TECHNICAL REVIEW AND ADVISORY PANEL

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0068, FLORIDA STATUTES

TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING

DATE: Thursday, September 25, 2014
TIME: 9:00 a.m.
PLACE: Orlando Airport Marriott
7499 Augusta National Drive
Orlando, Florida 32822
407-851-9000

THIS MEETING IS OPEN TO THE PUBLIC.

Agenda

1. Introductions

2. Election of Chair and Vice-Chair

3. Review minutes of last meeting

4. Research Update
   Hazen and Sawyer regarding Passive Nitrogen Study

5. Rule Issues

   Old Business
   - 10-04 Sand Lined Trenches (for final TRAP vote)

   New Business
   - 12-01 ATU Sizing
   - 12-05 Tank Compartment Walls
   - 12-06 Filter Cleaning During Tank Service
   - 12-07 ATU Maintenance Versus Drainfield Maintenance
   - 14-01 Rule Reduction

6. Other items of interest to the Technical Review and Advisory Panel.

7. Public Comment

Scott Johnson *PROFESSIONAL ENGINEER*	Pam Tucker *REAL ESTATE INDUSTRY*	Martin Guffey *SEPTIC TANK INDUSTRY*	Robert Baker *SEPTIC TANK MANUFACTURER*
Glenn Bryant *COUNTY HEALTH DEPARTMENT*	Russ Melling *CONSUMER*	Scott Franz *SOIL SCIENTIST*	Sonia Cruz *ENVIRONMENTAL HEALTH*
Victor Godlewski *LOCAL GOVERNMENT*	Ken Odom, Chair *HOME BUILDING INDUSTRY*	Roy Pence, Vice Chair *HOME BUILDING INDUSTRY*	

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MINUTES OF MEETING
TECHNICAL REVIEW AND ADVISORY PANEL
December 14, 2012

Members present were:

Scott Johnson, P. E., Florida Engineering Society
Pamela Tucker, Real Estate Professional
Derek Woodruff, Florida Onsite Wastewater Association
Robert Baker, Septic Tank Manufacturer
William Sirmans, County Health Department
Ken Odom, Home Building Industry, Chairman
Sonia Cruz, Florida Environmental Health Association
Frank Dragoun, Consumer Representative

Alternate members present:

Clay Tappan, Florida Engineering Society
Glenn W. Bryant, County Health Department
Mark Cotton, Home Building Industry
Edward Cordova, Local Government

Department of Health staff present:

Gerald Briggs, Environmental Administrator, Water and Onsite Sewage Programs
Dale Holcomb, Environmental Administrator
Ed Williams, Environmental Health Program Consultant

Absent members and alternates:

Tony Macaluso, Real Estate Professional
Martin Guffy, Florida Onsite Wastewater Association
Roy Pence, Home Building Industry, Vice Chairman
Scott Franz, Soil Scientist
Oren C. Reedy, Soil Scientist
Paul Steinbrecher, Local Government

Others present:

Dominique Buhot, Green's Environmental Services
Roxanne Groover, FOWA
Andrea Sampson, Citizen

Mr. Briggs called the meeting to order at 10:05 A.M. Mr. Williams called roll for the panel members. As neither Mr. Odom nor Mr. Pence were on the call at 10:00 AM, Mr. Briggs asked for a volunteer to chair the meeting. Dr. Cruz volunteered.

A review of the November 16, 2016 meeting minutes followed. Pam Tucker, seconded by Scott Johnson, motioned to approve the previous minutes with no changes. The minutes

were approved by unanimous vote. Mr. Odom joined the call and chaired the remainder of the meeting.

Issue 12-02 – HB 1263 changes – Bedroom Definition, Modifications, Abandonments, Permit Expiration, Performance-based treatment systems and Title Transfer.
Rule Sections: 64E-6.001, 003, 011, 030

Dale Holcomb went over the Variance Review and Advisory Committee's comments regarding the issue. Based on the Variance Committee's recommendations, the current language on line 135 "A site re-evaluation confirms that fundamental site conditions have not changed since construction approval. In this paragraph, fundamental site conditions are those conditions that have changed sufficiently to place the system in violation of the rules under which it was permitted" was changed to combine the language with that of the Variance Committee. The resulting language was "A site re-evaluation confirms that site conditions have not changed sufficiently to place the system in violation of the rules under which the system was permitted and received construction approval". Gerald Briggs also went over the other changes since the last TRAP meeting; including "and use" on Line 68 and "by a permitted septage disposal company who shall provide a receipt or a written certification to the department" on Line 178. Robert Baker, seconded by Derek Woodruff, motioned to approve with changes. The motion carried with unanimous vote by the panel.

In addition, Pamela Tucker discussed that there should be a provision in the rule that would require that the homeowner receive final documentation. Several members agreed that this was a good idea and that the TRAP would bring this issue forward at the next TRAP meeting. Pamela Tucker, seconded by Frank Dragoun, motioned to bring the issue forward. The motion carried with unanimous vote by the panel.

Issue 12-03 – Existing Systems
Rule Sections: 64E-6.001

Again, Dale Holcomb went over the comments by the Variance Review and Advisory Committee regarding this issue. Gerald Briggs went over the change on Line 85, "flow or increase in waste strength". Derek Woodruff, seconded by Frank Dragoun, motioned to approve with changes. The motion carried with unanimous vote by the panel.

Public Comment:

Andrea Sampson thanked the committee for considering providing the homeowner with final documentation.

Gerald indicated that the Surgeon General requested bio's from the panel members, as he will be signing nomination letters. These will be provided to Dale Holcomb.

Robert Baker, seconded by Pamela Tucker, motioned to adjourn the meeting. The motion carried with unanimous vote by the panel.

HAPPY HOLIDAYS!!

DRAFT

10-04 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: Sand lined trenches

Rule Sections: 64E-6.008

Issue:	Allow placing a sand liner 24 inches deep beneath the drainfield trench to allow the water in the drainfield trench to more rapidly percolate.
Issue Originated By:	Mike Sundin, Apalachee Backhoe
Justification:	The proposed changes allow the installation of a sand liner beneath the drainfield trench in non-karst settings to allow effluent to percolate rapidly from the trench into the sand liner down to the seasonal high water table.
Proposed Rule Change:	10-04--64E-6.008_Sand_liner_under_drainfields.doc (See Attached)
Summary:	Allows a sand liner beneath drainfield trenches down to the seasonal high water table.
Possible Financial Impacts:	cost of liner sand and installation, may prolong system life
Date New:	5/15/2010
Initially Reviewed by Trap:	10/11/2011
Tabled by Trap:	
Trap Review Finished:	10/11/2011
Variance Committee Reviewed:	11/3/2011
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	

Comments: 9/23/10 On agenda but not discussed at TRAP. Did not complete agenda.
12/2/2010 TRAP did not address this issue.
10/11/2011 TRAP passed to Variance committee with "most restrictive soil" changes.
11/3/2011 Variance Comments: SHO - The phrase "karst areas" is not currently and is not proposed to be defined, hence this will cause confusion. Additionally, there is no depth restriction for a karst area. As an example, all of Suwannee county is karst, as is about half of Alachua and a lot of Jackson county. I don't see how it will be able to factually determine if something is karst or not on a specific property. This also creates the situation where CHD's will not be able to properly check the surf ace area of the soil interface to ensure that soil smearing has not occurred. This also creates a soil textural discontinuity whereby the effluent will be spread along the sand/non-sand textural interface and possibly not proceed down into the moderately limited soil until such time as the effluent has enough head pressure to saturate the area and break through. This could have an adverse effect on the soil

regarding biomat formation. Use of natural soil with all of its naturally-occurring pores would seem to be better than this. There has been no evidence presented to support this change, at least not that has been given to the Variance Committee. This also has an impact on Table III Footnotes 3 and 5 which may cause confusion. Same comments for mound system.; DEP- Please clarify or define non-karst or karst areas.; CHD-Be more specific in the language in which type of soils this can be done.; ENG-Ok, I guess, not very effective.; HBI-Why do we need it?; REI-ok; STI-Not a problem, may need more interpretation. Could cause confusion on what is karst and non-karst.
11/28/2011 Did some language cleaning regarding maintaining the loading rate to be the most restrictive layer in the native profile.

Ready for Rule ☐
In Rule ☐
Rule Date:

64E-6.008 System Size Determinations.

(1) to (4) No change

(5) The minimum absorption area for standard subsurface drainfield systems, graywater drainfield systems, and filled systems shall be based on estimated sewage flows and Table III so long as estimated sewage flows are 200 gallons per day or higher. When estimated sewage flows are less than 200 gallons per day, system size shall be based on a minimum of 200 gallons per day.

TABLE III No change

Footnotes to Table III:

1. through 5. No change

6. In non-karst areas where moderately limited soil underlies the drainfield, the moderately limited soil may be removed beneath the entire drainfield to a depth of 24 inches below the bottom of the drainfield. The removed soil shall be replaced with slightly limited soil material. The loading rate for the drainfield shall be the loading rate for most restrictive soil in the native soil profile from the elevation of the top of the drainfield to 24 inches below the bottom the drainfield.

(6) No change

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.48, Amended 3-17-92, 1-3-95, Formerly 10D-6.048, Amended 11-19-97, 3-22-00, 9-5-00, 11-26-06, 6-25-09, ___.

64E-6.009 Alternative Systems.

When approved by the DOH county health department, alternative systems may, at the discretion of the applicant, be utilized in circumstances where standard subsurface systems are not suitable or where alternative systems are more feasible. Unless otherwise noted, all rules pertaining to siting, construction, and maintenance of standard subsurface systems shall apply to alternative systems. In addition, the DOH county health department may, using the criteria in subsection 64E-6.004(4), F.A.C., require the submission of plans prepared by an engineer licensed in the State of Florida, prior to considering the use of any alternative system.

(1) through (2) No change

(3) Mound systems – are used to overcome certain limiting site conditions such as an elevated seasonal high water table, shallow permeable soil overlying slowly permeable soil and shallow permeable soil located over creviced or porous bedrock. Special installation instructions or design techniques to suit a particular site shall, using the criteria in subsection 64E-6.004(4), F.A.C., be specified on the construction permit in addition to the following general requirements.

(a) through (j) No change

(k) In non-karst areas where moderately limited soil underlies the drainfield, the moderately limited soil may be removed beneath the entire drainfield to a depth of 24 inches below the bottom of the drainfield. The removed soil shall be replaced with slightly limited soil material. The loading rate for the drainfield shall be the loading rate for the most restrictive soil in the native soil profile from the elevation of the top of the drainfield to 36 inches below the bottom the drainfield.

(4) through (10) No change

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.49, Amended 3-17-92, 1-3-95, Formerly 10D-6.049, Amended 11-19-97, 2-3-98, 3-22-00, 4-21-02, 6-18-03, 11-26-06, 6-25-09, ___.

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12-01 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: ATU Sizing

Rule Sections: 64E-6.012

Issue:	Current ATU sizing table requires residences to have ATU's rated 200 gallons above the estimated sewage flow.
Issue Originated By:	Dale Holcomb, DOH
Justification:	The proposed changes require all residences and establishments requiring ATU's to be sized based on the estimated sewage flow and the rated capacity rather than requiring an extra 200 gallons of capacity for residences.
Proposed Rule Change:	12-01--64E-6.010_ATU Sizing.doc (See Attached)
Summary:	simplifies ATU sizing to simply relate estimated flow and rated capacity.
Possible Financial Impacts:	Should reduce the cost for residential ATU owners by requiring smaller units. Could contribute to a failure or more frequent maintenance visits where ATU's models are rated at a higher capacity than they can actually accommodate.
Date New:	3/28/2012
Initially Reviewed by Trap:	
Tabled by Trap:	
Trap Review Finished:	
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	
Comments:	
Ready for Rule	☐
In Rule	☐
Rule Date:	

64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment Units.
When aerobic treatment units are used for treating domestic and commercial sewage waste, each unit shall be installed, operated and maintained in conformance with the following provisions:

(1) No change

(2) The following additional requirements shall also apply to the construction, design, and operation of aerobic treatment units treating 1500 gallons per day or less:

(a) through (d) No change

(e) Minimum required treatment capacities for systems serving any structure, building or group of buildings shall be based on estimated daily sewage flows as determined from Table I and the rated capacity of the aerobic treatment unit provided ~~V.~~

~~TABLE IV~~
~~AEROBIC SYSTEMS~~
~~PLANT SIZING~~

~~RESIDENTIAL:~~

~~Number of Bedrooms~~	~~Building Area in square feet~~	~~Minimum Required Treatment Capacity gallons per day~~
~~1 or 2~~	~~Up to 1200~~	~~400~~
~~3~~	~~1201-2250~~	~~500~~
~~4~~	~~2251-3300~~	~~600~~

~~For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by 100 gallons.~~

~~COMMERCIAL:~~

~~Estimated Sewage Flow in gallons per day~~	~~Minimum Required Treatment Capacity in gallons per day~~
~~0-400~~	~~400~~
~~401-500~~	~~500~~
~~501-600~~	~~600~~
~~601-700~~	~~700~~
~~701-750~~	~~750~~
~~751-800~~	~~800~~
~~801-1000~~	~~1000~~
~~1001-1200~~	~~1200~~
~~1201-1500~~	~~1500~~

~~Footnotes to Table IV~~

~~1. Where the number of bedrooms and the corresponding building area in Table IV do not coincide, the criteria which results in the greatest required treatment capacity shall apply.~~

~~2. These figures assume that~~ the aerobic system will be treating domestic strength sewage with $CBOD_5$ and suspended solids values typically not exceeding 300 and 200 milligrams per liter, respectively. For wastewaters with higher $CBOD_5$, higher suspended solids values, or for facilities that exhibit short-term hydraulic surge conditions, additional treatment or pre-treatment facilities shall be required when specified by design engineers, plant manufacturers, or by the DOH county health department.

(f) through (n) No change.

(3) to (6) No change

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part I 386 FS. History–New 3-17-92, Amended 1-3-95, Formerly 10D-6.0541, Amended 11-19-97, 4-21-02, 6-18-03, 5-24-04, 11-26-06, 6-25-09, 4-28-10,___.

12-05 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: tank compartment walls

Rule Sections: 64E-6.013

Issue:	having the baffle in septic tanks extend above the liquid level limits the amount of space for toilet paper.
Issue Originated By:	Clyde Coker, Contractor
Justification:	The proposed changes stop the baffle wall at about six inches below the liquid level to provide more volume for the toilet paper on top of the effluent, while still keeping heavier solids in the first compartment.
Proposed Rule Change:	12-05--64E-6.013_Compartment walls.doc (See Attached)
Summary:	allows the option of having a solid baffle wall extending from the bottom of the tank to six inches below the liquid level line.
Possible Financial Impacts:	could save homeowners money if it allows increased floating storage. Could cost money if it allows floating substances to escape tank and damage drainfield. Could increase filter clogging since floating substances are not retained in first compartment.
Date New:	12/5/2012
Initially Reviewed by Trap:	
Tabled by Trap:	
Trap Review Finished:	
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	
Comments:	
Ready for Rule	☐
In Rule	☐
Rule Date:	

64E-6.013 Construction Materials and Standards for Treatment Receptacles.

(1) No change

(2) Onsite wastewater treatment receptacle design requirements. The following details shall be incorporated into the design:

(a) through (g) No change

(h) Sewage flow between the first and second chamber of a multi-chamber receptacle shall interconnect utilizing either a minimum 4 inch diameter hole or equivalent size slot in the wall or with a minimum 4 inch diameter vented and inverted U-fitting or a tee. Alternatively, sewage flow may be over the top of a wall separating the chambers provided the wall extends from the floor of the tank up to an elevation six inches below the liquid level line and there are no penetrations through the wall. Receptacles in series shall interconnect utilizing a minimum 4 inch diameter vented, inverted U-fitting or a tee. The outlet device or slot shall extend below the liquid level of the receptacle so that the invert level is located not less than 30 percent nor greater than 40 percent of the liquid depth.

(i) through (m) No change

(3) through (12) No change

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.55, Amended 3-17-92, 1-3-95, Formerly 10D-6.055, Amended 11-19-97, 2-3-98, 3-22-00, 4-21-02, 5-24-04, 11-26-06, 6-25-09, 4-28-10,____.

12-06 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: Filter cleaning during tank service

Rule Sections: 64E-6.010

Issue:	The filters should be cleaned as part of the tank pumping.
Issue Originated By:	SW Florida CHD's
Justification:	The proposed changes will require filters to be cleaned any time a tank is pumped.
Proposed Rule Change:	12-06--64E-6.010_Filter cleaning.doc (See Attached)
Summary:	requires filters to be cleaned when the tank is pumped.
Possible Financial Impacts:	could increase cost to homeowner by requiring filter servicing activity during a pumpout; however, will reduce costs to homeowner by avoiding subsequent filter service visit.
Date New:	12/5/2012
Initially Reviewed by Trap:	
Tabled by Trap:	
Trap Review Finished:	
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	
Comments:	
Ready for Rule	☐
In Rule	☐
Rule Date:	

64E-6.010 Septage and Food Establishment Sludge.

(1) through (3) No change

(4) After septage or food establishment sludge is removed from an onsite sewage treatment and disposal system, the original lid of the tank shall be put back in place, or be replaced with a new lid if the original lid is broken. The tank lid shall be completely sealed and secured as per paragraph 64E-6.013(2)(i), F.A.C., and the ground backfilled and compacted so that the site is left in a nuisance free condition.

(a) Contents of any treatment tank, including all chambers of a multi-chambered tank, or pump tank shall be removed in their entirety when pumped. Where in the opinion of the person pumping any onsite sewage treatment and disposal system waste receptacle or pump tank, the complete removal of all tank contents may create an unintended problem in regards to the continued use of the system, a complete pumpout is not required. The pumper must document, in writing, to the system owner the reason for the partial pumpout, the gallonage pumped from the system, and what material was left in the tank.

(b) The access to pump a tank must be through the lid of the tank, through the manhole or by moving a sectional lid. Where the tank is chambered, separate chambers must be accessed through the manholes or sectional lid for the chamber being pumped. Pumping shall not be accomplished by entering the tank through inlets or outlets. Where the lid of the tank must be broken in order to gain access for the removal of tank contents, or at anytime when the lid is broken, the lid shall be replaced.

(c) When the contents are removed from a tank containing an outlet filter device, the filter shall be cleaned and put back into place as part of the service visit.

(5) through (10) No change

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, 386.041, 373.4595 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.52, Amended 3-17-92, 1-3-95, 5-14-96, Formerly 10D-6.052, Amended 3-22-00, 5-24-04, 11-26-06, 6-25-09, 4-28-10,_____.

12-07 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: ATU maintenance versus drainfield maintenance

Rule Sections: 64E-6.012

Issue:	A drainfield repair for an ATU system should be able to be conducted by any contractor, not just an ATU maintenance entity
Issue Originated By:	Roxanne Groover, FOWA
Justification:	The proposed changes clarify what parts of the system any registered contractor can repair versus what parts the maintnenace entity is required to service.
Proposed Rule Change:	12-07--64E-6.012_Repair of Non-ATU system components.doc (See Attached)
Summary:	require maintenance entities to maintain ATU's but allow any contractor to repair the drainfield and the trash tank, pumps, etc.
Possible Financial Impacts:	should lower costs for homeowners by allowing more options for selecting contractors for system maintenance.
Date New:	12/12/2012
Initially Reviewed by Trap:	
Tabled by Trap:	
Trap Review Finished:	
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	
Comments:	
Ready for Rule	☐
In Rule	☐
Rule Date:	

64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment Units.

When aerobic treatment units are used for treating domestic and commercial sewage waste, each unit shall be installed, operated and maintained in conformance with the following provisions:

(1) through (5) No change

(6) Any registered septic tank contractor or state-licensed plumber may maintain or repair system components that are not a part of the aerobic treatment unit provided neither the the capacity nor operational efficiency of the components upstream of the aerobic treatment unit are changed from those originally approved and provided the connection of the inlet pipe, ATU, and the connection to the outlet pipe are not involved in the maintenance or repair.

(7)~~(6)~~ All materials incorporated herein may be obtained from the Bureau of Environmental Health~~Onsite Sewage Programs~~ at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part I 386 FS. History–New 3-17-92, Amended 1-3-95, Formerly 10D-6.0541, Amended 11-19-97, 4-21-02, 6-18-03, 5-24-04, 11-26-06, 6-25-09, 4-28-10,_____.

14-01 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/25/2014

Subject: Rule Reduction

Rule Sections: All Rule Sections are included

Issue:	The Surgeon General has instructed that all rules be reduced by at lease 15% by December 31, 2014.
Issue Originated By:	Dale Holcomb
Justification:	The proposed changes Incorporate 19 previously approved TRAP issues as well as simplify language, eliminate redundancy with statutory language, replace tables with formulas and fix glitches.
Proposed Rule Change:	14-01 Rule Reduction for TRAP.doc (See Attached)
Summary:	The proposed amendments plus the amendments in the 7/16/2013 rulemaking reduce the volume of the rules by over 30% and incorporate a number of proposals previously approved by the TRAP.
Possible Financial Impacts:	See comments below
Date New:	9/1/2014
Initially Reviewed by Trap:	
Tabled by Trap:	
Trap Review Finished:	
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	

Comments: Many of these issues were already approved by TRAP. Short term cost savings may be realized by deleting requirements for unobstructed area, voiding permits, some deed restrictions, spodic soil replacement under drip lines, requiring repairs to meet current sizing rather than 1.5 times original sizing, stanrards-based testing concentrations rather than testing additives to an arbitrary concentration, allowing more design options for systems in the florida keys, dropping requirement that all innovative testing be performed under NSF ETV, reduction of septage disposal site inspection fees.

Cost increases could be: repair permit fees for failures within one year of original installation, repairs of failing pre-1983 systems needing to achieve 12-inch water table separation, maintaining records of additives by pumpers, providing copies of septage hauling logs, tank testing and design modification for those manufacturers that have not demonstrated conpliance with 2006 standards,

Ready for Rule ☐
In Rule ☐
Rule Date:

Proposed Changes to Chapter 64E-6

During the rule reduction exercise, we incorporated numerous rule issues that TRAP had already approved.
After incorporation, some issues were further edited in keeping with the rule-reduction tools including (replacement of tables with formulas, elimination of rule language redundant to statute language, shortening of cumbersome terms, etc.)

Following is a tracing table mapping the location of Approved TRAP issues in the Proposed 64E-6 document sent last week.

The portions of the proposed rule that are included in these approved issues are shaded in gray in the rule draft.

Issue Number	Subject	Issue	Approval	Line Numbers
07-23	Performance-Based Systems-Standards	Replaces current 7-day and 30-day average discharge limits with a percent removal.	12/2/2010	8424-8636
08-04	Retesting Tanks to 2006 Standard	The strength standards for fiberglass and polyethylene tanks changed in November, 2006. Some tanks tested to the prior lower standard may not meet the 2006 standard.	2/19/2009	1764-1770
08-16	Requirements for Engineer's Staff to do Site Evaluations	LOF 08-215 Exempts engineers staff from certification under 381.0101 for doing site evaluations.	2/19/2009	463-464
08-18	Portable restrooms for temporarily displaced persons	64E-10 currently provides restroom ratios for displaced persons. It is being rewritten to seal with sanitation of facilities, not numbers of facilities.	2/19/2009	44, 1524-1528
09-04	Portable restroom cleaning requirements	Some portable restroom companies do poor job of maintaining the interior of their portable restroom units. This presents a public health issue for the people using the restroom as well as impacting negatively on the industry.	1/28/2010	1434-1440
09-10	septage logs	current rule requires a quarterly log submission for the land application of septage but does not require a similar log from the cleaning company or the septage treatment facility. Thus the cradle-to-grave tracking cannot be performed.	7/15/2010	1213
09-15	Duplexes on one lot	The current language addressing this issue is cumbersome and confusing.	7/15/2010	566-591
09-16	Triple-Wide mobile home spaces; cleanup MHP sizing	the rule contains no sizing for triple-wide mobile home spaces. Also, the current language about multiple spaces per system versus one space per system needs some cleaning.	7/15/2010	Between 594 and 595 under "Mobile Home Park"
09-17	Site Plans	Current site plan language is not specific about what scales are appropriate and how much tolerance is allowed in that scale.	7/15/2010	473-477
09-18	PBTS plans	current rule requires two copies of all docs. One copy would be enough in most cases.	7/15/2010	3657

09-19	Commercial Sewage Waste Definition	the definition in the rule differs from the definition in the interagency agreement.	7/15/2010	180-182 by referencing the interagency agreement
09-20	Incinerating Toilets	The language addressing composting and incinerating toilets refers to an old version of the applicable standard, and does not include a current testing protocol for incinerating toilets. The proposed language makes the updates.	7/15/2010	895-896
10-02	Soil Replacement for Drip Systems	The rule requires 42 inches of suitable soil below the bottom of the drainfield. Drip irrigation systems do not require spodic horizons to be removed when they are more than 24 inches below the bottom of the drainfield.	12/2/2010	1025-1026
10-05	Part II (Florida Keys) SB 550, Update standards	SB 550 (Ch. 2010-205, Laws of Florida) amended repair standards for the Florida Keys. Many provisions are being relocated within the rules to eliminate duplication. Additionally, several provisions of Part II need updating to address evolving technology.	10/11/2011	2787-3175
10-10	Site Plans, Mounds	This incorporates interpretive memos and clean-up some existing language related to showing and determining MAFL and other setback features, Mound size determination, setback to shallow swales.	12/2/2010	500-506, 800, 921-926, 2314, 2316
10-14	Setback from DEP water Main	While the current rule 64E-6.005 provides numerous variations on setbacks to water lines, the DEP rules require a 10-foot setback between onsite systems and water mains defined in 62-555.314	10/11/2011	667-668
10-18	Repair Permit Fees	Current rule exempts repair permits from the permit fee if the system is less than one year old.	10/11/2011	336-337
10-19	Repair Standards	Repair standards are out of date, complicated	12/2/2010	2302-2312, 2316, 2318-2350, 2352-2376, 2401-2469, 2575-2594, 2597-2654
10-21	DEP/DOH Interagency Agreement	The interagency agreement contains procedures that can affect the way that establishments are regulated. It has never been incorporated by rule.	10/11/2011	180-182 incorporated in commercial sewage definition.

CHAPTER 64E-6
STANDARDS FOR ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

64E-6.001 General
64E-6.002 Definitions
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64E-6.001 General.

(1) The provisions of Part I (64E-6.001 - 6.016) of this chapter shall apply to all areas of the state except where specific provisions in Part II (64E-6.017 - 6.0182), addressing the Florida Keys, or specific provisions in Part IV (64E-6.025 - 6.0295), addressing performance-based treatment systems, exempt or modify compliance with Part I. Part III (64E-6.019 - 6.023) addresses the registration of septic tank contractors and authorization of partnerships and corporations. Part V (64E-6.030) addresses fees for services throughout the chapter. The provisions of this chapter must be used in conjunction with Chapter 381 and Part III of Chapter 489, F.S.

(2) All Permanent and temporary s~~S~~tructures used or intended for human occupancy, employment or service to the public and locations where people congregate, such as construction sites, fairs, housing for displaced persons, and field locations for agricultural workers shall provide approved wastewater treatment and disposal systems. Except for the provisions of Section~~Rule~~ 64E-6.0101, F.A.C., permanent structures shall not rely upon the use of holding tanks and portable toilets~~ for wastewater treatment and disposal~~.

~~(3) Combination of commercial and domestic sewage into a single system shall require that all the sewage be treated as commercial sewage.~~

(3)~~(4)~~ Except as provided for in Section 381.00655, F.S., any existing and prior approved system which has been placed into use and which remains in satisfactory operating condition shall remain valid for use under the terms of the rule and permit under which

it was approved. Alterations that change the conditions under which the system was permitted and approved, sewage characteristics or increase sewage flow will require that the owner, or their authorized representative, apply for and receive reapproval of the system by the ~~DOH county health~~ department, prior to any alteration of the structure, or system. If an applicant requests ~~that~~ the department consider the previous structure's or establishment's most recent approved occupancy, the applicant must provide written documentation that the ~~onsite sewage treatment and disposal~~ system was approved by the department for that previous occupancy.

(a) An applicant shall~~will be required to~~ complete Form DH 4015, ##/##~~08/09~~, Application for Construction Permit, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, and provide a site plan in accordance with paragraph 64E-6.004(3)(a), F.A.C.~~, to provide information of the site conditions under which the system is currently in use and conditions under which it will be used~~.

(b) The applicant shall have all ~~system~~ tanks pumped by a permitted septage disposal service. A registered or master septic tank contractor, state-licensed plumber, or person certified under Section 381.0101, F.S., ~~or master septic tank contractor~~ shall determine the tank volume and ~~shall~~ perform a visual inspection of the empty tank ~~when the tank is empty~~ to detect any observable defects or leaks ~~in the tank~~. The tank volume shall be obtained from the tank legend or ~~shall be~~ calculated from measured ~~internal~~ tank dimensions ~~for length, width and depth to the liquid level line or from the measured outside dimensions for length and width minus the wall thickness and depth~~ to the liquid level line or~~. For odd shaped tanks and tanks without a legend,~~ metered water flows from ~~the~~ refilling ~~of~~ the tank may be used ~~in lieu of measured inside or outside tank dimensions~~. Results of the visual inspection and measurements ~~The person performing the inspection~~ shall be reported ~~submit the results~~ to the ~~DOH county health~~ department ~~as part of the application~~ using page 4 of Form DH 4015.

(c) If ~~a prior approved~~an existing system has been approved by the ~~DOH county health~~ department within the preceding five years, and the system was determined to be in satisfactory operating condition at that time, a new inspection is not required ~~unless there is a record of failure of the system. If it is determined that a new inspection is not required, only~~. Only the application fee shall be charged ~~for this application and approval~~.

(d) If the use of a building is changed or if additions or alterations to a building are made which will increase domestic sewage flow, change sewage characteristics, or compromise the integrity or function of the system, the ~~onsite sewage treatment and disposal~~ system ~~serving such building~~ shall be brought into full compliance with ~~the provisions and requirements of~~ these rules.

~~1. Proper well setbacks shall be maintained.~~

1~~2~~. Prior to system modification the owner or agent shall obtain a permit in accordance ~~any modification of the system, the owner shall apply for and obtain a permit for modification of the system from the county health department in accordance~~ with Section~~Rule~~ 64E-6.004, F.A.C. The permit shall be valid for 18 months from the date of issue. Where building construction has commenced, it shall be valid for an additional 90 days. The installation of a laundry system, a gray water system, a grease interceptor, or additional drainfield as a precautionary measure to prolong system functioning of an existing system is considered a system modification.

2~~3~~. ~~Necessary site~~ Site investigations and tests shall be performed at the expense of the owner by either an engineer ~~with soils training who is licensed in the state of Florida pursuant to Chapter 471, F.S.~~, ~~registered~~ septic tank contractors, ~~master septic tank contractors~~, or persons certified under Section 381.0101, F.S., or department personnel for the appropriate fee specified in Section 381.0066, F.S.

(e) For residences, flows shall be calculated using new system criteria for bedrooms and building area, including existing structures and any proposed additions. Table I and footnotes shall apply. No part of the existing structure, or the addition to the structure shall be allowed to cover any part of the system. Non-load bearing structures, such as a concrete patio floor, are allowed to cover the septic tank, provided that access to the tank is provided for maintenance. The structure above the septic tank shall have a minimum opening of 225 square inches at each end of the septic tank for access into the tank. Each opening shall have a minimum dimension of 15 inches. The structure shall not be in direct contact with the tank. A barrier of soil or plastic shall be used between the tank and non-load bearing structure. A modification, replacement, or upgrade of an onsite sewage treatment and disposal system is not required for a remodeling addition if a bedroom is not added. For those residences adding ~~that add~~ bedrooms ~~sewage flow~~, the system shall be required to be altered to meet the following criteria:

1. The septic tank need not be replaced if it is structurally sound and is within one tank size of the required specifications found in Table II, for the proposed structure. An approved outlet filter shall be installed if one is currently not in place. If existing tanks are not within one tank size of the required specifications found in Table II, for the proposed structure, they shall be replaced or supplemented to meet sizing requirements for new systems. If a new tank is installed in series, the resulting configuration must meet the sizing requirements for tanks-in-series in Section 64E-6.013, F.A.C.

2. The ~~county health department shall require the~~ existing drainfield shall~~to~~ be increased to current rule drainfield size requirements for new systems.~~for the proposed estimated sewage flow using the appropriate soil loading rate and sizing criteria for new systems.~~ Where the existing elevation of the bottom surface of the drainfield is less than 24 inches above the wet season high water table, the bottom of the drainfield shall be maintained at the existing separation or a minimum of 12 inches above the wet season high water table, whichever is greater.

3. Where the bottom of the drainfield is less than 12 inches above the wet season high water table, the drainfield shall be brought into full compliance with all new system standards~~, as long as it is the intent of the applicant to proceed with the addition to the residence~~.

(f) For non-residential ~~commercial~~ establishments, the system shall not be required to be altered ~~if~~ unless domestic sewage flow ~~is not expected to~~will increase by more than 20% of original design flow or ~~require~~ more than one tank size adjustment is required. An ~~department approved~~ outlet filter device shall be installed. Any system used to treat and dispose commercial wastewater shall be brought into full compliance with the provisions and requirements of current rules for new systems when there is any increase in sewage flow or increase in waste strength.

(g) These requirements do not authorize a residence or establishment to exceed the ~~lot flow allowances~~ authorized lot flow under ~~paragraph 64E-6.005(7)(c), F.A.C~~381.0065(4), F.S. Establishments ~~that~~ currently exceeding ~~exceed lot~~ authorized flow ~~allowances~~ shall not ~~be allowed to~~ increase sewage flow.

~~(h) The installation of a laundry system, a gray water system, a grease interceptor, or additional drainfield as a precautionary measure to prolong system functioning of an existing system is considered a modification to the system. Such installation is not a modification if it is associated with an increase in estimated sewage flow or change in sewage characteristics, if the system is in failure or if the existing system is in non-compliance with the terms of the original permit, in which case it will be considered a new system.~~

(h)~~(i)~~ If an existing system is disconnected from a structure that was made unusable or destroyed following a disaster, the system may be reconnected to a rebuilt structure per the provisions of s. 381.0065(4)(y).

(4) ~~(5)~~ The department Procedure for Voluntary Inspection and Assessment of Existing Systems, May, 2000, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, shall be applied except in situations pertaining to an increase in sewage flow, ~~or~~ change in sewage characteristics, or system failure ~~of the system. The inspection is designed to assess the condition of a system at a particular moment in time. The inspection will identify obviously substandard systems, for example systems without drainfields. The inspection is not designed to determine precise code compliance, nor provide information to demonstrate that the system will adequately serve the use to be placed upon it by this or any subsequent owner. Nothing in this section shall be construed to limit the amount of detail an inspector may provide at their professional discretion.~~ Persons allowed to perform work under this section shall be ~~master septic tank contractors,~~ registered or master septic tank contractors, state-licensed plumbers, and persons certified under Section 381.0101, F.S. Department employees are excluded from performing these evaluations. Aerobic treatment units and performance-based treatment systems shall ~~not be evaluated using this criteria, but shall~~ be evaluated by the approved maintenance entity which maintains the unit or system. ~~Nothing in this section restricts the person having ownership of, control of, or use of an onsite sewage treatment and disposal system from requesting a partial inspection.~~ The person performing the voluntary inspection ~~inspector~~ shall provide the person requesting the inspection a copy of the department Procedure for Voluntary Inspection and Assessment of Existing Systems and written notice of their right to request an inspection based on part or all of the standards.

(5) ~~(6)~~ Citations issued by the department shall be on Form DH 3146, ##/##~~11/02~~, Citation for Violation, Onsite Sewage Programs/ Sanitary Nuisance, hereby incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####.

(6) ~~(7)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Environmental Health at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713~~.

Rulemaking Authority 381.0065(3)(a), 489.553(3), 489.557(1) FS. Law Implemented 381.0065, 381.0067, 386.041, 489.553 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.41, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.041, Amended 11-19-97, 2-3-98, 3-22-00, 9-5-00, 5-24-04, 11-26-06, 6-25-09, 4-28-10, 7-16-13,_____.

64E-6.002 Definitions.

For the purposes of this chapter, the following words and phrases shall have the meanings indicated in this section. Additional definitions are in section 381.0065(2), F.S.~~:~~

(1) Absorption surface – the total surface area of soil at the bottom of the drainfield.

(2) Aerobic treatment unit – a sewage treatment unit which introduces air into sewage to provide aerobic biochemical stabilization within a treatment receptacle.

(3) Alternative system – any approved ~~onsite sewage treatment and disposal~~ system used in lieu of, including modifications to, a standard subsurface system.

(4) American National Standards Institute, hereafter referred to as ANSI – an organization comprised of trade associations, technical societies, professional groups, consumer organizations, and individual companies with headquarters located at 1430

Broadway, New York, New York 10018. ~~This organization acts as a clearinghouse and coordinating body for voluntary standards activities in the United States, and approves as American National Standards those standards that have been developed according to its principles of openness, due process and consensus. Among its activities is accreditation of third-party certification programs.~~

(5) American Society for Testing Materials hereafter referred to as ASTM – a technical society with headquarters located at 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 ~~1916 Race Street, Philadelphia, Pennsylvania, 19103, which develops and publishes national standards for the testing and quality assurance of construction materials~~.

(6) Approved – a~~n onsite sewage treatment and disposal~~ system constructed and installed in compliance with the standards and requirements of this chapter and which has received final installation approval. "Approved" ~~installation~~ does not imply that a system will perform satisfactorily ~~for a specific period of time~~.

(7) Approved maintenance entity – any person or business entity which has been issued a written permit by the ~~DOH county health~~ department to provide maintenance services associated with approved onsite aerobic treatment units.

~~(8) Aquifer – a geological formation, group of formations, or part of a formation that is capable of yielding potentially usable quantities of potable water from wells or springs.~~

~~(9) Available publicly owned or investor-owned sewerage system – as defined by Section 381.0065(2), F.S.~~

~~(10) Base flood – the flood having a one percent chance of being equaled or exceeded in any given year.~~

~~(11) Bedroom – as defined by Section 381.0065(2), F.S.~~

(8) ~~(12)~~ Building Area – that enclosed habitable area of a dwelling unit, excluding the garage, carport, exterior storage shed, or open or screened patios or decks. Calculations of building area shall be made by measurements of the outside building dimensions. Building area of each additional story of the structure shall be added to determine the total building area.

(9) ~~(13)~~ Commercial Sewage ~~Waste~~ – commercial wastewater per the Interagency Agreement Between The Department of Environmental Protection and The Department of Health for Onsite Sewage Treatment and Disposal Systems, [INSERT DATE], 2013, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####.~~Non-toxic, non-hazardous wastewater from commercial facilities. Examples of establishments included in this definition are commercial and institutional food operations, commercial laundry facilities with no more than 4 machines, and animal holding facilities.~~ Combination of commercial and domestic sewage into a single system shall be considered commercial sewage.

(10) ~~(14)~~ Department – the Department of Health including authorized agents of the individual ~~DOH~~ county health departments.

~~(15) Domestic sewage waste – as defined by Section 381.0065(2), F.S. Domestic sewage is further categorized as:~~

~~(a) Blackwater – as defined by Section 381.0065(2), F.S.~~

~~(b) Graywater – as defined by Section 381.0065(2), F.S.~~

(11)~~(c)~~ Domestic sewage waste ranges:

1. Carbonaceous Biochemical Oxygen Demand ($CBOD_5$~~5~~), maximum 300 mg/L~~l~~;
2. Total Suspended Solids (TSS), maximum 200 mg/L~~l~~;
3. pH, 6 – 8; or within 1 pH unit of the water supply pH; and
4. Nitrogen (Total Kjeldahl Nitrogen, TKN) maximum 100 mg/L~~l~~.

(12) ~~(16)~~ Dosing Tank – See Pump Tank.

~~(17) Drainage Ditch – a trench dug for the purpose of draining water from the land or for transporting water for use on the land. Swales are excluded from this definition.~~

(13)~~(18)~~ Drainfield – a system of ~~open-jointed or~~ perforated piping, approved alternative distribution units, or other treatment facilities designed to distribute effluent for filtration, oxidation and absorption by the soil within the zone of aeration.

(14) ~~(19)~~ Dwelling unit – a single-family residence ~~for the housing of a single family~~ whether ~~such residence is a~~ detached ~~structure~~ or a unit of a multiple family building.

(15) ~~(20)~~ Effective capacity – the liquid volume of a tank contained below the liquid level line.

(16) ~~(21)~~ Effective soil depth – the depth of slightly or moderately limited soil material at a~~n onsite sewage treatment and disposal~~ system drainfield site.

(17) Engineer – as defined by section 471.005(5), FS.

(18) ~~(22)~~ Establishment – a multi-family housing, apartment, condominium or townhouse complex, a mobile home park or recreational vehicle park, a non-residential commercial or institutional development or places of business or assembly. An establishment includes all buildings or structures, and the land appertaining thereto and shall have an owners association or other legal entity ~~which is~~ responsible for maintenance and operation of the ~~development's~~ sewage treatment and disposal facilities.

(19) ~~(23)~~ Failure – a condition ~~existing within an onsite sewage treatment and disposal system which~~ that prohibits the system from functioning in a sanitary manner and which results in the discharge of untreated or partially treated wastewater onto ground surface, into surface water, into ground water, or which results in the inability ~~failure~~ of building plumbing to discharge properly.

(20) ~~(24)~~ Filled System – a drainfield system where a portion, but not all, of the drainfield sidewalls are located at an elevation above the elevations of undisturbed native soil on the site.

(21) ~~(25)~~ Flooding – a covering of soil surface by water from any source, such as overflowing streams ~~overflowing their banks~~, runoff ~~from adjacent or surrounding slopes~~, ~~elevation of the~~ ground water table above ~~exceeding that of~~ the soil surface, or combinations of these. Terms also associated with flooding and used elsewhere in this chapter are:

(a) Frequent – flooding which occurs more than once every two years on the average;

(b) Ten year flood elevation – ~~that~~ flood elevation ~~which has~~with a 1~~0~~ in 10~~0~~ probability of being equaled or exceeded in any ~~calendar~~ year.

~~(26) Florida Keys – as defined by Section 381.0065(2), F.S.~~

(22) ~~(27)~~ Food Establishment Sludge – oils, fats, greases, food scraps and other grease interceptor contents generated by a food operation or institutional food preparation facility using a~~n onsite sewage treatment and disposal~~ system.

(23) ~~(28)~~ Impermeable – when used in reference to Section 381.0065(2)(l)~~(k)~~, F.S., shall mean a condition where the maximum hydraulic conductivity is less than or equal to 1 x 10^{-7} centimeters per second.

(25) ~~(29)~~ Industrial, hazardous or toxic sewage waste – wastewater not otherwise defined as domestic sewage waste or commercial sewage waste. Includes w~~W~~astewater carried off by floor drains, utility sinks and equipment drains located in buildings in industrial or manufacturing areas, ~~estimated volumes of~~ commercial sewage ~~wastes~~ exceeding 5000 gallons per day, ~~wastewater from~~ commercial laundry facilities with more than 4 self-service machines, and ~~wastewater from~~ vehicle ~~car and truck~~ washes ~~are included in this definition~~.

~~(30) Innovative system – as defined by Section 381.0065(2), F.S.~~

(26) ~~(31)~~ Limitation ratings – Soil classification ratings which describe the relative suitability of soils to properly assimilate sewage effluent. The three rating categories for the purpose of this rule are:

(a) Slightly limited – soil materials with favorable properties for the use of a drainfield.

(b) Moderately limited – soil materials that have properties moderately favorable for the use of a drainfield.

(c) Severely limited – soil materials which have one or more properties unsuitable for the use of a drainfield.

~~(32) Lot – as defined by Section 381.0065(2), F.S.~~

~~(33) Mean annual flood line – as defined by Section 381.0065(2), F.S.~~

~~(34) Mean annual flood line indicators – as used in Section 381.0065(2), F.S. means:~~

~~(a) Water stains – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Water marks";~~

~~(b) Hydric adventitious roots – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Morphological plant adaptations";~~

~~(c) Drift lines – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Drift lines and rafted debris";~~

~~(d) Rafted debris – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Drift lines and rafted debris";~~

~~(e) Aquatic mosses and liverworts – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Aquatic mosses and liverworts";~~

~~(f) Moss collars – a proliferation of terrestrial mosses and liverworts that mark the upper limits of the mean annual flood line;~~

~~(g) Lichen lines – shall mean the same as the hydrologic indicator used in the Florida Wetlands Delineation Manual, under the definition of "Elevated lichen lines."~~

(27) ~~(35)~~ Mean high water – as defined in Section 177.27, F.S.~~the average height of tidal high waters over a 19-year period.~~

(28) ~~(36)~~ Mean high water line – as defined in Section 177.27, F.S.~~the intersection of the tidal plane of mean high water with the shore.~~

(29) ~~(37)~~ Mound system – ~~a drainfield constructed at a prescribed elevation in a prepared area of fill material. All~~all drainfields where any part of the bottom surface of the drainfield is located at or above the elevation of undisturbed native soil in the drainfield area ~~is a mound system~~.

(30) ~~(38)~~ National Sanitation Foundation International, hereafter referred to as NSF – a not for profit research, education and service organization located at 789 N. Dixboro Road, Ann Arbor, Michigan, 48105~~3475 Plymouth Road, Ann Arbor, Michigan, 48106, that develops standards and criteria for equipment, products and services that bear upon health~~.

(31) ~~(39)~~ Non-potable water well – a well intended exclusively for irrigation purposes, or for supplying water to a heat pump system or a well for receiving discharge water from a heat pump system.

~~(40) "O" Horizon – the layer of organic matter on the surface of a mineral soil. This soil layer consists~~ consisting of decaying ~~plants~~ residues.

~~(41) Obstructed land – those areas on a lot or property used for such purposes as pools, concrete slabs, buildings, driveways, parking and similar areas which prohibit, hinder, or affect the installation, operation or maintenance of an onsite sewage treatment and disposal system.~~

(33) ~~(42)~~ Onsite sewage treatment and disposal system, also referred to as system – as defined by Section 381.0065(2)(k)~~(i)~~,

F.S. Appurtenances installed within the building sewer prior to a treatment receptacle shall not be included in this definition. ~~Systems covered by Chapter 403, F.S., are not included in this definition.~~

~~(43) Potable water line – as defined by Section 381.0065(2), F.S.~~

(34) ~~(44)~~ Potable water well – a source of water used for drinking, culinary or domestic purposes~~. The following classifications of potable wells are used in this chapter.~~ Classified as:

(a) Private potable well – a well used only by one or two dwelling units~~residences~~, one of which may be a rental unit~~residence~~.

(b) Public drinking water well – a well serving any drinking water system other than a private water system. Public systems are classified in Sections 403.842, and 381.0062, F.S.~~the following manner:~~

~~1. Community public water system – as defined in Section 403.852, F.S., such water system serves a year-round residential population of at least 25 people per day or has a minimum of 15 year-round residential service connections.~~

~~2. Non-community public water system – as defined in Section 403.852, F.S., such water system serves a transient population of at least 25 people per day at least 60 days per year or has a minimum of 15 non-residential service connections.~~

~~3. Non-transient non-community public water system – as defined in Section 403.852, F.S., such water system is not a community water system, but is a system that regularly serves at least 25 of the same people for over 6 months of the year.~~

~~4. Limited use public water system – a public water system not regulated by the Florida Safe Drinking Water Act or Chapter 62-550, 62-555, or 62-560 of the F.A.C., and further specified as limited use commercial public water system which provides piped potable water to one or more non-residential establishments and limited use community public water system which provides piped potable water to five or more private residences or two or more rental residences.~~

~~(c) Multi-family water well – a well that is used by three or four residences, one of which may be a rental residence.~~

(35) ~~(45)~~ Pump tank – a tank~~, or dedicated section of a multi-compartment tank~~ or tank compartment used to ~~locate~~ house an effluent ~~a~~ pump ~~that is used to distribute effluent to a drainfield, or other part of an onsite sewage treatment and disposal~~ system.

~~(46) Regulatory floodway – means the channel of a river or other water course and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.~~

(37) ~~(47)~~ Repair – system replacement ~~of or~~, modifications or additions ~~to a failing system which are necessary~~ to allow the existing system to properly function~~ in accordance with its design or must be made to eliminate a public health or pollution hazard~~. Servicing or replacing with like kind mechanical or electrical parts ~~of an approved onsite sewage treatment and disposal system~~; or making minor structural corrections to a tank, or distribution box, ~~does not constitute~~is not a repair. The use of any treatment method that is intended to improve the system~~functioning of any part of the system~~, or to prolong ~~or sustain the length of time the~~ system ~~functions~~life, ~~shall be considered~~is a repair. The use of any ~~non-prohibited~~ additive by the system owner, through the building plumbing, ~~shall not be considered~~is not a repair. Removal of ~~the~~ tank contents ~~of any tank~~, replacement of a broken lid, or the installation of an ~~approved~~ outlet filter~~ device~~, where the drainfield is not disturbed, ~~shall not be considered~~is not a repair. ~~Replacement of a broken lid to any tank shall not be considered a repair.~~ Splicing a drip emitter line where no emitter is eliminated ~~shall not be considered~~is not a repair.

(38) ~~(48)~~ Septage – as defined by Section 381.0065(2), F.S., excluding ~~Excluded from this definition are~~ the contents of portable toilets, holding tanks, and grease interceptors.

(39) ~~(49)~~ Septic tank – a watertight receptacle ~~constructed to promote separation of solid and liquid components of wastewater, to provide limited digestion of organic matter, to store solids, and~~ to allow clarified liquid to discharge ~~for further treatment and disposal into~~to a drainfield.

(40) ~~(50)~~ Spoil material – any part of the existing drainfield, ~~any~~ adjacent soil material within 24 inches vertically and 12 inches horizontally of the drainfield, and ~~any~~ soil that has visible signs of effluent ~~that has been~~ removed as part of a repair, modification or abandonment~~ of an onsite sewage treatment and disposal system~~.

(41) ~~(51)~~ Standard subsurface drainfield system – a~~n onsite sewage treatment and disposal~~ system drainfield consisting of a distribution box or header pipe and a drain trench or absorption bed with all portions of the drainfield sidewalls installed below the elevation of undisturbed native soil.

~~(52) Subdivision – as defined by Section 381.0065(2), F.S.~~

~~(53) Surface water bodies – are classified as.~~

~~(a) Permanent nontidal surface water body – as defined by Section 381.0065(2), F.S.~~

~~(b) Tidally influenced surface water body as defined by Section 381.0065(2), F.S.~~

(42) ~~(54)~~ Swale – a manmade, vegetation-stabilized ~~vegetatively-stabilized~~ trench containing ~~which contains~~ contiguous areas of standing or flowing water for less than 72 hours following a rainfall event. A swale has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical.

(43) ~~(55)~~ Temporary – a single period or an accumulation of periods not exceeding 120 total days in any 365-day period.

~~(56) Toxic or hazardous chemical – as defined by Section 381.0065(2)(p), F.S.~~

(44) ~~(57)~~ Undisturbed native soil – soil ~~which has been~~ deposited by nature onto a site ~~by the actions of nature and which has~~ not ~~been~~ disturbed ~~or altered~~ by the human activities~~ of man~~.

(45) ~~(58)~~ Water table elevation – ~~the~~ upper surface of the groundwater or ~~that~~ level below which the soil or underlying rock

material is ~~wholly~~ saturated with water~~. Water table elevation is~~ measured from the soil surface downward to the upper level of saturated soil or up to the free water level.

(46) ~~(59)~~ Wettest season – ~~that~~ period of time each year ~~in which the~~when ground water table elevation ~~can~~ is normally ~~be expected to be~~ at its highest elevation.

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.42, Amended 3-17-92, 1-3-95, Formerly 10D-6.042, Amended 11-19-97, 3-22-00, 11-26-06, 7-16-13,_____.

64E-6.003 Permits.

(1) System Construction Permit – No portion of a~~n onsite sewage treatment and disposal~~ system shall be installed, repaired, altered, modified, abandoned or replaced until a system construction permit has been issued~~ on Form DH 4016, 08/09, Construction Permit, herein incorporated by reference~~. If building construction has commenced, the system construction permit shall be valid for an additional 90 days beyond the eighteen month expiration date~~. A fee shall not be charged for a repair permit issued within 12 months from the date of final authorization of the onsite sewage treatment and disposal system.~~ If a construction or repair permit for a~~n onsite sewage treatment and disposal~~ system is transferred to another person the expiration date of the construction or repair permit shall not be amended~~, but shall run from the date of original issuance prior to the transfer. Servicing or replacing with like kind mechanical or electrical parts of an approved onsite sewage treatment and disposal system; pumping of septage from a system; or making minor structural corrections to a tank, or distribution box, does not constitute a repair~~.

(2) System Inspection – Before covering ~~with earth~~ and ~~before~~ placing a system into service, a person ~~installing or~~ constructing any portion of a~~n onsite sewage treatment and disposal~~ system shall notify the ~~county health~~ department of the completion of the construction activities and ~~shall~~ have the system inspected by the department~~ for compliance with the requirements of this chapter~~, except as noted in subsection 64E-6.003(3), F.A.C., for repair installations.

~~(a) If the system construction is approved after an inspection by the DOH county health department, the department shall issue a "Construction Approval" notice to the installer.~~

(a) ~~(b)~~ If the system installation does not pass the ~~construction~~ inspection~~ on any type of system installation~~, the person installing the system ~~installer~~ shall make all required corrections and notify the ~~DOH~~ ~~county health~~ department of the completion of the work prior to reinspection of the system. A reinspection fee shall be charged ~~to the installer~~ for each additional inspection prior ~~leading up~~ to ~~construction~~ approval.

(b) ~~(c)~~ Final ~~installation~~ approval shall not be granted until the ~~DOH~~ ~~county health~~ department has confirmed that all requirements of this chapter, including building construction and lot grading, are in compliance with ~~plans and specifications~~applicaition submitted and~~ with the permit application. T~~ the following requirements are ~~must also be~~ met:

1. For engineer-designed systems, an engineer shall ~~In addition, if the system was designed by an engineer, who shall be licensed in the State of Florida, the DOH county health department shall require the design engineer or the design engineer's designee, who shall be a licensed engineer, to~~ certify that the installed system complies with the approved design and installation requirements. Single family residences are excluded from this requirement, however, all changes to the engineering specifications shall be approved by the design engineer.

2. If additional site visits ~~after the construction approval inspection~~ are necessary to establish the compliance of the building construction and lot grading, or to establish the compliance with any provision of this chapter, a reinspection fee shall be charged ~~to the permit applicant for each inspection of the building and site leading to the final installation approval~~.

3. If an operating permit is required for the ~~onsite sewage treatment and disposal~~ system, final installation approval shall not be granted until the operating permit application and fee have been received by the d~~D~~epartment.

~~(d) Where an establishment is serviced by an onsite sewage treatment and disposal system, Section 381.0065(4), F.S., shall govern when occupancy of a building can be allowed. "Approved" installation does not imply that a system will perform satisfactorily for a specific period of time.~~

~~(e) Systems which are required to have an annual or biennial operating permit and the structures which they serve shall be inspected by the department at least once per year during the term of the permit to determine compliance with the terms of the operating permit.~~

(3) Repair Inspections – A system repair shall be inspected by the department or a master septic tank contractor ~~to determine compliance with construction permit standards~~ prior to final covering of the system in compliance with~~. Inspections shall comply with~~ subsection 64E-6.003(2), F.A.C., and the following:

(a) A master septic tank contractor may, at their option, cover a system repair when the following conditions are met:

1. The master septic tank contractor has requested an inspection from the department during the normal duty day before the date and time the repair will be ready for inspection. Inspections must be scheduled during normal inspection hours and in conjunction with the inspection schedule of the ~~county health~~ department~~ having jurisdiction~~.

2. At the date and time specified for inspection, the department is not on site to conduct an inspection within 30 minutes of the

scheduled time. If the department is on site to conduct the inspection and the system is not ready for inspection within 30 minutes after the scheduled time, a reinspection shall be requested. A reinspection fee shall be charged. If a contractor ~~Contractors shall~~ cancels or reschedules an inspection~~s~~ no~~t~~ later than two hours prior to the scheduled time~~. In such cases,~~ no reinspection fee shall be charged.

3. The master septic tank contractor is physically on site and conducts the inspection.

(b) The master septic tank contractor shall document the inspection on ~~page 3 of~~ Form DH XXXX~~4016~~, ##/##, "System Repair Certification", herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, and fax or hand deliver the form to the department by the next normal duty day ~~following the inspection~~.

(c) A master septic tank contractor shall not cover a system repair when the department has performed an inspection and has notified the contractor of violations. Any system ~~that has been~~ inspected by the department and found to be in violation of ~~construction~~ standards of this chapter~~rule~~, must receive a reinspection from the department before the system may be covered. A reinspection fee shall be charged for each reinspection leading to final approval.

(d) The department's ~~shall issue a~~ "final approval" of the system repair shall be based on the master septic tank contractor's ~~inspection~~certification.

