



RI DEM Class II OWTS Designer Examination

Study Guide

Revised August 2019

This material is intended to assist you in your preparation for the RIDEM Class II Designer Examination. It is **not** intended to provide the technical foundation necessary to pass the exam. It is intended to be used with the OWTS rules available at:

<https://rules.sos.ri.gov/regulations/part/250-150-10-6>.

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Class II Exam Study Guide - Part 1 - Introduction

DEM OWTS Licensing Program Summary

<u>OWTS Design License Class</u>	<u>Qualifications</u>	<u>Authorized Tasks</u>	<u>Task</u>	<u>Practice</u>
I	OWTS Installer	Residential system repairs <=900gpd conventional systems and certain alternative technologies	Site Suitability	-Year-round WT -Soil Evaluation by RIDEM-licensed CI-IV (Soil Evaluator) -Field verification optional -Field approval allowed
II	PE or PLS	≤ 2000 gpd residential ≤ 900 gpd commercial all Class I and alteration apps, new building apps without critical variances	Design	RIDEM-licensed OWTS designer
Effective July 15, 2019 RI-registered PEs may design any septic system under the RIDEM OWTS rules and in compliance with the RI Board of Registration for PEs. There is no longer a CI-III license		All system designs	Design Review	Level of review based on designer or special conditions
IV	Min 9 semester Hours soil science And 2 – 4 years experience	Site/soil evaluations (req'd for all New Building Construction, Application for Alteration of a Structure, and for an OWTS Application for Repair for non-residential uses)	Installation compliance checks	-OWTS licensed designer -RIDEM spot checks or case-by-case basis
			Certification of installation per RIDEM-approved plan: Submission to RIDEM of a Certificate of Construction (COC)	COC submitted to RIDEM by designer within five business days after the OWTS, building foundation, drinking water well, and other appurtenances, as may be specified in written RIDEM guidance, have been constructed in accordance with the design plan. If an O&M agreement is required, a copy of the agreement shall be submitted to the Department with the Certificate of Construction.
			System Conformance (authorizes use of system)	RIDEM

Activities in Licensing

- Application to take exam
- Exam
- License Application & fee
- License issued - maximum 3-year period
- Continuing education - 4 "Continuing education units" CEU per year
- Renewal of Licenses, Application submitted with fee and documentation of CEUs. License will not be renewed if designer has Certificates of Construction or As built plans due.

Responsibilities of Class II Designers

- Obtain required site/system data
- Design of OWTS repair, new construction or alteration.
- Inform owner of O&M requirements
- Submittal of complete and accurate application and plan based on information in the soil evaluation report (see OWTS rule 6.18 OWTS Applications).
- Notify RIDEM of construction date; at least 24 hrs. notice
- Fulfill minimum inspection and requirements
 - Record and maintain a file (photos, material receipts, etc.) – (See OWTS rule 6.47 – OWTS Installation).
- Submit Certificate of Construction within five business days after the OWTS, building foundation, drinking water well, and other appurtenances, as may be specified in written RIDEM guidance, have been constructed in accordance with the RIDEM-approved design plan.

Compliance Oversight Process

- Complaints/performance problems
 - Preliminary review of complaints
 - Warning letter issued if appropriate
- Review Panel for more serious issues
 - Notice of Intent to Suspend or Revoke may be issued
 - Preliminary hearing
 - Notice of Suspension or Revocation
 - Appeal/Formal hearing
 - Public censure

Rhode Island Installer Statute

Title 5 - Businesses and Professions

Chapter 5-56 - Installers of Individual Sewage Disposal Systems

5-56-1 License required. –

(a) It shall be unlawful for any person to install, construct, alter, or repair or cause to be installed, constructed, altered, or repaired any individual sewage disposal system unless he or she has a valid annual license issued by the director of environmental management.

(b) This section does not apply to a property owner installing, constructing, altering, or repairing an individual sewage disposal system to serve a building he or she occupies or will occupy as his or her intended permanent domicile, provided that he or she has obtained written permission for that work, and that he or she has obtained the necessary written approval of the director of the plans and specifications for that work prior to the start of any construction.

5-56-2 Conditions for obtaining an installer's license. –

(a) An application for an installer's license filled out in its entirety, along with a fee of twenty-five dollars (\$25.00), must be submitted to the director.

(b) The applicant installer must have demonstrated to the director that he or she is capable of installing individual sewage disposal systems in accordance with approved plans and specifications.

(c) The applicant installer must obtain a passing grade on a written examination given by the director, intended to demonstrate his or her understanding of the rules and regulations, and his or her ability to read and interpret approved plans and specifications for individual sewage disposal systems.

(d) The applicant installer must demonstrate possession of and ability to properly use a level or transit.

5-56-3 [Obsolete.] – Reenactments. The 1987 reenactment (P.L. 1987 ch. 78, § 1) deemed this section obsolete.

5-56-4 License not transferable or assignable. – Installer's licenses are not transferable or assignable and shall automatically become invalid upon a change of ownership or upon suspension or revocation.

5-56-5 Denial, suspension and revocation of licenses. –

(a) An application for a license may be denied, or a license may be suspended or revoked when the director has determined that the operation is not being and/or will not be conducted in manner as prescribed in these regulations.

(b) When an application for a license has been denied or when a license has been suspended or revoked, a hearing shall be granted if a hearing is requested in writing by the aggrieved applicant within ten (10) days of the denial, suspension or revocation.

5-56-6 Expiration and renewal of licenses. –

(a) Licenses shall be in effect for a period not to exceed three (3) years following the date of issuance.

(b) A license shall be renewed upon payment of a renewal fee and the satisfactory completion of any continuing education required by the director.

5-56-7 Responsibilities, performance and conduct. – A duly licensed installer shall adhere to the following:

(1) To perform all work in compliance with approved plans and specifications only.

(2) To report any discrepancies on an approved plan which he or she may note during construction to the director.

(3) To utilize only quality grade construction materials approved by the director.

(4) To use only the best construction techniques to provide for the best possible installations.

(5) To work only under valid plans approved by the director with the approval stamp clearly indicated, and to commence work only after completely reviewing the entire approval including the application, the layout plans, all typical specification sheets, and other attachments.

(6) To adhere to each and every term of approval as stipulated by the director in his or her approval of the particular plan.

5-56-8 Penalties. –

(a) The penalties for noncompliance with any section of this chapter are as set forth in § 42-17.1-2, as amended, as follows:

(b) Any person who shall knowingly and willfully violate any rule or regulation adopted pursuant to authority granted to the director shall upon conviction be punished by a fine of not more than five hundred dollars (\$500) or by imprisonment for not more than thirty (30) days or both, for each offense or violation, and each day's failure to comply with any rule or regulation shall constitute a separate offense.

Rhode Island Designer Statute

Title 5 - Businesses and Professions

Chapter 5-56.1 - Designers of Individual Sewage Disposal Systems

IMPORTANT NOTE – July 15, 2019 Governor Raimondo signed the House (H 5365) and Senate (S 398) bills amending Title 5 Businesses and Professions, Chapter 5-56.1 Designers of Individual Sewage Disposal Systems. The text below **does not** reflect the amendments which include exemption of RI-registered PEs from the requirement to pass a RIDEM licensing exam.

5-56.1-1 Declaration of intent and purpose. –

(a) Whereas sewage entering individual sewage disposal systems contains bacteria, viruses, other pathogens and nutrients; and whereas the sewage may also contain hazardous materials, including, but not limited to, cleaning fluids, paints, hobby supplies and other hazardous household chemicals; and whereas improperly designed or defectively installed and failing individual sewage disposal systems may degrade wetlands, groundwater, or surface waters, including drinking water sources; and whereas the public health, the public welfare, and the environment require protection from pollutants emanating from individual sewage disposal systems; the general assembly establishes licensing requirements and responsibilities for persons involved in certain design and installation activities relating to individual sewage disposal systems.

(b) The purpose of this chapter is to establish provisions, qualifications and procedures for licensing persons engaged in the preparation of applications, plans, certifications and specifications for individual sewage disposal systems, also referred to as "ISDSs", for submittal to the department of environmental management.

