ~~site~~ soil 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~~ Rule 15. If the Director concurs with the determination of the soil evaluation in accordance with Rule 15.5.3(A) and the soil conditions meet the minimum requirements of these Rules, the soil evaluation may be submitted with the application for an OWTS permit.***[partially from SD 26.00(d)(3)(A)]*** ~~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 prior to May 10, 2002;~~

~~(C) Applications submitted to the Director after May 10, 2002 where the field data is less than five years old; or~~

~~(D) Applications submitted to the Director after May 10, 2002 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.~~

17.6 ~~SD 2.01(c)~~ OWTS Application for Alteration to a Structure

17.6.1 ~~(2)~~ An OWTS Application for ~~an~~ Alteration to a Structure ~~of an existing individual sewage disposal system~~ shall be made whenever an applicant proposes ~~a change in the size of an ISDS, a modification of an ISDS, or a building renovation or change of use (as defined in SD 1.00) of any structure discharging sewage into the system. (A) The phrase "change in size," as used herein, shall mean~~ any physical alteration to a structure that meets any of the following: ~~system which will allow the system to accommodate:~~

(A) ~~(i)~~ In the case of a residence, ~~the additional sewage flow resulting from~~ the addition of not more than one bedroom;

(B)~~(ii)~~ In all other cases, an increased flow of ~~sewage~~ wastewater in an amount less than or equal to twenty-five percent (25%) of the original design flow adjusted using the design flows in Rule 21 provided that using the design flows and loading rates in these Rules would result in a leachfield larger than that previously approved by the Department;

(C) Structures served by OWTSs installed without state approval, OWTSs installed prior to April 9, 1968 and cesspools -- Whenever a person proposes any addition, replacement, demolition and reconstruction, or modification of a structure on the subject property which:

(i) Involves demolition or replastering or replacement of interior wallboard, interior walls, ceilings, flooring, windows, plumbing fixtures, electrical wiring or kitchen cabinetry, which in total affects over fifty percent (50%) or more of the living area of the existing structure;

(ii) Involves adding an additional floor level or portion of floor level of living space to the structure; or

(iii) Increases the footprint of the living space of the structure;

(D) Whenever the proposed construction changes the structure's footprint such that the OWTS is not in compliance with these Rules; or

(E) Change of use with no increase in flow pursuant to Rule 17.4.1(A).

~~(B) Changes in size which will accommodate increased sewage flows resulting from more than one bedroom or in an amount greater than twenty-five percent (25%) of the design flow must obtain a permit for a new system in conformance with SD 2.01(b), above. All sewage flows will be determined in conformance with SD 3.00.~~

~~(C) The phrase "modification of an ISDS," as used herein, shall mean a change in the type of system or a modernization of an existing system.~~

~~(D) An application for alteration shall be made when required by the Individual Sewage Disposal System Program in response to an application for system suitability determination, as described in SD 2.00(a)(2).~~

17.6.2~~(1)~~ All plans and specifications for an ~~alteration to an ISDS~~ OWTS Application for Alteration to a Sturcture shall be prepared by a ~~person~~ licensed ~~as a~~ Class II or Class III designer in accordance with ~~SD~~ 25.00 Rules 9 and 10. ~~The applicant is not required to have a site evaluation report prepared unless the Department specifies otherwise.~~ The Director reserves the right to require that the plans and specifications for an OWTS Application for Alteration to a Structure ~~an alteration~~ be prepared by a Class III designer.

17.6.3 No person shall submit applications, plans and specifications to the Director for an OWTS for an Alteration to a Structure without first obtaining the Director's acceptance of a soil evaluation or field concurrence with the soil evaluation in accordance with Rule 15. If the Director concurs with the determination of the soil evaluation in accordance with Rule 15.5.3(A) and the soil conditions meet the minimum requirements of these Rules, the soil evaluation may be submitted with the application for an OWTS permit. Soil evaluations for residential OWTS applications for an Alteration to a Structure where the total design flow is less than or equal to six hundred ninety (690) gallons per day are not required to be witnessed by the Department.

17.6.4 ~~(E)~~ Applicants shall meet the requirements of these ~~regulations~~ Rules to the greatest extent possible. The applicant shall identify which Rules, if any, the proposed OWTS fails to meet. If necessary, certain requirements under these ~~regulations~~ Rules may be relaxed at the discretion of the Director, provided that the applicant considers the Department approved ~~innovative or alternative~~ alternative or experimental technology in accordance with ~~SD 14.06~~ Rule 37 that may allow the applicant to meet most of the requirements of these ~~regulations~~ Rules. The protection of the public health and the environment shall be given priority over all other considerations. Nothing herein shall prevent the Director from requesting additional information or imposing any requirement under these ~~regulations~~ Rules. ~~that he/she may deem appropriate including request for variance.~~ Variance application procedures

will only apply to OWTS Applications for Alteration to a Structure that propose an increase in wastewater flow or where the existing OWTS is determined to be unsuitable pursuant to Rule 17.3.1(D). OWTS Applications for Alteration to a Structure that include a request for a variance from the provisions of these Rules are exempt from the notification requirements in Rule 47.7.1.

17.7 ~~SD 2.01(d)~~ OWTS Application for Repair - An application for a repair of any ~~individual sewage disposal system~~ OWTS, or any component thereof, shall be made when an ~~existing~~ ~~system~~ OWTS or component has failed, as defined by ~~SD 1.00~~ Rule 7. An application for repair shall not propose any change of use, building renovation or any increased flow to the OWTS. The Department may allow an OWTS Application for Repair to be submitted when, after the effective date of these Rules, a fire or other catastrophic occurrence necessitates that a structure served by an OWTS be replaced. The applicant may submit an OWTS Application for Repair when the property owner desires to upgrade or modernize the OWTS (e.g., replacement of cesspool).

17.7.1~~(1)~~ All plans and specifications for ~~a repair to an ISDS~~ an OWTS application for Repair shall be prepared by a ~~person~~ licensed ~~as a~~ Class I, II or III designer in accordance with ~~SD 25.00~~ Rules 9 and 10. The applicant is not required to have a ~~site~~ soil evaluation ~~report~~ pursuant to Rule 15 prepared unless the Department specifies otherwise. The Director reserves the right to require that the plans and specifications for a repair be prepared by a licensed Class II or Class III ~~licensed~~ designer.

~~(2) An application for repair shall not propose any construction, building renovation or change of use of a structure pursuant to SD 2.00~~.

~~(3) An application for repair shall not propose any increase in the original design flow of the system. Sewage flows shall be determined in conformance with SD 3.00.~~

~~(4) The approval of an application for repair shall not authorize any building renovation of any structure.~~

17.7.2 ~~(5)~~ Applicants shall meet the requirements of these ~~regulations~~ Rules to the greatest extent possible. If necessary, certain requirements under these ~~regulations~~Rules may be relaxed at the discretion of the Director, provided that such modification is consistent with the protection of the public health and the environment. In reviewing any request for relaxation of these ~~regulations~~ Rules, the protection of the public health and the environment shall be given priority over all other considerations.

17.7.3 Deep concrete chambers will not be permitted for OWTS Applications for Repair where an alternate type of leachfield can be utilized. The licensed designer must demonstrate that the repair alternatives to a deep concrete chamber are not feasible.

17.7.4 Exemptions for OWTS Application for Repair -- Under the limited circumstances in Rule 17.6.4 (A)–(E), an OWTS Application for Repair will not be necessary prior to repairing the OWTS. Any repair or installation work done in accordance with Rule 17.6.4(A) –(E) that is found **not** to be in compliance with these Rules, will have to be corrected and will be considered a violation of these Rules.

(A) Septic Tank Replacement -- When a crushed tank or other failure necessitates replacement to maintain wastewater handling capacity at a facility and averting a public health threat, the installer must receive verbal authorization from the Department prior to septic tank installation and the owner must submit a proper and complete repair application by the end of the next business day.

(B) Building Sewer – Replacing a crushed or otherwise repairing a faulty building sewer between the building and the septic tank does not require prior authorization of the Department or notification to the Department once the work is completed.

(C) Access openings –The following work on access openings does not require prior authorization of the Department or notification to the Department once the work is completed:

(i) Installation of access openings to finished grade; and

(ii) Compliance with the requirements to upgrade the cover of existing tanks that have access openings to finished grade in accordance with Rule 25.11 (grease tank), Rule 26.14 (septic tank), Rule 28.6 (holding tank), Rule 29.8 (pump tank), and Rule 34.6.2(D) (concrete chambers).

(D) Retrofitting for a septic tank effluent screen – Such work does not require prior authorization of the Department or notification to the Department once the work is completed.

(E) In-kind emergency replacement of a failed mechanical or electrical device does not require prior authorization of the Department or notification to the Department once the work is completed.

17.8 Unacceptable Application- ~~SD 2.03(g)~~ When the Department determines that an application is unacceptable for any reason, the application shall ~~**become void**~~ **expire** if~~:~~ any of the events in Rule 17.**8**.1 – 17.**8**.3 occur. Once the application is deemed ~~**void**~~ **expired** a new application and application fee shall be required.

17.8.1 ~~(1)~~ The applicant **or the applicant's designer** fails to rectify the deficiencies identified by the Department within one year of the date the "unacceptable notice" is forwarded to the applicant or the applicant's designer by the Department; ~~and/or~~

17.8.2 ~~(2)~~ The applicant or the applicant's designer fails to ~~**notify the Director in writing**~~ **demonstrate to the Director's satisfaction, in writing,** of attempts to rectify the deficiencies within one year of the date the "unacceptable notice" is forwarded to the applicant or the applicant's designer; ~~and/~~or

17.8.3 ~~(3)~~ The file remains inactive for one year.

17.9 ~~SD 2.02 (h)~~ Public Records – All applications received by the Department of Environmental Management are subject to the Public Records Act, R.I. General Laws Chapter 38-2, and are available in accordance with the Act for public inspection and copying at the ~~Individual Sewage Disposal System~~ OWTS Program of DEM between the hours of 8:30 AM and 4:00 PM; a prior appointment may be required. A fee for such copying shall be charged in accordance with Rhode Island General Laws Section 38-2-4, as amended.

## RULE 18. REQUIRED CONTENT OF OWTS SUBMISSIONS

~~SD 2.02 Content of Applications for Approval of Individual Sewage Disposal System Permits~~

18.1 Application- ~~SD 2.02(f)Applicant's Responsibilities – The applicant shall be responsible for providing all information required by these regulations in a complete and, accurate manner.~~ ***[Moved to Rule 17.1]*** ~~2.02(a) Form of Application~~ All applications for the approval of plans and specifications for ~~sewage disposal system~~ OWTS permits shall be made on forms ~~provided~~ approved by the Director. Nothing in these ~~regulations~~ Rules shall prevent the Director from requiring any additional information ~~he/she deems~~ deemed necessary to carry out ~~his/her~~ obligations in enforcing these ~~regulations~~ Rules.***[last sentence from SD 2.02(f)]***

~~SD 2.02(b) Applications Involving Freshwater Wetlands – All applications submitted in accordance with these regulations which also involve freshwater wetlands shall be accompanied by all appropriate~~

~~determination(s), approval(s) or permit(s) required by the Department of Environmental Management. Accordingly, where an applicant proposes to construct a new individual sewage disposal system, he/she must first apply for and receive the appropriate determination, approval or permit. No individual sewage disposal system application will be approved unless it is accompanied by the appropriate determination, approval or permit issued by the Department. Effective August 18, 1999, review of impacts to freshwater wetlands in the vicinity of the coast are under the sole jurisdiction of the Rhode Island Coastal Resources Management Council in accordance with the "Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast" (August 1999). See SD 2.17 Individual Sewage Disposal System Applications Involving Shoreline Features.~~ ***[Moved to Rule 19]***

~~SD 2.02(c) Basic Design Data - All applications shall be accompanied by basic design data and a plan, to scale, of the property or the pertinent portion thereof showing the size and location of the sewage disposal system building sewer lines, manholes, cleanout plugs, essential invert elevations and a fixed bench mark within 150 feet of the system that will not be disturbed during construction.~~

~~SD 2.02(d) Required Information - Other information to be provided by the applicant shall include, but not be limited to, the following:~~

~~(1) The existing and proposed finished grades in the vicinity of the system;~~
~~(2) The location of an alternate disposal area in those areas served by wells, in conformance with SD 2.14;~~
~~(3) The results and location of water table test pits, in conformance with SD 17.00 et seq.;~~
~~(4) The results and location of the percolation tests, in conformance with SD 15.00 et seq.;~~
~~(5) A description of the soil profile, in conformance with SD 15.00 et seq.;~~
~~(6) The maximum elevation of the ground water table in the location of the proposed system, in conformance with SD 17.00 et seq.;~~
~~(7) The size and location of all existing and proposed buildings and the number of bedrooms, or other building features used to determine the maximum daily flow, contained therein;~~
~~(8) The location of any public sewer line within 200 feet of the property lines;~~
~~(9) The location of any drinking water line within 25 feet of the proposed disposal system or alternate area;~~
~~(10) The location of any watercourse, wetlands, and/or any existing or proposed private wells or drains within 200 feet of the proposed disposal system and/or alternate area;~~
~~(11) The location of the proposed disposal system or alternate area relative to any watershed of a public water supply or critical resource area in conformance with SD 19.00, 19.02 & 19.03;~~
~~(12) The location of all existing or proposed public drinking water supply wells within 500 feet of the proposed disposal system or alternate area;~~
~~(13) The location of any surface waters or tributaries thereto, including storm and subsurface drains discharging thereto, within 200 feet of the proposed disposal system and/or alternate area and whether said drain discharges, directly or indirectly, into a critical resource area as identified in SD 19.00 through 19.03; and~~
~~(14) The location of all existing individual sewage disposal systems within 100 feet of any well to be installed on the subject property.~~ ~~***NOTE:** Records and data on file with the Department of Environmental Management may be used to obtain information on proposed individual sewage disposal systems and wells.~~

~~The Director reserves the right to require any additional information which he/she deems necessary.~~

18.2 Plan - All applications shall be accompanied by four (4) sets of plans that include a plan view of the entire property drawn to scale, a plan view of the pertinent portion of the property at a minimum scale of one (1) inch equals forty (40) feet, a profile of the system from the building foundation to the limits of the

leachfield with invert elevations shown, and a cross-section of the leachfield. The plans shall include the items below. The Director reserves the right to require any additional information that is deemed necessary.

18.2.1 Location map;

18.2.2 Rhode Island Coastal Resources Management Council jurisdictional line, if applicable;

18.2.3 The size and location of the OWTS;

18.2.4 A fixed benchmark within one hundred fifty (150) feet of the OWTS that will not be disturbed during construction;

18.2.5 The location of all soil test holes;

18.2.6 The existing and proposed finished grades in the vicinity of the OWTS;

18.2.7 The size and location of all existing and proposed buildings and the number of bedrooms and other building features used to determine the maximum daily flow contained therein;

18.2.8 The location of any public sewer line within two hundred (200) feet of the property lines;

18.2.9 The location of any drinking water line within fifty (50) feet of the proposed OWTS;

18.2.10 The location of existing and proposed private drinking water wells within the setback distance from the leachfield specified in Table 22.5 plus one hundred (100) feet;

18.2.11 The location of all existing and proposed wells serving non-potable uses within one hundred (100) feet;

18.2.12 The location of existing and proposed public drinking water supply wells within five hundred (500) feet of the proposed OWTS and a determination as to whether the public well is a bedrock well or a gravel packed, gravel developed or driven well;

18.2.13 The location of all watercourses, wetlands, and drains within two hundred (200) feet of the proposed OWTS;

18.2.14 The location of all storm and subsurface drains within two hundred (200) feet of the proposed OWTS and a determination and whether said drain discharges, directly or indirectly, into a critical resource area as identified in Rule 38;

18.2.15 Plans must indicate if the proposed OWTS is within the watershed of a public water supply or other Critical Resource Area as identified in Rule 38, and must specify the distance to the nearest critical resource of concern.

18.2.16 The location and design flow of all existing OWTSs within two hundred (200) feet of any well to be installed on the subject property. Plans must also show the location and design flow of any existing OWTS with a design flow of greater than one thousand (1000) gallons per day located within four hundred (400) feet of any well to be installed on the subject property. Records and data on file with the Department may be used to obtain information on proposed OWTSs and wells;

18.2.17 Areas on the subject property where soil has been excavated and where storm deposited sand in the backdune environment or human transported material has been deposited; ***[from SD 26.00(b)(8)***

18.2.18 Replacement dispersal field area, if required pursuant to Rule 32.21;

18.2.19 Details of all system components;

18.2.20 Erosion controls;

18.2.21 Plat and lot boundaries and numbers;

18.2.22 Title block, legend and north arrow; and

18.2.23 Signature and stamp of the licensed designer.

18.3 Additional Information -- Other information to be provided by the applicant shall include, but not be limited to, the items listed below:

18.3.1 Soil evaluation for OWTS Applications for New Building Construction and for OWTS Applications for an Alteration to a Structure and those that were required by the Director for OWTS Applications for Repair;

18.3.2 Results of seasonal high groundwater table determinations and percolation tests for lots not required to conduct a soil evaluation;

18.3.3 Determination of the potential for flooding on the subject property; and ***[from SD 26.00(b)(9)]***

18.3.4 Statement as to whether or not any proposed well on the applicant's property requires a variance from the Department's "Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells."

18.4 ~~SD 2.02(e) Systems Disposing of 5,000 GPD or More~~ Applications for Large OWTSs – Each application ~~relating to a sewage disposal system that will service either a proposed new building or the expansion of an existing building or system, which system will dispose of 5,000 gallons per day or more of sewage as a result of said construction or expansion,~~ for a large OWTS (Rule 35) shall be accompanied by a list identifying the names and addresses of the local building official, the water supply agency whose water supply is drawn from the watershed or wellhead protection area wherein the property is located, if applicable, ~~and~~ all property owners within ~~200~~ four hundred (400) feet of any component of the proposed ~~system~~ OWTS, and all abutting property owners. Applicants must also comply with the large OWTS requirements in Rule 35.

18.4.1 ~~(1)~~ Upon application, the applicant shall notify each person identified in ~~SD 2.02(e)~~ Rule 18.4 above, of the application by certified mail, return receipt requested.

18.4.2 ~~(2)~~ Each notice shall substantially conform to a form to be provided by the Director and shall include the application number and a certificate of service.

18.4.3 ~~(3)~~ The applicant shall clearly mark each return receipt with the application number and the words "5000 Gallon ~~System~~ OWTS."

18.4.4 ~~(4)~~ All persons subject to the notice shall be permitted twenty (20) days from the date specified in the certificates of service within which to submit written comments or information bearing upon the subject application.

18.4.5 ~~(5)~~ All timely submitted comments or information bearing upon the subject application and relating to the intent and purpose of these ~~regulations~~ Rules shall be considered by the ~~Individual Sewage Disposal System~~ OWTS Program staff as part of their review of the application.

18.4.6 ~~(6)~~ When all certified receipts have been returned to the applicant, copies of each notice, accompanied by the appropriate certified receipt, shall be filed with the ~~Individual Sewage Disposal System~~ OWTS Program along with a letter requesting that the application be reviewed for final determination.

18.4.7 ~~(7)~~ If a correctly addressed, certified notice is returned to the applicant, the applicant may submit the returned envelope and certified receipt, unopened, along with the other return receipts as proof of the applicant's good faith attempt to serve the notice.

***[SD 2.02(g) Field Data moved to Rule 15.2]***

~~SD 2.02(g) Field Data Field data shall be considered valid for a period of five (5) years from the time of initial certification by the Department or five (5) years from the date of initial approval of any ISDS application, design, or subdivision suitability where the data were used, whichever occurred most recently.~~

~~(1) Field data compiled prior to July 21, 1987 may not be revalidated.~~

~~(2) Field data older than five (5) years may be used provided that:~~

~~(A) The field conditions are essentially unchanged;~~

~~(B) The field data was initially compiled and certified on or after July 21, 1987;~~

~~(C) Its continuing validity is properly certified using the Department's affidavit form (i.e., Designer's Affidavit of Continuing Validity of Field Data);~~

~~(D) The affidavit submittal is accompanied by the submission of a complete ISDS or subdivision suitability application; and~~

~~(E) The proper fees accompany the submittal.~~

~~(3) Affidavits will not be accepted to renew field data only, apart from an ISDS application/suitability submittal. The affidavit does not renew an ISDS system approval. A new original application and four sets of new plans meeting all current regulations must be submitted. The old approval is not renewable even if the design is unchanged.~~

~~(4) Previously renewed field data older than July 21, 1987 are not affected provided that the data are part of a currently approved ISDS application or subdivision suitability. All currently approved applications are valid until their expiration date regardless of field data age.~~

~~(5) When an application is received for an approved lot within a subdivision with a valid Subdivision Suitability certification issued pursuant to SD 18.01, the field data within that subdivision is considered valid for a period of five (5) years from the date the suitability was approved.~~

~~SD 2.02(h) Public Records All applications received by the Department of Environmental Management are subject to the Public Records Act, R.I. General Laws Chapter 38-2, and are available in accordance with the Act for public inspection and copying at the Individual Sewage Disposal System Program of DEM between the hours of 8:30 AM and 4:00 PM; a prior appointment may be required. A fee for such copying shall be charged in accordance with Rhode Island General Laws Section 38-2-4, as amended.~~ ***[Moved to Rule 17.8]***

~~SD 2.02(i) Systems Disposing of 10,000 GPD or More Applicants for individual sewage disposal systems designed to dispose of ten thousand (10,000) gallons or more per day shall obtain a groundwater quality certification in accordance with RIDEM's Rules and Regulations on Groundwater Quality sections 17.01(e), 17.02 and 17.03, as amended, prior to approval of the application by the ISDS Section.~~

## RULE 19. APPLICATIONS INVOLVING THE DEM FRESHWATER WETLANDS PROGRAM AND THE COASTAL RESOURCES MANAGEMENT COUNCIL

19.1 ~~SD2.02 (b)~~ Applications Involving the DEM Freshwater Wetlands Program

19.1.1 All applications ~~submitted in accordance with~~ pursuant to these ~~regulations~~ Rules ~~which also involve~~ associated with a construction project which may affect a freshwater wetlands regulated by the Department shall be submitted in accordance with either 19.1.1(A) or (B):

(A) The OWTS application may ~~shall~~ be accompanied by ~~all~~ the appropriate determination~~(s), approval(s)~~ or permit~~(s)~~ required by the ~~Department's of Environmental Management's Division of~~ DEM Freshwater Wetlands Program. Accordingly, where an applicant proposes to construct ~~or alter~~ an ~~individual sewage disposal system~~ OWTS, ~~he/she~~ the applicant must ~~first~~ apply for and receive the appropriate determination~~, approval~~ or permit from the Freshwater Wetlands Program prior to submission to the OWTS Program; or

(B) The applicant may submit applications to the Freshwater Wetlands Program and the OWTS Program at the same time. No OWTS Application for a construction project which may affect a freshwater wetlands will be approved without the appropriate determination or permit from the Freshwater Wetlands Program. ~~No individual sewage disposal system application will be approved unless it is accompanied by the appropriate determination, approval or permit issued by the Division of Freshwater Wetlands. Effective August 18, 1999, Review of impacts to freshwater wetlands in the vicinity of the coast are under the sole jurisdiction of the Rhode Island Coastal Resources Management Council in accordance with the "Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast" (August 1999). See SD 2.17 Individual Sewage Disposal System Applications Involving Shoreline Features.~~

(C) The Director reserves the right to require concurrent applications to the Freshwater Wetlands Program and the OWTS program. No OWTS Application for a construction project which may affect a freshwater wetlands will be approved without the appropriate determination or permit from the Freshwater Wetlands Program.

~~SD 2.16 Individual Sewage Disposal System Application Involving Freshwater Wetlands~~

~~(a) Approval for individual sewage disposal systems that are located within fifty (50) feet of a marsh, swamp, bog or pond, or within one hundred (100) feet of a river of less than ten (10) feet in width during normal flow, or within two hundred (200) feet of a river of ten (10) feet or more in width during normal flow, or within a flood plain or other freshwater wetland as defined in the Rhode Island General Laws Section 2-1-20, will not~~

~~be issued until the Freshwater Wetlands Section of the Department of Environmental Management issues a wetlands permit or determines that the Wetlands Act does not apply to the proposed new construction or new installation.~~

~~** NOTE: If there is any question concerning the location of freshwater wetlands or applicability of the proposed individual sewage disposal system and related building or site improvements to the Freshwater Wetlands Act, the Department strongly recommends that application for wetlands determination be made to the Wetlands Section prior to approval to avoid delays in individual sewage disposal system permit review. If freshwater wetlands are located in the vicinity of the proposed individual sewage disposal system, related improvements that are not limited to: 1) Construction or alteration of a building served by the individual sewage disposal system. 2) Earth removal, filling or grading associated with proposed site improvements, building construction or individual sewage disposal system improvements. 3) Alteration of groundwater or surface water flow resulting in discharge of flow in or near a wetland.~~

19.1.2 ~~SD2.16 (b)~~ If the ~~Individual Sewage Disposal System Section~~ Department determines that there is a reasonable doubt as to the location of a freshwater wetlands boundary or applicability of the ~~Wetlands Act~~ DEM Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act to ~~the~~ a proposed new construction or new installation of an ~~individual sewage disposal system~~ OWTS, the ~~Individual Sewage Disposal System Section~~ Department ~~shall~~ may require that the applicant obtain a separate determination or permit from the Department pursuant to said Wetlands regulations. ~~request a preliminary applicability determination from the Wetlands Section in which case the individual sewage disposal system approval shall not be granted without submittal of either a determination that the Wetlands Act does not apply or an approved wetlands permit, and a copy of the current, approved plans, stamped by the Wetlands Section.~~

19.1.3 The Director may require that erosion and sedimentation controls be designed, shown on plans, installed, operated and maintained to protect any wetland or watercourse from potential adverse effects of the construction project associated with an approved OWTS application.

19.2 ~~SD 2.17 Individual Sewage Disposal System~~ Applications Involving ~~Shoreline Features~~ the Rhode Island Coastal Resources Management Council

19.2.1The Rhode Island Coastal Resources Management Council has authority over ~~any~~ construction proposed in ~~the~~ certain coastal regions of the state. The coastal region includes: All ~~salt water beaches, barrier beaches~~ shorline features and all land within two hundred (200) feet of tidal waters, salt water ponds, salt water marshes, salt water wetlands or ~~on~~ other land subject to Coastal Resources Management Council jurisdiction. Review of impacts to "freshwater wetlands in the vicinity of the coast" are under the sole jurisdiction of the Coastal Resources Management Council in accordance with the "Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast". ***[From SD 2.02(b)]***

19.2.2 The Director reserves the right to request the applicant to obtain a Preliminary Determination from the Coastal Resources Management Council. Applicants with an OWTS that has a design flow greater than two thousand (2000) gallons per day for any single system or design flow greater than two thousand (2000) gallons per day for any combination of systems owned or controlled by a common owner must receive a Preliminary Determination from the Coastal Resources Management Council before submitting an application for an OWTS to the DEM. After receiving a permit for an ~~individual sewage disposal system~~ OWTS from the Director, the applicant should consult with the Coastal Resources Management Council before undertaking any construction on the property. ~~The applicant shall have the~~ It is the applicant's responsibility to obtain a Coastal Resources Management Council permit if necessary.

**RULE 20. SUBDIVISIONS**
~~SD 18.00~~

20.1 Administrative

20.1.1 No person shall begin construction in any subdivision requiring a Subdivision Site Suitability Certification in accordance with this Rule until the Director has approved such certification. ***[From SD 18.01]***

20.1.2 Any subdivision of five (5) lots or less that does not have frontage on an existing road and all subdivisions of six (6) lots or more shall apply for a Subdivision Site Suitability Certification in accordance with Rule 20.2.

20.1.3 Subdivisions of five (5) lots or less that have frontage on an existing road have the option to apply for a Subdivision Site Suitability Certification pursuant to Rule 20.2 or submit OWTS applications for individual lots in accordance with Rule 17. If applications for individual lots are submitted, the submittal shall be in accordance with the following:

(A) The applications must be submitted together;

(B) Each application shall clearly state that the lot is part of a subdivision of five (5) lots or less with existing road frontage; and

(C) Each lot must meet all requirements of these Rules in order for an OWTS permit to be issued by the Department for any of the lots.

20.1.4 Subdivision Soil Evaluation – A soil evaluation shall be conducted for each lot in accordance with Rule 15. Soil evaluations for subdivisions are exempt from the requirement in Rule 15.9.1 that the soil test holes be within twenty-five (25) feet of the proposed leachfield, unless the Director determines that soil conditions justify that the soil test holes must be placed within twenty-five (25) feet of the proposed leachfield. Soil evaluations must be accepted by the Director prior to submission of an application for Subdivision Site Suitability Certification.

20.1.5 An approved Subdivision Site Suitability Certification shall not operate as an approval for the construction of any OWTS as required by Rule 17. ***[From SD 2.00(a)(1)(A) and SD 2.01(a)]***

20.1.6 Land within the original property boundaries that is designated for future development will not be part of the review for Subdivision Site Suitability Certification. However, it must be shown that one unit can be built on the land designated for future development.

20.1.7 OWTSs installed without state approval, OWTSs installed prior to April 9, 1968 and cesspools on existing lots in a proposed subdivision shall be upgraded to the current standards, to the extent possible in accordance with these Rules as part of a Subdivision Site Suitability Certification within one (1) year of the recording of the subdivision.

20.1.8 The applicant for a Subdivision Site Suitability Certification must demonstrate that the OWTS for the proposed use on each proposed lot in a subdivision meets all the requirements of these Rules in order for a Subdivision Site Suitability Certification to be issued by the Department.

20.1.9 ~~SD 18.09 -~~ Nothing in ~~Sections SD 18.01 through 18.08~~ this Rule 20 shall prevent the Director from requesting any or all of the procedures established in these ~~regulations~~ Rules for a single lot if ~~in his opinion~~ the Director determines it is necessary for the protection of the public health and environment. ~~so requires.~~

20.1.10 ~~SD 18.11 -~~ Easement Filing - Where subdivision lots will require filling ~~over~~ beyond lot lines, ~~to maintain fill perimeters~~ an easement for that ~~fill~~ human transported material must be submitted with the application for the individual lots.

~~SD 18.04 Percolation Tests - An adequate number of percolation tests not less than one to an acre, with a minimum of two tests in small areas shall be made, to indicate clearly the soil conditions throughout the property. These tests shall be made in accordance with the procedure outlined in Section SD 15.00 and SD 16.00. Unfavorable or variable soil conditions will require more tests, up to one per lot at the proposed site of each subsurface absorption unit. The results of each percolation test and pertinent information shall be recorded in the tabulation provided on the application and the location of the percolation tests shall be marked on the topographical map and indexed by the corresponding number used in the tabulation of results.~~

~~SD 18.05 Ground Water Table - An adequate number or borings, excavations or observations shall be made by the developer to clearly establish the elevation of the ground water table in accordance with the procedure outlined in Sections SD 15.00 and SD 17.00. The ground water table determination should be made when the ground water table is at its highest level. The results of each observation and pertinent information shall be recorded in the tabulation of the application. The location of the ground water table observations shall be indicated on the topographical map and labeled in the field together with the index letter used in the tabulation of the results together with the existing ground elevations at the test hole and the maximum ground water elevations.~~

20.2 ~~SD 18.01 Subdivisions - Individual Sewage Disposal Systems -~~ Subdivision Site Suitability Certification -- ~~No person shall begin construction in any located in areas where sewage will have to be disposed of by means of individual sewage disposal systems until he has obtained certification from the Director that the subsoil is suitable for disposal of sewage by individual sewage disposal systems.~~ ***[Moved to Rule 20.1.1]*** Application for ~~such certification~~ Subdivision Site Suitability Certification shall be prepared by a licensed Class II or Class III Designer, as appropriate, ~~made~~ on forms ~~provided~~ approved by the Director ~~and accompanied by data described in SD 18.02 through SD 18.06.~~ and shall include the information in Rule 20.2.1 – 20.2.5 and any other information the Director may require. The application for Subdivision Site Suitability Certification will be reviewed for all information necessary to determine the suitability of a parcel of land to be divided as shown on the application.

20.2.1 ~~SD 18.03 -~~ Location Map - A location map or sketch showing existing highways, streets and/or other identifiable landmarks or distances thereto, shall be furnished to facilitate an inspection of the site. This may be incorporated on the topographic map.

20.2.2 ~~SD 18.10 -~~ Soil Survey - A copy of the page or pages of the latest Soil Survey published by the ~~Soil~~ Natural Resource Conservation Service of the U.S. Department of Agriculture illustrating the location of the subdivision.

20.2.3 ~~SD 18.02 -~~ Topographic Map

(A) The topographic map shall show ground elevations on the tract as follows:

(i) ~~(a)~~ For land that slopes less than approximately two (2) percent, show spot elevations at all breaks in grade, along all drainage channels or swales, and at selected points not more than one hundred (100) feet apart in all directions; and

(ii) ~~(b)~~ For land that slopes more than approximately two (2) percent show broken line contours with an interval of not more than two (2) feet.

(B) The datum on which the elevations or contours are based shall be reported including a permanent reference bench mark. Where cut and/or fill of more than one (1) foot can be anticipated and estimated, it should be indicated by solid line contours showing approximate finished grade. Plan and profile showing existing and proposed finished grades of proposed roads must be provided.

(C) ~~A topographic map of the entire area under consideration shall be prepared to an appropriate engineering scale and submitted with the application. For the entire site it should show:~~ The topographic map shall show the following for the entire area of the subdivision:

(i) ~~(a)~~ Proposed house locations;

(ii)~~(b)~~ Existing structures, ~~Individual and~~ public and private water supplies and ~~sewage disposal systems~~ OWTSs;

(iii) ~~(c)~~ Rights of way or easements;

(iv) ~~(d) Natural waters or~~ Watercourses, ~~swamps and marshes, wetlands,~~ drainageways, and drainage basins ~~detention basins and other depressions~~;

(v) ~~(e)~~ Rock outcrops and wooded areas;

(vi) ~~(f)~~ Stone walls;

(vii) ~~The map shall also show the~~ Location of proposed water supplies and ~~sewage disposal systems~~ OWTSs on lots within the subdivision conforming with requirements of ~~SD 3.05~~ Rule 22; and

(viii) Location of soil test holes used for the soil evaluation.

(ix) ~~SD18.02(c)~~ Location of any ~~watershed of an existing or proposed public water supply source or critical area with respect to~~ critical resource area as defined in Rule 38 within the property.

20.2.4 ~~There shall also be shown, designated or reported for lands immediately adjacent –~~ For lands immediately adjacent to the subdivision, the items below shall be shown, designated or reported. Distances below shall be determined from the subdivision property boundary.

(A) ~~(a) Natural waters or~~ Watercourses within two hundred (200) feet ~~from the property~~;

(B) ~~(b)~~ Private drinking water wells (existing and those proposed on an approved OWTS permit) within two hundred (200) feet ~~from the parcel being considered~~;

(C) Public wells (existing and proposed) approved by the Rhode Island Department of Health within five hundred (500) feet;

(D) ~~(d)~~ Location of any existing ~~individual sewage disposal system~~ OWTS or drain within one hundred (100) feet of the property; and

~~(c) Location of any watershed of an existing or proposed public water supply source or critical area with respect to the property.~~

20.2.5 ~~SD 18.08 Freshwater and Coastal Wetlands (a)~~ Water Quality Assessment -- Where in the opinion of the Director, a substantial question exists regarding the cumulative impact of the operation of ~~sewage disposal systems~~ OWTSs ~~on individual lots~~ within the subdivision on ~~the water quality of a unique or valuable body of groundwater or surface water~~ surface water or groundwater quality, the Director may require an assessment of such potential cumulative impacts, including appropriate studies, to be submitted by the applicant. ~~Such an~~ This assessment may include, but not be limited to, a determination of ~~the following potential impacts: (1)~~ whether the operation of ~~such systems~~ the OWTSs will result in a loss of a use or violation of a surface water or groundwater quality standard assigned to that ~~class of water quality~~ body of groundwater or surface water in question as designated by the Department.

~~(2) Whether the operation of such systems will result in a reduction in the ability of the wetland to support indigenous animal and plant life.~~

~~(b) Subdivisions which may affect coastal or freshwater wetlands are subject to the provisions of SD 2.16 and SD 2.17.~~

20.2.6 ~~SD 18.06~~ Certification - ~~The engineer, surveyor, soil scientist or sanitarian shall execute the certificate relating to the accuracy of the technical data on each sheet on which such technical data is recorded.~~ The Subdivision Site Suitability Certification shall be accompanied by a certification, on a form approved by the Director, that the work was conducted in a manner consistent with these Rules and that it is an accurate portrayal of site conditions. If more than one individual licensed under these Rules participated in the development of the subdivision site suitability report, the report must specify who prepared which part and include a certification from each licensee. ***[Taken in part from soil evaluation certification Rule 15.7]***

~~SD 18.07 Revised Plot Plans - If the lot numbers on the plot plan are revised after review, the revised plan shall be submitted for revised suitability determination.~~

20.3 ~~SD 2.03 (e)~~ Expiration of Subdivision Site Suitability Certification – ~~All data submitted in support of an Application for a Certification of Subdivision Site Suitability shall not be greater than five years old. Certifications of~~ Subdivision Site Suitability Certification ~~for a subdivision~~ shall expire five (5) years from the date of issuance, unless the subdivision has been platted or recorded as evidenced by the submission of a copy of the recorded subdivision plat map. After the five-year period, certification may be obtained only by reapplying under the ~~regulations~~ Rules in effect at the time of re-application. Once a subdivision has been platted or recorded, no further certification shall be required and all lots may proceed with the application process for their ~~individual sewage disposal system~~ OWTS in accordance with these ~~regulations~~Rules.

20.3.1 ~~(1)~~ In the event that there is any change in the configuration of any lot or road depicted in an approved ~~Certification of~~ Subdivision Site Suitability Certification, the applicant shall submit revised subdivision layout plans to the Department for its review. If the changes to the subdivision are found to be substantial, the Director may order the applicant to apply for a new ~~Certification of~~ Subdivision Site Suitability Certification based on the new plans.