(e) Nothing herein prevents the department from inspecting a system that was inspected by a master septic tank contractor. ~~No inspection is final until approved by the department.~~

~~(4) Voiding a permit – After an onsite sewage treatment and disposal system has received final installation approval from the department, if the building is modified in such a way that a larger system would be required, if any portion of the required drainfield unobstructed area is covered by impervious material, if the property is subdivided into a smaller lot or lots whereby the permitted system would not have been originally approved, if a well is installed on the property which violates the setbacks to the approved system, or if the system is improperly modified or damaged, the department shall undertake administrative action to revoke the permit. The department shall prohibit the further or continued use of a system when the permit has become void by injunction or other procedure authorized by law.~~

(4) ~~(5)~~ Operating permits – No business or facility shall occupy a building served by a~~n onsite sewage treatment and disposal~~ system if the building is located in an area zoned or used for industrial or manufacturing purposes or its equivalent; or where a business will generate commercial sewage waste; and no structure shall be occupied where an aerobic treatment unit or performance-based treatment system is used, until an "Application for Onsite Sewage Treatment and Disposal System Operating Permit" Form DH 4081, ##/## , herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, has been received and approved by the department. ~~Form DH 4081, 10/96 "Application for Onsite Sewage Treatment and Disposal System Operating Permit," is herein incorporated by reference.~~

(a) Property owners or their authorized agents are required to obtain an annual operating permit for systems located in an area zoned or used for industrial or manufacturing purposes or its equivalent or where a business will generate commercial sewage waste. ~~The permit shall designate the person or entity responsible for the operation and maintenance of the system; the type of activity proposed on the site; persons or businesses which will use the system; equipment and types and quantities of chemical compounds which will be used by the building occupants which are likely to be discharged into the onsite sewage treatment and disposal system. At a minimum, the~~The owner or person responsible for maintenance of the system shall test, or cause to be tested, the ~~onsite sewage treatment and disposal~~ system effluent ~~in a qualitative and quantitative manner~~ for any chemical compounds associated with the ~~particular~~ establishment's industrial or manufacturing operations ~~conducted in that establishment~~, as directed by the ~~county health~~ department. ~~The frequency of testing shall be specified on the annual operating permit.~~

(b) Operating permits are not transferable from location to location or from owner to owner. If the owner of the system remains the same but the tenancy of the building changes, a Business Survey, Form DH 4081A, ##/##~~10/96~~, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, must be completed and submitted to the ~~DOH county health department~~department for review. Changes in building occupancy shall be reviewed per Section 381.0065(4), F.S.

(c) Maintenance entities contracting to service aerobic treatment systems and performance-based treatment systems shall obtain a biennial operating permit from the ~~DOH county health~~ department for the system. ~~Persons operating an aerobic treatment unit or performance-based treatment system shall permit department personnel right of entry to the property during normal working hours to allow for effluent sampling or evaluating the general state of repair or function of the system.~~ Persons required to obtain an annual operating permit for a~~n onsite sewage treatment and disposal~~ system in an industrial or manufacturing zone or its equivalent, or where the system receives commercial sewage, shall not be required to obtain another operating permit for the same~~an~~ aerobic treatment unit or performance-based treatment system ~~at that site~~. Performance-based treatment systems that ~~also~~ include an aerobic treatment unit require only one biennial operating permit ~~for the system~~. Systems receiving commercial sewage that are located in industrial or manufacturing zones or equivalent require only one annual operating permit~~-~~.

(5) ~~(6)~~ Expired Permits – ~~Any~~ A new construction,repair, or modification permit issued by the department, that has received construction approval within the previous five years but has not received final approval may be approved provided ~~all of~~ the following conditions are met:

(a) The applicant or agent provides a written statement that there have been no changes in application or site conditions from the original permit. The statement must specifically address any changes on adjacent lots.

(b) A site re-evaluation confirms site conditions have not changed sufficiently to place the system in violation of the rules under which it was permitted and received construction approval.

(c) Fees for a new system construction permit and the research surcharge are paid. A site re-evaluation fee is paid, if applicable. A new permit shall be issued under the rules under which the original permit was issued.

(d) A final system inspection is performed showing compliance~~ with all rules under which the construction approval was granted~~. If applicable, a system re-inspection fee is paid.

(6) ~~(7)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a), 489.553(3), 489.557(1) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.43, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.043, Amended 3-22-00, 4-21-02, 5-24-04, 11-26-06, 6-25-09, 4-1-10, 4-28-10, 7-16-2013,_____.

64E-6.004 Application for System Construction Permit.

(1) No person shall cause or allow construction of a system without first applying for and obtaining a system construction permit. Form DH 4015 shall be used for recording permit application information.

(2) An application shall be completed in full, signed by the owner or the owner's authorized ~~representative~~agent~~, or a contractor licensed in accordance with Chapter 489, F.S.~~, and shall be accompanied by all required exhibits and fees. ~~If the owner of a property uses an authorized representative to obtain a new system construction permit, a signed statement from the owner of the property assigning authority for the representative to act on the owner's behalf shall accompany the application. This statement shall include specific information allowing the representative to act on the owner's behalf in all aspects of an application for an onsite sewage treatment and disposal system.~~ Except for a contractor licensed in accordance with Chapter 489, F.S., an agent must have written authorization from the owner to act on the owner's behalf.

(3) The suitability of a lot, property, subdivision or building for the use of a~~n onsite sewage treatment and disposal~~ system shall be determined from an evaluation of lot size, anticipated sewage flow into the proposed system, the anticipated sewage waste strength, soil and water table conditions, soil drainage, ~~and~~ site topography and other related criteria. Necessary site investigations and tests shall be performed at the expense of the owner by either an engineer~~ with soils training who is licensed in the State of Florida pursuant to Chapter 471, F.S.~~;~~,~~ by department personnel;~~,~~ registered or master septic tank contractors;~~, master septic tank contractors;~~, by persons who have successfully completed a department-approved soils morphology course who are working under the direct responsible charge of an engineer; professional soil scientists certified and registered by the Florida Association of Environmental Soil Scientists; or by~~, and~~ persons certified under Section 381.0101, F.S. Registered septic tank contractors shall perform site evaluations for system repairs only. When determining that the ~~necessary~~ site investigations and tests be performed by an engineer~~ licensed in the State of Florida~~, the ~~county health~~ department must consider the criteria listed in subsection 64E-6.004(4), F.A.C. Results of site investigations shall be entered on, or attached to, the system construction permit application form~~ for consideration by the county health department~~. Site evaluations shall occur not earlier than 180 days prior to the date the department receives the permit application. Site evaluations remain valid for the life of the permit. The application shall also include the following data:

(a) A to-scale plan ~~or plat~~ of the lot or total site ownership. ~~The site plan shall be drawn to scale and shall be for the property where the system is to be installed.~~ All site plans shall use standard civil engineering, non-metric scales. Site plans drawn with a scale of 10 – 30 feet to one inch shall have a margin of error of not more than one-half foot. Smaller scale site plans shall have a margin of error of not more than two feet~~ between the scaled distance and the dimension shown or required~~. Site plans shall be drawn on Form DOH 4015 or submitted on 8.5x11 inch or up to 24x36 inch paper using the scale that maximizes the size of the plan.

1. The site plan shall show boundaries with dimensions and any of the following features that exist or that are proposed:

~~a.~~ s~~S~~tructures;

~~b.~~ s~~S~~wimming pools;

~~c.~~ r~~R~~ecorded easements;

~~d. Onsite sewage treatment and disposal~~ system components;

~~e.~~ s~~S~~lope of the property;

~~f.~~ w~~W~~ells;

~~g.~~ p~~P~~otable and non-potable water lines and valves;

~~h.~~ d~~D~~rainage features;

~~i.~~ f~~F~~illed areas;

~~j.~~ e~~E~~xcavated areas for onsite sewage systems;

~~k. Obstructed areas;~~

~~l.~~ s~~S~~urface water bodies; and

~~m.~~ l~~L~~ocation of the reference point for system elevation.

2. If the ~~county health~~ department is responsible for performing the site evaluation, the applicant ~~or applicant's authorized representative~~ shall indicate the approximate location of wells, ~~onsite sewage treatment and disposal~~ systems, surface water bodies and other pertinent facilities or features on contiguous or adjacent property. If the features are within 75 feet of the applicant lot, the estimated distance to the feature must be shown but need not be drawn ~~to~~ to-scale.

3. If the ~~county health~~ department will not be performing the site evaluation, the applicant or authorized agent shall be responsible for the measurements to all features, including the pertinent features within 75 feet of the applicant lot. The location of any public drinking water well~~, as defined in paragraph 64E-6.002(44)(b), F.A.C.,~~ within 200 feet of the applicant's lot shall also be shown, with the distance indicated from the system to the well.

4. If an individual lot is larger than one acre ~~five acres or greater~~, the applicant may draw a ~~minimum~~ one-~~-~~acre or larger detail parcel to scale showing all required features. If the required features are within 75 feet of the one-acre or larger detail parcel, the distance to the feature must be shown but need not be drawn to scale. The location of any public drinking water well within 200 feet of the one-acre or larger detail parcel shall also be shown, with the measured distance indicated from the system to the well. ~~, or the minimum size drawing necessary to properly exhibit all required features, whichever is larger.~~ The one-acre or larger detail parcel must be large enough to accommodate a daily sewage flow allowance equal to the cumulative capacity of all systems within the parcel. The applicant must also show the location of that one-~~-~~acre or larger detail parcel inside the total site ownership.

5. All information that is necessary to determine the total sewage flow and proper setbacks on the site ownership shall be submitted with the application~~. The applicant lot shall be clearly identified. A~~ including a copy of the legal description or survey ~~must accompany the application~~ for confirmation of property dimensions ~~only~~.

(b) For residences, a floor plan drawn to scale or showing the total building area of the structure, at the applicant's~~'~~ option, and showing the number of bedrooms and the building area of each dwelling unit. Non-residential establishments shall submit a floor plan drawn to scale showing the square footage of the establishment, all plumbing drains and fixture types, and any other features necessary to determine the composition and quantity of wastewater to be generated. ~~Plumbing fixtures located at a non-residential establishment shall be included on the floor plan, but need not be drawn to scale.~~

(c) At least two soil profile descriptions at the beginning and end of ~~within~~ the proposed system soil absorption area to a minimum depth of 6 feet or to refusal, for which the minimum information provided is the upper and lower horizon boundaries, Munsell color of the horizon and its components and USDA soil texture; using USDA Soil Classification methodology as described in Chapter 3 of the Soil Survey Manual, United States Department of Agriculture, Handbook No. 18, October 1993, herein incorporated by reference. ~~At a minimum, a soil profile shall be provided at the beginning and end of the proposed drainfield site.~~ Where the replacement of severely limited soil is proposed, soil profiles shall be performed to a minimum depth of 6 feet or to the depth of the slightly or moderately limited soil layer lying below the replaced layer, whichever is greater. The evaluator shall document the locations of all soil profiles on the site plan.

(d) Water table elevations ~~which exist at the time of the site evaluation~~ and estimated water table elevation during the wettest season of the year~~. Water table elevations~~ shall be established from a benchmark or other fixed point of reference located on the property or within ~~reasonable~~ 35 feet.~~proximity to it~~. The ~~existing~~ property elevation at ~~the site of~~ each soil profile must ~~also~~ be recorded relative to the benchmark or fixed point of reference.

~~(e) Subdivisions platted and recorded or unrecorded prior to January 1, 1972, will be considered on the basis of an evaluation of soil characteristics, water table elevations, history of flooding and records of service of existing installations in the same general area.~~

~~(f) A Coastal Construction Control Line Permit or an exemption notice from the Department of Environmental Protection if any component of the onsite sewage treatment and disposal system or the shoulders or slopes of the system mound will be seaward of the Coastal Construction Control Line, established under Section 161.053, F.S. Should the location of the proposed onsite system relative to the control line not be able to be definitively determined based on the site plan and the online products available on the DEP website, the applicant shall provide a survey prepared by a certified professional surveyor and mapper showing the location of the control line on the subject property.~~

(4) All plans and forms submitted by an ~~licensed~~ engineer shall be dated, signed and sealed. ~~Except as provided for in subsection 64E-6.003(2), F.A.C., the DOH county health department shall require the design engineer to certify that the installed system complies with the approved design and installation requirements.~~ Under the following circumstances, ~~the DOH county health department shall require for review and approval, the submission of~~ detailed system construction plans prepared by an engineer shall be provided to the department ~~who is licensed in the State of Florida~~:

(a) Systems serving establishments with proposed domestic sewage flow rates of 2500 or more gallons per day.

(b) Systems serving establishments with proposed commercial sewage flow rates of 1000 or more gallons per day.

(c) Systems where the total required drainfield area is 1500 square feet or greater.

(d) The applicant proposes to split the flow from any residence or establishment in a method other than that provided for by rule.

(e) The repair or modification of an engineer-designed system that meets these criteria ~~for requiring an engineered design~~ and ~~that~~ alters the original ~~engineered~~ design.

(f) All performance-based treatment systems, innovative systems and drip systems.

~~(g) All innovative systems.~~

(g) ~~(h)~~ All sites where the seasonal high water table has or will be altered by physical or mechanical means.

(h) ~~(i)~~ All sites requiring engineer designs as a condition of a variance or waiver approval.

~~(j) All drip irrigation systems.~~

(5) ~~The applicant shall be the permit holder and shall be held responsible for all information supplied to the department. The signed application, site evaluation, and system design plans when required, serve as the basis by which the department determines the issuance of a construction permit.~~ In the event of a change in any information given in the application ~~which served as basis for issuing a construction permit~~, the permit holder will ~~immediately~~ file an amended application ~~detailing such changed conditions~~. If the new conditions are determined to be in compliance with the standards in this chapter, the construction permit shall be amended. If the new conditions are determined to be in non-compliance with the standards of this chapter, the permit shall be revoked subject to the provisions of Chapter 120, F.S. A system construction permit application shall be valid for one year. If a permit has not been issued to the applicant within one year from the date of application, then the department shall review the system construction permit application for accuracy at no charge prior to issuance of a permit. The applicant shall supply a statement that the information contained in the application has not changed, or shall amend the application. If a site visit is necessary as part of the review, then a re-evaluation fee shall be charged. If the rules under which the application was accepted have changed, and a~~n onsite sewage treatment and disposal~~ system construction permit has not been issued, a new permit application shall be required.

(6) Requests for variance shall be made on Form DH 4057, ##/##~~08/09~~, Application for Variance from Chapter 64E-6, F.A.C., herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####.

(7) Where a property owner proposes to build or has built multiple residences or multiple businesses on a single lot, and splitting the property to separate any business or residence will place the system in violation of this chapter, ~~and the entire area of the lot is required to accommodate the designed sewage flow from the multiple residences or multiple businesses to the onsite sewage treatment and disposal system,~~ the property owner must submit~~, prior to issuance of a construction permit,~~ a written utility easement ~~which has been executed and~~ recorded in the public property records at the county courthouse. The utility easement must bind the property together so that the original lot size is retained for purposes of compliance with all the requirements of Chapter 64E-6, F.A.C., and must include provisions for maintaining the ~~onsite sewage treatment and disposal~~ system. ~~For example, a duplex built on a single lot with a single onsite sewage treatment and disposal system serving both halves of the duplex must have a written utility easement executed and recorded in the public property records before an onsite sewage treatment and disposal system construction permit is issued. In order to obtain a repair permit, the property owner must submit a copy of the recorded utility easement demonstrating the retention of the original lot size for purposes of the onsite sewage treatment and disposal system and a method for maintaining the system. For example, each half of a duplex built on a single lot with a single onsite sewage treatment and disposal system serving both halves of the duplex is sold to separate persons. If, when the onsite sewage treatment disposal system fails, and a written utility easement was not executed and recorded in the public property records before the sales, it must be done before an onsite sewage treatment and disposal system repair permit is issued.~~

(a) Where a property owner proposes to build or has built ~~a single residence or a single business or~~ multiple residences or businesses on multiple lots, ~~and the residence's or business's authorized sewage flow requires the use of multiple lots, or parts thereof, for the onsite sewage treatment and disposal system,~~ the property owner must submit~~, prior to issuance of a permit,~~ a written utility easement ~~executed and~~ recorded in the public property records at the county courthouse. The utility easement must bind the required property together so that the original lots and their collective size, or part thereof, is retained for purposes of the ~~onsite sewage treatment and disposal~~ system, and must include provisions for maintaining the ~~onsite sewage treatment and disposal~~ system. ~~For example, a residence or business built on three lots with a sewage flow which is large enough to require the land from all three lots must have a written utility easement executed and recorded in the public property records before an onsite sewage treatment and disposal system construction permit may be issued. In order to obtain a repair permit, the property owner must submit a copy of the recorded utility easement demonstrating the retention of the original lots and their collective size for purposes of the onsite sewage treatment and disposal system and a method for maintaining the system.~~

(b) Where a property owner proposes to build or has built a single residence or a single business on multiple lots and the structure of the building itself crosses the property lines to encumber all of the lots, and there is no wall within the structure coinciding with any of the property lines, no additional instrument shall be required bind the lots together.

(c) ~~(b)~~ Where a property owner, through inadvertent error or mistake, has built multiple residences or multiple businesses on a series of lots and each residence or business has its own ~~onsite sewage treatment and disposal~~ system or the sewage flow from the residence or business exceeds the allowable limits established for the area of land upon which the residence or business is located, the property owner ~~must execute and~~ record in the public property records, a written utility easement, for the remaining undeveloped

lots in the subdivision, which informs the public of the amount of sewage flow which will be generated or the number of ~~onsite sewage treatment and disposal~~ systems which will be installed ~~in that subdivision~~. It must ~~also~~ state that when the maximum amount of sewage flow or maximum number of ~~onsite sewage treatment and disposal~~ systems has been reached for the subdivision, no further development can occur until sewer is available.

(8) Innovative Systems or new product approval ~~for onsite sewage treatment and disposal systems~~ shall be initiated by submittal of an application for temporary permit using Form DH 3143, ##/##~~Jan. 94~~, hereby incorporated by reference, and available at https://flrules.org/gateway/reference.asp?No=Ref-#####. Completed Form DH 3143 shall be submitted to the Department 's Bureau of Environmental Health in Tallahassee. Department offices in the individual counties ~~DOH county health departments~~ are authorized to issue installation permits upon receipt of the temporary permit. Form DH 3144, ##/##~~Jan 94~~, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, and Form DH 3145, ##/##~~Jan 94~~, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, hereby incorporated by reference , shall be used to record information that describes notification requirements between the ~~temporary permit~~ applicant, the ~~DOH county health~~ department office in the county, and the ~~State Health Office~~State office. ~~These forms are to be processed by the DOH county health departments.~~

(9) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, 489.553 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.44, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.044, Amended 11-19-97, 3-22-00, 11-26-06, 6-25-09, 4-28-10,
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64E-6.005 Location and Installation.

(1) The minimum area of each lot under Section 381.0065(4)(a), F.S., shall consist of at least 1/2 acre (21,780 square feet) exclusive of all paved areas and prepared road beds within public rights-of-way or easements and exclusive of surface water bodies. No area outside of the property boundaries may be included in the lot size calculation.

(a) The determination of lot densities under Section 381.0065(4)(b), F.S., shall be made on the basis of the net acreage of the subdivision which shall exclude from the gross acreage all paved areas and prepared road beds within public or private rights-of-way or easements and shall also exclude surface water bodies.

(b) Maximum daily sewage flow allowances specified in Sections 381.0065(4)(a), (b) and (g), F.S., shall be calculated on an individual lot by lot basis. Contiguous unpaved and non-compacted road rights-of-way, and easements with no subsurface obstructions that would affect the operation of drainfield systems, shall be included in total lot size calculations. Where an easement is contiguous to two or more lots, each lot shall receive its pro rata share of the area contained in the easement. Surface water bodies shall not be included in total lot size calculations. Subsection 64E-6.008(1), F.A.C., Table I, shall be used for determining estimated average daily sewage flows.

(c) When portions of a lot or lots which were platted prior to January 1, 1972 are combined in such a manner that will decrease the total density of the subdivision, pre-1972 lot provisions shall apply.

(2) All systems and septage stabilization facilities shall be ~~located and~~ installed ~~so that with proper maintenance the systems function in a sanitary manner, do not create sanitary nuisances or health hazards and do not endanger the safety of any domestic water supply, groundwater or surface water. Sewage waste and effluent from onsite sewage treatment and disposal systems shall not be discharged onto the ground surface or directly or indirectly discharged into ditches, drainage structures, ground waters, surface waters, or aquifers. To prevent such discharge or health hazards:~~in compliance with setbacks in section 381.0065(4)(e), F.S.

~~(1) Systems and septage stabilization facilities established after the effective date of the rule shall be placed no closer than the minimum distances indicated for the following:~~

~~(a) Seventy-five feet from a private potable well as defined in paragraph 64E-6.002(44)(a), F.A.C., or a multi-family water well as defined in paragraph 64E-6.002(44)(c), F.A.C.~~

~~(b) One hundred feet from a public drinking water well as defined in paragraph 64E-6.002(44)(b), F.A.C., if such a well serves a facility with an estimated sewage flow of 2000 gallons or less per day.~~

~~(c) Two hundred feet from a public drinking water well as defined in paragraph 64E-6.002(44)(b), F.A.C., if such a well serves a facility with an estimated sewage flow of more than 2000 gallons per day.~~

~~(d) Fifty feet from a non-potable water well as defined in subsection 64E-6.002(39), F.A.C.~~

~~(e) Ten feet from any storm sewer pipe, to the maximum extent possible, but in no instance shall the setback be less than 5 feet.~~

~~(f) Fifteen feet from the design high-water line of retention areas, detention areas, or swales designed to contain standing or flowing water for less than 72 hours after a rainfall or the design high-water level of normally dry drainage ditches or normally dry individual lot stormwater retention areas. Excluded from this setback requirement are swales designed only to divert the runoff from drainfield mounds or fill systems.~~

(3) ~~(2)~~ Systems shall not be located under buildings or within 5 feet of building foundations, including pilings for elevated structures, or within 5 feet of mobile home walls, swimming pool walls, or within 5 feet of property lines except where property lines abut utility easements which do not contain underground utilities, or where recorded easements are specifically provided for the installation of systems for service to more than one lot or property owner.

(a) Sidewalks, decks and patios shall not be subject to the 5 foot setback, however, drainfields shall not be installed beneath such structures. Any portion of a drainfield located under such a structure may be left in place but may not be included as a part of the absorption area required by this chapter. Any tank located beneath a driveway shall have traffic lids as specified in paragraph 64E-6.013(1)(f), F.A.C. Concrete structures which are intended to be placed over a septic tank shall have a barrier of soil or plastic material placed between the structure and the tank so as to preclude adhesion of the structure to the tank.

(b) Systems shall not be located within 10 feet of water storage tanks in contact with the ground or potable water lines unless such lines are sealed with a water proof sealant within a sleeve of similar material pipe to a distance of at least 10 feet from the nearest portion of the system or the water lines themselves consist of schedule 40 PCV or stronger. In no case shall the water line be located within 24 inches of the ~~onsite sewage treatment and disposal~~ system. Potable water lines within 5 feet of the drainfield shall not be located at an elevation lower than the ~~drainfield~~ absorption surface. Non-potable water lines shall not be located within 24 inches of the system without backflow devices per Sections 381.0065(2)(m)~~(1)~~1. and 2., F.S., being installed on the water line ~~to preclude contamination of the water system~~. Systems shall not be constructed within 10 feet of Department of Environmental Protection- regulated water mains as defined in rule 62-555.314, F.A.C.

(c) Systems shall be setback a minimum of 15 feet from groundwater interceptor drains.

~~(3) Except for the provisions of Section 381.0065(4)(g)1. and 2., F.S., systems and septage stabilization facilities shall not be located laterally within 75 feet of the boundaries of surface water bodies. Systems and septage stabilization facilities shall be located a minimum of 15 feet from the design high water line of a swale, retention or detention area designed to contain standing or flowing water for less than 72 hours after a rainfall, or the design high water level of normally dry drainage ditches or normally dry individual lot storm water retention areas.~~

~~(4) Suitable, unobstructed land shall be available for the installation and proper functioning of the system. The minimum unobstructed area shall:~~

~~(a) Be at least 1.5 times as large as the drainfield absorption area required by rule. For example, if a 200 square feet drainfield is required, the total unobstructed area required, inclusive of the 200 square feet drainfield area, would be 300 square feet. Unobstructed soil area between drain trenches shall be included in the unobstructed area calculation.~~

~~(b) Be contiguous to the drainfield.~~

~~(c) Be in addition to the setbacks required in subsections (1), (2), and (3) above.~~

(4) ~~(5)~~ Systems ~~Onsite sewage treatment and disposal systems~~ if installed in fill material, the fill shall be slightly limited and required to settle for ~~a period of~~ at least 6 months, or ~~has been~~be compacted to a density ~~comparable to~~of the surrounding natural soil. ~~The fill material shall be of a suitable, slightly limited soil material.~~

(5) ~~(6)~~ To prevent soil smear and excessive soil compaction, drainfields shall not be installed in soils with textures finer than sand, loamy sand, or sandy loam when the soil moisture content is above the point at which the soil changes from semi-solid to plastic.

~~(7) Onsite sewage treatment and disposal systems shall be installed where a sewerage system is not available and when conditions in Sections 381.0065(4)(a)-(g), F.S., are met. Onsite graywater tank and drainfield systems may, at the homeowners' discretion, be utilized provided blackwater is disposed into a sanitary sewerage system when such sewerage system is available. Graywater systems may, at the homeowners' discretion, be utilized in conjunction with an onsite blackwater system where a sewerage system is not available for blackwater disposal.~~

~~(a) The minimum area of each lot under Section 381.0065(4)(a), F.S., shall consist of at least 1/2 acre (21,780 square feet) exclusive of all paved areas and prepared road beds within public rights-of-way or easements and exclusive of surface water bodies.~~

~~(b) The determination of lot densities under Section 381.0065(4)(b), F.S., shall be made on the basis of the net acreage of the subdivision which shall exclude from the gross acreage all paved areas and prepared road beds within public or private rights-of-way or easements and shall also exclude surface water bodies.~~

~~(c) Maximum daily sewage flow allowances specified in Sections 381.0065(4)(a), (b) and (g), F.S., shall be calculated on an individual lot by lot basis. The acreage or fraction of an acre of each lot or parcel of land shall be determined and this value shall be multiplied by 2500 gallons per acre per day if a public drinking water well serving a public system as defined in subparagraphs 64E-6.002(44)(b)1., 2., or 3., F.A.C., is utilized, or be multiplied by 1500 gallons per acre per day if a public drinking water well serving a public water system as defined in subparagraph 64E-6.002(44)(b)4., F.A.C., or a private potable well or cistern is utilized. Contiguous unpaved and non-compacted road rights-of-way, and easements with no subsurface obstructions that would affect the operation of drainfield systems, shall be included in total lot size calculations. Where an unobstructed easement is contiguous to two or more lots, each lot shall receive its pro rata share of the area contained in the easement. Surface water bodies shall not be included in total lot size calculations. subsection 64E-6.008(1), F.A.C., Table I, shall be used for determining estimated average daily sewage flows.~~

~~(d) Platted residential lots shall be subject to the requirements set forth in subsections 381.0065(4)(g)1. and 2., F.S.~~

~~(e) When portions of a lot or lots which were platted prior to January 1, 1972 are combined in such a manner that will decrease the total density of the subdivision, pre-1972 lot provisions shall apply. However, the maximum setback possible to surface water bodies shall be maintained with a minimum setback of 50 feet.~~

(6) ~~(8)~~ Notwithstanding the requirements of this section, ~~where~~ an effluent transmission line that consists of schedule 40 PVC~~,~~ ~~the transmission line~~ shall be set back from private potable wells, irrigation wells or surface water bodies by not less than 25 feet ~~when installed. Effluent transmission lines constructed of schedule 40 PVC shall be set back~~; from property lines and building foundations by not less than 2 feet; ~~. Schedule 40 PVC effluent transmission lines shall be set back~~ and from potable water lines and storm water lines by no less than 5 feet unless all portions of the potable water line or storm water line within 5 feet of the ~~effluent transmission~~ line are~~:~~

~~(a) A~~ a minimum of 12 inches above the top of the effluent transmission line; and~~,~~

~~(b) S~~ sealed with a waterproof sealant within a sleeve of schedule 40 PVC or stronger pipe or the water line itself consists of schedule 40 PVC or stronger pipe.

(7) ~~(9)~~ Systems ~~Onsite sewage treatment and disposal systems~~ for estimated establishment domestic sewage flows exceeding 5000 gallons per day but not exceeding 10,000 gallons per day shall be located and installed under the following conditions.

(a) The average estimated daily sewage flow from the establishment shall be divided by the net land area associated with the establishment. The resulting number shall not exceed 2500 gallons per acre per day for establishments which use a water supply as defined in subparagraphs 64E-6.002(44)(b)1., 2. and 3, F.A.C.

(b) No more than 5000 gallons of wastewater shall be discharged into any single ~~onsite sewage treatment and disposal~~ system ~~serving the establishment~~.

Rulemaking Authority 381.0065(3)(a), 489.553, 489.557(1) FS. Law Implemented 381.0065, 489.553 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.46, Amended 3-17-92, 1-3-95, Formerly 10D-6.046, Amended 11-19-97, 2-3-98, 3-22-00, 5-24-04, 6-25-09,____.

64E-6.006 Site Evaluation Criteria.

Systems ~~Onsite sewage treatment and disposal systems~~ may be utilized where lot sizes are in compliance with requirements of subsection 64E-6.005(1)~~(7)~~, F.A.C., and all of the following criteria are met:

(1) The effective soil depth throughout the drainfield installation site extends 42 inches or more below the bottom surface of the drainfield. Paragraphs 64E-6.006(1)(a), (b) and (c) list soil texture classes with their respective limitation ratings.

(a) Coarse sand not associated with an estimated wet season high water table within 48 inches below the absorption surface, sand, fine sand, loamy coarse sand, coarse sandy loam, loamy sand, and sandy loam are ~~considered to be~~ slightly limited soil materials.

(b) Very fine sand, loamy fine sand, loamy very fine sand, silt loam, silt, loam, fine sandy loam, very fine sandy loam, sandy clay loam, clay loam, silty clay loam, sandy clay and silty clay soil are ~~considered to be~~ moderately limited soil materials ~~and are subject to evaluation with other influencing factors and local conditions~~.

(c) Clay, bedrock, oolitic limestone, fractured rock, hardpan, organic soil, gravel and coarse sand, when coarse sand is associated with an estimated wet season high water table within 48 inches of the absorption surface are severely limited soil materials. If severely limited soil material can be replaced with slightly limited soil material, see Footnotes 3 and 4 of Table III for minimum requirements. Where limestone is found to be discontinuous along the horizontal plane and is dispersed among slightly or moderately limited soils, the Department Policy for Drainfield Sizing in Areas With Discontinuous Limestone, August 1999, herein incorporated by reference, and available at https://flrules.org/gateway/reference.asp?No=Ref-#####, shall be used.

(2) The water table elevation at the wettest season of the year is at least 24 inches below the bottom surface of the drainfield. In addition, systems shall not be located where the undrained, naturally occurring wet season water table elevation in the area of the proposed system installation is determined to be at or above the elevation of the existing ground surface. However, when sufficient slightly limited fill material is permitted to be placed on the property to construct a properly designed ~~onsite sewage treatment and disposal~~ system, the department shall authorize construction based on the final lot elevation. This provision does not authorize a property owner to fill or modify the site without first obtaining necessary permits for site preparation work from other agencies of government having jurisdiction. The following information shall be used in determining the wet season water table elevation:

(a) U.S. Department of Agriculture Soil Conservation Service soils maps and soil interpretation records.

(b) Evaluation of soil color and the presence or absence of mottling.

(c) Evaluation of impermeable or semi-permeable soil layers.

(d) Evaluation of onsite vegetation.

(e) An onsite evaluation of the property ~~which has used the above referenced sources of information and which has considered the season of the year when the evaluation was performed, historic weather patterns, and recent rainfall events~~.

(3) Setbacks in subsections 64E-6.005~~(1),~~ (2), (3) and (4), F.A.C., are met.

(4) The installation site ~~of the installation and the additional required unobstructed land referred to in subsection 64E-6.005(4), F.A.C.,~~ shall not be ~~covered with asphalt or concrete~~paved, or be subject to vehicular traffic or other activity ~~as defined in subsection 64E-6.002(41), F.A.C.,~~ which would adversely affect the soil, or the operation of the system.

(5) I~~The~~ nstallation site ~~of the installation and the additional required unobstructed land referred to in subsection 64E-6.005(4), F.A.C.,~~ is not subject to saturation from ~~sources such as artificial~~ drainage of ground surfaces, driveways, ~~roads or~~ roof drains, or other such sources.

(6) The existing lot elevation at the installation site ~~of the proposed system installation and any contiguous land referred to in subsection 64E-6.005(4), F.A.C.,~~ shall not be subject to frequent flooding. Except for areas affected by Section 381.0065(4)(t), F.S., fill material, if permitted, shall be placed in the area for the system ~~and contiguous unobstructed area~~ to raise the lot elevation above the elevation of the 2 year flood.

(7) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. Law Implemented 381.0065, 381.00655 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.47, Amended 3-17-92, 4-16-92, 1-3-95, Formerly 10D-6.047, Amended 3-22-00, 11-26-06,_____.

64E-6.008 System Size Determinations.

(1) Minimum design flows for systems serving any structure, building or group of buildings shall be based on the estimated daily sewage flow as determined from Table I or the following:

(a) The applicant may provide~~DOH county health department shall accept~~, for other than residences and food operations, metered water use data ~~in lieu of the estimated sewage flows set forth in Table I~~. For metered flow consideration, the applicant shall provide authenticated monthly water use data documenting water consumption for the most recent 12 month period for at least six ~~similar~~ establishments~~. Similar establishments are those~~ of like size operations engaged in the same type of business or service, ~~which are~~ located in the same type of geographic environment, and ~~which have approximately~~ the same operating hours. Metered flow values will not be considered to be a reliable indicator of typical water use where one or more of the establishments utilized in the sample has exceeded the monthly flow average for all six establishments by more than 25 percent or where the different establishments demonstrate wide variations in monthly flow totals. ~~When metered flow data is accepted in lieu of estimated flows found in Table I, the~~The highest flow which occurred in any month for any of the ~~six similar~~ establishments shall be used ~~for system sizing purposes~~. Except for food operations ~~which exceed domestic sewage waste quality parameters as defined in subsection 64E-6.002(15), F.A.C.~~, where an existing establishment ~~which has been~~ in continuous operation for the previous 24 months ~~seeks to utilize its own metered flows~~, the applicant ~~shall~~ may provide ~~authenticated~~ monthly water use data ~~documenting water consumption~~ for the most recent 24 month period. The highest monthly metered flow value for an existing establishment shall be used ~~for system sizing purposes.~~ At a minimum system size shall be based on 200 gallons per day.

(b) ~~When onsite systems use multiple strategies to reduce the total estimated sewage flow or the drainfield size, only~~Only one reduction method shall be credited to reduce the total estimated flow or drainfield size.

TABLE I
For System Design
ESTIMATED SEWAGE FLOWS

TYPE OF ~~GALLONS~~ ESTABLISHMENT ~~PER DAY~~	GALLONS PER DAY
COMMERCIAL:	
Airports, bus terminals, train stations, port & dock facilities, Bathroom waste only ~~port & dock facilities, Bathroom waste only~~	
(a) Per passenger	4
(b) Add per employee per 8 hour shift	15
Barber & beauty shops per service chair	75
Bowling alley bathroom waste only, per lane ~~only per lane~~	50
Country club	
(a) Per resident	100

(b) Add per member or patron	25
(c) Add per employee per 8 hour shift	15
Doctor and Dentist offices	
(a) Per practitioner	250
(b) Add per employee per 8 hour shift	15
Factories, exclusive of industrial wastes, gallons per employee per 8 hour shift	
~~gallons per employee per 8 hour shift~~	
(a) No showers provided	15
(b) Showers provided	25
Flea Market open 3 or less days per week	
(a) Per non-food service vendor space	15
(b) Add per food service establishment using single service articles only per 100 square feet of floor space	50
~~100 Square feet of floor space~~	
(c) Per limited food service establishment	25
(d) For flea markets open more than 3 days per week estimated flows shall be doubled	
~~be doubled~~	
Food operations	
(a) Restaurant open for business 16 hours or less per day, per seat	40
~~Food operations~~	~~40~~
~~(a) Restaurant operating 16 hours or less per day, per seat~~	
(b) Restaurant open for business~~operating~~ more than 16 hours per day, per seat	60
(c) Restaurant using single service articles only and open for business~~operating~~ 16 hours or less per day, per seat	20
~~less per day per seat~~	
(d) Restaurant using single service articles only and open for business~~operating~~ more than 16 hours per day, per seat	35
~~hours per day per seat~~	
(e) Bar and cocktail lounge per seat	20
A~~a~~dd per pool table or video game	15
(f) Drive-in restaurant per car space	50
(g) Carry out only, including caterers per 100 square feet of floor space	50
~~1. Per 100 square feet of floor space~~	~~50~~
~~2.~~ Add per employee per 8 hour shift	15
(h) Institutions per meal	5
(i) Food Outlets excluding deli ~~deli's~~, bakery, or meat department, per 100 square feet of floor space	10
~~feet of floor space~~	
1. Add for deli per 100 square feet of deli floor space	40
2. Add for bakery per 100 square feet of bakery floor space	40
3. Add for meat department per 100 square feet of meat department floor space	75
~~space~~	
4. Add per water closet	200
Hotels & motels	
(a) Regular per room	100
(b) Resort hotels, camps, cottages, per room	200
~~room~~	~~200~~
(c) Add for establishments with self-service laundry facilities per machine	750
~~service laundry facilities per machine~~	~~750~~
Mobile Home Park	
(a) Per single wide mobile home space, less than 4 ~~single wide~~ spaces connected to a shared or individual system	250
~~connected to a shared onsite system~~	
(b) Per single wide mobile home space, 4 or more ~~single wide~~ spaces ~~are~~ connected to a shared or individual system	225
~~connected to a shared onsite system~~	
~~(c) Per double wide mobile home space, less than 4 double wide mobile~~	~~300~~
~~home spaces connected to a shared onsite system~~	
~~(d) Per double wide mobile home space, 4 or more double wide mobile~~	
~~home spaces connected to a shared onsite system~~	~~275~~
(c) Per mobile home space intended for a mobile home wider than a single-wide,	
Add per mobile home width increment	50

Office building	~~15~~
per employee per 8 hour shift or per 100 square feet of floor space, whichever is greater	15
~~per 100 square feet of floor space,~~	~~15~~
~~whichever is greater~~	
Transient Recreational Vehicle Park	
(a) Recreational vehicle space for overnight stay, without water and sewer hookup, per vehicle space	50
~~hookup per vehicle space~~	
(b) Recreational vehicle space for overnight stay, with water and sewer hookup, per vehicle space	75
~~hookup per vehicle space~~	
Service stations per water closet	
(a) Open 16 hours per day or less	250
(b) Open more than 16 hours per day	325
Shopping centers without food or laundry, per square foot of floor space	0.1
~~per square foot of floor space~~	
Stadiums, race tracks, ball parks per seat	4
Stores per bathroom	200
Swimming and bathing facilities, public, per person	10
~~per person~~	
Theatres and Auditoriums, per seat	4
Veterinary Clinic	
(a) Per practitioner	250
(b) Add per employee per 8 hour shift	15
(c) Add per kennel, stall or cage	20
Warehouse	
(a) Add per employee per 8 hour shift	15
(b) Add per loading bay	100
(c) Self-storage, per unit (up to 200 units)	1
A~~a~~dd 1 gallon for each 2 units or fraction thereof, for any units over 200 units (~~, and shall be~~ in addition to flows for employees, offices or living quarters ~~flow rates.~~)	
INSTITUTIONAL:	
Churches per seat which includes kitchen wastewater flows unless meals prepared on a routine basis	3
~~wastewater flows unless meals~~	
~~prepared on a routine basis~~	
If meals served on a regular basis add per meal prepared	5
~~add per meal prepared~~	
Hospitals per bed which does not include kitchen wastewater flows	200
~~kitchen wastewater flows~~	
A~~a~~dd per meal prepared	5
Nursing, rest homes, adult ~~congregate~~ living facilities per bed which does not include kitchen wastewater flows	100
~~living facilities per bed which does not~~	
~~include kitchen wastewater flows~~	
A~~a~~dd per meal prepared	5
Parks, public picnic	
(a) With toilets only per person	4
(b) With bathhouse, showers & toilets per person	10
Public institutions other than schools and hospitals per person which does not include kitchen wastewater flows	100
~~hospitals per person which does not~~	
~~include kitchen wastewater flows~~	
A~~a~~dd per meal prepared	5
Schools per student	
(a) Day-type	10
(b) Add for showers	4
(c) Add for cafeteria	4
(d) Add for day school workers	15
(e) Boarding-type	75
Work/construction camps, semi-permanent, per worker	50

RESIDENTIAL:

Residences

(a) Single or multiple family per dwelling unit	
1 Bedroom with 750 sq. ft. or less of building area	100
2 Bedrooms with 751-1200 sq. ft. of building area	200
3 Bedrooms with 1201-2250 sq. ft. of building area	300
4 Bedrooms with 2251-3300 sq. ft. of building area	400
For each additional bedroom or each additional 750 square feet of building area or fraction thereof in a dwelling unit, system sizing shall be increased by 60 gallons per dwelling unit.	
(b) Other per occupant	50

Footnotes to Table I:

1. For food operations, kitchen wastewater flows shall ~~normally~~ be ~~calculated as~~ 66 percent of the total establishment ~~wastewater~~ flow.

2. For s~~S~~ystems serving high volume establishments, such as restaurants, convenience stores and service stations located near interstate type highways and similar high-traffic areas, ~~require special sizing consideration due to expected above average sewage volume. Minimum estimated flows for these facilities~~ flows shall be 3.0 times the volumes determined from the Table I figures.

3. For residences, the volume of wastewater shall be calculated as 50 percent blackwater and 50 percent graywater.

4. Where the number of bedrooms indicated on the floor plan and the corresponding building area of a dwelling unit in Table I do not coincide, the criteria which will result in the greatest estimated sewage flow shall apply.

4. ~~5.~~ Convenience store ~~estimated sewage~~ flows shall be determined by adding flows ~~for food outlets and service stations~~ as appropriate ~~to the~~for products and services offered.

5. ~~6.~~ Residential ~~Estimated~~ flows ~~for residential systems~~ assume~~s~~ a maximum occupancy of two persons per bedroom. Where residential care facilities ~~will~~ house more than two persons ~~in any~~per bedroom, ~~estimated~~ flows shall be increased by 50 gallons per ~~each~~ additional occupant.

(2) Minimum effective septic tank capacity and total dosing tank capacity shall be determined from Table II. ~~However, where~~Where multiple residential ~~family~~ dwelling units are ~~jointly~~ connected to a single septic tank ~~system~~, minimum effective septic tank capacities ~~specified in the table~~ shall be increased 75 gallons for each dwelling unit connected ~~to the system~~. With the exception noted in paragraph 64E-6.013(2)(a), F.A.C., all septic tanks shall be multiple-~~-~~chambered or ~~shall be~~ placed in series to achieve the required effective capacity. The use of an approved outlet filter device ~~shall be~~is required. Outlet filters shall be installed within or following the last septic tank or ~~septic tank~~ compartment before ~~distribution to~~ the drainfield. The outlet filter device requirement includes blackwater tanks, but does not include graywater tanks, ~~or~~ grease interceptors, or laundry tanks. Outlet filter devices shall be placed to allow accessibility for routine maintenance. Utilization, ~~and~~ sizing, and installation of outlet filter devices shall be in accordance with the manufacturers' recommendations. ~~The approved outlet filter device shall be installed in accordance with the manufacturers' recommendations.~~ The department ~~Bureau of Onsite Sewage Programs~~ shall approve outlet filter devices per the department's Policy on Approval Standards For Onsite Sewage Treatment And Disposal Systems Outlet Filter Devices, November 2008, which is herein incorporated by reference, and available at https://flrules.org/gateway/reference.asp?No=Ref-#####.

TABLE II
SEPTIC TANK AND PUMP TANK CAPACITY

AVERAGE SEWAGE FLOW GALLONS/DAY	SEPTIC TANK MINIMUM EFFECTIVE CAPACITY GALLONS	PUMP TANK MINIMUM TOTAL CAPACITY GALLONS	
		Residential	Commercial
0-200	900	150	225
201-300	900	225	375
301-400	1050	300	450
401-500	1200	375	600
501-600	1350	450	600
601-700	1500	525	750
701-800	1650	600	900
801-1000	1900	750	1050
1001-1250	2200	900	1200
1251-1750	2700	1350	1900
1751-2500	3200	1650	2700
2501-3000	3700	1900	3000
3001-3500	4300	2200	3000
3501-4000	4800	2700	3000
4001-4500	5300	2700	3000
4501-5000	5800	3000	3000

(3) Where a separate graywater tank and drainfield system is used, the minimum effective capacity of the graywater tank shall be 250 gallons with such system receiving not more than 75 gallons of flow per day. For graywater systems receiving flows greater than 75 gallons per day, minimum effective tank capacity shall be based on the average daily sewage flow plus 200 gallons for sludge storage. Design requirements for graywater tanks are described in subsection 64E-6.013(2), F.A.C. Where separate graywater and blackwater systems are utilized, the size of the blackwater system can be reduced, but in no case shall the blackwater system be reduced by more than 25 percent. However, the minimum capacity for septic tanks disposing of blackwater shall be 900 gallons.

(4) ~~Where building codes allow separation of discharge pipes of the residence to separate stubouts and where lot sizes and setbacks allow system construction, the applicant may request a separate laundry waste tank and drainfield system.~~ Where an aerobic treatment unit is used, all blackwater, graywater and laundry waste flows shall be consolidated and treated by the aerobic treatment unit. Where a residential laundry waste tank and drainfield system is used:

(a) The minimum laundry waste trench drainfield absorption area for slightly limited soil shall be 75 square feet for a one or two bedroom residence with an additional 25 square feet for each additional bedroom. If an absorption bed drainfield is used the minimum drainfield area shall be 100 square feet with an additional 50 square feet for each additional bedroom over two bedrooms. The ~~DOH county health department shall~~ required ~~additional~~ drainfield area shall be doubled for installation based on moderately limited soils ~~and other site specific conditions, which shall not exceed twice the required amount of drainfield for a slightly limited soil~~.

~~(b) The laundry waste interceptor shall meet requirements of subsections 64E-6.013(2) and (8), F.A.C.~~

(b) ~~(c)~~ The drainfield absorption area serving the remaining wastewater fixtures in the residence shall be reduced by 25 percent.

(5) The minimum absorption area for standard subsurface drainfield systems, graywater drainfield systems, and filled systems shall be based on estimated sewage flows and Table III with ~~so long as estimated sewage flows are 200 gallons per day or higher. When estimated sewage flows are less than 200 gallons per day, system size shall be based on~~ a minimum of 200 gallons per day.

TABLE III
For Sizing of Drainfields Other Than Mounds

U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION	SOIL TEXTURE LIMITATION (PERCOLATION RATE)	MAXIMUM SEWAGE LOADING LOADING RATE IN GALLONS PER TO TRENCH & BED ABSORPTION SURFACE IN GALLONS PER SQUARE FOOT PER DAY	
OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION	SOIL TEXTURE LIMITATION (PERCOLATION RATE)	FOOT PER DAY	
		TRENCH	BED
Sand; Coarse Sand not associated with a seasonal associated with a water table of less than 48 inches; seasonal water table and Loamy Coarse Sand of less than 48 inches; and Loamy Coarse Sand	Slightly limited (Less than 2 min/inch) min/inch)	0.80	0.60
Loamy Sand; Sandy Loam; Coarse Sandy Loam; and Fine Sand and Fine Sand Loam;	Slightly limited (2-4 min/inch)	0.80	0.60
Loam; Fine Sandy Loam; Silt Loam; Very Fine Sand; Silt Loam; Very Fine Very Fine Sandy Loam; Loamy Fine Sand; Sand; Very Fine Sandy Loamy Very Fine Sand; and Sandy Clay Loam Loam; Loamy Fine Sand; Loamy Very Fine Sand; and Sandy Clay Loam	Moderately limited (5-10 min/inch)	0.65	0.35
Clay Loam; Silty Clay Loam; Sandy Clay; Silty Clay; and Silt	Moderately limited (Greater than 15 min/inch but min/inch but not exceeding 30 min/inch) exceeding 30 min/inch)	0.35	0.20
Clay; Organic Soils; Organic Soils; Hardpan; and Bedrock Hardpan; and Bedrock	Severely limited (Greater than 30 min/ inch) min/inch)	Unsatisfactory for Standard standard subsurface System system	
Coarse Sand with an estimated wet season water an estimated wet season table within 48 inches of the bottom high water table within of the drainfield; Gravel; or 48 inches of the bottom Fractured Rock or Oolitic Limestone	Severely limited (Less than 1 min/inch and min/inch and a water table less than water table less 4 feet below drainfield)	Unsatisfactory for Standard standard subsurface System system	

~~of the proposed drainfield; Gravel or Fractured Rock or Oolitic Limestone~~	~~than 4 feet below the drainfield)~~

Footnotes to Table III:

1. ~~U.S. Department of Agriculture major soil textural classification groupings and methods of field identification are explained in Rule 64E-6.016, F.A.C.~~ Laboratory sieve analysis of soil samples may be necessary to confirm field evaluation of specific soil textural classifications. The USDA Natural Resources ~~Soil~~ Conservation Service "Soil Textural Triangle" shall be used to classify soil groupings ~~based on the proportion of sand, silt and clay size particles~~.

2. The permeability or percolation rate of a soil within a specific textural classification may be affected by such factors as soil structure, cementation and mineralogy. Where a percolation rate is determined using the falling head percolation test procedure described in the United States Environmental Protection Agency Design Manual for Onsite Wastewater Treatment and Disposal Systems, October, 1980, herein incorporated by reference ~~into this rule~~, the calculated percolation test rate shall be used with Table III ~~and evaluated by the DOH county health department with other factors such as history of performance of systems in the area in determining the minimum sizing for the drainfield area~~.

3. ~~When all other site conditions are favorable, horizons~~Horizons ~~or strata~~ of moderately or severely limited soil may be replaced with slightly limited soil or soil of the same texture as the satisfactory slightly limited ~~permeable~~ layer ~~lying~~ below the replaced layer. The slightly limited ~~permeable~~ layer below the replaced layer shall be identified within the soil profile ~~which was~~ submitted with ~~as part of~~ the ~~permit~~ application. The resulting soil profile must show complete removal of the moderately or severely limited soil layer ~~being replaced~~ and must be satisfactory to a minimum depth of 54 inches beneath the bottom surface of the ~~proposed~~ drainfield. The width of the replacement area shall be at least 2 feet wider and longer than the drain trench or ~~and for absorption beds shall include an area~~ at least 2 feet wider and longer than the proposed drain bed. ~~Drainfields shall be centered in the replaced area. Where at least 33 percent of the moderately limited soils at depths greater than 54 inches below the bottom of the drainfield have been removed to the depth of slightly limited soil, drainfield sizing shall be based on the following sewage loading rates.~~ Where severely limited soils are ~~being~~ removed at depths greater than 54 inches below the bottom of the drainfield, 100 percent of the severely limited soils ~~at depths greater than 54 inches~~ shall be removed down to the ~~depth of an~~ underlying slightly limited soil. Maximum sewage loading rates for standard subsurface systems installed in replacement areas shall be 0.80 gallons per square foot per day for trenches ~~systems~~ and 0.60 gallons per square foot per day for ~~absorption~~ beds in slightly limited soil textures. Where system sizing is based on moderately limited soil materials ~~are~~ found beneath the proposed drainfield~~, and where system sizing is based on that moderately limited soil~~, soil replacements of less than 33% may be permitted.

4. Where coarse sand, gravel, or oolitic limestone directly underlies the drainfield area, the site shall be approved provided a minimum depth of 42 inches of the rapidly percolating soil beneath the bottom absorption surface of the drainfield and a minimum 12 inches of rapidly percolating soil contiguous to the drainfield sidewall absorption surfaces, is replaced with slightly limited soil material. ~~Where such replacement method is utilized, the~~The drainfield size shall be determined using a maximum sewage application rate of 0.80 gallons per square foot per day of drainfield in trenches and 0.60 gallon per square foot per day for drainfield absorption beds.

5. Where more than one soil texture classification is encountered ~~within a soil profile~~ and ~~it is~~ not removed ~~as part of a replacement~~, drainfield sizing for standard subsurface drainfield systems and fill drainfield systems shall be based on the most restrictive soil texture in contact with the sidewall or ~~encountered~~ within 24 inches of the bottom of the drainfield absorption surface.

(6) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.48, Amended 3-17-92, 1-3-95, Formerly 10D-6.048, Amended 11-19-97, 3-22-00, 9-5-00, 11-26-06, 6-25-09, 7-16-13,____.

64E-6.009 Alternative Systems.

~~When approved by the DOH county health department,~~Department-approved alternative systems may, at the discretion of the applicant, be ~~utilized in circumstances~~used ~~where standard subsurface systems are not suitable or where alternative systems are more feasible~~. Unless otherwise noted, all rules pertaining to siting, construction, and maintenance of standard subsurface systems shall apply to alternative systems. In addition, the ~~DOH county health~~ department may, using the criteria in subsection 64E-6.004(4), F.A.C., require the submission of plans prepared by an engineer ~~licensed in the State of Florida, prior to considering the use of any alternative system~~.

(1) Waterless, incinerating or organic waste composting toilets – may be approved for use if found in compliance with standards for Wastewater Recycle/Reuse and Water Conservation Systems as defined by ANSI/NSF International Standard Number 41, revised March 28, 2005, or NSF protocol P157 Electrical Incinerating Toilets - Health and Sanitization, issued April 28, 2000 ~~May 1983~~, hereby incorporated by reference, and provided that graywater and any other liquid and solid waste is properly collected and disposed of in accordance with ~~standards established in~~ this chapter. For residences, the required drainfield absorption surface ~~and unobstructed area~~ of the system treating the remaining sewage flow shall be reduced by 25% when ~~waterless, incinerating or organic waste composting toilets~~these units are used exclusively for all toilet wastes. Solids removed from ~~waterless, incinerating or organic waste composting toilets~~these units shall be mixed with lime, containerized, and disposed of with the solid waste from the establishment. Liquids discharging from ~~waterless, incinerating or organic waste composting toilets~~these units shall be plumbed into the onsite system ~~serving the establishment~~.

(2) Sanitary pit privy – shall not be permitted. Vault toilets may be allowed through the permitting process ~~except~~ at remote locations where electrical service is unavailable. In no case shall such installations be used ~~permitted~~ for permanent residences.

(3) Mound systems – ~~are used to overcome certain limiting site conditions such as an elevated seasonal high water table, shallow permeable soil overlying slowly permeable soil and shallow permeable soil located over creviced or porous bedrock. Special installation instructions or design techniques to suit a particular site shall, using the criteria in subsection 64E-6.004(4), F.A.C., be specified on the construction permit in addition to the following~~ general requirements:~~.~~

(a) Site preparation must render the site in compliance with requirements of subsection~~s~~ 64E-6.006~~(1)-(6)~~, F.A.C.

(b) Prior to the construction ~~of a mound system~~, the applicant may fill all or a portion of a lot utilizing slightly limited soil.

(c) The O horizon~~-~~, the layer of organic matter on the surface of a mineral soil consisting of decaying plants, ~~of~~ ori~~ori~~ginal topsoil and vegetation must be removed from beneath the drainfield, shoulder and slope area and the exposed underlying soil plowed ~~or roughened~~ to prevent formation of an impervious barrier between the fill and natural soil. ~~Moderately limited soil material may be used in the construction of mound systems, but shall only be used in the construction of mound slopes and the soil cap.~~ If moderately or severely limited soil is to be replaced beneath the mound, Section~~Rule~~ 64E-6.008, F.A.C., Table III, footnotes 3. and 4. shall be followed.

(d) Where the soil material underlying a mound system is of a similar textural material as that used in system construction, the mound drainfield size shall be based on estimated sewage flows as specified in Section~~Rule~~ 64E-6.008, F.A.C., Table I and upon the quality of fill material utilized in the mound system. ~~When estimated sewage flows are calculated to be less than 200 gallons per day, specifications for system design shall be based on a minimum flow of 200 gallons per day.~~ Maximum sewage loading rates for soils used in mound construction shall be ~~in compliance with the following~~:

Fill Material	Maximum Sewage Loading Rate to Mound Drain Trench Bottom Surface in gallons per square foot per day	Maximum Sewage Loading Rate to Mound Absorption Bed Bottom Surface in gallons per square foot per day
Sand; Coarse Sand; ~~and~~ Loamy Coarse Sand; and Fine Sand	0.80 ~~0.80~~	0.60 ~~0.60~~
Sandy Loam; Coarse Sandy Loam; and Loamy Sand	0.65 ~~0.65~~	0.40 ~~0.40~~
Fine Sandy Loam; Very Fine Sand; Loamy Fine Sand; and Loamy Very Fine Sand	0.35	0.25

(e) ~~Where moderately limited soils underlie the mound within 36 inches of the bottom of the drainfield,~~ D~~d~~rainfield sizing shall be based on the most restrictive soil texture existing in contact with the sidewalls or bottom of the drainfield or in the profile to a depth of 36 inches below the bottom of the drainfield. Drainfield sizing based on soils below natural grade shall be based on Table III. Drainfield sizing based on fill material above natural grade shall be based on the soil loading rates in subparagraph 64E-6.009(3)(d), F.A.C.~~, using Table III for soil loading rates.~~

(f) There shall be a minimum 4 feet separation between the shoulder of the fill and the nearest trench or absorption bed sidewall. Where a portion of the mound slope will be placed adjacent to building foundations, pilings or supports for elevated structures, mobile home walls, swimming pool walls, retaining walls, or similar obstructions there shall be a minimum 5 foot separation between the sidewall of the absorption area and the obstruction. Such obstructions shall impact the slope on no more than 50 percent of the shoulder perimeter. Retaining walls must be designed by a professional engineer ~~licensed in the State of Florida~~ to withstand the lateral earth forces under saturated conditions and to prevent seepage. Where mounds are placed on slopes exceeding 2 percent,

the toe of the slope on the downslope side of the mound shall extend an additional 4 inches for each additional 1 percent of slope. To taper the maximum elevation of the mound at the outer perimeter of the shoulder down to the toe of the slope, additional moderately or slightly limited fill shall be placed at a minimum 2 foot horizontal to 1 foot vertical grade where mound height does not exceed 36 inches. Mound heights which exceed 36 inches shall have a slope not steeper than 3 foot horizontal to 1 foot vertical. The entire mound including slopes, shoulders and the soil cap shall be stabilized with vegetation. Slopes steeper than 5:1 shall be sodded or hydroseeded. Soil caps and unsodded slopes must, at a minimum, be hydroseeded or seeded with grass and a layer of hay or similar cover. Where fill material is present in the amount so as to provide a level surface from the top of the required cover over the system over the area where the slopes would normally be located, no slopes shall be required. For example, if the neighboring lot has been permanently filled to the same level as the applicant's lot, a five-foot separation from the property line to the system will be required, as opposed to requiring the slope area. Stabilization of a mound shall be the responsibility of the septic tank contractor who constructed the mound system unless the a written agreement for system construction clearly states the system owner is responsible. Mound slopes which do not conform to permit requirements shall at a minimum be restored to permit specifications prior to stabilizing. Other synthetic or vegetative covers providing protection from mound erosion equal to or better than sod shall be approved by the State Health Officedepartment. Final installation approval shall not be granted until Ssodding, hydroseeding, seeding and haying or other approved sStabilization of the mound shall has occurred before final installation approval is granted. No portion of the drainfield or shoulder area shall be covered with asphalt or a concretepaved driveway or be subject to vehicular traffic. Landscaping features such as boulders or trees which obstruct drainfield or fill shoulder area shall not be used in drainfield or shoulders. Hydroseeding shall be performed in accordance with the product manufacturer's instructions and Section 7.5, Permanent Seeding, of the Florida Erosion and Sedimentation Control Inspector's Manual, July 2008, herein incorporated by reference.