5-56.1-2 License required. – Beginning one year after issuance of the first designer's license, all plans, applications, evaluations and certifications for the siting, location, design, installation or repair of any individual sewage disposal system submitted to the department of environmental management are prepared by a person possessing an appropriate designer's license issued by the director of the department of environmental management in accordance with rules and regulations promulgated under § 5-56.1-3. The department of environmental management may exempt the repair of individual sewage disposal system from this requirement.

5-56.1-3 Licensing authority. – The department of environmental management, acting through its director and referred to as "the licensing authority", carries out the functions and duties conferred upon it by this chapter. The licensing authority adopts standards, rules and regulations, pursuant to chapter 35 of title 42, for the administration of the licensing program established under this chapter and related activities.

5-56.1-4 Conditions for obtaining a designer's license. – A designer's license is issued to any person who satisfies all the requirements stated below:

(1) A completed application for a designer's license along with a reasonable fee is submitted to the licensing authority; all fees are deposited as general revenues and the amounts appropriated are used for the purpose of administering the water and air protection program.

(2) The applicant for a designer's license is required to pass a written examination, which may include a field component, administered or sanctioned by the licensing authority for the applicable class of license. The test assesses the competency and knowledge of the applicant regarding pertinent subject matter and the application of ISDS regulations.

(3) The licensing authority establishes, through regulations, classes of licenses appropriate to the expertise required for each activity performed by licensed individuals. The licensing authority establishes minimum qualifications, education and experience requirements for each class of license and eligibility requirements for testing. The licensing authority may waive the requirement of a written examination or any portion of it in the case of a person licensed by a federal agency or another state having licensing requirements substantially equivalent to those in Rhode Island.

(4) No person may be granted an exemption to any of the conditions for obtaining a license as provided for in this section on the basis of past experience or "grandfather" rights.

(5) The licensing authority holds an examination at least once per year.

5-56.1-5 License not transferable or assignable. – Designers' licenses are issued to natural persons only and are not transferable or assignable.

5-56.1-6 Expiration and renewal of licenses. –

(a) A designers' license is in effect for a period not to exceed three (3) years following the date of issuance.

(b) A license is renewed upon payment of a renewal fee and upon satisfactory completion of any continuing education required by the licensing authority.

5-56.1-7 Responsibilities – Performance and conduct. –

(a) A licensed designer performs all studies, measurements, evaluations, investigations, data gathering and other work within his or her licensed area of responsibility required to prepare the applicable submittal for individual sewage disposal

systems; non-licensed employees or subordinates of a person possessing a designer's license may assist in the work provided the work is done under the direct supervision of the licensed designer who is responsible for the work and signs any and all required applications, submittals and certifications.

(b) A licensed designer witnesses and inspects the installation of any individual sewage disposal system which he or she designed. The licensing authority may, in accordance with regulation, waive this requirement for good cause, including the designer's death or incapacity.

(c) A licensed designer certifies to the licensing authority that the individual sewage disposal system was installed in conformance with the approved application, plans, specifications, applicable statutes and regulations and that he or she has witnessed and inspected the installation. Upon the certification, the licensed designer is responsible for the installation. The certification is not construed to release the installer from liability. The licensed designer is not responsible for any negligent act or omission of a user of an ISDS which causes damage to the ISDS, including altering of site conditions after certification of installation, failing to properly maintain the ISDS or failing to protect the ISDS from physical disturbance causing damage.

5-56.1-8 Denial, suspension and revocation of licenses – Censure. –

(a) The licensing authority may deny, suspend or revoke a designer's license if the person or licensed designer fails to comply with the requirements prescribed in this chapter or any regulation promulgated under this chapter or where the person or licensed designer:

(1) Provided incorrect, incomplete or misleading information in obtaining a designer's license; or

(2) Demonstrated gross or repeated negligence, incompetence or misconduct in the representation of site conditions in an application to the department of environmental management, design of an ISDS, or inspection or certification of an installation of an ISDS; or

(3) Committed a felony involving moral turpitude; or

(4) Failed or neglected to comply with continuing education requirements established by the licensing authority.

(b) An action to suspend or revoke a designer's license pursuant to subsection (a) of this section may not be taken until after the licensed designer has an opportunity to have a hearing before the licensing authority. This hearing is held within thirty (30) days of written notice of intent to suspend or revoke the license.

(c) The licensing authority appoints a review panel consisting of five (5) members at least three (3) of whom are licensed designers not employed by the licensing authority, for the purpose of reviewing and hearing disciplinary actions contemplated under subsection (b) of this section. The review board makes recommendations to the licensing authority to suspend or revoke licenses. All final decisions are made by the licensing authority.

(d) Any person aggrieved by the denial of an application for a license pursuant to § 5-56.1-4 or a denial, suspension or revocation of a license pursuant to this section may request a formal hearing pursuant to § 42-17.1-2(u) which is granted, if requested, in writing by the aggrieved applicant or licensee within ten (10) days of the denial, suspension or revocation.

(e) The licensing authority may publicly censure any licensed designer whose license was suspended or revoked.

5-56.1-9 Penalties. – The penalties for noncompliance with any section of this chapter are the same as stated in §§ 42-17.1-2(v) and 42-17.6-1 et seq., as amended.

Preparation for and What to Bring to the Class II OWTS Designer Exam

Exam format & required materials

The Class II exam is open-book. The format includes multiple choice as well as calculations and one or more design exercises. Materials you **must** bring to the exam:

- Pencils
- Calculator (consider a replacement battery), not a phone.
- Scale

Optional materials you may find helpful

- Copy of your OWTS rules
- This study guide
- Reference texts – a general sanitary engineering text that addresses septic systems and a basic hydrology text would likely be the most useful, however the exam may be successfully completed by a knowledgeable applicant without such materials.

Preparation

In preparing, it is appropriate to do the following as applies to the exam for which you are preparing.

- Review rules 6.10, 6.11, 6.12 and 6.13 which describe:
 - Authority associated with each license class,
 - Eligibility for each of the exams,
 - Content of each of the exams,
 - Expiration, Renewal and Reinstatement of Licenses, and
 - Disciplinary Action
- Review rules 6.47 and 6.48, which describe:
 - Installation and designers' responsibilities associated with installation and certification of installation to RIDEM (Certificate of Construction)
- Familiarize yourself with all aspects of the OWTS regulations
- Review and understand basic principles of onsite wastewater treatment
 - Wastewater chemistry (fate and transport of constituents of sanitary sewage)
 - Microbiology (general understanding of organisms present in wastewater and soil)
 - Soils-related concepts (treatment potential)
 - Hydrology
 - Soil physics
- Concepts associated with system failure (identification of failure, types of failure and causes of failure)
- System design
- Components and their function
- Sizing
- Leachfield options
- Horizontal setbacks
- Vertical separation distances
- Pump design
- Site suitability issues

Innovative & Alternative Technologies

The exam will not require memorization of manufacturer specifications for various technologies. Questions will focus on the general principles of advanced treatment technology and applicability to certain site conditions.

Selected References

This is a list of typical reference books. The listing is not all-inclusive, nor is it necessary to review these particular books. This is intended as guidance, as to the type of texts you may want to review prior to the exam.

Online Resources

The New England Onsite Wastewater Training Center has available on their website, a series of onsite wastewater fact sheets including but not limited to the following topics: conventional and advanced treatment system types, wastewater treatment and system maintenance. These fact sheets are available a links at:

<http://web.uri.edu/owt/onsite-wastewater-factsheets/>.

The US Environmental Protection Agency issued two onsite manuals, one in 1980 and the second in 2002. These manuals are available at <https://www.epa.gov/septic/onsite-wastewater-treatment-and-disposal-systems> and are listed as number 5 and 6 below.

The Consortium of Institutes for Decentralized Wastewater Treatment “*Decentralized Wastewater Glossary*” is available at <http://onsiteconsortium.org/Glossary2009.pdf>.