20.3.2 ~~(2)~~ Whenever the configuration of any lot or road in a subdivision depicted in an approved ~~Certification of~~ Subdivision Site Suitability Certification is altered so as to affect twenty-five percent

(25%) or more of the original lots, a new Application for ~~Certification of~~ Subdivision Site Suitability Certification shall be submitted.

~~**STANDARDS FOR CONSTRUCTION AND DESIGN**~~

~~SD 3.00~~~~Standards of Flow and Minimum Distances~~

## RULE 21. WASTEWATER FLOW

21.1 ~~SD 3.01~~ Determination of ~~Sewage~~ Wastewater Flow

21.1.1 ~~A sewage disposal system~~ An OWTS must be designed to dispose of the estimated maximum ~~days'~~ daily flow from the building(s) it serves. The maximum ~~days'~~ daily flow is estimated by multiplying flow per unit from Table 21.1 ~~(according to the following table)~~ by the maximum design capacity of the building. For facilities with more than one use listed in Table 21.1 (e.g., a retail store with a restaurant), the maximum daily flow for the facility shall be the total of the flows from the separate uses using Table 21.1. The employee contribution to the design flow shall be included for non-residential uses other than restaurants by estimating the maximum number of employees who may be present during a single day of operation multiplied by a design flow of 15 gallons per employee per day.

21.1.2 ~~Consideration will be given to maximum sewage flow estimates derived from actual records of water consumption kept at comparable establishments.~~ For establishments not listed in Table 21.1, the maximum daily flow shall be determined by either of the following:

(A) Two (2) times the average daily meter reading taken from a minimum of two (2) comparable establishments for one month during the period of the year that represents the greatest water use for the establishment; or

(B) If six (6) months of daily meter readings are available for a minimum of 2 comparable establishments that includes the period of the year that represents the greatest water use for the establishment, the OWTS shall be designed using the highest daily flow without the use of a peaking factor.

Table 21.1. Wastewater Design Flows

***This table has been completely revised from original Table in SD 3.01. To enhance readability, it has not been double underlined.***

| TYPE OF USE | UNIT | GALLONS PER DAY |
|---|---|---|
| **RESIDENTIAL** | | |
| [Minimum design flow for residential use shall be three hundred forty-five (345) gallons per day (three (3) bedrooms), unless otherwise permitted in accordance with Rule 21.2.5.] | | |
| Single Family Residence | per bedroom (2 persons per bedroom) | 115 |
| Multiple Family Residence | per bedroom (2 persons per bedroom) | 115 |
| **INSTITUTIONAL** | | |

| | | |
|---|---|---|
| Assisted Living Facility | per bedroom (2 persons per bedroom) | 115 |
| Church | per seat | 1 |
| Church hall (fellowship hall) | per seat | 5 |
| Hospital | per bed | 150 |
| Library | per visitor | 5 |
| Nursing home/rest home | per bed | 125 |
| Group home | per bed | 200 |
| Correctional, rehabilitation facility | per bed | 100 |
| Gymnasium | per seat | 3 |
| Gymnasium | per participant | 15 |
| Highway Rest Stop | per person | 5 |
| Public park with toilets | per person | 5 |
| add for showers | per person | 10 |

**CAMPS AND CAMPGROUNDS**

| | | |
|---|---|---|
| Day camp | per person | 15 |
| add for mess hall | per person/meal | 3 |
| Camp - overnight | per person | 25 |
| add for mess hall | per person/meal | 3 |
| Campground with | | |
| washroom and toilets | per site | 50 |
| Recreational Vehicle Park | | |
| with water and sewer hookups | per site | 100 |
| Add for central dining facilities | per seat | 35 |
| Recreational Vehicle Park | | |
| without water and sewer hookups | per site | 50 |
| Add for central dining facilities | per seat | 35 |
| Add for central washroom and toilet facilities | per site | 50 |

**SCHOOLS**

| | | |
|---|---|---|
| School | per person | 10 |
| add for cafeteria | per person | 5 |
| add for gymnasium and showers | per person | 10 |
| Boarding school, college | per person | 50 |
| Day care center | per person | 10 |

**RESTAURANTS**

[Minimum design flow for restaurants shall be 500 gallons per day.]

| | | |
|---|---|---|
| Restaurant | per seat | 40 |
| Restaurant – with single-service articles | | |
| with public restrooms | per seat | 25 |
| without public restrooms | per seat | 20 |
| add for drive-up window | | 500 |
| Lounge, bar (no food service at that seat) | per seat | 10 |
| Banquet hall | per seat | 5 |

**COMMERCIAL**

[Minimum design flow for commercial use shall be 100 gallons per day]

| | | |
|---|---|---|
| Auto service station | per pump | 25 |
| | per repair bay | 100 |
| Barber shop/Beauty Salon | per chair | 50 |
| add for sink | per hair care sink | 200 |
| Bed & Breakfast | per bedroom | 110 |
| Bowling alley | per alley | 100 |
| Country club | | |
| dining room | per seat | 40 |
| snack bar/lounge | per seat | 20 |
| lockers and showers | per locker | 20 |
| Doctors office | per doctor | 250 |
| Dog/Pet grooming | per station | 500 |
| Dentist office | per chair | 200 |
| Drive-in theater | per vehicle stall | 5 |
| Factory/industrial plant | per person | 15 |
| add for cafeteria | per person | 5 |
| Food store < 5,000 square feet (See Note 1) | per store | 350 |
| add for deli flow | per store | 100 |
| add for bakery flow | per store | 100 |
| add for meat dept. flow | per store | 150 |
| add for fish market flow | per store | 150 |
| add for public restrooms | per store | 200 |
| Food store > 5,000 square feet (See Note 1) | per store | 700 |
| add | per square foot >5,000 sq ft | 0.05 |
| add for deli flow | per store | 200 |
| add for bakery flow | per store | 200 |
| add for meat dept. flow | per store | 300 |
| add for fish market flow | per store | 150 |
| add for public restrooms | per store | 400 |
| Funeral home | per parlor | 500 |
| Hotel, motel | per unit | 100 |
| With efficiency units | per unit | 150 |
| Health club | per participant | 15 |
| Kennel | per kennel | 10 |
| Marina (shore-side facilities) | per slip | 10 |
| add for showers | per slip | 10 |
| Mobile home park/manufactured home park | per site | 230 |
| Office building | per employee | 15 |
| Retail store | per employee | 15 |
| Rooming house/boarding house | per bedroom | 80 |
| Self-Service Laundry (See Note 2) | per machine | 500 |
| Shopping center/strip mall/multi-use retail | | |
| Calculate on the largest of either: | | |
| a) the total flow for the uses within as determined from this table, or | | |
| b) per square foot | per square foot | 0.1 |

| | | |
|---|---|---|
| Skating rink | per seat | 3 |
| Swimming pool | per person | 15 |
| Tennis court - outdoor | per court | 100 |
| Tennis court - indoor | per court | 400 |
| Theater, Auditorium | per seat | 3 |
| Veterinary office | per veterinarian | 200 |

NOTE:

(1) The design flow for a stand alone deli, bakery, meat store or fish market will be three hundred fifty (350) gallons per day if the facility is less than five thousand (5,000) square feet or seven hundred (700) gallons per day if the facility is five thousand (5,000) square feet or more.

(2) Self-Service laundry OWTS designs must include pretreatment to remove lint.

~~MINIMUM DESIGN REQUIREMENTS FOR SEWAGE FLOW~~

| ~~TYPE OF ESTABLISHMENT~~ | ~~GALS. PER PERSON PER DAY~~ |
|---|---|
| ~~Single residence (2 persons per bedroom)~~ | ~~75~~ |
| ~~Multiple family dwelling units (2 persons per bedroom)~~ | ~~75~~ |
| ~~Multiple family dwelling units (Elderly housing) (2 persons per bedroom)~~ | ~~60~~ |
| ~~Rooming house~~ | ~~40~~ |
| ~~Hotel or boarding house~~ | ~~50~~ |
| ~~Nursing home~~ | ~~100~~ |
| ~~Rest home~~ | ~~75~~ |
| ~~School without cafeteria, gymnasium or showers~~ | ~~10~~ |
| ~~School with cafeteria, but no gymnasium or showers~~ | ~~15~~ |
| ~~School with cafeteria, gymnasium and showers~~ | ~~20~~ |
| ~~Boarding school or college~~ | ~~80~~ |
| ~~Motel~~ | ~~40~~ |
| ~~Motel - efficiency units~~ | ~~50~~ |
| ~~Public institution other than a hospital~~ | ~~100~~ |
| ~~Public picnic park - toilet wastes only~~ | ~~5~~ |
| ~~Public park with bathhouse, showers and flush toilets~~ | ~~15~~ |
| ~~Swimming pools or other bathing place~~ | ~~15~~ |
| ~~Marina (per boat)~~ | ~~25~~ |
| ~~Camp (day) - toilets (add 3 gallons per capita per meal if any served~~ | ~~15~~ |
| ~~Camp (overnight)~~ | ~~35~~ |

~~Restaurant, single services (per table seat or counter seat) 35~~

~~Restaurant (per table seat or counter seat) 70~~

~~Restaurant, banquet hall, toilet and kitchen wastes (per patron) 10~~

~~Restaurant, throughway service area ( per table seat or counter seat) 350~~

~~Factory or industrial plant without cafeteria (per person) 15~~

~~Factory or industrial plan with cafeteria (per person) 20~~

~~Office building 15~~

~~Drive-in-theater - (per stall) 5~~

~~Theater - (per person) 3~~

~~Auditorium or hall - (per person) 3~~

~~Gymnasium (per spectator) 3~~

~~Gymnasium (per participant) 15~~

~~Service station (with public restrooms) 500~~

~~Cocktail lounge, bar (per seat) 20~~

~~Bowling alley - (per alley) 200~~

~~Hospital (per bed) 200~~

~~Country club - (per person at maximum use) (Exclusive of food service and bar) 25~~

~~Fellowship Hall (per seat) 6~~

~~Barber Shop (per chair) 100~~

~~Beauty Parlor (per booth) 200~~

~~Dental Office (minimum 3 persons per chair) 500~~

~~Mobile Home (exceeding 8 feet wide and 32 feet long) (using individual toilets) (minimum 450) 75~~

~~Trailers (not exceeding 8 feet wide and 32 feet long) (recreational vehicles using individual toilets) (per day per space) 200~~

~~Central Service Building (Toilet-Shower-Lavatories) Serving recreational vehicles/trailers (per day per space) 140~~

~~Dumping Station (for recreational vehicle/trailer park without individual water and sewer connections) (per day per space) 50~~

~~Laundromat Discharge to ISDS prohibited~~

21.2 Determining the Number of Bedrooms in a Single Family Residential Dwelling -- For purposes of aiding the planning, designing, building, renovation, remodeling or expansion of residential dwellings, the following guidelines shall be used in determining the number of bedrooms. These guidelines are presented in

acknowledgement that, in many cases, houses contain rooms meeting the strict definition of bedroom as defined in these Rules, but which are not intended to be nor will be used as bedrooms.

21.2.1 No residence served by an OWTS shall be allowed to have more bedrooms than is permitted under the Department issued permit for the OWTS serving the dwelling. A dwelling exceeding the number of bedrooms provided for in the permit shall be in violation of these Rules.

21.2.2 In determining the number of bedrooms contained in any residence, it shall be presumed that all residences contain a living room, a kitchen, a bathroom and at least one bedroom.

21.2.3 ~~**For residences built prior to April 9, 1968 wherein no state permit has ever been issued for the current OWTS**~~ **For OWTSs installed without state approval, OWTSs installed prior to April 9, 1968 and cesspools**, the determination on number of bedrooms shall be based on the consideration of municipal records, floor plans and the guidelines herein. **In the case of a one (1) bedroom residence, the determination shall be based on municipal records.**

21.2.4 When a determination of the number of bedrooms shall be based on total number of rooms, Table 21.2 shall be used. Foyers, closets, bathrooms and rooms without windows are not counted as rooms in Table 21.2. Functionally combined kitchens/dining rooms and living/dining rooms greater than three hundred (300) square feet shall be counted as two (2) rooms. Table 21.2 may be used by applicants for any OWTS application to the Department.

Table 21.2 Determination of Number of Bedrooms

| Total Number of Rooms | Assumed Number of Bedrooms |
|---|---|
| 5 or less | 2 |
| 6-7 | 3 |
| 8-10 | 4 |
| 11-12 | 5 |
| 13 or more | 6 |

21.2.5 The Director may permit the filing of a deed restriction by which an applicant may self-restrict the use of a residence to one less bedroom than may be determined in accordance with Table 21.2. In no case shall the deed restriction be for less than two bedrooms. The Director may consider the gross square footage of a residence as a factor against granting a bedroom restriction by deed.

21.3 ~~SD 3.02~~ Separate ~~Systems~~ OWTSs - Where ~~separate treatment systems are to be installed~~ residential uses need to install separate OWTSs, the following proportions of the total flow shall ~~should~~ be used unless there is definite data available as to the exact distribution of flow~~.~~ : blackwater forty percent (40%) and graywater sixty percent (60%). ~~Toilet and bath facilities and kitchen wastes 80 percent of total flow .~~ If a separate system is used for laundry wastes, it shall be designed on twenty percent (20%) of the total flow. ~~Laundry wastes 20 percent of total flow for single family residences.~~

~~SD 3.03 Type of System Required - Except as provided in Section SD 14.00 an individual sewage disposal system shall consist of a septic tank followed by a subsurface seepage system or other sewage disposal method approved by the director. In the case of laundry waste, a subsurface seepage system may be used without the installation of a septic tank.~~ ***[Moved to Rule 14 OWTS General]***

~~SD 3.04 Surface Water Drainage - Provision shall be made to prevent the flow of surface water from the surrounding area onto the area of the seepage system.~~ ***[Moved to Rule 32 Leachfields]***

## RULE 22. MINIMUM SETBACK DISTANCES

22.1 ~~SD 3.05 Location –~~ The horizontal distances between the parts of an ~~individual sewage disposal system~~ OWTS and the items listed in ~~the following table~~ Table 22.1 -- Table 22.5 shall not be less than those shown.

Table 22.1 Minimum Setback Distances - General

| | ~~Building Sewer (ft)~~ | Building Sewer, Grease Tank, Distribution Box, Pump Tank ~~Dosing Tank~~, Septic Tank, Septic Tank Effluent Pipe (ft) | Leachfield ~~Disposal Trench, Bed or Chambers~~ (ft) | ~~Seepage Pit (ft)~~ | ~~Privy (f)~~ |
|---|---|---|---|---|---|
| Well Serving Non-potable Uses | | 25 | 50 | | |
| ~~1. Private well (f)~~ ***See Table 22.5*** | ~~50(a)~~ | ~~75(i)~~ | ~~100(h)~~ | ~~200(h)~~ | ~~50~~ |
| ~~2.~~ Water Supply Line ~~(pressure) (b)~~ | ~~10~~ | 10 (Note 1) | 25 | ~~25~~ | ~~25~~ |
| ~~3. Water Supply Line (Suction)~~ | ~~25~~ | ~~30~~ | ~~40~~ | ~~40~~ | ~~40~~ |
| ~~4.~~ Property Line | ~~10~~ | 10 (Not applicable to building sewer and septic tank effluent pipe) | 10 | ~~10~~ | ~~30~~ |
| ~~5. Dwelling~~ Foundation | ~~3~~ | 5 (Not applicable to building sewer) | 25~~(c)~~ (Note 2) | ~~20~~ | ~~30~~ |
| ~~6. Surface drinking water supplies or tributaries including storm and sub-surface drains, that discharges thereto~~ ***See Table 22.2*** | ~~200~~ | ~~200~~ | ~~200~~ | ~~200~~ | ~~200~~ |
| ~~7. Watercourse (e)~~ ***See Tables 22.2, 22.3 and 22.4*** | ~~50~~ | ~~50~~ | ~~50~~ | ~~50~~ | ~~50~~ |
| ~~8. Subsurface drains, foundation drains, storm drains~~ | ~~25~~ | ~~25~~ | ~~25~~ | ~~50~~ | ~~25~~ |
| Subsurface drains, foundation drains, or storm drains (see also Tables 22.2 and 22.3):<br>-- Upgradient of the OWTS:<br><br>-- Downgradient and side gradient of the OWTS: | | 25 (Note 3)<br><br>25 (Note 3) | 25 (Note 4)<br><br>50 (Note 5) | | |
| ~~9.~~ Edge of any land at a level lower than the invert of the distribution line ~~(d)~~ | ~~10~~ | 10 | ~~25~~ 10 | ~~25~~ | ~~10(d)~~ |
| ~~10. Public Drinking Water Supply Well~~ ***See Table 22.2*** | ~~400~~ | ~~400~~ | ~~400~~ | ~~400~~ | ~~400~~ |

| | | | | | |
|---|---|---|---|---|---|
| Swimming Pools: | | | | | |
| In-ground: | | 10 | 25 | | |
| Above ground: | | 10 | 10 | | |

~~(a) Distance may be reduced when the building sewer consists of extra heavy cast iron pipe or equal with tight joints.~~

Notes:

The reductions in setback distances allowed below in Notes (1) through (5) will not be granted if the setback distances in Table 22.1 can be met.

(1)~~(b)~~ The distance between the building sewer or septic tank effluent pipe and a water supply line may be reduced and the lines may cross provided that either the building sewer or septic tank effluent pipe or water supply line is sleeved whenever the lines are within ten (10) feet of each other. The sleeve shall be seamless and it shall have a watertight seal that is fastened to the pipes with a stainless steel retractable clamp. ~~Disposal facilities shall be installed as far away possible from water supply lines. Where sewer lines must cross water supply lines, they should be constructed of durable, corrosion – resistant material with water-tight joints and either the sewer line or the water line shall be sleeved for a distance of at least twenty five feet in either direction, and~~ Whenever possible, ~~sewer lines~~ the building sewer and septic tank effluent pipe should be laid below water supply lines at crossings. Pressurized ~~sewer lines~~ building sewers or pressurized septic tank effluent pipes ~~are not allowed to~~ may cross water supply lines provided that either the building sewer or septic tank effluent pipe or water supply line is sleeved whenever the lines are within ten (10) feet of each other. The sleeve shall be seamless and it shall have a watertight seal that is fastened to the pipes with a stainless steel retractable clamp. Pressurized building sewers or pressurized septic tank effluent pipes shall be laid below water supply lines at crossings.

(2)~~(c)~~ Distance may be reduced to fifteen (15) feet with no foundation drain. Full foundation details must be shown on the plan. Distance may be reduced to eight (8) feet ~~with~~ where a foundation slab elevation or the basement floor elevation is higher than the invert of the distribution lines in the leachfield. ~~or in cases where the invert of the seepage system is lower than any portion of the cellar.~~

(3) The distance between the building sewer or septic tank effluent pipe and a drain may be reduced and the building sewer or effluent pipe may cross the drain provided that the building sewer or septic tank effluent pipe is sleeved whenever they are within twenty-five (25) feet of the drain. The sleeve shall be seamless, and it shall have a watertight seal that is fastened to the pipes with a stainless steel retractable clamp.

(4) If the slope of the original land surface over the area of the leachfield and fifty (50) feet in all directions from the edge of the leachfield is less than three (3) percent, the minimum setback distance between the leachfield and the drain must be fifty (50) feet in all directions. If the applicant conducts a groundwater flow study that conclusively demonstrates the drain is upgradient of the leachfield, the Director may allow a twenty-five (25) foot separation distance on the upgradient side.

(5) If a drain is watertight and bedded in sand or bank run gravel, or laid at an elevation above the seasonal high groundwater table, this setback distance may be reduced to twenty-five (25) feet. Applications shall include a detail drawing of the ~~**storm**~~ drain pipe joints and bedding material.

~~(d) Where fill is required and where it is necessary to fill beyond the boundary of the subject property to meet the requirements of these regulations, no approval will be granted unless the adjoining property owner(s) have given a permanent legal release (easement, etc.) filed in the land evidence records of the municipality granting such right to the owner of the applicant property. A copy of such right of access and use shall be attached to the application. Where filling is not possible, the distance may be reduced to 15 feet by the variance procedure outlined in SD 20.00, where a lined, reinforced concrete solid retaining wall is provided on no more than 2 sides. Such retaining wall shall have a proper footing, be reinforced with rods and have a plastic lining at least 6 ml thick. Designs for retaining walls must demonstrate that the wall will not alter the groundwater flow in such a way as to cause a system failure.~~ ***[Moved in part to Rule 32.15 and 32.17]***

~~(e) In case of nontidal waters, the distance shall be measured from the yearly high water mark. In case of tidal waters, the distance shall be measured from the maximum water elevation during a solstice (moon) tide. Current data for the determination of solstice (moon) tide elevations has been compiled and is available upon request. Where an individual sewage disposal system will be located in the proximity of the active ocean on sites subject to erosion caused by coastal storm, the minimum setback requirement from the solstice moon tide elevation to the edge of the system shall not be less than 150 feet.~~
~~(f) Distances may be increased at the discretion of the director for the disposal of sewage for any system serving other than an individual dwelling.~~
~~(g) Any variance from the specified distances may be made after consultation between the Department of Environmental Management and the Department of Health.~~
~~(h) Any chamber deeper than 2 feet from the invert or any depth of stone greater than 2 feet below the invert shall be prohibited for commercial sewage disposal where wells are used for drinking water, unless permitted by the Underground Injection Control (UIC) Program of the Office of Water Resources.~~

***The following tables (Table 22.2 –Table 22.5 ) are completely new. To enhance readability, they have not been double underlined.***

Table 22.2 Minimum Setback Distances from Drinking Water Supply Watershed Features (distances in feet from all OWTS components). See also Figure 2.

| **Feature** | **Proposed Rules OWTS < 5000 gpd** | **Current Rules OWTS < 5000 gpd** | **Proposed Rules OWTS ≥5000 gpd** (Note 1) | **Current Rules OWTS ≥5000 gpd** |
|---|---|---|---|---|
| Impoundment with Intake for Drinking Water Supply and Adjacent Wetlands (Note 2) | 200 | 200 | 400 | 200 |
| Subsurface Drains and Foundation Drains that Discharge Directly to the Impoundment | 200 | 200 | 400 | 200 |
| Subsurface Drains and Foundation Drains that Discharge to a Drainage Swale that Subsequently Discharges to the Impoundment:<br>Paved Swale<br>Unpaved Swale <200 feet long<br>Unpaved Swale ≥200 feet long | 200<br>200<br>100 | 200<br>200<br>200 | 400<br>400<br>200 | 200<br>200<br>200 |
| Tributaries, Tributary Wetlands, and Storm Drains that Discharge Directly to the Impoundment | 100 | 200 | 200 | 200 |
| Subsurface Drains, Foundation Drains, and Storm Drains that Discharge to Tributaries and Tributary Wetlands | 100 | 200 | 200 | 200 |
| Any other Watercourse in the Drinking Water Supply Watershed (Not Connected to the Impoundment) | 50 | 100 | 100 | 100 |
| Areas Subject to Storm Flowage | 50 | 50 | 100 | 50 |

Notes:
(1) As defined in Rule 35.1.1.
(2) Distance measured from the yearly high water mark.
(3) If it is shown to the Department's satisfaction by clear and convincing evidence that the feature of concern in this table is upgradient (for both groundwater and surface water flow) of the OWTS, the minimum setback distance will be determined from Table 22.1 and Table 22.4, as applicable.

Table 22.3 Minimum Setback Distances from Features in the Salt Pond and Narrow River Critical Resource Area (distances in feet from all OWTS components). See also Figure 3.

| **Feature** | **Proposed Rules OWTS < 5000 gpd** | **Current Rules OWTS < 2000 gpd** *(Note 5)* | **Proposed Rules OWTS ≥ 5000gpd** (Note 1) | **Current Rules OWTS ≥2000gpd** *(Note 5)* |
|---|---|---|---|---|
| Salt Pond/Narrow River Coastal Shoreline Features (Note 2) | 200 | 150 | 400 | 450 |
| Subsurface Drains and Foundation Drains that Discharge Directly to the Salt Pond/Narrow River | 200 | 150 | 400 | 450 |
| Subsurface Drains and Foundation Drains that Discharge to an open Drainage Swale that Subsequently Discharges to the Salt Pond/Narrow River: | 200 | 150 | 400 | 450 |
| Paved Swale | 200 | 150 | 400 | 450 |
| Unpaved Swale <200 feet long | 150 | 150 | 300 | 450 |
| Unpaved Swale ≥200 feet long | | | | |
| Tributaries, Tributary Wetlands and Storm Drains that Discharge Directly to the Salt Pond/Narrow River | 150 | 150 | 300 | 450 |
| Subsurface Drains, Foundation Drains, and Storm Drains that Discharge to Tributaries and Tributary Wetlands | 150 | 150 | 300 | 450 |
| Any Other Watercourse in Salt Pond/Narrow River Critical Resource Area | 50 | 100 | 100 | 300 |
| Areas Subject to Storm Flowage | 50 | 50 | 100 | 50 |

Notes:

(1) As defined in Rule 35.1.1.
(2) The minimum setback distance from the ocean or Narragansett Bay is either fifty (50) feet or twenty-five (25) feet plus the CRMC calculated shoreline change setback pursuant to CRMP Section 140, whichever is greater. This setback distance is doubled for OWTSs with design flow greater than five thousand (5000) gallons per day.
(3) Applications for an OWTS permit that are approved by DEM are subject to the requirements of CRMC.
(4) If it is shown to the Department's satisfaction by clear and convincing evidence that the feature of concern in this table is upgradient (for both groundwater and surface water flow) of the OWTS, the minimum setback distance will be determined from Table 22.1 and Table 22.4, as applicable.
(5) Current ISDS regulations use 2000 gpd (rather than the proposed 5000 gpd) in the Salt Pond/Narrow River Critical Resource Area.

Table 22.4 Minimum Setback Distances from Features Not in Critical Resource Areas

| **Feature** | **Proposed Rules OWTS < 5000 gpd** | **Current Rules OWTS < 5000 gpd** | **Proposed Rules OWTS ≥ 5000 gpd** (Note 1) | **Current Rules OWTS ≥5000 gpd** |
|---|---|---|---|---|
| | **Distances in feet from: Tank and Building Sewer/Leachfield** | | | |
| Coastal Shoreline Feature (Note 2) | 25/50 | 25/50 | 50/100 | 25/50 |
| Flowing Water (Rivers and Streams) and Open Bodies of Water (Lakes and Ponds) | 25/75 | 25/50 | 50/150 | 25/50 |
| Other Watercourses Not Mentioned Above and Areas Subject to Storm Flowage | 25/50 | 25/50 | 50/100 | 25/50 |

Note:
(1) As defined in Rule 35.1.1.
(2) The minimum setback distance from the ocean or Narragansett Bay is either fifty (50) feet or twenty-five (25) feet plus the CRMC calculated shoreline change setback pursuant to the CRMP Section 140, whichever is greater. This setback distance is doubled for OWTSs with design flow greater than five thousand (5000) gallons per day.

~~SD 3.05(e) Where an individual sewage disposal system will be located in the proximity of the active ocean on sites subject to erosion caused by coastal storm, the minimum setback requirement from the solstice moon tide elevation to the edge of the system shall not be less than 150 feet.~~

Table 22.5 Minimum Setback Distances from Drinking Water Wells

| OWTS Design Flow (gpd) | Distance in Feet from Leachfield/Tank/Building Sewer (Note 1) | Distance in Feet From All OWTS Components (Note 1) | |
|---|---|---|---|
| | 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. Greater distances may be required based on the Impact Analysis in Rule 35.2.
(2) Distance from the building sewer may be reduced when the building sewer is constructed of Schedule 40 PVC or equivalent.***[Partially From SD 3.05(a)]***
(3) The minimum setback distances may be reduced to 80/60/40 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 Category 1 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 to groundwater is three (3) feet or greater.
(4) The minimum setback distances shall be increased to 150/100/75 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 bottomless sand filter or pressurized shallow narrow drainfield constructed in accordance with DEM guidelines, the minimum setback distances may be 100/75/50.

**Current Regulations: (*The following will be deleted)***

***Public Wells:***
Setback is 400 for all public wells regardless of ISDS size, except for ISDSs ≥2000 gpd in Salt Pond/Narrow River Critical Resource Areas where the setback is 1200 feet.

***Private Wells:***

Private Well Anywhere Other Than Salt Pond/Narrow River Watershed:
ISDS any size -- 100/75/50 feet (leachfield/tank/building sewer)
***[From SD 3.05]***
Private Well in Salt Pond/Narrow River Watershed:
ISDS <2000 gpd -- 100/75/50 feet (leachfield/tank/building sewer)
150 feet from all ISDS components where perc rate faster than 3 mpi.

***[From SD 19.02.4 (Table 19.1)]***

ISDS ≥2000 gpd -- 300/225/150 feet (leachfield/tank/building sewer)
450 feet from all ISDS components where perc rate faster than 3mpi.

***[From SD 19.02.1(b)(3)]***

## RULE 23. SUBSURFACE DRAINS

~~SD 3.06 Subsurface Drains~~

23.1 Prior to seeking a permit for an OWTS that includes a subsurface drain, the applicant shall have all other relevant state or local approvals or permits for construction of the subdrain and discharge of the drainage effluent. Such approvals may include, but are not limited to, DEM Wetlands Program, the Rhode Island Coastal Resources Management Council Preliminary Determination, the municipality or the Rhode Island Department of Transportation.

23.2 Construction- A subsurface drain constructed to lower the groundwater table shall consist of not less than six (6) inches of washed stone ~~1/2~~ three-quarter (¾) inch to two (2) inches in diameter, over which is laid a perforated ~~or open jointed~~ pipe at least four (4) inches in diameter. The stone shall extend above the pipe to within two (2) feet of the ground surface. A layer of filter fabric meeting the requirements of Rule 32.11 shall be placed above, below and along the sides of the stone for the entire length of the drain. ~~, and then be covered with at least a 2 inch layer of washed pea stone or a 2 inch layer of straw or hay, or by a layer of untreated building paper. The size of the pipe shall be at least 6 inches in diameter.~~ Changes in direction shall not exceed ninety (90) degrees. Where a change in direction is greater than forty-five (45) degrees, a manhole is required, unless the change in direction is achieved through the use of a thirty-six (36) inch radius sweep.

23.3 Monitoring- The effectiveness of subsurface drains used to lower the groundwater table ~~to meet the limitations of these regulations~~ must be demonstrated through one complete wet season, January 1 through April ~~30~~ 15 , before consideration can be given to an application for an ~~individual sewage disposal system~~ OWTS permit. ~~unless it can be demonstrated to the Department's satisfaction to be effective.~~ The Department may allow lesser periods of monitoring if site conditions and wet season conditions warrant. ~~(NOTE: The need to subdrain may indicate the presence of wetlands.)~~

23.3.1 Groundwater table test holes shall be located within the area of the proposed leachfield with one on the upgradient side and one on the downgradient side. The test holes shall not be located within twenty-five (25) feet of the upgradient subsurface drain or within fifty (50) feet of the downgradient subsurface drain.

23.3.2 Groundwater table initial readings shall be submitted on forms approved by the Director by January 30 in order to effectively allow the Department and the designer to monitor the effects of the subsurface drain through the wet season.

23.4 Hydraulic Gradient- If the subsurface drain causes the natural hydraulic gradient to be reversed, such drain shall be treated as a downgradient drain for the purpose of establishing appropriate minimum setbacks in accordance with Rule 22. Where only an upgradient drain is installed, the applicant must demonstrate that the hydraulic gradient will not be reversed or treat the upgradient drain as a downgradient drain for the purpose of establishing appropriate minimum setbacks in accordance with Rule 22.

**RULE 24. BUILDING SEWERS**
~~SD 4.00~~

24.1 ~~SD 4.01~~ Size - The building sewer shall be designed with a capacity, when running full, of not less than twice the peak rate of flow ~~with~~ of the connected fixtures. In no case shall the building sewer be less than three (3~~"~~) inches in diameter.

24.2 ~~SD 4.02~~ Material - The building sewer shall be constructed of ~~cast iron, concrete,~~ PVC pipe ~~or other material acceptable to the Director, provided, however, that all pipe shall be schedule~~ SDR 35 minimum or equivalent. When any portion of the building sewer will be subject to vehicular traffic, it shall be constructed of Schedule 40 PVC or equivalent.

24.3 ~~SD 4.03~~ Joints - All pipe joints for the building sewer shall be made watertight. ~~and protected against damage by roots. Poured type joints shall be properly wiped on the inside to prevent obstruction of flow.~~

24.4 Base -- The building sewer shall be laid on a compacted, firm base.

24.5 ~~SD 4.05~~ Horizontal Alignment -

24.5.1- The building sewer should be laid ~~as nearly as possible~~ in a straight line wherever possible. ~~Horizontal bends, where unavoidable, shall not be greater than 45 degrees. Any greater bend requires a manhole at the change in alignment.~~ Changes in direction shall not exceed ninety (90) degrees.

24.5.2- Where a change in direction is greater than forty five (45) degrees, a manhole is required, unless the change in direction is achieved through the use of a thirty six (36) inch radius sweep.

~~SD 4.04 Slope or Grade - The building sewer shall be designed to provide a minimum velocity of sewage flow of 2 feet per second when flowing full. This requirement is met when a 4 inch building sewer is laid with a slope of not less than 1/8 inch per foot. Slopes greater than three percent shall be prohibited.~~

24.6 Vertical Alignment-

24.6.1- The slope of the building sewer from the dwelling to the septic tank shall be not less than one percent (1%) and not greater than five percent (5%).

24.6.2- A manhole is required at changes of grade requiring a drop box in order to maintain the maximum five percent (5%) slope. ~~at intervals not greater than 300 feet~~.

24.7 ~~SD 4.06~~ Manholes and Cleanouts - A manhole with a removable cover of concrete, cast iron, or other durable material shall be provided at the junction of two or more ~~pipes~~ building sewer lines~~;~~ and at all sharp changes in direction greater than forty-five (45) degrees, unless the alignment complies with Rule 24.5.2. ~~or grade of pipes; and~~ A cleanout shall be provided at intervals not greater than seventy-five (75) feet.

24.8 ~~SD 4.07~~ Ventilation - The building sewer shall be vented through the stack or main vent of the building it serves. No trap shall be installed in the building sewer.

**RULE 25. GREASE ~~TRAP~~ TANKS**
~~SD 5.00~~
(See Figure 4)

25.1 Required Use- ~~SD 5.01 Installation - Grease traps should be installed at installations such as restaurants, nursing homes, schools, hospitals, or other installations from which large quantities of grease can be expected to be discharged.~~ Grease tanks shall be installed in accordance with the following:

25.1.1 OWTS Applications for New Building Construction for restaurants and other facilities that prepare food shall have kitchen wastes separately plumbed to an external grease tank;

25.1.2 OWTS Applications for Alterations to a Structure and OWTS Applications for Repair for restaurants and other facilities that prepare food with a total design flow equal to or exceeding two thousand (2000) gallons per day shall have kitchen wastes separately plumbed to an external grease tank; and

25.1.3 OWTS Applications for Alterations to a Structure and OWTS Applications for Repair for restaurants and other facilities that prepare food with a total design flow less than two thousand (2000) gallons per day shall have kitchen wastes separately plumbed to an external grease tank or have an internal grease removal unit installed.

25.2 ~~SD 5.03~~ Capacity - Grease ~~trap~~ tanks shall have ~~a minimum depth of 4 feet and~~ ***[addressed in Rule 26.3 by citation in Rule 25.3]*** a minimum capacity of one thousand (1,000) gallons, and shall have sufficient capacity to provide at least a twenty-four (24) hour detention period for ~~the kitchen flow~~ fifty percent (50%) of the design flow for the OWTS.

~~SD 5.04 Construction - Grease traps shall be water-tight and constructed of sound and durable materials not subject to excessive corrosion, decay, or frost damage, or to cracking or buckling due to settlement or backfilling. Tanks and covers shall be designed and constructed so as to withstand normal structural loading. A tank installed in groundwater shall be weighted to prevent the tank from floating when it is emptied.~~

25.3 Construction- Grease tanks shall be watertight, meet the construction and material standards required for septic tanks in Rule 26.2, and be shaped as required for septic tanks in Rule 26.3.

~~SD 5.11 Invert ElevationThe invert elevation of the inlet of a grease trap shall be at least 2 inches above the invert elevation of the outlet. Inlet and outlet shall be located at opposite ends of the tank to maximize separation, and at least 12 inches above the maximum groundwater elevation.~~

25.4 ~~SD 5.05 Depth of Tees~~ Inlet and Outlet– The inlet and outlet shall be as required for septic tanks in Rule 26.5. Grease tanks shall be provided with inlet tees and outlet tees. ~~SD 5.06 Baffles -~~ Baffles may be provided as necessary in conjunction with tees to maximize the separation of grease from the ~~sewage~~ wastewater.

25.4.1 Tees shall be ~~cast iron or Schedule 40 PVC~~ minimum SDR 35 PVC solvent welded and properly supported by a hanger, strap or other device.

25.4.2 The inlet tee shall extend to the mid-depth of the tank. The outlet tee shall extend to ~~within~~ twelve (12) inches ~~of~~ from the bottom of the tank.

25.4.3 The tops of the tees shall extend a minimum of six (6) inches above the flow line, and shall be left open to provide ventilation. There shall be an air space of at least three (3) inches between the tops of the tees and the top interior of the grease tank.

25.5 Access Openings- Grease tank access openings shall be as required for septic tanks in Rule 26.7. In addition, the lid shall specify that it is for a grease tank.

25.6 ~~SD 5.02~~ Location- Grease ~~trap~~ tanks ~~should~~ shall be installed on a separate building sewer serving that part of the plumbing system into which the grease shall be discharged. The discharge from the grease ~~trap~~ tank ~~must~~ shall flow to a properly designed septic tank.

25.7 Installation- Grease tank installation shall be as required for septic tank installation in Rule 26.9.

25.8 Grease Tanks in Series- Grease tanks may be placed in series provided that the combined volume meets the requirements of Rule 25.2 and that each grease tank meets all other requirements of Rule 25. In no case shall more than two (2) grease tanks be placed in series.