(g) There shall be a soil cap of slightly or moderately limited soil material over the drainfield and shoulder area. The soil cap shall be no less than 6 inches thick at the outer perimeter of the shoulder. Additional soil cap material shall be placed over the mound and graded to provide drainage off and away from the mound. The maximum depth from the bottom of the drainfield to the finished ground surface shall not exceed 30 inches after natural settling.

(h) The site shall be landscaped according to permit specifications and shall be protected from automotive traffic or other activity that could damage the system. Swales or other surface drainage structures shall be utilized to prevent water shed from mounds draining onto neighboring other property.

(i) All fill material used in the construction of systems shall be free of extraneous non-soil material such as grass, roots and any other debris. Shell fragments less than 2.0 mm in diameter are excluded from the classification of extraneous non-soil materials and are considered to be soil particles. Severely limited soil material and shall not be used in system construction. fFill material consisting of mechanically crushed and sieved rock shall not be used in system construction.

(j) Where moderately limited soil is used to construct a mound system, a low pressure distribution network is required.

(4) Filled systems – filled systems shall be constructed in accordance with the minimum requirements for mounds, except as provided for in footnote 5., Table III, and that sewage loading rates to trench or absorption bed bottom areas shall be based on values found in Table III.

(5) Drip irrigation systems – Drip irrigation systems may, at the option of the applicant, be used in lieu of a mineral aggregate drainfield. Drip irrigation systems shall meet all requirements of this chapter except as noted below.

(a) Drip irrigation systems shall receive effluent from an approved aerobic treatment unit or a performance-based treatment system designed to meet at least secondary treatment standards for $CBOD_5$ and TSS, and shall meet the following requirements:

1. Drip irrigation systems shall be designed by an engineer licensed in the State of Florida.

2. The infiltrative area required shall be the same as the area required for a mineral aggregate drainfield with reductions allowed for the reduction of $CBOD_5$ and TSS as noted in this chapter for aerobic treatment units.

3. In an absorption bed configuration, the drainfield area shall be calculated as extending one foot beyond the sides of the outermost emitter lines. Notwithstanding the provision of paragraph 64E-6.014(5)(b), F.A.C., theThe individual bed size limitation of 1500 square feet does not apply to drip emitter systems.

4. In a trench containing a single emitter line, the drainfield area shall be calculated as 2 feet multiplied bytimes the emitter spacing in feet multiplied bytimes the number of emitters.

5. Drip effluent disposalirrigation systems shall beare considered pressure distribution systems. Head loss calculations shall be provided to insure proper hydraulic pressure at the emitter. Pump selection and performance curves shall be indicated in the design specifications. Pump performance curves shall be included in the permit application.

6. Recirculation rates shall be in the design specifications.

7. Check valves, petcocks, inline filters, and vacuum breaking device locations shall be shown on the design drawings.

8. Drip irrigation systems shall be time-dosed over the 24-hour period. Demand control dosing shall override timed-dosing in periods of flow where timed dosing cannot accommodate the excessive flow.

9. Emitter lines shall be designed as a continuous loop circuit with no dead-ends.

10. Emitter lines shall be drawn to scale and emitter spacing shall be indicated on the drawings.

11. Vacuum release valves shall be installed at the highpoint of the emitter lines.

12. The maximum emitter longitudinal spacing on an emitter line shall be 2 feet. The maximum spacing between adjacent emitter lines in an absorption bed configuration shall be 2 feet. The 24-inch separation from the seasonal high water table shall be measured from the emitter orifice. Setbacks shall be measured from the drip emitter lines.

13. The setback from drip emitter lines to building foundations and property lines shall be no less than two feet.

14. ~~The definition of a filled system in Rule 64E-6.002, F.A.C., is not applicable to drip effluent disposal systems.~~ A drip ~~effluent disposal~~ system is considered to be a mound system when any part of the bottom surface of any drip emitter line is located at or above the elevation of undisturbed native soil ~~in the drainfield area. A drip effluent disposal system is considered a standard subsurface drainfield system when the entire bottom surface of every drip emitter line is installed below the elevation of undisturbed native soil in the drainfield area~~.

15. For mound systems there shall be a minimum 18-inch separation between the shoulder of the fill and the nearest drip emitter line. Mound system slopes shall be in accordance with paragraph 64E-6.009(3)(f), F.A.C.~~.~~, except that a minimum 2 foot separation is required between the nearest drip emitter line and a building foundation, retaining wall, or similar obstruction. ~~Mound systems shall be stabilized in accordance with paragraph 64E-6.009(3)(f), F.A.C.~~

16. For standard subsurface systems, the elevation of any fill covering the drainfield shall extend no less than 18 inches away from all emitter lines before tapering down to natural grade.

17. ~~Minimum cover~~Cover fill on the emitter lines shall be a minimum of 6 inches ~~for all drip irrigation systems. The~~ and a maximum ~~cover for all drip irrigation systems shall be no greater than~~of 12 inches.

18. The system shall include a petcock on the dosing pump discharge line for effluent sampling.

19. All systems shall incorporate an automatic mechanism for backwashing or flushing the drip lines and filters.

~~20. All onsite sewage treatment and disposal systems that include a drip effluent disposal system and aerobic treatment unit shall have a biennial operating permit, a maintenance contract with an approved aerobic treatment system maintenance entity, and shall be inspected in accordance with the requirements of this chapter.~~

20. ~~21.~~ Drip irrigation systems shall be designed to have a minimum operating pressure at the emitter head of 10 PSI, a maximum operating pressure at the emitter head of 45 PSI, a maximum system operating pressure of 60 PSI, and a maximum discharge rate per emitter of 1.5 gallons per hour.

21. ~~22.~~ The hydraulic surge storage requirement of Section ~~Rule~~ 64E-6.028, F.A.C., does not apply to drip irrigation systems.

22. ~~23.~~ Drip irrigation systems shall only use components approved by the department~~Bureau of Onsite Sewage Programs~~.

~~24. Unobstructed area for drip irrigation systems may be located anywhere on the establishment property that meets the setbacks for unobstructed area and can be accessed via transmission lines, supply lines and return lines installed in accordance with this chapter. The land containing only transmission lines, supply lines and return lines shall not be included in the calculation of unobstructed area.~~

23. ~~25.~~ Supply lines and return lines shall be considered as transmission lines for determining setbacks not specified in this section.

24. ~~26.~~ Except for slopes required to meet the stabilization requirements of paragraph 64E-6.009(3)(f), F.A.C., the area over the drip irrigation drainfield shall be vegetated ~~with plant species~~ as specified by the design engineer, excluding trees. ~~The species specified shall not include trees.~~

25. The minimum effective soil depth below drip emitter lines shall be 42 inches; however, spodic layers greater than 24 inches below the drip emitter lines may remain in place at the discretion of the design engineer.

(b) Drip irrigation systems shall be monitored ~~during required maintenance visits~~ by visual inspection of the ground surface above the emitter lines for evidence of soil saturation at the ground surface.

(6) Tire chip aggregate ~~systems – tire chip aggregate may be used as a substitute for mineral aggregate in onsite sewage treatment and disposal system drainfields under the following conditions:~~

~~(a) The tire chips meet~~meeting the specifications for mineral aggregate found in this chapter may be used only in domestic wastewater systems.~~:~~ Mixed tire and mineral aggregate shall be approved where each type of aggregate meets its respective standard and the combined mixture meets the gradation requirements in paragraph 64E-6.014(5)(c), F.A.C.

~~(b)~~ Exposed wire shall protrude~~s~~ no more than one-half (1/2) inch from 90% of the chips~~.~~

~~(c) At~~ and at least 80% of the bead wire has been removed from the tires to be chipped.

~~(d) The system receives domestic wastewater only.~~

~~(e)~~ Tire chips ~~aggregate~~ shall not be used where the seasonal high water table is less than 12 inches below the bottom of the drainfield ~~at the wettest season of the year~~.

~~(f)~~ In all other respects tire chip aggregates and mixed tire-mineral aggregates shall be installed with identical site restrictions and construction requirements as approved mineral aggregates.

(7) Alternative system component and design approval – After innovative system testing is completed, requests for approval of system components and designs which are not specifically addressed in this chapter shall be submitted to the department~~'s Bureau of Onsite Sewage Programs~~.

(a) Requests for alternative system component material and design approval shall include:

1. Detailed system design and construction plans by an engineer~~ licensed in the State of Florida~~;

2. Certification of the performance capabilities of the product submitted by an engineer~~ licensed in the State of Florida~~;

3. Research supporting the proposed system materials;

4. Empirical data showing results of innovative system testing in the State of Florida; and

5. A design, installation and maintenance manual showing how to design and install the system in accordance with this chapter for standard, filled, mounded, gravity-fed, dosed, bed and trench configurations.

(b) In addition to those items listed in paragraph 64E-6.009(7)(a), F.A.C., manufacturers of drip effluent disposal system distribution lines, emitters, and components shall apply for and obtain approval from the department~~ Bureau of Onsite Sewage Programs~~ for specific model numbers or part numbers prior to inclusion of the components on any site specific permit application. ~~Manufacturer's~~Manufacturers ~~of drip effluent disposal system components~~ shall provide design and installation manuals ~~for engineering and construction guidance. Design manuals shall~~to include tables that detail flow rates vs. pressure and pressure loss per length(s) of distribution pipe.

(c) The detailed plans and information submitted with the approval request shall be reviewed by the department ~~onsite sewage program~~ to determine whether or not there is a reasonable certainty of the effectiveness and reliability of the proposed alternative system component. ~~If the department is not satisfied that the information provided provides reasonable evidence of the effectiveness and reliability of the alternative system component and designs, the department shall deny the approval.~~ Department approval of any alternative system component does not guarantee or imply that any individual system installation will perform satisfactorily for a specific period of time. Upon department approval of the material and design, the manufacturer shall list the department approval date in the installation and design manual. Proposals to amend the approved installation and design manual shall be submitted to the bureau for approval. The date of amendment approval shall be included in the manual.

(d) Except as provided for in Part IV of this chapter, alternative drainfield materials and designs shall not be approved which would result in a reduction in drainfield size using the mineral aggregate drainfield system as described in Section ~~Rule~~ 64E-6.014, F.A.C.~~, and the total surface area of soil at the bottom of the drainfield as the criteria for drainfield sizing comparisons~~. Alternative system component and design approvals shall not be granted for ~~the following items:~~

~~1. Those~~ those items which, in whole or in part, are used to achieve a more advanced level of treatment than the baseline treatment level specified in part IV of this chapter;

~~2.~~ a~~A~~erobic treatment units;

~~3.~~ s~~S~~eptic ~~tank~~ tanks~~designs~~, filters, seals, and sealants;

~~4.~~ a~~A~~dditives;

~~5.~~ h~~H~~eader and drainfield pipe~~, including their layout~~; ~~and~~

~~6.~~ w~~W~~ater table separation and setback requirements.

(e) Unless determined unnecessary or impractical by the d~~D~~epartment ~~at the time of component approval, effective January 1, 2010~~, all components shall be labeled by the manufacturer with the name of the manufacturer and the model identification of the component. The design, installation and maintenance manual shall show the location of the label and shall include an illustration of a typical label. The label shall be in a location where it will be visible or easily exposed at the time of system inspection. ~~All identifying marks shall be inscribed or affixed at the point of manufacture.~~

(8) Other alternative systems – systems such as low pressure distribution networks, small diameter gravity sewers, low pressure sewer systems, alternating absorption fields, and sand filters designed and submitted by an engineer~~ who is licensed in the State of Florida~~, meeting the general requirements of this chapter, shall be approved by the ~~DOH county health~~ department where evidence exists that use of such systems will not create sanitary nuisance conditions, health hazards or pollute receiving waters. Use of an alternative system may require the establishment of procedures for routine maintenance, operational surveillance, and environmental monitoring~~ to assure the system continues to function properly~~.

(9) Use of a system to serve more than one residence or commercial building under separate ownership and when located on separate lots shall require the establishment of a ~~local sewer district, maintenance franchise, or other~~ legally binding arrangement for the operation and maintenance of such system. For the purposes of this section, easements for shared wastewater treatment are not considered.

(10) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

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64E-6.010 Septage and Food Establishment Sludge.

(1) No person shall clean or remove the contents of any ~~No~~ septic tank, grease interceptor, privy, or other receptacle associated

with a~~n onsite sewage treatment and disposal~~ system ~~shall be cleaned or have its contents removed~~ until that ~~the service~~ person has obtained an annual service permit~~written permit (Form DH 4013, 01/92, Operating Permit, herein incorporated by reference)~~ from the ~~DOH county health~~ department office in the county in which the service company is located. Permits issued under this section are required to be obtained by any person or disposal service who seeks to transport, treat, store, dispose or otherwise ~~authorize the disposal service to~~ handle liquid waste associated with food operations, domestic waste, or domestic septage. Such authorization applies to all septage produced in the State of Florida, and food establishment sludge which is collected for disposal from onsite sewage treatment and disposal systems from the time it is collected from the onsite sewage system to the time it is finally disposed or is discharged at a facility regulated by the Department of Environmental Protection.

(2) Application for a service permit shall be made to the ~~DOH~~ ~~county health~~ department on Form DH 4012, ##/##~~01/92~~, "Application for Septage Disposal Service Permit, Temporary System Service Permit, Septage Treatment and Disposal Facility, Septic Tank Manufacturing Approval" herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####. The following must be provided for the evaluation prior to issuance of a service permit:

(a) Evidence that the applicant possesses adequate equipment such as a tank truck with a liquid capacity of at least 1500 gallons, pumps, off truck stabilization tanks and pH testing equipment where lime stabilization and land application are proposed, as well as other appurtenances and tools necessary to perform the work intended. Equipment may be placed into service only after it has been inspected and approved by the ~~DOH county health~~ department. Tanks used for the stabilization and storage of septage and food service sludges shall be constructed, sized, and operated in accordance with the following provisions:

1. Stabilization tanks and septage storage tanks shall be constructed of concrete, fiberglass, corrosion-resistant steel, or other equally durable material. Tanks shall be watertight and shall be water tested for leaks prior to placing into service. The stabilization tank shall have a liquid capacity of at least 3000 gallons.

2. Construction of ~~concrete~~ tanks shall be ~~at a minimum equal to that required of concrete septic tanks in Rule 64E-6.013, F.A.C. Fiberglass tanks and tanks of similar materials shall be constructed~~ in accordance with standards found in Section ~~Rule~~ 64E-6.013, F.A.C.

3. Stabilization tanks shall contain aeration or mixing devices ~~which will~~to ensure thorough ~~agitation or~~ mixing of lime with the waste as specified in Chapter 6, EPA 625/1-79-011, Process Design Manual for Septage Treatment and Disposal, herein incorporated by reference.

(b) The proposed disposal method and the site to be used for disposing of ~~onsite sewage treatment and disposal~~ system septage.

(c) The contractor registration number and certificate of authorization number, if applicable.

(3) When a permit is issued, the number of said permit along with the name of the company, its phone number, and the gallon capacity of the ~~hauling~~ truck's waste storage tank shall be prominently and permanently displayed on ~~any~~each truck ~~that will carry waste across any property line~~. The ~~the service~~ truck shall be labeled in contrasting colors with 3 inch or larger letters. Use of removable magnetic signs ~~shall not be considered permanent display of vehicle identification information~~is not allowed. ~~A septage disposal service permit shall be suspended, revoked or denied by the department in accordance with Chapter 120, F.S., for failure to comply with requirements of this chapter.~~

(4) After septage or food establishment sludge is removed from a~~n onsite sewage treatment and disposal~~ system, the original lid of the tank shall be put back in place, or be replaced with a new lid ~~if the original lid is broken~~. The tank lid shall be completely sealed and secured as per paragraph 64E-6.013(2)(i), F.A.C., and the ground backfilled and compacted ~~so that the site is left in a nuisance free condition~~.

(a) Contents of any treatment tank, including all chambers~~-~~ of a multi-chambered tank, or pump tank shall be removed in their entirety when pumped. Where in the opinion of the person pumping any ~~onsite sewage treatment and disposal~~ system waste receptacle or pump tank, the complete removal of all tank contents may create an unintended problem in regards to the continued use of the system, a complete pumpout is not required. The pumper must document, in writing, to the system owner the reason for the partial pumpout, the quantity ~~gallonage~~ pumped from the system, and what material was left in the tank.

(b) The access to pump a tank must be through the lid of the tank, through the manhole or by moving a sectional lid. Where the tank is chambered, separate chambers must be accessed through the manholes or sectional lid for the chamber being pumped. ~~Pumping shall not be accomplished by entering the tank through inlets or outlets. Where the lid of the tank must be broken in order to gain access for the removal of tank contents, or at anytime when the lid is broken, the lid shall be replaced.~~

(c) When a contractor introduces, or causes to be introduced, any product into the system, whether through the plumbing or directly into any part of the system, the contractor shall maintain a record of the product used, the quantity introduced, the location and the dates of the introduction. Such records shall be maintained by the contractor for a minimum of five years and shall be provided to the Department upon request.

(5) ~~Untreated food establishment sludges, and septage~~Septage shall be transported ~~to an approved treatment facility~~ in such a manner as to preclude leakage, spillage or the creation of a sanitary nuisance.

~~(6) Treated septage and sludges shall be transported to the disposal site in such a manner so as to preclude leakage, spillage or the creation of a sanitary nuisance.~~

(6) ~~(7)~~ The food establishment sludge and contents from onsite waste disposal systems shall be disposed of at a site approved by the ~~DOH county health~~ department and by an approved disposal method. Untreated domestic septage or food establishment sludges shall not be applied to the land. Criteria for approved stabilization methods and the subsequent land application of domestic septage or other domestic onsite wastewater sludges shall be in accordance with the following ~~criteria for land application and disposal of domestic septage.~~:

(a) Land application of domestic septage and sludges shall be permitted provided such septage and sludges have been properly treated by an approved septage-stabilization process, including lime stabilization, and an application using Form DH 4012 has been completed as part of the permitting process. Prior to discharge of septage or food establishment sludge into a stabilization tank, the septage or sludge shall be screened in a pretreatment tank or chamber which contains a final screening method using bar screens having a maximum gap of 1/2 inch or rock screens or other similar mesh material having a maximum 3/4 inch opening. Material retained in the screening process shall be limed, containerized, and disposed of at an approved solid waste disposal facility. Septage or sludge shall pass from the pretreatment tank or chamber to the stabilization tank. Lime stabilization of septage shall be in accordance with processes and designs described in Chapter 6, EPA 625/1-79-011, Process Design Manual for Sludge Treatment and Disposal, hereby incorporated by reference. Facilities approved for septage treatment under this rule shall not receive and treat more than 20,000 gallons of septage or combined septage, grease interceptor, portable restroom or other receptacle waste associated with a~~n onsite sewage treatment and disposal~~ system on any one day and shall not exceed a monthly average of 10,000 gallons of septage or septage and combined domestic waste per day. Stabilization by lime shall raise the pH of the septage to a level of 12 for a minimum of two hours or to a level of at least 12.5 for a minimum of 30 minutes to be deemed sufficient. The pH of the stabilized septage shall be maintained at a level of at least 11 until actual land application, but shall not be land applied~~spread~~ until the pH of the stabilized septage has fallen below 12.5. To check the pH of the stabilized septage, a sampling port having an internal diameter of no less than 1/2 inch and no more than 3/4 inch and located no more than 60 inches above the ground surface shall be used to allow sampling of waste tank contents. Lime purchase receipts shall be kept at the place of business for a minimum of 6 months.

1. ~~Use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted public access areas where frequent human contact is likely to occur is prohibited.~~

~~2.~~ Application is limited to sod farms, pasture lands, forests, highway shoulders and medians, plant nursery use, land reclamation projects and soils used for growing human food chain crops. Use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted public access areas where frequent human contact is likely to occur is prohibited. Application methods shall be conducted in a manner which will disperse the treated septage uniformly over the land application site.

~~a.~~ Pasture vegetation on which stabilized septage or sludge has been applied shall not be cut for hay or silage nor grazed for a period of 30 days from the last application.

~~b.~~ No human food chain crops except hay, silage, or orchard crops shall be harvested from a land application area for a period of 60 days following the last application of septage or sludges.

~~c.~~ Domestic septage or sludge shall not be used for the growing or cultivation of tobacco, root crops, leafy vegetables, or vegetables to be eaten raw. Vegetables and fruits which come in contact with the ground surface shall not be planted or grown on land used for septage application for a period of 18 months after the last application of septage or sludge.

~~d.~~ When applied to unvegetated soils, stabilized domestic septage or sludge shall be incorporated into the soil within 48 hours of application.

(b) No land application of stabilized septage or food service sludge may occur until:

1. The site has been inspected and approved by department personnel.

2. The site evaluation fee has been submitted.

3. An Agricultural Use Plan, Form DH 4012A, ##/##~~08/09~~, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, has been ~~completed~~ submitted for the proposed application site for the permit year.

~~a.~~ Agricultural use plans shall describe the manner in which treated domestic septage and sludges are to be used ~~as part of a~~in the planned agricultural operation and include~~. M~~ methods of application, proposed crops and their fertilizer needs, vegetative types proposed, erosion management, access control for humans and animals, and anticipated harvesting periods~~ shall be included~~.

~~b.~~ Agricultural use plans shall include information on the soil and geologic conditions at the disposal site which could limit the areas available for land application.

~~4. The plan has been submitted for review and approval to the DOH county health department~~ office in the county ~~having jurisdiction.~~

~~5. The DOH county health department has granted approval to use the site.~~

(c) No person shall dispose of domestic septage or sludge by land application unless they have complied with approved treatment and disposal methods described in Section~~Rule~~ 64E-6.010, F.A.C. Lime stabilization in the tank of a septage hauling vehicle or in the tank of a~~n onsite sewage treatment and disposal~~ system is not an approved septage treatment method.

(d) Land application of septage shall occur only in accordance with paragraph 64E-6.010(6)~~(7)~~(a), F.A.C., unless prohibited by the ~~DOH county health~~ department due to a ~~brief~~ condition which creates a potential ~~for a~~ sanitary nuisance as ~~exemplified~~ in

paragraph 64E-6.010(6)~~(7)~~(l), F.A.C.

(e) All septage and food establishment sludge haulers regulated by Chapter 64E-6, F.A.C., are to maintain a collection and hauling log at the treatment site or at the main business location. ~~which provides the information listed below.~~ Records shall be retained for five (5) years A copy of the log for the most recently completed calendar quarter shall be submitted to the department no later than the 15th of the month following the end of the quarter. The log shall contain

~~1. Date~~ the date of septage or waste collection;

~~2. A~~ address of collection;

~~3. Indicate whether the point of collection is a~~ residence or ~~business and if a business, the~~ type of business;

~~4. E~~ estimated volume, in gallons, of septage or waste transported;

~~5. R~~ receipts for lime or other materials used for treatment;

~~6. L~~ location of the approved treatment facility;

~~7. D~~ date and time of discharge to the treatment facility; and

~~8. A~~ acknowledgement from treatment facility of receipt of septage or waste.

(f) All department~~Department of Health~~-regulated septage treatment facility operators shall maintain permanent records of the septage or waste receipt, treatment and discharge. Records shall be retained for five (5) years. A copy of the records for the most recently completed calendar quarter shall be submitted to the department no later than the 15th of the month following the end of the quarter. At a minimum, these records shall include the ~~following.~~

~~1. D~~ date and time of each load of septage or waste is received;

~~2. N~~ name of company from which the septage or waste is received;

~~3. I~~ identification of the truck from which the septage or waste was received;

~~4. S~~ signature from the driver acknowledging delivery of the septage or waste;

~~5. Q~~ quantity of septage or waste received;

~~6. D~~ date and time of discharge of each load of treated septage or waste;

~~7. N~~ name of the company which received the treated septage or waste from the treatment facility;

~~8. S~~ signature from the driver of the truck which received the treated septage or waste; and

~~9. Q~~ quantity of treated septage or waste discharged to the truck.

~~(g) A summary of the total volume of septage applied to each site shall be submitted to the DOH county health department quarterly.~~

(g)~~(h)~~ Domestic wastewater systems residuals shall not be mixed with septage for treatment and disposal at department ~~approved~~ sites.

(h)~~(i)~~ Septage which contains toxic or hazardous waste must be disposed of in accordance with the rules of the Department of Environmental Protection.

(i)~~(j)~~ The land application area shall not be located closer than 3000 feet to any Class I water body or Outstanding Florida Water as defined in Chapter 62-302, F.A.C. or 200 feet to any surface water bodies except canals or bodies of water used for irrigation purposes which are located completely within and not discharging from the site. The ~~land application~~ area shall not be located closer than 500 feet to any shallow public water supply wells, nor closer than 300 feet to any private drinking water supply well. The ~~application~~ area shall be no closer than 300 feet to any habitable building and a minimum of 75 feet from property lines and drainage ditches.

(j)~~(k)~~ The land application site shall have a minimum 24 inches of unsaturated soil above the ground water table at the time of septage or sludge application. The seasonal high ground water table for the site may be indicated in the Agricultural Use Plan by soil survey maps. If the wet season high ground water table is within 2 feet of the surface or is not determined in the Agricultural Use Plan, the water table encountered at the time of septage or sludge application shall be determined by use of a monitoring well.

(k)~~(l)~~ Septage or sludge shall not be applied during rain events of sufficient magnitude to cause runoff, or during periods in which surface soils of the land application area are saturated. The land application area shall have sufficient buffer areas or stormwater management structures to retain the runoff from a ten-year one-hour storm on the site. Sufficient septage storage capacity shall be provided for periods of inclement weather and equipment failure. Facilities shall be designed, located, and operated to prevent nuisance conditions and avoid site run-off.

(l)~~(m)~~ Land application area topographic grades shall not exceed 8 percent.

(m)~~(n)~~ The land application area and an area 200 feet wide adjacent to, and exterior of, the land application area boundary shall contain no subsurface fractures, solution cavities, sink holes, excavation core holes, abandoned holes, or any other natural or manmade conduits which allow contamination of ground water. Determinations of site conditions shall be made as part of a geophysical examination of the property by qualified persons.

(n)~~(o)~~ Florida water quality criteria for groundwater and surface water shall not be violated as a result of land application of septage ~~or sludge~~. Water quality testing of application areas may be required if the department determines that septage application not conforming to this rule is evident. If water quality violations are ~~indicated~~found, the site owner shall suspend land application ~~activities~~.

(o)~~(p)~~ A layer of permeable soil at least 2 feet thick shall cover the surface of the land application area.

(p)~~(q)~~ Unless required by law to be limited by phosphorous, application rates of septage and food establishment sludges are limited by the nitrogen content of the waste.

1. Where the application rate is limited by nitrogen content, the maximum annual surface application rate of total nitrogen is 500 pounds per acre during any 12-month period. Application of septage shall be applied as evenly as possible during the 12 month period to ensure maximum uptake of nitrogen by the crops used. This equates to 6 dry tons or 40,000 gallons of typical septage per acre per year. ~~However, if~~If the following formula, based on the annual uptake of nitrogen for a given crop is used, the 40,000 gallons of septage applied per acre per year shall be increased if the nitrogen content of the septage will not exceed the nitrogen uptake of the crop.

~~AAR = N ÷ 0.0026~~

AAR ~~is the~~(annual application rate in gallons per acre per 365 day period) = ~~; and~~ N ~~equals the~~(amount of nitrogen in pounds per acre per 365 day period needed by the crop or vegetation grown on the land) ÷ 0.0026. Application methods shall be conducted in a manner which will disperse the treated septage uniformly over the land application site.

2. Where the law requires the application of septage to be limited based on phosphorous content, the land application of septage, food establishment sludge, portable restroom waste or any other waste from any system regulated under this chapter is prohibited. ~~application rate is limited by phosphorous, the maximum annual surface application rate of total phosphorous is 40 pounds per acre during any 12 month period. Application of septage shall be applied as evenly as possible during the 12 month period to ensure maximum uptake of phosphorous by the crops used. This equates to 2 dry tons or 12,000 gallons of typical septage per year. However, if the following formula, based on the annual uptake of phosphorous for a given crop is used, the 12,000 gallons of septage applied per acre per year shall be increased if the phosphorous content of the septage will not exceed the phosphorous demand of the crop.~~

~~AAR=P÷0.0076 if the crop demand is calculated for P_2O_5.~~

~~AAR=P÷0.0033 if the crop demand is calculated for P.~~

~~AAR is the annual application rate in gallons per acre per 365 day period; and P equals the Crop Phosphorous Demand in pounds per acre per 365 day period calculated for the crop or vegetation grown on the land. Application methods shall be conducted in a manner which will disperse the treated septage uniformly over the land application site.~~

(q)~~(r)~~ Permanent records of actual application areas and application rates shall be kept. These records shall be maintained by the site owner, lessee, or the land applicator for a period of five years, and shall be available for inspection upon request by the department or by Department of Environmental Protection~~DEP~~. A copy of the records for the most recently completed calendar quarter shall be submitted to the department no later than the 15th of the month following the end of the quarter. An annual summary of the total septage or sludge applied shall be provided with the annual update to the Agricultural Use Plan. Records shall be kept and shall include~~:~~

~~1. L~~ location of the septage treatment facility from which each load of treated septage is obtained~~.~~

~~2. D~~; date and time the treated septage was obtained from the treatment facility~~.~~

~~3. D~~; dates of septage or sludge land application~~.~~

~~4. W~~; weather conditions when applied~~.~~

~~5. L~~; location of septage or sludge application site~~.~~

~~6. A~~; amounts of septage or sludge applied~~.~~

~~7. S~~; specific area of the site where septage or sludge was applied~~.~~

~~8.~~ ; pH of stabilized septage or sludge being applied~~.~~

~~9. S~~; soil groundwater table when septage was applied~~.~~

~~10. Vegetational~~; vegetation status of application area.

~~(s) Food establishment sludges may be discharged into permitted domestic wastewater treatment facilities pursuant to the requirements of Chapter 62-600, F.A.C.~~

(r) ~~(t)~~ Application of food establishment sludge to the land shall be permitted if such food establishment sludge has been properly treated by lime stabilization, or by any other department approved process which produces similar kills of microorganisms ~~and has been approved by the department State Health Office~~.

(s) ~~(u)~~ Mixing of unstabilized food establishment sludge with stabilized septage prior to land application is not permitted.

(t) ~~(v)~~ Food establishment sludge shall be blended with septage and treated prior to land application. The ratio of food establishment sludge to septage shall be no greater than 1:1.

(7) ~~(8)~~ Stabilization tanks and septage storage tanks may be located at regional stabilization facilities, at sites owned by the disposal service or at sites owned by the owner or lessee of the septage land application site.

(8) ~~(9)~~ Potable water supplies located at the stabilization tank and septage storage tank site shall be provided with back flow prevention devices to prevent potential contamination of water supplies.

(9) ~~(10)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau~~

~~of Environmental Health at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, 386.041, 373.4595 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.52, Amended 3-17-92, 1-3-95, 5-14-96, Formerly 10D-6.052, Amended 3-22-00, 5-24-04, 11-26-06, 6-25-09, 4-28-10, 7-16-2013,_____.

64E-6.0101 Portable Restrooms and Portable or Stationary Holding Tanks.

(1) Persons servicing portable restrooms, portable hand washing facilities and portable or stationary holding tanks shall obtain an annual service permit ~~on Form DH 4013~~ from the ~~county health department~~department office in each ~~the~~ county in which the service company has an office or storage yard. ~~The service company need not be permitted in neighboring counties in which the service company operates but does not have an office or storage yard.~~ Service persons shall carry proof of possession of a current annual operating permit and vehicle inspection for review by department personnel in neighboring counties. Permits issued under this rule are required to be obtained by any person or disposal service who seeks to transport, treat, store, dispose or otherwise ~~authorize the disposal service to~~ handle liquid waste associated with portable restrooms, portable hand washing facilities, restroom trailers, shower trailers and portable or stationary holding tanks containing domestic wastewater produced in the State of Florida from the time it is collected to the time it is finally disposed or is discharged at a facility regulated by the Department of Environmental Protection.

(2) Application for a service permit shall be made to the ~~DOH~~ ~~county health department~~department on Form DH 4012, "Application for Septage Disposal Service Permit, Temporary System Service Permit, Septage Treatment and Disposal Facility, Septic Tank Manufacturing Approval."~~.~~ The following must be provided for the evaluation prior to issuance of a service permit:

(a) Evidence that the applicant possesses adequate equipment such as a tank truck, pumps, off truck stabilization tanks and pH testing equipment where lime stabilization and land application are proposed, as well as other appurtenances and tools necessary to perform the work intended. Equipment may be placed into service only after it has been inspected and approved by the ~~DOH county health~~ department. Tanks used for the stabilization and storage of portable or stationary holding tank waste and portable restroom waste shall be constructed, sized, and operated in accordance with the provisions of subparagraphs 64E-6.010(2)(a)1.-3., F.A.C.

(b) The proposed disposal method and the site to be used for disposing of the waste ~~from portable restrooms or portable or stationary holding tanks~~.

(c) The contractor registration number and certificate of authorization number, if applicable.

(3) When a permit is issued, the number of said permit along with the name of the company, its phone number, and the gallon capacity of the waste storage tank shall be prominently and permanently displayed on the service truck in contrasting colors with 3 inch or larger letters. Use of removable magnetic signs ~~shall not be considered permanent display of vehicle identification information~~is not permitted. All trucks that haul waste across a property line are required to be inspected and labeled.

(4) After waste is removed from a portable or stationary holding tank, the original cap or lid of the tank shall be put back in place, or be replaced with a new cap or lid if the original one is broken. Tank lids shall be completely sealed and secured as per paragraph 64E-6.013(2)(i), F.A.C. The site shall be left in a nuisance-free condition.

(5) Waste ~~from portable or stationary holding tanks or portable restrooms~~ shall be transported ~~to an approved treatment facility~~ in such a manner as to preclude leakage, spillage or the creation of a sanitary nuisance.

(6) All portable restroom and portable or stationary holding tank waste haulers regulated by Chapter 64E-6, F.A.C., are to maintain a collection and hauling log at the main business location ~~which provides the information listed below~~. Records shall be retained for five (5) years. A copy of the log for the most recently completed calendar quarter shall be submitted to the department no later than the 15th of the month following the end of the quarter. The log shall contain

~~(a) D~~date of septage or waste collection;

~~(b) E~~estimated volume, in gallons, of septage or waste transported;

~~(c) L~~location of the approved treatment facility;

~~(d) D~~date and time of discharge to the treatment facility;

~~(e) A~~acknowledgement from treatment facility of receipt of septage or waste; and

~~(f) T~~the location and the installation or placement date of all portable holding tanks placed into service. ~~When a county health department requests to see the list of holding tank installation locations, only those locations within the health department's county of jurisdiction need to be provided.~~

(7) Portable Restrooms or Sinks, Portable or Stationary Holding Tanks, ~~Stationary Holding Tanks,~~and Mobile Restroom ~~Trailers, Mobile~~or Shower Trailers~~, and Portable Sinks~~.

(a) The department shall allow, on a temporary basis, portable restrooms, mobile restrooms, ~~mobile~~or shower trailers, and portable or stationary holding tanks for fairs, carnivals, revivals, field locations, encampments and other locations which lack permanent structures where people congregate for short periods of time, provided the construction, maintenance, and utilization of such systems conform to the general provisions of this chapter. Portable restrooms, ~~portable or stationary~~ holding tanks or other

restroom facilities shall be provided at commercial and residential building sites for the duration of construction any time workers are present, and shall not be bound by the definition of temporary. All required restroom facilities shall remain accessible whenever the intended users are present. Where the department determines that no health hazard will result, portable restrooms, portable holding tanks, stationary holding tanks, mobile restroom trailers, mobile shower trailers, and portable sinks shall be permitted meeting setbacks that are 50% of the setback requirements of subsections 64E-6.005(1) through (3), F.A.C., provided ~~portable or stationary~~ holding tanks shall be placed within secondary containment structures with a containment capacity of no less than 110% of the total waste capacity of the holding tank. For purposes of this rule, a holding tank is any sealed, water tight fixture for receiving and storing domestic wastewater from plumbing fixtures in remote locations or at building sites or special events. For purposes of this rule, a portable restroom is a transportable, ~~self contained~~self-contained static or flush-type toilet ~~constructed to promote a sanitary environment at remote locations, building sites or special events,~~ comprised of at least a waste storage receptacle, a riser and toilet seat and a protective enclosure. Portable restrooms, mobile restrooms, and mobile shower trailers at building sites or at a location for a temporary period of time do not require a permit from the department but must comply with the provisions of this rule. A system construction permit ~~(DH 4016)~~ shall be obtained before placing or installing any stationary holding tank~~s~~.

(b) The department shall approve~~,~~ for permanent use ~~or placement,~~ portable restrooms or stationary holding tanks at continually used locations where restroom facilities are desirable ~~for the promotion of public health~~ and where conventional facilities are neither available nor practical. Examples of such locations would be boat ramps, remote areas of golf courses, office or sales trailers, or other places where people congregate which meet the above criteria. Permanent portable restrooms or stationary holding tanks may not be the primary means of sewage treatment where there are permanent enclosed habitable structures. A~~-~~ construction permit ~~(DH 4016)~~ shall be obtained ~~before placing or installing any portable restroom or stationary holding tank for permanent use~~. The portable restroom service company providing portable restrooms or stationary holding tanks shall be responsible for maintenance of the unit and removal if conventional facilities are made available.

(c) Portable restrooms shall be self-contained, have self closing doors and ~~shall be~~ designed and maintained ~~so that~~to exclude insects ~~are excluded from the waste container~~.

(d) At least one working day prior to the special event, special event organizers shall provide to the department a signed contract, or facsimile copy thereof, with the portable restroom service company specifying the dates the facilities will be on the event site, the number of restroom facilities to be provided, the servicing frequency and the removal date for the units. The minimum ~~Portable restroom service company operators shall use Table PR I to determine the~~ required number of facilities for special events for use in situations where no local or state codes provide a minimum number of toilet facilities shall be based on the following:

1. There shall be no less than two toilets provided for any event attended by more than 10 people.

2. There shall be one toilet for every 350 people or fraction thereof for a one-hour event.

3. For events lasting more than one hour, the number of toilets calculated for a one-hour event shall be multiplied by 1.6 for a two-hour event, 2.0 for a three-hour event, 2.2 for a four-hour event, 2.3 for a five-hour event, 2.4 for a six-hour event and 2.5 for an event lasting from seven to ten hours.

4. For events lasting more than 10 hours, if the toilets are not serviced at least every eight hours, the minimum number of toilets provided shall be the total number of toilets required for a 10-hour event plus the number of toilets required for events lasting for the number of hours over ten that the proposed event is scheduled to last. Thus, an event lasting 24 hours would require the number of toilets for two 10-hour events plus a four-hour event. ~~. Table PR I assumes that the portable restrooms are serviced only once per day. If the restrooms are serviced twice per day, the value from the table shall be divided by two. If they are pumped three or more times per day, the value shall be divided by three. All resulting fractional numbers of restrooms required shall be rounded up to the next higher whole number of restrooms. If permanent restroom facilities are available for use by the attendees,~~

5. T~~t~~he number of portable restrooms may be reduced based on the number of attendees the permanent facilities ~~are designed to~~ accommodate. ~~At least one working day prior to the special event, special event organizers shall provide to the county health department a signed contract, or facsimile copy thereof, with the portable restroom service company specifying the dates the facilities will be on the event site, the number of restroom facilities to be provided, the servicing frequency and the removal date for the units.~~

(e) The ~~Table PR II shall be used to determine the~~ number of required facilities at remote locations and commercial and residential building sites shall be no less than one portable restroom per ten people or fraction thereof per 8-hour shift or fraction thereof.

1. Portable restrooms shall be serviced at least once per week. ~~Table PR II assumes that the portable restrooms are serviced only once per week.~~ If the restrooms are serviced twice per week, the number of required facilities ~~value from the table~~ shall be divided by two. If they are pumped three or more times per week, the number~~value~~ shall be divided by three. All resulting fractional numbers of restrooms required shall be rounded up to the next higher whole number of restrooms.

2. Where a contractor has multiple building sites, the individual sites shall be considered a single site for purpose of determining the number of facilities. Portable restrooms serving multiple individual building sites may be shared between sites provided they are no more than 300 feet from any individual building site served.

(f) Waste receptacles shall be watertight and made of non-absorbent, acid and corrosion resistant, ~~corrosion resistant and~~ easily

cleanable material.

(g) The floors and interior walls shall have a non-absorbent finish and be easily cleanable.

(h) Portable restrooms shall be serviced at least weekly and the inside of the structure housing the storage compartment shall be cleaned on each service visit. Each portable restroom service visit shall include the pumping and removal of the waste contents in the waste water tank and the replacement of a toilet deodorant or disinfectant to prohibit the growth of bacteria in the waste tank. The ~~waste storage compartment shall be charged with a~~ sanitizer-deodorizer solution shall be prepared in accordance with the sanitizer-deodorizer manufacturer's instructions The service visit shall include the use of an antiseptic cleaner on the interior compartment of the portable restroom including the interior walls, the toilet seat and surrounding seat top area, the urinal, and the floor. The service visit shall include the replacement of toilet tissue. The exterior of the portable restroom shall be cleaned periodically.

(i) Each portable restroom shall have listed in a conspicuous place the name and telephone number of the servicing company.

(j) Portable restrooms shall be maintained in a sanitary condition~~. Portable restrooms~~ and at special events shall be serviced at least daily.

~~TABLE PR I~~

~~NUMBER OF PORTABLE RESTROOMS REQUIRED FOR SPECIAL EVENTS~~

~~(ASSUMES SERVICING ONCE PER DAY)~~

~~NUMBER OF PEOPLE PER DAY~~	~~NUMBER OF HOURS FOR EVENT PER DAY~~									
	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10~~
~~250~~	~~2~~	~~2~~	~~2~~	~~2~~	~~2~~	~~3~~	~~3~~	~~3~~	~~3~~	~~3~~
~~500~~	~~2~~	~~3~~	~~4~~	~~4~~	~~4~~	~~4~~	~~4~~	~~4~~	~~4~~	~~4~~
~~1000~~	~~4~~	~~5~~	~~6~~	~~7~~	~~7~~	~~8~~	~~8~~	~~8~~	~~8~~	~~8~~
~~2000~~	~~6~~	~~10~~	~~12~~	~~13~~	~~14~~	~~14~~	~~14~~	~~15~~	~~15~~	~~15~~
~~3000~~	~~9~~	~~14~~	~~17~~	~~19~~	~~20~~	~~21~~	~~21~~	~~21~~	~~21~~	~~22~~
~~4000~~	~~12~~	~~19~~	~~23~~	~~25~~	~~28~~	~~28~~	~~28~~	~~30~~	~~30~~	~~30~~
~~5000~~	~~15~~	~~23~~	~~30~~	~~32~~	~~34~~	~~36~~	~~36~~	~~36~~	~~36~~	~~36~~
~~6000~~	~~17~~	~~28~~	~~34~~	~~38~~	~~40~~	~~42~~	~~42~~	~~42~~	~~44~~	~~44~~
~~7000~~	~~20~~	~~32~~	~~40~~	~~44~~	~~46~~	~~48~~	~~50~~	~~50~~	~~50~~	~~50~~
~~8000~~	~~23~~	~~38~~	~~46~~	~~50~~	~~54~~	~~57~~	~~57~~	~~58~~	~~58~~	~~58~~
~~9000~~	~~26~~	~~42~~	~~52~~	~~56~~	~~60~~	~~62~~	~~62~~	~~62~~	~~64~~	~~64~~
~~10,000~~	~~30~~	~~46~~	~~57~~	~~63~~	~~66~~	~~70~~	~~70~~	~~72~~	~~72~~	~~72~~
~~12,500~~	~~36~~	~~58~~	~~72~~	~~80~~	~~84~~	~~88~~	~~88~~	~~88~~	~~88~~	~~92~~
~~15,000~~	~~44~~	~~70~~	~~84~~	~~96~~	~~100~~	~~105~~	~~105~~	~~110~~	~~110~~	~~110~~
~~17,500~~	~~50~~	~~80~~	~~100~~	~~110~~	~~115~~	~~120~~	~~125~~	~~125~~	~~126~~	~~126~~
~~20,000~~	~~57~~	~~92~~	~~115~~	~~125~~	~~132~~	~~138~~	~~138~~	~~144~~	~~144~~	~~150~~
~~25,000~~	~~72~~	~~115~~	~~144~~	~~154~~	~~168~~	~~175~~	~~175~~	~~176~~	~~176~~	~~184~~
~~30,000~~	~~88~~	~~138~~	~~168~~	~~192~~	~~200~~	~~208~~	~~208~~	~~216~~	~~216~~	~~216~~

~~TABLE PR II~~

~~PORTABLE RESTROOMS REQUIRED FOR REMOTE LOCATIONS AND COMMERCIAL AND RESIDENTIAL BUILDING SITES~~

~~PER SITE OR LOCATION~~

~~(ASSUMES SERVICING ONCE PER WEEK)~~

~~NUMBER OF PEOPLE PER SITE~~ ~~8 HOURS PER DAY – 40 HOURS PER WEEK~~	~~NUMBER OF RESTROOMS REQUIRED~~
~~1-10~~	~~1~~
~~11-20~~	~~2~~
~~21-30~~	~~3~~
~~31-40~~	~~4~~
~~41-50~~	~~5~~
~~over 50~~	~~Add 1 restroom for every 10 additional people or fraction thereof~~

~~TABLE PR III~~
~~HOLDING TANK CAPACITY REQUIRED FOR REMOTE LOCATIONS, AND SPECIAL EVENTS~~
~~PER SITE OR LOCATION~~
~~(ASSUMES SERVICING TWICE PER WEEK)~~

~~NUMBER OF PEOPLE PER SITE~~ ~~8 HOURS PER DAY – 40 HOURS PER WEEK~~	~~MINIMUM HOLDING TANK CAPACITY (IN GALLONS)~~
~~1~~	~~125~~
~~2-3~~	~~250~~
~~4-5~~	~~500~~
~~6-7~~	~~750~~
~~over 7~~	~~Add 125 gallons for each additional person~~

(k) Portable hand washing facilities shall be self-contained and have access to a fresh water compartment and a wastewater compartment. A sign shall be posted near the hand washing apparatus to advise users that the water is not for drinking.

(l) Portable hand washing facilities shall be provided in a proportion of one hand wash facility to every ten portable restrooms required~~, and shall be provided at special events and remote locations where food is served or picnic areas are provided~~. With the exception of locations where food is served, hand sanitizers may be used in lieu of hand washing facilities~~, at the option of the applicant~~.

(m) The number and location of portable restrooms and hand washing facilities for food handlers at special events shall be based on this section or applicable local or state food hygiene requirements, whichever is greater.

(n) An applicant for a stationary holding tank installation permit shall provide to the ~~county health~~ department a copy of a contract with a permitted disposal company that states the holding tank capacity and the scheduled pumping frequency.

(o) All stationary holding tanks shall be constructed in compliance with the construction standards for treatment receptacles in Section ~~Rule~~ 64E-6.013, F.A.C.

(p) Portable holding tanks shall meet the following requirements:

1. The total effective capacity of the portable holding tank shall not exceed 300 gallons;
2. No portion of the portable holding tank shall be more than 12 inches below the surface of the ground;
3. The portable holding tank shall be used for a construction site or temporary use;
4. The portable holding tank shall be rigid, water-tight, impervious;
5. Polyethylene holding tanks shall meet the requirements of International Association of Plumbing and Mechanical Officials (IAPMO) PS 1-93, Paragraph 5.4 “Polyethylene”, herein incorporated by reference. Where the requirements of IAPMO PS 1-93 Paragraph 5.4 “Polyethylene” conflict with the standards in this section, the standards in this section shall apply;
6. Multiple portable holding tanks, if used, shall be connected in such a manner that leakage from one tank will not result in the loss of any liquid from any other tanks;
7. Each portable holding tank shall ~~have listed in a conspicuous place~~be labeled with the name and telephone number of the servicing company; and
8. The portable holding tank shall be removed from the site when no longer needed;
9. The portable holding tank servicing company shall maintain a list of the location and the installation or placement date of all portable holding tanks placed into service. The list shall be made available to the d~~D~~epartment upon request.

(q) Portable or stationary holding tanks shall be serviced at least weekly to prevent insanitary conditions.

(r) The ~~Table PR III shall be used to determine the~~ required total capacity of portable or stationary holding tanks serving a remote location, construction site, or special event shall be based on 250 gallons per person per 8-hour shift provided the holding tank is emptied once per week. The capacity for holding tanks serving other events shall be based on the estimated daily sewage flow from Table I in 64E-6.008, F.A.C., multiplied by the number of days per week that the establishment will be in use. The volume of the holding tank ~~values from table PR III~~ shall be adjusted proportionately to the number of times per week the holding tank will be emptied.

(s) Application for a service permit shall be made to the ~~county health~~ department on Form DH 4012, “Application for Septage Disposal Service Permit, Temporary System Service Permit, Septage Treatment and Disposal Facility, Septic Tank Manufacturing Approval”. The following must be provided for the evaluation prior to issuance of a service permit:

1. The permanent location and address of the business where operations will originate and where equipment is to be stored~~ when it is not in use~~.
2. The proposed disposal method and the site to be used for disposing of the waste.

(t) The following equipment, maintenance and service requirements shall be complied with:

1. Vehicles used for servicing portable restrooms shall be provided with two separate tanks or a dual compartment tank, ~~.~~ ~~One~~one compartment or tank ~~shall be used~~ for receiving and removing wastes and the other ~~shall be used~~ for clean water storage and shall have adequate capacity to allow proper cleaning of each serviced unit. The waste tank ~~on all vehicles servicing portable~~

~~restrooms or portable or stationary holding tanks~~ shall be equipped with a suction hose having a cut-off valve not more than 36 inches from the intake end.

2. Standby portable restroom and holding tank service equipment shall be available~~ for use during breakdowns or emergencies~~. If equipment from another approved service is to be used~~ for stand-by purposes~~, a written agreement between the services must be provided to the ~~county health~~ department.

3. The waste storage compartment ~~of a tank truck~~ shall be maintained ~~as necessary~~ to prevent the creation of sanitary nuisance conditions.

(u) Portable or stationary holding tank, portable restroom, and portable hand sink wastes shall be disposed of into a septage treatment and disposal facility approved by the department or into a treatment facility approved or permitted for such disposal by the Department of Environmental Protection. These wastes shall be land applied under provisions of this chapter~~subsection 64E-6.010(7), F.A.C.,~~ provided a Department of Environmental Protection~~DEP~~ -approved treatment facility is not available. Companies which service portable or stationary holding tanks or portable restrooms which use quaternary ammonium sanitizing and deodorizing compounds are prohibited from having the wastes treated or disposed of at lime stabilization facilities.

(v) When disposed of in a department approved lime stabilization facility, the portable restroom, portable hand washing and portable or stationary holding tank wastes shall be blended with domestic septage at a rate of no less than 3 parts septage to 1 part holding tank, portable restroom or portable hand washing facility waste prior to lime stabilization. Treatment and disposal shall comply with the provisions of subsection~~paragraphs~~ 64E-6.010(6)~~(7)(a)-(u)~~, F.A.C.

(w) Contents of portable restrooms and portable or stationary holding tanks shall be removed in their entirety when pumped.

(x) Persons who own portable restrooms but are not a permitted service company shall maintain a service contract with a permitted service company~~ for every portable restroom in use~~. The name and telephone number of the owner shall be displayed on ~~every~~ each portable restroom~~ in use~~.

(y) Whenever temporary housing is provided to people who are homeless as a result of displacement from their homes either by immigration, natural disaster, or financial hardship, a minimum of one toilet, one hand washing sink, and one shower for each 20 people or fraction thereof shall be provided at the housing facility.

(8) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.006(6), (14), (15), 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.006(6), 381.0065, 386.041 FS. History–New 5-24-04, Amended 11-26-06, 6-25-09, 4-28-10, _____.

64E-6.011 Abandonment of Systems.

(1) Whenever the use of a~~n onsite sewage treatment and disposal~~ system is discontinued following connection to a sanitary sewer or discontinuing the use of a septic tank and replacement with another septic tank, the system shall be abandoned within 90 days and any further use of the system for any purpose shall be prohibited. However, if the Department of Environmental Protection or its designee approves ~~the use of the retention tank where~~when the tank is to become ~~an integral~~ part of a sanitary sewer ~~system~~ or stormwater management system, the ~~septic~~ tank need not be abandoned.

(2) The following actions shall be taken, in the order listed, to abandon a~~n onsite sewage treatment and disposal~~ system:

(a) Property owner or agent shall apply for a permit from the department to abandon the existing onsite sewage system and submit the required fee. Upon receiving a permit:

(b) The tank shall be pumped out by a permitted septage disposal company who shall provide a receipt or a written certification to the department. Alternatively, if the tank is empty and dry at the commencement of the abandonment, a written statement to that effect by the septage disposal company or the contractor performing the abandonment shall be provided to the department.

(c) The bottom of the tank shall be opened or ruptured, or the entire tank collapsed~~ so as to prevent the tank from retaining water~~, and

(d) The tank shall be filled with clean sand or other suitable material, and completely covered with soil.

(3)~~(e)~~ An inspection of the system abandonment shall be conducted by the department or by the local utility or plumbing authority performing the system abandonment at a point in the abandonment process specified in the permit.

(4)~~(3)~~ The permitting provisions of paragraph 64E-6.011(2)(a), F.A.C., are not required if a local utility or local plumbing authority performs a system abandonment program which requires the completion of those steps listed in paragraphs 64E-6.011(2)(b), (c), (d), and (3)~~(e)~~, F.A.C. If the system abandonment is performed by a local utility or local plumbing authority, the local utility or local plumbing authority performing the abandonment program shall maintain a log of all inspections performed and shall forward the log to the department~~County Health Department~~ on a monthly basis.

(5) ~~(4)~~ A septic tank serving a single family residence may, at the owner's discretion, be converted into a cistern pursuant to~~ the following procedures~~:

(a) The applicant shall obtain a system abandonment permit from the ~~county health~~ department.

(b) The permit application shall specify the intended use of the abandoned septic tank.

(c) The activities related to abandoning the ~~onsite sewage treatment and disposal~~ system shall not create a sanitary nuisance.

(d) The septic tank shall be disconnected from the drainfield and from the building sewer pipe.

(e) All work to disconnect, clean and sanitize the septic tank shall be conducted by a registered or master septic tank contractor or a state-licensed plumber or by the owner of the owner-occupied single family residence being served ~~by the septic tank~~.

(f) All septage, wash water, and other liquids removed from the tank shall be removed and handled as septage (Section ~~Rule~~ 64E-6.010, F.A.C.) by a DOH-licensed septage disposal service ~~and disposed of at a DEP-regulated wastewater treatment facility~~.

(g) The ~~health~~ department shall inspect the tank once it is disconnected, emptied, cleaned, disinfected and filled with water. The inspection shall determine whether all of the following conditions have been met:

1. The tank has been disconnected from the drainfield and the building sewer.
2. The tank is full of water within 12 inches of the top of the tank.
3. The clarity of the water is such that a Secchi disk is visible at the bottom of the tank.
4. The pH of the water in the tank is between 6.0 and 8.0.
5. The free chlorine residual of the water in the tank is ≤ 1.0 ppm.
6. The total coliform count is ≤ 1000 cfu per 100 ml.
7. The fecal coliform count is ≤ 200 cfu per 100 ml.
8. No sanitary nuisance condition exists on the property related to the abandonment activities.

(h) ~~One inspection is included in the abandonment permit fee.~~ The applicant shall pay a reinspection fee for any additional inspection visits necessary until ~~all of the criteria in subparagraphs 64E-6.011(4)(g)1. through 8. F.A.C., are met and~~ final approval ~~of the abandonment~~ is granted ~~by the county health department~~.

(i) The applicant shall be responsible for all required laboratory fees. All sampling shall be conducted by ~~county health~~ department staff ~~during the final inspection~~.

(j) The septic tank shall be converted and inspected within 90 days after connection ~~of the building plumbing~~ to the ~~sanitary~~ sewer.

(k) ~~The tank shall not be connected to any irrigation components nor shall the water used for irrigation purposes until final approval of the abandonment has been granted by the county health department.~~

~~(l)~~ Upon final approval of the abandonment, use of the tank or the drainfield for sewage storage, treatment or disposal is prohibited and constitutes a nuisance injurious to health as defined by Section 386.041, F.S. Water

~~(m) Upon final approval of the abandonment, the water~~ collected in the tank shall be utilized for non-potable, irrigation purposes only.