Printed Publications

Conventional and Alternative Design of On-site Systems

1. Burks, Bennette D. and Mary M. Minnis. *Onsite Wastewater Treatment Systems*, Madison, Wisconsin: Hograth House, Limited, 1994.
2. Collins, Eldridge. “On-site Wastewater Treatment”, *Individual and Small Community Sewage Systems: Proceedings of the Seventh International Symposium in Atlanta, Georgia, November 11-13, 1994*, by The Society for Engineering in Agricultural, Food, and Biological Systems. St. Joseph, Michigan: American Society of Agricultural Engineers, 1994.
3. Laak, Rein. *Wastewater Engineering Design for Unsewered Areas, 2nd Ed.* Lancaster, Pennsylvania: Technomic Publishing Company, Inc. 1986.
4. Perkins, Richard J. *Onsite Wastewater Disposal*. National Environmental Health Association, Lewis Publishers, 1990.
5. United States Environmental Protection Agency. *Design Manual: Onsite Wastewater Treatment and Disposal Systems*. Washington, D.C.: U.S. Government Printing Office, 1980. Available online: https://www.epa.gov/sites/production/files/2015-06/documents/septic_1980_osdm_all.pdf
6. United States Environmental Protection Agency. *Onsite Wastewater Treatment Systems Manual*. Washington, D.C.: U.S. Government Printing Office, 2002. Available online: https://www.epa.gov/sites/production/files/2015-06/documents/2004_07_07_septics_septic_2002_osdm_all.pdf

Wastewater Engineering

7. Crites, Ron and George Tchobanglous. *Small and Decentralized Wastewater Management Systems*. The McGraw Hill Companies, Inc. 1998.
8. Salvato, Joseph A. *Environmental Engineering and Sanitation, 4th Edition*. New York: A Wiley-Interscience Publication. 1992.

Groundwater

9. Freeze, Allen R. and John A. Cherry. *Groundwater*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. 1979.
10. Matthes, Georg. *The Properties of Groundwater*. New York: A Wiley-Interscience Publication. 1982.

Class II Exam Study Guide - Part 2

Exam Description

Class II - A passing grade is 70%
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Rule 6.11(C)(2) of the OWTS rules describes the examination for a **Class II** Designer's License to include at a minimum:

- Principles of onsite wastewater treatment and dispersal;
- Analysis of OWTS failures;
- Design and construction of OWTS repairs, with consideration given to soil types and related constraints;
- Advanced principles of onsite wastewater treatment and dispersal;
- Understanding of the applicable state rules; and
- Design and construction of new OWTSs, including constraints to design imposed by soils.

The Class II exam requires completion of pump calculations, an OWTS Construction Application, invert schedule a system -and a system design.

The **point distribution** of the Class II exam is as follows:

20 points – OWTS Regulations (40 questions – 1/2 point each)

25 points – Principles of Design of On-Site Sewage Systems (25 questions – 1 point each)

15 points – Analysis of OWTS Failure (15 questions – 1 point each)

40 points – OWTS Design and Construction with consideration to soil types and related constraints.

10 points – Pump design

5 Points – Complete OWTS Application

25 points – OWTS Design

Exam Tips

Know the OWTS Rules

Bring calculator (not an app on your phone), scale and pencils

Read directions thoroughly

Budget your time!

Design the required system type (as specified in the given information)

Design in the area of testing

Show proposed grading

Class II Exam Study Guide - Part 3

Wastewater Basics and Design Guidance

Septic System Treatment Basics

Collect and separate solids and grease from wastewater

Waste decomposition by physical, biological and chemical processes

Dispersal of the treated water to the soil environment where additional treatment occurs

Wastewater Constituents

Microorganisms (fecal coliform and pathogens)

Nutrients (nitrogen and phosphorus)

Organic Chemicals

Toxic Chemicals

Principles of Onsite Sewage Treatment and Dispersal

Wastewater constituents and wastewater strength

Nutrients found in septic system effluent (nitrogen and phosphorus) and their significance to water quality

Function of a septic tank, d-box and leachfield

Impervious in OWTS terms

Biomat – What is it?; How is it formed?; Where is it formed?; What does it do?

Adsorption vs. absorption

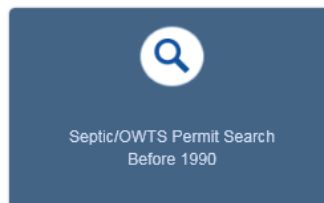
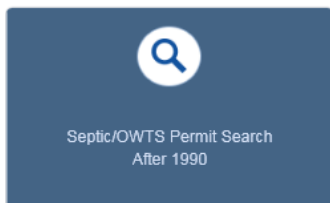
Denitrification

Pre-Design Research:

OWTS Archive Resources

The following resources are available for researching OWTS permitting data.

- Public Access Computer at DEM.
- OWTS Application Search (a service of ri.gov) is **available online** to search for records from **1990 to Present**, and **pre-1990 OWTS/ISDS Microfilm Index Pages**. To access this search tool from DEM home at <http://www.dem.ri.gov/>.
 1. Select the vertical tab labeled “Permits & Licenses”
 2. Scroll down and on select the icon applicable to your search needs (image below).



- Microfilm (1970 – 1989)

Sizing the System

Percolation test provisions were eliminated from the OWTS Rules (2016); systems may no longer be designed based on percolation test data. Soil evaluation by a DEM-licensed Soil Evaluator (Class IV License) is required for New Building Construction, Alteration, and for Repair Applications for non-residential uses (rules 6.16 and 6.18). The Table at OWTS rule 6.16(L) presents soil categories assigned to soils according to their properties and typical soil classes; soil category determines the loading rate for the soil.

The Table at OWTS rule 6.33(C) provides loading rates determined by Soil Category without the additional properties' columns included in the Table at OWTS rule 6.16(L).

Minimum Setback Distances (Rule 6.23)

(OWTS rules available at:

https://risos-apa-production-public.s3.amazonaws.com/DEM/REG_10685_20181219115423.pdf)

OWTS rule 6.23(A): The horizontal distances between the parts of an OWTS and the items listed in the Tables at rules **6.23(B) through (E)*** of the OWTS rules shall not be less than those shown. Where a proposed OWTS cannot meet the horizontal distances in rules 6.23(B) through (E) a variance request shall be required pursuant to rule 6.51 unless the setback reduction is specifically allowed in Notes accompanying each Table (tables listed below).

***Tables in lettered subsections provide the specific setbacks identified below:**

6.23(B). Minimum Setback Distances – General,

6.23(C). Minimum Setback Distances from Drinking Water Supply Watershed Critical Resource Area Features (distances in feet from all OWTS components),

6.23(D). Minimum Setback Distances from Features in the Salt Pond and Narrow River Critical Resource Area (distances in feet from all OWTS components),

6.23(E). Minimum Setback Distances from Drinking Water Wells.

Also see figures below:

OWTS rule 6.60, **Figure 2** for Minimum Setback Distances from Drinking Water Supply Watershed Critical Resource Area Features (distances in feet from all OWTS components).

OWTS rule 6.61, **Figure 3** for Minimum Setback Distances from Features in the Salt Pond and Narrow River Critical Resource Area (distances in feet from all OWTS components).

Proper Design Techniques and Materials

- All system components (tanks, d-box, leachfield): properly located, all setbacks and separation distances per OWTS rules.
- The OWTS rules require that the area between the trenches remain undisturbed, unless site conditions warrant the removal of all soil material. The rules also provide for leachfield design and construction where the invert of the distribution lines is above original grade and for leachfields on sloping sites. Rule 6.34 addresses dispersal trenches and rule 6.35 addresses concrete chambers.
- All invert elevations must be taken from benchmark. D-box must be level and installed in undisturbed soil, if possible.
- Backfill material must be free of stones over 6" in diameter, construction debris, stumps, etc.

Installation

- No wheeled machinery should be driven over field during backfilling.