25.9 Performance Testing – Grease tanks shall be certified watertight in accordance with Rule 26.11.

25.10 Maintenance – Grease tanks shall be cleaned by a licensed septage hauler when twenty-five percent (25%) of the liquid volume is filled with grease.

25.11 Existing Grease Tanks – Grease tanks in place as of the effective date of this Rule that have access openings to finished grade shall be in compliance with Rule 26.7.2 within five (5) years of the effective date of this Rule.

~~SD 5.07 Base - Grease traps shall be installed on a level stable base that will not settle.~~

~~SD 5.08 Materials - Grease traps may be constructed of poured reinforced concrete, precast reinforced concrete, or prefabricated material acceptable to the Director.~~

~~SD 5.09 Access Manholes - Grease traps shall be provided with a minimum 24 inch diameter manhole frame and a cover to grade over the inlet and outlet.~~

~~SD 5.10 Accessibility - Grease traps shall be located on the lot so as to be accessible for servicing and cleaning.~~

~~SD 5.12 Backfill - Backfill around the grease trap shall be placed in such a manner as to prevent damage to the tank..~~

## RULE 26. SEPTIC TANKS

~~SD 6.00 Septic Tanks~~
(See Figure 5)

26.1 ~~SD 6.01~~ Septic Tank Capacity

26.1.1 Residential Dwellings -- ~~For individual dwellings,~~ The required minimum liquid capacity of a septic tank, below the flow line, shall be based on the number of bedrooms in the dwelling. For three (3) bedrooms or less the minimum capacity shall be one thousand (1000) gallons. ~~at least that shown in the following table: (1)~~ For each additional bedroom, add two hundred fifty (250) gallons. A garbage

grinder or a one hundred (100) gallon or greater tub will each require the septic tank capacity be increased by two hundred fifty (250) gallons.

~~Number of Bedrooms Capacity below flow line (in gallons)~~

~~3 (or less) 1,000~~
~~4 1,250~~

26.1.2 Non-Residential Buildings – The required minimum liquid capacity of the septic tank shall be one thousand (1000) gallons or two (2) times the design flow as determined from Table 21.1, whichever is greater. ~~For other than individual dwellings, the capacity of the septic tank for sewage flows up to 500 gallons per day shall be at least 1,000 gallons. For flows between 500 and 1,500 gallons per day, the capacity of the tank shall be equal to at least two (2) times the days' flow. For flows greater than 1,500 gallons per day, the capacity of the tank shall equal 1,500 gallons plus 100 percent of the maximum daily flow.~~

26.2 ~~SD 6.06 –~~ Construction and Materials - Septic tanks shall be watertight. They shall be constructed of sound and durable materials not subject to excessive corrosion, decay or frost damage or to cracking or buckling due to settlement or soil pressures. ~~Tanks and covers shall be constructed so as to withstand any load that may expected to be placed upon them. SD 6.10 Materials – Septic tanks may~~ shall be constructed of ~~poured in place reinforced concrete,~~ precast reinforced concrete, fiberglass, polyethylene ~~coated steel~~ or other material approved by the Director. ~~Steel tanks designed in accordance with the provisions of these regulations shall meet Commercial Standard 177 of the U.S. Department of Commerce.~~ In addition to the construction and material standards in Rules 26.2.1-26.2.3, all septic tanks shall meet the physical design standards in the remainder of Rule 26. ***[This sentence refers to differences between national design standards and the design standards in Rule 26.]***

26.2.1 Precast reinforced concrete septic tanks shall conform to the American Society for Testing and Materials "Standard Specification for Precast Concrete Septic Tanks C-1227-02" and any updates thereto. Any weep holes in the precast reinforced concrete septic tank shall be placed on the side of the tank bottom to allow for safe inspection and assurance that the weep hole has been plugged.

26.2.2 Fiberglass septic tanks and polyethylene septic tanks shall conform to the International Association of Plumbing and Mechanical Officials "Material and Property Standard for Prefabricated Septic Tanks IAPMO PS 1-2004e1" and any updates thereto.

26.2.3 Each septic tank shall be clearly and permanently marked at the inlet end of the tank with:

(A) Date of manufacture;

(B) Name or trademark of the manufacturer;

(C) Septic tank capacity; and

(D) Indication of external loads for which the septic tank is designed to resist.

26.3 Shape -- ~~SD 6.02 Length - In rectangular tanks, the distance between the inlet and outlet should be at least equal to the liquid depth of the tank and at least one and one-half times the width.~~ There shall be no less than twenty-five (25) square feet of surface liquid area. The distance between the inlet wall of the tank and the outlet wall shall be no less than six (6) feet. ~~SD 6.04 Depth –~~ The depth of the tank below the flow line

~~should~~ shall be not less than four (4) feet or more than eight (8) feet. There shall be at least nine (9) inches of air space between the surface of the liquid and the interior roof of the septic tank.

26.4 Compartments – All septic tanks shall have two (2) compartments with adequate connection at mid-depth, and all tanks shall meet the following requirements:

26.4.1 The first compartment shall have a liquid volume of approximately two-thirds (2/3) of the required liquid volume for the entire tank.

26.4.2 The interior compartment wall shall not extend to the interior roof without providing for venting equivalent to the cross sectional area of at least a four (4) inch diameter pipe.

~~SD 6.03 Diameter of Circular Tanks - Circular tanks shall have a diameter of at least 52 inches.~~

26.5 ~~SD 6.07~~ Inlet and Outlet

26.5.1 One (1) inlet and one (1) outlet shall be provided through the appropriate end or side wall of each tank. Where more than one (1) inlet is required for multiple building sewers, the tank shall be manufactured with the appropriate number of inlets.

26.5.2 ~~SD 6.08~~ Inlet and Outlet Elevations - The invert elevation of the outlet shall be at least ~~(2)~~three (3) inches below the invert elevation of the inlet, and ~~at least one foot~~ above the ~~maximum elevation of the~~ seasonal high groundwater table, unless special construction approved by the Director is provided.

26.5.3 The inlet and outlet pipes shall be connected to the tank with a watertight sealed flexible joint. The pipe gasket shall be an integral part of all tanks and the pipe gasket shall be fastened to the pipe with a stainless steel retractable clamp. A friction fit connection is only allowed if the tank is performance tested in accordance with Rule 26.11.

26.6 ~~(a)~~ Inlet and Outlet Tees -- Septic tanks shall be provided with **an** inlet **sanitary** tee**s** ~~or inlet baffles,~~ and outlet tees or other non-corroding equivalent device approved by the Director. The inlet and outlet tees shall be minimum SDR 35 PVC solvent welded. The tops of the tees ~~or baffles~~ shall extend a minimum of six (6) inches above the flow line, and ~~tops of the tees or baffles~~ shall be left open to provide ventilation. There shall be an air space of at least three (3) inches between the tops of the tees ~~or baffles~~ and the top interior of the tank.

26.6.1 ~~(b) Inlet - The inlet shall be provided with a tee or baffle which must~~ The inlet **sanitary** tee shall extend downward at least one (1) foot below the flow line ~~but not below the outlet tee~~.

26.6.2 ~~(c) The outlet shall be provided with a tee either precast or installed of material acceptable to the director.~~ The outlet tee shall extend downward one-third of the depth below the flow line. All outlet tees or other approved outlet devices shall be equipped with an effluent screen approved by the Department pursuant to Rule 37.

26.6.3 Specifications for inlet tees and outlet tees are for normal, low-flow conditions. High flow conditions, created when liquid is pumped from another tank, may require other dimensions and considerations.

~~SD 6.05 Multiple Compartments - Multiple compartment tanks, including two individual septic tanks placed in series, will be approved, provided the total capacity (below the flow line) is not less than 5,000 gallons and the capacity of the first compartment or tank is at least one-half of the capacity required.~~

~~SD 6.11 Access Manholes - At least one manhole with a removable cover of concrete, iron or other durable material shall be provided for each septic tank compartment. Inlets and outlets shall be made accessible for cleaning by placing manholes or clean-out plugs over the tees or baffles. Manholes on tanks shall be brought up to finished grade. All manholes should be provided with a safe and solid cover and should be set to divert surface water away from the manhole.~~

26.7 Access Openings – A minimum twenty (20) inch inside diameter access opening shall be located over both the inlet tee and outlet tee. All septic tank openings shall meet the following requirements:

26.7.1 The access opening over the outlet tee shall be brought to finished grade. Other access openings shall either be brought to finished grade or within twelve (12) inches of the finished grade. Where a riser is required, it shall be watertight;

26.7.2 Lids on the top of the septic tank (Figure 6) should remain in place where practical. Lids for the openings at finished grade shall prevent unauthorized entry by meeting either of the following:

(A) Lid shall weigh a minimum of fifty-nine (59) pounds and fit tightly onto the riser as shown in Figure 6; or

(B) Lid shall be tamper resistant and mechanically fastened;

26.7.3 The septic tank manufacturers shall provide and the licensed OWTS installers shall attach a label of noncorrosive material in a prominent location at each access opening to warn that "Entrance Into the Tank Could Be Fatal"; and

26.7.4 Surface water shall be diverted away from the septic tank openings.

26.8 ~~SD 6.12~~ Accessibility - Septic tanks shall be so located on the lot as to be accessible for servicing and cleaning. ~~**They should be placed between the building and the street wherever practicable, to facilitate connection to a public sanitary sewer if it becomes available.**~~

26.9 Installation - All septic tanks shall be installed in accordance with the manufacturer's minimum requirements. In addition, all septic tanks must meet the installation requirements specified in the remainder of these Rules.

26.9.1 ~~SD 6.09~~ Foundation - The septic tank shall be installed on a level, stable base that will not settle.

26.9.2 ~~SD 6.13~~ Backfill - Backfill shall be placed around the septic tank in such a manner as to avoid damage to it. All backfill placed around the septic tank shall be free of large stones, stumps, waste, construction material and rubbish.

26.9.3 ~~SD 6.16~~ Floatation - Where any portion of a septic tank is installed ~~in the ground water table, provisions shall be made to prevent floatation~~. below the seasonal high groundwater table, the tank's susceptibility to floatation shall be determined, and provisions shall be made to prevent floatation where necessary as determined by the floatation calculations.

26.9.4 Septic Tanks in Coastal Velocity Zones - All fiberglass and polyethylene septic tanks larger than one thousand (1000) gallons installed in a Federal Emergency Management Agency designated V-Zone shall be anchored to prevent floatation.

26.10 Septic Tanks in Series – Septic tanks placed in series are allowed provided they meet the following requirements:

26.10.1 Each tank shall be of single compartment design and the volume of the first tank shall be at least two-thirds (2/3) the required tank size;

26.10.2 The outlet tee on the first tank shall extend down to the mid-depth of the liquid volume; and

26.10.3 An effluent screen that meets the requirements of Rule 26.6.2 shall be provided on the outlet tee of the second tank.

26.11 Performance Testing – All septic tanks **and their risers** must be certified watertight by the manufacturer or by on-site testing. On-site testing for septic tank leakage shall be conducted for tanks assembled at the installation site. The Director may require onsite testing on a case-by-case basis. When required, the testing shall be conducted using either:

26.11.1 Vacuum Test – Seal the empty tank **and risers** and apply a vacuum to two (2) inches (50 mm) of mercury. The tank is approved if ninety (90) percent of the vacuum is held for two (2) minutes; or

26.11.2 Water-Pressure Test – Seal the tank **and risers**, fill with water **to the top of the risers**, and let stand for twenty-four (24) hours. Refill the tank. The tank is approved if the water level is held for one (1) hour.

26.12 ~~SD 6.15 Pumping to Septic Tanks Prohibited - Sewage shall not be pumped into septic tanks unless approved by the director.~~ – Whenever more than twenty-five percent (25%) of the daily design flow is pumped into a septic tank, the tank capacity shall be increased by fifty percent (50%) beyond the minimum capacities specified in Rule 26.1.

26.13 Depth of Cover – The minimum cover over the invert of the outlet shall be one and one-half (1½) feet. If the depth of cover exceeds three and one-half (3½) feet, the OWTS application shall include documentation of the tank's ability to structurally withstand the loading, and the tank's design shall allow for proper maintenance and access.

26.14 Existing Septic Tanks -- Septic tanks in place as of the effective date of this Rule shall be in compliance with the provisions of Rule 26.7.2 within five (5) years of the effective date of this Rule.

## RULE 27. SEPTIC TANK EFFLUENT PIPE

27.1 Size - In no case shall the septic tank effluent pipe be less than four (4) inches in diameter.

27.2 Material - The septic tank effluent pipe shall be constructed of PVC pipe SDR 35 minimum or equivalent. When any portion of the septic tank effluent pipe will be subject to vehicular traffic, it shall be constructed of Schedule 40 PVC or equivalent.

27.3 Joints - All pipe joints for the septic tank effluent pipe shall be made watertight.

27.4 Slope or Grade - The septic tank effluent pipe shall have a minimum slope of one (1) percent.

27.5 Base -- The septic tank effluent pipe shall be laid on a compacted, firm base.

27.6 Alignment - The septic tank effluent pipe should be laid in a straight line wherever possible. Changes in direction shall not exceed ninety (90) degrees. Where a change in direction is greater than forty-five (45) degrees, a manhole is required, unless the change in direction is achieved through the use of a 36 inch radius sweep.

27.7 Manholes and Cleanouts - A manhole with a removable cover of concrete, cast iron, or other durable material shall be provided at the junction of two or more septic tank effluent pipes and at all sharp changes in direction greater than forty-five (45) degrees, unless the alignment complies with Rule 27.6. A cleanout shall be provided at intervals not greater than seventy-five (75) feet.

~~SD 6.14 Holding Tanks - Holding tanks are not acceptable as a means of an individual sewage disposal system for new installations, consistent with department policy. However, the use of holding tanks at marinas, for the purpose of boat pump-out may be considered as a means of water pollution abatement.~~

## RULE 28. HOLDING TANKS

28.1 Use

28.1.1 Holding tanks for wastewater are prohibited for Applications for New Building Construction and Applications for Alteration to a Structure.

28.1.2 A holding tank may be allowed only to repair or replace a failed OWTS.

28.1.3 Holding tanks will not be allowed if a public sewer system is available for connection. When a sewer system becomes available, any person owning a holding tank shall connect to the sewer system within thirty (30) days and the holding tank shall be abandoned in accordance with Rule 52.

28.1.4 Holding tanks are allowed at marine pumpout facilities provided that direct connection to an existing sewer system or OWTS is not possible and such tanks are constructed, installed and operated in accordance with appropriate Department Guidelines and Regulations.

28.2 Construction – Each holding tank shall:

28.2.1 Have a minimum capacity of five hundred percent (500%) of the daily design flow or portion thereof that the holding tank will serve;

28.2.2 Be watertight and meet the construction and material standards required for septic tanks in Rule 26.2;

28.2.3 Be equipped with an audio-visual alarm set to activate when the tank reaches sixty percent (60%) of its capacity;

28.2.4 Have a minimum twenty (20) inch inside diameter opening that meets the requirements for septic tank access openings in Rules 26.7.1, 26.7.2(B), 26.7.3 and 26.7.4; and

28.2.5 Be vented such that the vent is at an elevation higher than the elevation of the highest fixture served.

28.3 Installation- Holding tank installation shall be as required for septic tanks in Rule 26.9.

28.4 Depth of Cover- The minimum cover over the invert of the intlet shall be one and one-half (1½) feet.

28.5 Pumping- Prior to approval of the installation of a holding tank the applicant shall provide to the Department a copy of a contract with a permitted septage transporter to regularly pump the tank.

28.6 Performance Testing – All holding tanks shall be tested on site for leakage in the manner specified for septic tanks in Rule 26.11.1 or 26.11.2.

28.7 Existing Holding Tanks – Holding tanks in place as of the effective date of this Rule that have access openings to finished grade shall be in compliance with Rule 26.7.2(B) within five (5) years of the effective date of this Rule.

## RULE 29. PUMP TANKS

~~SD 7.00 Dosing Tank and Siphons~~

~~SD 7.01 General - A dosing tank equipped with a siphon or two alternating pumps shall be provided where the total length of the distribution lines exceeds 500 feet. The dosing tank shall be provided with at least two alternating siphons or two alternating pumps delivering to separate seepage systems if the total length of the distribution lines exceeds 1,000 feet.~~

~~SD 7.02 Capacity - Dosing tanks shall discharge a volume of sewage which is between 60 and 75 percent of the interior capacity of the distribution lines of the disposal trenches to be dosed., and not more than the full capacity of the distribution lines in the case of a disposal bed.~~

~~SD 7.03 Construction - Dosing tanks shall be water tight. They shall be constructed of sound, durable materials not subject to excessive corrosion or decay and be able to withstand any load which may be placed upon them.~~

29.1 An OWTSs that requires a pump shall have a separate pump tank to house the pump, unless the pump is placed in the second compartment of the septic tank within a screened vault approved by the Director. Pump tanks shall be located following a septic tank unless otherwise approved by the Director.

29.2 Capacity- Pump tanks shall have an emergency storage capacity above the working level equal to the daily design flow of the system. Emergency capacity is not required if there is less than two (2) inches difference in elevation between the invert of the outlet of the septic tank and the invert of the inlet of the pump tank. All pump tanks shall be equipped with sensors and alarms to protect against high water due to failure of the pump or pump controls. The volume below the working level shall include an allowance for the volume of all drainage which may flow back to the tank when pumping has ceased. The volume of the pump tank between operating levels shall be adequate to assure the entire leachfield is dosed each cycle in accordance with the required number of cycles per day.

29.3 Construction – Each pump tank shall:

29.3.1 Be watertight and meet the construction and material standards for septic tanks in Rule 26.2; and

29.3.2 ~~SD 7.07 Access -~~ Each ~~dosing tank~~ pump tank or compartment thereof shall be provided with a minimum twenty (20) inch inside diameter access opening ~~an access~~ located so as to facilitate repair or adjustment of the ~~siphons or~~ pump~~s~~. The access opening shall meet the requirements for septic tank access openings in Rule 26.7.1--26.7.4.

29.4 ~~SD 7.06~~ Inlet and Outlet- The invert elevation of the inlet and the outlet pipe to the ~~dosing tank~~ pump tank shall be located above the maximum water elevation in the ~~dosing tank~~ pump tank, and ~~at least one foot~~ above the ~~maximum elevation of the~~ seasonal high groundwater table, unless special construction, approved by the Director is provided.

29.5 ~~SD 7.05~~ Ventilation - ~~Dosing tanks~~ Pump tanks shall be constructed in a manner that will permit venting through the building sewer or other suitable outlet.

~~SD 7.04 Foundation - Dosing tanks shall be constructed on a level base that will not settle.~~

~~SD 7.08 Floatation - Where a dosing tank is installed in the ground water table, provisions shall be made to prevent floatation.~~

29.6 Installation- Pump tank installation shall be as required for septic tanks in Rule 26.9.

29.7 Performance Testing – Pump tanks shall be certified watertight in accordance with Rule 26.11

29.8 Existing Pump Tanks – Pump tanks in place as of the effective date of this Rule that have access openings to finished grade shall be in compliance with Rule 26.7.2 within five (5) years of the effective date of this Rule.

## RULE 30. PUMPS

~~SD 8.00 Pumps~~

30.1 Required Use- Pumps are required for OWTSs that meet any of the following conditions:

30.1.1 The OWTS is designed for intermittent discharge;

30.1.2 The OWTS is designed for pressure dosing;

30.1.3 Pump is required for an approved Alternative or Experimental Technology;

30.1.4 The maximum length of a dispersal trench in the leachfield is between seventy-six (76) feet and one hundred (100) feet; or

30.1.5 The total length of the distribution lines in the leachfield exceeds five hundred (500) feet.

30.2 Dual Alternating Pumps

30.2.1 When a pump is required, dual alternating pumps are required for the following (otherwise a single pump is sufficient):

(A) The total length of the distribution lines in the system exceeds one thousand (1000) feet;

(B) The OWTS serves a use other than single family residential, the design flow is less than two thousand (2000) gallons per day, and there is no storage capacity for one day's design flow; and

(C) The OWTS serves a use other than single family residential and the design flow is greater than two thousand (2000) gallons per day.

30.2.2 Dual alternating pumps shall operate in the following sequence: pumps off; primary (lead) pump on; backup (lag) pump on and alarm on; pumps must alternate.

30.2.3 When dual alternating pumps are discharging to separate leachfields, the pump discharge lines shall be inter-connected and provisions made to permit dosage of both leachfields with one pump when the other is being serviced.***[From SD 8.05]***

~~SD 8.01 General - Pumps shall be located following septic tank unless otherwise approved by the director. In the case of single family residence system, one pump may be installed. In all other cases, dual alternating pumps shall be required.~~

30.3 ~~SD 8.02~~ Size – The pump must be sized to accommodate ~~the installation based upon system head curves~~ the proposed use. ~~The system head curves~~ All system head curves and associated calculations shall be submitted with the design. ~~The~~ Centrifugal pumps must be capable of passing ~~2~~ three-quarter (3/4) inch diameter solids. ~~unless the pumps, approved by the director, are specifically designed to grind solids.~~

30.4 ~~SD 8.05~~ Piping - ~~When alternating pumps are provided, discharging to separate fields, the pump discharge lines shall be inter-connected and provisions made to permit dosage of both fields with one pump when the other is being serviced.~~***~~[Moved to 30.2.3]~~*** ~~The pump discharge shall be at least 2 inch diameter for systems designed to dispose of under 1,000 gallons per day, and at least 3 inch diameter for systems designed to dispose of 1,000 gallons per day or over.~~ The licensed designer shall specify pump discharge pipe sizing and provide backup calculations to support specification. The pump discharge pipe shall be PVC Class 200 minimum.

30.5 ~~SD 8.04~~ Controls and Power Supply - Pump controls shall be moisture proof if located above the liquid level~~;~~. Watertight controls shall be used when the contents are submerged. ~~SD 8.08 Power Supply~~ All controls and junction boxes on the power supply ~~shall be moisture-proof and located above areas subject to flooding~~ shall meet appropriate electrical codes. ~~SD 8.07 Standby Power – Where pumps are used, it is recommended that~~ Standby power shall be provided at all uses other than single family residential, unless otherwise approved by the Director. ~~apartment houses, condominiums, elderly housing and all other multiple family premises which are not vacated during power failure. An empty emergency overflow tank with 24 hour storage capacity may be substituted where such tank can be placed completely above ground water.~~

30.6 ~~SD 8.06~~ Alarms - All pumps shall be equipped with a high water level, visible and audible alarm powered by a circuit separate from the pump power. ~~The alarm shall be located in a normally occupied area of the facility.~~

30.7 ~~SD 8.03~~ Installation - Pumps shall be installed in strict conformance with the manufacturer's specifications~~;~~. Provisions should be made to easily remove the pumps for servicing.

## RULE 31. DISTRIBUTION BOXES

~~SD 9.00~~

31.1 ~~SD 9.01 General –~~ A distribution box shall be installed immediately preceding the ~~seepage system~~ leachfield unless otherwise approved by the Director.

31.2 ~~SD 9.05~~ Construction - The distribution box shall be constructed of ~~watertight~~ concrete or other durable material. ~~and shall be capable of withstanding H-20 wheel loads.~~ It shall be watertight, including the riser connections where applicable, and it shall have a top load carrying capacity of three hundred (300) pounds per square foot and minimal sidewall deflection. ~~It shall be designed to accommodate the necessary distribution lines.~~ Minimum bottom area shall be three (3) square feet.

31.3 ~~SD 9.02~~ Inlet - The distribution box shall be provided with an inlet tee or a suitable baffle. The invert elevation of the inlet pipe shall be not less than two (2) inches above the invert elevation of the outlet pipe.

31.4 Outlets

31.4.1 ~~SD 9.03~~ Outlet Elevations -- The invert elevation of all the outlet pipes shall be a minimum of four (4) inches above the floor of the distribution box. All outlet inverts shall be at the same elevation.

31.4.2 ~~SD 9.06~~ Number of Outlets -- If there is no ~~dosing tank~~ pump tank, there shall be a separate outlet for each distribution line. When a ~~dosing tank or~~ pump ~~chamber~~tank is installed, there should be either a separate outlet for each distribution line, or a separate outlet of at least six (6) inches in diameter for every two (2) distribution lines. In all cases following a ~~dosing tank or~~ pump ~~chamber~~tank, the outlet shall be of sufficient size to accept the ~~sewage~~ wastewater flow at the rate ~~sewage~~ wastewater is delivered to the distribution box.

31.5 ~~SD 9.04~~ Distribution Pipes Into the Distribution Box

~~All distribution pipes for a minimum of 2 feet from the distribution box to the first section in the laterals shall be schedule SDR 35, level, unperforated and shall be laid with tight joints. Any sections of such pipe laid with tight joints shall not be considered in determining the leaching area.~~ ***[Moved to Rule 33.2]***

31.5.1 The distribution pipes shall extend into the distribution box one (1) inch.

31.5.2 Jointing of the distribution piping with a distribution box shall be made with non-shrinking gasket materials which shall maintain a watertight seal.

31.5.3 All inverts shall be set level after the leachfield is installed. Leveling devices may be installed on the distribution pipes.

31.6 ~~SD 9.08 Manholes~~ Cover - The distribution box shall be provided with a readily removable cover~~s~~ of durable material that fits on the distribution box in the manner shown in Figure 6a for lids on septic tank risers. When a tipping distribution box is used, the distribution boxes shall have a minimum ten (10) inch diameter access opening brought to finished grade. When manholes to grade~~s~~ are not provided, it is recommended that a marker over the cover be provided to grade. ~~Systems~~ OWTSs ~~designed~~ with a design flow over two thousand (2,000) gallons per day ~~should~~ shall have a minimum eighteen (18) inch manhole over each distribution box with extra heavy duty metal frames and covers to finished grade.

31.7 ~~SD 9.07~~ Foundation - The distribution box shall be installed on a level stable base that will not settle.

## RULE 32. LEACHFIELDS

~~SD 10.00 Sewage Seepage Systems - General~~

32.1 Applicability – This rule applies to leachfields with dispersal trenches (Rule 33), leachfields with concrete chambers in a trench configuration (Rule 34), and to alternative and experimental leachfield systems approved pursuant to Rule 37 except for specifically approved design elements that are not consistent with this Rule 32.

32.2 ~~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.~~ The minimum leachfield area necessary for dispersal trench and concrete chamber leachfields shall be determined by dividing the maximum daily wastewater flow (design flow) for the facility, as determined from Rule 21, by the loading rate established in Rule 32.2.1 for applications without a soil evaluation or by the loading rate established in Rule 32.2.2 for applications with a soil evaluation. Applications without soil evaluations are those applications that have valid field data that pre-dates the soil evaluation requirements of these Rules. ~~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.~~ ***[Issue in last sentence addressed in Rule 21]***

32.2.1 The maximum leachfield loading rate for applications without a soil evaluation shall be determined from Table 32.2.1 below:

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

| ~~Percolation Rate (minutes per inch)~~ | ~~A Disposal Trenches and Seepage Pits~~ | | ~~B Disposal Beds (see SD 10.08 for Restrictions)~~ | |
|---|---|---|---|---|
| | ~~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)~~ | ~~sq ft/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~~ | | |

Table 32.2.1. Loading Rates Determined by Percolation Rate

| Percolation Rate (minutes per inch) | Loading Rate (gals/sq ft/day) |
|---|---|
| Notes (1) and (2) | |
| <5 | .93 |
| 10 | .70 |
| 15 | .61 |
| 20 | .52 |

| | |
|---|---|
| 25 | .48 |
| 30 | .46 |
| 40 | .40 |

(1) Rates ~~greater than five minutes/inch~~ not listed may be interpolated from this table to reflect actual readings.

(2) ~~(1)~~ Soil with a percolation rate of over forty (40) minutes per inch is unsuitable for disposal of ~~sewage~~ wastewater 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.~~

(3) ~~(5)~~ The fastest percolation rate allowed for applications for ~~new systems~~ OWTSs for New Building Construction pursuant to Rule 17.5 ~~submitted after May 10, 2001~~ shall be ten (10) minutes per inch.

32.2.2 ~~26.01(d) Assigned Percolation Rates Using Soil Physical Properties~~ The maximum leachfield loading rate for applications with a ~~site~~ soil evaluation, shall be determined from Table 32.2.2 ~~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~~ Use the lowest loading rate obtained in the manner described below:

(A) ~~(1)~~ If the bottom of the stone ~~in the system~~ is above the original grade, use the soil horizon with the ~~slowest percolation~~ lowest loading rate within ~~3 feet~~ five (5) feet of the original ground surface, excluding any A horizons;

(B) ~~(2)~~ If the bottom of the stone ~~in the system~~ is below the original grade, use the soil horizon with the ~~slowest percolation~~ lowest loading rate within ~~3 feet below the bottom of the stone~~ five (5) feet below the elevation of the distribution pipe invert, including the soil horizons receiving side wall effluent;

(C) ~~(3)~~ If no natural soil will remain within the ~~3 feet~~ five (5) feet referenced in ~~26.01(d)(1) and (2)~~ Rule 32.2.2 (A) and (B) above because of gravel fill, use the ~~percolation~~ loading rate of the first naturally occurring soil horizon below that depth.

Table 32.2.2. Loading Rates Determined by Soil Category

***[This Table is new. To enhance readability, it has not been double underlined.]***

| Soil Category | Loading Rate (gals/sq ft/day) |
|---|---|
| 1 | .70 |
| 1m | .61 |
| 2 | .61 |
| 3 | *.70* |
| 4 | *.61* |
| 4m | *.70* |
| 5 | .52 |
| 6 | .61 |
| 6m | .70 |
| 7 | .52 |
| 7m | .61 |
| 8 | .46 |
| 8m | .48 |
| 9 | .40 |
| 9m | .43 |
| 10 | Not Allowed (Impervious) |

Note: "m" means soil has gravelly or channery coarse fragment modifiers.

32.3 ~~SD 10.06~~ Effective Leaching Area - The effective leaching area of ~~individual sewage disposal systems~~ OWTSs shall be determined in accordance with Rule 33 for dispersal trench OWTSs ~~Section SD 11.01 for bed or trench type systems; Section SD 12.02 for seepage pit type systems;~~ and Rule 34 ~~Section SD 13.02~~ for concrete ~~leaching~~ chamber ~~type systems~~ OWTSs.

~~SD 10.08 Disposal Bed Restrictions - A disposal bed is unsuitable when the maximum daily sewage flow is 2,000 gallons or more; see Section SD 10.07, column A for design.~~

32.4 Depth to Groundwater From Original Ground Surface - The leachfield shall be located in an area where the seasonal high groundwater table is a minimum of two (2) feet below the original ground surface. All test holes within twenty five (25) feet of the leachfield shall meet the minimum depth to groundwater from original ground surface. On lots twenty thousand (20,000) square feet or larger, the leachfield may be located in an area where the seasonal high groundwater table is less than twenty-four (24) inches but greater than or equal to eighteen (18) inches from the original ground surface if the OWTS utilizes a bottomless sand filter in accordance with DEM guidelines and the applicant has no variance requests pursuant to Rule 48.

32.5 Depth to Restrictive Layer or Bedrock From Original Ground Surface - The leachfield shall be located in an area where a restrictive layer or bedrock is a minimum of four (4) feet below the original ground surface. The minimum depth to a restrictive layer or bedrock shall be met within twenty-five (25) feet of all sides of the leachfield.

32.6 Leachfield Design Point – Where the seasonal high groundwater table is greater than or equal to four (4) feet below the original ground surface, the leachfield shall be designed using the original ground surface elevation at the center of the leachfield. Where the seasonal high groundwater table is less than four (4) feet below the original ground surface, the leachfield shall be designed using the highest original ground surface elevation within the leachfield.

32.7 ~~SD 10.02~~ OWTS Separation Distance to Groundwater - The ~~vertical separation distance from the~~ bottom of the stone underlying the ~~seepage system~~ leachfield shall be at least three (3) feet above the ~~maximum elevation of the~~ seasonal high groundwater table.

32.8 ~~SD 10.03 Impervious Material~~ OWTS Separation Distance to a Restrictive Layer or Bedrock- The ~~vertical separation distance from the~~ bottom of the stone underlying the ~~seepage system~~ leachfield shall be at least five (5) feet above ~~impervious formations~~ a restrictive layer or bedrock. ~~The horizontal separation shall be twenty-five feet from the side wall of the seepage system.~~ This five (5) foot vertical separation shall be maintained to a distance of twenty-five (25) feet from the side wall of the leachfield. In the upgradient direction, the five (5) foot vertical separation requirement may be waived as long as a restrictive layer or bedrock is no higher than the bottom of the stone within twenty-five (25) feet of the leachfield (Figure 1). Excavating into ~~impervious material~~ a restrictive layer or bedrock is ~~prohibited~~ not permitted unless otherwise approved by the Director.

32.9 ~~SD 10.04~~ Excavation - All trees, brush and stumps within the area of the leachfield and within ten (10) feet of the leachfield shall be removed. ***[From 11.06(b)]*** ~~The excavation for the seepage system may be made by mechanical means, however, if such means are used,~~ Care must be taken to assure that the soil at the bottom and sides of the excavation for the leachfield is not compacted or smeared. The bottom of the excavation shall be level and the bottom and sides of the excavation shall be scarified. In no case shall exposed boulders in the walls or bottom of the excavation be left in place. Voids created by the removal of boulders shall be filled with gravel meeting the requirements in Rule 32.12. Exposed roots within the excavation shall be cut back to the walls of the excavation. No part of the excavation for the leachfield shall be into groundwater. All storm deposited sand in the backdune environment and human transported material existing in the proposed leachfield and five (5) feet around and below shall be removed prior to OWTS installation unless the material is deemed to be acceptable to the Director. ***[from SD 15.04(e) in part]***

~~SD 10.05 Location - The minimum distance the sewage seepage system must be from items it might affect is found in Section SD 3.05.~~

32.10 ~~SD 11.04~~ Stone - The stone used in the leachfield ~~leaching system to surround the distribution lines~~ shall consist of double washed stone ranging from not less than ~~1/2~~ three quarter ( ¾) inch to not more than two (2) inches in size and free of ~~from iron~~, fines, soils, stone dust or debris. ~~It shall cover the full width of the~~

~~trench or bed and shall be placed to a depth not less than 6 inches below the bottom of the distribution lines in a disposal trench and not less than 12 inches below the bottom of the distribution lines in a disposal bed.~~ ~~The stone shall extend at least 2 inches above the top of the distribution pipes.~~ The stone shall be covered with ~~at least a 2 inch layer of straw or hay or by a layer of untreated building paper or by~~ a layer of synthetic filter fabric ~~which allows evaporation~~ that meets the requirements of Rule 32.11.

32.11 Filter Fabric – A layer of non-woven synthetic filter fabric shall be placed over all stone used in the OWTS construction before backfilling. The filter fabric shall have adequate tensile strength to prevent ripping during installation and backfilling, adequate air permeability to allow free passage of gases, and adequate particle retention to prevent downward migration of soil particles.

32.12 ~~SD 11.05~~ Gravel ~~Base~~

32.12.1 ~~Any~~ The gravel base material and, where applicable, the gravel between the trenches ~~used under the stone layer~~ shall consist of clean sand and gravel free of organic matter and foreign substances.~~, coarse sand, or bank run gravel containing little or no fines, or organic material and containing little to no large fragments with no stones greater than 6 inches in diameter. Not more than 10% of the gravel can be made up of stones between 2 inches and 6 inches in diameter. The remaining gravel cannot exceed 2 inches in diameter.~~ The gravel shall not contain any material larger than three (3) inches **and up to ten percent (10%) may be sized between three-quarters (3/4) and three (3) inches**. ~~**Up to forty five percent (45%) of the dry weight may be retained on a number four (#4) sieve. The material passing the number four (#4) sieve**~~ **Gravel** shall meet the following criteria:

Table 32.12.1

| Sieve Size | Percent Passing |
|---|---|
| **3/4"** | **100%** |
| #4 | **55%**-100% |
| #10 | **~~70~~40**% - 100% |
| #40 | 10% - 50% |
| #100 | 0% - 20% |
| #200 | 0% - 5% |

32.12.2 The gravel ~~base material~~ shall be placed in shallow lifts and properly compacted. The surface of the gravel upon which the stone will be laid shall be level and scarified. ~~The gravel base after placement and compaction shall have a percolation rate equal to or better than 5 minutes per inch. The director may require that a percolation test be run in the presence of his agent in the gravel base after placement and compaction. Whenever a sewage leaching field will be located in fine textured soils containing fine sands, silts or clays, a minimum six (6) inch depth gravel base must be placed beneath the entire leaching field.~~

32.13 Depth of Cover -- The minimum cover over the invert of the distribution lines shall be one and one-half (1½) feet and the maximum cover shall be two and one-half (2½) feet. Minimum cover elevations shall be maintained over the full area of the leachfield, including area excavated pursuant to Rule 33.5.1.

32.14 ~~11.07~~ Backfill - All backfill ~~placed within the leachfield area~~ shall be free of boulders and stones greater than six (6) inches in diameter, frozen clumps of earth, rubbish, masonry, stumps or waste construction materials. Backfill shall be placed carefully to avoid displacement and damage to piping and chambers. Heavy machinery shall not be permitted to pass over the leachfield ~~area~~.

32.15 Fill Easements- Where fill is required and where it is necessary to fill beyond the boundary of the subject property to meet the requirements of these Rules, no approval will be granted unless the adjoining property owner(s) has given a permanent legal release (easement, etc.) filed in the land evidence records of the municipality granting such right to the owner of the applicant property. A copy of such right of access and use shall be attached to the application. ***[From SD 3.05(d)]***

32.16 Adjacent Side Slope- A minimum ten (10) foot horizontal separation distance shall be provided between the outer edge of the stone in the outer dispersal trench and any ground surface elevation less than the elevation of the invert of the distribution line. The adjacent side slope shall not be steeper than 3:1 (horizontal:vertical) for a twenty-five (25) foot minimum distance from the edge of the stone in the dispersal trench or until the toe of the slope returns to the elevation of the original grade. The toe of the 3:1 slope shall be a minimum of five (5) feet from any property line.