Rulemaking Authority 381.0065 FS. Law Implemented 381.0065, 381.0066, 386.002, 386.003, 386.041 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.53, Amended 3-17-92, 1-3-95, Formerly 10D-6.053, Amended 6-18-03, 6-25-09, 7-16-13,____.

64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment Units.

When aerobic treatment units are used for treating domestic and commercial -sewage waste, each unit shall be installed, operated and maintained in conformance with the following provisions:

(1) Aerobic systems designed to treat up to 1500 gallons of sewage waste per day shall be listed by a third party certifying program approved by the Bureau of Environmental Health~~State Health Office~~. Aerobic treatment units shall be in compliance with standards for Class I systems as defined by ANSI/NSF International Standard Number 40, revised July 2000, herein incorporated by reference. An approved third party certifying program shall comply with the following provisions in order for units which it has certified to be approved for use in Florida:

(a) Be accredited by the American National Standards Institute.

(b) Have established procedures which send representatives to distributors in Florida on a recurring basis to conduct evaluations to assure that distributors of certified aerobic units are providing proper maintenance, have sufficient replacement parts available, and are maintaining service records.

(c) Notify the Bureau of Environmental Health~~department State Health Office~~ of the results of monitoring visits to manufacturers and distributors within 60 days of the conclusion of the monitoring. Approved distributors must be reported by the manufacturer to the certifying agency.

(d) Submit completion reports on testing for review by the Bureau of Environmental Health~~State Health Office~~.

(e) Provide a registered certification mark or seal which must be affixed in a conspicuous location on the units it has certified. This mark or seal will alert persons evaluating or maintaining the unit that the unit is in compliance with ANSI/NSF Standard 40.

(2) The following additional requirements shall ~~also~~ apply to ~~the construction, design, and operation of~~ aerobic treatment units treating 1500 gallons per day or less:

(a) An appropriate mechanism shall be provided to make access ports vandal, tamper, and child resistant. Acceptable protection of openings shall consist of one or more of the following methods as specified by the tank manufacturer installed in a manner that requires more than 65 pounds of force to produce an opening allowing the passage of a 4-inch sphere:

1. A padlock.
2. An "O" ring with twist lock cover requiring special tools for removal.
3. Covers weighing 65 pounds or more, net weight.
4. Screws or other fasteners or devices that require a specific tool to remove~~A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and tank~~ for fiberglass, metal, or plastic lids.

(b) A minimum of a 4 inch diameter sampling access port located between the tank outlet and the drainfield.

(c) A visual and audio warning device shall be installed in a conspicuous location so that activation of such warning device will alert property occupants of aerobic unit malfunction or failure. ~~All warning devices shall be wired separately from the aerobic unit so that disconnecting the aerobic unit from electricity will activate the warning device.~~ If installed outside, the alarm shall be waterproof.

(d) Each unit shall be designed or equipped so that regardless of unusual patterns ~~or frequencies~~ of sewage flow into the system effluent discharged to the drainfield will be in compliance with Class I effluent quality standards as defined by ANSI/NSF Standard 40.

(e) Minimum required treatment capacity~~ies~~ for aerobic treatment units ~~systems~~ serving any structure, building or group of buildings shall be no less than the ~~based on~~ estimated daily sewage flows for commercial establishments and no less than the estimated daily sewage flow plus 200 gallons per day for residential establishments. ~~as determined from Table IV.~~

~~TABLE IV AEROBIC SYSTEMS PLANT SIZING RESIDENTIAL:~~

~~Number of Bedrooms~~	~~Building Area in square feet~~	~~Minimum Required Treatment Capacity gallons per day~~
~~1 or 2~~	~~Up to 1200~~	~~400~~
~~3~~	~~1201-2250~~	~~500~~
~~4~~	~~2251-3300~~	~~600~~

~~For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by 100 gallons.~~

~~COMMERCIAL:~~

~~Estimated Sewage Flow in~~r ~~gallons per day~~	~~Minimum Required Treatment Capacity in gallons per day~~
~~0-400~~	~~400~~
~~401-500~~	~~500~~
~~501-600~~	~~600~~
~~601-700~~	~~700~~
~~701-750~~	~~750~~
~~751-800~~	~~800~~
~~801-1000~~	~~1000~~
~~1001-1200~~	~~1200~~
~~1201-1500~~	~~1500~~

~~Footnotes to Table IV~~

~~1. Where the number of bedrooms and the corresponding building area in Table IV do not coincide, the criteria which results in the greatest required treatment capacity shall apply.~~

(f) ~~2.~~ ~~These figures assume that the aerobic system will be treating domestic strength sewage with $CBOD_5$ and suspended solids values typically not exceeding 300 and 200 milligrams per liter, respectively.~~ For wastewaters with ~~higher~~ $CBOD_5$, higher than 300 mg/L and suspended solids higher than 200 mg/L, ~~values,~~ or for facilities that exhibit short-term hydraulic surge conditions, additional treatment or pre-treatment facilities shall be required when specified by design engineers, plant manufacturers, or by the ~~DOH county health~~ department.

(g) ~~(f)~~ There shall be no bypass capability designed into the system which will allow waste to be discharged to the drainfield without undergoing all the treatment processes necessary to achieve the desired effluent quality. Bypassing, removing, or excluding any component or components of a system after the system has received final installation approval is prohibited.

(h) ~~(g)~~ Effluent from an aerobic treatment unit shall be disposed of on the owner's property in conformance with other requirements of this chapter ~~except as provided for in paragraph 64E-6.012(2)(f), F.A.C~~. Effluent quality which is found to not meet Class I standards as specified by ANSI/NSF Standard 40 shall be reported to the maintenance entity for correction within 10 working days.

(i) ~~(h)~~ ~~Units meeting Class I Standards as specified by ANSI/NSF Standard 40 shall receive consideration, via the variance review process, for use where daily domestic sewage flow limitations of Rule 64E-6.005, F.A.C., are exceeded or where a high level~~

~~of sewage treatment is warranted. Also, for~~ For Class I units where slightly limited soil textures exist on a site, the required drainfield size may be reduced by 25 percent from the requirements in subsection 64E-6.008(5) or paragraph 64E-6.009(3)(d), F.A.C.

(j) ~~(i)~~ A manufacturer, distributor or seller of aerobic treatment units shall furnish, to the Bureau of Environmental Health ~~State Health Office~~, in Microsoft Word document format, Portable Document Format (PDF) or other electronic format accepted by the d~~D~~epartment, a copy of the completion reports and engineering drawings showing the design and construction details of all models of approved Class I units to be constructed or installed under the provisions of this rule. ~~The State Health Office will forward these reports and drawings to each DOH county health department.~~ No aerobic unit shall receive final installation approval until the unit is found to be in compliance with all provisions of this rule, including compliance with design and construction details shown on the engineering plans filed with the department~~DOH county health departments and the State Health Office~~.

(k) ~~(j)~~ Manufacturers shall provide a listing of approved maintenance entities they have authorized to provide service in the state and shall demonstrate that the entire state is covered by at least one maintenance entity. A system using a manufacturer's unit shall not be approved in the state if the manufacturer cannot demonstrate that there are maintenance entities to service it.

(l) ~~(k)~~ A distributor of a specific manufacturer's brand or model of an approved aerobic treatment unit shall provide to the ~~DOH county health department and State Health Office~~ Bureau of Environmental Health written assurance that spare mechanical and structural parts are available, upon request, for purchase, to all other approved maintenance entities.

(m) ~~(l)~~ Where local building occupancy codes require ~~that~~ the ~~DOH~~ ~~county health~~ department office in the county approve the means of sewage disposal prior to building occupancy or change of occupancy, and where an aerobic treatment unit is utilized, a current, unexpired aerobic treatment unit maintenance contract between the property owner or lessee and an approved maintenance entity shall be one of the required conditions of system approval.

(n) ~~(m)~~ A copy of the signed maintenance agreement between the property owner or property lessee and an approved maintenance entity shall be provided to the ~~DOH~~ ~~county health~~ department by the maintenance entity. The maintenance agreement shall:

1. Initially ~~be~~ for a period of at least 2 years and ~~subsequent maintenance agreement~~ renewals shall be for at least 1 year periods for the system life ~~of the system~~.

2. Provide that a maintenance entity which desires to discontinue the provision of maintenance services, notify in writing, the property owners and lessees and the ~~DOH~~ ~~county health~~ department at least 30 days prior to discontinuance of service.

3. Provide that, if a private maintenance entity discontinues business, property owners who have previously contracted with the discontinued maintenance service shall, within 30 days of the service termination date, contract with an approved maintenance service and provide the ~~DOH~~ ~~county health~~ department a copy of the newly signed maintenance agreement.

4. Provide that each aerobic unit is inspected by an approved maintenance entity at least two times each year. Aerobic treatment units serving commercial establishments shall be inspected four times per year. The maintenance entity shall furnish to the ~~DOH~~ ~~county health~~ department a listing of all aerobic units inspected or serviced during the respective reporting period. As a minimum, reports shall indicate the system owner or building lessee, the street address of the system, the date of system inspection or service and a statement as to the maintenance or service performed. The maintenance entity shall also include a list of the owners who have refused to renew their maintenance agreement.

(o) ~~(n)~~ The ~~DOH county health~~ department shall, at least annually, inspect the maintenance and performance of aerobic treatment units~~. The DOH county health department shall also inspect~~ and each authorized maintenance entity, including review of their service records and maintenance agreements.

(3) An aerobic treatment unit used for treating domestic or commercial sewage flows in excess of 1500 gallons per day shall be designed and certified by an engineer ~~licensed in the State of Florida~~. The design shall include an assessment of wastewater strength. The certification shall state that the unit is capable of consistently meeting~~, at minimum,~~ secondary treatment standards established by Department of Environmental Protection~~DEP~~ in Rule 62-600.420, F.A.C. In addition, the following requirements shall ~~also~~ be met:

(a) The drainfield system shall meet minimum setback and elevation requirements specified by this chapter~~rule~~.

(b) The owner or lessee of a system shall comply with the applicable safety, maintenance and operational requirements of subsection 64E-6.012(2), F.A.C. Unless the system owner or lessee is a state licensed wastewater treatment plant operator, the owner or lessee shall be required to have a system maintenance agreement with a permitted aerobic unit maintenance entity which has at least a Class D state certified operator who has been certified under the provisions of Chapter 61E12-41, F.A.C.

(c) A permitted aerobic unit maintenance entity with a minimum Class D certified operator, or a system owner or lessee holding at minimum a Class D certification under the provisions of Chapter 61E12-41, F.A.C., shall collect effluent quality samples and submit the sample analysis reports to the ~~DOH county health~~ department. Effluent quality samples for $CBOD_5$, suspended solids and fecal coliform shall be collected at least semi-annually and ~~such samples shall be~~ analyzed by a department-approved laboratory.

(d) Written sample analysis reports shall be submitted to the ~~DOH county health~~ department by no later than the 15th of the next month following the semi-annual sampling period. However, if the sample analysis for $CBOD_5$ or suspended solids exceeds secondary treatment standards by more than 100 percent, the maintenance entity or certified operator shall notify the ~~DOH~~ ~~county~~

~~health~~ department by telephone or in person within 24 hours after receipt of sample analysis results.

~~(c) The DOH county health department shall monitor the maintenance and performance of aerobic treatments units as required by paragraph 64E-6.012(2)(m), F.A.C.~~

(4) No aerobic treatment unit shall be serviced or repaired by a person or entity engaged in an aerobic treatment unit maintenance service until the service entity has obtained an annual written permit ~~issued on Form DH 4013~~ from the ~~DOH county health~~ department in the county where the service company is located. Each service entity shall employ at least one plumbing contractor licensed under Section 489.105(3)(m), F.S., septic tank contractor registered under Part III of Chapter 489, F.S., or a state-licensed wastewater treatment plant operator, who is responsible for maintenance and repair of all systems under contract. Application for a Maintenance Service Permit, Form DH 4066, ##/##~~02/10~~, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, shall be made to the ~~DOH county health department~~department with the required fee and shall contain the following information:

(a) Evidence that the maintenance entity possesses a manufacturer's maintenance and operations manual and has received training from the manufacturer in proper installation and service of the unit and has received written approval from the manufacturer to perform service on their units. The manual shall contain detailed instructions on proper operation and maintenance procedures, a replacement parts list for all models being installed and maintained, a statement giving the capabilities of each unit, instructions on how to detect a malfunctioning unit and what to expect from a properly functioning unit.

(b) A signed statement from the applicant attesting that the applicant has adequate staff, possesses proper equipment and has sufficient spare structural and mechanical parts and components to perform routine system monitoring and servicing and is able to make a service response within 36 hours after notification of the need for emergency repairs.

~~(c) Payment of $25.00 to the DOH county health department per annum for the aerobic treatment unit maintenance service permit.~~

~~(5) Emergency service necessary to prevent or eliminate an imminent sanitary nuisance condition caused by failure of a mechanical component of any aerobic treatment unit shall be reported by the approved aerobic unit maintenance entity, in writing, to the DOH county health department no later than 5 working days after the date of the emergency service.~~

(5) ~~(6)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part I 386 FS. History–New 3-17-92, Amended 1-3-95, Formerly 10D-6.0541, Amended 11-19-97, 4-21-02, 6-18-03, 5-24-04, 11-26-06, 6-25-09, 4-28-10,____.

64E-6.013 Construction Materials and Standards for Treatment Receptacles.

(1) Onsite wastewater treatment receptacle design. The following requirements shall apply to all onsite wastewater treatment receptacles manufactured for use in Florida unless specifically exempted by other provisions of these rules:

(a) Onsite wastewater treatment receptacles include: septic tanks, graywater tanks, laundry tanks, grease interceptors, pump tanks, aerobic treatment unit tanks, tanks containing treatment media and stationary holding tanks~~ not described in paragraph 64E-6.0101(7)(p), F.A.C~~. Treatment receptacles shall be constructed of concrete, fiberglass or polyethylene.

(b) Design and testing of concrete treatment receptacles:

1. Structural design of receptacles shall be by calculation or by performance.

2. Structural design shall be verified by actual vacuum load or hydrostatic test in accordance with the department's policy for Test Requirements for Structural Proofing, August 16, 2005, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####. The vacuum test shall be followed by a water tightness test.

3. Treatment receptacles shall be watertight as defined in ASTM C1227 98, Standard Specification for Precast Concrete Septic Tanks, paragraph 9.2., herein incorporated by reference. ASTM C1227 98, paragraph 9.2.2, herein incorporated by reference, shall be modified to read as follows: Water tightness testing – Fill the receptacle with water to the invert of the outlet and let stand for 24 hours. Refill the receptacle. The receptacle is approved as water tight if the water level is held for one hour.

4. Manufacturers may use calculations provided by the design engineer in lieu of proof testing for receptacles using reinforcement bars for structural strength and having a wall thickness of 5 inches or greater. Design by calculation shall be completed using the Strength Design Method (ultimate strength theory) or the Alternate Design Method (working stress theory) outlined in the American Concrete Institute (ACI) publication ACI 318-99, Building Code Requirements for Structural Concrete (318-99) and Commentary (318R-99), herein incorporated by reference. The Strength Design Method is outlined in Chapter 9 and the Alternate Design Method is in Appendix A. Equation (9-1), herein incorporated by reference, shall be modified to read as follows: U=1.4L + 1.4D. When the Strength Design Method is used to verify satisfaction of the required strength a strength reduction factor of 0.90 shall be applied per ACI 318-99 paragraph 9.3.2.1.

(c) Design and testing of fiberglass and polyethylene treatment receptacles:

1. Vacuum testing shall be conducted in accordance with the department's policy for Test Requirements for Structural Proofing. The vacuum test shall be followed by a water-tightness test.

2. Vacuum testing shall demonstrate a distortion of volume of no more than 1% at a safety factor of 1.0 and 2% at a safety value of 1.4 followed by passing a water-tightness test to be considered satisfactory. To determine the vacuum at a 1.0 safety factor, divide the required total vacuum values by 1.4. There shall be no distortion of the access hatch perimeters at the full vacuum load and the access hatch must be able to be removed and reinstalled at the conclusion of the test.

3. Water-tightness testing shall be performed as follows: Fill the receptacle with water to the invert of the outlet. The receptacle is approved as water tight if the water level is held for one hour.

4. Each manufacturer of fiberglass or polyethylene receptacles approved prior to November 26, 2006, shall apply for re-approval of each receptacle not later than [INSERT SPECIFIC DATE~~ THAT IS 120 days after the effective date of this rule~~]. Re-approval requests shall be submitted to the department in accordance with the requirements for receptacle design approval in subsection 64E-6.013(3), F.A.C. Receptacles shall be proof tested to show compliance with current standards. If the data from previous proof testing shows compliance with the current standards, those data may be used in lieu of additional proof testing. Receptacles not re-approved shall not be installed after [INSERT SPECIFIC DATE~~ THAT IS more than 6 months following the effective date of this rule~~].

(d) Testing shall be conducted in the presence of an engineer ~~licensed in the state of Florida~~, or by an employee of the department that has been authorized by the ~~State Health Office~~Bureau of Environmental Health to perform or witness receptacle testing. Test results shall be certified by the witnessing engineer or department employee.

(e) Treatment receptacles shall have a one-piece lid or a lid with a maximum of three sections, unless the receptacle cover is monolithically integrated into the receptacle design. Receptacle lids for non-traffic residential installations shall be either:

1. D~~d~~esigned for a dead load of 12 inch earth cover with a dry soil density of 100 pounds per cubic foot or a live load of two concentrated loads of 1750 pounds at a 60 inch spacing or a concentrated load of 1750 pounds located at the center of the lid, whichever provides the greater shear and moment stresses to the lid. The required strength shall be per ACI 318-99, equation (9-1) as follows: U=1.4D + 1.7L. Structural integrity proof test or calculations for the 12 inch overburden earth load and the 1750 pound concentrated loading shall be provided. Designs sealed by an engineer ~~licensed in the state of Florida~~ and approved by the department shall be acceptable for design proof of receptacle lid designs.

2. Built according to the following standards: Receptacles with capacities of 1200 gallons or less shall have lids of concrete with a minimum thickness of 3 inches when precast and 4 inches when poured in place. When capacities exceed 1200 gallons, the lids shall be precast with a minimum thickness of 4 inches. Lids shall be reinforced with 3/8 inch steel reinforcement rods on 6-inch centers in each direction.

(f) Receptacles and receptacle lids for traffic installations or where a receptacle will be placed with greater than 48inches of soil over the top of the receptacle shall be designed, signed and sealed by an engineer and approved by the department~~licensed in the state of Florida~~. Whenever vehicular traffic is anticipated to cross over the receptacle, traffic lids shall be installed with manhole covers to finished grade. Traffic receptacles and lids shall be designed in accordance with ASTM C 890-91 (Reapproved 1999), Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures, herein incorporated by reference, for the appropriate loading. ~~Application of paragraph 5.2.4 of ASTM C 890-91 (Reapproved 1999), shall be at the discretion of the design engineer.~~

(2) Onsite wastewater treatment receptacle design requirements. The following details shall be incorporated into the design:

(a) Septic tanks and graywater tanks shall have multiple compartments, or single compartment tanks shall be placed in series to achieve the required effective capacity. Grease interceptors, laundry tanks, pump tanks, aerobic treatment unit tanks and retention tanks shall be either multi-compartment or single compartment tanks. All receptacle stiffening members such as ribs shall be a homogeneous integral part of the structure. When slide-in type compartment walls are proposed, the structural testing for such tanks shall be conducted without the slide-in wall in place. There shall be a maximum of two horizontal seams between the topside of the bottom of the receptacle and the underside of the lid. There shall be no vertical seams. Except as noted in this paragraph, the first chamber of a dual compartment septic or graywater tank or the first tank of single compartment tanks in series shall have a minimum effective capacity of at least 2/3 of the total required effective capacity. The second single compartment tank or chamber of a multi-compartment tank shall have a minimum effective capacity of at least 1/5 of the total required effective capacity. The combined effective capacities of the first and second chambers or the first and second single-compartment tanks shall equal or exceed the total required effective capacity. Systems with daily flows in excess of 3500 gallons per day may utilize two tanks to achieve the total required effective capacity, provided that the first tank shall provide no less than 1/2 of the total required effective capacity. The second tank shall provide no less than 1/5 of the total required effective capacity and the total effective capacities of the two tanks combined shall be no less than the total required effective capacity.

(b) The liquid depth of compartments for septic tanks and grease interceptors shall be at least 40 inches. The liquid depth of compartments for graywater tanks, laundry interceptors and pump tanks shall be at least 30 inches. Liquid depths greater than 84 inches shall not be considered in determining the effective capacity.

(c) A minimum free board or airspace of 15 percent by volume of the effective capacity of all blackwater, graywater and

laundry tanks shall be provided. The volume of risers above the liquid level line cast as an integral part of the tank may be included ~~as free board or airspace~~.

(d) The inlet invert of septic tanks, graywater tanks and laundry tanks shall enter the tank 1 to 3 inches above the liquid level of the tank. A vented inlet tee, vented sweep or a baffle may be provided at the discretion of the manufacturer to divert the incoming sewage. The inlet device, if utilized, shall have a minimum diameter of 4 inches and shall not extend below the liquid surface more than 33 percent of the liquid depth.

(e) In septic tanks, graywater tanks and laundry tanks, a minimum 4 inch diameter vented outlet tee, sweep or baffle shall extend below the liquid level of the tank so that the invert level of the outlet device is a distance not less than 30 percent nor greater than 40 percent of the liquid depth. The outlet device shall extend at least 4 inches above the liquid level. The submerged intake orifice of any outlet fixture not incorporating an approved outlet filter device shall be provided with an approved solids deflection device to reduce, by a minimum of 90 percent, the intake area of the outlet fixture exposed to the vertical rise and fall of solid particles within the tank. Turning the intake orifice ~~of an outlet tee or sweep~~ 90 degrees from the vertical will satisfy ~~the solids deflection device~~this requirement.

(f) The inlet and outlet devices shall be located at opposite ends of the receptacle so as to be separated by the maximum distance practical and shall be in accordance with ASTM C 923-98, Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals, herein incorporated by reference. The head pressure noted in paragraph 7.1.1 of ASTM C 923-98 shall be reduced from 23 feet to 10 feet. Inlets and outlets on the sides of any treatment receptacle must be located no more than 12 inches from the end of the receptacle.

(g) Compartment walls shall be designed to withstand the stresses induced by pumping out either of the compartments. There shall be no relief holes. ~~However, the c~~Compartment walls may be inserted in grooves without grouting, fiberglassing or otherwise permanently attaching in place, unless such attachment is required for proving structural integrity~~ of either the receptacle or compartment wall~~.

(h) Sewage flow between the first and second chamber of a multi-chamber receptacle shall interconnect utilizing either a minimum 4 inch diameter hole or equivalent size slot in the wall or with a minimum 4 inch diameter vented and inverted U-fitting or a tee. Receptacles in series shall interconnect utilizing a minimum 4 inch diameter vented, inverted U-fitting or a tee. The outlet device or slot shall extend below the liquid level of the receptacle so that the invert level is located not less than 30 percent nor greater than 40 percent of the liquid depth.

(i) Joints of receptacles, including mid-seams, risers, and lids shall be sealed using a bonding compound that meets ASTM C 990-96, Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections using Preformed Flexible Joint Sealants, herein incorporated by reference.

(j) The ~~State Health Office~~Bureau of Environmental Health's designated approval number for the receptacle, and the effective capacity of the receptacle in gallons shall be cast or stamped into the wall or permanently stenciled or decaled onto the wall at the inlet end, to begin within 6 inches of the top of the wall. All identifying marks shall be inscribed or affixed at the point of manufacture only. All information supplied in the legend shall be provided with a minimum of two inch high lettering.

(k) Each compartment shall have access using manholes, with each manhole having a minimum area of 225 square inches. Manholes shall be located so as to allow access to the inlet and outlet devices. A minimum 6-inch diameter opening shall be placed at the inlet and outlet ends of the lid if a minimum 225 square inch access port is placed in the middle of the lid. The access manhole over the inlet and outlet shall extend to within 8 inches of finished grade. If a riser is used, and if the riser access lid opens directly to the receptacle interior, joints around the riser and receptacle shall be sealed and made watertight as specified in paragraph 64E-6.013(2)(i), F.A.C., to prohibit intrusion of ground water into the receptacle. For multi-compartment receptacles or receptacles in series, manholes shall extend to within 8 inches of finished grade over the first compartment inlet and the last compartment outlet. An appropriate mechanism shall be provided to make access manholes vandal, tamper, and child resistant. Acceptable protection of openings shall consist of one or more of the following methods as specified by the manufacturer and shall be installed in a manner that requires more than 58 pounds of force to produce an opening sufficient to allow the passage of a 4-inch diameter sphere:

1. A padlock.
2. A twist lock cover requiring special tools for removal.
3. Covers weighing 58 pounds or more, net weight.
4. For fiberglass, metal or plastic lids, screws or other fasteners or devices that require a specific tool to remove~~A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and receptacle for fiberglass, metal or plastic lids.~~

(l) Receptacle designs that specify a monolithic compartment wall from the bottom of the receptacle up to the invert of the pass-through orifice and a drop-in section for the upper portion of the wall shall be approved for both single and multi-compartment use.

~~(m) Treatment receptacles shall have a one-piece lid or a lid with a maximum of three sections. All lids shall be designed by Licensed Engineers in accordance with paragraphs 64E-6.013(1)(e) and (f), F.A.C., and approved by the Department.~~

(3) Onsite wastewater treatment receptacle design approval. All onsite wastewater treatment receptacles distributed in the state shall be approved for use by the department prior to being offered for sale or installed. Such approval shall not be obtained until the

manufacturer of a specific receptacle model has submitted the following:

(a) Detailed design drawings of the receptacle and lid showing:

1. Design calculations or proof testing results in accordance with subsection 64E-6.013(1), F.A.C.

2. Dimensions, including location and size of all inlets, outlets, access hatches, manholes and pass through orifices.

3. Effective capacity in gallons.

4. Freeboard or air space in gallons.

5. Production materials. For concrete receptacles include 28 day compressive strength, in pounds per square inch (psi).

6. Reinforcing materials. For concrete receptacles, include size and location of all rebar, if any; and fiber reinforcing material size and quantity (in pounds) per cubic yard, if any.

(b) For concrete receptacles-see subsection 64E-6.013(4)~~(5)~~, F.A.C.

(c) For fiberglass and polyethylene receptacles-see subsection 64E-6.013(5)~~(6)~~, F.A.C.

(d) Certification that the receptacle has undergone flow testing to confirm the effective capacity, airspace, and water tightness. Flow testing shall be conducted by an engineer ~~licensed in the state of Florida~~, a third-party certified testing laboratory or a d~~D~~epartment employee. Test results shall be certified by the engineer, laboratory or state employee.

(e) Designs shall be submitted to the ~~State of Florida D~~department~~'s of Health, Bureau of Onsite Sewage Programs~~.

(f) There shall be two receptacle design classifications. The following criteria shall be used for each category:

1. Category 3 receptacles shall be designed for saturated soil with the saturation at finished grade. The design shall provide for a maximum of 18 inches of saturated soil cover over the top of the receptacle. Soil density shall be 100 pounds per cubic foot. The lateral earth pressure coefficient (K) shall be no less than 0.33.

2. Category 4 receptacles shall be designed for saturated soil with the saturation at finished grade. The design shall provide for a maximum of 48 inches of saturated soil cover over the top of the receptacle. Soil density shall be 100 pounds per cubic foot. The lateral earth pressure coefficient (K) shall be no less than 0.33. Receptacles designed in accordance with 64E-6.013(1)(f) shall be classified as category 4 receptacles unless the design engineer classifies them as category 3.~~Where a receptacle will be placed with greater than 48 inches of soil over the top of the receptacle, an engineer licensed in the state of Florida shall design the receptacle for the specific conditions anticipated at the site.~~

(g) A series of receptacles may be approved by successful demonstration of the largest in a series of receptacles. Approval for inclusion of the receptacles to be considered in a series must be obtained from the ~~state health office~~Bureau of Environmental Health prior to testing the receptacles. A series is either where only one dimension, this being height, length, or width, is changed or where two dimensions change in the same proportion to offer a different capacity of treatment receptacle.

(h) The manufacturer shall notify the ~~state health office~~Bureau of Environmental Health in writing, stipulating the date, time and location of the test, no less than ten working days prior to the receptacle proof testing. The notice shall include the receptacles to be tested. Approval shall not be granted until after successfully passing the required tests, and submitting the testing results.

(i) The department will issue an approval number to the manufacturer. Form DH 4012, "Application for Septage Disposal Service Permit, Temporary System Service Permit, Septage Treatment and Disposal Facility, Septic Tank Manufacturing Approval", shall be used to apply for manufacturing approval. ~~The form can be obtained from the department.~~

~~(4) Onsite wastewater treatment manufacturer's yearly inspection—Yearly inspection of the manufacturer's facility shall consist of the following:~~

~~(a) Verify that the manufacturer has the design mix recorded and in a readily accessible location for the plant operators.~~

~~(b) Verify that the production process is recorded and that the operators are following the process.~~

~~(c) Verify that the necessary tests are being conducted by a certified testing lab or by a technician certified by the ACI. The preparation of the test specimens shall be performed by certified third party testing laboratory personnel; or manufacturers, or their employees, that have successfully passed the ACI certification program. Each manufacturer shall submit a minimum of three cylinders per year. The specimens shall be taken from a production mix.~~

~~(d) Verify that the manufacturer has the proper number of tests for the year and that the results are recorded. Review the results for compliance with the design.~~

~~(e) Examine the material stockpiles to ensure that the materials are free from deleterious materials.~~

~~(f) Examine the measuring equipment to ensure that the equipment has been calibrated within the last year.~~

~~(g) Examine conveyors to insure that material is transported as measured.~~

~~(h) Inspect a minimum of five receptacles in the manufacturers' inventory. For different series, a minimum of one receptacle shall be inspected from each series. Report the following unacceptable defects:~~

~~1. Cracks in all interior and exterior surfaces of the receptacles.~~

~~2. Cold joint lines. This is an indication of non-monolithic pours. Examine both the interior and exterior of the receptacle for confirmation of a cold joint that extends across the thickness of the wall.~~

~~3. Evidence of improper steel cover. Rebar and wire mesh shall not be exposed.~~

~~4. Watertight inlets and outlets shall be provided per rule.~~

~~(i) Where cold joint lines that appear to extend through the wall, or cracks in any surface of the receptacle exist, conduct a~~

~~watertightness test on a maximum of two receptacles per ASTM C 1227-98, Standard Specification for Precast Concrete Septic Tanks, paragraph 9.2. The receptacles shall not be tested until they have cured for 28 days. If there are no indications of cold-joint lines that appear to extend through the wall, or cracking of receptacle surfaces, two receptacles shall be tested at random. Record all data and submit results to the department.~~

~~(j) Verify that the manufacturer is not relocating the receptacles prior to the receptacle achieving 75% of the design compressive strength. Record how this is accomplished.~~

~~(k) Conduct impact hammer tests-record data.~~

~~(l) Examination of the manufacturer's receipts for material used during the previous year. Receptacle manufacturers shall retain all receipts from the previous year for material used in the manufacture of treatment receptacles and make them available for inspection.~~

(4) ~~(5)~~ Concrete onsite wastewater receptacles shall be built of precast or poured in place concrete in accordance with ACI 318-99, Building Code Requirements for Structural Concrete (1999) or ASTM C 1227-98, Standard Specification for Precast Concrete Septic Tanks (1998), except as revised herein.

(a) For design and analysis of concrete septic tanks, the publication "Rectangular Concrete Tanks" revised 5th edition (1998), as published by the Portland Cement Association, herein incorporated by reference, may be used at the designer's discretion~~, herein incorporated by reference~~. When computing length to height and width to height ratios the designer may interpolate between tables for intermediate ratios and values or may use the table and values for the higher ratios.

(b) Temperature and shrinkage crack control in concrete receptacles shall be accomplished by use of steel reinforcing in accordance with ACI 318-99 Chapter 16, or by use of fiber reinforcement. Minimum ratio of vertical and horizontal reinforcement area to gross concrete area shall be 0.0010 for deformed bars or welded wire fabric. Fiber reinforcing materials may be used by the manufacturer to achieve crack control equivalent to the use of deformed bars or welded wire fabric. To be considered equivalent, acceptable fibers shall at least meet or exceed ACI recommendations regarding materials, fiber sizing, and required fiber quantities. Any current or future revisions to the ACI recommendations may be used by the manufacturer, at their option. Materials other than materials recognized by ACI for crack control use will not be acceptable. Minimum reinforcement shall be as outlined in the document entitled Reinforcement Required~~ to Meet paragraph 64E-6.013(5)(b), F.A.C.~~, dated April 15, 2005, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####.

(c) Concrete mixes shall be in accordance with the Portland Cement Association (PCA) publication entitled PCA Design and Control of Concrete Mixtures, Thirteenth Edition (1994), herein incorporated by reference.

(d) Terminology relating to concrete and concrete aggregates shall be in accordance with ASTM C 125-98, Standard Terminology Relating to Concrete and Concrete Aggregates (1998), herein incorporated by reference.

(e) Concrete aggregates used in the manufacturing of all precast or poured-in-place concrete receptacles for use in ~~onsite sewage treatment and disposal~~ systems shall conform to ASTM C 33-99, Standard Specification for Concrete Aggregates (1999), herein incorporated by reference.

(f) Minimum concrete cover over structural steel reinforcing shall be 3/4 inches. The minimum bend radius for structural reinforcing shall be three times the reinforcing bar diameter.

(g) Temperature and shrinkage crack control steel shall not be exposed. Exposure of fiber reinforcing is acceptable.

(h) Minimum 28-day compressive strength shall be 4000 psi.

(i) Three compressive test cylinders shall be prepared, cured, and tested in accordance with ASTM C 31-98, Standard Practice for Making and Curing Concrete Test Specimens in the Field (1998), herein incorporated by reference, and ASTM C 39-96, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens (1996), herein incorporated by reference, at least one time every year, or whenever the manufacturer changes the design mix or the manufacturing process.

(j) The bottoms of concrete receptacles shall be monolithic and shall either be an integral part of the walls or shall be sealed to the walls using water-stops cast into the wall and bottom. Receptacle bottoms shall not contain openings for any purpose, for example, to facilitate the removal of rainwater.

(k) Approval of new designs shall not be granted until the following has been completed and submitted~~ as part of the application~~:

1. Establish a design mix and production process. Record the aggregate material, size and gradation; type and strength of cement; cement to aggregate ratios; water to cement ratio; and any other pertinent design data. Record the production process, for example; measuring equipment, batch sizes, mixing sequence, transportation techniques from mixer to mold, pouring techniques with consolidation of concrete methods detailed.

2. Construct three receptacles using the design mix.

3. Test two sets of cylinders from the design mix at 7 days and 28 days.

4. Structural proof test three receptacles to the design strength in accordance with paragraph 64E-6.013(1)(b), F.A.C., for receptacles having an effective capacity of 1350 gallons or less.

5. Structural proof test one receptacle to the design strength in accordance with paragraph 64E-6.013(1)(b), F.A.C., for receptacles having an effective capacity greater than 1350 gallons but not more than 1500 gallons.

6. Structural proof test one receptacle or provide receptacle strength calculations in accordance with paragraph 64E-6.013(1)(b), F.A.C., for receptacles having an effective capacity exceeding 1500 gallons.

7. Verify that the manufacturer is not removing receptacles from the producer's facility prior to the receptacle achieving 75% of the design compressive strength. Record how this is accomplished.

(5) ~~(6)~~ The following structural requirements are applicable to fiberglass and polyethylene receptacles:

(a) Materials and sealants used in the receptacle manufacturing process shall be capable of effectively resisting the corrosive influences of the liquid components of sewage, sewage gases and soil burial. Materials used shall be formulated to withstand shock, vibration, normal household chemicals, deterioration from sunlight and other environmental factors.

(b) Fiberglass receptacles shall be constructed so that all parts of the receptacle meet the following mechanical requirements. A test report from an independent testing laboratory is required to substantiate that individual receptacle designs and material formulations meet these requirements.

1. Ultimate tensile strength – minimum 12,000 psi when tested in accordance with ASTM D 638-98, Standard Test Method for Tensile Properties of Plastics (1998), herein incorporated by reference.

2. Flexural strength – minimum 19,000 psi when tested in accordance with ASTM D 790-98, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials (1998), herein incorporated by reference.

3. Flexural modulus of elasticity – minimum 800,000 psi when tested in accordance with ASTM D 790-98 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials (1998), herein incorporated by reference.

4. Not less than 30 percent of the total weight of the fiberglass receptacle shall be fiberglass reinforcement.

5. Internal surfaces shall be coated with an appropriate gel coating or resin to provide a smooth, pore-free, watertight surface.

(c) Polyethylene receptacles shall meet the requirements of International Association of Plumbing and Mechanical Officials (IAPMO) PS 1-93, Paragraph 5.4 "Polyethylene", herein incorporated by reference. Where the requirements of IAPMO PS 1-93 Paragraph 5.4 "Polyethylene" conflict with the standards in this section, the standards in this section shall apply. A test report from an independent testing laboratory is required to substantiate that ~~individual~~ receptacle designs and material ~~formulations~~ meet these requirements.

(d) Approval of new designs shall not be granted until the following has been completed and submitted ~~as part of the application~~:

1. Establish and record a design mix, material specifications, and the production process. ~~Record the material specifications and other pertinent design data. Record the production process, for example; measuring equipment, batch sizes, mixing sequence, transportation techniques from mixer to mold, and spraying techniques~~.

2. Construct three receptacles using the design mix.

3. Test two sets of test strips from the design mix.

4. Structural proof test three receptacles to the design strength per paragraph 64E-6.013(1)(c), F.A.C., for receptacles having an effective capacity of 1350 gallons or less.

5. Structural proof test one receptacle to the design strength in accordance with paragraph 64E-6.013(1)(c), F.A.C., for receptacles having an effective capacity greater than 1350 gallons.

6. Verify that the manufacturer is not planning to relocate the receptacles prior to the receptacle achieving 75% of the design compressive strength. Record how this is accomplished.

(6) ~~(7)~~ Grease interceptors are not required for a residence. However, one or more grease interceptors are required where grease waste is produced in quantities that could otherwise cause line stoppage or hinder sewage disposal. The design of grease interceptors shall be based on standards found in this section ~~paragraph (a) below~~. In addition, the following ~~general~~ requirements ~~found in paragraphs (b), (c), and (d),~~ apply ~~when determining the proper use and installation of a grease interceptor used as a component of an onsite sewage treatment and disposal system~~.

(a) The inlet invert shall discharge a minimum of 1 ~~2 1/2~~ inch~~es~~ above the liquid level line and the outlet pipe shall have a vented tee with a minimum diameter of 4 inches that extends to within 8 inches of the bottom of the tank.

(b) Flow from one compartment to the next shall be through a hole or slot similar to 64E-6.013(2)(h) or be through a minimum 4-inch diameter quarter bend fitting, or a combination of lower weir baffle and raised baffle separated by at least six inches horizontally, provided the bottom of the quarter bend, bottom of the raised baffle or top of the hole or slot extends on the inlet side to within 12 inches of the bottom of the receptacle.

(c) ~~(b)~~ Interceptors must be located so as to provide easy access for routine inspection, cleaning and maintenance. Manholes shall be provided over the inlet and outlet of each interceptor and be brought to finished grade.

(d) ~~(c)~~ Where a grease interceptor is required or used, only kitchen wastewater shall first pass through the interceptor and then be discharged into the first compartment of a septic tank or other approved system.

(e) ~~(d)~~ Sizing of grease interceptors shall be based on the equations below. The minimum volume of any grease interceptor shall be 750 gallons ~~and the maximum volume of an individual single grease interceptor chamber shall be 1250 gallons~~. When the

required effective capacity of the grease interceptor is greater than 1250 gallons, installation of multi-chambered grease interceptors or grease interceptors in series is required.

1. Restaurants: (number of seats in the dining area~~S~~) X (gallons of wastewater per seat; use 25 gallons for ordinary restaurant, use 10 gallons for single service article restaurants~~GS~~) X (number of hours establishment is open ~~HR~~/12) X (loading factor: use 2.0 interstate highways, 1.5 other freeways, 1.25 recreational areas, 1.0 main highways, and 0.75 other roads~~LF~~) = effective capacity ~~of grease interceptor~~ in gallons.

~~S = number of seats in the dining area.~~

~~GS = gallons of wastewater per seat; use 25 gallons for ordinary restaurant, use 10 gallons for single service article restaurants.~~

~~HR = number of hours establishment is open.~~

~~LF = loading factor: use 2.0 interstate highways, 1.5 other freeways, 1.25 recreational areas,~~

~~1.0 main highways, and 0.75 other roads.~~

2. Other type establishments with commercial kitchens: (meals prepared per day~~M~~) X (~~GM~~5) X (loading factor: use 1.00 with dishwashing and 0.75 without dishwashing~~LF~~) = effective capacity of grease interceptor in gallons.

~~M = meals prepared per day.~~

~~GM = gallons of wastewater per meal: use 5 gallons.~~

~~LF = loading factor: use 1.00 with dishwashing and 0.75 without dishwashing.~~

(7) ~~(8)~~ Laundry waste interceptor – when a separate system is installed to accept effluent from a single home washing machine only, the retention tank or interceptor for such system shall ~~meet the following minimum standards:~~

~~(a) The~~have a minimum effective capacity ~~shall be~~of 225 gallons for establishments with an estimated sewage flow of up to 300 gallons per day and ~~shall~~ be increased by 50 gallons for every 100 gallons of additional daily sewage flow.

~~(b)~~ The interceptor shall be provided with a vented inlet tee, vented sweep, or a baffle.

~~(c)~~ The interceptor shall not receive waste flow from kitchen fixtures or be used as a grease trap.

(8) ~~(9) Pump tanks and pumps – when used as part of an onsite sewage treatment and disposal system, the~~The following requirements shall apply to all pump tanks ~~manufactured for use in Florida~~ unless specifically exempted by other provisions of these rules:

(a) Pump tanks shall have a minimum total~~effective~~ capacity measured from the bottom of the tank to the top of the tank in accordance with Table II. At least 80% of the required total~~effective~~ capacity shall be contained below the invert of the inlet. Pump levels shall be set as low as practical to preserve as much reserve capacity as possible in the event of pump failure.

(b) ~~Construction standards for pump tanks shall be the same as for treatment receptacles, except that single~~Single compartment tanks are allowed.

(c) The electrical conduit and effluent dosing pipe shall exit the dosing chamber:

1. Through the tank outlet using plumbing fittings and reducers to produce a watertight seal,

2. When risers are used, the electrical line and the effluent dosing pipe may penetrate the riser wall provided the penetration is above the wet season high water table elevation and there is a soil-tight seal around the penetrations. When the top of the dosing tank is placed more ~~then~~than 8 inches below the finished grade, risers shall be used to provide access within 8 inches of the finished grade. Where risers are used, risers shall be attached to the tank in accordance with paragraph 64E-6.013(2)(i), F.A.C. The unused tank outlet shall be sealed with a length of capped PVC pipe installed in accordance with paragraph 64E-6.013(2)(f), F.A.C., or

3. Through a 2 to 4 inch access port installed in the tank lid by the manufacturer as approved by the ~~State Health Office~~Bureau of Environmental Health. After installation the port must be sealed with a bonding compound per paragraph 64E-6.013(2)(i), F.A.C. Unused ports shall be sealed watertight with cement or bonding compound or with a length of capped PVC pipe.

(d) When a pump is used as part of a system, the following conditions shall apply.

1. Pumps used to distribute sewage effluent must be certified by the manufacturer to be suitable for such purpose. The use of a timer as a part of any pump system shall not be allowed unless it is part of a design submitted by an engineer, or master septic tank contractor, and is approved by the department. Pumps shall be designed in accordance with the May, 1985, Sump, ~~Effluent~~ and Sewage Pump Manufacturers Association standards for the purpose intended, herein incorporated by reference.

2. An audio and visual high water alarm shall be provided in a conspicuous location visible by system users to warn of pump failures. If the alarm is located outdoors, the alarm shall be waterproof and specified by the manufacturer for outdoor use.

3. A pump shall be placed in a separate compartment or tank, except when using a pump chamber insert. Except as noted ~~below~~, any compartment or tank in which a pump is located shall not be considered ~~when determining~~for total effective capacity of a septic tank.

4. A pump chamber insert may, at the applicant's discretion, be used to house a pump inside a septic tank. If a pump chamber insert is used, it must be approved for use by the ~~State Health Office~~Bureau of Environmental Health. Approval shall be based on the ability of the pump chamber insert to effectively filter solids from the effluent prior to intake by the pump. The efficiency of solids removal by the pump chamber insert must be at least equal to a currently approved outlet filter device. Pump chamber inserts that do not meet these criteria shall not be approved and shall not be used. The filter device used as part of the pump chamber insert shall be considered to meet the requirement of using an outlet filter device ~~for purposes of subsection 64E-6.008(2), F.A.C~~. The tank or

compartment used to house the pump chamber insert shall be included in calculating the minimum effective capacity of the tank, subject to the following conditions:

a. When placed in a compartmentalized tank or tanks in series, the pump chamber insert shall be placed in the last chamber or tank. When placed in a single compartment tank, the pump chamber insert shall be placed as close to the outlet side of the tank as possible, but in~~. In~~ no case ~~shall the insert be placed~~ farther than 1/2 the distance to the inlet as measured from the outlet~~ of the tank~~. The pump chamber insert and filter shall be accessible for ~~routine~~ maintenance. The manufacturer shall provide instructions on how to maintain the filter ~~unit~~ and the insert~~ device~~.

b. Pump levels shall be set so that the high water alarm is activated when the liquid level of the tank will exceed the height of the inlet invert of the tank. The pump-on switch shall be set to maintain the greatest possible effective capacity of the tank, ~~and in no case shall it be set~~but no higher than 1 inch below the inlet invert. Floats used for operation of the pump shall be allowed outside the ~~pump chamber~~ insert.

c. The intake openings of the ~~pump chamber~~ insert shall not be located within 12 inches of the bottom of the tank~~,~~ or within 12 inches of the tank liquid level line~~ of the tank~~.

d. The volume discharged by the pump shall not exceed 1/4 of the average daily sewage flow in any dose.

e. A pump chamber insert may be used only for lift-dosing applications.~~shall not be used when the total absorption area for the system is greater than 1000 square feet, or when automatic dosing is required.~~

f. For new system installations, in addition to the requirements above, the total septic tank capacity shall include the required minimum septic tank effective capacity, which shall be contained below the pump-off switch level, plus the pumping tank capacity per Table II, plus the required 15% airspace.

g. For repair installations, in addition to the requirements of subparagraphs a. through e. above, pump chamber inserts shall not be used in an existing septic tank of less than 750 gallons effective capacity. In addition, the minimum tank liquid depth shall be 36 inches below the pump-off switch level and the minimum effective capacity contained below the pump-off switch level shall be within two tank sizes of that required in Section~~Rule~~ 64E-6.008, F.A.C.~~, Table II~~. The total septic tank capacity shall include the minimum effective capacity within two tank sizes of required tank size, plus dosing capacity, plus dosing reserve capacity equal to the dosing capacity, plus freeboard or air space capacity which is equal to 15% of the minimum effective capacity.

(9) ~~(10)~~ Transportation and installation.

(a) Onsite wastewater receptacles shall not be removed from the manufacturer's facility until the compressive strength of the concrete has reached 75% of the design strength. Use of concrete industry published graphs or tables indicating compressive strength vs. concrete age for the design mix are satisfactory proof of strength.

(b) Tanks shall be installed level from end to end and side to side. As used in this context, level includes a slope from the inlet end to the outlet end or from side to side of the tank not exceeding one-half inch over the entire length or width of the tank. The tank shall not be approved with any pitch upward from the inlet end to the outlet end of the tank.

(c) If a pumping device has been placed in the building sewer, an inlet device shall be used.

(d) Cast in place tanks or tanks manufactured with water stops below the invert of the outlet, and tanks with seams below the invert of the outlet shall be watertightness tested in accordance with ASTM C 1227-98, Standard Specification for Precast Concrete Septic Tanks, paragraph 9.2.2, after installation in the field.

(e) The excavation for the installation of a wastewater receptacle shall be level and free of debris and rocks that could damage the receptacle or prevent proper leveling, backfilling or compaction. Backfill material shall be free of rocks and debris. ~~The installer shall refer to the receptacle manufacturer's installation instructions to prevent the receptacle from settling or floating or from being damaged or distorted~~Tanks shall be installed in accordance with the manufacturer's instructions.

(10) ~~(11)~~ Repair of receptacles – Repairs shall be allowed for receptacles prior to shipment per ASTM, ACI, PCA and National Precast Concrete Association (NPCA), Septic Tank Manufacturing Best Practices Manual (1998), standards and publications. Tanks damaged after they leave the manufacturer's facility may be repaired for ~~the following defects:~~

~~(a) C~~ chips and cracks that occur above the invert of the outlet and~~.~~

~~(b) C~~ chips ~~that occur~~ below the outlet invert~~ of the outlet~~, ~~provided that~~if ~~such chips~~they do not penetrate more than 1/3 of the wall or bottom thickness.

(11) ~~(12)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.55, Amended 3-17-92, 1-3-95, Formerly 10D-6.055, Amended 11-19-97, 2-3-98, 3-22-00, 4-21-02, 5-24-04, 11-26-06, 6-25-09, 4-28-10,_____.

64E-6.014 Construction Standards for Drainfield Systems.

(1) ~~Distribution box – where distribution boxes are used for distributing sewage from the septic tank or other waste receptacle to~~

~~the drainfield lines, the following requirements shall be adhered to:~~

~~(a)~~ Distribution boxes shall be watertight, constructed of durable materials, have adequate structural strength, and be of sufficient size to accommodate the required number of drain pipe lines.

~~(b)~~ Each drainfield line shall be individually connected ~~individually~~ to the box.

~~(c)~~ The invert of the inlets to the box shall be at least 1 inch above the invert of the outlets. The invert of all outlets shall be level with respect to each other.

~~(d)~~ The distribution box shall be built as a separate unit from the septic tank and shall be set level on solid ground or in mineral aggregate.

(2) ~~Header pipe – header pipe, when used, shall be installed in compliance with the following requirements:~~

~~(a)~~ When using header pipes, ~~C~~corrugated or smooth wall fittings (elbows, tees and crosses) shall be acceptable for gravity flow headers. Header pipe interiors shall be smooth. Header pipe shall have a minimum inside diameter of 4 inches for gravity flow applications. Header pipe shall not be perforated. The header pipe shall be laid level with direct~~,~~ connections to each drainfield line and the septic tank outlet pipe. When installed in a drainfield which uses mineral aggregate, the header pipe shall be encased in mineral aggregate~~,~~ and shall be included as part of the drainfield area. Gravity flow header pipes, when installed within the mineral aggregate drainfield, may be non-watertight but shall be soil tight. Snap connections are acceptable. On non-mineral aggregate systems, header pipe must be supported by soil. All connections shall be such that all joints or fittings are firmly connected to pipes. When a drainfield system is a pumped system, the header pipe and fittings shall be smooth-walled and watertight. Where the header pipe is not within the absorption surface area it shall not be included in drainfield size calculations, but shall be considered part of the system. The header pipe shall be designed to distribute effluent as uniformly as practical to each individual drainline and shall be supported so that the header is laid level. Pipe which connects the septic tank outlet to the header pipe or a distribution box shall comply with the strength and material standards for header pipe as specified in this subsection. Header pipe shall meet one or more of the following requirements:

(a) ~~1.~~ ASTM D 3034-98, Standard Specification for Type PSM Poly (Vinyl Chloride)(PVC) Sewer Pipe and Fittings (1998), herein incorporated by reference.

(b) ~~2.~~ ASTM D 2729-96 Standard Specification for Poly (Vinyl Chloride)(PVC) Sewer Pipe and Fittings (1996), herein incorporated by reference.

(c) ~~3.~~ AASHTO M252M-96 Standard Specification for Corrugated Polyethylene Drainage Pipe (1996), herein incorporated by reference. Materials used to produce this pipe shall meet ASTM D 3350-98a, Standard Specification for Polyethylene Plastics Pipe and Fittings Materials (1998), Cell Classification 324420C, herein incorporated by reference.

(d) ~~4.~~ ASTM F 405-97, Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings (1997), herein incorporated by reference. Materials used to produce this pipe shall meet ASTM D 3350-98a, Standard Specification for Polyethylene Plastics Pipe and Fittings Materials (1998), Cell Classification 324420C or E, herein incorporated by reference.

(e) ~~5.~~ ASTM F 810-99, Standard Specification for Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields (1999), herein incorporated by reference. Materials used to produce this pipe shall meet ASTM D 3350-98a (1998), Standard Specification for Polyethylene Plastics Pipe and Fittings Materials, Cell Classification 32442C or E, herein incorporated by reference.

~~(b) Corrugated or smooth wall fittings (elbows, tees and crosses) shall be acceptable for gravity flow headers. Header pipe interior shall be smooth. Header pipe shall have a minimum inside diameter of 4 inches for gravity flow applications. Header pipe shall not be perforated.~~

~~(c) The header pipe shall be laid level with direct, connections to each drainfield line and the septic tank outlet pipe. When installed in a drainfield which uses mineral aggregate, the header pipe shall be encased in mineral aggregate, and shall be included as part of the drainfield area. Gravity flow header pipes, when installed within the mineral aggregate drainfield, may be non-watertight but shall be soil tight. Snap connections are acceptable. On non-mineral aggregate systems, header pipe must be supported by soil. All connections shall be such that all joints or fittings are firmly connected to pipes. When a drainfield system is a pumped system, the header pipe and fittings shall be smooth-walled and watertight. Where the header pipe is not within the absorption surface area it shall not be included in drainfield size calculations, but shall be considered part of the system. The header pipe shall be designed to distribute effluent as equally as practical to each individual drainline and shall be supported so that the header is laid level.~~

~~(d) Pipe which connects the septic tank outlet to the header pipe or a distribution box shall comply with the strength and material standards for header pipe as specified in this subsection.~~

(3) ~~Low-Pressure dosing – where~~Where the total required area of drainfield is greater than 1000 square feet or where the applicant proposes to use low-pressure dosing, an automatic dosing device discharging into a low-~~-~~pressure distribution network consisting of 2 inch or smaller diameter schedule 40 PVC or equivalent ~~equal~~ pipe with 1/2 inch or smaller diameter drilled holes shall be used. All piping shall use solvent welded connections or equivalent ~~equal~~ throughout to prevent dislocation of connections under pressure. The network shall be designed for equal distribution of effluent. For the purposes of this section, equal distribution shall mean that the flow from the least effective hole in the network shall deliver no less than 75% of the flow from the most effective hole. The selected pump capacity (as measured in Gallons Per Minute) versus total dynamic head shall be indicated on a

pump curve and shall be shown by calculation to achieve an effluent velocity through the network of at least 2 feet ~~ft~~ per second to the first exit hole on each lateral. Each line of the pressure network shall individually connect to a pressure manifold and be sealed on their distal ends and shall not be looped with other lines regardless of whether the drainfield is a bed or a trench or whether it is in a mound, filled subsurface installation. Plans and equipment specifications for low-pressure dosing systems shall be approved by the department ~~prior to construction or installation~~.

(a) Where the total drainfield area is greater than 1000 square feet but not more than 2000 square feet, the applicant may, in lieu of low-pressure dosing, choose to split the drainfield into two drainfields, equal in size, each having no more than 1000 square feet, with each drainfield being lift-dosed.

(b) ~~Dosing systems with 2000 square feet of drainfield or less shall consist of a pump tank that receives the flow from a septic tank or other sewage waste receptacle.~~ Two pumps shall be required for commercial use where dosing is required due to drainfield size or where gravity flow into the drainfield is not possible, and estimated establishment sewage flows exceed 500 gallons per day. Where more than one pump is used, the pumps shall dose alternately. Where dosing is required for a commercial system for flows of 500 gallons or less per day, only one pump shall be required if the drainfield does not exceed 2000 square feet.

(c) Systems having more than 2000 square feet of drainfield shall have a minimum of two dosing pumps, with each pump serving a proportionate amount of the total required absorption area. The pumps shall dose alternately.

(d) The ~~volume dosed between the pump operating levels~~volume shall ~~be adequate to assure that~~fill the entire drain pipe network ~~is filled~~ at least four times each cycle.

(e) When a drainfield is installed in slightly limited soil, operating levels shall be adjusted to dose the drainfield a maximum of six times in a 24 hour period. For moderately limited soils the drainfield shall be dosed no more than four times in a 24 hour period. More frequent dosing may be allowed with systems designed by engineers ~~licensed in the state of Florida~~.

(f) The distribution network for drainfields having an absorption area less than 1500 square feet shall be designed by an ~~Florida licensed professional~~ engineer or a master septic tank contractor. The network for drainfields having an absorption area of 1500 square feet or larger shall be designed by an ~~Florida licensed professional~~ engineer.

(g) Drip emitter systems shall be designed ~~in accordance with~~per paragraphs 64E-6.014(3)(b) and (c) and subsection 64E-6.009(5), F.A.C.

(4) ~~Lift dosing.—Where~~For drainfields of 1000 square feet or less where ~~a septic tank or sewage waste receptacle is placed too low to permit~~ gravity flow into a ~~properly designed, constructed and located~~ drainfield is not possible, a pump tank with a pump ~~or similar type device~~ shall be used to lift-dose the effluent to ~~a properly constructed~~ header pipe or distribution box ~~for effluent distribution by gravity~~ to the drainfield. ~~This provision shall apply only to drainfields of 1000 square feet or less of total area.~~ Tank size and pumps with effluent level controls and alarms shall be specified and set in accordance with the requirements set forth in paragraphs 64E-6.014(3) (b) and (e) and subsection 64E-6.013(8)~~(9)~~, F.A.C.

(5) ~~Drain trenches and absorption beds.—drain~~Drain trenches and absorption beds are the standard subsurface drainfield systems used for disposing of effluent ~~from septic tanks or other sewage waste receptacles. When used, these systems~~Systems shall be constructed as specified below.