Installation Tolerances

The [Field Guide for OWTS Installation](#) (provided on the next two pages) describes field tolerances that will not require as-built plans or redesign. This is available on the RIDEM website: at <http://www.dem.ri.gov/>:

1. Select the vertical tab labelled "Permits & Licenses"
2. Select "Septic (ISDS/OWTS) Records,"
3. Beneath "Resources" at the "Regulations/Forms" tab, scroll down and select "The "Field Guide for OWTS Installations".

State of Rhode Island and Providence Plantations
Department of Environmental Management



Field Guide for OWTS Installations

The following guidelines for field tolerances need to be used by licensed OWTS designers to determine if an OWTS is installed in compliance with approved plans. The Department recognizes that slight deviations from approved plans will not have a measurable effect on system performance. The Department recognizes that certain field changes, such as foundation footprint and final grading, are often due to the specifications of a homebuyer who is not involved in the project at inception. The purpose of this document is to set general guidelines on allowable changes in the field that differ from the original design. This document will also clarify when Department approval, as-built plans, and/or a redesign will be required. All deviations from approved plans must be noted on the Certificate of Construction (COC).

1. TOLERANCES- These deviations from approved plans will not require pre-approval of the Department:

- One (1) foot on any minimum horizontal distance shown in 6.23(B) through (E) of the OWTS Rules.
- Well, waterline, or leachfield is moved up to five (5) feet from the original location, but the new location complies with the minimum distances shown in 6.23(B) through (E) of the OWTS Rules, and with the tolerances specified above.
- The invert of the distribution pipe or the bottom of the stone elevation is moved up to three (3) inches vertically.
- A ten percent (10%) deviation on all vertical and horizontal separation distances listed in 6.33 and 6.34 of the OWTS Rules.
- The building sewer pitch is between one percent (1%) and five percent (5%).

Note: VARIANCES - Any critical distance approved by variance must be strictly adhered to.

If conditions are encountered during construction which indicate that the system cannot be installed or is not installed in accordance with the permit and the above tolerances, the designer shall notify the Director as soon as possible, but no later than 24 hours after discovery.

2. AS-BUILTS - \$50.00 fee required for as-built submittals (except for repair applications-no fee required) and three (3) copies of the as-built drawings.

As-built plans may be required when changes in the field exceed horizontal and vertical tolerance limits but still comply with the standards in the OWTS Rules. The designer shall notify the Department when changes exceed acceptable tolerances. The designer shall certify these changes on the COC and by submitting as-built plans within ten (10) business days after the OWTS is installed.

The following are instances where the Department may require submission of as-built drawings:

- The leachfield has moved up to ten (10) feet from the location on the approved plan.
- Orientation or location of the building served by the OWTS is changed so that up to twenty five (25%) of the footprint is outside the footprint on the approved plan.
- The well, waterline, or leachfield has moved up to ten (10) feet from the approved plan.

3. **REDESIGN** – Fee required in accordance with 6.54.C of the OWTS Rules, four (4) copies of the redesigned plans, and a new application form must be submitted.

Designers are required to submit redesigned plans when a well, foundation, wall, tank, waterline, leachfield, or other structure is placed in a location that is significantly different than indicated on the approved permit. If a redesign is required, the designer must stop construction of the OWTS and take measures to protect all work completed to date.

The following are instances where the Department may require redesigned plans:

- The leachfield is moved more than ten (10) feet horizontally from the approved plan.
- The invert of the distribution pipe or the bottom of the stone elevation has moved more than three (3) inches vertically from the approved plan.
- Orientation or location of the building served by the OWTS is changed so that more than twenty five percent (25%) of the footprint is outside the footprint on the approved plan.
- The well or waterline is moved more than ten (10) feet.

Septic System Failure and Repairs

Excerpt from OWTS Rules Definitions Section

“**Failed OWTS**” means any OWTS that does not adequately treat and disperse wastewater so as to create a public or private nuisance or threat to public health 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 wastewater to a basement; subsurface drain; stormwater collection, conveyance, or treatment device; or watercourse unless expressly permitted by the Department;
- (3) Wastewater rising to the surface of the ground over or near any part of OWTS or seeping 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) Any deterioration, damage, or malfunction relating to any OWTS that would preclude adequate treatment and dispersal of wastewater.
- (10) Excessive solids are evident in the distribution box or distribution lines.

Types of Septic System Failure

Treatment failure - A system which is not properly treating effluent (destruction, removal/reduction of pathogens: bacteria and viruses and reduction of nutrients: nitrogen and phosphorous).

Hydraulic failure – A system fails to accept all the wastewater being delivered to it. This may be evidenced by effluent backing-up into the home or effluent on the surface in the yard.

Structural failure – Damage to or displacement of any component of a system.

Possible Causes of System Failure

- Leaking fixtures in the home
- System undersized (tank and or leachfield)
- Tank not watertight (water seeping into tank)
- Baffle not intact or no outlet tee (allowing solids, fats, oil and grease to carry over to the d-box and leachfield)
- D-box not level (effluent not distributed evenly over entire field)
- System in groundwater
- Dirty stone
- Crushed pipe
- Leachfield clogged

Signs of OWTS Failure

- Discharge to the surface of the ground
- Damps spots in the area of the tank, or leachfield
- Lush growth over portion of the lawn
- Sewage backup inside the house
- Sewage odor in house or yard

Where to Investigate

- Inlet, outlet covers, if septic tank in use
- Run water; insure flow is entering and exiting tank
- Check for buildup of solids; is outlet tee in place?
- Water test sewer line between tank and D-box

Rule 6.18(G) OWTS Application for Repair— excerpted from OWTS rules. The content below is from the OWTS Rules 11/25/2018. Effective July 15, 2019 Rhode Island registered Professional Engineers are authorized to design any septic system under the OWTS rules and in compliance with the Board of Professional Registration for Professional Engineers. As of August 16, 2019, the OWTS Rules have not been revised to address this.

- G. OWTS Application for Repair - An application for a repair of any OWTS, or any component thereof, shall be made when an OWTS or component has failed, as defined by § 6.8 of this Part. An application for repair shall not propose any change of use, building renovation pursuant to §§ 6.18(D)(2)(a) through (d) of this Part 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 also submit an OWTS Application for Repair when the property owner desires to upgrade or modernize the OWTS (e.g., replacement of cesspool).
1. All plans and specifications for an OWTS application for Repair shall be prepared by a Class I, II or III Licensed Designer in accordance with §§ 6.10 and 6.11 of this Part. The applicant is not required to have a soil evaluation pursuant to § 6.16 of this Part 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 Class II or Class III Licensed Designer.
 2. Applicants shall meet the requirements of these rules to the greatest extent possible. If necessary, certain requirements under these 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 rules, the protection of the public health and the environment shall be given priority over all other considerations.
 3. Deep concrete chambers will not be permitted for OWTS Applications for Repair where another type of leachfield designed in accordance with §§ 6.33, 6.34, and 6.35 of this Part can be sited and is deemed acceptable by the Department. The Licensed Designer must demonstrate that the repair alternatives to a deep concrete chamber, other than a bottomless sand filter or pressurized shallow narrow drainfield, are not feasible.
 4. Exemptions for OWTS Application for Repair - Under the limited circumstances in §§ 6.18(G)(4)(a) through (e) of this Part, an OWTS Application for Repair will not be necessary prior to repairing the OWTS. Any repair or installation work done in accordance with §§ 6.18(G)(4)(a) through (e) of this Part 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:
 - (1) Installation of access openings to finished grade; and
 - (2) Compliance with the requirements to upgrade the cover of existing tanks that have access openings to finished grade in accordance with §§ 6.26(L), 6.27(O), 6.29(G), 6.30(H), and 6.35(H)(2)(d) of this Part.
 - 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.

OWTS Repair Submission Requirements

Applications for Repair - Applications for repair shall at a minimum include information specified on the Department's "OWTS Repair Submission Requirements" document (this document can be found at: <http://www.dem.ri.gov/programs/benviron/water/permits/isds/pdfs/rprcklst.pdf>).

Did your client receive a letter from DEM Office of Compliance and Inspection?