32.17 Structural Retaining Walls- A minimum of twenty-five (25) feet shall be maintained from the outer edge of the stone in the outer dispersal trench to any structural retaining wall. If the structural retaining wall is above the seasonal high groundwater table a lesser setback distance may be allowed. A greater setback distance may be required by the Department for OWTSs with a design flow of one thousand (1000) gallons per day or more. The Department may require additional information, including but not limited to an analysis of the hydrogeological conditions of the site. Structural retaining walls shall be a minimum of two (2) feet from the property line unless the adjacent property owner grants the applicant **written** permission **or ~~by means of~~** a construction easement to provide access to install the wall. The wall design shall ensure adequate control of surface water runoff. The Director may require that the structural retaining wall be designed by a Professional Engineer registered in Rhode Island.

32.18 ~~3.04~~ Surface Water Drainage - ~~Provision shall be made~~ OWTSs shall be designed to prevent the flow of surface water from the surrounding area onto the ~~area of the seepage system~~ leachfield. ~~SD 15.02(b)(6)~~ The OWTS design shall ~~consider the need for~~ provide for diversion of surface water runoff so as not to ~~increase stormwater runoff~~ cause or increase the severity of drainage problems to adjacent properties.

32.19 Leachfield Protection-

32.19.1 Curbing - OWTSs serving other than individual dwellings shall be adequately curbed or fenced so as to exclude vehicular traffic, unless the OWTS is a concrete chamber OWTS constructed in accordance with Rule 34.9. Parking areas adjacent to a leachfield shall be graded or curbed to divert runoff from the leaching area. ***[Partially From SD 11.08]***

32.19.2 The boundary of the leachfield shall be staked and flagged to protect the leachfield from vehicle traffic and excessive weight loads before and during construction of the OWTS and the structure. Flagging shall remain in place until all construction activities at the site are complete.

32.20 Finish Grade Stabilization- Immediately after completion of final grading, the area of disturbance due to installation of the OWTS shall be stabilized by mulching and seeding, or sodding, to establish a permanent vegetative cover to prevent erosion. ***[Adapted from SD 11.09]***

32.21 Replacement Area- If sufficient suitable area exists on the property for a replacement dispersal field area meeting the horizontal setback requirements in Rule 22, it shall be shown on the plan. If a suitable area does not exist, it shall not be shown.

## RULE 33. DISPERSAL TRENCHES

~~SD 11.00 Specifications for Disposal Trenches and Disposal Beds~~

~~SD 11.01 Effective Leaching Area~~

~~(a) Disposal Beds - The effective leaching area of disposal beds shall be the entire bottom area.~~

33.1 Effective Leaching Area -- The effective leaching area shall be determined by the amount of stone meeting the requirements of Rule 32.10 that is placed below the distribution line in the trench. ~~(b) Disposal Trenches~~ - The effective leaching area of ~~standard disposal~~ dispersal trenches containing one-half (½) feet of stone below the pipe invert shall be the total bottom area. Credit will be allowed for added sidewall absorption area gained by increasing the depth of stone in the trenches. Such credit shall be determined in accordance with ~~the following~~ Table 33.1 which gives the square footage allowed per lineal foot of trench as the depth of stone increases. The maximum depth of stone allowed is one and one-half (1½) feet. The bottom of the dispersal trench shall have a maximum width of three (3) feet. The maximum depth of stone below the pipe invert shall be one-half (½) feet when any of the following occur:

33.1.1 The seasonal high groundwater table is within two (2) to four (4) feet of the original ground surface;***[From SD 15.02(b)(1)]***

33.1.2 A restrictive layer is within four (4) to six (6) feet of original ground surface; or ***[From SD 15.02(b)(1)]***

Table 33.1 Effective Leaching Area

| Depth of Stone Below Invert (feet) | Area Allowed per Lineal Foot of Trench (Sq ft/ft) | | |
|---|---|---|---|
| | 24" wide trench | 30" wide trench | 36" wide trench |
| 0.5 | 2.0 | 2.5 | 3.0 |
| 1.0 | 2.7 | 3.2 | 3.7 |
| 1.5 | 3.2 | 3.7 | 4.2 |
| ~~2.0~~ | ~~3.7~~ | ~~4.2~~ | ~~4.7~~ |
| ~~2.5~~ | ~~4.2~~ | ~~4.7~~ | ~~5.2~~ |
| ~~3.0~~ | ~~4.7~~ | ~~5.2~~ | ~~5.7~~ |
| ~~3.5 (max. allowable)~~ | ~~5.2~~ | ~~5.7~~ | ~~6.2~~ |

~~Example: If a 5 minute per inch percolation rate is being used to size a trench type system for a 3 bedroom dwelling, 375 square feet of effective leaching area would be the minimum required. If a trench system with 0.5 foot of stone below the invert is used, 125 lineal feet of 3 foot wide trench would be required. If the stone depth is increased to 3.5 feet below the invert, then 60.5 lineal feet of 3 foot wide trench would be required.~~

33.2 ~~SD 11.03~~ Distribution Lines

33.2.1 That portion of the distribution line from the distribution box to the beginning of the dispersal trench shall be a minimum of two (2) feet in length, SDR 35 PVC, imperforated and laid with watertight joints.

33.2.2 The invert of the distribution lines in the trench shall be two (2) inches lower than the invert of the invert of the outlet of the distribution box. The distribution lines in the trench shall be level. The first foot of the distribution line in the trench shall be imperforated SDR 35 PVC. Beyond the first foot, the distribution lines in the trench must consist of ~~schedule~~ SDR 35 perforated PVC pipe with a minimum diameter of four (4) inches, or an equivalent pipe approved by the Director. ~~The size, location, and number of perforations shall be acceptable to the director.~~ The perforations shall be evenly spaced in two (2) rows, one on each side of center, located at thirty (30) degrees off vertical center in the lower half of the pipe. The perforations shall be no smaller than three-eighths (3/8) inch and no larger than five-eighths (5/8) inch in diameter. The ends of all distribution lines shall be inter-connected. ~~unless otherwise approved by the Director.~~

33.2.3 The maximum length of a dispersal trench shall be as follows:

(A) Without dosing – fifty (50) feet;

(B) With a tipping distribution box – seventy-five (75) feet; or

(C) With a pump – one hundred (100) feet.

33.3 Stone – The stone surrounding the distribution lines shall meet the requirements of Rule 32.10. The stone shall cover the full width of the trench, extend to the proper design depth, and extend at least two (2) inches above the top of the distribution lines. ***[Partially from SD 11.04]*** The stone shall be covered with a layer of synthetic filter fabric that meets the requirements of Rule 32.11.

33.4 Leachfield Construction Where the Invert of the Distribution Lines is Below Original Grade (see Figure 7)

33.4.1 The soil between the dispersal trenches shall remain undisturbed.

33.4.2 The Director may approve designs where the soil within the entire area of the leachfield is removed if the applicant shows that trench excavation is impractical, for example due to the presence of excessive boulders or stumps. If any B horizon soil remains, only tracked vehicles shall be allowed within this area to avoid compacting the soil. If the soil within the entire area of the leachfield is removed, the soil shall be replaced with properly compacted gravel meeting the requirements of Rule 32.12 to an elevation that will be two (2) inches above the top of the distribution lines. The trenches shall be excavated out of the compacted gravel.

33.4.3 A six (6) inch layer of gravel meeting the requirements of Rule 32.12 shall be placed below the stone in the dispersal trench. Where the bottom of the stone lies on or within a soil horizon that meets the description of Soil Category 1 from Rule 15.11 and such horizon is at least six (6) inches thick below the stone, the six (6) inch gravel layer is not necessary. However, if this Soil Category 1 horizon is described as extremely cobbly, the six (6) inch gravel layer shall be required.

33.4.4 The minimum distance between walls of adjacent dispersal trenches shall be five (5) feet, however, greater distances are recommended.

33.5 Leachfield Construction Where the Invert of the Distribution Lines is Above Original Grade (see Figure 8)

33.5.1 The leachfield and five (5) feet beyond the leachfield shall be stripped of all topsoil (A horizons). In order to avoid compaction of the B soil horizon, only tracked vehicles shall be allowed within this area.

33.5.2 Properly compacted gravel that meets the requirements of Rule 32.12 shall be placed throughout the excavation to an elevation that will be two (2) inches above the top of the distribution lines. Dispersal trenches shall be excavated out of the compacted gravel. There shall be a minimum six (6) inch gravel base layer meeting the requirements of Rule 32.12 below the stone.

33.5.3 The maximum depth of stone below the distribution line invert shall be one-half (½) feet; and

33.5.4 The minimum distance between walls of adjacent dispersal trenches shall be ten (10) feet.

33.6 Leachfield Construction on Sloping Sites -- Where the dispersal trenches are to be constructed such that the invert of the distribution lines in the trenches will not all be at the same elevation, the invert of the distribution lines shall be below the original grade, the distribution lines in the trenches shall be laid level, and the leachfield shall be constructed in accordance with the following (see Figure 9):

33.6.1 The distribution box shall provide equal dosing to each dispersal trench;

33.6.2 A tipping distribution box or pump shall be used;

33.6.3 Leachfield trenches shall be parallel to the contours of the existing grade where possible;

33.6.4 The ends of the distribution lines shall be connected by a relief line that is imperforated, SDR 35 PVC laid with watertight joints that is of the same diameter as the perforated pipe that it connects;

33.6.5 The minimum distance between walls of adjacent dispersal trenches shall be ten (10) feet;

33.6.6 Gravel shall be placed below the stone in accordance with Rule 33.4.2;

33.6.7 Each dispersal trench must meet the adjacent side slope requirements of Rule 32.16;

33.6.8 The soil between the dispersal trenches shall remain undisturbed. If the presence of boulders or other obstacles make trench excavation impractical, the OWTS shall be constructed in accordance with Rule 33.5; and

33.6.9 The Director may require that OWTSs with a design flow exceeding six hundred ninety (690) gallons per day submit additional information regarding wastewater loading and groundwater flow to ensure OWTS effectiveness on sloping sites.

***[SD 11.04 and 11.05 in Rule 32]***

~~SD 11.06~~ Excavation Preparation

~~(a) Leach field strip requirements.~~

~~(1) The leach field and five (5) feet into the leach field perimeter shall be stripped if the groundwater elevation is less than four (4) feet or ledge is less than six (6) feet from the original ground surface. The leach field and extending five (5) feet into the leach field perimeter from the trench side walls must be stripped of trees, brush, topsoil, subsoil, undesirable material and soil containing fines.~~

~~(2) The five (5) foot leach field perimeter strip shall not be required if the groundwater elevation is at least four (4) feet or greater and ledge is at least six (6) feet or greater from the original ground surface. The leach field however, shall be stripped of trees, brush, topsoil, subsoil, undesirable material and soil containing fines.~~

~~(3) Excavations referred to in SD 11.06(a)(1) and (2) shall be backfilled with gravel base as specified in SD 11.05.~~

~~(b) All trees and brush within ten (10) feet of the leach field shall be removed.~~

~~(c) The designer may specify additional soil where conditions warrant.~~

~~(d) Gravel backfill must be brought up around the bed or trench to at least 2 inches above the top of the distribution pipes in the leaching system.~~

~~(e) The leaching system shall not be constructed when the original soil was stripped to or into, the groundwater table unless approved by the director.~~

~~SD 11.07 Backfill - All backfill placed within the leachfield area shall be free of boulders and stones greater than six (6) inches in diameter, frozen clumps of earth, rubbish, masonry, stumps or waste construction materials. Backfill shall be placed carefully over disposal trenches or beds so as to avoid displacement and damage to piping. Heavy machinery shall not be permitted to pass over the leachfield area.~~ ***[Moved to Rule 32.14]***

33.7 ~~SD 11.08 Parking Area~~ Location Under Traffic Areas - The ~~area of the leaching system~~ leachfield for a dispersal trench system shall not be paved or ~~used for vehicular parking or~~ subject to vehicular traffic, including parking. ~~except as allowed under SD 12.06 and SD 13.09. Systems serving other than individual dwellings shall be adequately curbed or fenced so as to exclude vehicular traffic. Parking areas adjacent to leaching system shall be graded or curbed to divert runoff from the leaching area.~~ ***[Language on "Curbing" Moved to Rule 32.19.1]***

~~SD 11.09 Finished Grade - The surface area over the subsurface disposal system shall be grassed.~~ ***[Moved to 32.20]***

33.8 ~~SD 11.02 Construction of Disposal Trenches and Beds - Disposal trenches and beds shall follow the construction details listed in the table below:~~ Summary of Dispersal Trench Construction Details:

| | |
|---|---|
| ~~Minimum lines per field or bed~~ | ~~2~~ |
| Maximum length per line without dosing ~~tank~~ | ~~75~~ 50 feet |
| Maximum length per line with tipping distribution box | 75 feet |
| Maximum length per line with ~~dosing tank~~ pump | 100 feet |
| Minimum diameter of distribution lines | 4 inches |
| ~~Grade of distribution lines (no gradient needed if dosed by siphon or pumps)~~ | ~~2-4 inches per 100 feet~~ |
| Maximum width of ~~disposal~~ dispersal trench bottom | 3 feet |
| Minimum distance between walls of adjacent trenches | 5 feet/10 feet* |

| | |
|---|---|
| Minimum cover over invert of distribution lines | 1.5 feet |
| Maximum cover over invert of distribution lines | ~~3.5feet**~~2.5 feet |
| ~~Maximum distance between distribution lines in disposal beds~~ | ~~6 feet~~ |
| ~~Minimum distance between adjacent beds~~ | ~~10 feet~~ |
| ~~Maximum distance between distribution lines and edge of bed~~ | ~~3 feet~~ |
| ~~Termination of distribution lines from end of trench~~ | ~~2 feet~~ |

~~*Greater distances are recommended.~~ 10 feet for those OWTSs on sloping sites and for those OWTSs where the invert of the distribution lines is above original grade.

~~**System should be designed as shallow as practical but invert of distribution lines shall not be less than 1.5 feet below grade.~~

~~SD 12.00 Seepage Pits~~

~~SD 12.01 Acceptability - A seepage pit may be constructed in lieu of a disposal field, and must be preceded by a septic tank.~~

~~SD 12.02 Effective Leaching Area - The effective leaching area of a seepage pit shall be determined in accordance with provisions of Column A of Section SD 10.07. The sidewall area below the invert of the inlet and the bottom of excavation, not to exceed 2 feet around and below the liner, shall be used to determine the effective leaching area. Sidewall and bottom area having a percolation rate exceeding the design percolation rate shall not be used to determine the effective leaching area.~~

~~SD 12.03 Spacing - When more than one seepage pit is installed, a distance at least 20 feet between sidewalls shall separate the pits.~~

~~SD 12.04 Access - The top of a seepage pit shall be provided with an access manhole with a removable cover of concrete, iron or other durable material. The top of the manhole should be brought up to within 12 inches of the finished grade and properly marked.~~

~~SD 12.05 Construction - The lining of a seepage pit shall be of precast perforated concrete, stone, brick or cement block, laid dry with open joints. The space between the excavation and the lining shall be backfilled with washed stone, 1/2 inch to 2 inches in size, for a distance of at least 12 inches from the lining. Washed stone 1/2 inch to 2 inches in a size shall be placed on the bottom of the pit to a depth of at least 12 inches.~~

~~SD 12.06 Location Under Unpaved Traffic Areas - Where any portion of the seepage system is installed under an unpaved parking area, or subject to vehicular traffic, the structure must be capable of withstanding H-20 wheel loads. All access manholes under paved areas shall be brought to grade with covers and frames capable of withstanding H-20 wheel loads. Such systems must be vented with vents, located in a protected area, and screened. Paving over a system is limited to 25% of the total area without specific authorization of the director.~~

## RULE 34. CONCRETE CHAMBERS

~~SD 13.00 Leaching Chambers~~
(See Figure 10)

34.1 ~~SD 13.01 Acceptability - A leaching chamber system~~ An OWTS using precast concrete chambers may be constructed in lieu of a ~~disposal field~~ dispersal trench OWTS. ~~It~~ Concrete chambers must be preceded by a septic tank and must be installed in a trench configuration. Deep concrete chambers meeting the requirements

of Rule 34.4 will not be permitted except for OWTS Applications for Repair when no other type of leachfield can be utilized.

34.2 Shallow Concrete Chambers

34.2.1 Dimensions- Shallow concrete chambers are four (4) feet by eight (8) feet by eighteen (18) inches deep with an open bottom and perforated side walls.

34.2.2 Site limitations- Shallow concrete chambers shall not be permitted where any of the following occur:

(A) The chamber invert would be more than one (1) foot above the original grade;

(B) The chamber inverts would be set at different elevations; or

(C) The seasonal high groundwater table is less than four (4) feet from the original ground surface.

34.3 Shallow Concrete Chamber Effective Leaching Area- Effective leaching area for shallow concrete chambers shall be calculated based on Table 34.3. Required minimum leaching area shall be calculated in accordance with Rule 32.2.

Table 34.3: Shallow Concrete Chamber Effective Leaching Area
***Table 34.3 is completely new. It has not been double underlined to enhance readability.***

| | Shallow Concrete Chambers | |
|---|---|---|
| | 12" stone below | 24" stone below (Note 1) |
| Each end unit (sq. ft.) | 78 | 102 |
| Each Interior Unit (sq. ft.) | 64 | 80 |

Note 1: Shallow concrete chambers installed with twenty-four (24) inches of stone below the chamber may be used for OWTS Applications for Repair only.

34.4 Deep Concrete Chambers- Deep concrete chambers are approximately equal in width and depth with an open bottom and perforated side walls.

34.5 Deep Concrete Chamber Effective Leaching Area- Effective leaching area for deep concrete chambers shall be calculated based on Table 34.5. Required minimum leaching area shall be calculated in accordance with Rule 32.2.

Table 34.5: Deep Concrete Chamber Effective Leaching Area
***Table 34.5 is completely new. It has not been double underlined to enhance readability.***

| | Deep Concrete Chambers (Note 1) |
|---|---|
| | 12" stone on sides, 12" stone below |
| Each end unit (sq. ft.) | 98 |
| Each Interior Unit (sq. ft.) | 58 |

Note 1: Deep concrete chambers may only be used under limited circumstances pursuant to Rule 17.7.3.

~~SD 13.02 Effective Leaching Area -- (a) Shallow Leaching Chambers - Shallow leaching chambers (also called flow diffusers) are significantly wider than they are deep. The effective leaching area shall be the total bottom area extending to 12 inches on each side of the chamber, provided the excavation below and on each side of the chamber is filled with stone meeting the size and quality requirements of SD 11.04. Shallow chambers may be installed in a trench configuration if the overall width of the trench does not exceed 6 feet. Shallow chambers installed in a trench configuration may include sidewall areas beginning at the base of the chamber and extending to the depth of stone beneath the chamber not to exceed 24 inches. Shallow leaching chambers shall not be permitted in areas where the groundwater table is less than four (4) feet.~~

~~(b) Deep Leaching Chambers - Deep leaching chambers (also called galleys) are approximately equal in width and depth. The effective leaching area shall be the total bottom area extending to a maximum of 24 inches on each side of the chamber in addition to the total pervious side-wall area beginning at the invert of the inlet to the chamber and extending to a maximum of 24 inches below the base of the chamber, provided the excavation below and outside the chamber is filled with stone meeting the size and quality requirements of SD 11.04. Deep chambers must be installed in a trench configuration. Deep chambers shall not be permitted in areas where the groundwater table is less than eight (8) feet~~
***[SD 13.02 moved to Rule 34.1-5]***

~~EFFECTIVE AREA OF CHAMBERS IN TRENCH CONFIGURATION~~
~~TYPE OF CHAMBER~~

| | ~~DEEP (4 FT. CUBE)~~ | | ~~SHALLOW (4 FT. WIDE)~~ |
|---|---|---|---|
| | ~~W/12 inches of stone sides and under~~ | ~~W/24 inches of stone sides and under~~ | ~~W/12 inches of stone sides and under~~ |
| ~~EACH END UNIT (SQ.FT./UNIT)~~ | ~~98~~ | ~~153~~ | ~~78~~ |
| ~~EACH INTERIOR UNIT (SQ.FT./UNIT)~~ | ~~58~~ | ~~74~~ | ~~64~~ |

***[Moved to Tables 34.3 and 34.5]***

~~SD 13.03 Required Minimum Leaching Area - The required minimum leaching area shall be determined in accordance with Column A of Section SD 10.07 provided that the configuration of the units is that of trench-type system. If the chambers are installed in a bed-type configuration, the required minimum leaching area shall be determined in accordance with Column B of Section SD 10.07.~~ ***[addressed in Rule 34.3 and 34.5 by reference to Rule 32.2]***

~~SD 13.04 Construction - The leaching chamber walls shall be of precast perforated concrete, stone, brick, or cement block, laid dry with open joints. The chambers shall be constructed to allow the liquid to pass easily through openings to the surrounding stone. The cover shall be constructed of reinforced concrete or other approved material. The space between the excavation and the lining shall be backfilled with washed stone, one-half inch to two inches in size for a distance of at least 12 inches from the lining. The stone outside the chamber shall extend to with two inches of the top of the chamber and be covered with a two inch layer of washed stone pea or a two inch layer of straw or hay, or by a layer of untreated building paper. Washed stone one-half inch to two inches in size shall be placed on the bottom of the excavation to a depth of at least 12 inches.~~

34.6 Concrete Chamber Construction

34.6.1 Concrete chambers shall be constructed of precast concrete. The bottom of the chambers shall be open and the sides and end (end units) shall be perforated.

34.6.2 ~~SD 13.05~~ Access - The top of the chamber trench shall ~~be provided with~~ have an access ~~manhole~~ opening into a chamber at intervals not greater than fifty (50) feet ~~with~~ that consists of a removable cover of concrete, iron or other durable material. For OWTSs designed to dispose of up to two thousand (2,000) gallons per day and OWTSs that are not located under a paved area, the top of the access opening ~~manhole should~~ shall accommodate a watertight riser and shall be brought to within one (1) foot ~~12 inches~~ of the finished grade and properly marked. ~~for systems designed to dispose of up to 2,000 gallons per day or to grade~~ For ~~systems~~ OWTSs designed to dispose of greater than two thousand (2,000) gallons per day, commercial OWTSs, and all OWTSs located under paved areas, the access openings shall meet the following requirements: ~~(except as provided under SD 13.09). All manholes brought up to grade should be provided with a safe and solid cover and should be set to divert surface water away from the manhole.~~

(A) Access openings shall have a watertight riser and shall be brought to finished grade;

(B) Lids for the openings at finished grade shall prevent unauthorized entry by meeting either of the following:

(i) Lids shall weigh a minimum of fifty-nine (59) pounds and fit tightly into the riser as shown in Figure 6; or

(ii) Lids shall be tamper resistant and mechanically fastened.

(C) Surface water shall be diverted away from the access openings; and

(D) Concrete chambers in place as of the effective date of this amendment that have access openings to finished grade shall be in compliance with the provisions of 34.6.2(B) within five (5) years of the effective date of this amendment.

34.7 Excavation and Construction of a Concrete Chamber Leachfield

34.7.1 The overall width of the trench must not exceed six (6) feet. ***[From SD 13.02(a)]***

34.7.2 ~~SD 13.06~~ Spacing ~~- If a trench type configuration is installed,~~ The minimum distance between walls of adjacent trenches in a concrete chamber leachfield shall be at least six (6) feet. ~~However, it is recommended that the spacing be increased up to 12 feet where possible.~~

34.7.3 The soil between the dispersal trenches shall remain undisturbed. The Director may approve designs where the soil within the entire area of the leachfield is removed if the applicant shows that trench excavation is impractical, for example due to the presence of excessive boulders or stumps. When the soil within the entire area of the leachfield is removed, the soil shall be replaced with properly compacted gravel meeting the requirements of Rule 32.12 to a depth that will be to the top of the chamber. The trench shall be excavated out of the compacted gravel.

34.7.4 A six (6) inch layer of gravel meeting the requirements of Rule 32.12 shall be placed below the stone in the trench. Where the bottom of the stone lies on or within a soil horizon that meets the description of Soil Category 1 from Rule 15.11 and such horizon is at least six (6) inches thick below the stone, the six (6) inch gravel base layer is not necessary. However, if this Soil Category 1 horizon is described as extremely cobbly, the six (6) inch gravel base layer shall be required.

34.7.5 Stone -- Stone meeting the requirements of Rule 32.10 shall be placed beneath the chamber in accordance with Rule 34.3 or Rule 34.5. The space between the excavation and the chamber wall shall be twelve (12) inches and shall be backfilled with stone to the top of the chamber. The stone and the top of the chambers shall be covered with filter fabric that meets the requirements of Rule 32.11.

~~SD 13.07 Distribution - Effluent shall be applied to the leaching area in a uniform manner. If the leaching chambers are installed in a trench type configuration, the effluent shall be applied at least every 25 feet, and the leaching chambers shall be interconnected unless otherwise approved by the director. If the leaching chambers are installed in a bed type configuration, the effluent must be applied in such a manner to insure equal distribution. The bottom of the excavation shall be level and scarified.~~

34.8 Effluent Distribution

34.8.1 The maximum length of a chamber trench shall be as follows:

(A) Without dosing– fifty (50) feet;
(B) With a tipping distribution box – seventy-five (75) feet; or
(C) With a pump– one hundred (100) feet.

34.8.2 Effluent shall be applied to the chamber trenches at least every twenty-five (25) feet. ***[partially from SD 13.07]***

34.8.3 For multiple trench concrete chamber leachfields, the ends of the chamber trenches shall be interconnected with imperforated SDR 35 PVC pipe laid with watertight joints. If the pipe will be subject to vehicular traffic, it shall be Schedule 40 PVC.

34.9 ~~SD 13.09~~ Location Under ~~Unpaved~~ Traffic Areas – The area subject to vehicular traffic, including parking areas, shall be limited to twenty-five percent (25%) of the leachfield area. Where any portion of the ~~leaching chamber~~ leachfield is installed under an ~~unpaved parking area, or~~ area subject to vehicular traffic, the structure must be capable of withstanding HS-20 wheel loads. All access manholes ~~under paved areas~~ in areas subject to vehicular traffic shall be brought to grade with covers and frames capable of withstanding HS-20 wheel loads and meeting the requirements of Rule 34.6.2 (A)-(D). Such ~~systems~~ OWTSs must be vented with screened vents located in a protected area.~~, and screened.~~ ~~Paving over a system is limited to 25% of the total area without specific authorization of the Director.~~

~~SD 13.08 Depth of Cover – The top of the leaching chambers shall be installed at an elevation to provide a minimum cover of 1.5 feet to a maximum cover of 3.5 feet over the invert of the distribution lines.~~***[Moved to Rule 32.13]***

## RULE 35. LARGE OWTS REQUIREMENTS

***Horizontal setback distances have been increased for large systems, refer to Rule 22.***

35.1 Applicability- Large OWTSs defined below shall comply with all other applicable provisions of these Rules in addition to the requirements in this Rule 35. A large OWTS shall be any OWTS designed, installed or operated that meets any of the following:

35.1.1 Any single OWTS designed to treat five thousand (5,000) gallons or more per day;

35.1.2 Multiple OWTSs for any project on one or more parcels of land, excluding residential subdivisions, where the total design flow for the project is five thousand (5,000) gallons or more per day; or

35.1.3 Multiple OWTSs serving more than one (1) unit in a residential subdivision, provided that the total design flow of these OWTSs, each serving more than one unit, is five thousand (5000) gallons or more per day.

35.2 Impact Analysis -- In addition to the required soil evaluation, applicants for an OWTS that meet the requirement of large OWTSs and where the groundwater is classified GAA or GA in accordance with the DEM "Rules and Regulations for Groundwater Quality" shall be required to demonstrate that the proposed disposal site is capable of accepting and transmitting effluent at the proposed application rate without adverse impact to groundwater or surface water. Such analysis shall include, but not necessarily be limited to, modeling of nitrate concentrations in groundwater downgradient of the OWTS at any compliance point defined as the property boundary, drinking water well, or other sensitive receptor as determined by the Director. This compliance point may extend downgradient beyond the applicant's property line if the adjacent property is designated as a groundwater discharge zone in accordance with the DEM "Rules and Regulations for Groundwater Quality." The nitrate concentration modeling shall be done in accordance with the following:

35.2.1 For a single OWTS designed to treat five thousand (5,000) gallons or more per day (Rule 35.1.1), the applicant shall conduct a nitrate impact analysis that models a contaminant plume emanating from the OWTS;

35.2.2 For large OWTS defined pursuant to Rules 35.1.2 and 35.1.3 where one or more of the OWTSs is designed to treat one thousand (1,000) gallons or more per day but less than five thousand (5,000) gallons per day, the nitrate impact analysis may use the entire project site for nitrate dilution modeling unless the Director requires a nitrate impact analysis that models a contaminant plume emanating from any of the OWTSs; and

35.2.3 For large OWTS defined pursuant to Rules 35.1.2 and 35.1.3 where all of the OWTSs are designed to treat less than one thousand (1,000) gallons per day, the nitrate impact analysis may utilize the entire project site for nitrate dilution modeling.

35.3 Preliminary Report - Prior to or concurrent with preparation of detailed plans and specifications for a large OWTS, a preliminary report, describing the suitability of the site, and nature and scope of the project shall be submitted in addition to the data requirements of Rule 18. The preliminary report shall include:

35.3.1 Soil evaluation, where required by Rule 17;

35.3.2 Description of the OWTS with preliminary plans and specifications;

35.3.3 Characteristics of the wastewater;

35.3.4 Groundwater mounding calculations for any of the component leachfields that are sized for a design flow of five thousand (5000) gallons per day or greater;

35.3.5 Impact analysis required in Rule 35.2;

35.3.6 Construction materials; and

35.3.7 Schedule for phased development.

35.4 Final Report -- Complete plans and specifications shall be submitted following approval of preliminary plans to include:

35.4.1 Detailed plans and specifications;

35.4.2 Plan of Construction; and

35.4.3 Plan for operation and maintenance of the OWTS including qualifications of those responsible for maintenance and long-term agreements for maintenance. Such plan shall specify frequency of monitoring and performance inspections and shall include routine maintenance logs needed for proper operation of the OWTS.

***[Rule 35.3 and 35.4 partially from SD 19.02.1 Large systems in coastal/Narrow River critical areas]***

35.5 Groundwater Monitoring- Groundwater monitoring for nitrate and other possible contaminants, at a frequency to be determined by the Director, may be a required condition of the permit approval. Pursuant to the DEM "Rules and Regulations for Groundwater Quality", the Department may require that actions be taken by the applicant when concentrations of nitrate in the groundwater at the point of compliance exceed the preventive action limit of five (5) mg/l.

~~SD 14.00 Privies, Chemical Toilets, Humus Toilets, Incinerator Type, and Other Alternative Methods~~

~~SD 14.01 Acceptability - The installation of a privy or chemical type toilet will be approved only for special use (i.e. where a convention individual sewage disposal system is neither practical nor feasible) when a septic tank and leaching system cannot be installed. A humus or incinerator type toilet may be approved for any use where a septic tank and leaching system can be installed.~~

~~SD 14.02 Location - The location of a privy shall meet the requirements of Section SD 3.05.~~

~~SD 14.03 Construction - A privy shall have a self-closing seat cover, and a fly-tight valve and superstructures. A screened vent shall extend from the vault to the atmosphere.~~

SD 14.04 Maintenance - When a privy vault becomes filled to within two feet of the surface of the ground, it shall be cleaned and the contents disposed of in a sanitary manner, or it shall be covered with clean compacted earth to a depth not less than two feet.

***[Humus Toilets addressed in Rule 36]***

SD 14.05 Humus Toilets - Humus toilets used for the carriage of excreta shall meet the following requirements for construction, location and use, unless otherwise approved by the director. Separate subsurface sewage disposal facilities shall be provided for the disposal of any liquid wastes from sinks, tubs, showers and laundry facilities and designed on 80 percent of the normal daily average flow. Sufficient land area shall be provided to expand the subsurface leaching area to accommodate 100 percent of the normal daily design flow.

(a) Large Capacity Composting Toilets

(1) Large capacity composting toilets shall have separate receiving, composting and storage compartments, arranged so that the contents are moved from one compartment to another without spillage, or escape of odors within the dwelling. No large capacity composting toilets shall have an interior volume of less than 64 cubic feet. All toilet waste shall be deposited in the receiving chamber, which shall be furnished with a tight self-closing toilet lid. Food waste or other materials necessary to the composting action shall be deposited in the composting compartment through a separate opening with a tight fitting lid. The final composting material shall be removed from the storage compartment through a cleanout opening fitted with a tight door or lid. The cleanout shall not be located in a food storage or preparation area. The receiving and composting compartments shall be connected to the outside atmosphere by a screened vent. The vent shall be a minimum of six inches in diameter and shall extend at least twenty feet above the openings in the receiving and composting compartments, unless mechanical ventilation is provided. Air inlets shall be connected to the storage compartment only, and shall be screened.

(2) The Director may approve the use of a large capacity composting toilet for any single family residential building where application is made by the owner, and the soil and groundwater table on the lot on which the building will be located is tested by a registered professional engineer or registered land surveyor and found suitable by the director for a subsurface sewage disposal system.

(3) All waste removed from large capacity composting toilets shall be disposed of by burial or other means approved by the Director.

(b) Heat Assisted Composting Toilets

(1) Heat assisted composting toilets shall have a single compartment furnished with a tight self-closing toilet lid. The compartment shall be connected to the outside atmosphere by a screened vent. There shall be a mechanical ventilation fan arranged to control the humidity in the compartment and provide positive venting of odors to the outside atmosphere at all times. A heating unit shall be provided to maintain temperature in the optimum range for composting.

(2) The director may approve the use of heat assisted composting toilets for any single family residential building where application is made by the owner, and the soil and groundwater table on the lot on which the building will be located is tested by a registered professional engineer or registered land surveyor and found suitable by the director for a subsurface sewage disposal system.

~~(3) All wastes removed from heat assisted composting toilets shall be disposed of by burial or other means approved by the director.~~

***[SD 14.06 I/A Technology moved to Rule 37]***

~~SD 14.07 Commercial and Industrial Wastes - Where an individual sewage disposal system is approved for disposal of sanitary wastewater from commercial or industrial uses, the Director may require the applicant to obtain an approval from the UIC Program if in the opinion of the Director, there is a reasonable risk that materials used in commercial or industrial processing may be discharged to the system.~~***[Moved to Applicability Section Rule 5.1]***

## 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. 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.

36.2 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 are directed to this leachfield, the leachfield must be designed for one hundred percent (100%) of the daily design flow.

36.3 Residuals- Residuals or compost produced by alternative toilets may be buried on site. Residuals shall not be applied to food crops.

## RULE 37. ALTERNATIVE OR EXPERIMENTAL TECHNOLOGY

37.1 ~~SD 14.06 Innovative or Alternative Technology Approval Procedure -~~ No person shall submit an OWTS design application incorporating an ~~construct, alter or install any innovative or~~ alternative or experimental component or technology for ~~sewage disposal~~ wastewater treatment unless such technology has been placed on the Department's approved ~~Innovative or~~ Alternative or Experimental Technology List. ~~In reviewing any request for approval of an innovative or alternative technology, the protection of the public health and the environment shall be given priority over all other considerations. The Director has the right to waive any of the following requirements of this section, provided that the waiver does not compromise the protection of the public health and the environment.~~

~~SD14.06(a) Administrative Procedure~~

37.2 ~~(1)~~ Administrative- The Department shall:

37.2.1 ~~(A)~~ Maintain a list of all the approved ~~Innovative or~~ Alternative or Experimental technologies and all approved guidance documents~~.~~;

37.2.2 ~~(B)~~ Charge fees to cover the cost of administering the Alternative or Experimental approval procedure, and reviewing, monitoring and tracking the performance of ~~systems~~ alternative or experimental technologies; and ~~under the innovative or alternative approval procedure~~.

37.2.3 ~~(C)~~ Have the authority to remove any approved ~~innovative or~~ 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 ~~regulations~~ Rules, the approval letter or the approved guidance document.

37.3 ~~SD14.06(b)~~ Application Procedure -- ~~for Placement on the Department Approved Innovative or Alternative Technology List~~ ~~The applicant shall submit a complete application package. This includes a proper application,~~ 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. ~~(1) For purposes of submittal under the Innovative or Alternative Technology procedures, the applicant shall state whether the innovative or alternative technology proposed is: an Alternative System or Technology Class One or Class Two; System Component Class One or Class Two; or an Experimental System.~~

***[SD 14.01(b)(2) moved to Rule 37.7 "Review and Approval"]***

37.4 ~~(1)~~ Alternative ~~System or~~ Technology Evaluation Criteria - The Director may approve an alternative ~~system~~ OWTS or technology if it meets the following criteria:

37.4.1 ~~(A)~~ Class One:

(A) ~~(i)~~ The applicant provides at least ~~five~~ four (4) consecutive years of performance data per installation for no fewer than ten (10) installations with data collected no less frequently than quarterly that ~~which~~ demonstrates that department standards are met; and

(B) ~~(ii)~~ The applicant demonstrates that the ~~system~~ technology has been approved and utilized successfully for at least ~~five~~ four (4) consecutive years in Rhode Island with no fewer than ten (10) installations or at least four (4) consecutive years in at least three other jurisdictions with no fewer than ten (10) installations in each jurisdiction.

37.4.2 ~~(B)~~ Class Two:

(A) ~~(i)~~ The applicant provides at least two (2) consecutive years of performance data per installation for no fewer than ten (10) installations with data collected no less frequently than quarterly, that documents that Department standards are met; ~~and~~

(B) ~~(ii)~~ The applicant demonstrates a theory or applied research; and

(C) ~~(iii)~~ The applicant demonstrates that the ~~system~~ technology has been approved and utilized successfully for at least two (2) consecutive years in Rhode Island or at least two (2) consecutive years in another jurisdiction with no fewer than ten (10) installations in each jurisdiction.

37.4.3 ~~(C)~~ Only those alternative ~~systems~~ technologies that ~~which~~ have been approved and are on the approved ~~Innovative or~~ Alternative or Experimental Technology List shall be permitted by the Director.