(a) When utilizing the standard drain trench method, the width of the trench at the bottom shall not exceed 36 inches. For trenches of 12 inches or less, there shall be a minimum separation distance of 12 inches between the sidewalls of adjacent trenches; trenches greater than 12 inches require a minimum 24 inch separation between the sidewalls of adjacent trenches.

(b) ~~The trench method shall be the preferred method. Absorption beds may be used in lieu of the standard drain trench method.~~ An absorption bed consists of an area in which the entire earth content of the required absorption area is removed and replaced with ~~aggregate and distribution pipe or other approved alternative~~ drainfield components. The distance between the centers of distribution lines in standard beds shall be a maximum of 36 inches. The distance between the sidewall of the bed and the center of the outside drain line shall be no more than 18 inches, but ~~shall not be~~not less than six inches. Where header pipe is used in lieu of a distribution box, the header shall extend to within 18 inches of the bed sidewalls. In no case shall ~~the bottom surface of~~ an absorption bed exceed a total of 1500 square feet. Where two or more beds are used to obtain the necessary absorption area, there shall be a minimum 10 foot separation between the sidewalls of adjacent absorption beds. Absorption beds shall be designed to achieve the maximum length to width ratio practical.

(c) When installing a drainfield system that uses mineral aggregate, all portions of the header pipe and perforated drain pipe shall be installed in aggregate conforming to ASTM C 33-86 or lightweight aggregate conforming to ASTM C330-87 meeting State of Florida Department of Transportation (FDOT) specifications under Section 901, "Standard Specifications for Road and Bridge Construction, 1991." ~~and the following gradation requirements.~~ Approved materials for drainfield mineral aggregate shall be limestone, slag, quartz rock, granite, river gravel, recycled crushed concrete, lightweight aggregate and other equally durable materials. The aggregate shall be labeled as drainfield aggregate on the invoice. A copy of the invoice shall be part of the documentation of aggregate size and quality and records shall be available for department review for a period of two years from the date of purchase. This invoice shall clearly certify that the material meets the requirements for drainfield use. Not more than 3.75% by weight of the aggregate material at the point of use shall pass a #200 sieve and the following gradation requirements. .

Sieve size	2 IN.	1 1/2 IN.	1 IN.	3/4 IN.	1/2 IN.	3/8 IN.	No. 4
size							
Percent passing	90-100	35-100	15-100	0-70	0-50	0-30	0-5
passing							

In addition, not more than 3.75% by weight of the aggregate material at the point of use shall pass a #200 sieve.

1. Approved materials for drainfield mineral aggregate shall be limestone, slag, quartz rock, granite, river gravel, recycled crushed concrete, lightweight aggregate and other equally durable materials.

2. The aggregate shall be labeled as drainfield aggregate on the freight bill-of-lading. Effective March 1, 1995, a copy of the freight bill-of-lading shall be part of the documentation of aggregate size and quality and records shall be available for department review for a period of two years from the date of purchase. This bill-of-lading shall clearly certify that the material meets the requirements for drainfield use.

(d) Mineral aggregate material shall have a total depth of at least 12 inches extending throughout the width of the trench or absorption bed. The distribution pipe shall have a minimum of six inches of aggregate under the pipe, but shall not exceed 10 inches under the pipe when the total depth of aggregate is 12 inches.

(e) The drainfield in place shall be protected from infiltration of earth backfill by a barrier of polyester bonded filament. The barrier shall be placed on top of the drainfield only. For alternative drainfield systems any required earth backfill barrier shall be as specified by the alternative system manufacturer, which must be approved by the department at the time of the initial alternative drainfield approval and approved by the department.

(f) Providing the requirements of subsections 64E-6.006(1), (2) and (6), F.A.C., are met, the maximum depth from the bottom of the drainfield to the finished ground surface shall not exceed 30 inches after natural settling. The minimum earth cover over the top of the drainfield, distribution box or header pipe in standard subsurface drainfields shall be 6 inches after natural settling.

(g) The inside diameter of the drain pipe used in drainfields shall be determined based on the type and design of the proposed absorption system. However, for standard gravity aggregate drainfield systems, inside pipe diameter shall not be less than 4 inches. Perforated pipe shall have two rows of holes, and a minimum perforated area of 1 1/2 square inches per linear foot. Perforations shall be located not less than 30º or more than 60º from the vertical on either side of the center line of the bottom of the pipe. However, for drainfield systems designed by an engineer, drainpipe perforation area and hole configuration shall assure that effluent is distributed as equally as possible throughout the drainfield area. All plastic pipe shall conform to the standards of ASTM D 3034-98, Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings (1998), herein incorporated by reference, ASTM F 405-97, Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings (1977), herein incorporated by reference, or ASTM F 810-99 (1999), herein incorporated by reference.

(h) Depending on the type of drainfield system being utilized, the drainfield absorption surface shall be constructed level or with a downward slope not exceeding one inch per 10 feet. Drain lines shall be placed at the same slope as the drainfield absorption surface.

(i) Except for pressure dosed systems, tThe maximum length of drain lines shall not exceed 100 feet for all gravity-fed and lift-dosed drainfields, and where two or more drain lines are used, , the lengths of all of the drain lines shall vary by no more than the length of the drainfield product being used or 10 feet, whichever is less.they shall be, as near as practical, the same length. The ends of two or more drain lines in bed and mound systems shall be connected to produce a continuous circuit. A continuous circuit arrangement is required for bed and mound systems and also recommended but not required for standard drain trench systems. However, whenWhen a continuous circuit arrangement is not used, the distal ends of the drain lines shall be capped or sealed.

(j) No part of a drainfield shall be placed within 18 inches of the treatment or pump tank.

(k) If lots are encountered whereby a standard drainfield system cannot meet drainfield slope or soil cover requirements, aA drop box configuration may be used at the installer's discretion, if it conforms with for sloping lots as per Section 7.2.8.1, Chapter 7, EPA 625/1-80-/012, (NTIS PB83219907), 1980, Design Manual for Onsite Wastewater Treatment and Disposal Systems, Chapter 7, Section 7.2.8.1., such section hereby incorporated by reference., may be used at the installer's discretion for drainfield construction.

(6) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.

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64E-6.015 Permitting and Construction of Repairs.

(1) No person shall cause or allow repair of a system without first applying for and receiving a system construction permit.

Form DH 4015 shall be used for permit application submission. An application shall be completed in full, signed by the owner or the owner's agent, and accompanied by all required exhibits and fees. The application shall include:

All repairs made to a failing onsite sewage treatment and disposal system shall be made only with prior knowledge and written approval from the DOH county health department having jurisdiction over the system. Approval shall be granted only if all of the following conditions are met:

(1) Any property owner or lessee who has an onsite sewage treatment and disposal system which is improperly constructed or maintained, or which fails to function in a safe or sanitary manner shall request from the DOH county health department, either directly or through their agent, a permit to repair the system prior to initiating repair of the system. A permit shall be issued on Form DH 4016 only after the submission of an application accompanied by the necessary exhibits and fees. Form DH 4015 shall be used for this purpose, and can be obtained from the department. Applications shall contain the following information:

(a) A site plan showing property dimensions, the existing and proposed system configuration and location on the property, the building locationany buildings, potable and non-potable water lines, within the existing and proposed systemdrainfield repair area, the general slope of the property, property lines and easements, any obstructed areas, any private or public wells, or any surface water bodies and stormwater systems in proximitywithin a distance of the current required setbacks plus 25 feet to the existing or proposed onsite sewage system which restricts replacement or relocation of the drainfield system. If spoil material will be buried on the site, the location of the proposed burial site shall be shown. The existing drainfield type shall be described. For example, mineral aggregate, non-mineral aggregate, chambers, or other.

(b) An Existing System and System Repair Evaluation completed on Form DH 4015. A signed tank certification from a registered or master septic tank contractor, state-licensed plumber, Certified Environmental Health Professional providing all tank information required on the form including the certification statement, may be substituted for that portion of the form. The existing drainfield type shall be described The size of the septic tank or other treatment tank currently in use and the approximate square footage and elevation of the drainfield existing on the site.

(c) A site evaluation completed on Form DH 4015. Elevation of the proposed system site must be consistent with the "existing grade" elevation on the Existing System and System Repair Evaluation submitted. Soil textures and wettest season water table elevations must be documented within the existing and proposed drainfield areas. Any conditions or obstructions, such as roof drains, patios, parking areas, or pools, which may impact the system design or function shall be noted. The quantity and type of waste being discharged to the system. Where water use records cannot be obtained, estimates shall be made from values found in Rule 64E-6.008, Table I, F.A.C.

(d) When available, water use records for the previous 18 months. The soil textures encountered within the existing and proposed drainfield areas, and the estimated water table during the wettest season of the year.

(e) Any unusual site conditions which may influence the system design or function such as sloping property, drainage structures such as roof drains or curtain drains, and any obstructions such as patios, decks, swimming pools or parking areas.

(f) The person performing the site evaluation shall provide a brief description of the nature of the failure which is occurring.

(2) Site evaluations necessary to obtain the above referenced information shall be conducted at the expense of the owner or lessee by department personnel, by an engineer who is licensed in the State of Florida or by other qualified persons as per subsection 64E-6.004(3), F.A.C. Site specific information may be obtained by the applicant through examination of department records of permits previously issued for the site.

(3) When a repair is to be performed on a failing system in which the contractor will be using any method other than drainfield addition or replacement, the following additional permit application information shall be submitted to the county health department by the contractor in addition to the information required in subsections 64E-6.015(1) and (2), F.A.C.

(a)1. The process to be used to repair the system. Examples include high-pressure water jetting of drainlines and high-pressure injection of air alongside the drainfield. Such information shall include the manner in which the proposed repair will take place. The manufacturers recommended method for product use, quantities and concentration of product, shall be included in this information.

(b)2. Any chemical compound to be introduced into the system in an effort to repair the system shall be identified by chemical composition or trade name, including the concentration and quantity of product used. The method of product introduction shall be stated. For example, product introduced through the distribution box.

(c)3. Any repair method proposed which intends to physically disrupt the absorption surface shall include a drawing diagram of the drainfield system that includes a diagram of the sitewith the locations where the absorption surface will be disrupted and the. The depth of each disruption shall be recorded at each sitenoted at each location.

(2)(4) Where the absorption surface of the drainfield is within 126 inches of the wettest season high water table, the existing drainfield shall be either disconnecteddisconnected from the tank or removed. A replacement drainfield shall be installed at least 12 inches above the wettest season water table. A replacement drainfield shall not be installed over or within two feet of any remaining portion of the existing disconnected drainfield., an alternative repair method addressed in subsection 64E-6.015(3), F.A.C., shall not be used. The existing drainfield shall be removed and a Rreplacement drainfields shall be installed in accordance with all other repair criteria, including separation from seasonal high water table and drainfield sizing. Paragraph 64E-6.015(6)(f), F.A.C., shall be used to determine septic tank conformance.

(3)(5) The department shall make every effort to issue a permit within 2 working days after receiving the application for system repair. Repair permits shall be valid for 90 days from the date of issuance. However, if the system is maintained to not create a sanitary nuisance, a repair permit shall be extended for one 90 day period.

(4)(6) Construction materials used in system repairs shall be of the same quality as those required for new system construction. Aggregate and soil in spoilSpoil material from drainfield repairs shall not be used in system repair in any manner. Undamaged drainfield infiltration units, pipes and mechanical components may be reused on the original site. Any spoil material taken off site shall be disposed of in a permitted landfill or shall be limed and stockpiled for at least 30 days to prevent a sanitary nuisance. Offsite spoil material stockpile areas shall meet the prohibition requirements of subsection 62-701.300(2), F.A.C. The resulting lime-treated material shall not be used for drainfield repair, or construction of any onsite sewage treatment and disposal system. Any use of the lime treated material shall be in a manner that does not cause a violation of Chapter 386 F.S., or and shall not impair groundwater or surface water. Mineral aggregate and soil in sSpoil material may, at the option of the septic tank contractor and the property owner, be buried on site if limed before burial. Lime amount must be sufficiently sufficient to preclude a sanitary nuisance. The separation between the wettest season water table and the spoil material shall be no less than the separation required between the wettest season water table and the replacement drainfield.Depth of seasonal high water table to the spoil material must be at least twelve six inches. Setbacks for buried spoil material shall be no less than the setbacks required for the replacement drainfieldthe same as for onsite sewage treatment and disposal system drainfields. A minimum of six inches of slightly or moderately limited soil shall cover the spoil material and shall extend to at least five feet around the perimeter of the burial site.

(5) Any failing system shall, at a minimum, be repaired in accordance with the following criteria:

(a) System repairs shall comply with minimum setbacks and separations as specified in SectionRule 64E-6.005, F.A.C.

1. When the setback of 75 feet between the system and a private potable well cannot be met, the greatest setback attainable, no less than 50 feet and no less than the existing setback shall be obtained.

2. When a 24-inch separation between the bottom of the drainfield and the wet season water table cannot be met, the greatest separation attainable, no less than 12 inches and no less than the existing separation shall be obtained.

3. When the 42-inch effective soil depth below the bottom of the drainfield cannot be obtained, the greatest effective soils depth attainable, no less than 24 inches and no less than the existing effective depth shall be obtained.

4. When the setback of 50 or 75 feet, as required in 64E-6.005, FAC, between the system and surface water cannot be met, the greatest setback attainable, no less than 50 feet and no less than the existing setback shall be obtained.

5. When the setback of 50 feet between the system and a non-potable well cannot be met, the greatest setback attainable, no less than 25 feet and no less than the existing setback shall be obtained.

6. When the setback of 4 feet between the drainfield sidewall and the start of the slope cannot be met, the greatest setback attainable, no less than 2 feet shall be obtained.

7. When the setback of 5 feet between the system and the property line or building foundation cannot be met, the greatest setback attainable, no less than 2 feet shall be obtained. If current required setbacks and separations cannot be met, lesser setbacks as specified in Table V shall be maintained. For repairs only, if current required setbacks given below cannot be attained, absolute minimum setbacks shall be met.

(b) When site conditions exist which allow setbacks in Section 64E-6.005 to some features by reducing the setbacks from other features, the setback having the lesser impact on groundwater, surface water and public health shall be the one reduced.either absolute or current required setbacks to various features, current required setbacks shall be maintained from features with the highest protection factor. Setbacks to features with lower protection factors shall be reduced to the maximum setback or separation attainable, with no less than the absolute minimum setback allowed.

(c) A standard gravity flow system is to be used when possible to achieve the appropriate separations of absorption surface to seasonal high water and effective soil depth.

~~TABLE V~~

~~Repair System Setback Requirements~~

~~Permit Date of Original System~~	~~Description of Setback (Separation)~~	~~Protection Factor~~	~~Current Required Setback~~	~~Absolute Minimum Setback~~
~~Prior to 1-1-72~~	~~System to a Private Potable Well~~	~~6~~	~~75 feet~~	~~Greatest of the Following: a) Maximum Setback (<75 feet and >50 feet) b) Original Setback (if >50 feet) c) 50 feet~~
	~~Bottom of Drainfield Absorption Surface to Wet Season Water Table~~	~~5~~	~~24 inches~~	~~Greatest of the Following: a) Maximum Separation (>6 inches) b) Original Separation (if >6 inches) c) 6 inches~~
	~~Effective Soil Depth~~	~~5~~	~~42 inches~~	~~Greatest of the Following: a) 24 inches b) Maximum Separation (>12 inches) c) 12 inches~~
	~~System to Surface Water~~	~~4~~	~~50 feet~~	~~Greatest of the Following: a) Maximum Setback (>25 feet and <50 feet) b) Original Setback (if >25 feet) c) 25 feet~~
	~~System to Non-Potable Well~~	~~3~~	~~50 feet~~	~~Greatest of the Following: a) Maximum Setback (>25 feet and <50 feet) b) Original Setback (if >25 feet) c) 25 feet~~

	~~Drainfield Sidewall to Start of Slope~~	~~2~~	~~4 feet~~	~~Greatest of the Following: a) Maximum Separation (>2.5 feet) b) 2.5 feet~~
	~~System to Property Line or Building Foundation~~	~~1~~	~~5 feet~~	~~Greatest of the Following: a) Maximum Setback (>2 feet) b) 2 feet~~
~~1-1-72 to 12-31-82~~	~~System to a Private Potable Well~~	~~6~~	~~75 feet~~	~~Greatest of the Following: a) Maximum Setback (<75 feet and >50 feet) b) Original Setback (if >50 feet) c) 50 feet~~
	~~Bottom of Drainfield Absorption Surface to Wet Season Water Table~~	~~5~~	~~24 inches~~	~~Greatest of the Following: a) Maximum Separation (<24 inches and >6 inches) b) Original Separation (if >6 inches) c) 6 inches~~
	~~Effective Soil Depth~~	~~5~~	~~42 inches~~	~~Greatest of the Following: a) 36 inches b) Maximum Separation (> 24 inches) c) 24 inches~~
	~~System to Surface Water~~	~~4~~	~~75 feet~~	~~Greatest of the Following: a) Maximum Setback (<75 feet and >50 feet) b) Original Setback (if >50 feet) c) 50 feet~~

	System to Non-Potable Well	3	50 feet	Greatest of the Following: a) Maximum Setback (<50 feet and >25 feet) b) Original Setback (if >25 feet) c) 25 feet
	Drainfield Sidewall to Start of Slope	2	4 feet	Greatest of the Following: a) Maximum Separation (>3 feet) b)23 feet
	System to Property Line or Building Foundation	1	5 feet	Greatest of the Following: a) Maximum Setback (>2 feet) b) 2 feet
1-1-83 to Present	System to a Private Potable Well	6	75 feet	75 feet
	Bottom of Drainfield Absorption Surface to Wet Season Water Table	5	24 inches	Greatest of the Following: a) Existing elevation (>12 inches) b) 12 inches
	Effective Soil Depth	5	42 inches	Greatest of the Following: a) Maximum Separation (>36 inches) b) 36 inches
	System to Surface Water	4	75 feet	Greatest of the Following: a) Maximum Setback (if >50 feet) b) 50 feet
	System to Non-Potable Well	3	50 feet	50 feet
	Drainfield Sidewall To Start of Slope	2	4 feet	4 feet

System to Property Line or Building Foundation	1	5 feet	Greatest of the Following: a) Maximum Setback (if >2 feet) b) 2 feet

Footnotes to Table V:

(d)1. For sites which contain oolitic limestone, the minimum effective soil depth shall be 12 inches regardless of the date the original system was installed provided that the wet season water table is a minimum of 4 feet below the bottom surface of the drainfield.

(e)2. Where severely limited soil underlies the drainfield, soil removal and replacement shall be performed as per Footnotes 3. and 4. to Table III in Section 64E-6.008, F.A.C.

(f)(b) Where the cause of system failure is determined to be from root clogging or physical damage of the distribution box or drainfield, and where removal of the root mass and restoration of the damaged drainfield will restore the system to its original design, upon permitting and, inspection of the repair, permit satisfaction will be considered achieved.

For systems permitted on or after January 1, 1983, if system failure is due to excessive hydraulic loading, the original permitted drainfield shall be allowed to remain in service but shall have additional drainfield added to it. The resulting system drainfield size shall be 50 percent larger than the drainfield originally permitted, or shall be in compliance with drainfield sizing criteria specified in Rules 64E-6.008 and 64E-6.009, F.A.C., whichever is larger.

(g)(c) For systems receiving domestic wastewater Minimum sizing of drainfield repairs for residential systems installed prior to 1983 shall be based on the criteria specified below. F failed drainfields shall be replaced with drainfields of the same size as the existing drainfields or meeting the sizing criteria specified in Rules 64E-6.008 and 009, F.A.C., whichever is larger, at a minimum, the sizing criteria specified below provided that sewage flows shall be determined from values found in Table I of Section 64E-6.008, F.A.C., or, for non-residential applications, on the highest monthly flow for the previous 18 month period from documented water use records, whichever is higher.

1. If sufficient area is available, the existing drainfield can be left in place and used as part of the system. A new drainfield equal in size to, and separate from, the existing drainfield shall be added and flow directed to both the old and new drainfield.

2. Table VI and VII values are for subsurface and filled systems if the existing drainfield cannot be used as part of the repair. Mound trench systems shall be sized 10 percent larger than the values below and 20 percent larger if absorption beds are installed in the mound. The amount of drainfield installed during the repair shall not be less than the amount the system had prior to the repair.

TABLE VI
Residential Sizing for Slightly Limited Soil Textures

Number of Bedrooms	Square Feet of Trench Area	Square Feet of Absorption Bed
1	75	100
2	150	200
3	225	300
4	300	400
Add per bedroom	75	100

TABLE VII
Residential Sizing for Moderately Limited Soil Textures

Number of Bedrooms	Square Feet of Trench Area	Square Feet of Absorption Bed
1	100	125
2	200	250
3	300	375
4	400	500
Add per bedroom	100	125

(h)(d) Repairs of systems receiving commercial sewage waste commercial systems installed prior to 1983 shall be based on the following criteria:

1. Sewage flows shall be determined from values found in Table I of Rule 64E-6.008, F.A.C., or on the highest monthly flow for the previous 18 month period from documented water use records, whichever is higher.

1. Drainfield loading shall not exceed 0.0015 pounds combined $CBOD_5$ and TSS per square feet per day based on measured

concentrations of treatment receptacle effluent samples and estimated sewage flow.

2. Drainfield loading shall not exceed the maximum loading rates in Rules 64E-6.008 and 009, F.A.C.

3. Portions of the existing drainfield that meet the requirements for system repairs and remain fundamentally in satisfactory operating condition may remain in service and have additional drainfield added to it.

4. The resulting drainfield following the repair shall not be smaller than the existing drainfield prior to the repair.

~~2. Failed drainfields shall at a minimum, meet the sizing criteria specified below.~~

~~a. If sufficient room is available, the existing drainfield can be left in place and used as part of the system. A new drainfield equal in size to, and separate from, the existing failed drainfield shall be added.~~

~~b. Sewage loading rates to trench or absorption bed bottom areas shall be in accordance with the values in Table VIII which are applicable to subsurface and filled drainfield systems if the existing drainfield is replaced with a new drainfield. Mound trench systems shall be sized 10 percent larger than the values below and 20 percent larger if absorption beds are installed in the mound.~~

~~TABLE VIII~~

~~Drainfield Sizing for Commercial Systems Installed~~

~~Prior to 1983~~

~~in gallons/square foot/day~~

	~~Trenches~~	~~Absorption Beds~~
~~Slightly limited textures~~	~~1.00~~	~~0.80~~
~~Moderately limited textures~~	~~0.65~~	~~0.50~~

~~(e) Where the cause of system failure is determined to be from root clogging of the distribution box or drainfield line of a system, and where removal of the root mass and replacement of damaged drainfield material will restore the system to its original design function, upon inspection and verification of the repair work by the health unit, permit satisfaction will be considered to be achieved.~~

~~(f) A tank need not be replaced as part of the repair if the health unit determines the tank to be structurally sound, constructed of approved materials, and if such tank has an effective capacity within two tank sizes of the capacities required by Table II. In addition, the tank shall be pumped and a solids deflection device shall be installed as a part of the outlet of the tank if one is not currently in place.~~

~~(g) Repairs to a system shall not be located within 2 feet of a sleeved and sealed potable water line or 2 feet from non-potable water lines.~~

(i)~~(h)~~ If the total drainfield area exceeds 1000 square feet, or if the tank is too low to permit gravity flow into the drainfield, the drainfield shall be dosed. The requirements of subsections 64E-6.014(3) and (4), F.A.C., shall be used for dosing requirements.

(j)~~(i)~~ Setbacks from an existing system to a public well shall not be decreased from existing setbacks, but shall be increased where practical to achieve the required setbacks in 381.0065(4)(e), F.S.~~as per paragraphs 64E-6.005(1)(b) and (c), F.A.C.~~

(k) A tank need not be replaced as part of the repair if the ~~health~~ department determines the tank to be free of observable defects or leaks, free of deformity, constructed of approved materials, and within two sizes of the capacities required by Table II in Section 64E-6.008, F.A.C. The tank shall be pumped and a solids deflection device installed if one is not currently in place.

(6)~~(7)~~ If a repair cannot be made utilizing the standards in subsection 64E-6.015(5)~~(6) above~~, F.A.C., all available area for drainfield repair shall be assessed ~~and the repair permit shall~~to allow for the maximum size drainfield that can be accommodated in the available area while ~~allowing for the system to be installed~~ meeting the required separation from the ~~above the~~ wettest season water table. Obstructions placed in violation of original permit conditions shall be permanently removed to provide space for system repair. Total removal of the existing drainfield and replacement of the drainfield in its original location shall be authorized if there is no additional area to enlarge the system. Setbacks to potable wells~~,~~ and surface water bodies shall not be less than the minimum setbacks in subsection 64E-6.015(5), F.A.C.~~, and other pertinent features which are less than the setbacks in subsection (6) above shall not be reduced below existing setbacks~~. ~~Nothing in this section shall be construed to allow a drainfield to remain in the wet season water table. The appropriate requirements for bottom of drainfield absorption surface to wet season water table separation in Table V shall be adhered to in all repairs.~~ Engineer-designed retention walls may be used to enclose 100 percent of a mound perimeter to maximize the quantity of drainfield installed. If the resulting drainfield area is less than 75 percent of the drainfield required in subsection 64E-6.015(5), F.A.C., aerobic treatment units and drip-emitter drainfield systems shall be required in order to meet, as closely as possible, the elevation, setback and sizing requirements of this section. The resulting drainfield following the repair shall not be smaller than the existing drainfield prior to the repair or smaller than 75% of the drainfield area required in sections 64E-6.008 and 009, F.A.C.

(7)~~(8)~~ If soil replacement is to be performed on any repair, the requirements of Footnotes 3 and 4 to~~.~~, Table III in Section 64E-6.008, F.A.C.,, shall be adhered to.

~~(9) System repairs shall be performed by persons who are qualified to do so as set forth in Part III of this rule.~~

~~(10) Except as provided for in subsection (7) above, the amount of drainfield installed during the repair shall not be less than the amount the system had prior to the repair.~~

~~(11) Subsection 64E-6.004(7), F.A.C., shall be used in conjunction with this section when permitting a repair in which the property has been divided after the original permit was issued.~~

(8)~~(12)~~ For inspection purposes when a drainfield is repaired using a physical disruption method, such as air injection, the contractor shall mark the location of each injection site in an easily identifiable manner.

The ~~county health~~ department shall inspect repairs to determine that the absorption surface of the repaired drainfield meets the separation requirements from ~~is at least six inches above~~ the wettest season high water table, to determine the repair process was completed according to the information provided with the repair permit application and to determine the repair site is free of sanitary nuisance conditions.

(9) Any single drainfield trench or bed must consist entirely of the same drainfield product.

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065, 386.041 FS. History–New 3-17-92, Amended 1-3-95, 2-13-97, Formerly 10D-6.0571, Amended 2-3-98, 3-22-00, 5-24-04, 11-26-06, 6-25-09, 4-28-10, ___.

64E-6.0151 Product Composition.

(1) Any product sold or used in the state for use in a~~n onsite sewage treatment and disposal~~ system shall be in compliance with the requirements of Section 381.0065(4)(m), F.S. The following criteria shall be used in determining product compliance.

(a) Use of the product shall not result in violations of Surface Water Quality Rule 62-302.500, F.A.C., effective 5-15-2002, or Groundwater Quality Rules 62-520.400 and 62-520.420, F.A.C., effective 12-9-1996.

(b) The product's formula itself shall not exceed water quality contaminant concentrations in Rule 62-302.500, F.A.C., effective 5-15-2002, or Rules 62-520.400 and 62-520.420, F.A.C., effective 12-9-1996.

(c) The product shall contain no substance in ~~concentrations or~~ amounts that would interfere with or prevent the ~~successful~~ operation of a~~n onsite sewage treatment and disposal~~ system.

(2) If the d~~D~~epartment determines a~~n onsite sewage treatment and disposal~~ system product is not in compliance with the criteria in Section ~~Rule~~ 64E-6.0151, F.A.C., the d~~D~~epartment shall notify the product manufacturer of the items ~~in non-compliance~~not in compliance. The product shall be allowed to be ~~continued for~~sold ~~sale~~ and used in Florida for a maximum of 90 days from date of receipt of notification of ~~violation~~non-compliance. To prove product compliance with Section 381.0065(4)(m), F.S. and this rule the manufacturer shall minimally provide the following:~~This is to allow the manufacturer an opportunity to exhibit to the department that the product satisfactorily complies with the conditions of Section 381.0065(4)(m), F.S., and this rule. In attempting to demonstrate compliance with Section 381.0065(4)(m), F.S., and this rule, the manufacturer shall provide at a minimum the following information:~~

(a) A listing of all physical, chemical, biological or other agents which make up the product and ~~provide~~ toxicity information for each component. This information shall include trade names, chemical names, ~~and~~ concentrations of all individual or complexed components and the product's Material Safety Data Sheet (MSDS)~~ for the product. Any trade secret will be treated according to Section 381.83, F.S.~~

(b) A list of all known, expected, or possible reactions and by-products resulting from use of the product including the effect on bacteria, all standard contents of the tank, ~~including sludge layer; scum layer; fats, oils and greases~~, and the effects on currently approved drainfield distribution systems.

(c) Test results from a State or EPA-certified laboratory demonstrating that use of the product will not result in violations of surface water or groundwater standards in this section~~Rule 64E-6.0151, F.A.C~~. Tests shall be conducted on the product as sold ~~and the test results shall~~ including~~e~~:

1. Acute Definitive Toxicity test [96 hour LC_{50}] according to EPA Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA-821-R-02-012), October 2002, herein incorporated by reference, for *Pimephales promelas* (fathead minnow) or any of the following species: *Ceriodaphnia dubia* (daphnid), *Cyprinella leedsi* (bannerfin shiner), *Daphnia pulex* and *Daphnia magna* (daphnids). The 96-hour LC_{50} shall be reported as a concentration in mg/L~~l~~ or ml/L~~l~~, and;

2. Chemical analysis showing the concentrations of Volatile Organic Compounds [EPA 8260] to a minimum detection level for each compound sufficient to determine if a water quality violation will occur~~of 0.5 ug/L (ppb)~~.

(d) A description of the anticipated use of the product in ~~onsite sewage treatment and disposal~~ systems. Where and how the product is to be applied, any exceptions to application guidelines, the frequency of applications, who is allowed to perform the applications, and the amount and concentration of product per application shall be included in the product description. When the product should not be used shall also be included in the description. The information provided shall include the manufacturer's recommended application rate of the product as it appears on the product label. Unless the product label provides other specifications, the department, for purposes of this evaluation, assumes that the application rate will be applied to a flow of 300

gallons per day into a 1000-gallon septic tank. For chemicals embedded in physical objects, the object, or fragments of the object, shall be submerged in water with the pH and temperature manipulated for a period of time to maximize the possible release of the chemicals into the water in worst-case real-world conditions. That water shall become the test material for the analysis.

(e) All available studies done on the use of the product which support or disputes the information required in this section~~Rule 64E-6.0151, F.A.C.,~~ and which demonstrates the product will not harm public health or the environment and will not impair system components and functioning. Monitoring reports and data from systems in use shall be provided. ~~if available.~~

(f) ~~A signed and dated certification by the manufacturer that states~~Manufacturer's certification stating: "I certify under penalty of law that these documents and all attachments, to the best of my knowledge and belief, are true, accurate and complete, and represent all available data for [name of product or products]."

(g) Scientific documentation demonstrating claimed benefits occurring due to the use of the product.

(3) If the department determines that the product does not comply with the provisions of Section 381.0065(4)(m), F.S., the department shall stop the sale of the product or take other actions deemed necessary to preclude the sale and use ~~of the non-compliant product~~.

(4) Products shall not be used in a manner contrary to the product label instructions.

Rulemaking Authority ~~381.0011(4), (13),~~ 381.0065(4)(m)~~(3)(a)~~ FS. Law Implemented 381.0065(4)(m)~~, 381.00655~~ FS. History–New 3-22-00, Amended 5-24-04, 6-25-09, ____.

64E-6.016 U.S. Department of Agriculture Soil Textural Classification System (Repealed).

~~(1) Soil texture is a term commonly used to designate the proportionate distribution of different sized mineral particles in a soil material. The three basic sizes of soil mineral particles are the sand size, the silt size and the clay size. The sand size class is subdivided further into the subclasses of very coarse sand, coarse sand, medium sand, fine sand, and very fine sand. Individual particles, based on their size, are grouped into separates. These soil separates are classified by size into the groupings shown below:~~

~~Separate~~	~~Diameter Limit in Millimeters~~
~~Very coarse sand~~	~~2.00-1.00~~
~~Coarse sand~~	~~1.00-.50~~
~~Medium sand~~	~~.50-.25~~
~~Fine sand~~	~~.25-.10~~
~~Very fine sand~~	~~.10-.05~~
~~Silt~~	~~.05-.002~~
~~Clay~~	~~less than .002~~

~~(2) Florida's major soil texture classifications and some of the characteristics which can be utilized in the field for identification of these soil texture groups is accomplished primarily by rubbing moist samples of soil material between the fingers and observing how the material feels.~~

~~(a) Sand – Sand feels extremely gritty and does not form a ribbon or ball when wet or moist. A sand is loose and single grained. The individual grains can readily be seen or felt.~~

~~(b) Loamy sand – Loamy sand feels extremely gritty and forms a weak ball that cannot be handled without breaking.~~

~~(c) Sandy loam – A sandy loam feels extremely gritty and slightly sticky. When moist, it forms a cast that will bear careful handling without breaking.~~

~~(d) Loam – A loam feels somewhat gritty, yet fairly smooth and slightly plastic. When moist, it forms a cast that may be handled quite freely without breaking. Loam forms only short ribbons about 0.25 inch to 0.50 inches in length. This soil texture is not common in Florida soils.~~

~~(e) Silt loam – Silt loam lacks grittiness and feels extremely floury when moist or dry. When dry it may appear cloddy but the lumps can be readily broken. When moist it will form casts that can be freely handled without breaking. It will not form a ribbon but will give a broken appearance. This soil texture is not common in Florida soils.~~

~~(f) Silt – Silt lacks grittiness and feels extremely floury when moist or dry. It will not ribbon and forms a weak ball that will tolerate careful handling without breaking. This soil texture is extremely rare in Florida soils.~~

~~(g) Sandy clay loam – Sandy clay loam feels very gritty and sticky. When moist it forms a firm ball and may form a ribbon of one to two inches before it breaks.~~

~~(h) Clay loam – A clay loam feels very sticky with little or no grittiness. When moist it will form a ribbon that is about one to two inches long. The moist soil is plastic and will form a cast or ball that will bear much handling. When kneaded in the hand it does not crumble readily but tends to work into a heavy compact mass.~~

~~(i) Sandy clay – Sandy clay feels extremely sticky and very gritty. When moist and forms a firm ball and produces a ribbon that is over two inches in length before breaking.~~

~~(j) Silty clay – Silty clay feels both plastic and extremely sticky when moist and lacks any gritty feeling. It forms a firm ball and readily ribbons to over two inches in length before it breaks. This soil texture is not common in Florida soils.~~

~~(k) Clay – A clay feels extremely sticky and is neither gritty nor floury. When moist it forms a ribbon over two inches in length before breaking. It will form a hard ball or cast which will not break when handled.~~

~~(l) Organic soils – Muck, peat, and mucky peat are used in place of textural class names in organic soils. Muck is well decomposed organic soil material; peat consists of raw undecomposed organic soil material; and mucky peat designates materials intermediate in decomposition between muck and peat.~~

~~(3) Definitions of the soil texture classes according to distribution of size classes of mineral particles less than 2 millimeters in diameter are as follows:~~

~~(a) Sands – 85 percent or more sand and the percentage of silt plus 1 1/2 times the percentage of clay is 15 or less.~~

~~1. Coarse sand – 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.~~

~~2. Sand – 25 percent or more very coarse, coarse and medium sand, but less than 25 percent very coarse and coarse sand, and less than 50 percent either fine sand or very fine sand.~~

~~3. Fine sand – 50 percent or more fine sand; or less than 25 percent very coarse, coarse, and medium sand and less than 50 percent very fine sand.~~

~~4. Very fine sand – 50 percent or more very fine sand.~~

~~(b) Loamy sands – At the upper limit 85 to 90 percent sand and the percentage of silt plus 1 1/2 times the percentage of clay is 15 or more; at the lower limit 70 to 85 percent sand and the percentage of silt plus twice the percentage of clay is 30 or less.~~

~~1. Loamy coarse sand – 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.~~

~~2. Loamy sand – 25 percent or more very coarse, coarse, and medium sand and less than 50 percent either fine sand or very fine sand.~~

~~3. Loamy fine sand – 50 percent or more fine sand; or less than 50 percent very fine sand and less than 25 percent very coarse, coarse, and medium sand.~~

~~4. Loamy very fine sand – 50 percent or more very fine sand.~~

~~(c) Sandy loams – 20 percent or less clay and 52 percent or more sand and the percentage of silt plus twice the percentage of clay exceeds 30; or less than 7 percent clay, less than 50 percent silt, and between 43 and 52 percent sand.~~

~~1. Coarse sandy loam – 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.~~

~~2. Sandy loam – 30 percent or more very coarse, coarse, and medium sand, but less than 25 percent very coarse and coarse sand, and less than 30 percent either fine sand or very fine sand.~~

~~3. Fine sandy loam – 30 percent or more fine sand and less than 30 percent very fine sand; or between 15 and 30 percent very coarse, coarse, and medium sand; or more than 40 percent fine and very fine sand, at least half of which is fine sand, and less than 15 percent very coarse, coarse, and medium sand.~~

~~4. Very fine sandy loam – 30 percent or more very fine sand; or more than 40 percent fine and very fine sand, at least half of which is very fine sand, and less than 15 percent very coarse, coarse, and medium sand.~~

~~(d) Loam – 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.~~

~~(e) Silt loam – 50 percent or more silt and 12 to 27 percent clay; or 50 to 80 percent silt and less than 12 percent clay.~~

~~(f) Silt – 80 percent or more silt and less than 12 percent clay.~~

~~(g) Sandy clay loam – 20 to 35 percent clay, less than 28 percent silt, and 45 percent or more sand.~~

~~(h) Clay loam – 27 to 40 percent clay and 20 to 45 percent sand.~~

~~(i) Silty clay loam – 27 to 40 percent clay and less than 20 percent sand.~~

~~(j) Sandy clay – 35 percent or more clay and 45 percent or more sand.~~

~~(k) Silty clay – 40 percent or more clay and 40 percent or more silt.~~

~~(l) Clay – 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.~~

Rulemaking Authority 154.06, 381.0011, 381.006, 381.0065, 489.553, 489.557 FS. Law Implemented 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381,00655, 381.0066, 381.0067, Part I 386 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.58, Amended 3-17-92, 1-3-95, Formerly 10D-6.058, Repealed_____.

64E-6.017 Definitions for Systems in the Florida Keys.

Definitions in Chapter 64E-6, Parts I and III, F.A.C., are also applicable to Chapter 64E-6, Part II, F.A.C.

(1) Basic disinfection – treatment process designed to meet secondary treatment standards for fecal coliform providing an arithmetic annual mean not to exceed 200 fecal coliform colonies per 100 ml sample.

(2) ~~(1)~~ Building Area – that enclosed area of a dwelling unit, excluding the garage, carport, exterior storage shed, or open or screened patios or decks. Calculations of building area shall be made by measurements of the outside building dimensions. Building area of each additional story of the structure shall be added to determine the total building area.

(3) ~~(2)~~ Cesspit – a pit~~, with or without a cover,~~ that receives untreated sewage from a building and discharges the sewage~~, either untreated or improperly treated,~~ directly to the surrounding soil or limestone. A septic tank that functions as a cesspit shall be considered a cesspit.

(4) ~~(3)~~ Injection well – an open vertical hole at least 90 feet in depth, fully cased and grouted to at least 60 feet in depth which is used to dispose of onsite sewage treatment and disposal system effluent.

(5) ~~(4)~~ Minimum level of waste treatment – a treatment which will provide a recovered water product that contains not more, on a permitted annual average basis, than the following concentrations from a sampling point located following the final design treatment step of the ~~onsite sewage treatment and disposal~~ system:

(a) Biochemical Oxygen Demand ($CBOD_5$)	10 mg/L~~1~~
(b) Suspended Solids	10 mg/L~~1~~
(c) Total Nitrogen, expressed as N	10 mg/L~~1~~
(d) Total Phosphorus, expressed as P	1 mg/L~~1~~

(6) ~~(5)~~ Salt Marsh and Buttonwood Associations – two plant associations that are used in this Chapter.~~sometimes collectively or individually referred to as the "transitional zone."~~

(a) The salt marsh community is a wetland area subject to tidal influence wherein the dominant vegetation includes ~~the following:~~

~~1.~~ *Batis maritima* Saltwort;
~~2.~~ *Distichilis spicata* Salt grass;
~~3.~~ *Fimbristylis castanea* Chestnut sedge;
~~4.~~ *Monanthochloe littoralis* Key grass;
~~5.~~ *Salicornia spp.* Glasswort;
~~6.~~ *Sesuvium portulacastrum* Sea purslane; and
~~7.~~ *Spartina spp.* Cordgrass.

The woody vegetation ~~that~~ may ~~be present includes~~include red, white and black mangroves, as well as buttonwood (*Conocarpus erectus*); the salt marsh community is distinguished by the dominance of non-woody plants, and the woody species have a coverage of less than 40 percent. ~~The salt marsh community~~It may be associated and intermixed with areas of almost bare ground on which the vegetation may be limited to mats of algae.

(b) The buttonwood association is an association that is usually present in the more landward zone, and may intermix with more upland communities. The vegetation may include, but is not limited to, ~~the following species:~~

~~1.~~ *Borrichia spp.* Sea oxeye daisy;
~~2.~~ *Bumelia celastrina* Saffron plum;
~~3.~~ *Coccoloba uvifera* Sea grape;
~~4.~~ *Conocarpus erectus* Buttonwood;
~~5.~~ *Erithalis fruticosa* Black torch;
~~6.~~ *Fimbristylis castanea* Chestnut sedge;
~~7.~~ *Jacquinia keyensis* Joewood;
~~8.~~ *Lycium carolinianum* Christmas berry;
~~9.~~ *Maytenus phyllanthoides* Mayten; and
~~10.~~ *Spartina spp.* Cordgrass.

The buttonwood association is distinguished from the salt marsh association by the dominance of buttonwood trees, usually occurring as an open stand that permits the growth of an under-story of groundcovers and shrubs~~shubs~~.

(7) ~~(6)~~ Nutrient reducing material – material which is used ~~in the final treatment stage of an onsite sewage treatment and disposal system~~ to reduce effluent nutrient levels ~~to the minimum level of waste treatment~~.

(8) ~~(7)~~ Undocumented system – a~~n onsite sewage treatment and disposal~~ system that does not have a record of ~~installation and~~department approval.

Rulemaking Authority ~~381.0011(4), (13), 381.006,~~ 381.0065(3)(a), (4)(l)~~(k)~~ FS.~~, Ch. 99-395, LOF~~. Law Implemented ~~154.01, 381.001(2), 381.0011(4), 381.006(7), 381.0061,~~ 381.0065,~~ 381.00655, 386.041~~ FS.~~, Ch. 99-395, LOF~~. History–New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.062, Amended 3-3-98, 3-22-00,____.

64E-6.018 System Location, Design and Maintenance Criteria for Systems in the Florida Keys.

(1) Table III of section~~Chapter~~ 64E-6.008, ~~Part I,~~ F.A.C., and other subsections of Part I pertaining to soil texture, soil depth, and

maximum sewage loading rates for specific soils shall not apply to areas subject to the provisions of this Part except for Table III, Footnote 2., as it relates to the falling head percolation test procedure. However, approved system design criteria, system location, operation, maintenance and monitoring requirements of this section ~~subsections 64E-6.018(1), (2), (3), and (4), F.A.C.,~~ shall apply. A minimum of one soil profile and one percolation test per application shall be required for site evaluations performed in the Florida Keys. However, a soil profile and percolation test is not required when ~~the system design engineer chooses the use of~~ an injection well is used for effluent disposal. The following information shall be used to determine the wet season water table elevation:

(a) U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) soils maps and ~~soil~~ interpretations ~~records~~.

(b) Mean high water elevation based on the Department of Environmental Protection, Bureau of Survey and Mapping, Land Boundary Information System (LABINS) mean high water data or determined by a surveyor in accordance with Chapter 177, FS.

(c) For the purposes of sections 64E-6.017 through 64E-6.0182, FAC, the wet season water table shall not be lower than the elevation of mean high water nor lower than the bottom of the range of the high water table depth in the USDA-NRCS soils maps and soil interpretation records.

(2) Effluent loading rates for various system components installed under this part shall not exceed the following:

(a) Nutrient-reducing material-lined drainfield receiving effluent from a performance-based treatment system.	1.7 gallons per day per square foot
(b) Sand-lined drainfield receiving effluent from a performance-based treatment system	1.3 gallons per day per square foot
(c) Sand-lined drainfield receiving effluent from an aerobic treatment unit	1.1 gallons per day per square foot
(d) Sand-lined drainfield receiving effluent from a septic tank	0.9 gallons per day per square foot
(e) Mineral aggregate filter receiving effluent from an aerobic treatment unit	5.5 gallons per day per square foot
(f) Mineral aggregate filter receiving effluent from a performance-based treatment unit designed to meet a performance standard of 10 mg/L for $CBOD_5$ and TSS before the effluent passes through the filter.	8 gallons per day per square foot

(3) All new, modified and repaired ~~onsite sewage treatment and disposal~~ systems shall be performance-based treatment systems designed by an engineer ~~licensed in the State of Florida~~, permitted in accordance with Part IV of this chapter and shall meet the minimum level of waste treatment as defined in section ~~Rule~~ 64E-6.017, F.A.C. All receptacles subject to a positive buoyancy exposure shall be anchored or otherwise weighted to prevent flotation during flooding periods. The engineer's design shall evaluate the receptacles ~~shall be evaluated~~ for buoyancy while in their normal operating condition.

(4) ~~(1)~~ A~~n~~ ~~onsite sewage treatment and disposal~~ system which meets the location, construction, maintenance and operational requirements of this section ~~paragraphs 64E-6.018(1)(a) or (b), F.A.C.,~~ shall be approved, provided that if an aerobic treatment unit is a component of the system design, the certification, construction, operational and maintenance requirements of Section~~Rule~~ 64E-6.012, F.A.C., shall also be met. The design engineer may specify an aerobic treatment unit with a minimum treatment capacity equal to the estimated sewage flow in Table I in section 64E-6.008, F.A.C., in lieu of using ~~the values in~~ Table IV in section 64E-6.012, F.A.C., when the aerobic treatment unit is part of a performance-based treatment system.

(a) ~~When final~~For effluent disposal ~~is~~ into a nutrient reducing material-lined drainfield system, the following ~~general~~ requirements shall apply:

1. A minimum 12 inch thick layer of nutrient-reducing material shall be placed beneath the bottom of the drainfield adsorption surface and a minimum 12 inch wide layer of the nutrient-reducing material shall be placed contiguous to the drainfield sidewall adsorption surfaces and extend from the elevation of the top of the drainfield sidewall down to at least 12 inches below the bottom of the drainfield in order to ensure that all effluent leaving the drainfield through the bottom or sidewalls must pass through at least 12 inches of nutrient-reducing material.

2. If the nutrient-reducing material is more coarse than the quartz sand required in subparagraph 64E-6.018(4)(b)1., the nutrient reducing material shall overlie a 12 inch thick layer of quartz sand meeting the particle size requirements for sand liners in subparagraph 64E-6.018(4)(b)1.

3. No part of the system shall be within 25 feet of the mean high water line of tidally influenced surface water bodies or within 25 feet of the mean annual flood line of permanent nontidal surface water bodies or salt marsh and buttonwood association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

~~1. The county health department shall require the installer of a nutrient reducing material lined drainfield system to provide certification from the installer's nutrient reducing material supplier that the material supplied for such type of installations meets the~~

~~requirements of this subsection.~~

~~2. No part of the system shall be within 25 feet of the boundaries of surface water bodies or salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.~~

4. ~~3.~~ The bottom of the drainfield shall be at least 24 inches above the wet season water table. The bottom surface of the nutrient reducing material layer shall be at least 12 inches above the wet season water table. The bottom surface of the sand layer, if required, shall be at or above the elevation of the wet season water table. ~~mean high water.~~

~~4. Appropriate shallow root vegetative cover shall be established over drainfield systems to maximize the beneficial effects of evapotranspiration.~~

~~5. Nutrient reducing material has a finite life span. The nutrient reducing material shall be replaced as necessary to ensure that the system continues to meet the minimum level of waste treatment.~~

5. Even distribution over the nutrient reducing material layer shall be assured by utilizing low-pressure dosing or drip irrigation.

6. If drip emitter lines are used, the nutrient-reducing material shall extend at least 12 inches horizontally from the lines.

(b) When final disposal is into a sand-lined drainfield, the following general requirements apply:

1. For a sand-lined drainfield, a minimum 12 inch thick layer of quartz sand shall be placed beneath the bottom of the drainfield adsorption surface and a minimum 12 inch wide and minimum 24 inch thick layer of quartz sand shall be placed contiguous to the drainfield sidewall adsorption surfaces in order to provide an additional level of effluent treatment prior to effluent passing into the surrounding natural limestone rock. Sand material shall have either an effective grain size in the range of 0.25 millimeter to 1.00 millimeter and shall have a uniformity coefficient of less than 3.5, or the material shall be of such size whereby at least 90 percent of the sand particles pass a U.S. Standard Number 18 sieve and less than 10 percent pass a number 60 sieve. These materials are in the USDA soil texture classes known as medium sand and coarse sand. The installer of a sand-lined drainfield system shall provide to the department certification from the sand supplier that the sand meets the requirements of this subsection.

2. The system shall meet the setback requirements of 64E-6.018(4)(a)3.

3. The bottom of the drainfield shall be at least 24 inches above the wet season water table.

(c)~~(b)~~ An injection well shall be approved for final effluent disposal provided setbacks from salt marsh/buttonwood habitats and other surface water bodies cannot be met by another approved effluent disposal system described in this section ~~noted above,~~ and provided the installation is in compliance with the following:

1. An injection well shall not be permitted or installed under the provisions of this part in any area designated by the United States Environmental Protection Agency or the Florida Department of Environmental Protection as having a single or sole source aquifer. Single source aquifer is defined in subsection 62-520.200~~(14)~~, F.A.C.

2. In areas where injection wells are approved for use, the ~~DOH Monroe County Health~~ department shall be the permitting authority for the engineer designed onsite sewage treatment unit and the injection well, where the estimated daily domestic sewage flow will not exceed 2000 gallons per day. For establishments having a total daily domestic sewage flow greater than 2000 gallons per day but not greater than 10,000 gallons per day or establishments having a daily commercial sewage flow not greater than 5000 gallons per day, the department ~~Monroe County Health Department~~ shall be the permitting authority for the engineer designed treatment unit and Department of Environmental Protection~~DEP~~ shall be ~~is~~ the permitting authority for the injection well and any additional associated effluent treatment device.

3. The ground surface within a distance of at least 10 feet in all directions around the injection well and any portion of the ~~onsite sewage treatment and disposal~~ system shall not be subject to frequent ~~surface or ground water~~ flooding. In addition, the invert of the effluent inlet pipe to the injection well shall be a minimum 18 inches above the estimated mean ~~seasonal~~ high water level.

4. If there is adequate vertical and horizontal clearance to allow for proper maintenance, repair or replacement of the treatment unit and injection well, such components of the ~~onsite sewage treatment and disposal~~ system shall be allowed to be placed beneath an elevated building.

5. Prior to discharge into an injection well, effluent shall pass through an unsaturated mineral aggregate filter unit as described in sub-sub paragraphs 64E-6.018(4)(c)5.a. through c., FAC, below or through a filter unit that has been determined by the Bureau of Environmental Health to allow the discharge of no more than 5 mg/L of $CBOD_5$ and TSS from the filter and at a minimum ~~shall~~ provide a 50% reduction in $CBOD_5$ and TSS. The unsaturated mineral aggregate filter shall be designed in accordance with the following:

a. Effluent application to the unsaturated mineral aggregate filter unit shall be by gravity or pressure distribution to a perforated pipe distribution system as specified in Section 64E-6.014, F.A.C. Such distribution system shall be placed within the walls of the mineral aggregate filter and shall be placed above a minimum 24-inch thick mineral aggregate filter layer. Mineral aggregate filter material shall have either an effective size in the range of 1.18 millimeters to 4.75 millimeters and a uniformity coefficient of less than 3.5 or the material shall meet aggregate size number eight or nine pursuant to specifications of the Florida Department of Transportation's Standard Specification for Road and Bridge Construction, Section 901, 1991. The system designer may specify additional layers of filter material above or below the required 24-inch layer of filter material. The installer of mineral aggregate filter systems shall provide certification from the aggregate supplier that the aggregate meets requirements of this sub-paragraph. If the filter is not sealed with a lid meeting the requirements for septic tank lids in 64E-6.013, F.A.C., the top of the filter shall be at

least 18 inches above the elevation of the wet season water table and the filter shall be capped with a layer of slightly limited soil no less than 6 nor more than 12 inches thick. The design engineer may choose to use 24 inches of phosphorous adsorbing material in lieu of the 24-inch layer of filter material provided the effective size of the phosphorous adsorbing material meets the particle size specifications of this sub-paragraph.

b. The maximum sewage loading rate to an approved filter unit other than an unsaturated mineral aggregate filter as described in this section shall be evaluated by the Bureau of Environmental Health based on unit design, size, filter media characteristics and expected functional life of the unit.

c. Effluent having passed through an unsaturated mineral aggregate filter shall collect in an underdrain for discharge into an injection well. The underdrain shall consist of minimum 4 inch diameter perforated drainpipe which is encased within a minimum 8 inch depth of 1/2 to 2 inch diameter washed and durable mineral aggregate. The walls and bottom of the filter unit shall be reinforced concrete or other material of adequate strength and durability to withstand hydrostatic and earth stresses to which the unit will be subjected. The walls and bottom of the unit shall be made watertight so that the total volume of effluent passed through the mineral aggregate filter will be collected in the filter underdrain for discharge into the injection well.

6. Prior to discharge into an injection well, effluent from the filter unit shall be disinfected by chlorination or other disinfection method approved by the Bureau of Environmental Health to meet the basic disinfection requirements of this rule. Where chlorination is used, a free chlorine residual of 0.5 milligram per liter measured at the point of effluent discharge after a minimum chlorine contact time of 15 minutes prior to discharge into the injection well, shall be maintained in the effluent at all times. Disinfection shall occur in a treatment chamber dedicated to that purpose. Contact time shall be based on a peak hourly flow of no less than 20% of the estimated daily sewage flow.

~~5. Prior to discharge into an injection well, effluent shall be disinfected by chlorination or other disinfection method approved by the State Health Office. A minimum disinfection level equivalent to a free chlorine residual of 0.5 milligrams per liter measured at the point of effluent discharge after a minimum chlorine contact time of 15 minutes into the injection well, shall be maintained in the effluent at all times.~~

7. ~~6.~~ An injection well to receive an estimated daily domestic sewage flow not exceeding 2000 gallons per day shall meet minimum construction criteria a., b. and c. of this sub-paragraph. The ~~Monroe County Health Department shall be notified by the~~ well driller shall notify the department regarding the time when the well will be drilled so the ~~county health~~ department can schedule observation of well construction. The ~~DOH Monroe County Health Department shall not approve an~~ injection well shall not be approved for use until the well driller has certified, in writing to the department ~~DOH Monroe County Health Department~~, that the well has been installed in compliance with the provisions of this sub-paragraph. The inspection fee for the construction of an injection well shall be $125.00.

a. An injection well as defined in subsection 64E-6.017(4) ~~(3)~~, F.A.C., shall be constructed, in part, utilizing a casing of polyvinyl chloride, commonly referred to as PVC. The minimum PVC casing weight and strength classification shall be schedule 40 and the minimum outside diameter of the casing shall be 4 inches. Other casing materials having strength and corrosion resistance properties equal to or greater than PVC schedule 40 pipe shall also be approved.

b. An open hole ~~having~~ with a minimum diameter of 6 inches shall extend to a depth of not less than 30 feet below the casing's bottom ~~of the casing~~.

c. The annular space between the casing and the natural rock wall of the borehole shall be grouted the full length of the casing.

8. ~~7.~~ A minimum of one maintenance visit every six ~~four~~ months shall be made to those systems using injection wells for effluent disposal. The visit shall include an inspection of any filter units and the chlorination unit and include information on chlorine residuals to assess compliance with the disinfection requirements of this rule ~~any filter units~~. When an aerobic treatment unit is a component of the ~~onsite sewage treatment and disposal~~ system, documents and reports required in Section~~Rule~~ 64E-6.012, F.A.C., shall also include ~~the results of~~ aerobic treatment unit inspections ~~and shall include information on chlorine residuals to assess compliance with the disinfection requirements of this rule~~.

9. ~~8.~~ Within 90 days following the discontinuation of the use of ~~If~~ an injection well ~~is discontinued~~ for effluent disposal the, the well owner shall obtain an abandonment permit, Form DH 4016, from the department. The injection well shall be properly abandoned and plugged by filling the injection well from bottom to top with cement grout~~.~~ or by filling the open hole from the bottom of the hole to one foot below the bottom of the casing with gravel that meets the size requirements for drainfield aggregate in paragraph 64E-6.014(5)(c), and filling the remainder of the injection well with cement grout. The department shall be notified by the well driller, septic tank contractor, or state-licensed plumber at least two work days prior to the time when the well will be abandoned so the department can schedule observation of the entire well abandonment procedure. The department shall not approve an injection well abandonment until the well driller, septic tank contractor, or state-licensed plumber has certified in writing that the well has been abandoned in compliance with the provisions of this sub-paragraph. If the abandonment of the well is not ready to be inspected at ~~the time of the~~ inspection of the abandonment of the treatment receptacles, the inspection fee for the abandonment of an injection well shall be $75.00.