**Responsibilities of Licensed OWTS Designers
Hired by a Homeowner
in Response to Letter from
DEM Office of Compliance & Inspection (OC&I)**

- 1) When contacted by a property owner about a failed system, ask if they have received a letter from DEM.
- 2) **If the answer is yes**, make sure you read the letter so you understand what the issue is.
- 3) Contact OC&I:
 - a. Advise them that the property owner has retained you to address the issue(s) in the letter, and
 - b. Provide them some idea of what you will be doing (time frame, approach, etc.).
- 4) Most of the notices require that an evaluation of the system be performed by a licensed designer and a report submitted to OC&I. The report, in addition to date, time and weather conditions, should include the following:
 - (1) What was the cause of the system failure the OC&I inspector observed and what was done to address that problem, if anything.
 - (2) Was the system functioning properly on the date of your inspection?
 - (3) If not, what is the cause of the system failure and what do you recommend to resolve the problem.
 - (4) If you establish that the system is functioning properly, how did you determine this:
 - Did you do a flow through test,
 - Remove the covers of the tank, d-box, etc., and evaluate the condition of these components,
 - What were the liquid, sludge and scum levels in the tank, d-box, etc.?

IMPORTANT!!!

You are the licensed professional, the expert; you are expected to apply your experience and knowledge to evaluate the situation and prepare a comprehensive report for submission to OC&I which supports your findings. At the time of your inspection, record for inclusion in your report, date, time, weather, all inspection activity conducted, observations and information provided by the homeowner.

Inspection of Septic Systems

Information on septic system function and procedures for conducting inspections of septic systems is available in the DEM publication “SEPTIC SYSTEM CHECKUP: THE RHODE ISLAND HANDBOOK FOR INSPECTION”. This document is available on the RIDEM website at: <http://www.dem.ri.gov/pubs/regs/regs/water/isdsbook.pdf>

Design Application and Installation Errors, Omissions and Problems

Don't do these things!!!!

Pre-Approval

- Design element missing on plan (eg. septic tank)
- Application not completed
- Missing signature
- Plan errors
- Field incorrectly sized
- Omission of essential data
- Some aspect of setback rule not met; variance required but not requested
- Expired or incorrect field data
- Design not in accordance with subdivision approval
- Trench configuration or distances between trenches incorrect or not clear

Post-Approval

- Designer not calling in 24 hour start of construction notice
- COC **not** submitted within 5 days of completed system installation or not at all
- As-built plans not submitted
- Designers missing deficiencies during their inspections of septic system installation
- Required bottom inspections not being called in.
- Cover inspections not being called in when required
- Installation records not being kept or inadequate
- Installation or design change not reported to Department

Installers

- Beginning construction without designer involvement
- Installer does not cooperate with designer to allow designer to do his/her part of job
- Installer not following design plan
- Installer mistakes identified by RIDEM inspectors during spot inspections

Class II Exam Study Guide - Part 4 – Forms

OWTS Permitting Forms (listed with descriptions)

[Soil Testing Application Form](#) – Designers and Soil Evaluators submit this form to the OWTS Program to apply for a date to perform various forms of soil testing, all of which may be witnessed by RIDEM.

[Site Evaluation Form](#) – This form is used to report site and soil conditions interpreted during a soil evaluation, or bedrock testing, for submission to RIDEM.

[Subdivision Site Suitability Certification Application and Checklist](#) – Prepared by a Class II Designer or a RI registered PE and submitted to the OWTS Program for review to determine the suitability (to support OWTS for the proposed use) of a parcel of land to be divided as shown. Application and Checklist are combined in a single document.

[System Suitability Determination – Residential and Commercial Application and Checklist](#) – Completed by the owner of an existing OWTS to receive a determination of the OWTS's suitability for proposed renovation, change of use or eligibility for Imminent Sewer Exemption. Application and Checklist are combined in a single document.

[Application Submission Checklist](#) – Completed by the Designer and submitted with all construction (permit) applications.

[Variance Request](#) – Completed by a Class II Designer or a RI-registered PE, accounting for each variance from the OWTS rules requested as part of a New Construction, or Alteration Application and why each cannot be avoided.

[OWTS Construction Permit \(Application Form\)](#) – Used to apply for all OWTS construction permits; an image is posted to the RIDEM website *for reference only*, the RIDEM's printed multi-copy form must be used.

[Joint OWTS/Wetlands Permit Application Form](#) – This form is used to request a Joint Permit for development of a single family lot involving a proposed OWTS and alteration of freshwater wetlands; it **may not be used for an OWTS variance or repair application**, an *application in CRMC jurisdiction*, or a *proposed significant alteration of freshwater wetlands*.

[Designer's Certificate of Construction Form](#) – Used by Class I and Class II Designers and RI-registered PEs and submitted to the OWTS Program at the completion of all OWTS installations.

[Repair Submission Checklist](#) – Completed and submitted to the OWTS Program by the Designer; the form is used to indicate on the checklist that the required elements of a repair application have been included in the application (design plan).

[Affidavit of Continuing Validity of Field Data](#) – Used by the Designer to certify that data and site conditions meet the terms of the OWTS rules.

[Additional Wet Season Monitoring Data](#) – This form must be completed by a Class II Designer, RI-registered PE or Class IV Soil Evaluator and submitted to the RIDEM along with the Wet Season Verification Form no later than April 1. This form is used by Class II Designers, RI-registered PEs and Soil Evaluators to record groundwater elevations in certain circumstances following soil evaluation.

[Wet Season Verification Form](#) – An image of this form is posted to the RIDEM website for reference only, the Department's multi-copy (4-part) form must be submitted with the completed Additional Wet Season Monitoring Data Form.


[Affidavit to Replace Designer of Record Form](#) – This form is completed and signed by the Permittee and Replacement Designer and submitted to the RIDEM to request a change of the Designer of Record for an Application or Permit under the provisions specified in the OWTS rules.

[Seller's and Buyer's Waiver](#) – This form is completed and signed by the seller and buyer of property that does not have a valid RIDEM certification of the property's suitability for development as part of a subdivision or a valid approval for the installation of an individual sewage disposal system(s) (onsite wastewater treatment system [OWTS]) on the property.


Commonly used forms are provided on the following pages.

The titles of forms available online are formatted as links to the forms. Others are provided for reference only because the printed multi-part form must be used; where this is the case, it is stated.

DEM OWTS Construction Application (for reference only, must use multi-part form)



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
ONSITE WASTEWATER TREATMENT SYSTEM CONSTRUCTION PERMIT
www.dem.ri.gov/septic



APPLICATION No. _____

DATE RECEIVED _____

AMOUNT RECEIVED \$ _____

CHECK # _____

NOTE _____

CERTIFICATION

I, _____ (print), the undersigned licensed OWTS designer, certify that I prepared this application and accompanying forms, submittals, plans and sketches in accordance with the RULES of the RIDEM pertaining to OWTS and that all the information provided on this application and accompanying forms, submittals, plans and sketches is true and accurate.

Designer's Signature _____ License # _____

Designer's Email _____ Phone # _____

Business/Company Name _____

I certify that a) I am the owner of the property indicated under the site information on this application, b) I will hire a licensed OWTS installer to install the system proposed herein, c) the system will be installed in strict accordance with this application, d) I will hire and retain the licensed OWTS designer of record to witness and inspect the installation of the system, e) I assume all responsibility for the truth and accuracy of this application and all liability and responsibility for any improper installations of the system on this site and agree to hold the RIDEM harmless from any and all claims relating whatsoever to the system. In the case of a transfer application, I acknowledge that the permit application and plans previously approved and accompanying this application are the operative documents subject to certification.