37.5 ~~(2) System~~ Alternative OWTS Component Evaluation Criteria - The Director may approve ~~a system~~ an Alternative OWTS Component if it meets the following criteria:

37.5.1 ~~(A)~~ Class One:

(A) ~~(i)~~ The applicant documents that applicable manufacturer's and material standards are met;

(B) The applicant provides at least two (2) consecutive years of performance data for no fewer than ten (10) installations ~~which~~ that demonstrates Department standards are met, if applicable; and

(C) ~~(ii)~~ The applicant demonstrates that the component~~s have~~ has been approved and utilized successfully for at least two (2) consecutive years in Rhode Island or at least two (2) years in at least three (3) other jurisdictions for no fewer than ten (10) installations in each jurisdiction.

37.5.2 ~~(B)~~ Class Two:

(A) ~~(i)~~ The applicant documents that applicable manufacturer's and material standards are met;

(B) The applicant provides one ~~to two consecutive years~~ year of performance data for no fewer than ten (10) installations that demonstrates Department standards are met, if applicable;

(C) ~~(ii)~~ The applicant demonstrates a theory or applied research; and

(D) ~~(iii)~~ The applicant demonstrates that the ~~system~~ component has been approved ~~for use~~ and utilized successfully for a minimum of one (1) year in Rhode Island or in at least one (1) other jurisdiction with no fewer than ten (10) installations. ~~and has performed successfully for a minimum of one year.~~

37.5.3 ~~(C)~~ Only those ~~system~~ Alternative OWTS components that have been approved and are on the approved ~~Innovative or~~ Alternative or Experimental Technology List shall be permitted by the Director.

37.6 ~~(3)~~ Experimental ~~System or~~ Technology Evaluation Criteria

~~(A) Persons submitting an Experimental System or Technology shall submit a written proposal to the Department for review and approval. This proposal shall follow the format outlined in the Department's Application for Innovative or Alternative Technology Approval Procedure - Experimental System or Technology.~~

37.6.1 ~~(B)~~ Experimental ~~System or~~ Technology applicants shall propose at least three (3) sites and no more than ten (10) sites where the technology will be applied. The Director reserves the right to waive this requirement for multi-family or commercial ~~systems~~ OWTSs.

37.6.2 ~~(C)~~ The Director may approve an Experimental ~~system~~ Technology if it meets the following criteria:

(A) ~~(i)~~ The applicant shall demonstrate that the ~~system~~ Experimental Technology will work in practice and in theory;

(B) ~~(ii)~~ Each location shall provide a suitable area for the installation of ~~a conventional system~~ an OWTS permitted under these Rules, or ~~a system~~ an OWTS on the Department's approved Alternative ~~System or~~ Technology Class One~~.~~ ~~;~~

(C) ~~(iii)~~ The applicant proposing the Experimental ~~system~~Technology, the property owner and subsequent purchasers shall submit a signed statement to the Director agreeing to abandon the Experimental ~~system~~ Technology and install ~~a conventional~~ an OWTS permitted under these Rules, or a Department approved Alternative ~~System~~ OWTS Class One if the Experimental ~~system(s)~~ Technology fails to perform as designed~~.~~ ~~;~~ and

(D) ~~(iv)~~ The applicant submits documentation securing a bond or other form of financial security acceptable to the Director, to replace the entire ~~system~~ OWTS in the event it fails to perform as designed.

***[SD 14.06(c)(4) Moved to Rule 37.8.1]***

~~(4) The Director may require the following:~~

~~(A) Monitoring or sampling of any system or system component; or~~

~~(B) Submittal of evaluation reports when a system or system component's performance is evaluated; or~~

~~(C) An annual report of all system or component installations and failures.~~

37.7 Review and Approval - ~~SD 14.06(b)(2)~~

37.7.1- The Director shall review the application and respond as follows:

(A) Approve or deny the application as submitted; ~~or~~

(B) Recommend resubmission of the application with modifications as proposed by the Director; ~~or~~

(C) Recommend resubmission and reclassification under ~~subsections SD 14.06(c)~~ Rules 37.4 –37.6; or

(D) Recommend both resubmission of the application with modifications and reclassification.

37.7.2 Technical Review- ~~SD14.06(c) Evaluation Criteria The Director shall evaluate all innovative or alternative technologies submitted under SD 14.06. (e) Individual Sewage Disposal System Technical Review Committee (ISDS TRC)~~ The Department shall ~~(1) establish a~~ an Onsite Wastewater Treatment System Technical Review Committee (OWTS TRC) ~~committee~~ consisting of individuals with technical or scientific knowledge applicable to ~~ISDS~~ OWTS whose purpose is to provide technical advice to the Director.~~; and (2)~~ The Department shall select members for the ~~ISDS~~ OWTS Technical Review Committee from one or more of the following organizations: ~~(A)~~ Department of Environmental Management; ~~(B)~~ CRMC or other state agencies; ~~(C)~~ University/college academic communities; ~~(D) ISDS~~ OWTS design and installation firms; ~~(E)~~ Environmental organizations; ~~(F)~~ Public utilities; ~~(G) Sewage system or related product manufacturers~~ Builders; ~~(H)~~ Local municipalities; and ~~(I)~~ Other parties. ***[from SD 14.06(e)(2)]*** At the request of the Director, the ~~ISDS~~ OWTS Technical Review Committee~~, in accordance with SD 14.06(e),~~ may review the application and submit recommendations on the proposed Alternative ~~System and~~ Technology, ~~System~~ Alternative OWTS Component or Experimental ~~System~~ Technology. Recommendations from the ~~ISDS~~ OWTS Technical Review Committee shall be submitted to the Director within ninety (90) days from the application date. ***[from SD 14.06(c)]***

37.7.3 ~~SD 14.06(d)(3)~~ The Director may establish special conditions as necessary to ensure adequate protection of the public health and the environment in its approval of ~~Innovative or~~ alternative or experimental technologies. Such conditions may include without limitations: special qualification requirements for designers and installers; specification of site characteristics; or monitoring, testing and reporting requirements.

37.7.4 If the Alternative or Experimental Technology is approved by the Director, the applicant shall submit a finalized guidance document to the Director detailing all design, installation, operation and maintenance requirements. Once the guidance document has been approved, the Alternative or Experimental Technology shall be placed on the Department's list. ~~SD 14.06(d)(1)~~ The Department shall maintain the approved ~~Innovative or~~ Alternative or Experimental Technology List and maintain all appropriate guidance documents for the following:

(A) ~~Innovative or~~ Alternative or Experimental ~~Systems or~~ Technologies that are approved by the Director; and

(B) ~~System~~ Alternative OWTS Components that are approved by the Director.

37.8 ~~SD14.06(d) Approval~~Approved Alternative or Experimental Technologies

***[SD 14.06(d)(3) moved to Rule 37.7.3]***

***[SD 14.06(d)(1) moved to Rule 37.7.4]***

~~(2) The process by which an Innovative or Alternative Technology shall be placed on the lists referred to in SD 14.06(d)(1)(A) and (B) above shall be as follows:~~

~~(A) The proponent of such Innovative or Alternative Technology shall submit an application on the form required by the Department (Application for Innovative or Alternative Technology Approval Procedure) and with all data as required in SD 14.06 to the Division of Groundwater and ISDS for approval of the Innovative or Alternative Technology.~~ ***[Addressed in Rule 37.3]***

~~(B) If the Innovative or Alternative Technology is approved by the Director, the applicant shall submit a finalized guidance document to the Director detailing all design, installation, operation and maintenance requirements. Once the guidance document has been approved, the Innovative or Alternative Technology shall be placed on the Department's list.~~ ***[Moved to Rule 37.7.4]***

37.8.1 The Director may require any of the following: ***[From SD 14.06(c)(4)]***

(A) Monitoring or sampling of any OWTS or OWTS component;

(B) Submittal of evaluation reports when an OWTS or OWTS component's performance is evaluated; or

(C) An annual report of all OWTS or component installations, failures and corrective action taken.

37.8.2 ~~(5)~~ Persons desiring to ~~alter~~ modify an approved ~~innovative or~~ Alternative or Experimental Technology currently on the approved Alternative and Experimental Technology List shall make the request in writing and submit the following to the Department:

(A) Documentation demonstrating the applicant's compliance with the terms or conditions of the original approval of the ~~innovative or~~ Alternative or Experimental Technology; and

(B) Required fees, in accordance with ~~section SD 23.00(j)(1)(2)or(3)~~ Rule 50 for ~~innovative or~~ Alternative or Experimental Technology.

37.8.3 ~~(6)~~ In order to remain on the Department's approved Alternative and Experimental Technology List, the applicant shall submit:

(A) Application for renewal ninety (90) days before expiration of the certification; ~~An annual report that includes installations (to include name, address, application number, system installed), failures, reasons for failures, monitoring data when required, and any other information deemed necessary by the Director; and~~

(B) ~~Required~~ Renewal fee in accordance with Rule 50; and ~~s. (**NOTE**: Applicants obtaining an Innovative or Alternative Technology Class One Departmental Approval shall not be required to submit an annual renewal fee in accordance with SD 23.00(j).~~

(C) Documentation that the applicant is in compliance with the requirements of these Rules and in compliance with the expiring certification.

37.9 OWTS Applications Utilizing Alternative and Experimental Technology- ~~(d)(4)~~ Once an ~~innovative or~~ Alternative or Experimental Technology application is approved, individual applications to design, construct, alter, or install a Department approved ~~innovative or~~ Alternative or Experimental Technology may be submitted to the ~~Division of Groundwater and ISDS, ISDS~~ OWTS Section of the Office of Water Resources.

37.9.1 ~~(A)~~ All ~~owners~~ applicants obtaining an ~~ISDS~~ OWTS ~~application approval~~ permit for a Department approved ~~innovative or~~ Alternative or Experimental Technology requiring special operation and maintenance procedures ~~or an experimental system~~ shall:

(A) ~~(i)~~ File a copy of the initially executed contract for the ~~approved permit for the innovative or alternative technology, the requirements for the system's~~ OWTS's operation and maintenance, (including all required maintenance procedures and monitoring schedules~~,~~) with the land evidence records of the municipality in which the ~~ISDS~~ OWTS is located; and

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

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

***[SD 14.06(e)(2) moved to Rule 37.7.2 "Technical Review"]***

~~PROPOSED STANDARDS FOR SITING AND DESIGN OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS IN CRITICAL RESOURCE AREAS~~

## RULE 38. CRITICAL RESOURCE AREAS -- GENERAL

~~SD 19.00 Critical Resources~~

38.1 ~~19.00(a) Certain~~ Aareas 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 ~~sewage disposal systems.~~OWTSs. ~~and which~~ 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 ~~and/~~or public recreation area.

38.2 ~~19.00(b)~~ Standards for siting and design of ~~individual sewage disposal systems~~ OWTSs in ~~of this section~~ these Rules 38, 39, and 40 are established to enhance the ~~wastewater~~ treatment capability of ~~individual sewage disposal systems~~ OWTSs and thereby reduce the potential for adverse effects to critical resources. In areas designated as critical resources, the standards of ~~this section~~ Rules 38, 39, and 40 shall supersede minimum standards wherever applicable.

38.3 Designation- ~~19.00(c)~~ Areas designated as critical resource~~s include:~~ ~~(See Appendix for figures.)~~ 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 attempt to demonstrate to the Director by a preponderance of clear and scientifically valid evidence that the delineation in question is incorrect. If the applicant claims that the groundwater flow from the OWTS does not recharge the critical resource area, the applicant may submit a groundwater flow study that demonstrates to the Director by a preponderance of clear and scientifically valid evidence that groundwater does not recharge the critical resource.

38.3.1 Salt Pond Critical Resource Area: ~~(1) The south shore coastal ponds of Charlestown, South Kingstown and Westerly, with their associated groundwater recharge zone as determined by the Coastal Resources Management Council SAM plan or more accurate survey of surface or groundwater flow from the disposal area, as shown in Figure 2 and listed below:~~ 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 south shore salt ponds 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. ***[Note Pt. Judith Pond not previously listed].***

~~Trustom Pond Cards Pond~~

~~Potter Pond Ninigret Pond~~

~~Quonochontaug Pond Winnapaug Pond~~

~~Green Hill Pond Maschaug Pond~~

38.3.2 Narrow River Critical Resource Area: ~~(3)~~ The Narrow River ~~and its~~ 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 ~~as shown in Figure 4~~.

38.3.3 ~~(2) The Scituate Reservoir and its watershed as determined by the Providence Water Supply Board, as shown in Figure 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- ~~19.00(d)~~ 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 ~~individual sewage disposal system~~ 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 ~~SD 19.01~~ OWTS Applications for Alteration~~s~~ to a Structure in Critical Resource Areas – An OWTS Application for Alteration to a Structure ~~No alteration of a building served by an individual sewage disposal system shall be approved in a critical area~~ which will result in an increase in flow or change in the type of ~~wastewater~~ wastewater within a Critical Resource Area may be approved only when the OWTS satisfies ~~discharged unless after such improvements to the building the lot satisfies, to the maximum extent possible,~~ all design and siting requirements of the ~~regulations~~ Rules in effect at the time of permit application~~. If the lot does not satisfy all current requirements, the alteration may only be approved if it adds no more than the equivalent of 1 bedroom beyond the number of rooms existing at the time the individual sewage disposal system was installed and does not reduce the area of the lot available for the individual sewage disposal system.~~

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

~~SD 19.02 Special Requirements for OWTS in the Coastal 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- Nitrogen reducing technology shall be required for all OWTS Applications for New Building Construction, all OWTS Applications for Alterations to a Structure, and OWTS Applications for Repair that include leachfield expansion or replacement in the Salt Pond and Narrow River critical resource areas. Applicants must still meet all CRMC established density and other requirements where applicable.

39.3 ~~SD 19.02.4~~ Location~~ – General~~ - The horizontal distances between ~~t~~he parts of any ~~individual sewage disposal system~~ OWTS and the feature requiring a setback shall not be less than those shown in Table 22.1 and 22.3. ~~19.1. Where a minimum distance is not specified, the requirements of SD 3.05 shall apply.~~

~~SD 19.02.5 Site Suitability - General~~

39.4 Site Suitability -- ~~(a) The installation of an individual sewage disposal system~~ OWTS ~~is prohibited in any area~~ shall not be located where the seasonal high groundwater table is within five (5) feet of the original ground surface, or where ~~an impervious~~ a restrictive layer or bedrock is within seven (7) feet of the original ground surface, except ~~under the following conditions:~~ 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 occur:

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 all of the following conditions: ***[From SD 19.02.5(b)]***

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

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

(C) 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 or any floodplain (excluding flooding caused by coastal storm surges).

~~19.02.5(b) Areas With Limiting Conditions - Unless specifically prohibited above, approval may be granted in areas where the ground water table is within 2 to 5 feet of the original ground surface, or where an impervious layer is within 4 to 7 feet of the original ground surface if the requirements of SD 15.02(b) and the following are met:~~

~~1) The minimum distances of Tables 3.1 and 19.1 shall be maintained. In addition, A 25 foot distance shall be maintained from the disposal trench, bed or flow diffuser to any area where the ground water table is less than two (2) feet to the original ground surface, or where ledge rock is less than four (4) feet to the original ground, or any floodplain.~~

~~(2) Large systems and seepage pits shall not be permitted in areas with limiting conditions.~~

~~SD 19.02.6 Sewage Seepage Systems - General~~

39.5 OWTS Separation Distance to Groundwater- ~~(a) Groundwater~~ The bottom of the ~~seepage system~~ stone underlying the leachfield shall be at least four (4) feet above the ~~maximum elevation of 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.

~~(b) Impervious Material - The bottom of the seepage system shall be at least six (6) feet above impervious formations. Excavating into impervious material is prohibited unless otherwise approved by the Director.~~

~~SD 19.02.1 Large Systems~~

***[Large systems treated the same statewide -- Rule 35]***

~~(a) Definition - A large system shall be considered any individual sewage disposal system designed, installed or operated as a single unit to treat more than 2,000 gallons per day or any combination of systems owned or controlled by a common owner and having a total design capacity of 2,000 gallons per day or more in a critical area.~~

~~(b) Siting and Design~~

~~(1) Large systems shall not be permitted where the ground water is within 5 feet of the original ground surface or where an impervious layer is within 7 feet of the original ground surface.~~

~~(2) Large systems shall not be permitted in highly permeable soils (perc rate faster than 3 minutes per inch) except where the site evaluation and impact assessment has demonstrated that ground water and surface water quality will be protected.~~

~~(3) Horizontal separation distances from large systems to wells and surface waters shall be three (3) times the minimum distances required of SD 3.05 and SD 19.02.4.~~

~~(4) Both the proposed disposal area and the alternate area shall be evaluated by soil test pits, groundwater elevation and percolation tests.~~

~~(c) Environmental Impact Assessment~~

~~(1) Determination of site suitability for large systems shall be conducted by a professional engineer registered in the State of Rhode Island.~~

~~(2) Applicants for large systems shall be required to demonstrate the capability of the proposed disposal site to accept and transmit effluent at the proposed application rate without failure or adverse effect to ground/surface water. Such analysis shall include the following:~~

~~(A) Complete site evaluation, including results of soil morphological analysis, of percolation tests, record of ground water monitoring, and location of any water course, wetlands, and any existing or proposed private well or drain within 500 feet and any existing or proposed public well within 3000 feet of the proposed disposal system; and~~

~~(B) Hydrogeologic assessment of the disposal area considering potential of pollutant loading to groundwater below the system.~~

~~(d) Preliminary and Final Reports~~

~~(1) Prior to or concurrent with preparation of detailed plans and specifications for new construction, repair or alteration of a large system, a preliminary report, describing the suitability of the site, and nature and scope of the project shall be submitted in addition to the data requirements of SD 2.02. The preliminary report shall include:~~

~~(A) Site evaluation;~~

~~(B) Description of the system with preliminary plans and specifications;~~

~~(C) Volume and rate of sewage flow;~~

~~(D) Biological and chemical wastewater characteristics;~~

~~(E) Construction materials; and~~

~~(F) Schedule for phase development.~~

~~(2) Complete plans and specifications shall be submitted following approval of preliminary plans to include:~~

~~(A) Detailed plans and specifications;~~

~~(B) Plan of Construction; and~~

~~(C) Plan for operation and maintenance of the system including qualifications of those responsible for maintenance and long-term agreements for maintenance. Such plan shall fully describe the treatment and disposal system; specify frequency of monitoring and inspection of system performance; and include routine maintenance logs needed for proper operation of the system.~~

***[Following evaluation of subdivisions no longer necessary, since all denite]***

~~SD 19.02.2 Subdivisions - Assessment of impact to groundwater, freshwater and coastal wetlands in critical resource areas. (a) An assessment of the impact of the operation of sewage disposal systems on individual lots within the subdivision shall be required where the total combined flow from each system is 2,700 gallons per day or greater. Such assessment shall include:~~

~~An evaluation of the effect of estimated pollutant loadings from the sewage disposal system to use of ground and surface waters including ability of wetlands to support indigenous animal and plant life.~~

~~(b) Analysis of the hydraulic characteristics of the site may be required for subdivisions where the total combined flow is 2,700 gallons per day or greater and where, in the opinion of the director, the density of development and/or limiting conditions limit the ability of the soil to accept and transmit effluent.~~

~~SD 19.02.3 Coordination With The Groundwater Section~~

~~(a) Application for Large System (SD 19.02.1) and subdivisions (SD 19.02.2) shall be subject to a review by the Department of Environmental Management Groundwater Section.~~

~~(b) Application for approval of plans where required, site suitability, for large systems and subdivisions shall be filed with the Individual Sewage Disposal System Section, accompanied by all required information, including a geohydrologic analysis of the site and assessment of impact to ground and/or surface waters.~~

~~(c) The Individual Sewage Disposal System Section shall forward a complete application with all required plans and information to the Groundwater Section for a determination of conformance with groundwater quality standards.~~

(d) The Groundwater Section shall make their findings to the Individual Sewage Disposal System Section, with a recommendation for denial or approval of the application, specifying any stipulations to be placed upon the permit.

(e) The Individual Sewage Disposal System Section shall complete review of the application and, considering the findings of the Groundwater Section, issue or deny the permit.

SD 19.03 Scituate Reservoir Watershed - No system within the Scituate Reservoir Watershed shall be permitted in locations where the groundwater table is within 2 feet from the original ground surface. ***[Addressed in Rule 32.4 for all systems]*** Subdrains to lower the water table are not permitted. All systems designed in this watershed must maintain a separation of at least 4 feet from the bottom of the system to the groundwater table as determined in SD 17.01.***[Moved to Rule 40]***

TABLE 19.1

MINIMUM DISTANCES FOR CRITICAL AREAS
INCLUDING SURFACE WATER RESERVOIRS

***[Minimum Setback Distances are addressed in Rule 22]***

| FEATURES REQUIRING SETBACK (FT) | DISTANCE FROM ANY SYSTEM COMPONENT |
|---|---|
| Coastal Pond and Narrow River shoreline features and tributaries including storm and subsurface drains directly discharging thereto | 150 |
| Other watercourse not directly connected | 100 |
| Point of drainage discharge to any watercourse | 50 |
| Subsurface drains designed, or having the potential, to lower the groundwater in the vicinity of the leachfield | |
| (a) Upgradient of leachfield | 25* |
| (b) Downgradient of leachfield | 75* |
| Private well where individual sewage disposal system is located in permeable soil (faster than 3 minutes per inch perc rate) | 150 |
| All watersheds to surface water reservoirs including perennial streams discharging there to and any storm or subsurface drains directly discharging thereto | 200 |

*NOTE: Applies to disposal trench, bed or flow diffusers only. Also, a minimum separation of 50 feet shall be maintained from the point of drainage discharge to any watercourse.

## RULE 40. REQUIREMENTS IN DRINKING WATER SUPPLY WATERSHEDS

***[In part from SD 19.03]***

40.1 For OWTSs located in drinking water supply watersheds as defined in Rule 38.3.3, the standards established in Rule 38 and in this Rule 40 shall supersede minimum standards established elsewhere in these Rules.

40.2 Subsurface Drains- Subsurface drains to lower the seasonal high groundwater table are not permitted.

40.3 OWTS Separation Distance to Groundwater- The bottom of the stone underlying the leachfield shall be at least 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.

40.4 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 22.2.

## RULE 41. NITROGEN LOADING IN AREAS OF ON-SITE DRINKING WATER WELLS

41.1 Applicability- For all OWTS applications for New Building Construction and for Alterations to a Structure, the design flow for an OWTS shall not exceed three hundred forty five (345) gallons per day per twenty thousand (20,000) square feet where the property utilizing the OWTS is served by an on-site drinking water well (public or private), except as provided for below in Rule 41.2. and Rule 41.3. The Director may require this standard to be met for OWTS Applications for Repair in areas where the groundwater is shown to exceed the Preventive Action Limit for nitrate of five (5) mg/l, pursuant to the DEM "Rules and Regulations for Groundwater Quality." The three hundred forty five (345) gallons per day per twenty thousand (20,000) square feet loading limitation is equivalent to approximately one-sixth (1/6) acre per bedroom. This Rule applies to all OWTS except those subject to the requirements of Rule 35. Applicants must still meet all CRMC established density and other requirements where applicable. Compliance with Rule 41 does not relieve applicants of the nitrogen reducing technology requirements in Rule 39.

41.2 Design Flow Calculation- The three hundred forty five (345) gallons per day per twenty thousand (20,000) square feet design limit may be exceeded for OWTSs utilizing nitrogen reducing technology. The allowed design flow with a nitrogen reducing technology is derived using Equation 41.2 or read from Table 41.2. For the purpose of Rule 41, there are no limits on the design flow of OWTSs with nitrogen reducing technology that are approved by the Director as meeting the nitrogen standard of ten (10) mg/l.

Equation 41.2 Nitrogen Loading

$$\frac{1}{1-\left(\frac{\%\ \text{Nitrogen Removal}}{100}\right)} \times 345\ \text{gpd}$$

Table 41.2 Nitrogen Loading
***[Table 41.2 has not been double underlined to enhance readability]***

| Nitrogen Removal (Percentage) | Maximum Design Flow per 20,000 sq. ft. (gpd) |
|---|---|
| 33 | 515 |
| 50 | 690 |
| 66 | 1015 |
| 75 | 1380 |

41.3 Exceedance of Design Flow Calculation- The three hundred forty five (345) gallons per day per twenty thousand (20,000) square feet design limit or other design limit utilizing nitrogen reducing technologies pursuant to Rule 41.2 may be exceeded by the establishment of nitrogen credit land meeting the requirements of Rule 41.4 under the following circumstances:

41.3.1 For subdivisions – the design limit must be met over the entire area of the subdivision. This can be met by designating portions of the subdivision as nitrogen credit land.

41.3.2 For individual lots – the design limit can be calculated by establishing adjacent properties as nitrogen credit land with the consent of the property owner.

41.4 Nitrogen Credit Land – Nitrogen credit land cannot be designated on land that is already being used to meet the nitrogen loading requirements for an OWTS approved by the Director. Nitrogen credit land must be restricted by a deed restriction, conservation easement, or other appropriate legal instrument recorded in the municipal land evidence records such that:

41.4.1 Addition of nitrogen from wastewater discharge, nitrogenous fertilizer (synthetic or natural), and raising and grazing livestock is prohibited; and

41.4.2 Impervious surfaces, which reduce recharge, including paved streets, paved parking areas, and structures are prohibited.

## RULE 42. PERMIT EXPIRATION

~~SD 2.03~~

~~(a) No applications, plans or specifications shall be approved if based on field data which is more than five (5) years old, in accordance with Rhode Island General Laws Section 23-19.5-2, as amended and 2.02(g).~~
***[Addressed in Rule 15]***

42.1 Expiration of Permits for OWTS Applications for New Building Construction and OWTS Applications for Alteration to a Structure~~(b)~~ All permits for ~~new systems or alterations to existing systems~~ OWTSs for New Building Construction and OWTSs for Alteration to a Structure approved in accordance with ~~SD 2.01(b) or SD 2.01(c)~~ Rule 17 shall expire ~~as specified below:~~ five (5) years from the date of the issuance of the permit.

~~(1) Any currently valid permit as of October 1, 1998 shall expire on September 30, 2001;~~

~~(2) Any permit issued between October 1, 1998 and September 30, 1999 shall expire as follows:~~

~~(A) For applications submitted by a designer licensed in accordance with Section 25.00, the permit shall expire five (5) years from the date of the issuance of the permit; or~~

~~(B) For applications submitted by a person **not** licensed in accordance with Section 25.00, the permit shall expire on September 30, 2001.~~

~~(3) Any permit issued on or after October 1, 1999 shall expire five (5) years from the date of the issuance of the permit.~~

42.2 Expiration of Permit After Start of Construction- ~~(c)~~ Notwithstanding ~~SD 2.03(b)~~ Rule 42.1 ~~above~~, where a permit for ~~a new system~~ an OWTS for New Building Construction has been issued ~~to service new construction~~, and construction of the building foundation or ~~sewage disposal system~~ OWTS has begun, the applicant shall have ~~at least~~ one (1) year from the start of construction, within which to complete both the foundation and ~~system~~ OWTS. If the building foundation and ~~sewage disposal system~~ OWTS are not completed within one (1) year of the commencement of construction, the permit, including any variances or decisions issued through the variance process or by the Director, shall expire. The Director may waive this expiration requirement for good cause.

42.3 ~~(d)~~ Expiration of Permits ~~Relating to~~ For OWTSs Repairs ~~of Existing Systems~~ – All permits for repairs to ~~existing systems~~ OWTSs issued in accordance with ~~SD 2.01(d)~~ Rule 17.6 shall expire as follows:

42.3.1 ~~(1)~~ Where a permit for OWTS repair is issued following the property owner's receipt of a Notice of Violation issued by the Department, all repair work must be completed within the time periods set forth in the Notice of Violation; and

42.3.2 ~~(2)~~ In all other cases, permits for OWTS repair~~s~~ shall expire as specified in the permit itself. In no case shall any permit for a repair to an ~~existing system~~ OWTS be valid for more than one year from the date of issuance of the permit.

***[SD 2.03(e)below moved to Rule 20 Subdivisions]***

~~(e) Expiration of Certification of Subdivision Site Suitability – All data submitted in support of an Application for a Certification of Subdivision Site Suitability shall not be greater than five years old. Certifications of Site Suitability for a subdivision shall expire five years from the date of issuance, unless the subdivision has been platted or recorded as evidenced by the submission of a copy of the recorded subdivision plat map. After the five year period, certification may be obtained only by reapplying under the regulations in effect at the time of re-application. Once a subdivision has been platted or recorded, no further certification shall be required and all lots may proceed with the application process for their individual sewage disposal system in accordance with these regulations.~~

~~(1) In the event that there is any change in the configuration of any lot or road depicted in an approved Certification of Subdivision Site Suitability, the applicant shall submit revised subdivision layout plans to the Department for its review. If the changes to the subdivision are found to be substantial, the Director may order the applicant to apply for a new Certification of Subdivision Site Suitability based on the new plans.~~

~~(2) Whenever the configuration of any lot or road in a subdivision depicted in an approved Certification of Subdivision Site Suitability is altered so as to affect twenty-five (25%) percent or more of the original lots, a new Application for Certification of Subdivision Site Suitability shall be submitted.~~

42.4 ~~(f)~~ Expiration of Unconformed Installed Systems - ~~Existing sewage disposal systems~~ OWTSs that have been installed but not conformed, as of the effective date of these ~~amendments or regulations~~ Rules, because ~~they have not been connected to a building foundation~~ the building sewer has not been connected through the building foundation to the interior plumbing shall be reviewed on a case-by-case basis in accordance with the Rules ~~and regulations~~ in effect at the time of the system's installation.

***[SD 2.03(g) below moved to Rule 17.7]***

~~2.03(g) When the Department determines that an application is unacceptable for any reason, the application shall become void if:~~

~~(1) The applicant fails to rectify the deficiencies identified by the Department within one year of the date the "unacceptable notice" is forwarded to the applicant or the applicant's designer by the Department; and/or~~

~~(2) The applicant or the applicant's designer fails to notify the Director in writing of attempts to rectify the deficiencies within one year of the date the "unacceptable notice" is forwarded to the applicant or the applicant's designer; and/or~~

~~(3) The file remains inactive for one year.~~

~~Once the application is deemed void a new application with four (4) sets of plans and an application fee shall be required~~

## RULE 43. OWTS INSTALLATION

~~SD 2.05B System Installation for Applications Prepared by Designers Licensed in Accordance with Section 25.00~~

43.1 License Required- ~~SD 2.05B (a)~~ Installation, construction, alteration, or ~~reconstruction~~ repair of any ~~individual sewage disposal system~~ OWTS shall be performed by an installer licensed ~~under Chapter 5-56 of the General Laws of Rhode Island, as amended,~~ in accordance with Rule 13, or a master plumber licensed under Chapter 5-20 of the General Laws of Rhode Island, as amended. This requirement does not apply to an applicant installing, constructing, altering, or repairing an OWTS to serve a building the applicant occupies or will occupy as the applicant's intended permanent domicile, provided that the applicant has obtained written permission for that work and has obtained the Director's approval of the plans and specifications for that work prior to the start of any construction. ***[From RIGL 5-56-1]***

43.2 Responsibilities of a Licensed Installer – A licensed installer shall adhere to the following:

***[43.2.1 – 43.2.6 based on RIGL 5-56-7]***

43.2.1 Perform all work in compliance with approved plans and specifications only;

43.2.2 Report to the licensed designer discrepancies on an approved plan which the installer may note during construction;

43.2.3 Utilize only quality grade construction materials approved by the Director;

43.2.4 Utilize only the best construction techniques to provide for the best possible installations;

43.2.5 Work only under valid plans approved by the Director, and to commence work only after completely reviewing the entire approval including the application, the layout plans, all typical specification sheets, and other attachments;

43.2.6 Adhere to each and every term of approval as stipulated by the Director in his or her approval of the particular plan; and

43.2.7 ~~2.05B(b) If the installer encounters unanticipated conditions during construction~~ Stop construction and notify the licensed designer if unanticipated conditions are encountered ~~which~~ that indicate ~~that~~ the ~~system~~ OWTS cannot be installed in accordance with the ~~original~~ approved application, plan and specifications, or any terms and conditions contained therein.~~, he shall stop the construction and notify the licensed designer that is responsible for witnessing and inspecting the installation in accordance with SD 27.00(c).~~

**~~RESPONSIBILITIES OF CLASS I, II AND III LICENSED DESIGNERS~~**
~~SD 27.00~~

~~(a) Class I, II and III licensed designers shall design an ISDS for a site that is provided for in these regulations. The design shall be based on the information provided in the site evaluation report. This design shall be submitted to the Director in accordance with SD 2.01 and SD 2.02.~~

~~(b) If at any time the Class I, II, or III designer encounters conditions in the field that are not consistent with the information in the site evaluation report, and these conditions would have an impact on the siting, design, or operation of an ISDS, the Class I, II, or III designer shall stop work on the design or construction of the system and notify the Director.~~

~~(c) The licensed designer shall be responsible for witnessing and inspecting the installation of any ISDS which he/she has designed.~~
***~~[SD 27.00(a) moved to 17.2]~~***

43.3 ~~SD 27.00(c)~~ Responsibilities of a Licensed Designer- The licensed designer shall be responsible for witnessing and inspecting the installation of ~~any~~ the ~~ISDS~~ OWTS ~~which he/she~~ that the designer has designed. In no case shall the ~~person~~ individual witnessing and inspecting the installation of the ~~ISDS~~ OWTS be the licensed installer who installs the ~~system~~ OWTS, except for the repair of an ~~existing~~ ~~ISDS~~ OWTS. Any ~~person~~ individual assisting a licensed designer in witnessing and inspecting the installation of an ~~ISDS~~ OWTS must be an employee of the same business entity as the licensed designer, and such ~~person~~ individual must work under the licensed designer's direct supervision in respect to witnessing and inspecting the installation of the ~~ISDS~~ OWTS. The licensed designer shall be available to directly witness and inspect the system installation to resolve any instances of non-compliance, design conflicts resulting from changed conditions or other circumstances, or as may be requested by the Department. The licensed designer shall inform the owner, in writing, of any special conditions, operating requirements, or periodic maintenance needs associated with the installed OWTS.

43.4 Areas Served by Private Drinking Water Wells- ~~SD 27.00(f)~~ Prior to installation of an ~~ISDS~~ OWTS in areas served by private drinking water wells, the designer shall verify that conditions on site and adjacent to the site are the same as at the time of design approval, or have not changed in a manner that would affect the original design. If conditions have changed in a manner that would affect the original design, the designer shall notify the Department prior to installation of the ~~system~~ OWTS.

43.5 Notification to Department- ~~SD 27.00(g)~~ The designer shall notify the Department during normal business hours at least twenty-four (24) hours prior to the installation of any ~~ISDS~~ OWTS. The Department, at its discretion, may inspect any aspect of the installation.

43.6 Inspection- ~~SD 27.00(h)~~ The designer shall, at minimum, inspect and make measurements, where appropriate, of the following components and steps in the installation of the ~~ISDS~~ OWTS:

43.6.1 ~~(1)~~ The exposed bottom of the excavation for the leachfield;

43.6.2 ~~(2)~~ The size and condition of all structures such as the septic tank, ~~D-box~~ distribution box, ~~galleys,~~ flow diffusers, etc.;

43.6.3 ~~(3)~~ The elevation~~s~~ of all pipe inverts;

43.6.4 ~~(4)~~ All sand media and aggregate is in accordance with specifications and is placed in accordance with the design plan;

43.6.5 ~~(5)~~ Completed installation prior to covering;

43.6.6 ~~(6)~~ The type of backfill and that the backfill is properly placed and compacted;

43.6.7 ~~(7)~~ Final soil cover ~~including the 25-ft perimeter~~; and

43.6.8 ~~(8)~~ All horizontal setbacks, including from the building and any wells on-site or on abutting lots.

43.7 Unforeseen Conditions- ~~SD 27.00(i)~~ If conditions are encountered during construction which indicate that the ~~system~~ OWTS cannot be installed or is not installed in accordance with the permit, or any terms and conditions contained therein, the designer shall notify the Director as soon as possible, but no later than twenty-four (24) hours after discovery. The Department shall ~~issue~~ maintain written guidance on specifications for construction tolerances as well as conditions under which as-built plans and redesigned plans are required. The designer shall stop construction if conditions are such that a redesign is required. Notification is not required if all design elements are within the tolerances established by the Department through written guidance. In response to the designer's notification, the Director shall either:

43.7.1 ~~(1)~~ Authorize the designer to proceed with the work on-site and to provide appropriate documentation to the Department as may be required by the Director;

43.7.2 ~~(2)~~ Require the designer to submit as-built plans within ten (10) business days after the ~~ISDS~~ OWTS is installed to record changes that are in compliance with the standards in these ~~regulations~~ Rules, but which need to be documented; or

43.7.3 ~~(3)~~ Require the designer to submit redesigned plans and specifications to the Director for approval showing changes from the original approved application, plan and specifications.

43.8 Installation Verification- ~~SD 27.00(j)~~ The designer shall collect the information ~~below~~in Rules 43.8.1 - 43.8.4 that can be used to verify that the installation of the ~~ISDS~~ OWTS was performed as specified~~:~~. ~~SD 27.00(k)~~ The designer shall keep ~~the~~this information ~~required above in SD 27.00(j)~~ on file for a minimum of ten (10) years from the date of the Certificate of Construction in ~~SD 27.00(l)~~Rule 44 ~~below~~. At the Department's request, the designer shall make this information available for review.

43.8.1 ~~(1)~~ Daily inspection report (weather conditions, ~~persons~~ individuals on-site, work accomplished, and other information customarily included in inspection reports);

43.8.2 ~~(2)~~ A minimum of two photographs of the ~~system~~ OWTS being installed, which must include the bottom bed and the completed system prior to covering;

43.8.3 ~~(3)~~ List of all materials used, their source, and the dates delivered to the site; and

43.8.4 ~~(4)~~ Product specification sheets, if different from those specified in the approved design.