~~(2) For an aerobic treatment unit treating domestic sewage flows in excess of 1500 gallons per day but not exceeding 10,000 gallons per day, where effluent from the treatment unit will be discharged to an engineer designed soil absorption drainfield system,~~

~~the following requirements shall be met:~~

~~(a) The soil absorption drainfield system shall be set back from surface water bodies by the greatest distance attainable, but shall meet at least minimum setback and elevation requirements specified in subsection 64E-6.018(1), F.A.C.~~

~~(b) The owner or lessee of a system shall comply with the general maintenance and operational requirements of subsections 64E-6.012(2) and (3), F.A.C., and any additional operation and maintenance requirements specified by the system design engineer.~~

(d) Nutrient-reducing materials have a finite life-span and shall be used in accordance with the following requirements:

1. The installer shall provide documentation from the nutrient reducing material supplier or from an independent testing organization that the material supplied meets the requirements of this section. The documentation shall include the capacity of the material to adsorb nutrient stated in units of mass of nutrient adsorbed per mass of adsorbing material.

2. Where the nutrient-reducing material will be used to underlie a drainfield in accordance with paragraph 64E-6.018(4)(a), the documentation from the nutrient-adsorbing material supplier or independent testing organization shall include either the effective grain size in millimeters and the uniformity coefficient of the material or a sieve analysis of the material showing the percentage passing a U.S. Standard Number 18 sieve and the percentage passing a number 60 sieve.

3. Where the design engineer has chosen to use 24 inches of phosphorous adsorbing material in lieu of the 24-inch layer of filter material as allowed in 64E-6.018(4)(c)5.a., the documentation from the nutrient-adsorbing material supplier or independent testing organization shall include either the effective size in millimeters and the uniformity coefficient of the material or the Florida Department of Transportation aggregate classification number for the material.

4. The nutrient reducing material shall be replaced as necessary to ensure that the system continues to meet the minimum level of waste treatment. The design engineer shall specify the capacity of the nutrient reducing material to adsorb nutrient stated in units of mass of nutrient adsorbed per mass of adsorbing material at the design effluent nutrient concentration. The design engineer shall provide an estimate of the life span for the system using the adsorption capacity and estimated sewage flow. The minimum calculated life span shall be two years.

(5) ~~(3)~~ The owner or lessee of a performance-based treatment system shall obtain and maintain a maintenance contract with an approved maintenance entity.

(a) The maintenance entity shall inspect p~~All p~~erformance-based and aerobic treatment unit ~~new onsite sewage treatment and disposal~~ systems ~~shall be inspected by an approved maintenance entity~~ at least two times each year.

(b) The maintenance entity shall furnish to the department a listing of all performance based treatment systems inspected or serviced during the respective reporting period. At a minimum, reports shall indicate the system owner or building lessee, the street address of the system, the date of system inspection or service and a statement as to the maintenance or service performed.

(c) The maintenance entity shall furnish to the department a listing of the owners who have refused to renew their maintenance contract during the respective reporting period. ~~A maintenance report shall be kept by the maintenance entity. A copy of all maintenance reports shall be provided to the county health department. The report shall include the following information:~~

~~1. The address of the system.~~

~~2. Date and time of inspection.~~

~~3. Sample collection time and date, and person who collected sample.~~

~~4. Results of all sampling.~~

~~5. Volume of effluent treated, to include total monthly and daily average.~~

~~6. Maintenance performed.~~

~~7. Problems noted with the treatment system and actions taken or proposed to overcome them.~~

(6) All systems shall be designed and constructed with sampling ports that permit access for collecting samples to assess compliance with the minimum level of treatment specified in section 64E-6.017(4), FAC.

(7) At the end of the calculated lifetime of the phosphorous-reducing material, the owner shall either cause the phosphorous-reducing material to be replaced as a system repair, or shall cause the system to be tested annually for phosphorous removal. Provided the annual test results show that the system is meeting the phosphorous removal requirement, the phosphorous reducing material may be allowed to remain in use until an annual test result shows that the system fails to meet the ~~phosphorous~~ removal standard.

(8) ~~(4)~~ In conjunction with the systems specified in this section ~~subsections 64E-6.018(1) and (2), F.A.C.~~, an applicant may use the alternative systems described in subsection 64E-6.009(1), (3), (4), (5) ~~or~~ (6), or (7), F.A.C. ~~An alternative system shall meet the general intent of Part I and Part II of this rule~~.

Rulemaking Authority ~~381.0011(4), (13), 381.006,~~ 381.0065(3)(a), (4)(l) FS.~~, Ch. 99-395, LOF.~~ Law Implemented 381.0065, 381.00655 FS.~~, Ch. 99-395, LOF.~~ History–New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.063, Amended 3-3-98, 3-22-00, 4-21-02, 11-26-06, ____.

64E-6.0181 System Repair and Cesspit and Undocumented System Replacement in the Florida Keys.

(1) Where a property is determined to have a cesspit or an undocumented system, the cesspit or undocumented system shall ~~be~~

~~required to~~ be replaced with an onsite sewage treatment and disposal system complying with section ~~Rule~~ 64E-6.018, F.A.C.

(2) In areas that are scheduled to be served by a central sewer by December 31, 2015, where there is documentation from the sewer utility that the property is scheduled to be served by December 31, 2015 and there is documentation from the sewer utility or from the county tax collector's office that the property owner has paid or has signed an agreement to pay for connection to the central sewer system, an onsite sewage treatment and disposal system requiring repair shall be repaired to the standards in this section~~64E-6.0181(3), F.A.C~~.

(a)~~(3)~~ Systems shall be repaired to the following standards provided no system shall be repaired to meet a lower standard of treatment than the treatment standard permitted or required to be met prior to the repair.

(b) The following general requirements apply for the use of an aerobic treatment unit and a sand-lined drainfield system.

1. ~~(a)~~ A Class I aerobic treatment unit shall meet ~~which meets the location, construction, maintenance and operational requirements of subparagraph 64E-6.0181(3)(a)1. or 2., F.A.C., and~~ the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C.

~~1. Where a Class I aerobic treatment unit is utilized, and where final effluent disposal is into a sand-lined drainfield system, the following general requirements shall apply:~~

2. Effluent from an aerobic treatment unit shall discharge to a drainfield over a sand liner meeting the standards in paragraph 64E-6.018(4)(b), F.A.C.

~~a. For a sand-lined drainfield, a minimum 12 inch thick layer of quartz sand shall be placed beneath the bottom of the drainfield absorption surface and a minimum 12 inch wide and minimum 24 inch thick layer of quartz sand shall be placed contiguous to the drainfield sidewall absorption surfaces in order to provide an additional level of effluent treatment prior to effluent passing into the surrounding natural limestone rock. Sand material shall have either an effective grain size in the range of 0.25 millimeter to 1.00 millimeter and shall have a uniformity coefficient of less than 3.5, or the material shall be of such size whereby at least 90 percent of the sand particles pass a U.S. Standard Number 18 sieve and less than 10 percent pass a number 60 sieve. These materials are in the USDA soil texture classes known as medium sand and coarse sand. The county health department shall require the installer of a sand-lined drainfield system to provide certification from the installer's sand supplier that the sand supplied for such type of installation meets the requirements of this subsection.~~

~~b. No part of the system shall be within 25 feet of the mean high water line of tidal surface water bodies or within 25 feet of the ordinary high water line of lakes, ponds or other non-tidal surface waters or salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.~~

~~c. The bottom surface of the sand layer shall be at least 12 inches above mean high water.~~

~~d. The maximum sewage loading rate to an aerobic treatment unit absorption bed drainfield with underlying sand liner shall be 1.1 gallons per square foot per day.~~

~~e. Appropriate shallow root vegetative cover shall be established over drainfield systems to maximize the beneficial effects of evapotranspiration.~~

(c) The following general requirements apply for the use of an aerobic treatment unit and an injection well as stated in section 64E-6.17, F.A.C.

1. The class I aerobic treatment unit shall meet the certification, construction, operational and maintenance requirements of section 64E-6.012, F.A.C.

2. Effluent from the aerobic treatment unit shall discharge to a filter, disinfection chamber and injection well located, designed, operated and maintained in accordance with paragraph 64E-6.018(4)(c), F.A.C.

~~2. Provided a Class I aerobic treatment unit is utilized and provided effluent from the treatment unit, prior to discharge into an injection well, is passed through a mineral aggregate filter unit as described in subparagraph 64E-6.0181(3)(a)2., F.A.C., or where effluent is passed through a filter unit of another design which has been determined by the State Health Office to be at least equal to the mineral aggregate filter unit with regard to sewage treatment capability, an injection well shall be approved in compliance with the following:~~

~~a. An injection well shall not be permitted or installed under the provisions of this part in any area designated by the United States Environmental Protection Agency or the Florida Department of Environmental Protection as having a single or sole source aquifer. Single source aquifer is defined in subsection 62-520.200(14), F.A.C.~~

~~b. In areas where injection wells are approved for use, the DOH Monroe County Health Department shall be the permitting agent for the aerobic treatment unit, the filter unit and the injection well, where the estimated daily domestic sewage flow will not exceed 2000 gallons per day. For establishments having a total daily sewage flow greater than 2000 gallons per day but not greater than 10,000 gallons per day, the Monroe County Health Department shall be the permitting authority for the aerobic treatment unit and the filter unit and DEP is the permitting agent for the injection well and any additional associated effluent treatment device. The effluent from the treatment unit permitted by the DOH Monroe County Health Department shall not exceed 20 mg/l CBOD$_5$ or 20 mg/l suspended solids on a permitted annual average basis and shall have disinfection in accordance with sub-subparagraph 64E-6.0181(3)(a)2.h., F.A.C., prior to discharge into any injection well.~~

~~c. The interior of the aerobic treatment unit, the top surface of the mineral aggregate filter soil cover, and the ground surface~~

~~within a distance of at least 10 feet in all directions around the injection well, filter unit and aerobic treatment unit shall not be subject to surface or ground water flooding. In addition, the invert of the effluent inlet pipe to the injection well shall be a minimum 18 inches above the estimated seasonal high water level.~~

~~d. If there is adequate vertical and horizontal clearance to allow for proper maintenance, repair or replacement of the aerobic treatment unit, filter unit and injection well, such components of the onsite sewage treatment and disposal system shall be allowed to be placed beneath an elevated building.~~

~~e. If a mineral aggregate filter as referred to in subparagraph 64E-6.0181(3)(a)2., F.A.C., is utilized, effluent discharge from the aerobic unit shall be by gravity or pressure distribution to a perforated pipe distribution system as specified in Part I, Rule 64E-6.014, F.A.C. Such distribution system shall be placed within the walls of the mineral aggregate filter and shall be placed above a mineral aggregate filter layer which shall be at least 24 inches thick. Mineral aggregate filter material shall have either an effective size in the range of 2.36 millimeters to 4.75 millimeters and shall have a uniformity coefficient of less than 3.5 or the material shall be equivalent in size to Florida Department of Transportation aggregate classification number eight or nine. The system designer may specify additional layers of filter material above or below the required 24-inch layer of filter material. The DOH Monroe County Health Department shall require the installer of mineral aggregate filter systems to provide certification from the installer's mineral aggregate supplier that the aggregate supplied meets requirements of this sub-paragraph. If the filter is not sealed with a lid meeting the requirements of paragraph 64E-6.013(1)(e), F.A.C., the filter shall be capped with a layer of slightly limited soil no less than 6 nor more than 12 inches thick.~~

~~f. The maximum sewage loading rate to the mineral aggregate filter shall be 5.5 gallons per square foot per day based upon the top surface area of the filter layer. The maximum sewage loading rate to an approved filter unit other than a mineral aggregate filter as described in this section shall be evaluated by the State Health Office based on unit design, size, filter media characteristics and expected functional life of the unit.~~

~~g. Effluent having passed through a mineral aggregate filter shall collect in an underdrain for gravity or mechanical discharge into an injection well. The underdrain shall consist of minimum 4 inch diameter perforated drainpipe which is encased within a minimum 8 inch depth of 1/2 to 2 inch diameter washed and durable aggregate. The walls and bottom of the filter unit shall be reinforced concrete or other material of adequate strength and durability to withstand hydrostatic and earth stresses to which the unit will be subjected. The walls and bottom of the unit shall be made waterproof so that the total volume of effluent passed through the mineral aggregate filter will be collected in the filter underdrain for discharge into the injection well.~~

~~h. Prior to discharge into an injection well, effluent from the filter unit shall be disinfected by chlorination or other disinfection method approved by the State Health Office. A minimum disinfection level equivalent to a free chlorine residual of 0.5 milligram per liter measured at the point of effluent discharge after a minimum chlorine contact time of 15 minutes into the injection well, shall be maintained in the effluent at all times.~~

~~i. An injection well to receive an estimated daily domestic sewage flow not exceeding 2000 gallons per day shall meet minimum construction criteria (I), (II) and (III) of this sub-paragraph. The DOH Monroe County Health Department shall not approve an injection well for use until the well driller has certified, in writing to the DOH Monroe County Health Department, that the well has been installed in compliance with the provisions of this sub-paragraph. The inspection fee for the construction of an injection well shall be $125.00.~~

~~(I) An injection well as defined in subsection 64E-6.017(3), F.A.C., shall be constructed, in part, utilizing a casing of polyvinyl chloride, commonly referred to as PVC. The minimum PVC casing weight and strength classification shall be schedule 40 and the minimum outside diameter of the casing shall be 4 inches. Other casing materials having strength and corrosion resistance properties equal to or greater than PVC schedule 40 pipe shall also be approved.~~

~~(II) An open hole having a minimum diameter of 6 inches shall extend to a depth of not less than 30 feet below the bottom of the casing.~~

~~(III) The annular space between the casing and the natural rock wall of the borehole shall be grouted the full length of the casing.~~

~~j. A minimum of one maintenance visit every four months shall be made to those systems using injection wells for effluent disposal. In addition to the standard aerobic treatment unit maintenance visit, the visit shall include an inspection of the chlorination and filter units. Documents and reports required in Rule 64E-6.012, F.A.C., shall also include the results of these inspections and shall include information on chlorine residuals to assess compliance with the disinfection requirements of this rule.~~

~~k. If an injection well is discontinued for effluent disposal use such injection well shall be properly abandoned and plugged by filling the injection well from bottom to top with cement grout.~~

(d)~~(b)~~ The following general requirements apply for the repair of a septic tank system:

1. The existing tanks shall meet the requirements of 64E-6.015(6)(f), F.A.C., or, if the tanks need to be replaced as part of the repair, they shall be replaced with tanks meeting the requirements of Table II and 64E-6.013, F.A.C.

2. Effluent from the septic tank shall discharge to a drainfield over a sand liner meeting the standards in 64E-6.018(4)(b)~~1(3)(a)1.a.~~, F.A.C.

3. No part of a septic tank and sand-lined drainfield system shall be located within 50 feet of the mean high water line of tidally

influenced surface water bodies or within 50 feet of the mean annual flood line of permanent non-tidal surface water bodies.

4. The drainfield component of the system must be located a minimum distance of 50 feet from salt marsh and buttonwood association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

5. The maximum sewage loading rate to the drainfield shall be 0.9 gallons per square foot per day.

(e)~~(c)~~ A performance-based treatment system designed and certified by a professional engineer, licensed in the state, as producing an effluent meeting at a minimum the treatment standards for a system designed in accordance with 64E-6.017(4), F.A.C., and permitted, constructed and monitored in accordance with Part IV.

Rulemaking Authority 381.0065(3)(a), 381.0065(4)(l) FS. Law Implemented 381.0065 FS. History–New 3-3-98, Amended 3-22-00, 4-21-02, 5-24-04, 11-26-06, 7-16-13,_____.

64E-6.0182 Coordinated Permitting (Repealed).

~~Chapter 28-20, F.A.C., and the Memorandum Of Understanding (MOU) between Monroe County, the Department of Community Affairs, the Department of Environmental Protection, and the Department of Health, including the Monroe County Health Department, dated July 25, 1997, are herein incorporated by reference, and is available by contacting the department. Chapter 28-20, F.A.C., and the MOU establish a permit allocation system for development and a coordinated permit review process. Chapter 28-20, F.A.C., and the MOU prohibit new system construction permits to serve new residential development that would allow development in excess of the number of permits that Monroe County may issue under its policy.~~

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a), (4)(k) FS., Ch. 99-395, LOF. Law Implemented 154.01, 381.0011(4), 381.006(7), 381.0065, 381.00655, 386.01, 386.03, 386.041 FS., Ch. 99-395, LOF. History–New 3-3-98, Amended 3-22-00, Repealed_____.

64E-6.019 Requirements for Registration of Septic Tank Contractors.

(1) Persons subject to registration – Excluding persons who only provide portable toilet or temporary holding tank services, a~~A~~ person shall be subject to the requirements of this rule if ~~he or she~~ they contract~~s~~ or advertise~~s~~ to provide septic tank contracting services to the public or hold~~s~~ ~~himself or herself~~themselves out as being capable of performing such services ~~related to any of the following activities in the onsite sewage treatment and disposal industry regulated by the department:~~

~~(a) Installation of onsite sewage treatment and disposal systems,~~

~~(b) Repair of onsite sewage treatment and disposal systems,~~

~~(c) Modification of onsite sewage treatment and disposal systems,~~

~~(d) Maintenance of onsite sewage treatment and disposal systems,~~

~~(e) Septic tank pumping and septage disposal services, excluding companies which only provide portable toilet or temporary holding tank services,~~

~~(f) Abandonment of an onsite sewage treatment and disposal system.~~

(2) Any person seeking registration shall apply to the department to take the registration examination on Form DH 4075, ##/##~~1/97~~, Application for Septic Tank Contractor Registration, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####. ~~The form is available from the department.~~

(3) A person shall be eligible to take the registration examination if they submit necessary exhibits and fees and meet the requirements of Section 489.553(4), F.S.

(a) Under the supervision and control of a registered or master septic tank contractor or a plumbing contractor in Section 489.553(4)(d), F.S., is defined as an employment relationship where compensation can be documented by the regular deduction of FICA and federal withholding tax as required by law. Principal officers of a corporation or partners of a partnership providing onsite sewage contracting services shall be recognized as being under the supervision and control of the corporation's or partnership's qualifying registered or master septic tank contractor or plumbing contractor.

(b) Related work experience includes but is not limited to ~~onsite sewage treatment and disposal~~ system design, inspection, installation, regulation, environmental health professional certification, site evaluation, underground utility contracting and wastewater treatment plant maintenance and operation. Related work experience does not include clerical, purchasing or estimating.

(c) Out-of-state work experience on a year for year basis shall be accepted for any applicant who demonstrates that they hold a current statewide license for septic tank contracting which was issued upon satisfactory completion of an equivalent examination and required continuing education courses for renewal. For purposes of this section, an equivalent examination means that at a minimum, the following topics were tested and passed: system location and installation; site evaluation criteria; system size determinations; disposal of septage; construction standards for drainfield systems and U.S. Department of Agriculture soil textural classification system. A person employed by and under the supervision and control of such a licensed contractor shall be granted up to two years of related work experience.

(4) Completed applications for registration must be received by the department's Onsite Sewage Program at least 21 days prior

to examination. ~~In order to be complete, the~~The completed and signed application must~~ have all appropriate spaces filled, be signed by the applicant,~~ be reviewed by the ~~county health~~ department office in the county where the applicant provides service, include ~~a money order or sufficiently funded check in the correct amount~~the required fee and contain ~~all necessary~~the following support documentation~~. Support documentation shall include~~:

(a) A list of the 25 most recent contracts by the applicant or business ~~organization~~ completed immediately preceding the date of filing.

(b) Signed statements from two persons not related to the applicant for whom the applicant has provided services in the onsite sewage industry, stating what services were provided.

(c) Certification from a registered or master septic tank contractor or plumbing contractor of the applicant's employment dates and work responsibilities.

(d) Documentation of payment of federal withholding tax and social security as required by law. For principal corporate officers of a corporation or partners in a partnership, legal documentation of their position in the corporation or partnership may be substituted for withholding tax and social security documentation.

(e) Two 1 1/2 × 1 1/2 inch ~~recent~~ color passport style photographs~~,~~ taken within the last~~not older than~~ 12 months. ~~and 1 1/2 × 1 1/2 inches in size.~~

(5) Eligible applicants must successfully complete an examination administered by the department. Minimum passing score for the examination shall be a 75 percent. ~~correct response to all questions comprising the exam.~~

Rulemaking Authority 489.553(3), 489.557(1) FS. Law Implemented 489.552, 489.553 FS. History–New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.072, Amended 2-3-98, 4-21-02, 6-18-03, 11-26-06, 4-28,10,____.

64E-6.020 Master Septic Tank Contractors.

(1) A septic tank contractor or a plumbing contractor as defined in ~~certified under~~ Section 489.105(3)(m), F.S., who is eligible under Section 489.553(5)(a) and (b), F.S., may apply to the department on Form DH 4105, ##/##~~10/96~~, Application for Master Septic Tank Contractor Registration, hereby incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, to take the master contractor examination provided ~~by~~ the contractor:

(a) Has been in "active" status for the three years immediately preceding the date of application. This time period may not be interrupted by more than 60 accumulated days as "inactive" or include any registration probation or suspension imposed by the department through administrative action.

(b) Has not been assessed more than $500 in administrative penalties by the department in the three years immediately preceding the date of application.

(c) Does not have an outstanding fine ~~assessed~~ pursuant to this chapter ~~which is~~ in final order status and judicial reviews are exhausted.

(d) Has successfully resolved any disciplinary action involving septic tank contracting where an administrative action was commenced by the department prior to the filing of the application.

(e) Has not been convicted of, found guilty of, or entered a plea of nolo contendere to, regardless of adjudication, a crime in any jurisdiction which is related to the practice of contracting for the three years immediately preceding the date of application.

(f) Has successfully completed 30 hours of master contractor course work approved by the department~~. At a minimum, this course work shall~~ to include training and testing ~~of~~ on soil classification, system design~~ and theory~~, system material and construction standards, and regulations~~ory requirements~~.

(2) Completed and signed applications for registration must be received by the department Bureau of Environmental Health~~Onsite Sewage Program~~ office at least 21 days prior to examination. In order to be complete, the application must ~~have all appropriate spaces filled, be signed and dated by the applicant,~~ be reviewed by the ~~county health~~ department office in the county where the applicant's primary place of business is located, and include the required fee. ~~a money order or sufficiently funded check in the correct amount.~~

(3) Eligible applicants must successfully complete a comprehensive examination administered by the department. Minimum passing score for the examination shall be ~~a~~ 70 percent. ~~correct response to the examination questions.~~

(4) Successful applicants shall be issued a master septic tank contractor certificate after they have paid the registration fee.

(5) Master septic tank contractor certificates shall be renewed only after the contractor has completed 18 classroom hours of approved instruction for each renewal cycle. At least 6 classroom hours must be successfully completed in an approved master contractor course. Instructional time spent by a master septic tank contractor ~~in~~ providing department approved continuing education training shall receive credit as master contractor course hours. Application for renewal shall be made on Form DH 4076, ##/##~~01/03~~, Application for Septic Tank Contractor Registration Renewal, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, accompanied by the required supporting documentation and fees.

(a) A master septic tank contractor who only completes 12 classroom hours of approved instruction during the renewal cycle

shall revert to registered septic tank contractor status and shall apply for renewal under Section~~Rule~~ 64E-6.021, F.A.C.

(b) Applications for renewal not submitted in a timely and complete manner shall revert to inactive status. Each application for renewal shall be considered filed in a timely manner if it is postmarked prior to close of business on the date of expiration of the certificate. If that date falls on a weekend or legal holiday, the date of expiration shall be the first working day after the expiration date of the certificate. Application for renewal of an inactive certificate shall be made on Form DH 4076, Application for Septic Tank Contractor Registration Renewal, accompanied by the required supporting documentation and fees.

~~(c) The department shall deny an application for renewal for an outstanding administrative penalty with the department where the penalty is final agency action and all judicial reviews are exhausted.~~

(c)~~(d)~~ Master contractors with "inactive" certificates shall be reinstated to "active" upon completion of ~~the following:~~

~~1. Take~~taking sufficient continuing education courses and paying registration fees to cover the inactive period, or

~~2. Retake~~ retaking and passing the ~~comprehensive~~ examination.

(d)~~(e)~~ Master contractor certificates not renewed within five renewal cycles of the expiration date shall comply with subsections 64E-6.020(1) through (4), F.A.C., to be reinstated as active.

(6) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 489.553(3), 489.557(1) FS. Law Implemented 489.552, 489.553, 489.554 FS. History–New 2-13-97, Formerly 10D-6.0725, Amended 2-3-98, 4-21-02, 6-18-03, 11-26-06,_____.

64E-6.021 Issuance of Registration Certificates and Annual Renewal of Septic Tank Contractors.

(1) Certificates of registration shall be renewed only after information has been provided to the department that the contractor has successfully completed 12 classroom hours of department-approved instruction within the previous 12-month period. However, if a registered contractor successfully completes more hours of approved instruction than are required for registration renewal within a 12-month period, a maximum of 6 unused hours can be rolled over to renew their next year's certificate of registration. ~~Such information~~Proof of continuing education shall be accompanied by ~~necessary~~ renewal fees and a completed renewal application on Form DH 4076, Application for Septic Tank Contractor Registration Renewal.

(2) ~~Any registration renewal application which for any reason is not submitted in a timely and complete manner shall revert to inactive status.~~ Each application for renewal shall be considered filed in a timely manner if the application has been postmarked prior to the close of business on the date of expiration of the registration. If that date falls on a weekend or legal holiday, the date of expiration shall be the first working day after the expiration date on the certificate of registration.

(3) A registered contractor may request inactive status. Persons wishing to renew an inactive registration must make application on Form DH 4076 and substantiate 12 classroom hours of approved instruction for each year the registration was considered inactive. Application must be accompanied by necessary exhibits and renewal fees. Persons holding inactive registrations for more than five renewal cycles from the date of inactivation who wish to become active may not renew the inactive registration but shall seek new registration under Section~~Rule~~ 64E-6.019, F.A.C.

(4) ~~The department shall deny an application for renewal if there is any outstanding administrative penalty with the department where the penalty is final agency action and all judicial reviews are exhausted.~~

~~(5)~~ Approval of continuing education courses and course providers will be in accordance with the department Policy on Requirements for Continuing Education Courses and Course Providers, September 2006, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####.

(6) ~~Beginning in 2004 and~~ E~~e~~very 5 years ~~thereafter~~, registration renewal applications shall include a 1 1/2 x 1 1/2- inch ~~recent~~ color passport style photograph ~~1 1/2 x 1 1/2 inches in size and not older~~ taken within ~~than~~ the previous 12 months. The applicant may provide the required photograph as a photographic print or in digital JPEG or TIFF format.

(7) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 489.553(3), 489.557(1) FS. Law Implemented 489.552, 489.553, 489.554 FS. History–New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.073, Amended 3-22-00, 4-21-02, 6-18-03, 5-24-04, 11-26-06.

64E-6.022 Standards of Practice and Disciplinary Guidelines for Septic Tank Contractors.

(1) ~~It shall be the responsibility of~~ P~~p~~ersons registered under this rule ~~to see~~shall ensure that work for which they have contracted and which has been performed by them or under their supervision is carried out in conformance with the requirements of all applicable Florida Statutes and Chapter 64E-6, F.A.C. The following actions by a person ~~included~~ registered under this rule shall

be ~~deemed unethical and~~ subject to penalties as set forth in this section. The penalties listed shall be used as guidelines in disciplinary cases, absent aggravating or mitigating circumstances and subject to other provisions of this section.

(a) Providing contracted services without obtaining registration from the department, failure to obtain a certificate of authorization for a firm which provides contracted services, acting under a name not registered or authorized by the department. First violation, letter of warning or fine up to $500; repeat violation, $500 fine~~,~~ or revocation.

(b) Permit violations~~.~~ -

~~1.~~ Contractor initiates work to install, modify, or repair a system when no permit has been issued by the department. A permit is issued after construction is started but prior to completion of the contracted work. No inspections are missed. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and 90 day suspension or revocation.

~~2.~~ Contracted work is completed without a permit having been issued, or no ~~permit~~ application is received until after ~~contracted~~ work was completed, resulting in missed ~~inspection or~~ inspections. First violation, letter of warning or fine up to $1000; repeat violation, revocation.

(c) Contracting with a delinquent registration. First violation, letter of warning or fine up to $500; repeat violation, $500 fine or revocation.

(d) Failure to call for required inspections. First violation, letter of warning or fine up to $500; repeat violation, letter of warning or fine up to $500 and 90 day suspension or revocation.

(e) False payment statements which are the result of assessing charges to a customer for work not performed. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and one year suspension or revocation.

(f) Failure to reasonably honor a written warranty. First violation, letter of warning or fine up to $500; repeat violations, $500 fine and one year suspension or revocation.

(g) Abandoning for 30 consecutive days, without good cause, a project in which the contractor is engaged or under contractual obligation to perform. First violation, letter of warning or fine up to $500; repeat violation, revocation.

(h) Aiding or abetting evasion of Chapter 489, F.S. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and one year suspension or revocation.

(i) Obtaining registration through fraud or misrepresentation. Revocation and $500 fine.

(j) Convicted or found guilty of a crime relating to contracting. Use penalty for violation most closely resembling the act underlying the conviction; repeat violation, revocation.

(k) Practicing fraud or deceit, making misleading or untrue representations. First violation, letter of warning or fine up to $500; repeat violation, revocation.

(l) Gross negligence, incompetence, or misconduct which~~:~~

~~1. C~~ causes no monetary or other harm to a customer, or physical harm to any person. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and 90 day suspension or revocation.

~~2.~~ Causes monetary or other harm to a customer, or physical harm to any person. First violation, letter of warning or fine up to $500 and 90 day suspension; repeat violation, $500 fine and revocation.

(m) Operating a septage disposal service without a valid department operating permit. First violation, letter of warning or fine up to $500; repeat violation, revocation.

(n) Failure to properly treat or properly dispose of septage, holding tank waste, portable restroom waste, or food service sludge. First violation, letter of warning or fine up to $500 per violation of Section~~Rule~~ 64E-6.010, F.A.C.; repeat violation, revocation.

(o) Failure to maintain completed records of septage treatment and disposal activities. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and 90 day suspension or revocation.

(p) Installation, modification, or repair of a~~n onsite sewage treatment and disposal~~ system in violation of the standards of Section 381.0065 or 381.00655, F.S., or Chapter 64E-6, F.A.C. First violation, letter of warning or fine up to $500 per specific standard violated; repeat violation, 90 day suspension or revocation.

(q) Creation or maintenance of a sanitary nuisance as defined by Section 386.041, F.S. First violation, letter of warning or fine up to $500; repeat violation, 90 day suspension or revocation.

(r) Falsifying an inspection report or covering a system in violation of the standards of Section~~Rule~~ 64E-6.003, F.A.C. First violation, letter of warning or fine up to $500; repeat violation, 90 day suspension ~~of master septic tank contractor privileges~~ or revocation of registration.

(s) Performing service on an onsite sewage disposal system that is clearly not necessary to improve the function or design of the system without notifying the property owner that such work is optional. First violation, letter of warning or fine up to $500; repeat violation, $500 fine and one year suspension or revocation.

(t) The absence of any violation from this section shall be viewed as an oversight, and shall not be construed as an indication that no penalty is to be assessed.

~~(2) Circumstances which shall be considered for the purposes of mitigation or aggravation of penalty shall include the following:~~

~~(a) Monetary or other damage to the registrant's customer, in any way associated with the violation, which damage the~~

~~registrant has not relieved, as of the time the penalty is to be assessed.~~

~~(b) Actual job-site violations of this rule or conditions exhibiting gross negligence, incompetence or misconduct by the contractor, which have not been corrected as of the time the penalty is being assessed.~~

~~(c) The severity of the offense.~~

~~(d) The danger to the public.~~

~~(e) The number of repetitions of the offense.~~

~~(f) The number of complaints filed against the contractor.~~

~~(g) The length of time the contractor has practiced and registration category.~~

~~(h) The actual damage, physical or otherwise, to the customer.~~

~~(i) The effect of the penalty upon the contractor's livelihood.~~

~~(j) Any efforts at rehabilitation.~~

~~(k) Any other mitigating or aggravating circumstances.~~

(2)~~(3)~~ As used in this rule, a repeat violation is any violation on which disciplinary action is being taken where the same licensee had previously had disciplinary action taken against him ~~him or received a letter of warning~~ in a prior case. This definition applies regardless of the chronological relationship of the violations and regardless of whether the violations are of the same or different subsections of this rule. The penalty given in the above list for repeat violations is intended to apply only to situations where the repeat violation is of a different subsection of this rule than the first violation. Where the repeat violation is the very same type of violation as the first violation, the penalty set out above will generally be increased over what is shown for repeat violations.

~~(4)~~ Where several ~~of the above~~ violations ~~shall~~ occur in one or several cases ~~being~~ considered together, the penalties shall ~~normally~~ be cumulative and consecutive.

~~(5)~~ The provisions of this section shall not be construed ~~so as~~ to prohibit civil action or criminal prosecution as provided in Part III of Chapter 489, F.S., and Section 381.0065, F.S., or ~~for a violation of any provision of~~ Part I of Chapter 386, F.S. No provision of this section ~~shall be construed as to limit~~limits the ability of the department to enter into a binding stipulation ~~with the accused party~~ per subsection 120.57(4), F.S.

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a), 489.553(2), (3), 489.556, 489.557 FS. Law Implemented Part III 489 FS. History–New 3-17-92, Amended 1-3-95, 2-13-97, Formerly 10D-6.0751, Amended 2-3-98, 5-24-04.____.

64E-6.023 Certification of Partnerships and Corporations Offering and Providing Septic Tank Contracting Services.

(1) ~~(1)~~ Authorization of a corporation is only effective as to that corporation; subsidiaries or parents of authorized corporations must be separately authorized.

~~(a)~~ Application for a certificate of authorization shall be made to the department on Form DH 4077, ##/##~~4/03~~, Application for Certificate of Authorization, herein incorporated by reference, available at https://flrules.org/gateway/reference.asp?No=Ref-#####, and shall be accompanied by all required ~~necessary~~ exhibits and fees. A business that applies for a certificate of authorization after the midpoint ~~mid point~~ of the biennial authorization cycle shall pay one/half the fee required in Section~~Rule~~ 64E-6.030, F.A.C.

~~(b)~~ Any certificate of authorization not renewed in a timely manner shall expire. Applications for renewal shall be considered timely filed if the application has been post marked prior to the close of business on the date of expiration of the certificate. If that date falls on a weekend or legal holiday, the day of expiration shall be the first working day after the expiration date of the certificate.

~~(2) A registered contractor may not be the sole qualifying contractor for more than one business required to have a certificate of authorization.~~

~~(3) A business organization which loses its qualifying contractor shall have sixty (60) days from the date the qualifier terminated his affiliation within which to obtain another qualifying person. I~~This period shall be extended by the department for a period of 30 days pending the outcome of the examination if the applicant has provided a completed application and all required exhibits and fees. During this period, the business organization may complete any existing contracts or continuing contracts, but may not undertake new contracts.

~~(4) A business organization shall provide written notification to the department within 30 days of any change in the ownership of the business.~~

~~(5) A business organization that changes its name shall apply for a new certificate of authorization within 30 days of the name change.~~

(2)~~(6)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065, 489.553, 489.557 FS. Law Implemented 381.0065, Part III 489 FS. History–New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.076, Amended 4-21-02, 5-24-04, 6-25-09, 4-28-10,_____.

64E-6.025 Definitions for Performance-Based Treatment System Standards.

Definitions in Chapter 64E-6, Parts I and II, are also applicable to Chapter 64E-6, Part IV.

(1) Bottom infiltrative surface - the vertical projection of the drainfield's bottom surface no lower than 30 inches below grade.

(2) Composite sample –a defined mixture of grab samples of wastewater or effluent taken in proportion to either time or flow, to minimize the effect of the variability of the individual sample.

(3) Disposal component – arrangement of equipment and/or materials that distributes effluent within a drainfield

(4) Effluent – treated sewage at the point of discharge to the drainfield or disposal system. Where the site specific application proposes to use soil as component of the treatment system, effluent refers to the mixture of soil water, effluent and shallow groundwater recovered from the monitoring points and treatment concentration standards shall be decreased by 50% for $CBOD_5$,TSS, TN, and TP, and by 90% for fecal coliform, and percent removal standards of Table IV shall be correspondingly adjusted. For systems designed to meet the standards of 64E-6.017(4), effluent refers to the recovered water product from a sampling point following the final design treatment step.

(5) Failure - in addition to conditions meeting the definition in Section 64E-6.002, F.A.C., an individual sample exceeding the applicable performance standards, unless the maintenance entity performs and documents maintenance, and a second individual sample is taken within 30 days of the first individual sample and meets the applicable individual performance standard.

(6) Grab sample - a sample which is taken from wastewater or effluent over a period of time not to exceed fifteen minutes.

(7) Effective drainfield depth - the vertical distance from the bottom of the drainfield to the invert of the distribution pipe.

(8) Innovative System – as defined by Section 381.0065(2), F.S.

(9) Performance-based treatment system - a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$ (carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. This term also includes innovative systems.

(10) Performance-based treatment system maintenance entity - any person or business entity which has obtained an annual written permit issued on form DH4013 from the department in the county where the maintenance entity is located.

(11) Sidewall infiltrative surfaces - the horizontal projection of the drainfield measured from the invert of the drainfield distribution pipe to the bottom infiltrative surface, or to 30 inches below finished grade, whichever is less.

(12) Total drainfield depth - the vertical distance from the bottom of the drainfield to the top of the drainfield.

(13) Treatment component - any arrangement of equipment and/or material that treats sewage in preparation for further treatment and/or disposal. Treatment components may incorporate a disposal component.

(14) Treatment performance standards -

(a) Performance standards for effluent from performance-based treatment systems consist of three criteria:

1. Annual average concentration is the arithmetic mean of the results of all effluent samples taken within the previous 365 days.

2. Individual sample concentration - result of analysis of one effluent sample, whether grab sample or composite sample.

3. Percent removal – annual average removal of a pollutant from the discharge of the treatment system compared to the influent from the establishment. The influent stems from a septic tank or similar treatment compartment; percent removal = (1 ─ effluent concentration ÷ influent concentration) X 100.

(b) Treatment performance standards are established for five pollutants:

1. Carbonaceous biochemical oxygen demand after five days ($CBOD_5$), measured in mg oxygen per liter

2. Total suspended solids (TSS), measured in mg per liter

3. Total nitrogen (TN), the sum of nitrite, nitrate and total Kjeldahl nitrogen, measured in mg nitrogen per liter

4. Total phosphorus (TP), measured in mg phosphorus per liter

5. Fecal coliform, measured in colony forming units (cfu) or most probable number (MPN) per 100 mL

(c) Numerical values for several levels of common treatment performance standards for the five pollutants are defined in Table IV. Compliance during monitoring shall consist of meeting at least one of the three criteria. To achieve compliance the values determined from samples of the system shall be equal to or better than the treatment standards listed. For concentrations, better means lower, for percent removal, better means higher.

(15) Wastewater strength - the sum of the $CBOD_5$ and TSS concentrations.

TABLE IV
PERFORMANCE STANDARDS

	Domestic Sewage	Baseline Septic Tank	Baseline Treatment	Aerobic Treatment	Secondary Treatment	Advanced Secondary	Florida Keys	Advanced Wastewater

POLLUTANT	Waste Range	Effluent Standards	Standard 24" below bottom infiltrative surface	Unit Effluent Standards	Effluent Standards	Treatment Effluent Standards	Nutrient Reduction Effluent Standards	Treatment Effluent Standards
$CBOD_5$ (mg/L)								
-annual average	300	150	10	20	20	10	10	5
-individual sample	500	300	20	60	60	30	30	10
-removal	NA*	NA	95%	90%	90%	95%	95%	97%
TSS (mg/L)								
-annual average	200	100	30	20	20	10	10	5
-individual sample	500	200	100	60	60	30	30	10
-removal	NA*	NA	85%	90%	90%	95%	95%	97%
TN (mg/L)								
-annual average	100	100	70	NR**	NR	20	10	3
-individual sample	150	150	100			50	40	6
-removal	NA*	NA	30%			50%	62%	90%
TP (mg/L)								
-annual average	18	18	12	NR	NR	10	1	1
-individual sample	25	25	18			20	4	2
-removal	NA	NA	30%			25%	50%	90%
Fecal coliform (cfu/100ml)								
-annual average	2.0E+6	2.0E+6	20	NR	200	200	NR	1
-individual sample	2.0E+7	2.0E+7	200		800	800		25
-percent reduction	NA	NA	99.999%		99.99%	99.99%	NR	99.9999%

* NA = Not applicable
** NR = No requirement

Footnote to Table IV: Where chlorine is used for disinfection in a system the design shall include provisions for rapid and uniform mixing and the minimum contact time shall be 15 minutes at the peak hourly flow or no less than 20% of the estimated daily sewage flow. For a system designed to meet advanced wastewater treatment standard for fecal coliform, a total chlorine residual of at least 1.0 mg/L shall be maintained at all times and no individual sample shall exceed 5 mg/L TSS after the last treatment step before application of the disinfectant. For a system designed to meet either the secondary or advanced secondary treatment standard for fecal coliform, a total chlorine residual of at least 0.5 mg/L shall be maintained at all times.

~~Definitions in Chapter 64E-6, Parts I and II, F.A.C., are also applicable to Chapter 64E-6, Part IV, F.A.C.~~

~~(1) Advanced Secondary Treatment Standards: A wastewater system with the following operational criteria:~~

~~(a) $CBOD_5$ and TSS.~~

~~1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.~~

~~2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.~~

~~3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.~~

~~4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 20 mg/l.~~

~~(b) TN.~~

~~1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.~~

~~2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 25 mg/l.~~

~~3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 30 mg/l.~~

~~4. Maximum permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 40 mg/l.~~

~~(c) TP.~~

~~1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.~~

~~2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite~~

~~technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.~~

~~3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.~~

~~4. Maximum permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 20 mg/l.~~

~~(d) Fecal coliform – system operation shall result in not more than 200 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or MPN methods) shall be applicable.~~

~~1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 200 per 100 ml of effluent.~~

~~2. The median value of the fecal coliform colonies for a minimum number of 10 samples of effluent, each collected on a separate day during a period of 30 days (monthly) shall not exceed 200 per 100 ml of sample.~~

~~3. No more than 10% of the samples collected during the period of 30 consecutive days shall exceed 400 fecal coliform colonies per 100 ml of sample.~~

~~4. Any one sample shall not exceed 800 fecal coliform colonies per 100 ml of sample.~~

~~(2) Advanced Wastewater Treatment Standards: A wastewater system with the following operational criteria:~~

~~(a) $CBOD_5$ and TSS.~~

~~1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 5 mg/l.~~

~~2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 6.25 mg/l.~~

~~3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 7.5 mg/l.~~

~~4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 10 mg/l.~~

~~(b) TN.~~

~~1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 3 mg/l.~~

~~2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 3.75 mg/l.~~

~~3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 4.5 mg/l.~~

~~4. Maximum permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 6 mg/l.~~

~~(c) TP.~~

~~1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 1 mg/l.~~

~~2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 1.25 mg/l.~~

~~3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 1.5 mg/l.~~

~~4. Maximum permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 2.0 mg/l.~~

~~(d) Fecal coliform – system operation shall result in an effluent in which fecal coliform colonies (per 100 ml of sample) are below detectable limits. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing; and the total chlorine residual of at least 1.0 mg/l shall be maintained at all times. The minimum acceptable contact time shall be 15 minutes at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or MPN methods) shall be applicable.~~

~~1. Fecal coliform shall be below the detection limits for 75% of the samples collected over a 30 day period.~~

~~2. Any one sample shall not exceed 25 fecal coliform colonies per 100 ml of sample.~~

~~3. Any one sample shall not exceed 5.0 mg/l of TSS at a point before application of the disinfectant.~~

~~(3) Baseline system standards – A wastewater system with the following operational criteria:~~

~~(a) Effluent concentrations from the treatment tank:~~

~~1. $CBOD_5$ – <240 mg/l.~~

~~2. TSS – <176 mg/l.~~

~~3. TN – <45 mg/l.~~

~~4. TP – <10 mg/l.~~

~~(b) Percolate concentrations from the baseline system prior to discharge to groundwater:~~

1. $CBOD_5$ – <5 mg/l.
2. TSS – <5 mg/l.
3. TN – <25 mg/l.
4. TP – <5 mg/l.

(4) Bottom infiltrative surface – the vertical projection of the bottom surface of the drainfield that is no lower in elevation than 30 inches below grade.

(5) Composite sample – means a combination of individual samples of wastewater or effluent taken at selected intervals, generally hourly or less for some specified period, to minimize the effect of the variability of the individual sample.

(6) Grab sample – a sample which is taken from a waste stream without regard to the flow in the waste stream and over a period of time not to exceed fifteen minutes.

(7) Effective drainfield depth – the vertical distance from the bottom of the drainfield to the invert of the distribution pipe.

(8) Florida Keys nutrient reduction treatment – a treatment which will provide a recovered water product that contains not more, on a permitted annual average basis, than the following concentrations from a sampling point located following the final design treatment step of the onsite sewage treatment and disposal system:

(a) Biochemical Oxygen Demand ($CBOD_5$)	10 mg/l
(b) Suspended Solids	10 mg/l
(c) Total Nitrogen, expressed as N	10 mg/l
(d) Total Phosphorus, expressed as P	1 mg/l

(9) Innovative System – as defined by Section 381.0065(2)(g), F.S.

(10) Performance-based treatment system – a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$ (carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. This term also includes innovative systems.

(11) Performance System Maintenance Entity – any person or business entity which has been issued a written permit by the county health department and has been authorized by the design engineer or manufacturer of all treatment components used in the performance-based treatment system and provides operation and maintenance services associated with performance-based treatment system.

(12) Secondary Treatment Standards: A wastewater system with the following operational criteria:

(a) $CBOD_5$ and TSS.

1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.

2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 30 consecutive days (monthly) shall not exceed 30 mg/l.

3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 45 mg/l.

4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 60 mg/l.

(b) Fecal coliform – system operation shall result in not more than 200 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or equivalent MPN methods) are applicable.

1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 200 per 100 ml of effluent.

2. The geometric mean of the fecal coliform colonies for a minimum of 10 samples of effluent, each collected on a separate day, shall not exceed 200 per 100 ml of sample.

3. No more than 10% of the samples collected during a period of 30 consecutive days shall exceed 400 fecal coliform colonies per 100 ml of sample.

4. Any one sample shall not exceed 800 fecal coliform colonies per 100 ml of sample.

(13) Sidewall infiltrative surfaces – the horizontal projection of the drainfield measured from the invert of the drainfield distribution pipe to the bottom infiltrative surface, or to 30 inches below finished grade, whichever is less.

(14) Total drainfield depth – the vertical distance from the bottom of the drainfield to the top of the drainfield

(15) Wastewater strength – the sum of the $CBOD_5$ and TSS concentrations in the effluent.

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New 2-3-98, Amended 3-22-00, 6-18-03, 11-26-06, _____.

64E-6.026 Applications for Innovative System Temporary Permits and Performance-Based Treatment System Construction Permits.

(1) ~~Applications for innovative system permits –~~Before applying for any construction permits for an innovative system, the innovative system design shall receive an innovative system temporary permit from the Department's Bureau of Environmental Health in Tallahassee. Applications for innovative system temporary permits shall be made using form DH 3143. The application and all supporting information shall be signed, dated and sealed by an engineer~~, licensed in the State of Florida~~. Except as provided for in ~~sub~~section 64E-6.028~~(3)~~, F.A.C., alternative drainfield materials and designs shall not be approved which would result in a reduction in drainfield size using the mineral aggregate drainfield system as described in Section~~Rule~~ 64E-6.014, F.A.C., and the total surface area of soil at the bottom of the drainfield as the criteria for drainfield sizing comparisons. Applications shall include:

(a) A monitoring protocol designed to validate that the system will perform to the engineer's design specifications.

(b) Compelling evidence that the system will function properly and reliably to meet the requirements of this chapter and Section 381.0065, F.S. Such compelling evidence shall include one or more of ~~the following from a third-party testing organization approved through the NSF Environmental Technology Verification Program:~~

~~1. S~~side stream testing, where effluent is discharged into a system regulated pursuant to Chapter 403, F.S.;

~~2. T~~testing of systems in other states with similar soils and climates~~.~~

~~3.~~; or l~~L~~aboratory testing.

(2) Applications for performance-based treatment system, including individual innovative system, construction permits – All information required in P~~p~~art I for an application for system construction permit shall be included as part of the application for a performance-based treatment system. All ~~Two copies of all~~ information shall be dated, signed and sealed by the ~~registered~~ engineer who designed the system, and provided to the department. ~~Upon any change to the design, two copies of any revisions shall be provided to the department.~~ Additional information shall include the following:

(a) System design criteria, to include performance levels for the performance-based system and monitoring requirements and ~~monitoring~~ locations, and method of monitoring flow through the system. Performance levels shall be indicated in the design as secondary treatment standards, advanced secondary treatment standards, or advanced wastewater treatment standards, or baseline treatment.

(b) System design calculations for the performance-based system.

(c) System design plans and drawings for the performance-based treatment system, to include all components and method of installation to be used in construction. A detailed to-scale installation drawing shall be included. ~~The site plan required in paragraph 64E-6.004(3)(a), F.A.C., shall be drawn to scale.~~

(d) Where soil is used as part of the treatment system, a site plan showing the direction of groundwater movement, the locations of all effluent plume monitoring wells or devices, and the anticipated extent of the effluent plume.

(e) Contingency plan for effluent to be collected and disposed of, or treated, in the event of system failure.

(f) Certification of design. The design engineer shall certify the design of the system to meet all applicable performance standards. The certification shall be as follows: "I certify that the engineering features of this performance-based treatment system have been designed or specified by me and conform to engineering principles applicable to such projects. In my professional judgment, this system, when properly constructed, operated and maintained, will achieve the established performance standard and comply with all applicable statutes of the State of Florida and rules of the Department".

(g) An operation and maintenance manual shall be prepared by the design engineer and provided as part of the original design. All changes to the operation and maintenance manual shall be approved and certified by the design engineer. A copy of any changes shall be provided to the department office in the county for review and approval or disapproval.

(h) If the design is changed, the changes must be documented, dated, signed, sealed, approved and certified by the engineer, and provided to the department~~All changes to the engineering specifications shall be approved and certified by the design engineer. A copy of any changes shall be provided to the county health department~~ for review for compliance with performance-based system standards~~ and approval or disapproval~~.

~~(i) All changes to the operation and maintenance manual shall be approved and certified by the design engineer. A copy of any changes shall be provided to the county health department for review and approval or disapproval.~~

(i)~~(j)~~ A cover letter ~~addressed to the county health department~~ stating that the applicant wishes to apply for a performance-based treatment system.

(3) All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, Part I 386 FS. History–New 2-3-98, Amended 6-18-03, 11-26-06, 4-28-10,_____.

64E-6.027 Performance-Based Treatment System Permits.

(1) ~~Innovative System Permit —~~An application for system construction permit for an innovative system cannot be reviewed by the Department's county health department until the ~~innovative~~ Innovative ~~system~~ System ~~permit~~ Temporary Permit has been approved specifying the number of systems and time limits and issued from the Department's Bureau of Environmental Health in Tallahassee. The department's decision to grant or deny the innovative system permit shall be based on the presence or absence of compelling evidence that the innovative systems will function properly and reliably to meet the requirements of this chapter and Section 381.0065, F.S.

(2) ~~System Construction Permit —~~No portion of a performance-based treatment system shall be installed, repaired, altered, modified, abandoned or replaced until a system construction permit has been issued ~~on Form DH 4016~~. If building construction has commenced, the system construction permit shall be valid for an additional 90 days beyond the eighteen month expiration date. A fee shall be charged for a repair permit issued within 12 months from the date of final authorization of the performance-based treatment system. If a construction or repair permit for a performance-based treatment system is transferred to another person, the date of the construction or repair permit shall not be amended, but shall run from the date of original issuance prior to the transfer. Servicing or replacing with like kind mechanical or electrical parts of a performance-based treatment system; pumping of septage from a system; or making minor structural corrections to a tank, or distribution box, does not constitute a repair, however, all services must be performed by the performance system maintenance entity. Any proposed change from the original design, including increasing or decreasing changes in flow rate, shall require that the system be re-engineered to achieve the desired performance standard under the altered conditions.

(3) ~~Within 15 working days after the department receives a completed application for a performance-based treatment system, the county health department must either issue a permit for the system or shall notify the applicant that the system does not comply with the performance criteria, and refer the application to the Bureau of Onsite Sewage Programs, who shall review the application for a determination whether the system should be approved, disapproved, or approved with modifications. The determination of the engineer for the Bureau of Onsite Sewage Programs shall prevail over the action of the local county health department. All applications for a construction permit for an innovative system shall be reviewed for completeness by the county health department and referred to the Bureau of Onsite Sewage Programs for review and approval, disapproval or approval with modifications.~~

~~(4) The applicant shall be notified of the department's determination. If the permit is denied, the applicant shall be notified of their right to pursue a variance or seek review under the provisions of Chapter 120, F.S.~~

~~(5) System inspection —~~Before covering with earth and ~~before~~ placing the performance-based treatment system into service, a person installing ~~or constructing~~ any portion of the ~~performance-based treatment~~ system shall notify the ~~county health~~ department of the completion of ~~the~~ construction activities and shall have the system inspected by the department for compliance with the requirements of this chapter.

(a) The ~~Prior to or concurrent with a final installation inspection by the department, the professional~~ engineer who designed the system, or the design engineer's designee, shall observe the entire installation and shall certify in writing that the installed system complies with the approved design and installation requirements. This certification shall read as follows: "I certify that the engineering features of this performance-based treatment system have been examined by me and found to substantially comply with all specifications contained in the engineering design that was the basis for issuance of the system construction permit. I certify that the operation and maintenance manual for this performance-based treatment system has been prepared or examined by me or by an individual(s) under my direct supervision and that there is reasonable assurance, in my professional judgment, that the system, when properly operated and maintained in accordance with this manual, will achieve the established performance standard and comply with all applicable statutory requirements and rules of the department". The certification shall be received by the department prior to or concurrent with the departments inspection of the system.

(b) If the installation varies from the permitted design, the certification shall be accompanied by a drawing to depict the installation as built. If the installation does not vary from the permitted design, that fact shall be noted on the certification.~~If the system construction is approved after an inspection by the county health department, the department shall issue a "Construction Approval" notice to the installer. A drawing to depict the installation as built shall be provided to the department prior to final system approval.~~

(c) If the system is found to not comply with the system construction permit during the construction inspection on any type of system installation, the ~~county health~~ department shall notify the engineer. The installer shall make all required corrections and notify the ~~county health~~ department office in the county of the completion of the work prior to reinspection of the system. A reinspection fee shall be charged for each additional inspection leading up to construction approval.

(d) Final installation approval shall not be granted until the ~~county health~~ department has confirmed that all requirements of this chapter, including building construction and lot grading are in compliance with plans and specifications provided with the permit application, the system maintenance entity has been identified to the ~~county health~~ department, and the property owner has executed and recorded in the public property records at the county courthouse, a written notice that informs all subsequent property owners of the use of the performance-based treatment system, and of the requirement for the system to be maintained, in perpetuity, in

compliance with all lawful requirements. “Approved” installation does not imply that a system will perform satisfactorily for a specific period of time.

(6) Operating permits – No residence or establishment served by a performance-based treatment system shall be occupied until Form DH 4081, “Application for Onsite Sewage Treatment and Disposal System Operating Permit” has been received and approved by the department. Where a performance-based treatment system is used, only one operating permit shall be required for the system.

(a) ~~Maintenance entities contracting to service performance-based treatment systems shall obtain a biennial operating permit from the county health department for the system. Persons operating a performance-based treatment system shall permit department personnel right of entry to the property during normal working hours to allow for effluent sampling or evaluating the general state of repair or function of the system.~~

~~(b)~~ The permit shall designate the performance system maintenance entity responsible for the operation and maintenance of the system. At a minimum, the performance system maintenance entity ~~responsible for maintenance of the system~~ shall test, or cause to be tested, the performance-based treatment system in accordance with Part IV of this rule. The operating permit shall specify the~~The~~ frequency of testing ~~shall be specified on the biennial operating permit. The operating permit shall also specify~~and the observation interval to assess the operation of the system without taking ~~monitoring~~ samples.

(c) Systems and the structures which they serve shall be inspected by the department at least once annually during the term of the biennial operating permit to determine compliance with the terms of the operating permit.

(d) A copy of the signed maintenance agreement ~~between the property owner or property lessee and an engineer-designed performance-based system maintenance entity~~ shall be provided to the ~~county health~~ department by the maintenance entity. The maintenance agreement shall:

1. Initially be for a period of at least 2 years and subsequent maintenance agreement renewals ~~shall be for at least 1 year periods~~ for the life of the system.

2. Provide that a maintenance entity which desires to discontinue the provision of maintenance services, notify in writing, the property owners and lessees and the ~~county health~~ department at least 60 days prior to discontinuance of service.

3. Provide that, if a private maintenance entity discontinues business, property owners who have previously contracted with the discontinued maintenance service shall, within 60 days of the service termination date, contract with an approved maintenance service and provide the ~~county health~~ department a copy of the newly signed maintenance agreement.

4. Provide that each performance-based treatment system is inspected by an engineer-designed performance-based system maintenance entity at least two times each year. The maintenance entity shall furnish to the ~~county health~~ department a listing of all performance-based treatment systems inspected or serviced during the respective reporting period. As a minimum, reports shall indicate the system owner or building lessee, the street address of the system, the date of system inspection or service, ~~and~~ a statement as to the maintenance or service performed, and~~. The maintenance entity shall also include~~ a list of the owners who have refused to renew their maintenance agreement.