Owner's Phone Number _____

Owner's Email _____

Owner(s) Signature _____

PERMIT APPROVAL SECTION: DO NOT WRITE BELOW THIS LINE

Based upon the representations of the owner and the owner's agents, including the representations of the owner's OWTS designer, and the truth and accuracy of all information submitted, this application for an OWTS is hereby approved. The RIDEM assumes no responsibility or liability for the future safe operation or maintenance of the approved system, of the fitness or suitability of this system to this site, nor does it assume any responsibility for the accuracy and truth of the owner's, or the owner's agent's representations. This approval is subject to future suspension or revocation in the event that subsequent examination reveals any data indicated on any application, form, submittal, plan or sketch to be incorrect, or not in compliance with the RULES or any conditions at the site are such that the approved design is not in accordance with the RULES, or in the event that the system discharges inadequately treated wastewater to waters of the State or fails to operate satisfactorily in any other manner.

Signature of RIDEM Official _____

Date of Approval _____

Date of Expiration _____

IMPORTANT: Additional terms of approval as circled.

A. Bottom of leaching area excavation must be inspected by the RIDEM prior to placement of any gravel or stone.

B. System installation must be inspected by RIDEM prior to covering any component of the system with backfill.

C. Applicant shall comply with all requirements, conditions and stipulations of variance(s) approved on _____.

D. Joint Permit: Designer of record must contact RIDEM prior to start of any gilig construction.

E. A/E Technology: additional installation, operation or maintenance requirements may apply (see A/E Technology Certification)

F. Copy of this form and Operation/Maintenance contract must be filed in land evidence records prior to conformance.

G. Proposed construction falls within "Coastal Zone". Contact Rhode Island Coastal Resources Management Council.

H. Proper erosion and sedimentation controls must be installed prior to start of construction.

I. Transfer: See original permit for all applicable conditions.

J. Other _____

NEW BUILDING CONSTRUCTION

ALTERATION

REPAIR

TRANSFER

A/E TECHNOLOGY TYPE _____

VARIANCE

REDESIGN

JOINT OWTS / WETLANDS PD

SITE INFORMATION

NO. STREET _____ CITY/TOWN _____ POLE # _____

PLAT NUMBER _____ LOT NUMBER _____ SUBDIVISION LOT NUMBER _____

LOT SIZE _____ SF/ACRES _____

SUBDIVISION NAME _____

SUBDIVISION SITE SUITABILITY CERTIFICATION # _____

OWNER INFORMATION

LAST NAME _____ FIRST NAME _____ M.I. _____

NO. STREET _____ CITY/TOWN _____ ZIP CODE _____

RIDEM APPLICATION HISTORY

PREVIOUS SITE TESTING YES NO APPLICATION # _____

DEPTH TO APPROVED WATER TABLE _____ HOW DETERMINED _____

TEST HOLE # _____ DATE EXCAVATED ____/____/____ WETLANDS within 200' OF OWTS YES NO

WETLAND DETERMINATION YES NO RIDEM FILE # _____ DATE ____/____/____

LARGE SYSTEM YES NO OCI FILE # IF APPLICABLE _____

DESIGN INFORMATION

BUILDING USE: Residential Commercial _____

Other _____

WATER SUPPLY: public water public well private well

OF DESIGN UNITS _____

UNIT DESIGN FLOW _____ gallons per _____ (unit) TOTAL DAILY FLOW _____ gallons

TANK SIZE _____ gallons DESIGN LOADING RATE _____ gpd/sf

MINIMUM REQUIRED LEACHFIELD AREA _____ square feet

LEACHFIELD TYPE _____

TOTAL AREA OF LEACHFIELD PROVIDED _____ square feet

DEM SEE INSTRUCTIONS ON REVERSE SIDE

DEM OWTS Construction Application, side two (for reference only, must use multi-part form)


INSTRUCTIONS FOR COMPLETING APPLICATION

1. The owner must complete the owner's information section of the application, sign in the certification section, and furnish a telephone number.
2. The licensed OWTS designer must complete the remainder of the application except areas marked **FOR RIDEM USE ONLY** and **PERMIT APPROVAL SECTION**.
3. Check all **TYPES OF APPLICATIONS** that apply.
4. If an alternative or experimental technology system is proposed, the **AVE TECHNOLOGY** box must be checked and the **TYPE OF SYSTEM** must be completed.
5. All site information including plat and lot, subdivision information, and lot size must be completed.
6. Any previous **RIDEM** application information must be shown including groundwater table verification and wetlands determination or permit.
7. Only one box should be checked for **BUILDING USE, IF COMMERCIAL**, provide a brief description.
8. Only one box should be checked for **WATER SUPPLY**.
9. Design information must accurately reflect the type and size of the septic system shown on the accompanying plans.
10. **RIDEM APPLICATION HISTORY, DESIGN INFORMATION, and Signature of Designer** are not needed for a transfer application.
11. **IMPORTANT:** This application is a part of a design submission that must include 4 (four) copies of the design plan, 4 (four) copies of any attachments such as calculations or details, a designer's checklist, and the appropriate fee.

12. **MAIL OR DELIVER TO:** Onsite Wastewater Treatment Systems Program
Ri Department of Environmental Management
235 Promenade Street
Providence, RI 02908-5767

If you have any questions relating to this application, please call (401) 222-3851 Monday through Friday, 8:30 am to 4:00 pm.
For additional information, please visit our website: www.dem.ri.gov/septic.

Joint OWTS/Wetlands Permit Application Form (2-sided form) Use to request a Joint Permit for development of a **single family lot** involving a proposed OWTS and alteration of freshwater wetlands; it **may not be used for an OWTS variance or repair application, an application in CRMC jurisdiction, or a proposed significant alteration of freshwater wetlands.**

	<p>RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES 235 Promenade Street, Providence, RI 02908-5767</p> <p>Joint Permit Application OWTS Permit and Wetland Preliminary Determination Single Family Lots Only</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">OFFICE USE ONLY</td> </tr> <tr> <td style="padding: 2px;">Wetlands Application No: _____</td> </tr> <tr> <td style="padding: 2px;">OWTS Application No: _____</td> </tr> <tr> <td style="padding: 2px;">Date Received: _____</td> </tr> </table>	OFFICE USE ONLY	Wetlands Application No: _____	OWTS Application No: _____	Date Received: _____
OFFICE USE ONLY						
Wetlands Application No: _____						
OWTS Application No: _____						
Date Received: _____						
<p>Please type or print & see other side for instructions, fees & checklist.</p>						
<p>APPLICATION INFORMATION:</p> <p>Applicant's Name: _____ <small>(see Wetlands Rule 250-RICR-150-1.7(A)(2))</small></p> <p>Applicant's Email Address: _____ <small>(Required to receive interim review correspondence.)</small></p> <p>Location of Property Subject to this Application: _____ <small>(Nearest street intersection, distance and direction from site)</small></p> <p>OWTS Licensed Designer's Email Address: _____ <small>(Required)</small></p>						
<p>GENERAL INFORMATION (if not applicable, leave blank):</p> <p>Previous Wetlands Application number for this site: _____</p> <p>Previous Wetlands or OWTS enforcement action file number for this site: _____</p>						
<p>CERTIFICATION OF DESIGN PROFESSIONAL(S) (if not applicable, leave blank):</p> <p>I hereby certify that I have been authorized by the applicant to prepare documentation to be submitted in support of this Application; that such documentation is in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act and that such documentation is true, accurate and complete to the best of my knowledge.</p> <p>Wetland Professional's Name: _____ Title: _____ <small>(Print)</small></p> <p>Wetland Professional's Address: _____ d/b/a: _____</p> <p>Wetland Professional's Email Address: _____ Phone Number: _____ <small>(Required)</small></p> <p>Wetland Professional's Signature: _____ Date: _____</p>						
<p>CERTIFICATION/AUTHORIZATION OF APPLICANT:</p> <p>I hereby certify that I have requested and authorized the investigation, compilation, and submission of all the information, in whatever form, contained in this Application; that I have personally examined and am familiar with the information submitted herein; and that such information is true, accurate and complete to the best of my knowledge. I hereby authorize RIDEM personnel access to the property for purposes of observing conditions pertinent to this application and assessing compliance with any permit or determination resulting from this application, including any sampling, monitoring or surveying that may be deemed appropriate, consistent with the RIDEM Administrative Inspection Guidelines. (See DEM website - Office of Compliance and Inspection for copy). I further authorize RIDEM to make available to the public by copy or electronic means any and all plans, documents, reports, and other information submitted herewith or pertaining to this application, consistent with the Access to Public Records Act RIGL §38-2.</p> <p>Note any special concerns relating to access to the property or public access to submitted materials: _____</p> <p>_____</p> <p>Applicant's Signature: _____ Date: _____ <small>(See Wetlands Rules regarding Signatures)</small></p>						
Joint App Form – 02/01/19	dem.ri.gov/wetlands	Page 1 of 2				

Joint OWTS/Wetlands Permit Application Form (Side 2)

Joint Permit Application Instructions, Fees & Submission Checklist

INSTRUCTIONS:

Use this application form to request a Joint Permit for development of a single-family lot involving a proposed onsite wastewater treatment system (OWTS) and alteration of freshwater wetlands. Note: This form may not be used for an OWTS variance or repair application, an application in CRMC jurisdiction, or a proposed significant alteration of freshwater wetlands. Submit this completed form and the OWTS Construction Permit, along with any required plans, detail sheets, and documentation in accordance with both the [OWTS](#) and [Freshwater Wetlands](#) Rules (see Submission Checklists below).