43.9 Replacement Designer- ~~SD 27.00(d) A property owner~~ An applicant may apply to the Director for approval to have a licensed designer, other than the one that designed the ~~ISDS~~ OWTS, be responsible for witnessing and inspecting the installation under the conditions specified in ~~(1) or (2)~~ Rules 43.**9**.1 and 43.**9**.2 ~~below~~. The Director may grant the approval provided the replacement designer has a license issued in accordance with ~~section 25.00~~ Rules 9 and 10 that authorizes the designer to design the type of ~~system~~ OWTS in question, and the replacement licensed designer signs an affidavit assuming full responsibility for installation of the ~~system~~ OWTS in accordance with the DEM issued permit.

43.9.1 An Applicant ~~A property owner~~ may apply to the Director for a replacement designer in either of the following circumstances:

(A) ~~(1)~~ The designer of the ~~system~~ OWTS is incapable of witnessing and inspecting the ~~system~~ OWTS; ~~or~~

(B) The designer of the OWTS is unavailable or absent after a period of thirty (30) days as confirmed by the Department; or

(C) ~~(2)~~ The ~~property owner~~ applicant contracted with a business entity for design services and the designer who prepared the ~~ISDS~~ OWTS design is no longer employed by that business entity.

43.9.2 ~~SD 27.00(e)~~ An applicant may choose to select a replacement licensed designer for reasons other than those in ~~(d) above~~ Rule 43.9.1, in which case the applicant must submit a redesign prepared by the replacement designer. Any variance previously approved by the Department shall remain valid, provided that the Department agrees that the circumstances and facts regarding the variance are the same as the facts under which the original variance was granted or that the variance in the redesign represents less of a deviation from the ~~regulations~~ Rules than the original variance.

***[SD 27.00(l) with requirements for certificate of construction is now Rule 44]***

43.10 Certificate of Construction - The designer that is responsible for the OWTS installation shall complete a Certificate of Construction in accordance with Rule 44. The Certificate of Construction shall not be construed to release the installer from liability.

43.11 ~~SD 27.00(m)~~ Once the designer has certified that the ~~ISDS~~ OWTS has been properly installed and is operational, the designer shall provide information and recommendations to the applicant in writing ~~owner of the ISDS~~ on specific ~~system~~ OWTS ~~specific~~ operation and maintenance practices, including those needed to ~~prevent against~~ reduce the risk of premature ~~system~~ failure and avoid pollution of the waters of the state.

43.12 ~~SD 27.00(n)~~ The designer is not responsible for any negligent act or omission of a user of an ~~ISDS~~ OWTS, including but not limited to, failure to properly use and maintain the ~~system~~ OWTS , which causes damage to the ~~ISDS~~ OWTS.

~~SD 2.05B(c) The licensed designer that witnesses and inspects the installation of the ISDS in accordance with SD 27.00(c) shall be responsible for issuing the certificate of construction in accordance with SD 27.00(i).~~***[Addressed by Rule 44]***

~~SD 2.05A System Installation for Applications Not Prepared by Designers Licensed in Accordance with Section 25.00~~

~~(a) The construction, alteration, or reconstruction of any individual sewage disposal system shall be performed by an installer licensed under Chapter 5-56 of the General Laws of Rhode Island, as amended, or a master plumber licensed under Chapter 5-20 of the General Laws of Rhode Island, as amended. The installer of the system shall certify that the system was installed in conformance with the permit and plans for such system approved by the Director and any terms stipulated by the Director as part of the approval (*). The certification shall be on forms provided by the Director. The signed certification shall be sent to the Director within three (3) days after the system is installed. The installer shall notify the Director at least twenty- four (24) hours before any approved individual sewage disposal system is to be installed to permit the Director at his discretion, to inspect the system during or after installation before covering any component of the system with earth; however, such covering must be completed within 48 hours of authorization by the Director to cover.~~

~~Whenever the Director requires the bottom of leaching area inspection as term of his approval, the installer shall notify the Director at least twenty-four (24) hours in advance for said inspection prior to construction of the system or any gravel placement. In such cases, the installer shall have the gravel base material to be used on the site when ever possible.~~

~~If the installer encounters unanticipated conditions during construction which indicates that the system cannot be installed in accordance with the original approved application, plan and specifications, or any terms and conditions contained therein, he shall stop the construction and notify the designer and the Director. A revised application and/or plan must be filed showing any change from the original approved application, plan and specifications for approval.~~

~~(b) The Director may require, at his discretion, that the construction, alteration or reconstruction of any individual sewage disposal system, or portion thereof, be supervised and certified by a registered professional engineer or registered land surveyor. The construction, alteration or reconstruction of any such system designed to dispose of over 2,000 gallons per day must be certified by a registered professional engineer.~~

~~NOTE: Installers should leave a copy of the certificate of construction which details the location of the septic system, in the home in the vicinity of the building sewer.~~

~~(*) Where installed by the homeowner in accordance with Section 5-56-1 of the General Laws of Rhode Island 1956, as amended, the homeowner may execute the certification of construction.~~

## RULE 44. CERTIFICATE OF CONSTRUCTION

~~SD 27.00(l)~~

44.1 Certificate of Construction Required- ~~(1)~~ The designer that is responsible for the ~~system~~ OWTS installation in accordance with ~~SD 27.00(c)~~ Rule 43 shall complete a Certificate of Construction that certifies

that the ~~ISDS~~ OWTS was installed in conformance with the approved application, plans, specifications, applicable statutes and regulations and that ~~he or she~~ the designer is responsible for having witnessed and inspected the installation. The Certificate of Construction shall be on forms ~~provided~~ approved by the Director. ~~(3) In addition to the certification in SD 27.00(l)(1) above~~, ~~t~~The Certificate of Construction shall include, but not be limited to, the following:

44.1.1 ~~(A)~~ Name and license number of the designer;

44.1.2 ~~(B)~~ Name and license number of the installer; and

44.1.3 ~~(C)~~ Distances from two building foundation corners to the septic tank manhole, to the distribution box, and to the leachfield corners.

44.2 Submittal to Department- ~~(2)~~ The Certificate of Construction shall be submitted to the Director within five (5) business days after the ~~ISDS~~ OWTS, building foundation, drinking water well, and other appurtenances, as may be specified in written Department guidance, have been constructed in accordance with the design plan. If an operations and maintenance agreement is required pursuant to the terms of the permit and a copy of the operations and maintenance agreement is available, the agreement shall be submitted to the Department with the Certificate of Construction. The designer who performs the witnessing of an OWTS installation may not withhold issuance of the Certificate of Construction provided the requirements of this Rule 44 are met. The designer shall provide a copy of the Certificate of Construction to the property owner.

## RULE 45. CERTIFICATE OF CONFORMANCE

~~SD 2.06~~

45.1 The applicant for an OWTS permit shall obtain a Certificate of Conformance from the Department prior to use of any OWTS. The Certificate of Conformance means that the OWTS that has been installed appears to substantially conform with the design requirements and other requirements as indicated on the application and associated plans and specifications.

~~SD 2.06(a) A newly constructed, altered or rebuilt individual sewage disposal system, shall not be used nor shall any dwelling, building, or additions thereto, to be serviced by such system be sold or occupied until the certification of conformance is issued.~~

45.2 Any applicant who constructs a new building or building improvement which requires a new or altered OWTS and a Certificate of Occupancy prior to use shall obtain a Certificate of Conformance prior to such occupancy.

45.3 ~~SD 2.06(b)~~ A municipality may only grant a Certificate of Occupancy pursuant to Rhode Island General Law Section 23-27.2-13 and Chapter 23-27.3, where the person applying for such Certificate of Occupancy presents to the municipality the written Certificate of Conformance of the Director as required in ~~SD 2.06(a)~~ Rule 46.1 ~~herein~~.

45.4 The OWTS permit remains valid once the Certificate of Conformance has been issued.

## RULE 46. PERMIT SUSPENSIONS AND REVOCATIONS

~~SD 2.19 Suspensions and Revocations~~

46.1 Applicability- ~~(a)~~ The Director may suspend or revoke any ~~approval~~ permit granted under these ~~regulations~~ Rules in the event that subsequent examination reveals ~~any of the data included in any application form, submittal, plan or sketch to be~~ that the application is incomplete, incorrect or not in compliance with these ~~regulations~~ Rules, or any conditions at the site are such that the approved design is no longer in accordance with these ~~regulations~~ Rules.

46.2 ~~(b)~~ Notice - The applicant shall be given written notice by certified mail, return receipt requested, of such action to suspend or revoke a permit by the Director. Such notice shall be in conformance with the Administrative Procedures Act, R.I. General Laws Sections 42-35-9(b) and 42-35-14, as amended.

46.3 ~~(c)~~ Request for Hearing - An applicant may request a hearing on the suspension or revocation with the Department of Environmental Management, Administrative Adjudication Division. Such request must be in writing and shall be filed with the Department's Administrative Adjudication Division within thirty (30) calendar days of receipt of the notice of permit suspension or revocation. ~~within ten (10) days of the date of receipt of such notice. Pursuant to R.I. General Laws Section 42-17.1-2, as amended, and the Rules of Practice and Procedures for the Administrative Adjudication Division for Environmental Matters, a request for hearing must be received by the Administrative Adjudication Division within ten (10) days in order to be timely filed.~~

46.4 ~~(d)~~ Cessation of Work - Upon issuance of a suspension or revocation of any permit from the ~~Individual Sewage Disposal Systems~~ OWTS Program, no construction activity may be performed or continue to be performed on the property until such time as the suspension or revocation is rescinded or released by the Director. Where the applicant requests a hearing in accordance with ~~SD 2.19(b)~~ Rule 46.3 ~~above~~, the suspension or revocation shall be stayed. However, any and all work performed on the property shall be at the applicant's own risk.

46.5 ~~(e)~~ Investigations - The Director shall conduct an investigation~~s~~ of any signed, written complaint received from any person regarding an application~~s~~ for ~~individual sewage disposal systems~~ an OWTS. The complaint shall specify the nature of the problems and include all appropriate information to allow the Director to evaluate the complaint.

~~(f) Misrepresented Data - Submissions of data and/or test results by a Registered Professional Engineer or a Registered Land Surveyor that are found to contain substantive misrepresentations or inaccuracies will be subject to referral of such evidence to the State Board of Registration for Professional Engineers and/or the State Board of Registration for Professional Land Surveyors (the "Boards") as provided under R.I. General Laws Chapters 5-8 and 5-8.1, respectively.~~ ***[Addressed in Rule 12]***

~~(g) Fees Charged to Verify Inaccurate Data - Should the information which the Department has in its possession indicate that false or misleading information has been provided in any application to the Individual Sewage Disposal Systems Program, the Director, in his/her discretion, may charge a fee to the applicant to cover costs to field check any or all data submitted by the Registered Professional Engineer or Registered Professional Land Surveyor in question.~~

~~GUIDELINES FOR REVIEW OF APPLICATION FOR INDIVIDUAL SEWAGE DISPOSAL SYSTEM VARIANCE~~

## RULE 47. VARIANCE REQUESTS

~~SD 20.00 Requests for Variances~~

47.1 Applicability- ~~SD 20.00(a)~~ Applications for the approval of plans and specifications for an ~~individual sewage disposal system~~ OWTS may include a request for a variance from the provisions of the Rules ~~and Regulations~~ Establishing Minimum Standards Relating to Location, Design, Construction, and Maintenance of ~~Individual Sewage Disposal~~ Onsite Wastewater Treatment Systems. Requests for variance will not be required for OWTS Applications for Alteration to a Structure where there will be no increase in wastewater flow or OWTS Applications for Repair.

47.2 ~~SD 20.00(b)~~ Requests for variances shall be ~~on forms provided by the Director and~~ attested to by a ~~Registered Professional Engineer or Registered Professional Land Surveyor~~ licensed Class II or Class III designer.

47.3 ~~SD 20.00(c)~~ Contents of Variance Request – ~~SD 20.00(b)~~ Requests for variances shall be on forms ~~provided~~ approved by the Director. It is the applicant's responsibility to demonstrate by a preponderance of clear and scientifically valid evidence by means of a comprehensive analysis having a probative value that the requested variance(s) will not be contrary to the public health, the public interest or the environment. Applicants must comply with local ordinances, however, such compliance can not be used to justify or support a variance request under these Rules.

47.3.1 The comprehensive analysis shall provide adequate scientific and technical evidence on how the proposed design will mitigate potential adverse impacts on the following: ~~The information supporting the applicant's variance request shall, at a minimum, specifically identify how the proposed system will affect~~

(A) ~~(1)~~ Public health;

(B) ~~(2)~~ Any surface water drinking water supply or tributary thereto and any public or private drinking water well and any associated transmission lines that may be affected; including~~, but not limited to,~~ the cumulative impacts of the system to the surrounding area. ~~as described in SD 20.01(g)~~;

(C) ~~(3)~~ Any body of water including, but not limited to, impacts on groundwater ~~and/~~or surface water quality and to the ability of the water body to support ~~and/~~or maintain plant and wildlife as well as other designated water uses;

(D) ~~(4)~~ Public use and enjoyment of any recreational resource; and

(E) ~~(5)~~ Surrounding persons or property as a potential cause of any public or private nuisance.

47.3.2 The comprehensive analysis shall include, but not be limited to:

(A) An analysis of any limiting conditions of the site;

(B) An analysis of the amount and characteristics of the wastewater discharged; and

(C) An analysis of the ability of the site to accept, transmit and treat wastewater.

47.3.3 ~~SD 20.00(e) Each~~ The ~~application for an individual sewage disposal system with~~ variance~~(s)~~ request(s) shall be accompanied by a list identifying the names and addresses of the local building official and all property owners within two hundred (200) feet of any component of the proposed ~~system~~ OWTS for which a variance(s) has been requested.

47.3.4 ~~SD 20.00(d)~~ Nothing herein shall prevent the Director ~~or his/her designee~~ from requesting additional information deemed necessary. ~~that he/she may deem appropriate. Upon review of all evidence relating to the variance, the Director or his/her designee shall issue a written decision stating his/her findings and the bases for his/her approval or denial of the variance.~~ ***[Not necessary; process specified in Rule 48]***

47.4 Compensatory Mitigation – Other elements of the applicant's system design (in which no variance is requested) may result in greater protection of the public health and the environment than is required by meeting the minimum standards of these Rules. In such case, the applicant may include how these elements of the system provide compensatory mitigation for the variance(s) requested as part of the comprehensive analysis required in Rule 47.3.2. Compensatory mitigation may be in the form of, but is not limited to: alternative or experimental technologies approved pursuant to Rule 37 provided such systems are not required by other Rules herein, greater setback distances than required in Rule 22, greater separation distances to groundwater than required in Rule 32.4, reductions in design flow, reductions in pollutant loading on neighboring properties, decreasing the loading rate per square foot of leachfield, and decreasing the linear loading rate.

47.5 ~~SD 20.01(f)~~ Cumulative Impact Assessment - Any application for an OWTS ~~ISDS~~ proposed to be installed on a lot less than ten thousand (10,000) square feet in area which requires more than one variance and which will be located within one hundred (100) feet of any public or private drinking water well will not be approved unless a ~~"~~Cumulative Impact Assessment~~"~~ of the variances is conducted by the applicant and submitted to the Department along with the ~~request for variance~~ variance request. The Cumulative Impact Assessment shall include, but not be limited to~~;~~: a description of all abutting properties identifying the location of all OWTSs ~~individual sewage disposal systems, alternate disposal areas~~, surface waters, wetlands, and private or public drinking water wells~~;~~, a concise description of all variances granted in the permitting of these abutting OWTSs ~~individual sewage disposal systems;~~, and any additional information which the Director~~, in his/her discretion,~~ may deem appropriate.

~~SD 20.00(f) Prior to submitting any variance request to the variance review process, the application's plans and/or specifications shall be reviewed by the Individual Sewage Disposal System Program Staff for compliance with all regulatory requirements. Upon review, should the Individual Sewage Disposal System Program find that the application fails to meet any regulatory requirement other than those for which the applicant has properly requested variances, the application shall be returned to the applicant.~~

47.6 ~~SD 20.00(g)~~ Notification Requirements

47.6.1 Once the applicant's plans and~~/or~~ specifications have been ~~reviewed for regulatory compliance~~ determined to be complete by the Department, the applicant shall notify the local municipal building official and all property owners within two hundred (200) feet of any component of the proposed ~~system~~ OWTS of the pending application for an ~~individual sewage disposal system~~ OWTS with variance(s). ~~Also,~~ If a variance is requested from the minimum setback requirement to a public water supply well, ~~public water supply distribution facility,~~ ~~private~~ public water line ~~and~~/or a surface water reservoir including ~~perennial streams~~ tributaries and tributary wetlands or subsurface drains directly discharging thereto, then the applicant shall also notify the applicable public water system entity or agency.

47.6.2 Exemptions from Notification Requirements

(A) OWTS applications for Alteration to a Structure that include a request for a variance from the provisions of these Rules are exempt from the notification requirements in Rule 47.6.1.

(B) The Director may waive the notification requirements in Rule 47.6.1 if the variance request is limited to a variance from a provision of these Rules specifying horizontal setbacks from a feature on the applicant's property only.

(C) The Director may waive the notification requirements in Rule 47.6.1 if, in the opinion of the Director, the variance request will be denied based on the information submitted, or lack thereof, or based on the standards in Rule 48.2.2.

47.6.3 Each notice shall include:

(A) ~~(1)~~ A copy of the Variance Request Form(s) submitted to the ~~Individual Sewage Disposal Systems~~ OWTS Program; ~~and~~

(B) ~~(2)~~ A cover letter conforming to a form to be provided by the Director, which shall include at least the following information:

(i) ~~(A)~~ The application number;

(ii) ~~(B)~~ A statement of the purpose of the notification;

(iii) ~~(C)~~ A certificate of service; and

(iv) ~~(D)~~ A statement advising the recipient that ~~he/she~~ the recipient may, within twenty (20) days of the date specified in the certificate of service, provide the ~~Chief of the Division of Groundwater and Individual Sewage Disposal Systems or his/her designee~~ Director with written comments or information bearing upon the subject application; and

(C) ~~(3)~~ Reduced-scale ~~Site~~ site plans identical to those submitted to the RIDEM ~~ISDS~~ ~~Section~~ OWTS Program. ~~shall be forwarded to all individuals notified for comments on the variance request.~~

47.6.4 ~~SD 20.00(h)~~ All notices shall be forwarded by certified mail, return receipt requested. The applicant shall clearly mark each return receipt with the application number and the words "Variance Request."

47.6.5 ~~SD 20.00(i)~~ When all certified receipts have been returned to the applicant, copies of each cover letter, accompanied by the appropriate certified receipt, shall be filed with the ~~Individual Sewage Disposal System~~ OWTS Program along with a letter requesting that the application be submitted to the variance review process for final review and determination.

47.6.6 ~~SD 20.00(j)~~ If a correctly addressed, certified notice is returned to the applicant, the applicant may submit the returned envelope and certified receipt, unopened, along with the other return receipts as proof of the applicant's good faith attempt to serve the notice.

47.7 Redesign Applications- For redesign applications submitted to the Department, any variance request previously approved by the Department shall remain valid, provided that the Department determines that either:

47.7.1 The circumstances and facts regarding the variance are the same as the facts under which the original variance was granted; or

47.7.2 The variance in the redesign represents no greater deviation from the Rules than the original variance.

~~20.00(k) All timely submitted comments and information relating to the intent and purpose of these regulations shall be considered during the variance review process.~~***[Addressed under Variance Review Rule 48.1.1]***

**RULE 48. VARIANCE REVIEW PROCESS**
~~SD 20.01 / SD 20.02~~

48.1 ~~SD 20.01(a)~~ Preliminary Review and Recommendation - All variance requests ~~for variance(s)~~ shall be reviewed by the ~~ISDS Program Staff Engineers~~ Department for the purpose of determining whether such variance(s) would be contrary to the public health, the public interest or the environment. ~~20.01(b) Consultation with Experts – In conducting their review of~~ reviewing the applicant's variance requests, the ~~ISDS Program Staff Engineers~~ Department may ~~also~~ consult with other experts, whether employed by the Department or not. ~~SD 20.01(a) As part of their~~ the review of any ~~request for variance~~ variance request(s), the ~~ISDS Program Staff Engineers~~ Department shall consider:

48.1.1 ~~(1)~~ All evidence submitted by the applicant, the local municipal building official and the notified property owners bearing upon the subject application;

~~(2) Any limiting conditions of the site, including, but not limited to: the sensitivity and use of the ground/surface waters to be protected; the amount and type of wastewater discharged; the ability of the site to accept, transmit and renovate effluent; the intensity of the use of the surrounding area and other site suitability factors;~~ ***[This information is required by the applicant in Rule 47 and would therefore be part of "evidence submitted" in Rule 48.1.1]***

48.1.2 ~~(3)~~ The number and extent of the limiting conditions at the site and surrounding area; and

48.1.3 ~~(4)~~ Whether the site characteristics are less than optimum for wastewater ~~disposal~~ treatment and dispersal.

48.2 ~~SD 20.02~~ Variance Review Standards

48.2.1 ~~SD 20.02(a)~~ Approval - A ~~request for variance~~ variance request from the minimum standards set forth in these ~~regulations~~ Rules shall be approved if it is determined that such a variance(s) will not be contrary to the public health, the public interest, or environmental quality.

48.2.2 ~~SD 20.02(b)~~ Denial - A variance request from the minimum standards set forth in these ~~regulations~~ Rules shall be denied when:

(A) The applicant has failed to provide clear, accurate, and substantive information to enable the Department to determine that the requested variance will not be contrary to the public health, the public interest, or environmental quality;

(B) ~~(1)~~ The evidence fails to demonstrate that the same degree of environmental protection provided under these ~~regulations~~ Rules can be achieved without strict application of the provision for which the variance has been requested;

(C) ~~(2)~~ The evidence demonstrates that the ~~individual sewage disposal system~~ OWTS will not function as proposed in the application; or

(D) ~~(3)~~ The evidence indicates that the approval of the ~~system~~ OWTS would otherwise be contrary to the public health, the public interest, or environmental quality.

(E) The variance request is for one of the following:

(i) The variance request is for an action that is prohibited in Rule 8, excluding the prohibition regarding holding tanks in Rule 8.15;

(ii) The variance request is from the requirements of Rule 14.1 on a site located in the Salt Pond or Narrow River Critical Resource Areas;

(iii) The variance request resulted from the applicant subdividing the property after December 31, 1995 ***[date fromR.I.G.L. 45-23-28]*** unless the applicant demonstrates that the reason for the variance requested is not the result of action by the applicant, or prior owners of the property;

(iv) The variance request is from the requirement that soil and seasonal high groundwater table data must have been determined within the past five (5) years; ***[From 20.01(g)]***

(v) There is a public sanitary sewer reasonably accessible to the structure to be served by the OWTS;

(vi) The variance request is for new lots under ten thousand (10,000) square feet platted or otherwise created after June 18, 1992, unless the applicant demonstrates that the reason for the variance requested is not the result of action by the applicant, or prior owners of the property; ***[Partially from 20.01(h)]***

(vii) The variance request is for less than the eighty (80) foot minimum setback distance from a private drinking water well in Table 22.5, Note 3;

(viii) The variance request is from the two hundred (200) foot public well setback requirement for a drilled rock, driven, or dug well in Table 22.5 or from the four hundred (400) foot public well setback from a gravel packed or gravel developed well in Table 22.5. Such a variance request may be approved if either of the following occurs:

(1) If the public well is not on the same property that is subject to the OWTS Application, the applicant provides documentation that the well owner has an approved variance from the Rhode Island Department of Health for an inner protective zone that does not include the location of the proposed OWTS; or

(2) If the public well is on the same property that is subject to the OWTS Application, the applicant provides documentation that the Rhode Island Department of Health has approved of the requested activity;

(ix) The variance request is for a depth to groundwater from original ground surface of less than twelve (12) inches;

(x) The variance request is from the dentrification requirements in the Salt Pond and Narrow River Critical Resource Areas in Rules 39.2; or

(xi) The variance request is from the requirements in Rule 41 (Nitrogen Loading in Areas of On-Site Drinking Water Wells).

48.2.3 ~~SD 20.02(c)~~ Terms and Conditions - The variance decision may contain such terms and conditions as ~~it~~ the Director deems necessary to protect the public interest, ~~and~~ the public health, or the environment.

48.3 ~~SD 20.01(c)~~ Recommended Determination - Upon completion of their review, the ~~ISDS Section~~ OWTS Program Staff shall prepare a written recommendation of approval or denial of the variance request. The review shall identify the factors considered in the review process, specify the bases for their recommendation, and identify any suggested conditions for approval.

48.4 ~~20.01(d)~~ Final Determination - Upon ~~his/her~~ review of the recommendation submitted in accordance with ~~SD 20.01~~ Rule 48.3 ~~above~~, the Director ~~or his/her designee~~ shall render a final written decision approving or denying the requested variance(s). In arriving at ~~his/her~~ a final decision, the Director ~~or his/her designee~~ may:

48.4.1 ~~(1)~~ Adopt the recommendation, with or without additional written comments or conditions; ~~or~~

48.4.2 ~~(2)~~ Reject the recommendation ~~and render his/her own decision~~; in which case the Director ~~or his/her designee~~ shall render a written decision specifying the bases for the rejection; or

48.4.3 ~~(3)~~ Remand the matter back to the ~~ISDS~~ OWTS Program ~~Section~~ Staff for further review and consideration of certain specified factors.

~~SD 20.01(e) Further Evaluation - Where the Director or his/her designee has reason to believe that groundwater and/or surface water quality at the site or surrounding area is a concern, or that the variance(s) requested will impact groundwater and/or surface water quality, he/she may require the applicant to submit a detailed engineering evaluation discussing the impacts of the requested variance(s) on groundwater and/or surface water quality. Such evaluations may include, but not be limited to, geohydrologic evaluations and water quality impact analyses of the site and surrounding area.~~

***[SD 20.01(f) Cumulative Impact Assessment moved to Rule 47.6]***

~~SD 20.01(g) Five Year Life of Date - No requests for a variance from the requirement that soil and water table data must have been determined within the past 5 years shall be considered.~~***[Moved to Rule 48.2]***

~~SD 20.01(h) Lots Under 10,000 Square Feet - No requests for variances will be considered for new lots under 10,000 square feet platted or otherwise created after June 18, 1992.~~***[Modified and moved to Rule 48.2]***

~~TABLE 20.1~~

~~GUIDELINES FOR REVIEW OF VARIANCE REQUESTS RELATING TO RESIDENTIAL USES DISCHARGING 450 GALLONS PER DAY OR LESS*~~

| ~~ITEM~~ | ~~MINIMUM STANDARD ALLOWABLE AFTER VARIANCE~~ |
|---|---|

~~Distance from private well — 80'~~

~~Distance from watercourse, marsh, swamp, bog or pond — 35'~~
~~(with wetlands permit)~~

~~Distance from surface drinking water supply~~
~~and tributaries directly discharging thereto — NO VARIANCE ALLOWED~~

~~Distance from critical resource area~~

~~Coastal ponds and tributaries~~
~~directly discharging thereto — 100'~~

~~Depth to Water Table~~

~~Water table less than 2 feet~~
~~from original ground surface — NO VARIANCE ALLOWED~~

~~Water table between 2 and 4 feet~~
~~from original ground surface or~~
~~filled system under SD 1.00; and~~
~~system not in conformance with~~
~~SD 15.02(b) or distances to wells~~
~~and watercourses under SD 3.05 — NO VARIANCE ALLOWED~~

~~Depth to Impervious Layer~~

~~Impervious layer less than 4~~
~~feet from bottom of system — NO VARIANCE ALLOWED~~

~~Impervious layer 4 to 6 feet from~~
~~original ground surface and system~~
~~not in conformance with SD 15.02(b)~~
~~or distances to wells and watercourses~~
~~under SD 3.05 — NO VARIANCE ALLOWED~~

~~Fill perimeter (SD 3.05) — 15'~~
~~(upgradient side only)~~

~~Side wall distance to impervious layer~~

~~System in critical resource area~~
~~or where public water is not~~
~~available or where impervious~~
~~layer located downgradient from~~
~~system — NO VARIANCE ALLOWED~~

~~Other areas — 10'~~
~~(upgradient only)~~

~~Percolation Rate~~

~~-System in critical resource area or where public water is not available — Not faster than 1 min/inch~~

~~-Other areas — Not slower than 60 min/inch~~

~~*** NOTE:** These guidelines establish baselines below which it is highly unlikely that variances will be granted except in the most unique of circumstances. The minimum standards allowable after variance listed above, represent variances which may be granted under optimum conditions and are in no way intended to establish new minimum standards or to in any way guarantee the award of any particular variance request. These guidelines are made public for the sole purpose of informing ISDS designers and installers and the general public of the limits of the variance review process.~~

## RULE 49. APPEALS

49.1 ~~SD 21.00~~ Right to Appeal -- Any person whose permit application is denied may appeal to the Director for review of the decision on which the denial is based by filing an appeal with the Administrative Adjudication Division.

~~SD 21.01~~ ~~Appeal Procedure~~

49.2 ~~(a)~~ Filing of Appeal - All appeals shall be in writing and shall be filed with ~~and received by~~ the Department's Administrative Adjudication Division within thirty (30) calendar days ~~after the effective date~~ of receipt of the denial of the subject application.

49.3 ~~(b)~~ Contents of Appeal - Every appeal shall contain:

49.3.1 ~~(1)~~ A detailed basis upon which the appeal is taken;

49.3.2 ~~(2)~~ A plat plan of the area of the subject application;

49.3.3 ~~(3)~~ A list of the names and addresses of:

(A) The applicant;

(B) The municipality in which the property is located;

(C) The owner of any surface water supply as identified by ~~SD 2.02(e)~~ Rule 38.3, if applicable; and

(D) The owners of record of real property within ~~a~~ two hundred (200) ~~foot radius~~ feet of any component of the applicant's proposed ~~individual sewage disposal system~~ OWTS; and

49.3.4 ~~(4)~~ A certified check, bank draft or money order in the amount of one thousand five hundred ($1,500) dollars in accordance with ~~SD 23.04~~ Rule 50.4.

49.4 ~~(c)~~ Notice of Administrative Hearing - Upon the filing of an appeal with the Administrative Adjudication Division, and once the hearing schedule allows, the Administrative Adjudication Division shall notify the

following, by first class mail, of the date, time and place of the adjudicatory hearing, in conformance with R.I. General Laws Section 42-35-9, as amended: the applicant; the municipality in which the property is located; the owner of any surface water supply as identified by ~~SD 2.02(e)~~ Rule 38.3, if applicable; and the owners of record of real property within ~~a~~ two hundred (200) feet of any component of the applicant's proposed ~~individual sewage disposal system~~ OWTS.

49.5 ~~(d)~~ Conduct of Hearing - The notice and conduct of the hearing by the Department of Environmental Management, Administrative Adjudication Division, shall comply in all respects with the provisions of the Administrative Procedures Act, R.I. General Laws Chapter 42-35, and the Rules of Practice and Procedure for the Administrative Adjudication Division for Environmental Matters.

~~SD 21.02 Burden of Proof and Standard of Review~~

49.6 Burden of Proof -- ~~(a)~~ At the adjudicatory hearing, the applicant shall have the burden of proof to demonstrate through clear and convincing evidence that:

49.6.1 ~~(1)~~ A literal enforcement of the ~~regulations~~ Rules will result in unnecessary hardship;

49.6.2 ~~(2)~~ That the ~~system~~ OWTS will function as proposed in the application; and

49.6.3 ~~(3)~~ That the issuance of a permit will not be contrary to the public interest, public health and the environment. ~~(b)~~ In order to demonstrate that the proposed ~~Individual Sewage Disposal System~~ OWTS will not be contrary to the public interest, public health and the environment, the applicant must introduce clear and convincing evidence to the satisfaction of the Director that:

(A) ~~(1)~~ The waste from the proposed ~~system~~ OWTS will not be a danger to public health;

(B) ~~(2)~~ The ~~disposal system~~ OWTS to be installed will be located, operated and maintained so as to prevent the contamination of any drinking water supply or tributary thereto;

(C) ~~(3)~~ The waste from the proposed ~~system~~ OWTS will not pollute any body of water or wetland;

(D) ~~(4)~~ The waste from the proposed ~~system~~ OWTS will not interfere with the public use and enjoyment of any recreational resource; and

(E) ~~(5)~~ The waste from the proposed ~~system~~ OWTS will not create a public or private nuisance.

49.7 ~~(c)~~ The Director~~, or his/her designee,~~ may approve a permit or grant a variance from ~~any~~ a provision of these Rules ~~and regulations~~, except for the prohibitions in Rule 8, where ~~he/she finds~~ it is determined by the Director that:

49.7.1 ~~(1)~~ A literal enforcement of such provisions will result in unnecessary hardship to the applicant;

49.7.2 ~~(2)~~ That the ~~system~~ OWTS will function as proposed in the application; and

49.7.3 ~~(3)~~ That the permit or variance sought will not be contrary to the public interest, public health and the environment.

49.8 ~~(d)~~ The decision of the Director~~, or his/her designee,~~ may contain such terms and conditions as ~~he/she~~ deemed ~~deems~~ necessary to protect the public interest, public health and the environment.

~~SD 22.00 Applicability~~

~~SD 22.01 - The above-stated rules and regulations shall be applicable to any and all application filed with the director pursuant to SD 2.00 on or after the effective data of these rules.~~

~~SD 22.02 - A request for a variance pursuant to SD 20.01 may be filed with the director where an application was filed with the director on or before the effective data of these rules, provided that:~~

~~1. No action has been taken by the director denying or approving such application, or~~

~~2. Action has been taken by the director denying such application but an appeal has been requested pursuant to SD 21.01 et seq. of these rules.~~
***[New Applicability Section Rule 5]***

~~SD 22.03 - Severability~~

~~If any section or provision of these rules and regulations is held invalid by a court of competent jurisdiction, the remaining sections or provisions of these rules and regulations shall not be affected thereby.~~
***[New Severability Section Rule 4]***

~~SD 22.04 - New Products/System Design Conditional Approval~~

~~Based upon submission of engineering research and testing data indicating that certain products, design and performance are equal to or greater than these standards, the Director may grant conditional approval for the use of systems, products or procedures differing from these standards.~~

## RULE 50. FEES

~~SD 23.00 Fee Schedules~~

50.1 Administrative

50.1.1 All ~~persons~~ applicants, except for state and local governmental entities, shall be liable for the payment of fees to the Department ~~of Environmental Management~~ as set forth below.

50.1.2 ~~SD 23.03~~ Payment of Fees -- All fees shall be due at the time the initial form ~~and~~/or request is submitted to DEM requesting that it undertake one of the activities specified in ~~SD 23.00 above~~ Rule 50.2 below. The Department will not undertake any such activity until payment has been received.

50.1.3 ~~SD 23.07~~ Commercial ~~Systems~~ OWTSs --For the purpose of assessing fees, all duplex and multi-family residential ~~individual sewage disposal systems~~ OWTSs shall be considered commercial ~~systems~~ OWTSs.