(e) No performance-based treatment system shall be serviced or repaired by a person or entity engaged in a performance-based treatment system maintenance service until the service entity has obtained an annual written permit ~~issued on Form DH 4013~~ from the ~~DOH county health~~ department in the county where the service company is located. Each service entity shall employ at least one plumbing contractor licensed under Section 489.105(3)(m), F.S., septic tank contractor registered under Part III of Chapter 489, F.S., or a state-licensed wastewater treatment plant operator, who is responsible for maintenance and repair of all systems under contract. Application for a Maintenance Service Permit, Form DH 4066, shall be made to the ~~DOH county health~~ department office in the county and shall contain the following information:

1. Evidence that the maintenance entity possesses a manufacturer’s maintenance and operations manual and has received training from the manufacturer in proper installation and service of the performance-based treatment system components and has received written approval from the components’ manufacturers to perform service on their components. The manual shall contain detailed instructions on proper operation and maintenance procedures, a replacement parts list for all components ~~being installed and maintained~~, a statement ~~giving~~ of the system’s capabilities ~~of each system~~, instructions on how to detect a malfunctioning system and what to expect from a properly functioning system.

2. Documentation showing that the maintenance entity possesses a current business organization registration w/ Florida Department of Sate as an LLC, Inc. or as a registered fictitious name if sole proprietor,

3.~~2.~~ A signed statement from the applicant attesting that the applicant has adequate staff, possesses proper equipment and has sufficient spare structural and mechanical parts and components to perform routine system monitoring and servicing and is able to make a service response within 36 hours after notification of the need for emergency repairs.

4.~~3.~~ Payment of $25.00 to the ~~DOH county health~~ department per annum for the ~~performance-based treatment system~~ maintenance service permit.

(7) The maintenance entity shall provide the department with documentation of any change in the current business organization registration or registered fictitious name within 30 days of the change.

(8)~~(7)~~ All materials incorporated herein that are not available at flrules.org may be reviewed at the Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710.~~All materials incorporated herein may be obtained from the Bureau~~

~~of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.~~

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065, Part I 386 FS. History–New 2-3-98, Amended 4-21-02, 6-18-03, 6-25-09, 4-28-10,_____.

64E-6.028 Location and Installation of Performance-Based Treatment Systems.

Performance-based treatment systems shall be installed in compliance with the following~~.~~:

(1) Systems shall receive the following setbacks to the listed feature. If no setback is specified for a specific feature, Part I requirements shall apply unless the performance-based treatment system is located in the Florida Keys. If located in the Florida Keys, Part II shall be used for all setbacks.

(a) For Secondary Treatment Standards,~~. The~~ the system shall be a minimum of 65 feet from any surface water bodies or wet retention or detention area if the lot was platted on or after January 1, 1972.

(b) For Advanced Secondary Treatment Standards, the ~~.~~

~~1. Surface water bodies: The~~ system shall be a minimum of 50 feet from any surface water bodies or wet retention or detention area if the lot was platted on or after January 1, 1972~~.~~

~~2. :~~, and 10 feet from a g~~G~~roundwater interceptor drain, ~~: 10 feet.~~

~~3. Dry~~ dry retention area ~~and~~ or swale~~s: 10 feet~~.

4. Where a performance-based treatment system is placed adjacent to Class II waters, setbacks that are applied to secondary treatment levels shall be applicable. Alternatively, where the fecal coliform complies with the following levels, reduced setbacks in subparagraphs 64E-6.028(1)(b)1. through 3., F.A.C., above shall be allowed.

a. System operation shall result in not more than 14 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 1.0 mg/L~~l~~ shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or MPN methods) are applicable.

b. The annual arithmetic mean of the fecal coliform colonies collected ~~during the annual period~~ shall not exceed 14 per 100 ml of effluent.

c. The median value of the fecal coliform colonies for a minimum number of 10 samples of effluent, each collected on a separate day during a period of 30 days (monthly) shall not exceed 14 per 100 ml~~ of sample~~.

d. No more than 10% of ~~the~~ samples collected during ~~the period of~~ 30 consecutive days shall exceed 43 fecal coliform colonies per 100 ml~~ of sample~~.

e. Any one sample shall not exceed 86 fecal coliform colonies per 100 ml~~ of sample~~.

(c) Advanced Wastewater Treatment Standards.

1. Surface water bodies: The drainfield shall be a minimum of 25 feet from any surface water bodies or wet retention or detention area. The treatment unit or process containers shall be a minimum of 50 feet from any surface water bodies or wet retention or detention area.

2. Groundwater interceptor drain: 10 feet.

3. Dry retention area and swales: 10 feet.

4. Seasonal high water table to bottom of drainfield: 12 inches.

(2) Systems designed to meet secondary treatment standards shall be allowed to exceed their authorized lot sewage flow allowances by up to 25%. Systems designed to meet advanced secondary treatment standards shall be allowed to exceed their authorized lot sewage flow allowances by up to 50%. Systems designed to meet advanced wastewater treatment standards shall be allowed to exceed their authorized lot sewage flow allowance by up to 100%. For example, if authorized lot flow is 200 gallons per day, a total of 300 gallons per day lot flow will be allowed for systems designed to meet advanced secondary treatment standards.

(3) Hydraulic surge storage – the design shall protect the residence from backflow into the treatment tank. For gravity and pumped systems, the following shall apply:

(a) For aggregate systems, the porosity shall be calculated at 33%.

(b) The effective storage volume of the drainfield shall be equal to or greater than 1.5 times the design daily flow.

(c) The total storage volume of the drainfield shall be equal to or greater than 1.8 times the design daily flow.

(4) Infiltrative surface area reductions shall be allowed for systems designed to reduce the wastewater strength of the effluent where the drainfield is sized based on slightly limited soils. ~~The baseline system shall be used for comparison with a typical average $CBOD_5$ of 140 mg/l and TSS of 105 mg/l.~~ The maximum reduction ~~in infiltrative surface area~~ shall not exceed the following ~~standards~~.

(a) Where $CBOD_5$ and TSS meet s~~S~~econdary treatment standards: 25% reduction.

(b) Where $CBOD_5$ and TSS meet a~~A~~dvanced secondary treatment standards: 40%.

~~(c) Advanced wastewater treatment standards: 40%.~~

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065, 386.041 FS. History–New 2-3-98, Amended 3-22-00, 6-25-09,_____.

64E-6.029 Monitoring of Performance-Based Treatment Systems.

Monitoring requirements – All performance-based treatment systems shall be monitored in compliance with the requirements in this section. If soil is considered part of the treatment system~~ in any performance-based standard~~, monitoring points in the effluent plume within the boundaries of the property must be in compliance with the minimum criteria for total nitrogen, total phosphorous and fecal coliform.

(1) Advanced wastewater treatment systems.

(a) A maintenance report shall be kept by the performance system maintenance entity. A copy of all maintenance reports shall be provided to the ~~county health~~ department office in the county on monthly intervals, to begin one month after system operation has started. After the first six reports are provided to the ~~county health~~ department, reports shall be provided once every three months. All reports must be legible. The report shall include the following information:

1. Address of performance-based treatment system.
2. Date and time of inspection.
3. Sample collection time and date, and person who collected sample.
4. Results of all sampling.
5. Volume of effluent treated, to include total monthly and daily average.
6. Maintenance performed.
7. Problems noted with performance-based treatment system and actions taken or proposed to overcome them.
8. During the first six months of system operation, or after the system has failed, systems shall be monitored a minimum of once every two weeks. Monitoring shall include sampling for $CBOD_5$, TSS, TN, TP and fecal coliform. Monitoring shall occur at the time the system is expected to be at capacity, or as close to capacity as possible. Re-sampling within 48 hours of receipt of laboratory results shall be allowed on all samples that exceed design parameters in order to evaluate the validity of the original sample results. If the re-sample is in compliance with the appropriate performance-based standard, the original result shall be disregarded. Laboratories must be approved by the department or the Department of Environmental Protection for all analyses performed. All results shall be certified by the laboratory.

a. If any two consecutive samples exceed design treatment standards by more than 100%, the system design and operation shall be inspected by the design engineer for conformance with permitting requirements, and shall be adjusted to bring the effluent quality into compliance with permitting requirements. Monitoring shall be increased to once per week, or more if the design engineer specifies such, until such time the violation is corrected. When two consecutive samples are within 100% of the design parameters, monitoring shall be reduced to once every two weeks. For example, if the design parameter is 10 mg/L~~l~~ $CBOD_5$, a reading of 20 mg/L~~l~~ $CBOD_5$ exceeds the standard by 100%.

b. After a six month period of compliance with all applicable performance standards, sampling shall be performed quarterly.

c. When an applicant installs a system designed to meet advanced wastewater treatment standards, the monitoring frequency shall be reduced by 50% if only one of the following three location and installation requirements is used and the other two remain at the standards required of prescriptive systems. The three requirements are:

(I) Setbacks required in paragraphs 64E-6.028(1)(a) and (b)~~ (c)~~, F.A.C.

(II) Seasonal high water table subparagraph 64E-6.028(1)(c)4., F.A.C.

(III) Authorized lot flow subsection 64E-6.028(2), F.A.C.

(b) When four consecutive biweekly ~~once every two week~~ samples from a system are at or below the applicable standard, sampling frequency shall be reduced to quarterly.

(c) When eight consecutive quarterly samples from a system are below the applicable standard, sampling frequency shall be reduced to once every six months.

(d) All reports of operating permit violations shall be reported to the department within five working days.

(e) If the system cannot be brought into compliance with design parameters, the contingency plan required in 64E-6.026(2)(e), F.A.C., shall be implemented~~must be enforced~~.

(f) All failures of the performance-based treatment system shall be reported to the ~~county health~~ department by the maintenance entity within one working day from discovery of failure. The testing laboratory shall mail copies of all results to the ~~county health~~ department.

(g) Testing performed during periods of system non-use that exceed one week~~,~~ shall not qualify as legitimate samples for purposes of compliance with any provisions of this rule.

(2) Secondary treatment systems and advanced secondary treatment systems.

(a) A maintenance report shall be kept by the performance system maintenance entity. A copy of all maintenance reports shall be provided to the ~~county health~~ department on quarterly intervals. All reports must be legible. The report shall include the items required in subparagraphs 64E-6.029(1)(a)1., 2., 5., 6. and 7., F.A.C., in addition to the following information:

1. Ponding depth observed through drainfield observation ports or, when the drainfield design prevents direct measurement of ponding depth, $CBOD_5$ and TSS results for samples collected at a point prior to the discharge to the drainfield.

2. If system performance is necessitated by setback reductions or lot flow allowances provided in 64E-6.028(1) or (2), F.A.C.:

a. Sampling results for Fecal Coliform from Secondary Treatment Systems.

b. Sampling results for Nitrogen, Phosphorous and Fecal Coliform from Advanced Secondary Treatment Systems.

c. Collection time and date of all samples.

d. Name of the person who collected samples.

(b) All reports of operating permit violations shall be reported to the department within five working days.

(c) If the system cannot be brought into compliance with design parameters, the owner must implement the contingency plan ~~must be implemented by the system owner~~.

(d) All failures of the performance-based treatment system shall be reported to the ~~county health~~ department by the maintenance entity within one working day from discovery of failure. The testing laboratory shall mail copies of all results to the ~~county health~~ department.

(3) Florida Keys nutrient reduction treatment systems shall be monitored and sampled in accordance with Part II of this chapter.

(4) All systems with drainfields designed under subsection 64E-6.028(3) and (4) ~~(5)~~, F.A.C., shall be monitored via placing a minimum of two observation ports in the drainfield. Monitoring will consist of recording depth of effluent ponding in the drainfield in at least two places on a quarterly basis.

(5) If soil is considered part of the treatment system in any performance-based standard, two monitoring points in the effluent plume within the boundaries of the property must be in compliance with the performance level specified by the design engineer.

(6) Any performance-based treatment system that is out of compliance with the terms of the operating permit shall be re-engineered ~~by an engineer registered in the State of Florida~~. The system shall be brought into compliance with treatment standards required at the time of system permitting.

(7) Innovative systems shall be monitored in accordance with the ~~design~~ engineer's protocol submitted with the application as approved by the department. All monitoring and sampling shall be ~~performed~~ at the applicant's expense ~~of the applicant~~. ~~At a minimum, t~~The monitoring protocol shall:

(a) Determine if baseline standards are being met.

(b) Address the monitoring for any contaminant being reduced.

(c) Address the monitoring of any site condition being modified.

(8) The following shall be considered as violations of the performance-based treatment system operating permit:

(a) ~~The f~~Failure to maintain equipment in a condition which will enable the intended function.

(b) The submission, by neglect or knowingly, ~~, by the owner, manager or maintenance entity of a performance-based treatment system, or agent or employee thereof,~~ of misleading, false, or inaccurate information or ~~operational~~ reports to the department~~, either knowingly or through neglect~~.

(c) The submission of fraudulent data produced with an intention to deceive including the following:

1. ~~Apparent m~~Measurement ~~-~~or test results where no measurement or testing was actually performed, ~~for which no measurement or test results were actually made as determined by~~ The department will consider the absence of ~~the~~ credible supporting documentation as an indicator that data is fraudulent~~records which are usually made~~.

2. Measurements or test results obtained by deliberately and knowingly making measurements or collecting samples at places and times other than as specified in this chapter.

3. Test results obtained through use of unapproved and erroneous sampling, preservation, storage, or analysis procedures.

4. Computational errors, misunderstandings of required procedures and other common errors are excluded.

Rulemaking Authority 381.0011(13), 381.006, 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New 2-3-98, Amended 3-22-00, 6-18-03, ____.

64E-6.0295 Innovative System Reclassification.

(1) Following the installation and monitoring of the number of systems allowed by the innovative system permit, the applicant may request reclassification of their innovative system by the Bureau of Environmental Health ~~Onsite Sewage Programs~~. Requests for reclassification as an alternative system component and design shall be made in accordance with subsection 64E-6.009(7), F.A.C. Requests for reclassification as a performance-based treatment system shall include the following:

(a) Results and analysis of monitoring of the systems installed.

(b) Observations of system performance.

(c) Maintenance, repairs or modifications performed on any systems.

(d) Comments from the system operators or users.

(e) Comments from the design engineers who designed the individual system designs.

(f) Comments from the ~~county health~~ department~~s~~ offices in the counties where the systems were installed.
(g) Specification of the proposed classification as performance-based.
(h) Rationale for the proposed ~~type of~~ classification desired.
(i) Proposed monitoring protocol.
(j) A sample manual addressing the siting, design, installation, inspection, operation, maintenance and abandonment procedures.
(2) The ~~Bureau of Onsite Sewage Programs~~department shall process the request in accordance with Chapter 120, F.S. The department shall approve the request only if the department is satisfied that the system will reliably perform to the standards desired under normal operating conditions as demonstrated by the information provided.

Rulemaking Authority 381.0011(13), 381.006, 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New 6-18-03,____.

64E-6.030 Fees.

(1) The following fees are required for services provided by the department.

(a) Application and plan review for construction permit for new system.	$100
(b) Application and approval for existing system, if system inspection is not required.	$35
(c) Application and Existing System Evaluation.	$50
(d) Application for permitting of a new performance-based treatment system.	$125
(e) Site evaluation.	$115
(f) Site re-evaluation.	$50
(g) Permit or permit amendment for new system, modification or repair to system.	$55
(h) Research/Training surcharge, new and repair permits.	$5
(i) Initial system inspection.	$75
(j) System reinspection (stabilization, non-compliance or other inspection after the initial inspection).	$50
(k) Application for system abandonment permit, includes permit issuance and inspection.	$50
(l) Annual operating permit industrial/manufacturing zoning or commercial sewage waste.	$150
(m) Biennial operating permit for aerobic treatment unit or performance-based treatment system.	$100
(n) Amendment to operating permit.	$50
(o) Tank Manufacturer's Inspection per annum.	$100
(p) Septage Disposal Service permit per annum.	$75
(q) Portable or Temporary Toilet Service permit per annum.	$75
(r) Additional charge per pumpout vehicle for ~~,~~ septage disposal service or portable toilet service.	$35
(s) Septage stabilization facility inspection fee per annum per facility.	$150
(t) Septage disposal site evaluation fee per annum.	$115~~200~~
(u) Aerobic treatment unit maintenance entity permit per annum.	$25
(v) Variance Application for a single family residence per ~~each lot or~~ lot or building site. ~~building site.~~	$200
~~(~~(w) Variance Application for a multi-family or commercial building per building site. ~~each building site.~~	$300
~~(~~(x) Application for innovative product approval.	$2500

(2) The following fees are required to accompany applications for registration of individuals for septic tank contractor or master septic tank contractor or for a certificate of authorization for partnerships and corporations.

(a) Application for registration including examination.	$75
(b) Initial registration.	$100
(c) Annual r~~R~~enewal of registration.	$100
(d) Certificate of authorization each two-year period.	$250

Rulemaking Authority 154.06(1), 381.0066, 489.557(1) FS. Law Implemented 381.0065, 381.0066, 489.557 FS. History–New 2-3-98, Amended 3-22-00, 4-21-02, 5-24-04, 11-26-06, 9-24-07,_____.

Florida HEALTH

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FLORIDA ONSITE SEWAGE NITROGEN REDUCTION STRATEGIES (FOSNRS) STUDY: Overview and Status

Presentation to the FDOH Technical Review and Advisory Panel (TRAP)

September 25, 2014

by

Damann L. Anderson, P.E.

UF UNIVERSITY of FLORIDA Gulf Coast Research and Education Center

SCHOOL OF MINES 1874 COLORADO

AET Applied Environmental Technology

OTIS ENVIRONMENTAL CONSULTANTS

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PROJECT TEAM ACKNOWLEDGEMENTS

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And many support firms and staff!

Presentation Outline

- Nitrogen Impacts to Water Quality
- Nitrogen reducing OSTDS
- FOSNRS Background
- Passive Nitrogen Reduction System (PNRS) Pilot Studies
- Passive Nitrogen Reduction System (PNRS): Full Scale Implementation
- Overview of Tasks C and D, N Fate & Transport
- Summary & Questions

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Nitrogen Impacts to Water Quality

Adverse effects of nitrogen

Human Health

- SDWA Limit of 10 mg/L NO_3 – N
- Harmful algal blooms (HABs)

Ecosystem Health

- Nitrogen is the limiting nutrient for eutrophication of many coastal waters and some freshwater systems
- Increased watershed N loading can be linked to:
  - Algal blooms
  - Loss of seagrass and shellfish habitat
  - Hypoxia

Nitrogen impacts to water quality

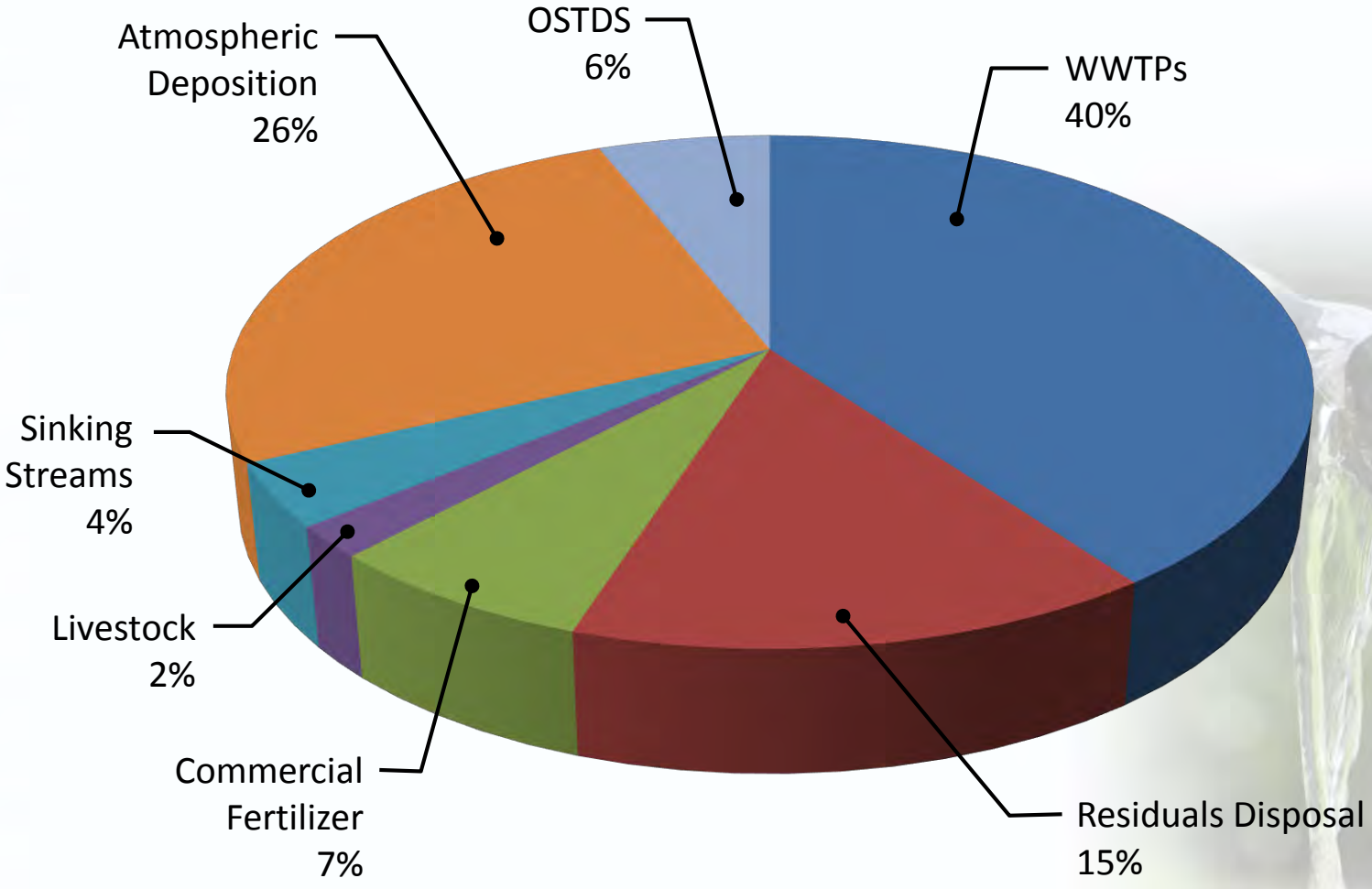
- Impacts of excess nitrogen on water quality have been documented in many areas of Florida and nationwide:
  - Tampa Bay, Sarasota Bay
  - Florida Keys
  - Wekiva Study Area
  - Wakulla County
  - Florida's Freshwater Springs
  - Chesapeake Bay
  - Cape Cod

In Florida, nitrogen loading has resulted in water quality problems for our freshwater springs…

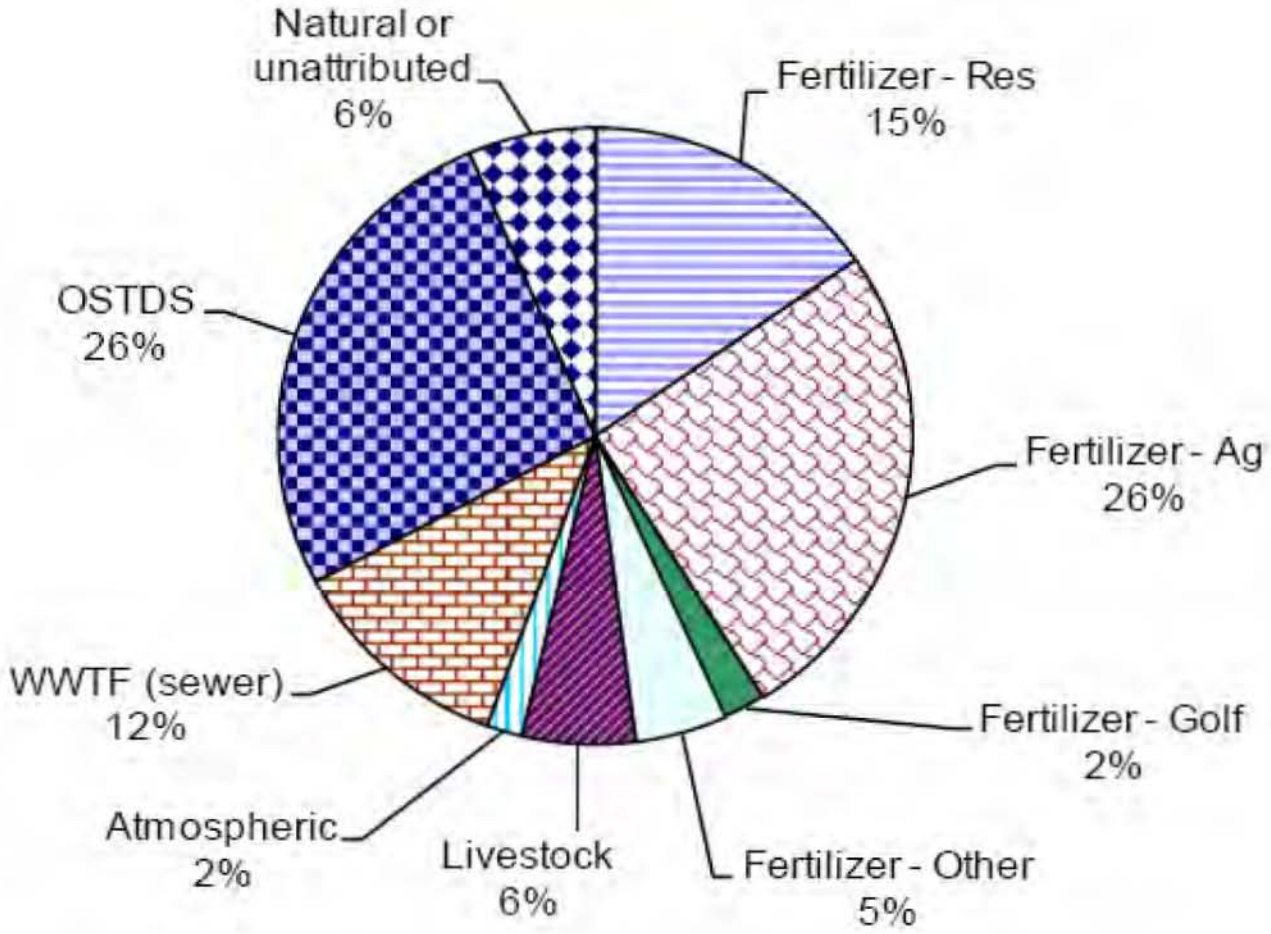
Photos courtesy of John Moran - SpringsEternalProject.org

Photos courtesy of John Moran - SpringsEternalProject.org

In some watersheds OSTDS nitrogen loading is relatively low (Wakulla Springs 1990-1999)



In other watersheds OSTDS nitrogen loading is relatively high (Wekiva Study Area)



Source: MACTEC
Created by: SAR Checked by: WAT

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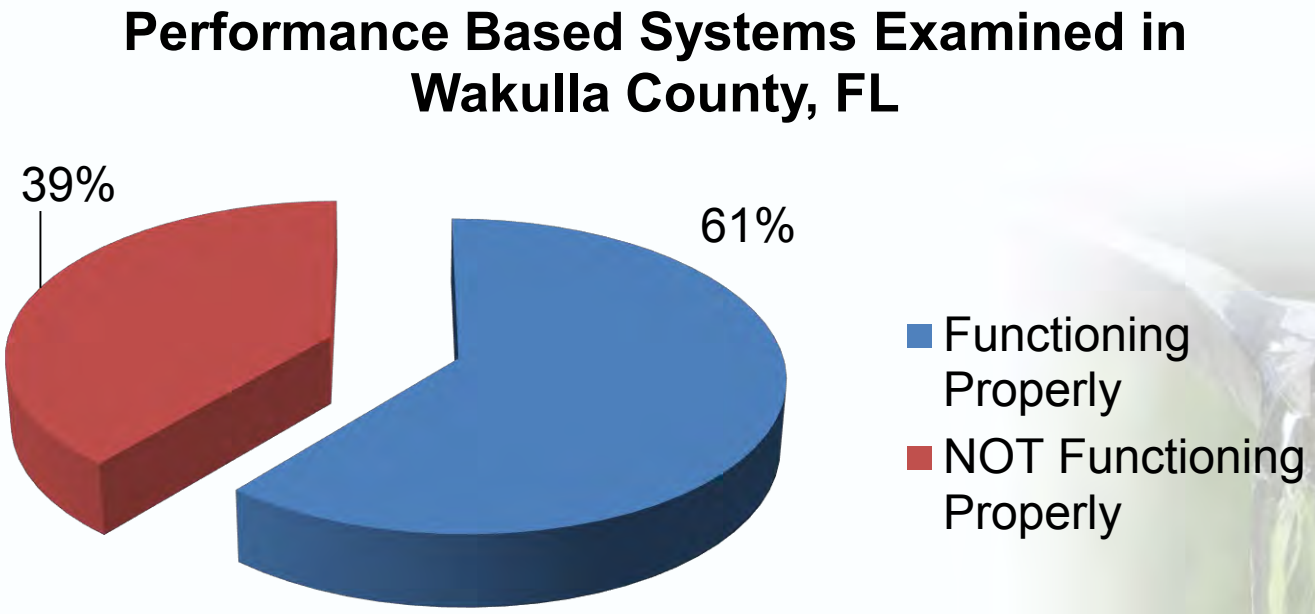
Nitrogen reducing OSTDS

Nitrogen reducing OSTDS

- Concerns over nitrogen loading have led to requirements for OSTDS designed to reduce nitrogen, typically to 10 mg/L total nitrogen, prior to discharge to the soil
- Currently, most are mechanical treatment units utilizing an activated sludge biological (BNR) process, similar to a municipal treatment plant
- Two step process:
  1. Aeration to “nitrify” nitrogen compounds to NO_3 (nitrification)
  2. Anoxic conditions to “denitrify” NO_3 to nitrogen gas (denitrification)

Recent evaluation in Florida showed inconsistent results for these performance based treatment (PBTS) systems…



"Of a total of 59 performance based treatment systems (PBTS) inspected in Wakulla County, 23 (39%) of these systems were not functioning properly at the time of inspection" Harden et al. (2010)

Properly Functioning Systems Mean TN = 29 ± 19 mg N/L

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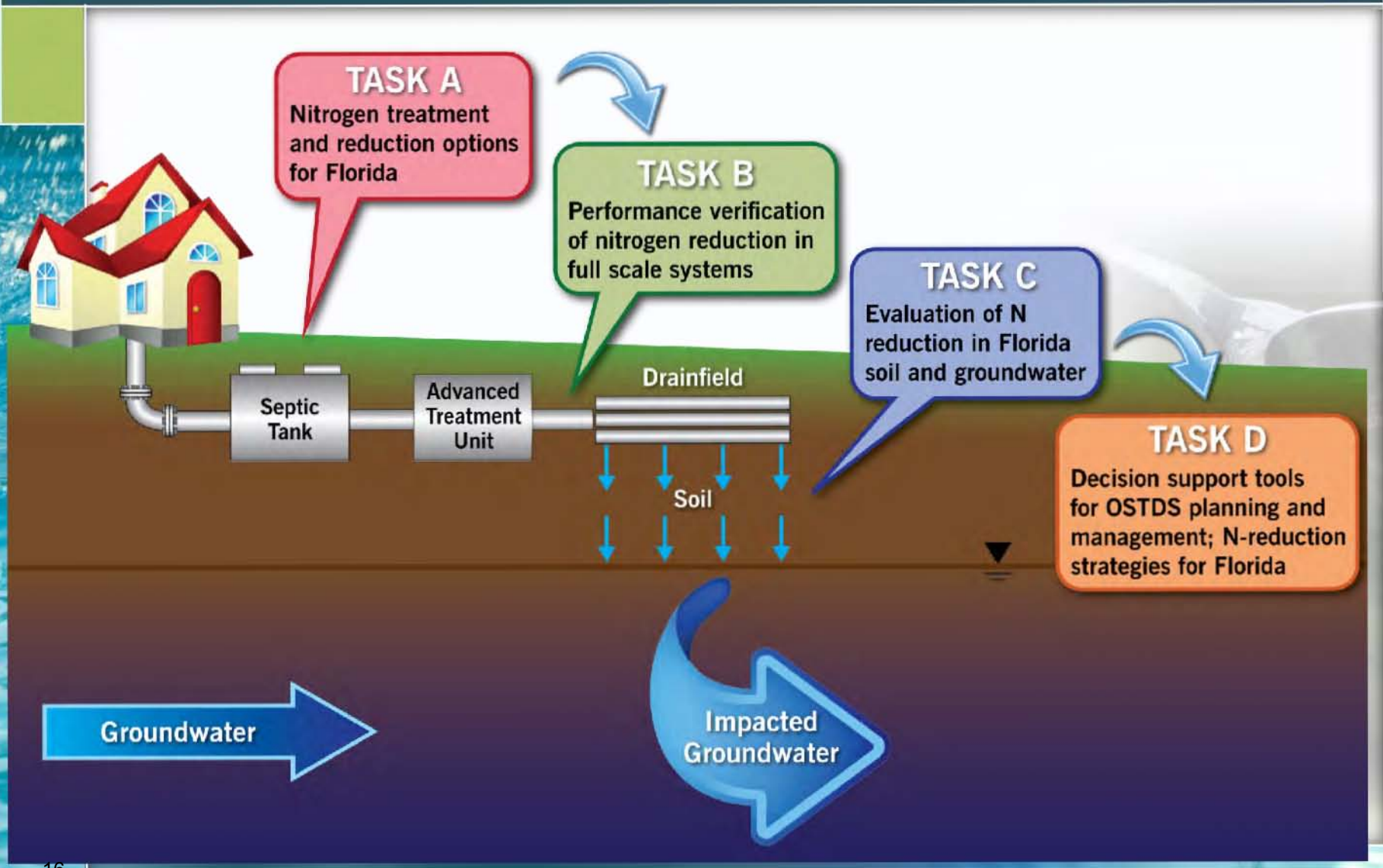
FOSNRS Background

FOSNRS project initiated by Florida legislature

- Laws of Florida, 2008-152, directed FDOH to conduct a study to further develop more “passive” & cost-effective nitrogen reduction strategies for OSTDS
- Initiated the Florida Onsite Sewage Nitrogen Reduction Strategies (FOSNRS) Project in 2009
- RFP identified four primary study areas

Four primary study areas



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Passive Nitrogen Reduction System (PNRS) Pilot Studies

What are "passive" nitrogen reduction systems?

- Passive nitrogen reduction systems (PNRS) are OSTDS that reduce effluent N using reactive media for denitrification and a single liquid pump, if necessary.
- Two stage process:
  - Stage 1: "nitrify" nitrogen compounds to NO_3 (nitrification)
  - Stage 2: "denitrify" NO_3 to nitrogen gas (denitrification)

nitrification media: expanded clay

denitrification media: lignocellulosics

denitrification media: elemental sulfur

Two stage single pass pilot-scale biofilters

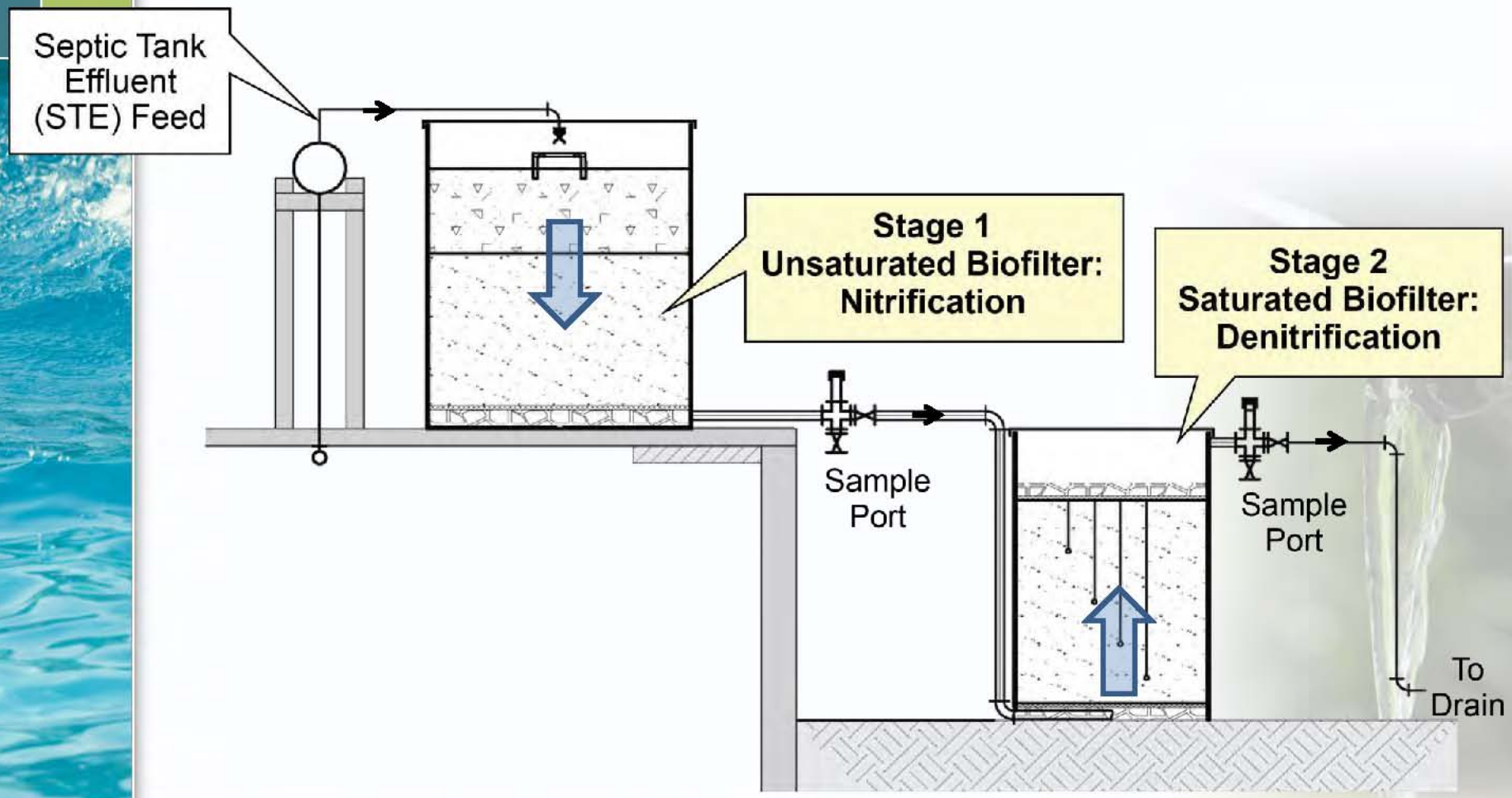
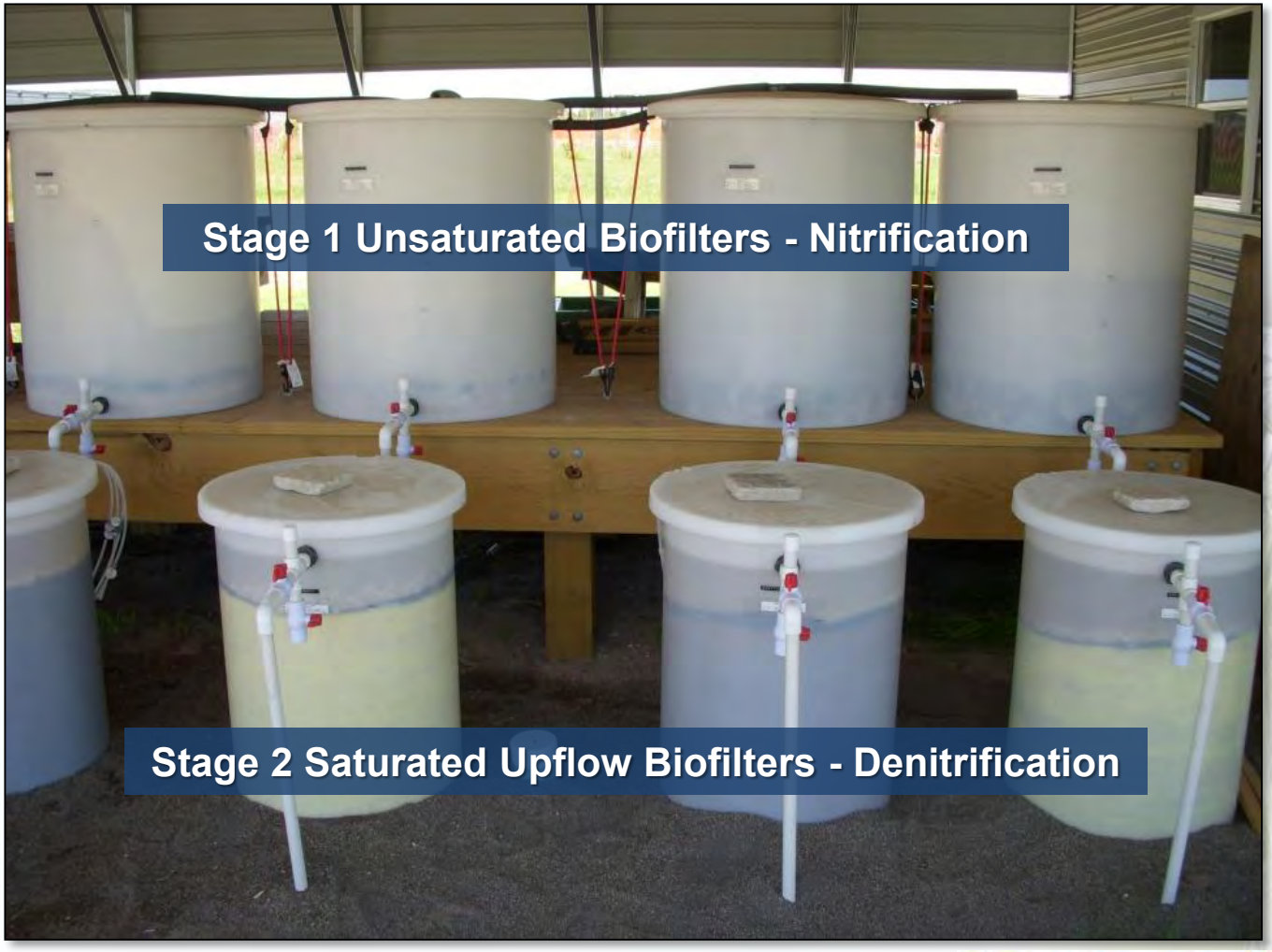


Photo of Two-stage single pass biofilter pilot units



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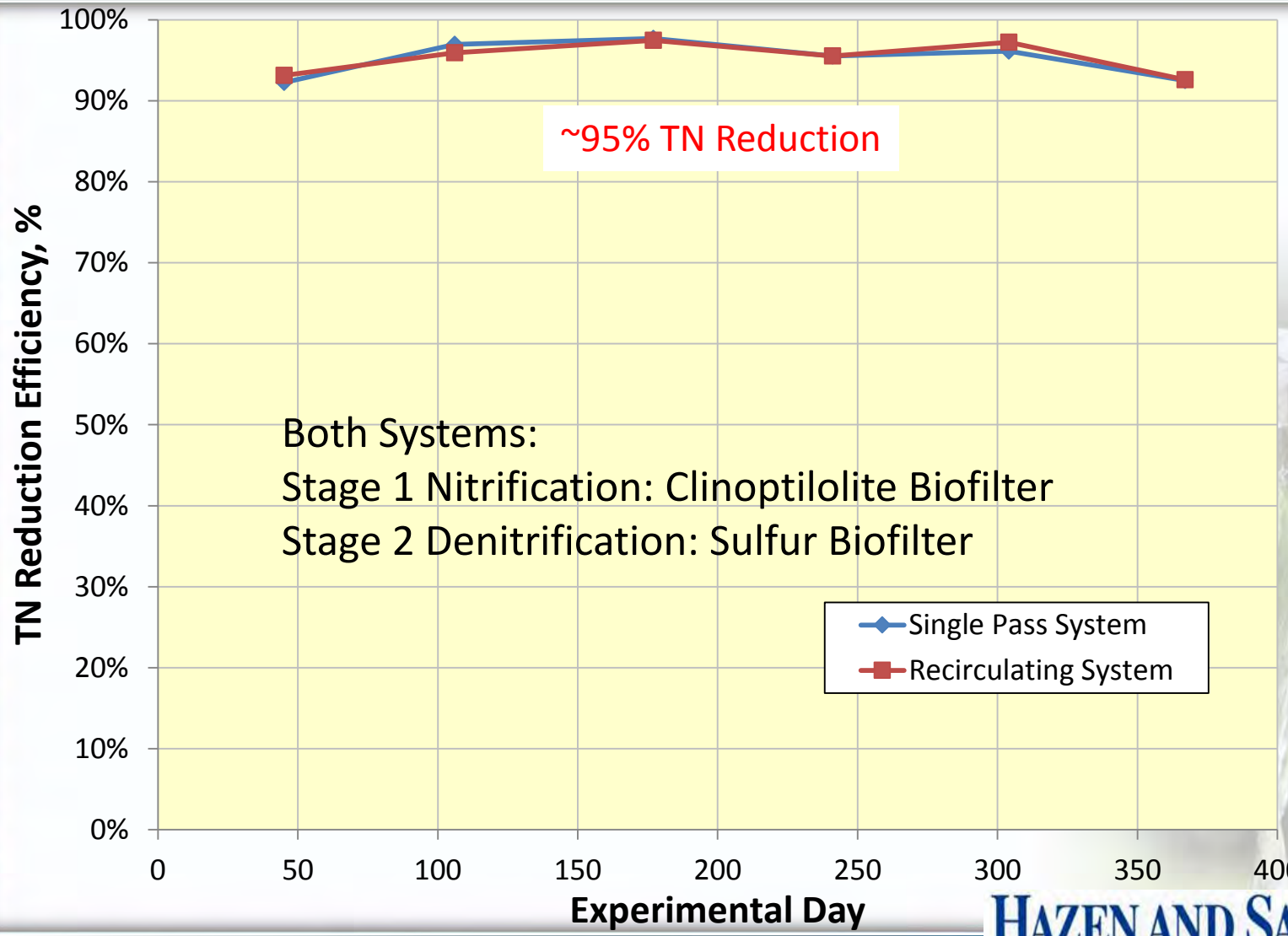
PNRS pilot-scale test results



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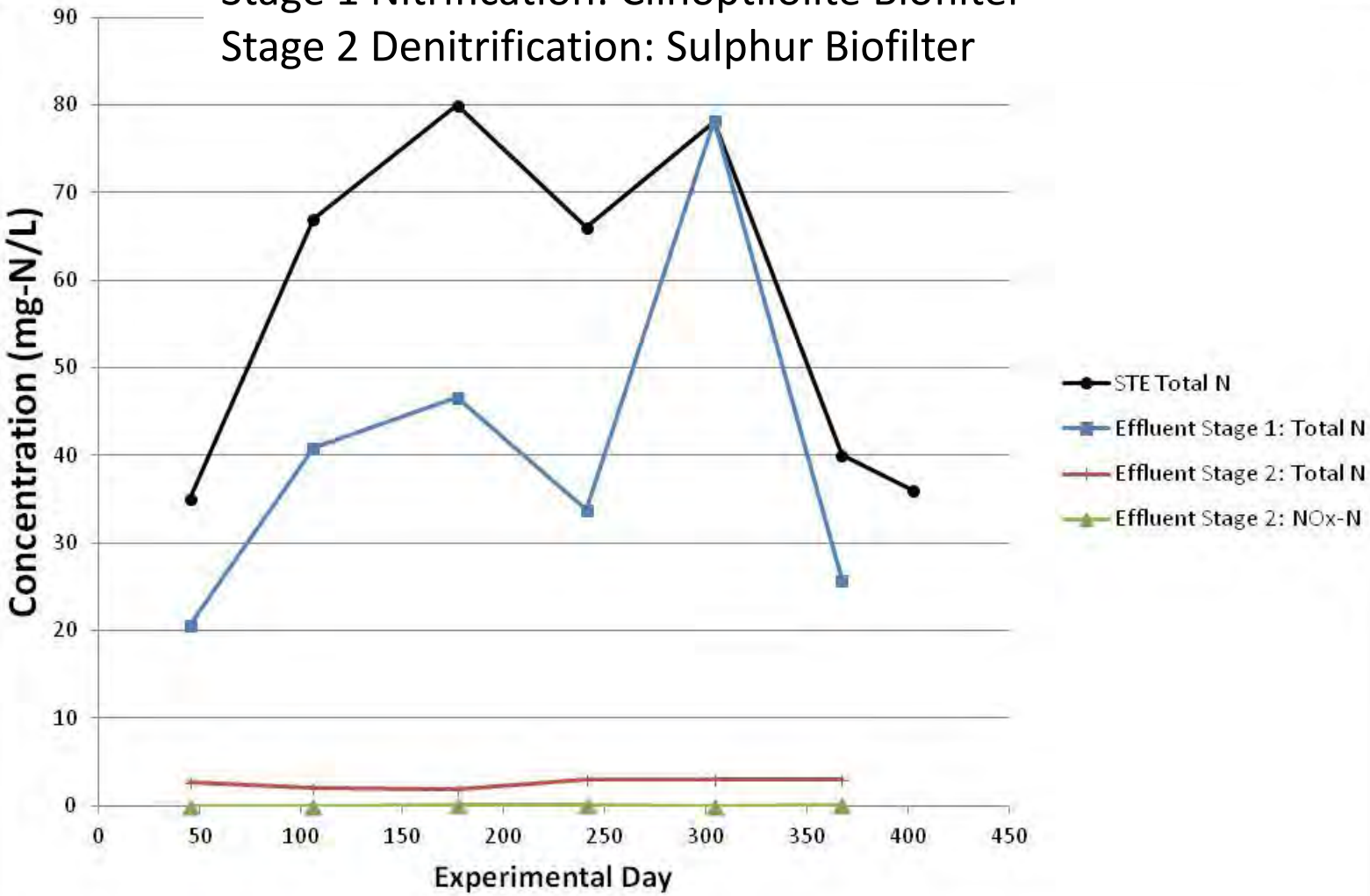
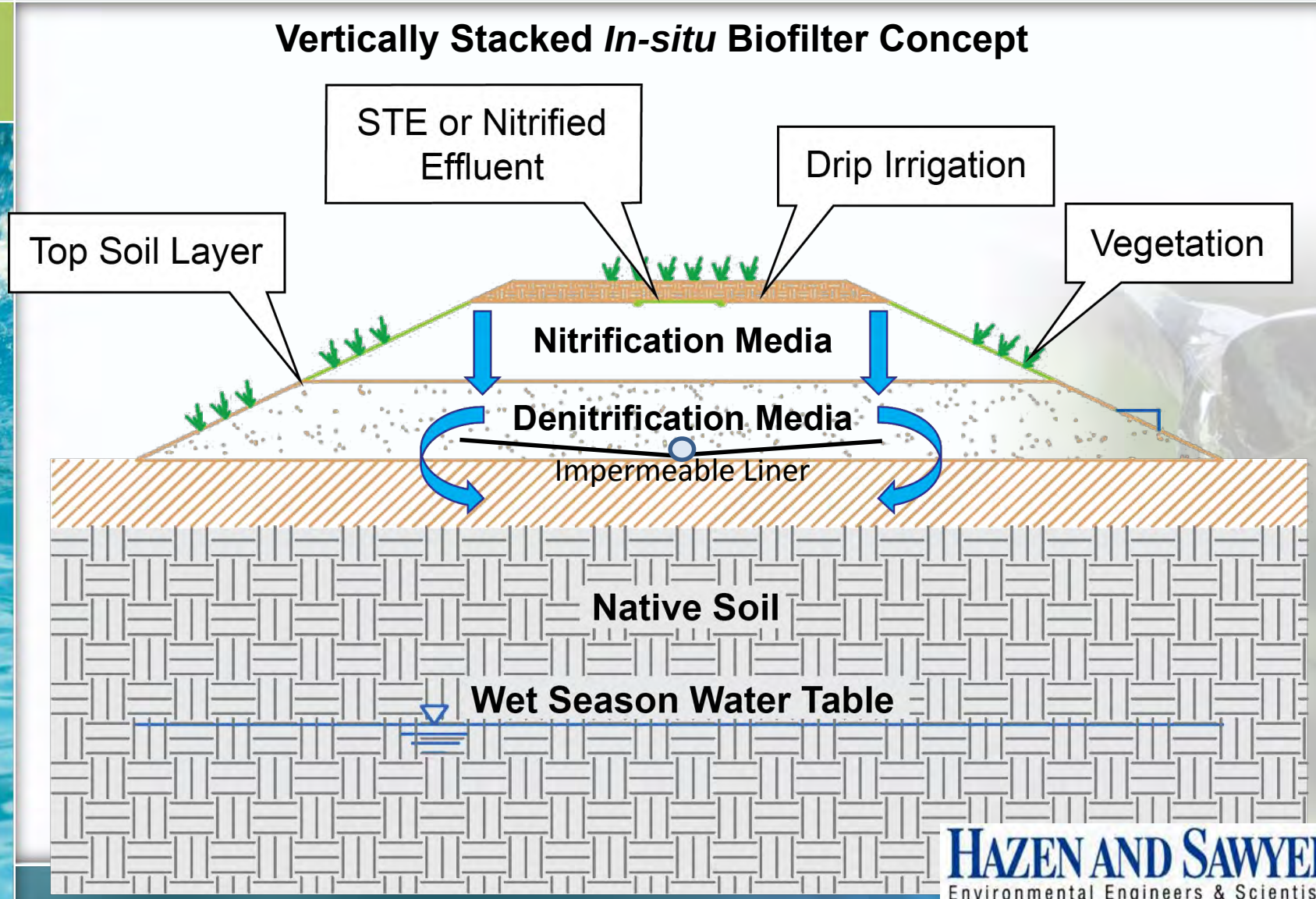
Single Pass System

Stage 1 Nitrification: Clinoptilolite Biofilter
Stage 2 Denitrification: Sulphur Biofilter



Also investigating *in-situ* stacked biofilters



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In situ Stacked Biofilter Construction

Pilot vertically stacked biofilter system performance

Mean results over 8 sample events, 523 days of operation

	n	TKN mg N/L	NH_3 mg N/L	NO_x mg N/L	TN mg N/L	Sulfate mg/L	Fecal Coliform (Ct/100 mL)	% TN Reduction
		mean	mean	mean	mean	mean	geomean	
STE Drip	8	65.1	55.60	0.29	65.4	40.6	13,273	
Stage 1 18" Sand	8	3.2	0.03	33.13	36.3	49.4	Non-detect	44%
Stage 2a ligno/sand	9	3.0	0.36	3.55	6.5	115.7	2.3	90%
Stage 2b sulfur tank	8	3.4	0.95	0.06	3.5	292.9	6.5	94%

DISPERSAL

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Lessons learned from pilot test

- Encouraging results from pilot PNRS; several system configurations capable of ≥ 95% N reduction
- Sulfate production vs nitrate reduction
- Highly reactive elemental sulfur media
- Lignocellulosic retention time issues
- Recommended evaluation of combination lignocellulosic and elemental sulfur denitrification systems for full-scale treatment units

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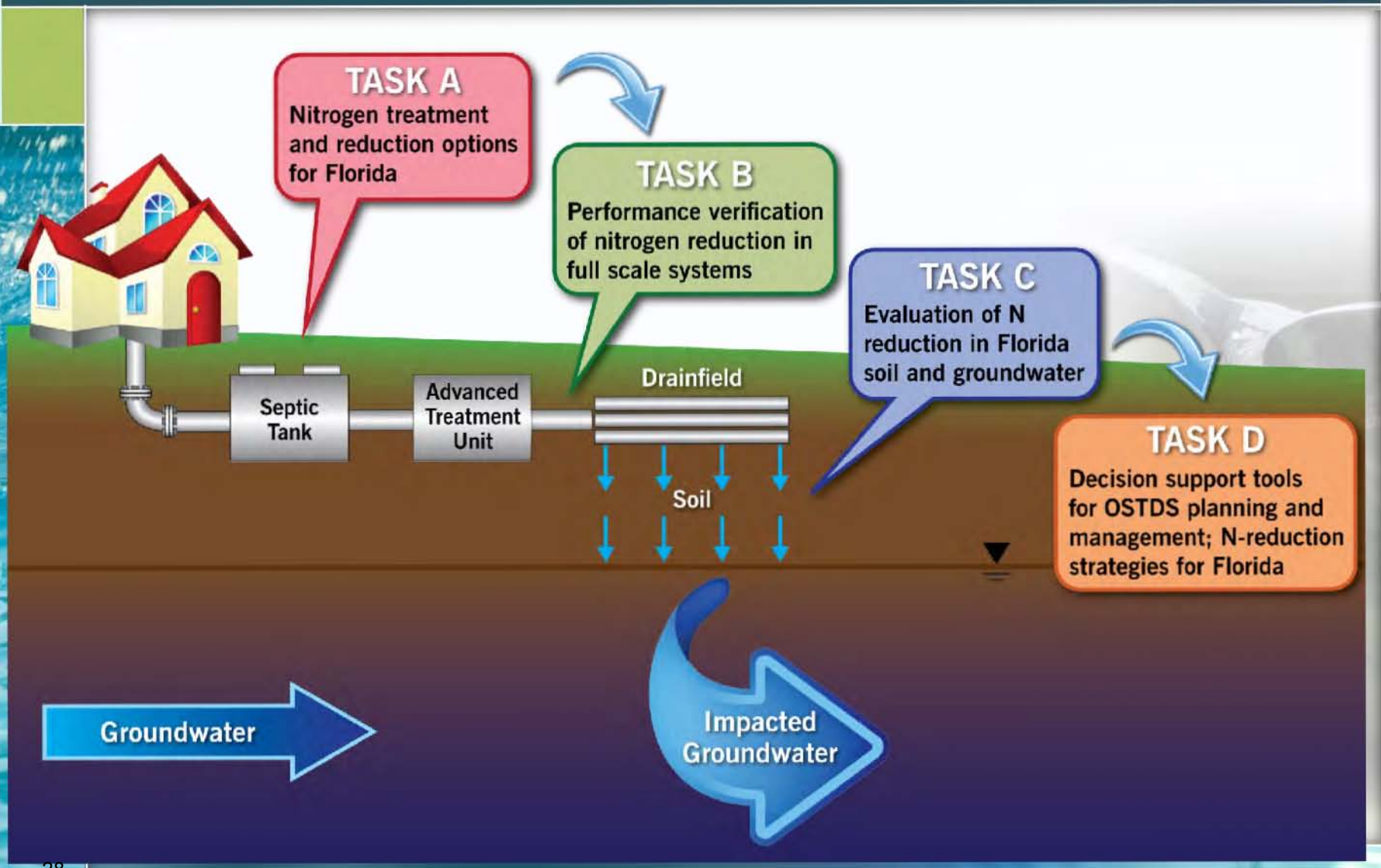
Passive Nitrogen Reduction Systems (PNRS): Full-scale Implementation