Submit the completed applications and appropriate fee to: Permit Application Center (PAC)
RI Department of Environmental Management
235 Promenade Street, Room 260
Providence, RI 02908-5767
(Check or money order must be made payable to the Rhode Island General Treasurer)

FEES:

- Joint Permit New Application:
 - \$600.00 New Building Construction or Alteration (Wetlands \$450 plus OWTS \$150)
 - \$750.00 Same as above with A/E OWTS Technology (Wetlands \$450 plus OWTS \$300)
- Joint Permit Modification Application:
 - \$250.00 Wetlands Modification with OWTS Redesign (Wetlands \$150 plus OWTS \$100)
 - \$150.00 Wetlands Modification only (Wetlands \$150)
 - \$100.00 OWTS Redesign only (OWTS \$100)
- Joint Permit Transfer Application:
 - \$50.00 (covers both Wetlands & OWTS Transfer)

SUBMISSION CHECKLIST:

JOINT PERMIT NEW APPLICATION	JOINT PERMIT MODIFICATION APPLICATION	JOINT PERMIT TRANSFER APPLICATION
<input type="checkbox"/> 2 Joint Permit Applications (1 with original signatures & 1 copy)	<input type="checkbox"/> 2 Joint Permit Applications (1 with original signatures & 1 copy)	<input type="checkbox"/> Joint Permit Applications (1 with original signatures & 1 copy)
<input type="checkbox"/> 1 OWTS Construction Permit (multi-copy form)	<input type="checkbox"/> 1 OWTS Construction Permit (multi-copy form)	<input type="checkbox"/> 1 OWTS Construction Permit (multi-copy form)
<input type="checkbox"/> 1 Site Work Affidavit	<input type="checkbox"/> 1 Site Work Affidavit	<input type="checkbox"/> 1 Owner's Copy of Approved Plan
<input type="checkbox"/> 6 Separate Sets of Plans & associated documentation (Each Set must be collated.)	<input type="checkbox"/> 6 Sets of Plans & associated documentation (Each Set must be collated.)	<input type="checkbox"/> 1 Copy of Property Deed
<input type="checkbox"/> 2 copies of a project scope, engineering, impact avoidance & minimization.	<input type="checkbox"/> 2 copies of a narrative & additional data detailing minor changes and reasons for the modifications	<input type="checkbox"/> Proper Fee
<input type="checkbox"/> Proper Fee	<input type="checkbox"/> Proper Fee	

OFFICE USE ONLY

DETERMINATIONS:

- Ineligible** for Joint Permit Application review. Separate OWTS and Wetland applications are required.
 - OWTS Variance required.
 - Significant alteration of Freshwater Wetlands proposed. Refer to Freshwater Wetlands Letter dated _____.
 - Within CRMC jurisdiction.
- Administratively Unacceptable.** Make necessary corrections and resubmit.
 - Joint Permit Application Form is incomplete. Please provide _____.
 - OWTS Construction Permit must be complete and submitted.
 - Six (6) sets of **collated** plans are required.
 - Fee not included or insufficient. Submit the required balance of \$ _____.
 - Other: _____

RIDEM Official: _____

Date: _____

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Office of Water Resources
Onsite Wastewater Treatment Systems (OWTS) Program

Application Submission Checklist

For Office Use

Owner Name:

Designer Name:

Application No. _____

Date _____

The following Submission Checklist is to be completed by the designer and submitted with all construction permit applications.

I. OWTS Submission Requirements (Check Appropriate Submission)

NEW CONSTRUCTION

- Application Form
- 4 Sets of Plans
- Proper Fee

REDESIGN

- Application Form
- 4 Sets of Plans
- Proper Fee

ALTERATION

- Application Form
- 4 Sets of Plans
- Proper Fee
- Copy of Tax Card

REPAIR

- Application Form
- 4 Sets of Plans
- Proper Fee
- Copy of Tax Card

TRANSFER

- Application Form
- Copy of Approved Plan
- Proper Fee
- Copy of Deed

VARIANCE

- Application Form
- Variance Application Form & associated submittals
- 4 Sets of Plans
- Proper Fee
- List of Abutters w/in 200' of System
- Radius Map

II. Well Drilling Variance Submission Requirements

- Variance Application Form
- Affidavit
- 1 Set of Plans

4-4-08

[Application Submission Checklist](#) (side two) available online; title is a link.

DESIGNER COMMENTS:

OWTS PROGRAM REVIEW COMMENTS:



The application, plans and attachments are being returned unacceptable.
If an application for this site is resubmitted, enclose this checklist.

Resubmission Fee Required: \$ _____

RIDEM Official: _____ Date: _____
Onsite Wastewater Treatment Systems Program

4-4-08

[Variance Request](#) (2-sided form) available online; title is a link.

 RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT Onsite Wastewater Treatment Systems Program Office of Water Resources 235 Promenade Street, Providence, RI 02908-5767 www.dem.ri.gov/septic 
VARIANCE REQUEST FORM
A. Project Purpose (Check one): <input type="checkbox"/> New Building Construction <input type="checkbox"/> Alteration with increase in flow OWTS Rule 6.18.F.1(a) or (b)
B. Applicant Information Applicant Name _____ Tel. No. _____ Mailing Address _____ City or Town _____ State _____ Zip _____ Site Location (Street) _____ Site City/Town _____ Plat _____ Lot _____
C. Fee Variance Request Fee is in addition to OWTS construction permit application fee <input type="checkbox"/> \$300.00 - Residential or commercial system Check made payable to RI General Treasurer Mail complete package to: Rhode Island Dept. of Environmental Management Onsite Wastewater Treatment Systems Program Office of Water Resources, Room 260 235 Promenade Street Providence, RI 02908-5767
D. Submittal Requirements 1. <input type="checkbox"/> Attach complete application for OWTS Construction Permit, including plans and specifications, for the Onsite Wastewater Treatment System (OWTS) which does not fully comply with the Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems (OWTS Rules). 2. <input type="checkbox"/> All other submittals including this application form to be submitted in duplicate. 3. <input type="checkbox"/> List here all attachments or supplemental documents (other than Construction Permit application) to this application:

11/25/18

4. Specify below, each variance (reference rule and subsection) requested and describe the deviation from the standards as contained in the OWTS Rules in numerical and/or descriptive terms as appropriate. Attach separate sheet or include in report if needed.
5. Describe the basis for requesting each variance and why the variance cannot be avoided.
6. Attach report that includes a comprehensive analysis that addresses each of the impact criteria contained in OWTS Rule 6.51.C and include any compensatory mitigation (OWTS Rule 6.51.D) that may be proposed or intrinsic to the conditions of the site and/or the design.
7. Is a cumulative impact assessment pursuant to OWTS Rule 6.51.E required and attached? Yes No
8. Does the proposed system involve an upgrade or expansion to an existing OWTS that will provide improved protection of public health and the environment? Yes No If yes, submit documentation supporting such claim.
9. Provide a suitable plan showing the locations of all roads, property parcels, easements and rights-of way within 200 feet of any component of the OWTS and a listing containing the names and mailing addresses of the building official, public water supply entity (as applicable per Rule 6.51.F), and all property owners and plat/lot identifiers within 200 feet of any component of the OWTS.
10. Does this request contain any variance or condition listed in OWTS Rule 6.52.B.2.e that will result in this application being denied by rule? Yes No If yes, state variance(s) here:

E. Certifications

1. Designers Certification:

As the designer, I hereby certify that I have prepared this application in accordance with the OWTS Rules and that the information provided on this application and accompanying documents is true and accurate to the best of my knowledge and belief, and further, that I recommend that the variance(s) be granted.