50.1.4 Field testing pursuant to Rule 15 or Rule 16 must be completed on the scheduled day of witnessing. Conditions encountered or lack of preparedness by the designer that require additional witnessing by the Department will require an additional fee. ***[From SD 23.06(c) in part]***

50.2 Fee Schedule

Table 50.2 Fee Schedule

| DESCRIPTION | FEE |
|---|---|
| ~~(a) Water Table Verification for Individual Lots:~~ | |
| ~~1) Wet Season Test Holes~~ | ~~$50.00 per system~~ |
| ~~2) Dry Season, Ledge, Fill and Alteration Test Holes~~ | ~~$100.00 per system per site~~ |
| ~~(b) Water Table Verification for Subdivisions (per test hole submitted, with a maximum charge per submittal of one test hole per ISDS as per local zoning)~~ | ~~$35.00~~ |
| ~~(c)~~ Soil Evaluations: ~~for Individual Lots~~ | ~~$100.00~~ $150 per OWTS |
| ~~(d)Soil Evaluations for Subdivisions (per evaluation submitted, with a maximum charge per submittal of one evaluation per ISDS as per local zoning)~~ | ~~$50.00~~ |
| Wet Season Determinations | $100.00 per OWTS |
| Bedrock Test Holes | $100.00 per OWTS |
| Test Holes in Storm Deposited Sand or Human Transported Material | $100.00 per OWTS |
| ~~(e)~~ Reinspection ~~(beyond 3 site visits)~~ | ~~$50.00~~ $100.00 |
| Application for OWTS Suitability Determination | $100.00 |
| ~~(f)~~ OWTS Application ~~Fees~~ for New Building Construction ~~New Systems~~ and OWTS Application for Alterations ~~of~~ to a ~~Existing~~ Structure ~~Systems~~ ~~(per application)~~. The fees for applications utilizing a pretreatment technology, excluding leachfield systems and components, approved as an Alternative or Experimental Technology pursuant to Rule 37 or a technology not included in these Rules specifically engineered for the application, shall be two (2) times the following fees: | |
| ~~(1)~~ Single Family Residences: | |
| ~~(A)~~ Single Family Residence | $150.00 |
| ~~(B) Transfer~~ | ~~$30.00~~ |
| ~~(2)~~ Commercial ~~Systems~~ OWTSs: | |
| ~~(A)~~ Less than 2,000 gpd | $200.00 |
| ~~(B)~~ 2, 000 gpd to 4, 999 gpd | $500.00 |
| ~~(C)~~ 5, 000 gpd to 9, 999 gpd | $1,000.00 |
| ~~(D)~~ 10,000 gpd or More | $2,000.00 |
| ~~(E) Transfer~~ | ~~$30.00~~ |
| ~~(3)~~ Subdivision Review | |
| ~~(A)~~ 1 to 9 Lots | $100.00 per lot |
| ~~(B)~~ 10 Lots or More | $1,000.00 plus $50.00 per lot for each lot over 10 |
| ~~(4) Component Relocation or Addition Only, Excluding the Leachfield~~ | ~~$50.00~~ |

| DESCRIPTION | FEE |
|---|---|
| ~~(g)~~ OWTS Application for Repair ~~of Existing~~ ~~System:~~ The fees for applications utilizing a pretreatment technology, excluding leachfield systems and components, approved as an Alternative or Experimental Technology pursuant to Rule 37 or a technology not included in these Rules specifically engineered for the application, shall be two (2) times the following fees: | |
| ~~(1)~~ Single Family Residence | $100.00 |
| ~~(2)~~ Commercial ~~Systems~~ OWTSs: | |
| ~~(A)~~ Less than 2,000 gpd | $150.00 |
| ~~(B)~~ 2,000 gpd to 4,999 gpd | $300.00 |
| ~~(C)~~ 5,000 gpd to 9,999 gpd | $600.00 |
| ~~(D)~~ 10,000 gpd or More | $1,000.00 |
| ~~(3) Component Replacement Only, Excluding the Leachfield~~ | ~~$50.00~~ |
| ~~(h) Application for System Suitability Determination~~ | ~~$55.00~~ |
| Transfer | $50.00 |
| ~~(i)~~ Any variance Request ~~for New Systems~~: Residential and Commercial (Variance Request Fee is in addition to the application fee ~~in 23.00(f)~~) | $300.00 |
| ~~(j)~~ If the application has been previously reviewed by the Department and found deficient and the re-submission does not address these deficiencies, then the Department will assess a fee for the second re-submission equal to fifty percent (50%) of the original fee. ~~Where an application for a new system, alteration or variance is determined to be deficient, the Department may assess a resubmission fee that is equal to 50% of the original fee if the application had previously been reviewed by the Department and one or more deficiencies had not been properly addressed~~. In no case shall this resubmission fee exceed $300.00. | |
| ~~(l) Innovative or~~ Alternative or Experimental Technology: | |
| ~~(1)~~ Alternative ~~System~~ OWTS or Technology: | |
| ~~(A)~~ Class One | ~~$500.00~~$1,000.00 |
| Upgrade from Class Two to Class One | $500.00 |
| ~~(B)~~ Class Two | $1,000.00 |
| ~~(2)~~ ~~System~~ Alternative OWTS Component: | |
| ~~(A)~~ Class One | $200.00 |
| ~~(B)~~ Class Two | $300.00 |
| ~~(3)~~ Experimental ~~System~~ OWTS or Technology | $2,000.00 |
| ~~(4)~~ Renewal of ~~Innovative or~~ Alternative or Experimental Technology Application: | |
| ~~(A)~~ Alternative ~~System~~ OWTS or Technology Class Two | $500.00 |
| ~~(B)~~ ~~System~~ Alternative OWTS Component Class Two | $150.00 |
| ~~(C)~~ Experimental ~~System~~ OWTS or Technology | $1,000.00 |
| ~~(k)~~ Installer's Licenses: | |
| ~~(1)~~ Examination and New License Application **~~(3 years, the Department may pro-rate fee if the license is issued for less than 3 years)~~** | ~~$55.00~~ **~~$85.00~~$155.00** |
| ~~(2)~~ License Renewal (3 years, the Department may pro-rate fee if the renewal is for less than 3 years) | ~~$30.00 per annum~~ $90.00 |
| ~~(m)~~ Class I, II, III, and IV Licenses: | |
| ~~(1)~~ Examination and New License Application **~~(3 years, the~~** | ~~$50.00~~ **~~$150.00~~$200.00** |

| DESCRIPTION | FEE |
|---|---|
| **Department may pro-rate fee if the license is issued for less than 3 years)** | |
| ~~(2) License Fee (maximum of 2 years)~~ | ~~$100.00~~ |
| ~~(3)~~ License Renewal (~~2 year period~~ 3 years, the Department may pro-rate fee if the renewal is for less than 3 years) | ~~$100.00~~ $150.00 |
| **Late Fee** | **$100.00 x Number of years expired** |

~~SD 23.01 Modification Costs~~

50.3 Modification Fees -- If a person modifies the initial submittal, renewal or other request made to the Department for any reason, ~~he/she~~ this person shall be liable for payment of an additional fee specified below in Table 50.3. The cost per modification shall never exceed the fees for a new submission set forth in Rule 50.2 ~~SD 23.00~~ above. These additional fees shall be collected prior to the Department's review of the modification(s) under consideration. No final approval or denial shall be issued by the Director until such time as these additional fees have been received.

Table 50.3 Modification Fees

| DESCRIPTION | FEE |
|---|---|
| Designers Affidavit Continuing Validity - per lot | ~~$30.00~~ $50.00 |
| Designers Affidavit – Subdivisions | $100.00 |
| Revision to Subdivision (1 to 9 lots) per lot | ~~$30.00~~ $50.00 |
| Revision to Subdivision (10 or more lots) | ~~$300.00~~ $500.00 |
| As Builts - Requested or Submitted | ~~$30.00~~ $50.00 |
| Redesign - Single Family | ~~$80.00~~ $100.00 |
| Redesign - Commercial - less than 2,000 gpd | ~~$105.00~~ $150.00 |
| Redesign - Commercial - more than 2,000 gpd | ~~$205.00~~ $400.00 |

~~SD 23.02 Reinspection Fees~~

~~Reinspection fees will be assessed after the third site visit for each approved application and shall be paid prior to the next inspection. Fees for witnessing soil examinations may be assessed at any time prior to issuing a conformance when, in the opinion of the Director, there is cause to believe soil data and/or percolation data is inaccurate.~~

50.4 ~~SD 23.04~~ Costs of Appeal -- Any person who requests an appeal pursuant to ~~SD 21.01~~ Rule 49 shall also be liable for fees to cover costs incurred in the holding of the hearing. The fee shall be sufficient to defray the costs incurred by the Administrative Adjudication Division for, but not limited to: all investigations; the appearance of a stenographer and the original transcript; renting a room, when necessary; and the costs associated with the appearance of the hearing officer. The applicant must pay the Director the sum of one thousand five hundred dollars ($1,500.00) as a deposit against the actual costs of a hearing before a hearing will be scheduled.

50.5 ~~SD 23.05~~ Deposit of Fees Collected -- All monies collected pursuant to ~~SD 23.00 through SD 23.03~~ Rule 50.2 and 50.3, above, shall be paid into the "Water and Air Protection Program" account, established pursuant to R.I. General Laws § 42-17.1-2(z), as amended. All monies collected pursuant to ~~SD 23.04~~ Rule 50.4 shall be paid into a restricted account established within the Administrative Adjudication Division.

~~SD 23.06 Water Table Verification~~

~~(a) All water table levels certified by a registered professional engineer or registered professional land surveyor shall be subject to on-site verification by the Department on a random basis, or when such certification is suspected to be incorrect, or when the site is located in certain sensitive land areas in the State.~~

~~(b) In the event that said certification is determined by the Department to be incorrect following an on-site verification, the Department may reject the application and require resubmittal thereof with a new water table level certification and the payment of an additional filing fee to be determined by the Director.~~***[Moved to Rule 15 on Soil Evaluation-Seasonal high water table]***

~~(c) The fees prescribed in SD 23.00(b), above, shall not be charged for any test hole that the Department shall require the applicant to install in addition to the one per system maximum unless the data gathered from the additional test hole indicates that the original data was false or misleading. See SD 2.19(e) and (f).~~***[Moved to Rule 50.1.4]***

~~SD 23.08 Specially Engineered Systems For the purposes of assessing variance request fees, the term "Specially Engineered System" shall mean any ISDS for which the applicant proposes to use a pre-engineered design not otherwise contained in or approved by these regulations or DEM, or proposes to demonstrate by means of a detailed engineering evaluation and study report that the proposed system will function adequately.~~

## RULE 51. OPERATION AND MAINTENANCE

51.1 Operation- It is the property owner's responsibility to ensure that the OWTS achieves the performance requirements applicable to the approved OWTS.

51.2 ~~SD 2.11~~ Maintenance - All ~~building sewers and individual sewage disposal systems~~ OWTSs shall be maintained in good repair by the owner. The Director may order the owner to ~~clean~~ maintain or repair ~~such sewers or systems~~ an OWTS within a reasonable time if the Director finds them to be in need of the same. In order to maintain long-term viability of the ~~individual sewage disposal system~~ OWTS, it is the ~~property~~ owner's responsibility to:

51.2.1 ~~(a)~~ Ensure that the ~~system~~ OWTS is used only for sanitary wastewater in amounts that do not exceed the design flow;

51.2.2 ~~(b)~~ Properly maintain the ~~system~~ OWTS, including but not limited to, inspection of the ~~system~~ OWTS ~~every 2-3 years with~~ or pumping of the septic tank as needed;

51.2.3 ~~(c)~~ Protect the ~~system~~ OWTS from physical disturbance; and

51.2.4 Ensure that all access opening covers are secured and maintained.

51.3 The provisions of Rule 51.1 and Rule 51.2 for operation and maintenance apply to any OWTS that has been issued a Certificate of Conformance pursuant to Rule 45.

51.4 Future Modifications- Once a Certificate of Conformance has been issued pursuant to Rule 45, nothing in these Rules shall prevent the property owner from retaining ~~any~~ **another qualified** licensed designer, including another licensed designer from the same business entity that originally designed the OWTS, that the property owner chooses to conduct work on the OWTS.

## RULE 52. REMOVAL AND ABANDONMENT

52.1 Removal – Any OWTS components that are excavated and removed off-site must be properly disposed of at a licensed solid waste landfill.

52.2 Abandonment On Site – Septic tanks, grease tanks, pump tanks, holding tanks, concrete chambers and cesspools that are no longer in use shall be properly abandoned. The structure shall be emptied of all wastes and then either removed, filled with clean sand or crushed and the area backfilled with clean soil.

## RULE 53. GUIDANCE DOCUMENTS

53.1 Issuance- The Department is authorized to issue guidance documents that support the intent and purpose of these Rules. Such guidance documents shall not serve to alter the intent of the Rules herein. The documents may serve as guidance on interpreting the evolving science and technologies that are used to support the Rules or to explain in further detail the administrative procedures for complying with these Rules.

53.2 Review- Department prepared guidance documents shall be subject to review and comment through either formal public notice, the Technical Review Committee (Rule 37.7.2), or through other Department convened stakeholder groups. Once a guidance document is issued by the Department, it shall be subject to, at minimum, an annual review, at which time all comments received within the past year shall be considered.

## RULE 54. SUPERSEDED RULES

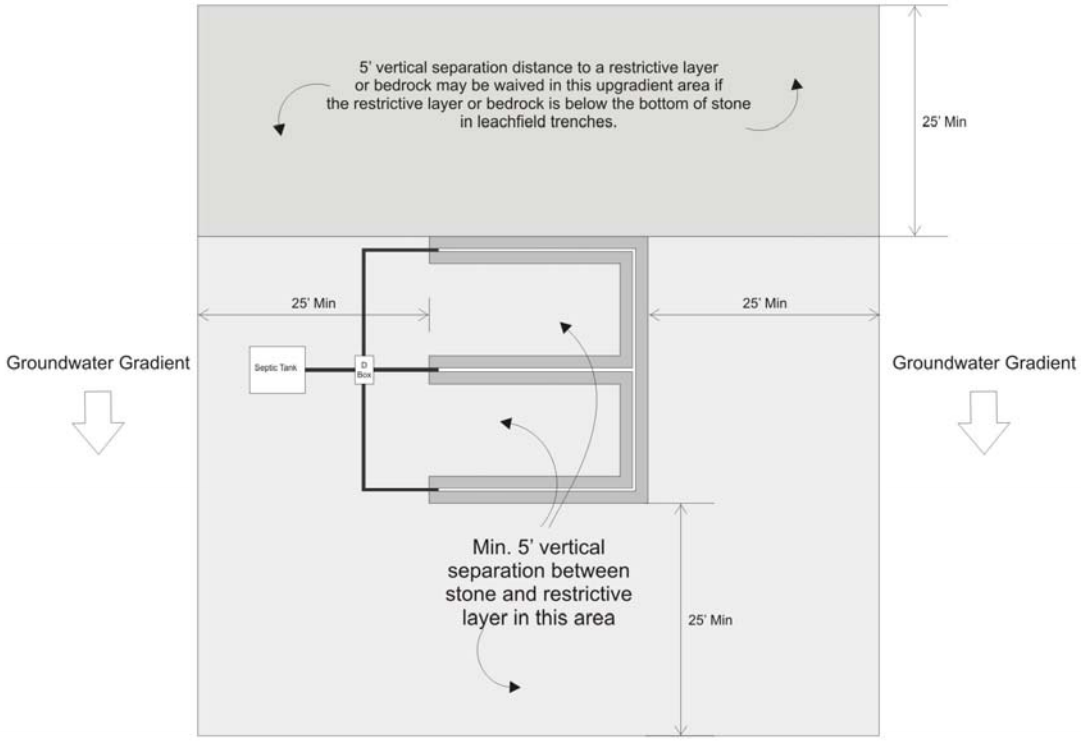
54.1 On the effective date of these Rules, all previous Rules regarding the establishment of minimum standards for the location, design, construction and maintenance of onsite wastewater treatment systems shall be superseded.

54.2 On the effective date of these Rules, Rule 5.4 and 17.1.1 of the "Rules and Regulations for Groundwater Quality", which require a groundwater quality certification for OWTSs designed to treat five thousand (5,000) gallons or more per day, shall be revoked and superseded by the Rules herein.

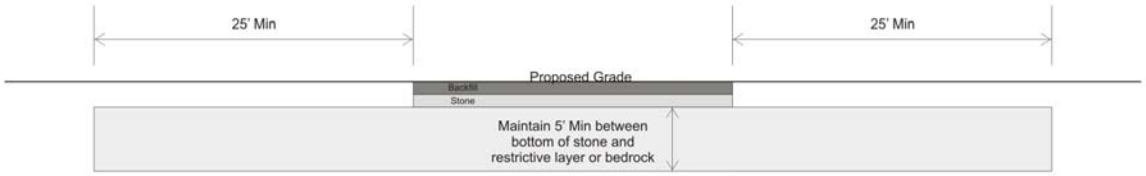
# Figure 1: Leachfield Over Restrictive Layer or Bedrock

Not to Scale

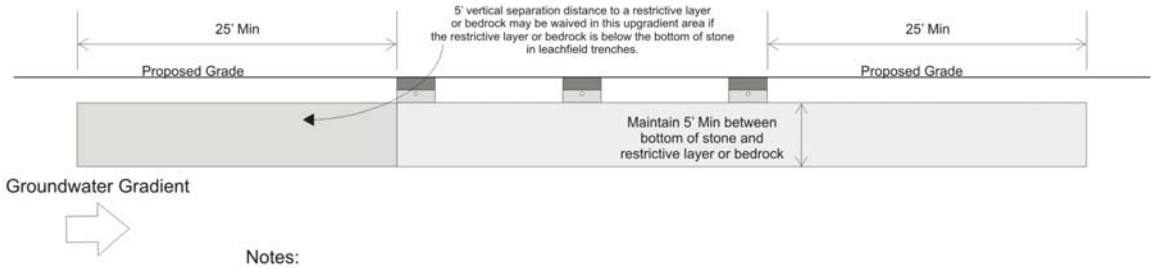
Plan View




Cross Section Perpendicular to Groundwater Flow




Cross Section Parallel to Groundwater Flow




Notes:

-The minimum depth from the original ground surface to a restrictive layer or bedrock is 4' and must be met within 25' of all sides of the leachfield (Rule 32.5).

-Excavating into a restrictive layer or bedrock is not permitted unless otherwise approved by the Director (See Rule 32.8).

**Figure 2**

# Minimum Setback Distances in Drinking Water Supply Watersheds

Note: The setback distances in Figure 2 are for OWTS with design flow less than 5000 gpd. For OWTS with design flow greater than 5000 gpd, the setback distances are doubled. See Table 22.2.

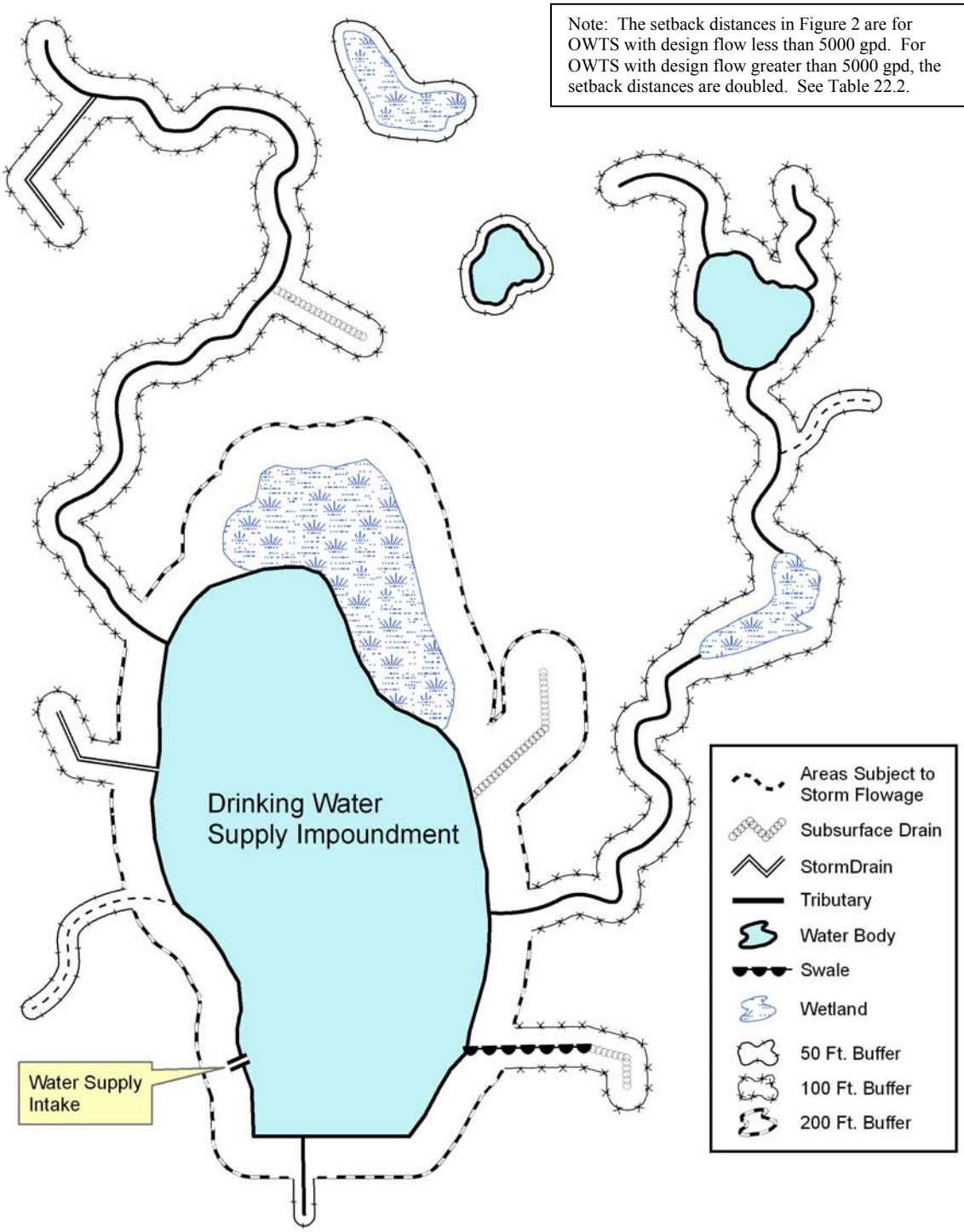
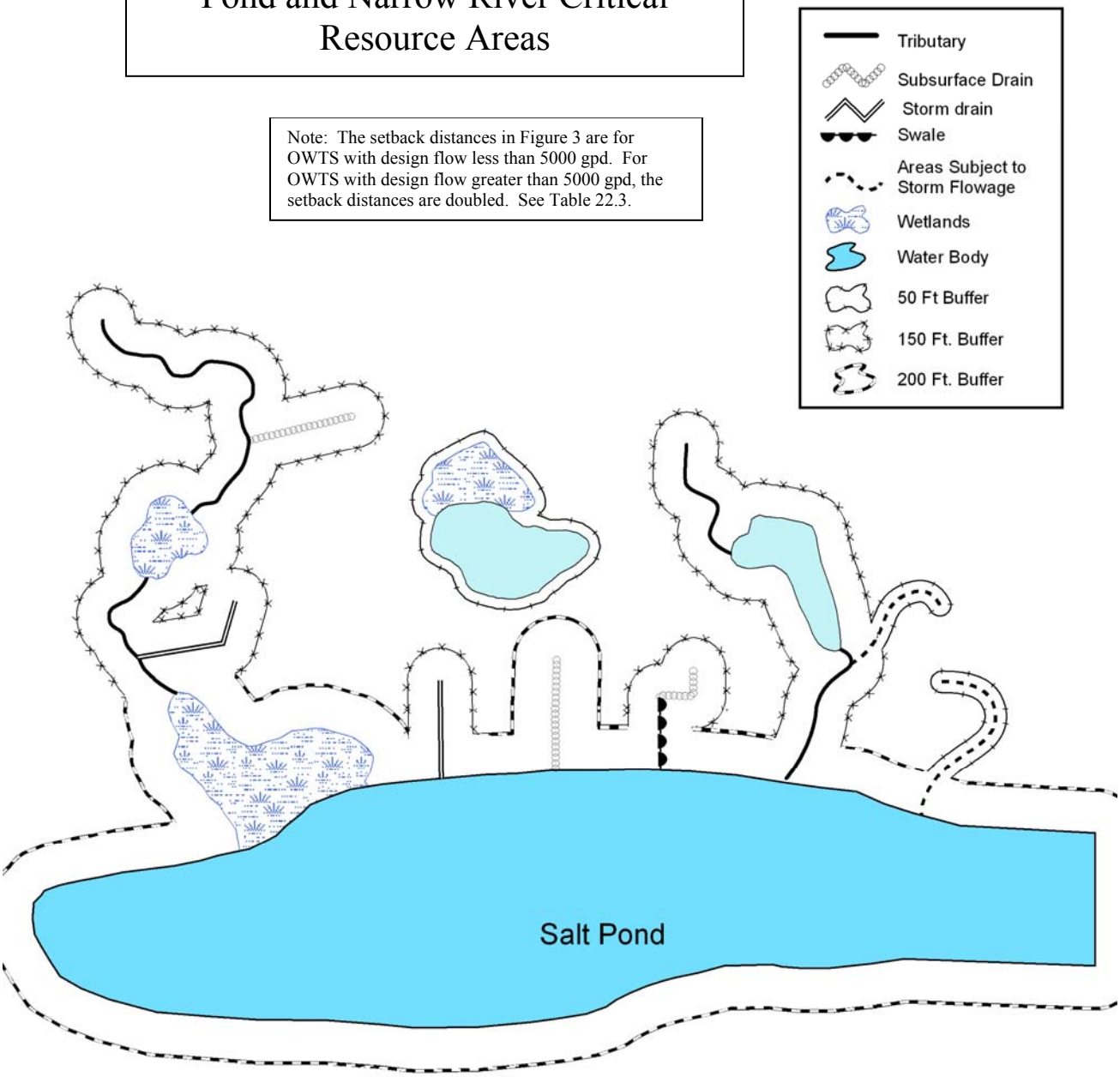


**Figure 3**

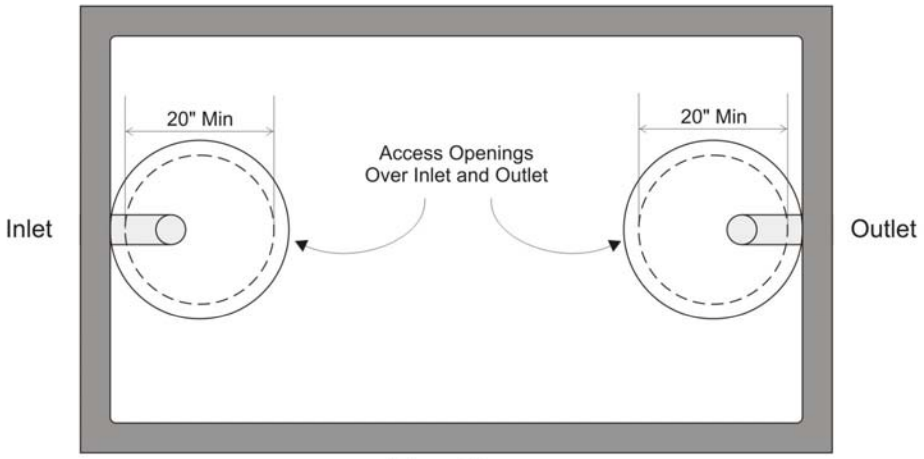
# Minimum Setback Distances in the Salt Pond and Narrow River Critical Resource Areas

Note: The setback distances in Figure 3 are for OWTS with design flow less than 5000 gpd. For OWTS with design flow greater than 5000 gpd, the setback distances are doubled. See Table 22.3.

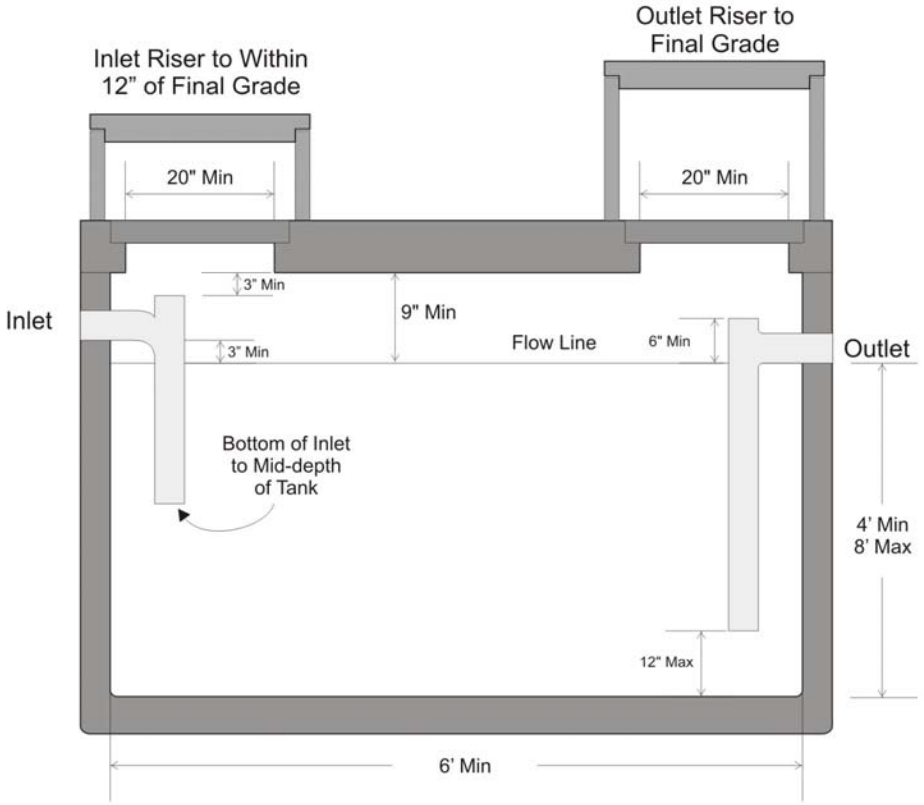


# Figure 4: Grease Tanks

Not To Scale, Consult Rule 25 For Details



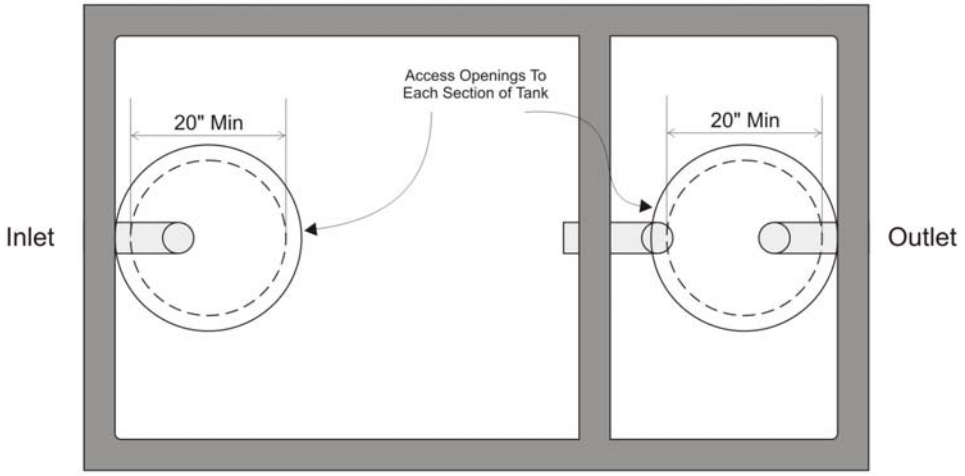

Plan View



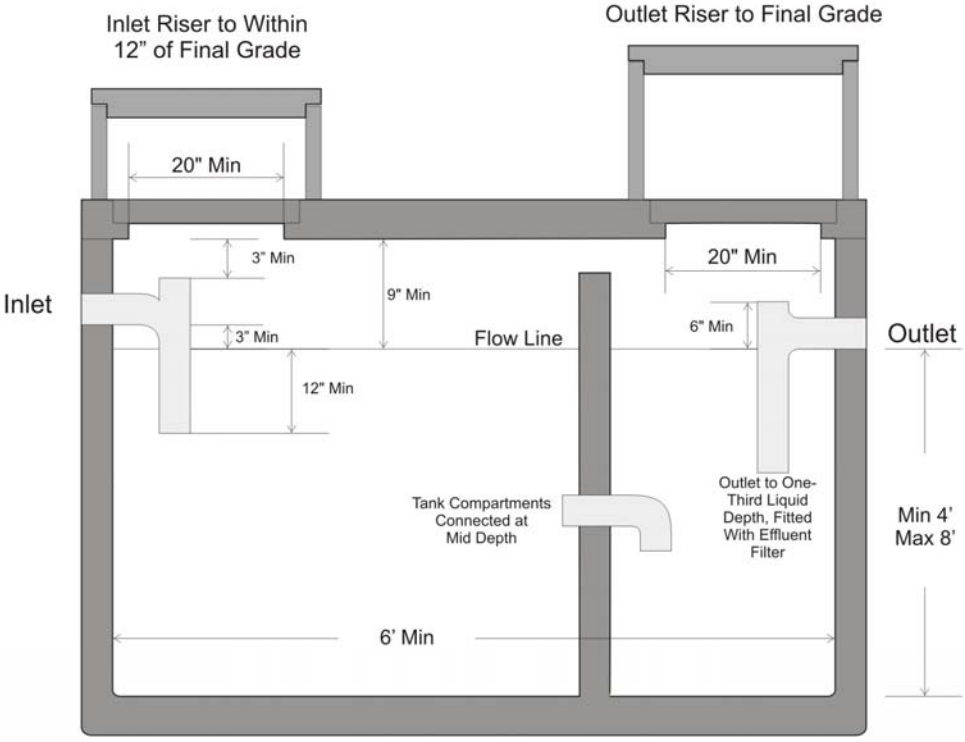

Cross Section View

# Figure 5: Septic Tanks

Not To Scale, Consult Rule 26 For Details




Plan View



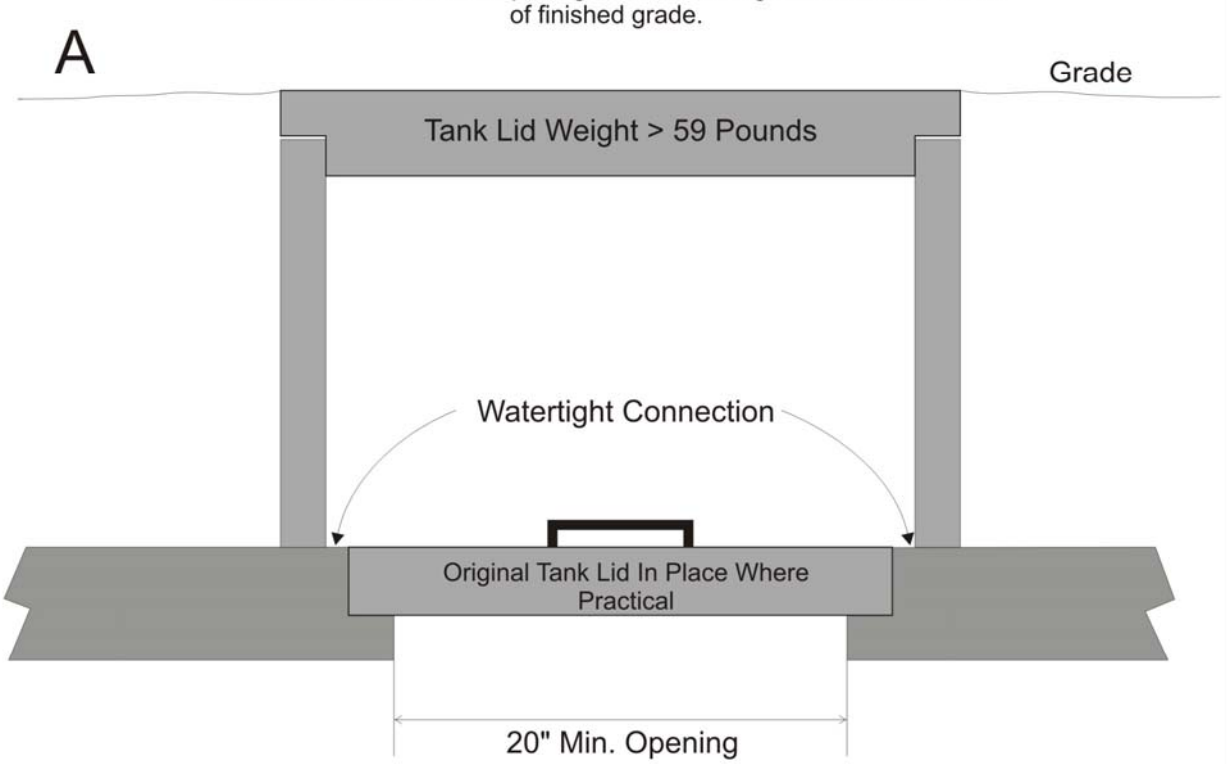

Cross Section View

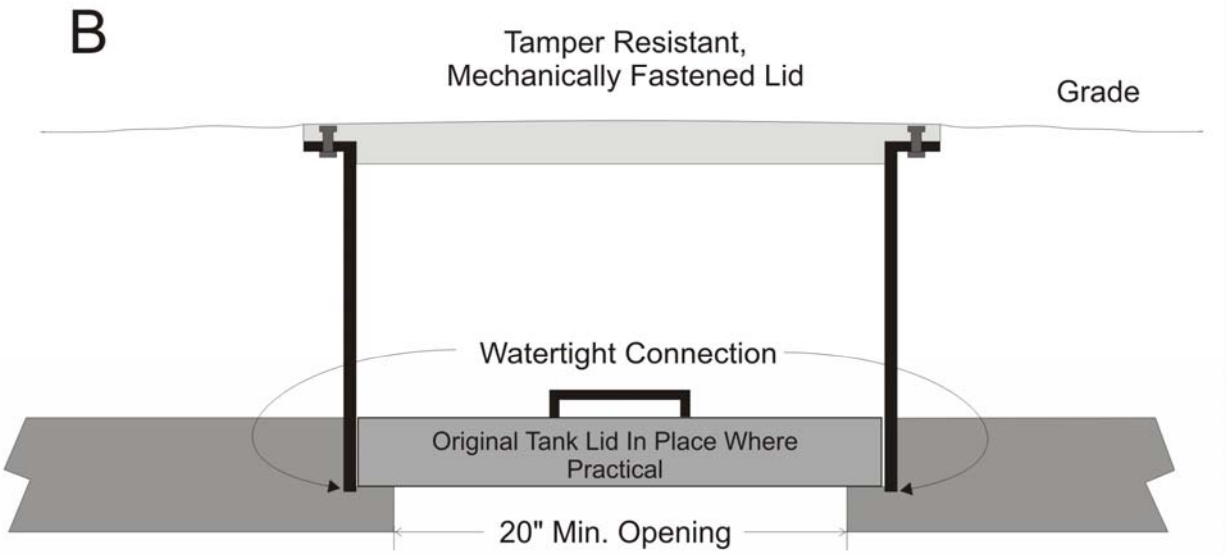
O

# Figure 6: Septic Tank Riser Detail

## Not To Scale, Consult Rule 26.7.2 For Details

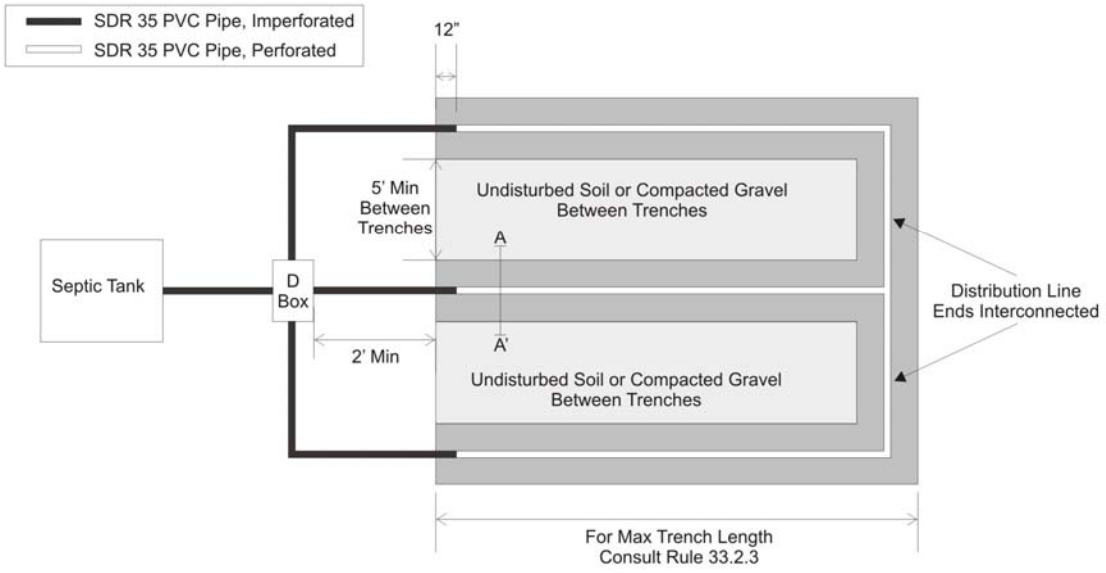
Note: Risers over outlet tees must be brought to finished grade, outlets over other access openings must be brought to within 12 inches of finished grade.



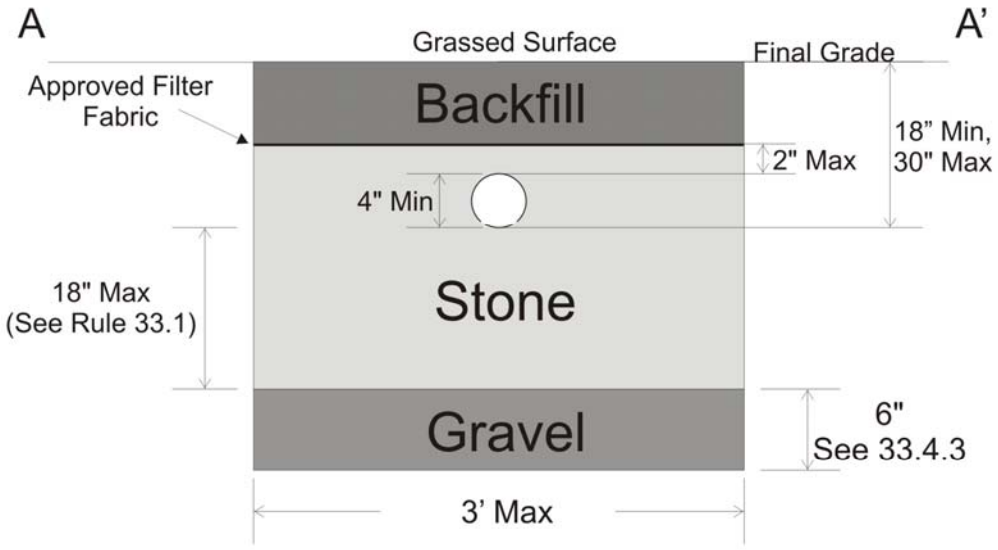



## Figure 7: Leachfield Construction, Invert of Distribution Lines Below Original Grade

Not to Scale, Consult Rule 33.4 for Details



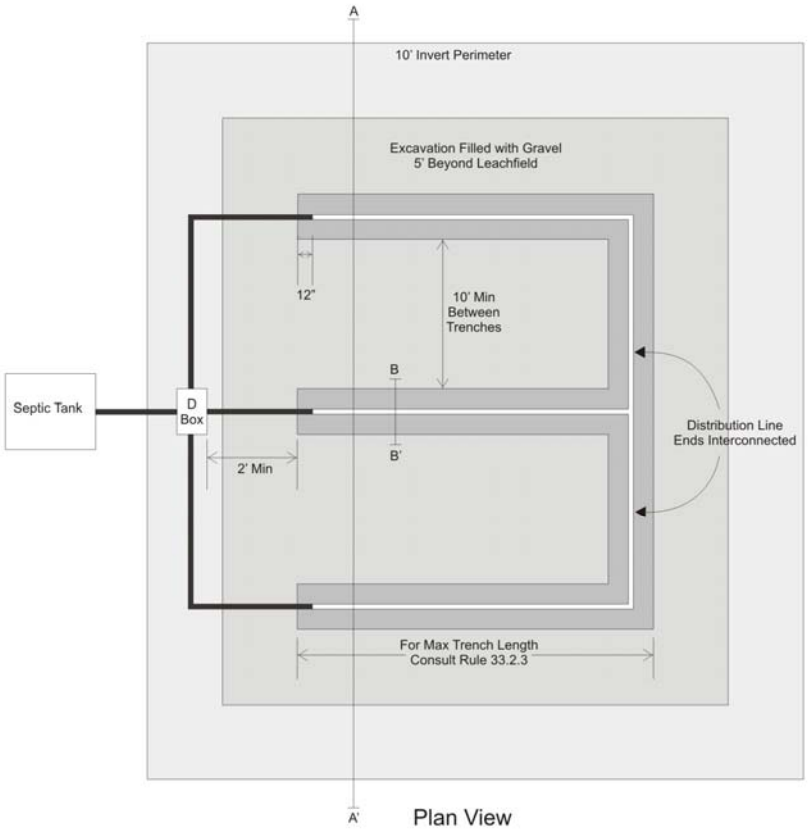

System Plan View



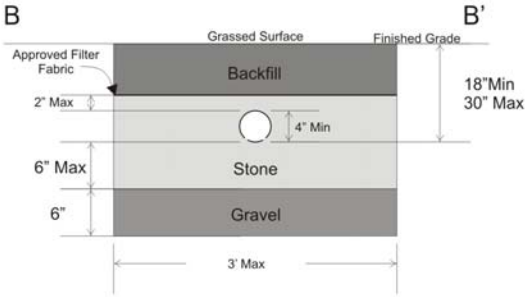

Trench Cross Section View

## Figure 8: Leachfield Construction, Invert of Distribution Lines Above Original Grade

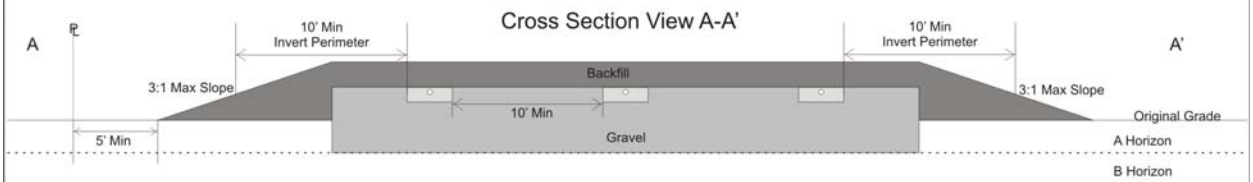
Not to Scale, Consult Rule 33.5 for Details




Plan View




Trench Cross Section Detail B-B'

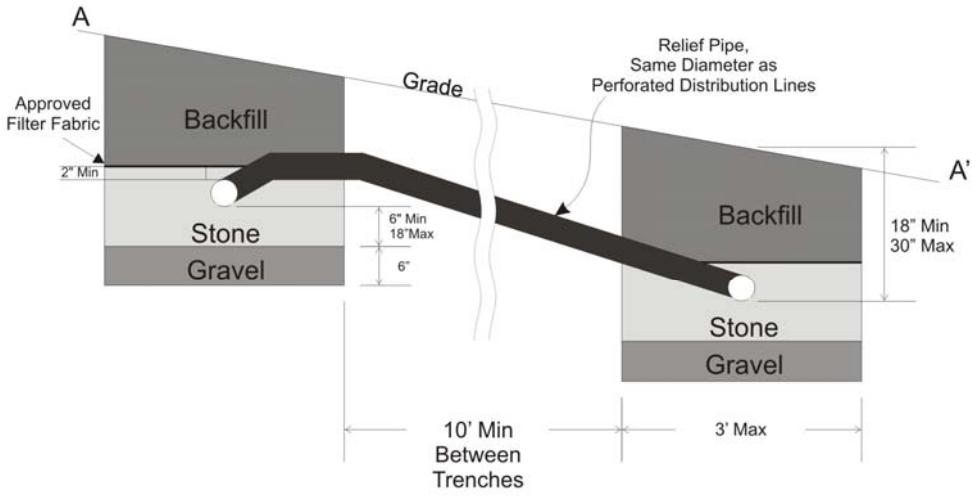




Note: See also Rule 32 for additional details and requirements for leachfield construction.

# Figure 9: Leachfield Construction on Sloping Sites

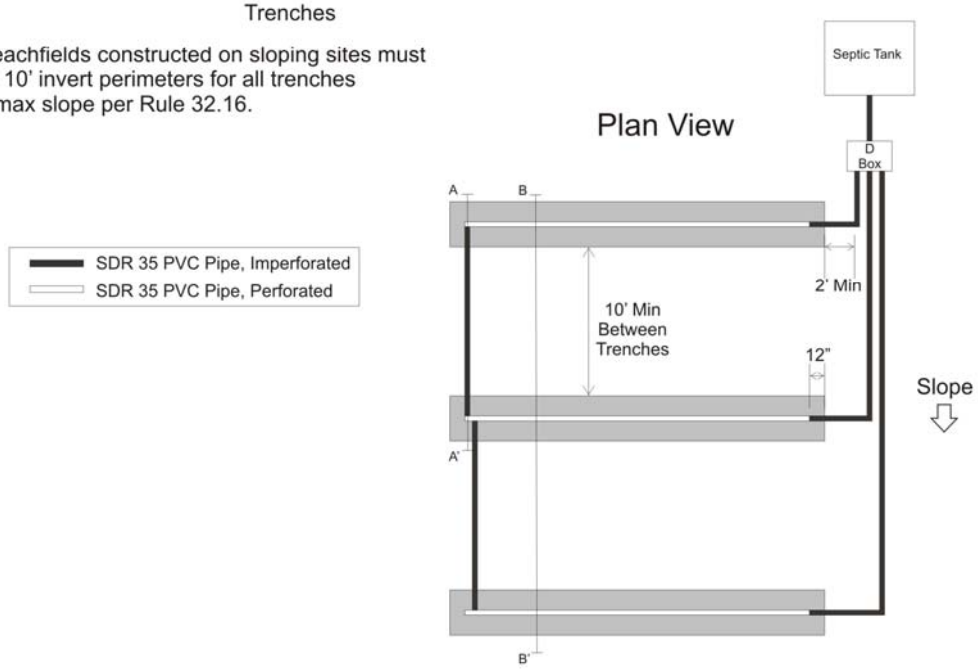
Not to Scale, Consult Rule 33.6 for Details

## Relief Pipe and Trench Cross Section Detail

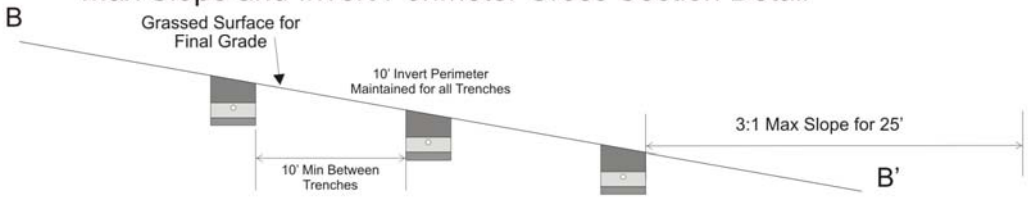



Note: Leachfields constructed on sloping sites must maintain 10' invert perimeters for all trenches and 3:1 max slope per Rule 32.16.

## Plan View



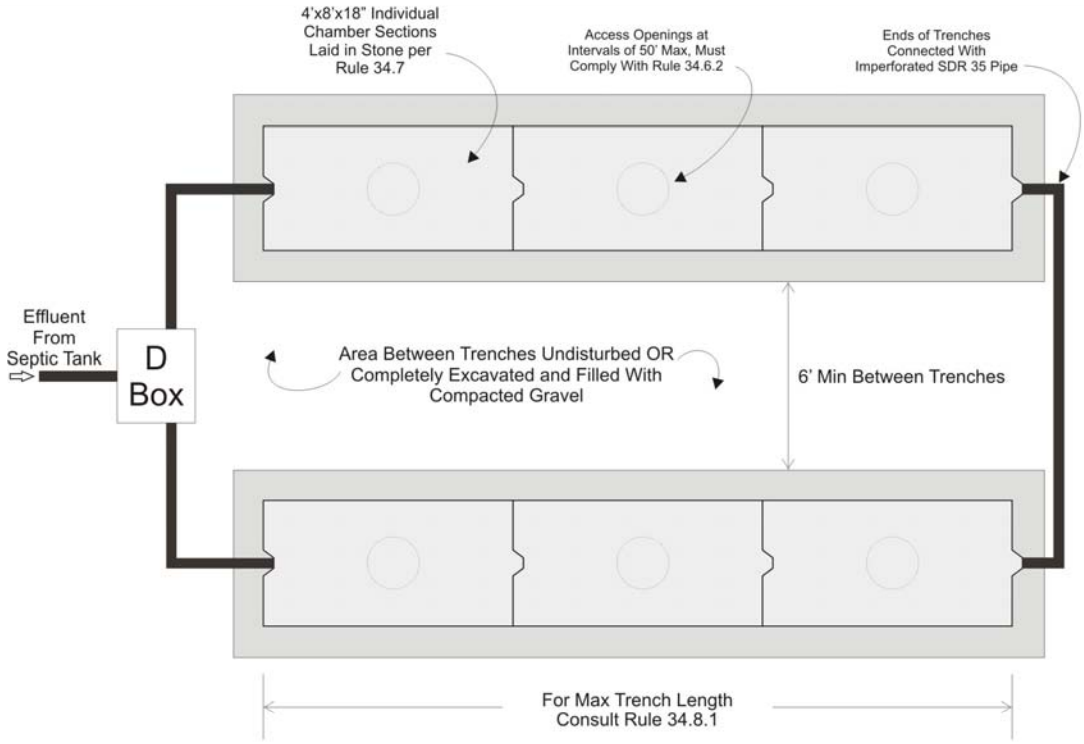

## Max Slope and Invert Perimeter Cross Section Detail



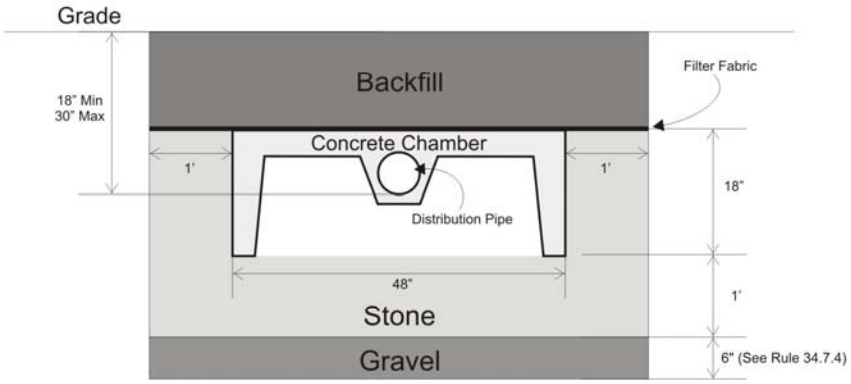

Note: See also Rule 32 for additional details and requirements for leachfield construction.

# Figure 10: Shallow Concrete Chambers

Not to Scale, Consult Rule 34 for Details




Sample Leachfield, Plan View




Typical Trench Cross Section View

Figure 11. South Shore Salt Ponds Critical Resource Area
For a detailed look at a location, go to the DEM website, go to "Maps," go to "Environmental Resource Maps" and build a map of your choice.

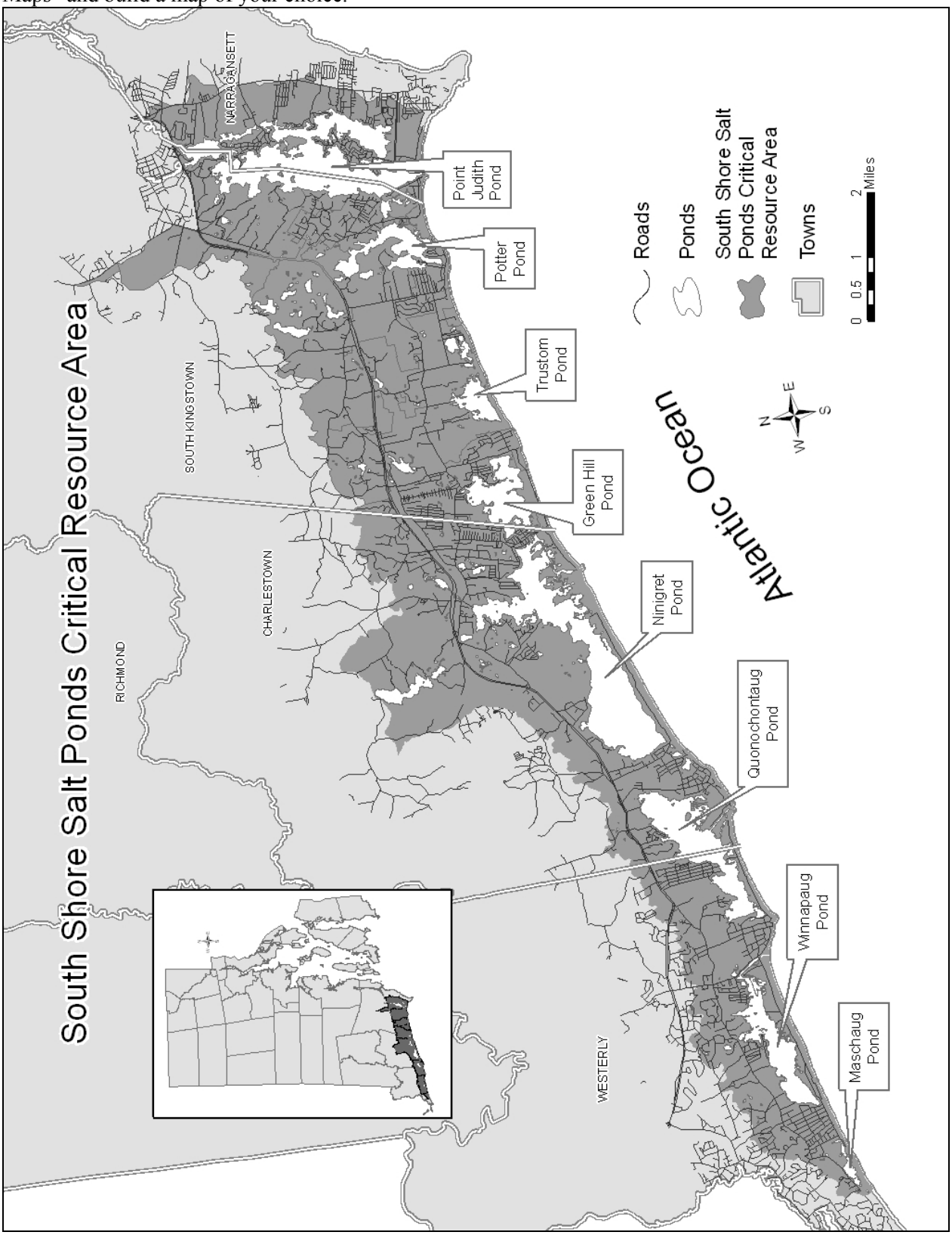


Figure 12. Narrow River Critical Resource Area
For a detailed look at a location, go to the DEM website, go to "Maps," go to "Environmental Resource Maps" and build a map of your choice.

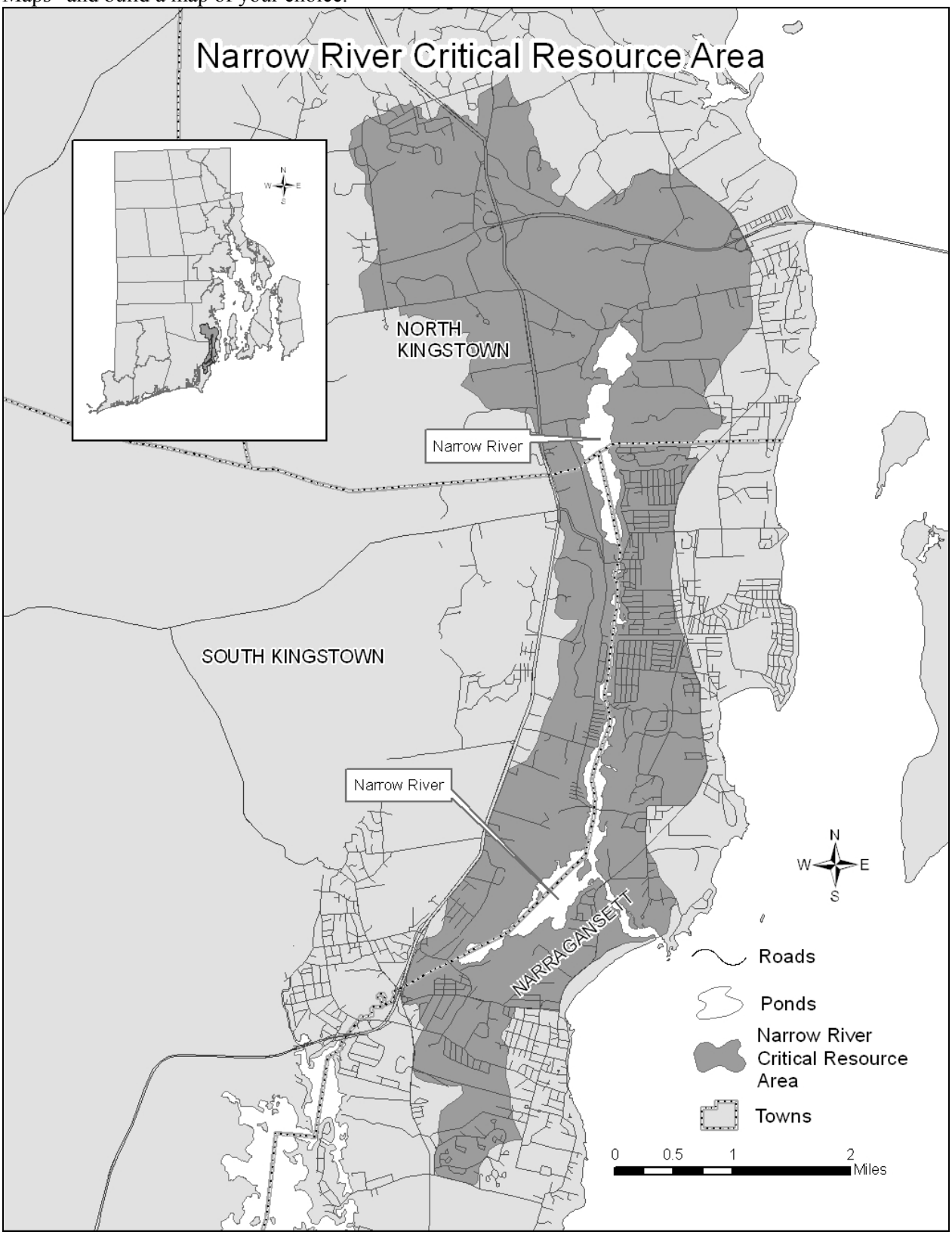


Figure13. For a detailed look at a location, go to the DEM website, go to "Maps," go to "Environmental Resource Maps" and build a map of your choice.

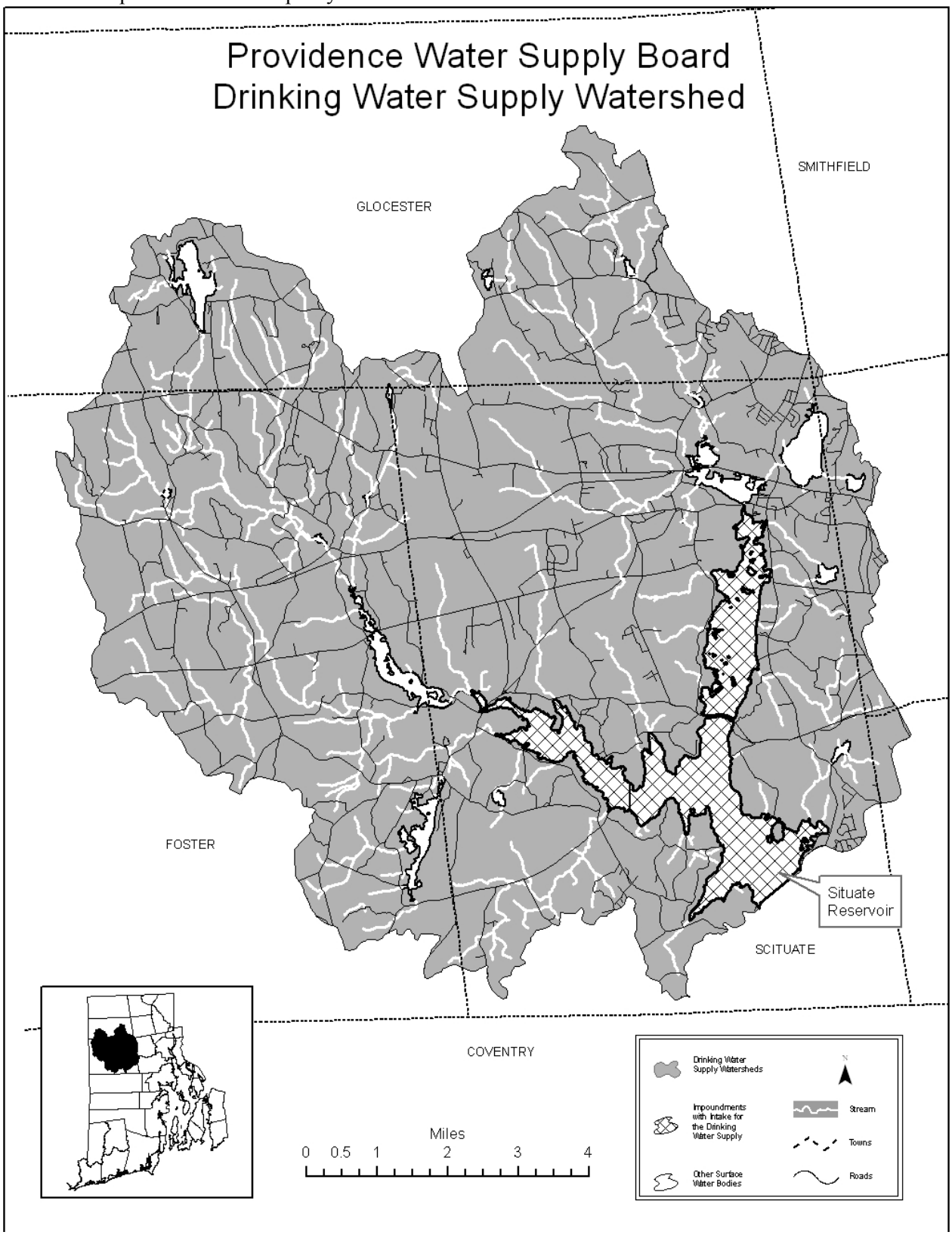


Figure14. For a detailed look at a location, go to the DEM website, go to “Maps,” go to “Environmental Resource Maps” and build a map of your choice.

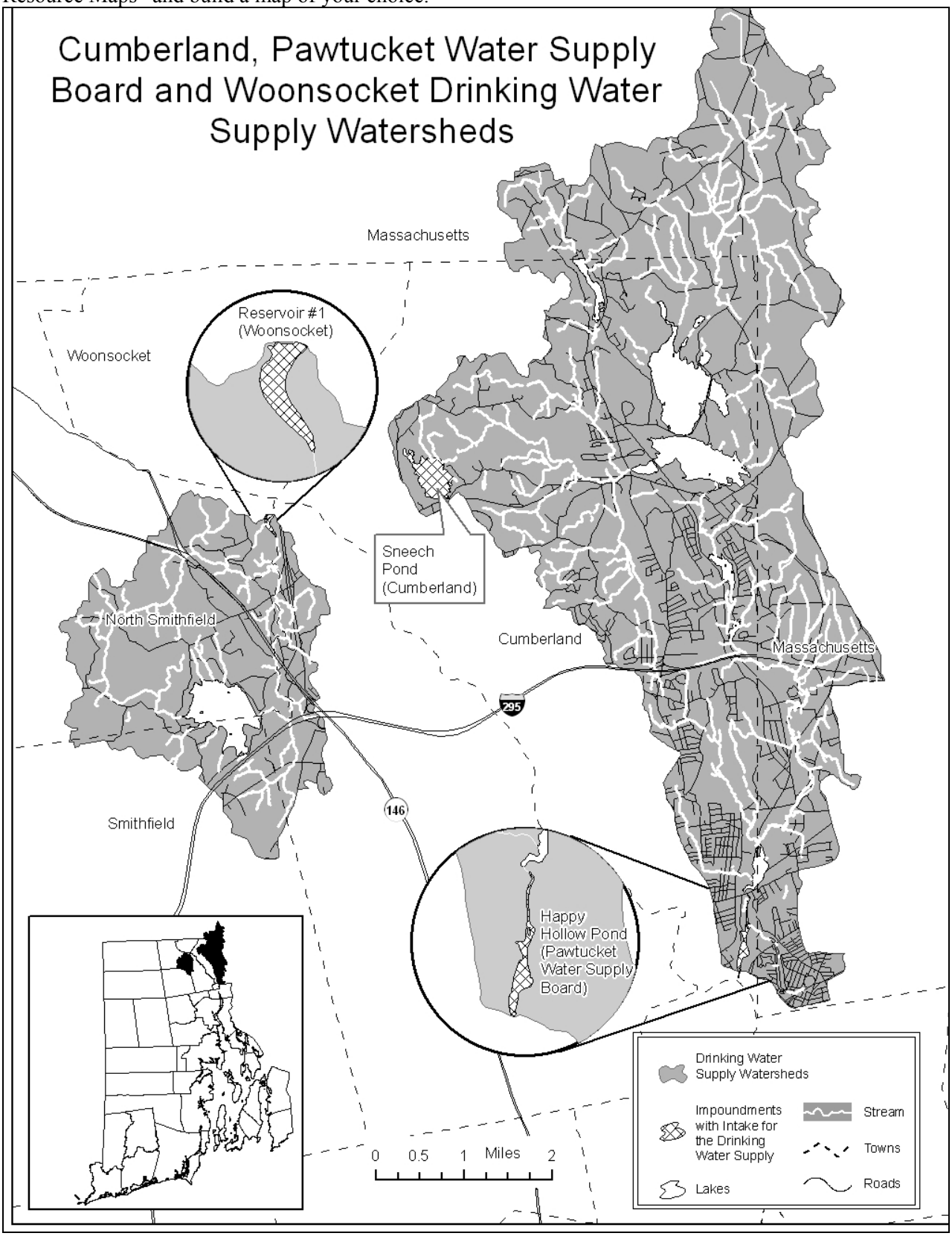


Figure 15. For a detailed look at a location, go to the DEM website, go to "Maps," go to "Environmental Resource Maps" and build a map of your choice.

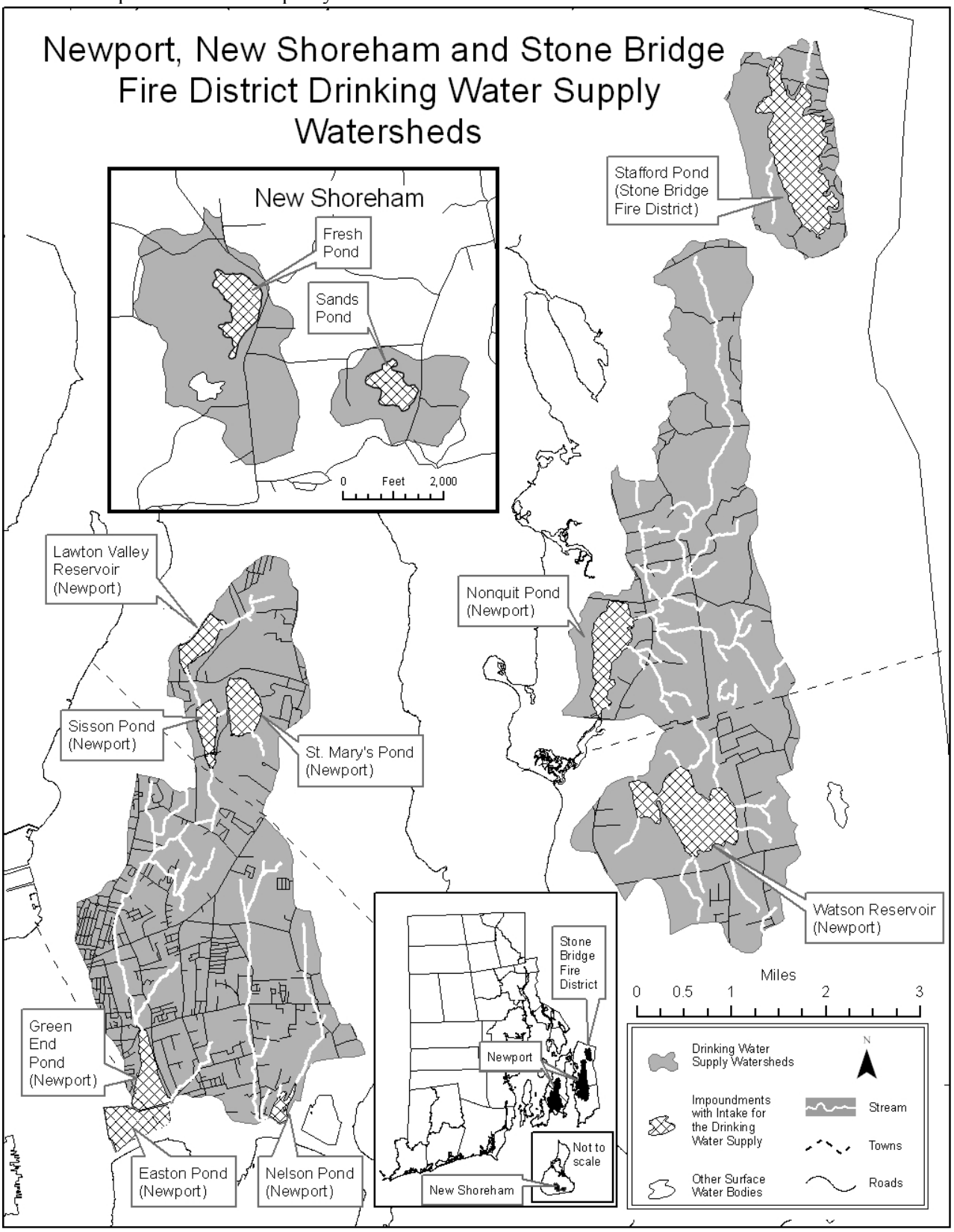
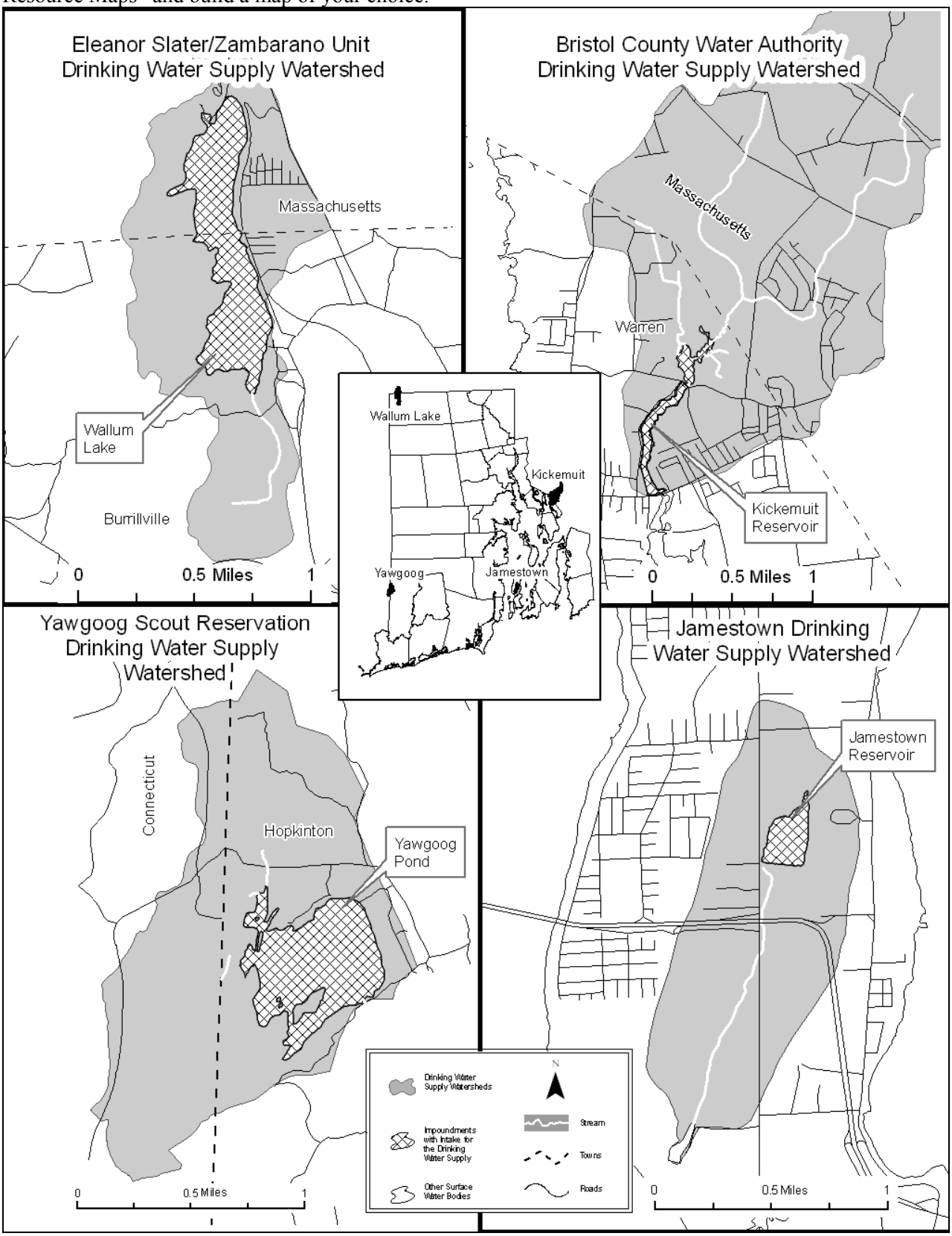


Figure 16. For a detailed look at a location, go to the DEM website, go to "Maps," go to "Environmental Resource Maps" and build a map of your choice.



***[Appendices 1& 2 have been removed and will be released in the form of the Soil Evaluation Guidance Document.]***

**RULE 55. EFFECTIVE DATE**

The foregoing "Rules ~~and Regulations~~ Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of ~~Individual Sewage Disposal~~ Onsite Wastewater Treatment Systems," after due notice, are hereby adopted and filed with the Secretary of State this_____ day of _____, 2007 to become effective ~~**twenty (20) days thereafter**~~ **January 1, 2008,** 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. New or revised standards for grease tank construction in Rule 25, septic tank construction in Rule 26, holding tank construction in Rule 28, and pump tank construction in Rule 29 shall become effective **January 1, 2009. ~~one (1) year after the above filing date with the Secretary of State.~~**

_____
W. Michael Sullivan, Ph.D.
Director, Department of Environmental Management

Notice Given On: August 17, 2007

Public Hearing Held: September 21, 2007

Filing Date: **November 20, 2007**

Effective Date: **January 1, 2008**