Name _____ OWTS License Number _____

Signature _____ Date Certified _____

2. Applicant's Certification:


As property owner(s), I hereby certify that I have reviewed this application submission, am requesting the above noted variances, and understand that processing of a variance request may be a lengthy process and that the application is subject to denial pursuant to OWTS Rule 6.52.B.2.

Owner(s) Signature _____ Date Certified _____

11/25/18

DEM OWTS Inspection Report

This is used by the OWTS Program Inspector to record observations during inspections of installations.



Rhode Island Department of Environmental Management
Individual Sewage Disposal System Section

INSPECTION REPORT

APPLICATION NUMBER:	
STREET:	INSPECTOR:
CITY/TOWN:	INSPECTION DATE:
PLAT/LOT:	POLE NO:
ISDS INSTALLER:	ARRIVAL TIME:
PHONE NO:	WEATHER CONDITIONS:
INSPECTION NUMBER:	
TYPE OF INSPECTION:	

FINDINGS/COMMENTS

RESULTS OF INSPECTION/ACTION REQUIRED



<input type="checkbox"/> Bottom Bed OK -- Construct system and call for cover inspection <input type="checkbox"/> (RFA) Address items listed or checked and call for a re-inspection <input type="checkbox"/> (RFA) Correct items listed <input type="checkbox"/> (RFA) Correct items listed <input type="checkbox"/> Cover System <input type="checkbox"/> (COC) Submit certificate of construction <input type="checkbox"/> (RFAD) STOP CONSTRUCTION. Contact designer. DO NOT CONTINUE. Items listed are too complex for a simple resolution	<input type="checkbox"/> (ASB) Designer Must Submit As Built Plans <input type="checkbox"/> (RPREQ) Submit Revised Plans <input type="checkbox"/> (SOS) Designer's Supervision and Statement Required <input type="checkbox"/> (SUS) Designer's Supervision and Statement Required <input type="checkbox"/> (DRYVER) Dry Season Verified <input type="checkbox"/> (DRYUNA) Dry Season Unacceptable <input type="checkbox"/> (FEE) If this item is checked, a \$50 fee is required before re-inspection. Send copy of this inspection form with the check
--	--



Signature of Inspector(s) _____

INSTALLER'S COPY

INSPECT FRM REV. 9/96

[Designers Certificate of Construction Form](#) available online; title is a link.

 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES PERMITTING SECTION ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS) PROGRAM 
DESIGNER'S CERTIFICATE OF CONSTRUCTION FOR OWTS
Permit No. _____
I, _____, as the designer of record for the OWTS installation located at (Street) _____ in the City or Town of _____ _____ hereby certify that the installation of the OWTS was performed by the installer named below, and to the best of my information, knowledge and belief, was witnessed and inspected in accordance with RIDEM/OWTS Rules, and that, in my professional opinion, the installation of the OWTS conforms with the plans, specifications, applicable statutes, regulations, and construction tolerances as approved by the Director of the Rhode Island Department of Environmental Management. I further certify that I have documented the installation in accordance with RIDEM/OWTS Rules. This certification is effective as of (date): _____
The septic tank, D-Box (if any) and leach field are located as set forth below:
<div style="border: 2px solid black; height: 250px; width: 100%;"></div>
Installer's Name _____ License No. _____
Designer's Name _____ License No. _____
Designer's Signature _____ Date Signed _____
Designer Request of Change (DROC) Approval Date(s) _____
<small>DESCOC-2013</small>

For office use only Application number _____	Application Date _____
 <div style="display: inline-block; text-align: center;">RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT Onsite Wastewater Treatment Program Office of Water Resources, Room 260 235 Promenade Street, Providence, RI 02908-5767</div> 	
AFFIDAVIT TO REPLACE DESIGNER OF RECORD	
<p>I _____ said owner(s) of property, OWTS permit number _____ (print name)</p> <p>_____, do hereby request authorization to have the replacement designer _____ witness and inspect the installation of _____ (designer name and license number)</p> <p>the OWTS on said property. I am petitioning the Department for this request based on the following reason(s):</p> <p><u>CHECK APPROPRIATE ITEM(S):</u></p> <p>1) _____ The original designer of the system is incapable of witnessing and inspecting the system because he/she is: _____ Deceased _____ Physically Incapacitated _____ No Longer Licensed _____ Other _____</p> <p>2) _____ I, the property owner, contracted with a certain business entity for design services. The original designer who prepared the OWTS design is no longer employed by that business entity, and the property owner is replacing the original designer with another designer employed by that business entity.</p> <p>Owner(s) signature: _____ Date: _____ (Owner must be the same person as permittee)</p> <p>I, the replacement designer, have a designer's license in the appropriate license class required by the rules to design the system prepared by the original designer of said OWTS. I take full responsibility for the design and installation of the system in accordance with all OWTS Rules.</p> <p>Replacement designer's signature: _____ Date: _____</p>	
<i>FOR OFFICE USE ONLY</i>	
DECISION: Approved <input type="checkbox"/> Denied <input type="checkbox"/>	
Comments _____ _____ _____	
Signature of Authorized Agent _____ Date _____	

How to Get to DEM's Foundry Offices at 235 Promenade Street Providence, RI 02908-5767

RIPTA

The Foundry is served by RIPTA Routes 56 and 57 with a 10-minute walk from Providence Place Mall. Go to www.ripta.com and use their Trip Planner, or call the [Rhode Island Public Transit Authority \(RIPTA\)](http://www.ripta.com) at 401-781-9400 for bus routes connecting to DEM's Foundry Offices.

From the South

- Follow Interstate 95 North toward Providence
- Take Exit 22C - Providence Place
- Follow to end of ramp and take a right onto Kinsley/Providence Place
- Go to end, and make a U-shaped turn onto Promenade Street, crossing over river and under Rte. 95
- Take first right onto Holden Street
- Look for visitor parking lot on right (third right)

From the North

- Follow Route 146 South and/or Interstate 95 South toward Providence
- Take Exit 22C off of 95 South - Providence Place
- At end of ramp go right onto Kinsley Street
- Take left in front of mall garage
- Take immediate left onto Promenade Street
- Take first right onto Holden Street
- Look for visitor parking lot on right (third right)

From the West

- Follow Route 6 toward Providence
- Take the Dean Street/Atwells Avenue Exit
- Turn left at the traffic light at the top of the ramp onto Dean Street
- Go to bottom of the hill and turn right onto Kinsley Avenue/Providence Place
- Go to end, and make a U-shaped turn onto Promenade Street, crossing over river and under Rte. 95
- Take first right onto Holden Street
- Look for visitor parking lot on right (third right).

235 Promenade Street is the first building on the right. Visitor parking is marked. (see map below for location)

Walking directions from the Providence Amtrak Station

DEM's Foundry Offices are located within walking distance of the Providence Station. The station is served by Amtrak trains and MBTA commuter trains.

- Exit out the back (southeast side) of the station (signs for taxis)
- Take a right and walk to the street named American Express Plaza
- Walk up American Express Plaza toward the Providence Place Mall
- Cross Francis Street and follow the walkway under the Providence Place Mall
- The walkway connects directly to Promenade Street
- Continue on Promenade Street
- Walk under Route I-95 and enter 235 Promenade Street on the right.