Task B Overview



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7 PNRS systems installed

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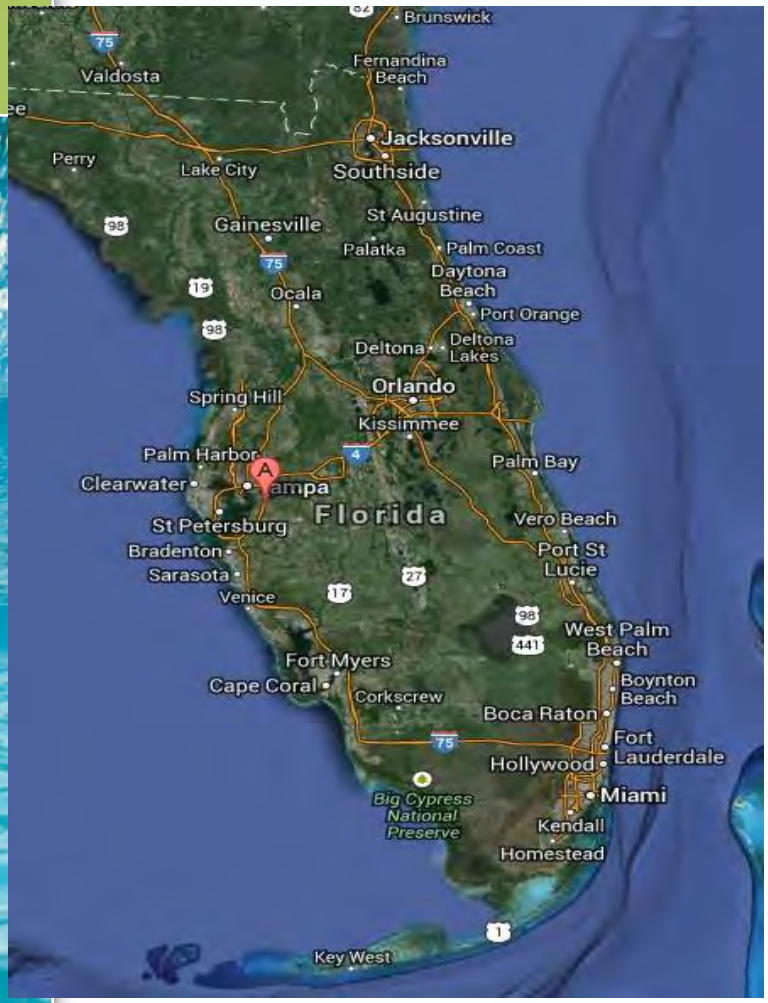
Hillsborough County PNRS: Tank System with Recirculation

Hillsborough County PNRS Location



- Single family home
- 3 bedroom
- 2 residents
- Flow of 108 gpd

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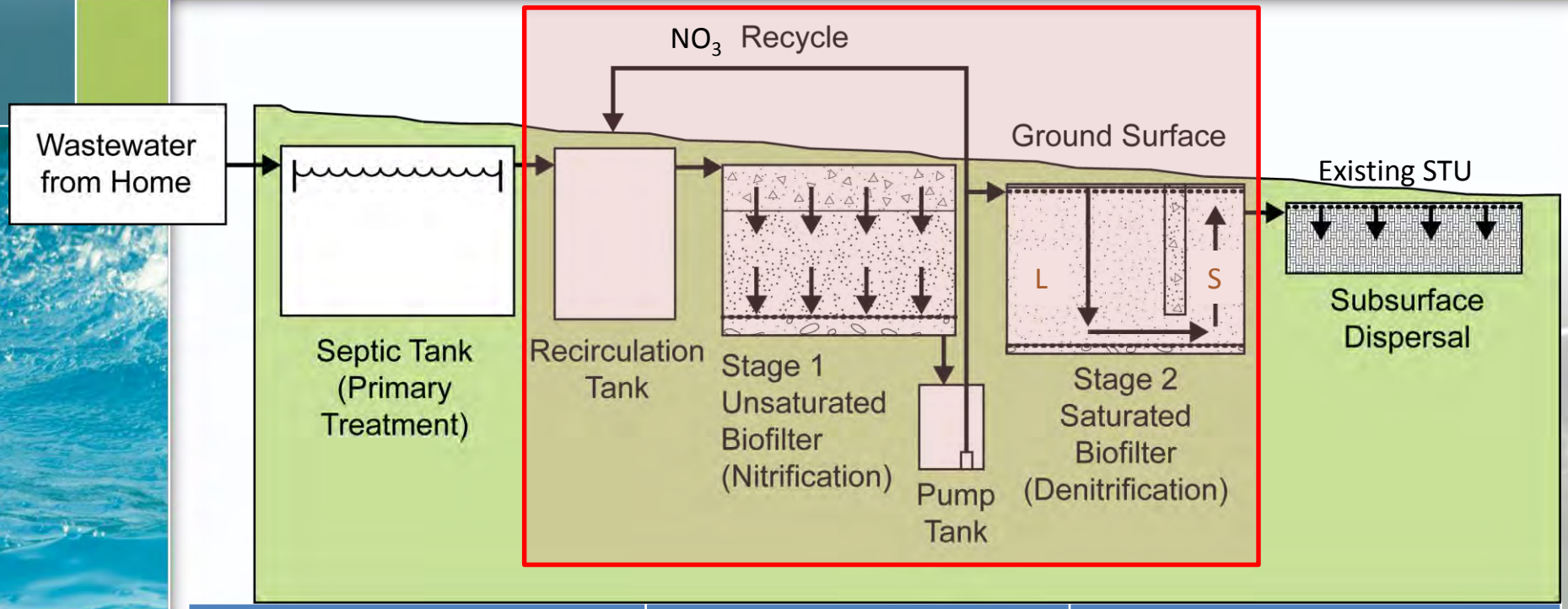
PNRS Flow Schematic and Basic Design Criteria



ID	HLR	Flow
Stage 1	3.0 gal/ft^2-d forward flow	108 gpd forward flow 450 gpd total w recycle (3.2:1 recycle ratio R/Q)
Stage 2, lignocellulosic	3.0 gal/ft^2-d	108 gpd
Stage 2, sulfur	6.1 gal/ft^2-d	108 gpd

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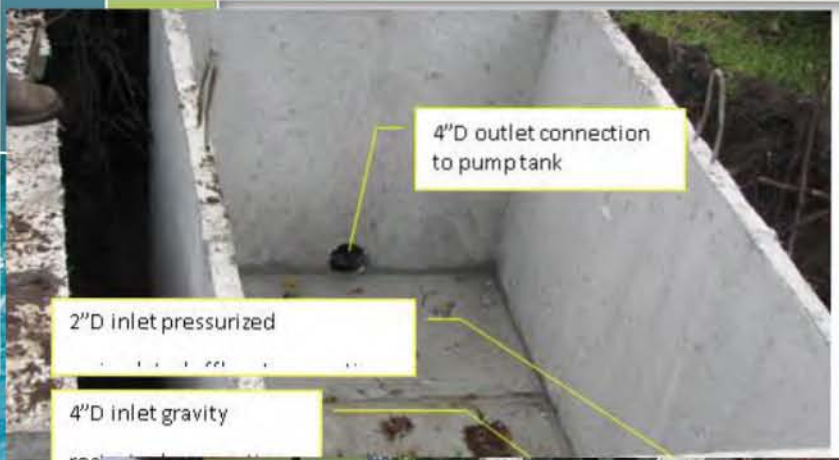
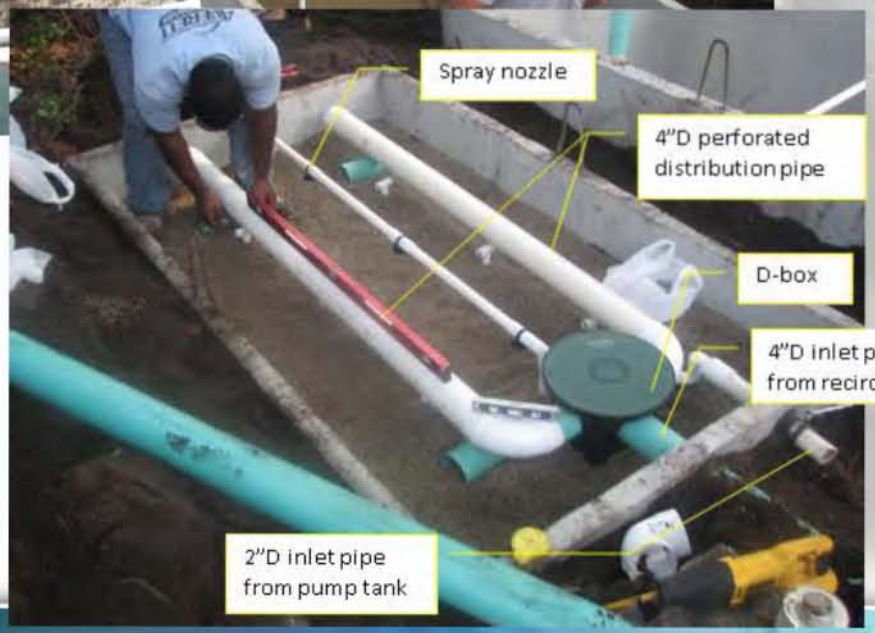
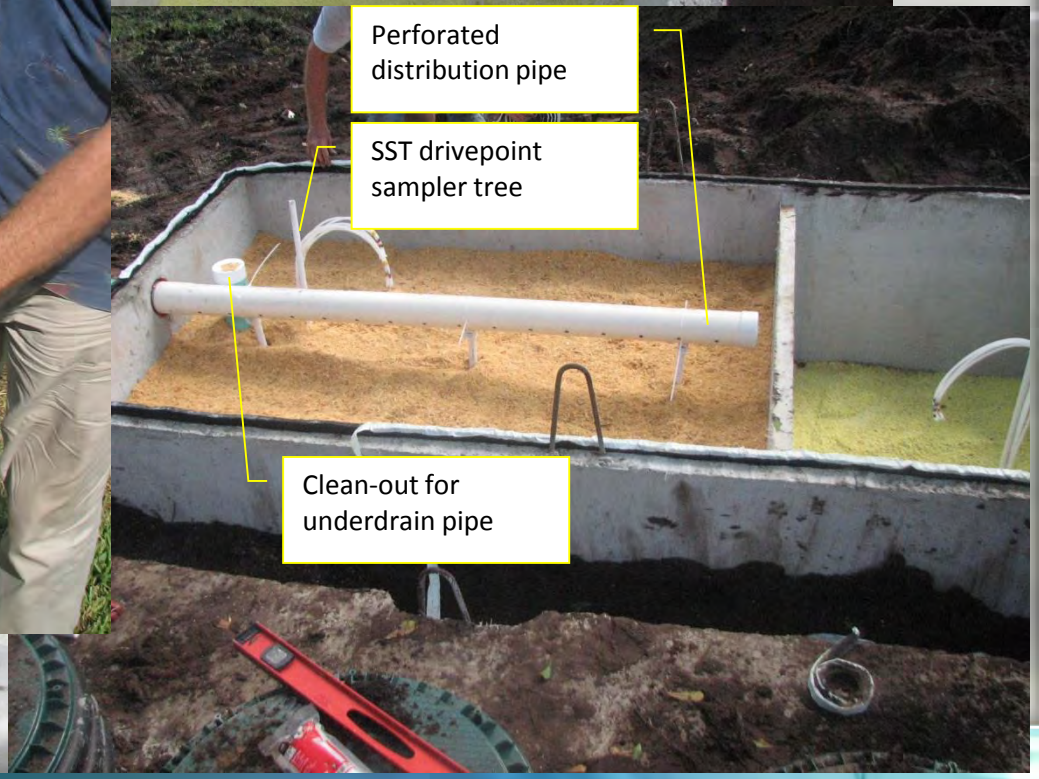
Stage 1 Recirculating Biofilter Construction

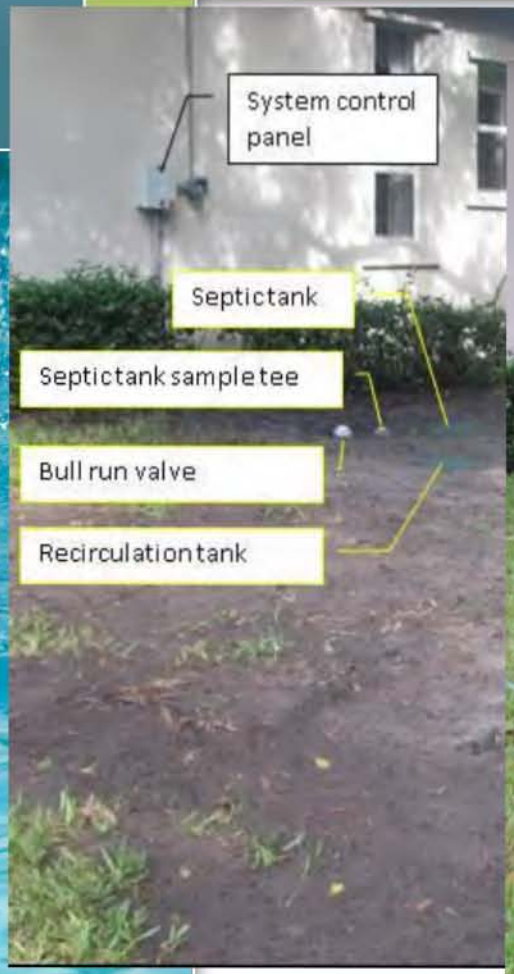




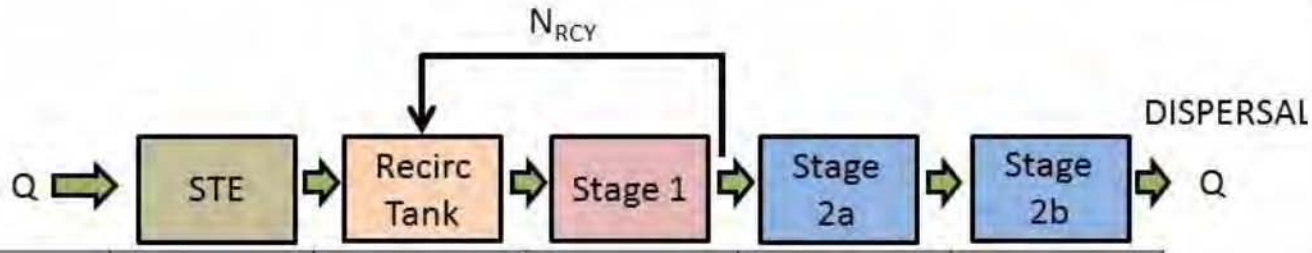
Stage 2 Denite Biofilter Construction



Completed Two-stage PNRS



Hillsborough County PNRS Results through Experimental Day 535



		Septic tank effluent		Stage 1 effluent	Stage 2 Lignocellulosic Effluent	Stage 2 Sulfur Effluent
n		12		12	12	12
$CBOD_5$ mg/L	mean	192.3		11.3	27.5	60.2
TKN mg N/L	mean	54.7		3.9	2.5	2.5
NH_3 mg N/L	mean	41.3		0.9	1.1	1.3
NO_x mg N/L	mean	0.05		26.8	2.3	0.02
TN mg N/L	mean	54.7		30.7	4.9	2.5
Sulfate mg/L	mean	53.6		154	156	202
Fecal Coliform (Ct/100 Ml)	geomean	90,160		1,297	19	31

TN Reduction
Stage 1, 44%
Stage 2b, 95%
prior to STU/drainfield

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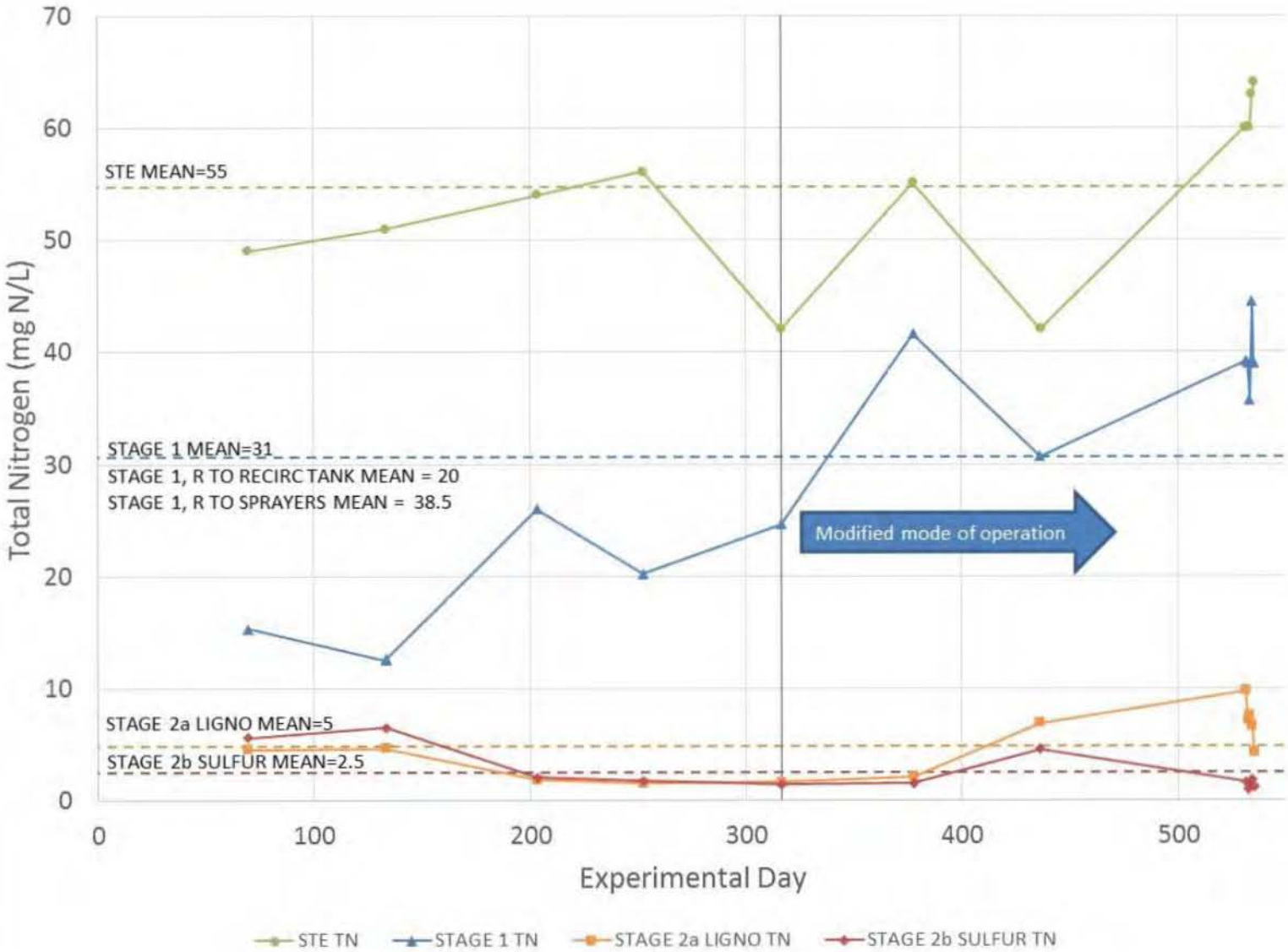
Hillsborough County PNRS: Time series of nitrogen data



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Hillsborough County PNRS: Operation and maintenance

- Average energy consumption of 0.31 kWh/day or 2.7 kWh/1000 gal treated
- Stage 1 biofilter – no surficial biomat or clogging present
- Stage 2 biofilter – reactive media shows very little reduction in volume

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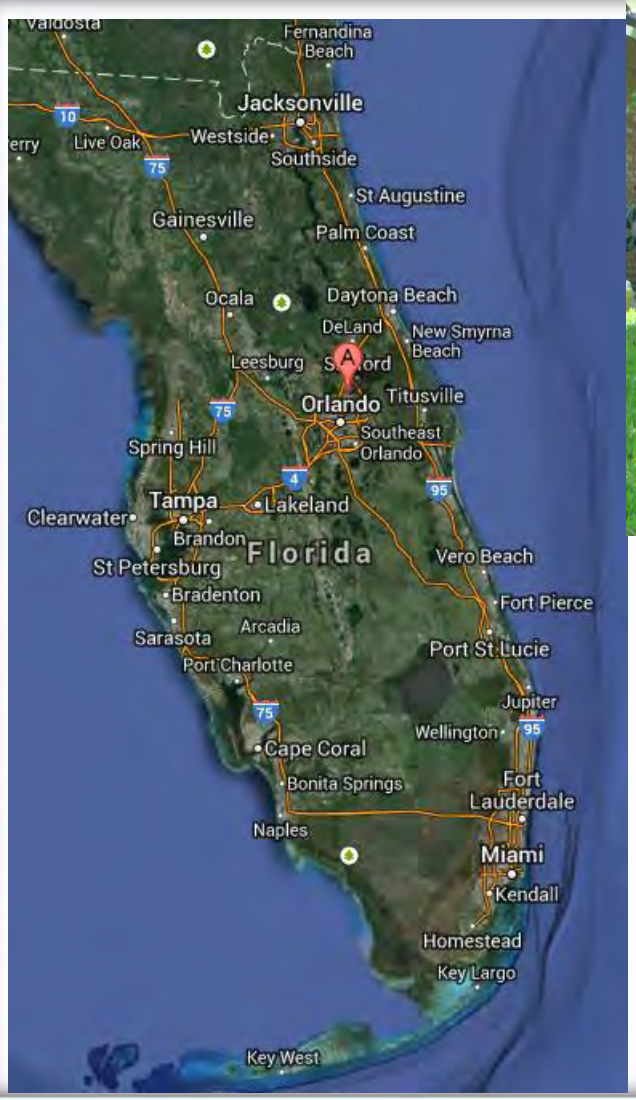
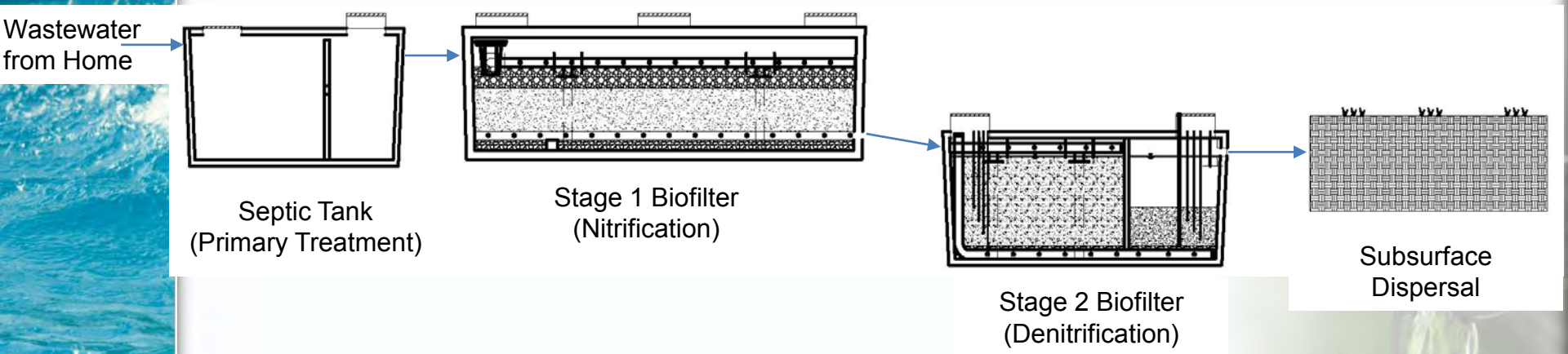
Seminole County PNRS: Single pass tank system

Seminole County, FL PNRS Location



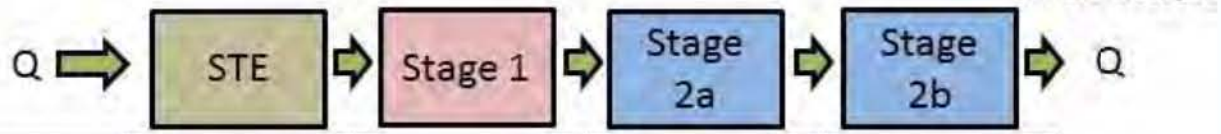
- Single family home
- 4 bedroom
- 5 residents
- Flow of ~287 gpd

PNRS Flow Schematic and Basic Design Criteria



ID	Surface Area	HLR
Stage 1	113.2 ft^2	2.5 gal/ft^2-d
Stage 2a Ligno	36.2 ft^2	7.9 gal/ft^2-d
Stage 2b Sulfur	18.1 ft^2	15.8 gal/ft^2-d

Seminole County PNRS
Preliminary results through Experimental Day 321



		Septic tank effluent	Stage 1 effluent	Stage 2 Lignocellulosic Effluent	Stage 2 Sulfur Effluent
n		9	9	9	9
$CBOD_5$ mg/L	mean	149	9.6	13.2	13.8
TKN mg N/L	mean	67.8	14.1	10.4	7.8
NH_3 mg N/L	mean	60.4	9.6	7.1	5.2
NO_x mg N/L	mean	0.05	29.4	1.4	0.04
TN mg N/L	mean	67.8	43.5	11.8	7.9
Sulfate mg/L	mean	2.0	18.1	11.8	31.7
Fecal Coliform (Ct/100 Ml)	geomean	37,811	4,279	1,140	357

TN Reduction
Stage 1, 36%
Stage 2b, 88%
prior to STU/drainfield

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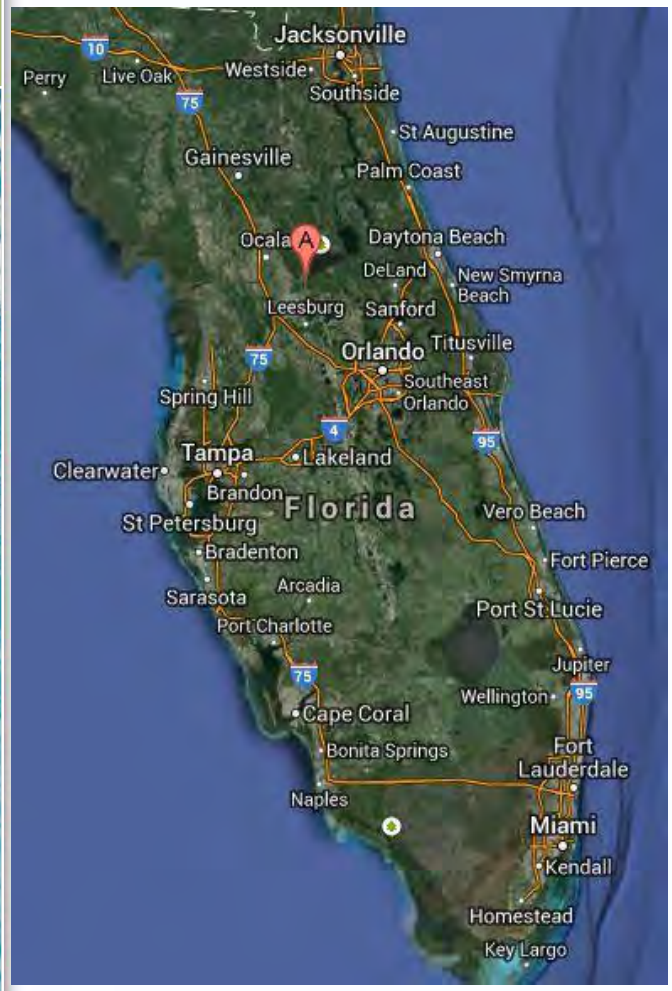
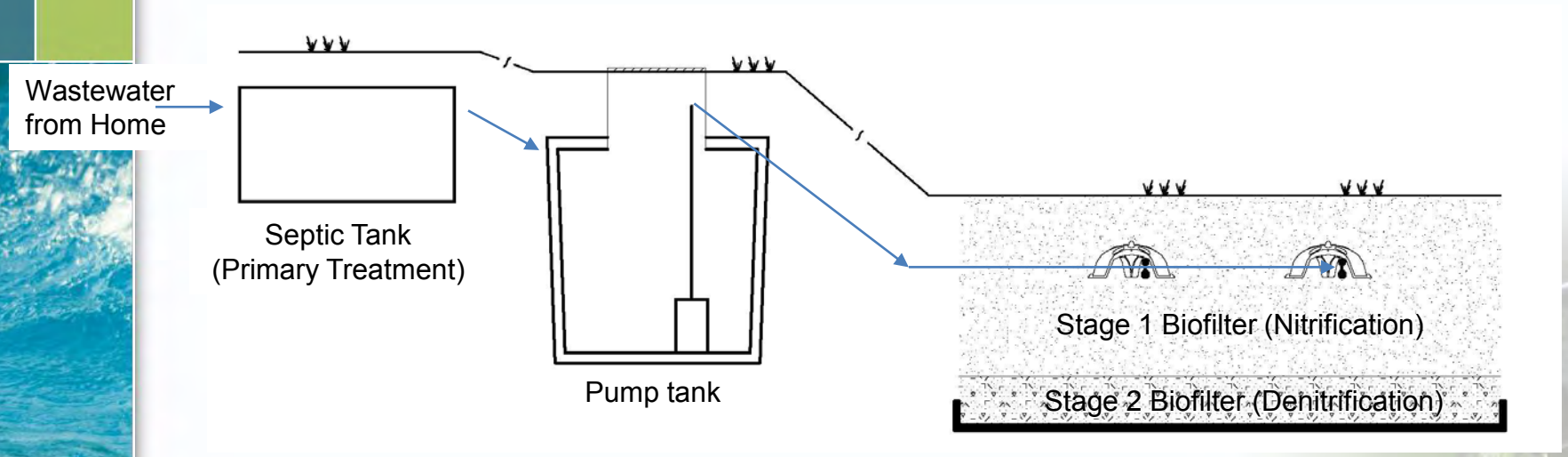
Marion County PNRS: In ground, vertically stacked biofilter system

Marion County, FL PNRS



- Single family home
- 2 bedroom
- 2 residents
- Flow of ~120 gpd

PNRS Flow Schematic and Basic Design Criteria



ID	Surface Area	Design HLR
Stage 1 Sand	375 ft^2	0.8 gal/ft^2-d
Stage 2 Lignocellulosic	792 ft^2	

Marion County, FL PNRS

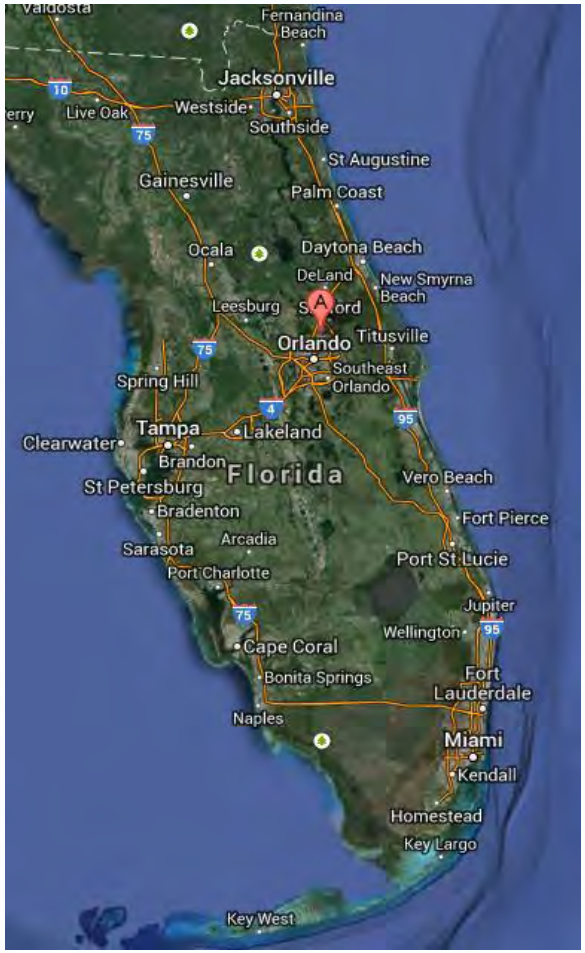
Marion County, FL PNRS

40614-000

HAZEN AND SAWYER
Environmental Engineers & Scientists

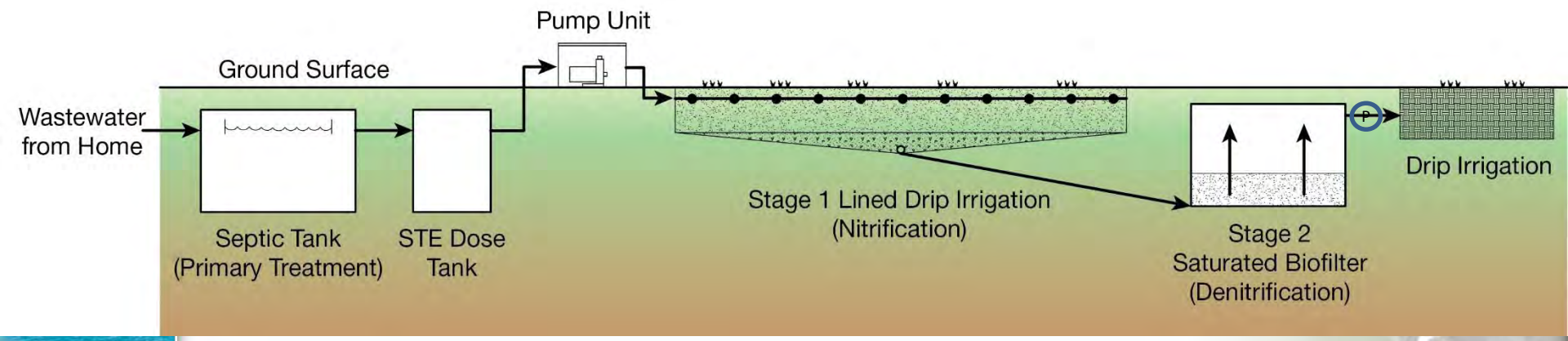
Seminole County PNRS: Drip system with reuse

Seminole County, FL PNRS Location



- Single family home
- 5 bedroom (2 residents)
- Flow of ~142 gpd
- Mounded drainfield
- Myakka and EauGallie fine sands

PNRS Flow Schematic and Basic Design Criteria

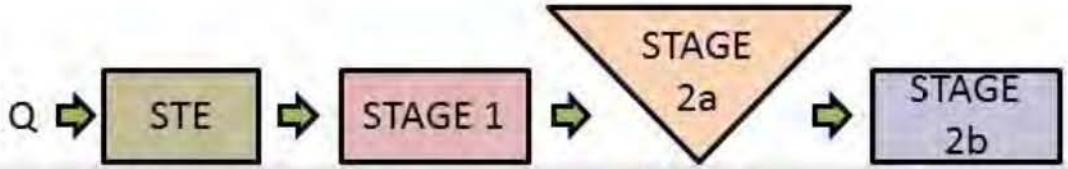


ID	Surface Area	Design HLR
Stage 1	728 ft^2	0.8 gal/ft^2-d
Stage 2	32.3 ft^2	18 gal/ft^2-d
Drip irrigation	615 ft^2	0.94 gal/ft^2-d

Stage 1 Lined Drip Irrigation

Stage 2 Denite Biofilter Construction

Seminole County PNRS
Preliminary results through Experimental Day 321



		Septic tank effluent	Stage 1 effluent	Stage 2 Lignocellulosic Effluent	Stage 2 Sulfur Effluent
n	mean	9	9	9	9
$CBOD_5$ mg/L	mean	77.2	3.8	3.6	14.9
TSS, mg/L	mean	22.6	2.6	20.4	5.0
TKN mg N/L	mean	49.8	1.8	2.0	1.3
NH_3 mg N/L	mean	38.9	0.2	0.2	0.3
NO_x mg N/L	mean	0.03	21.2	5.9	0.8
TN mg N/L	mean	49.8	23.0	7.9	2.1
Sulfate mg/L	mean	21	40	25	104
Fecal Coliform (Ct/100mL)	geomean	66,086	1,000	38	6

NA=not analyzed

TN Reduction
Stage 1, 54%
Stage 2b, 96%
prior to STU/drainfield

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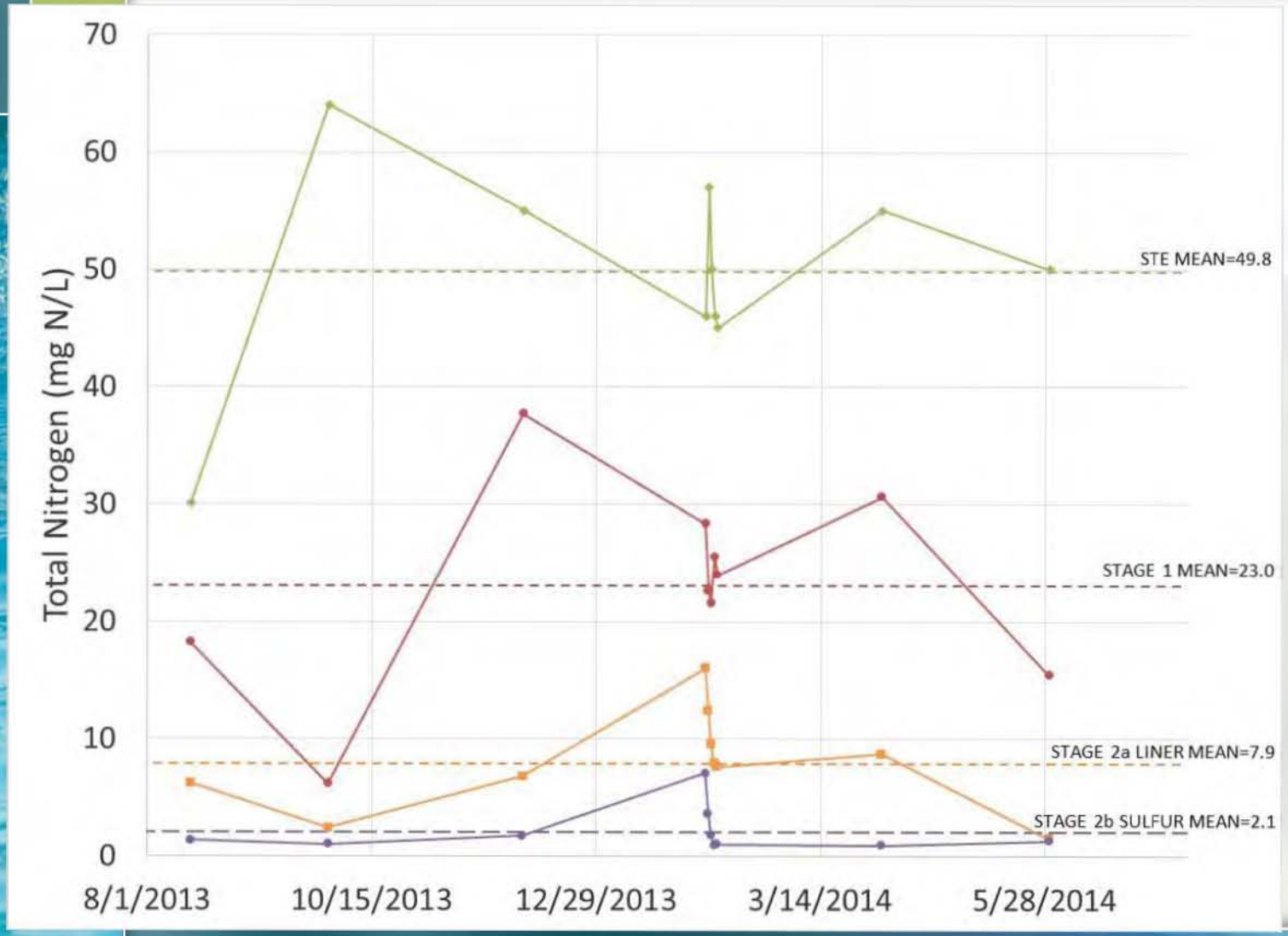
Seminole County PNRS: Time series of nitrogen data



Drip Irrigation System

Subsurface Drip Irrigation Construction

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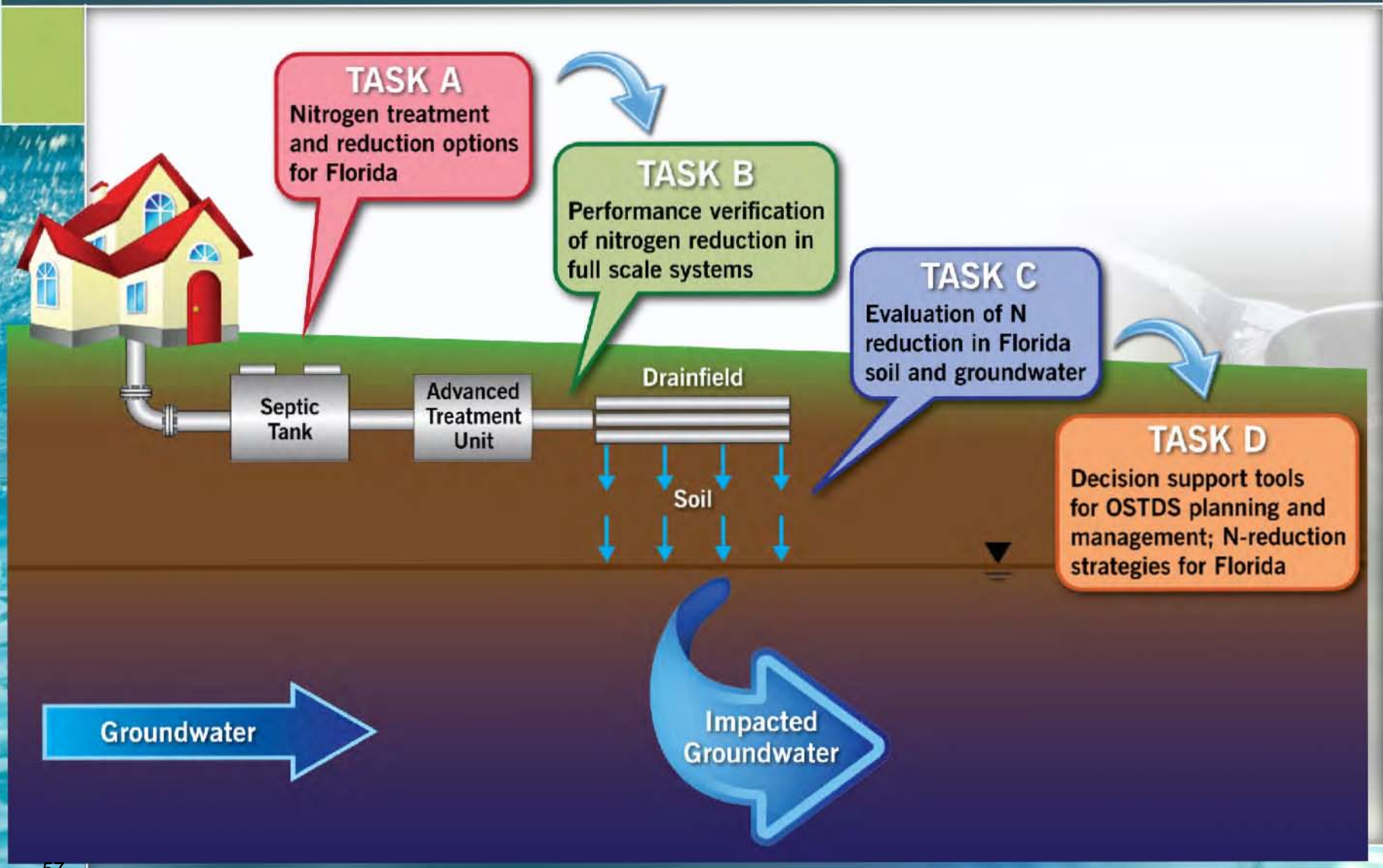
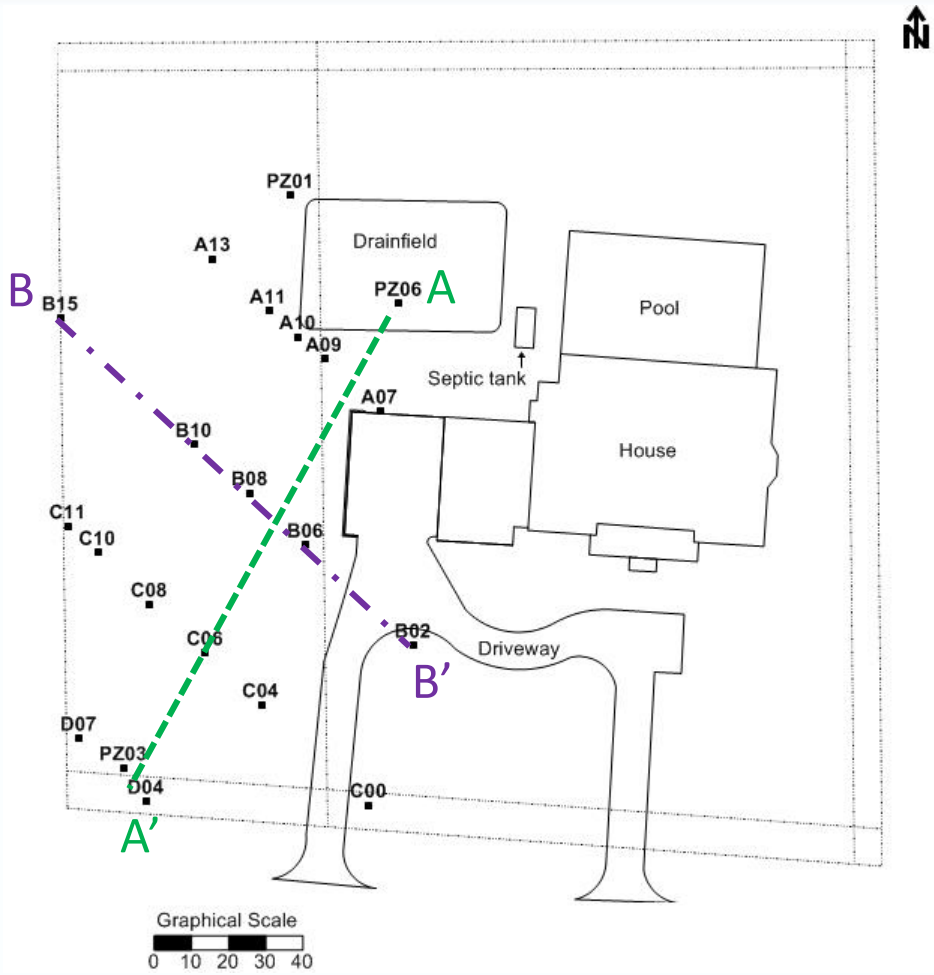
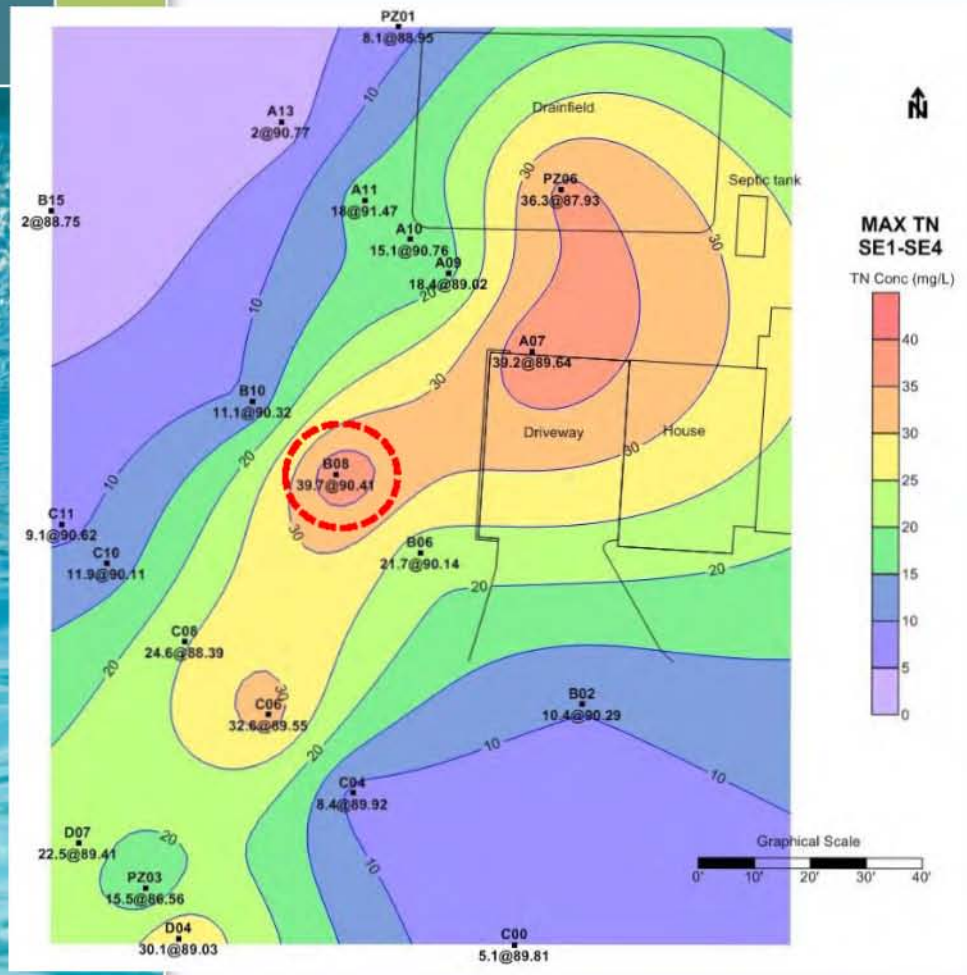
Task C Overview

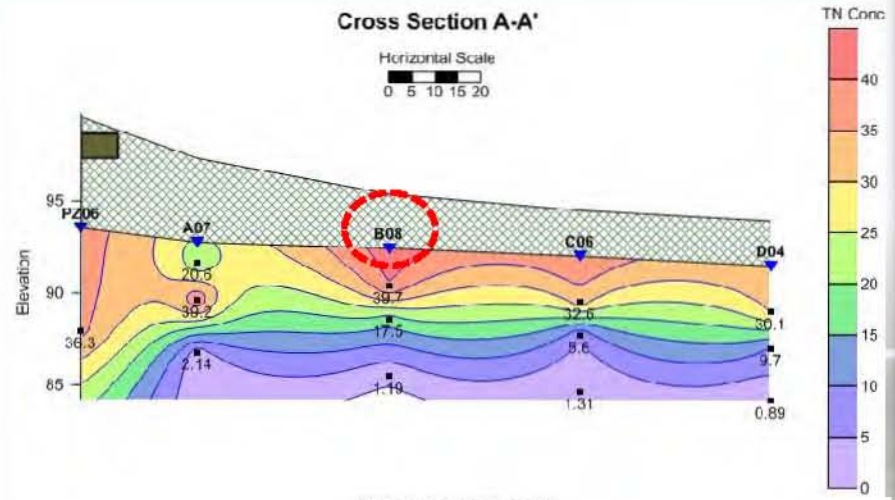


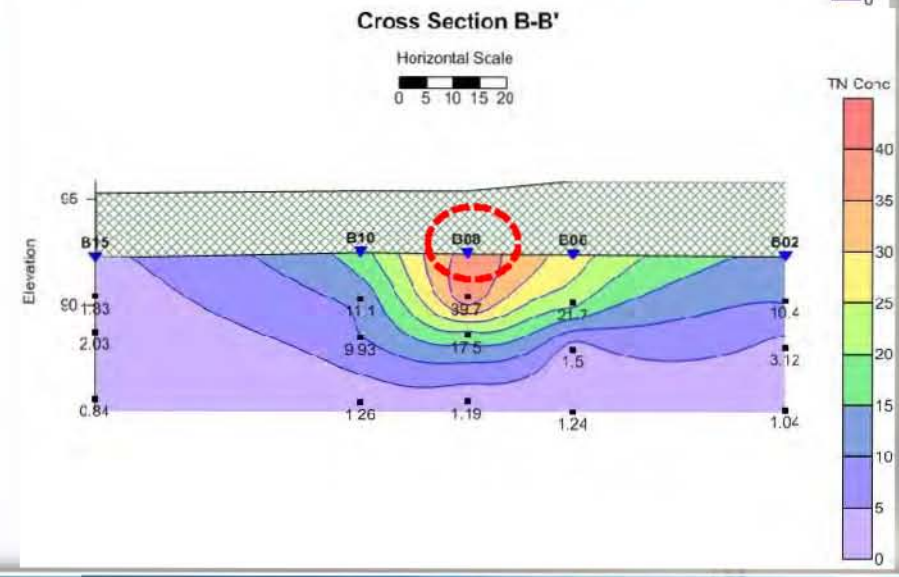
C-HS2 Longwood, FL



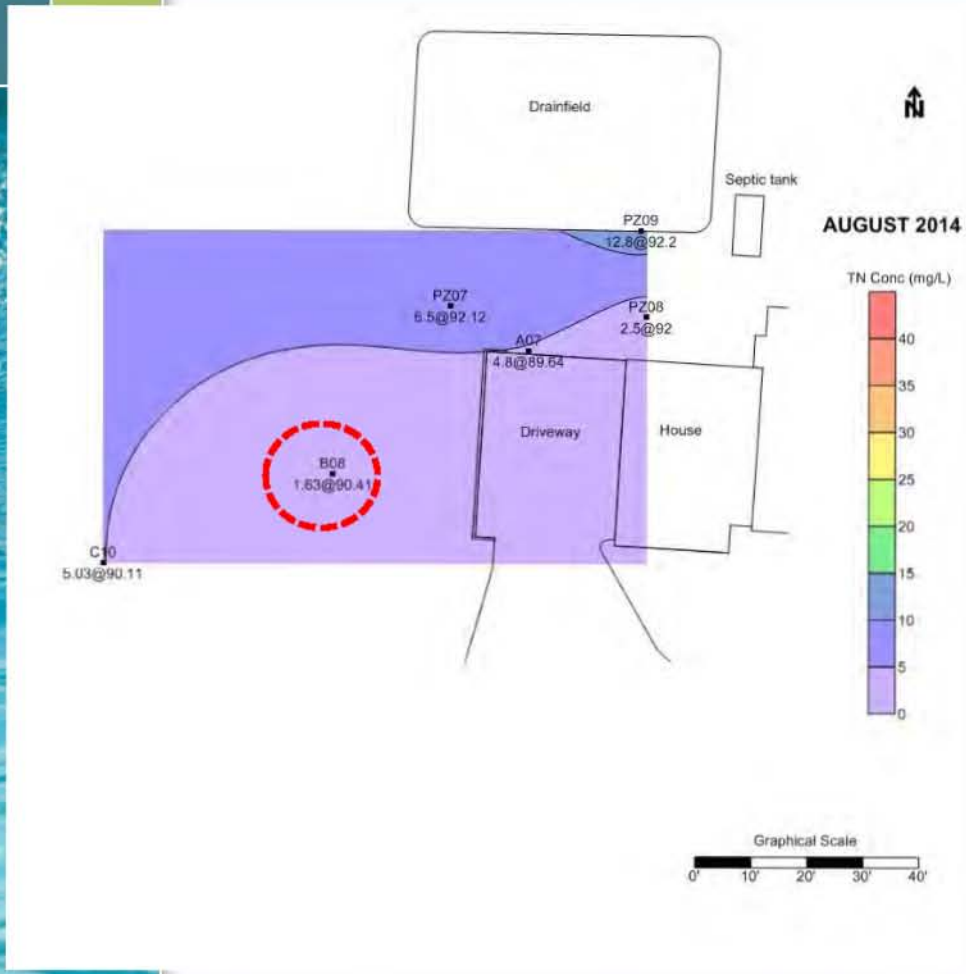
Task C monitoring – before PNRS installed

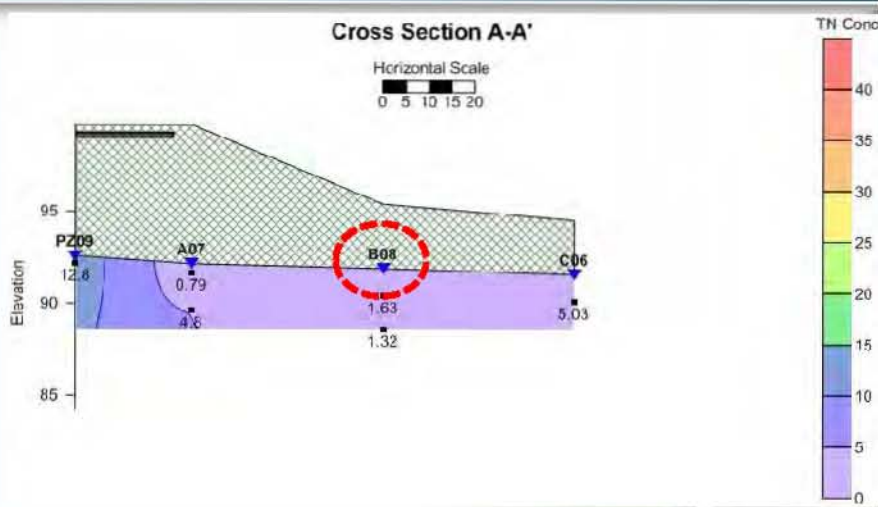




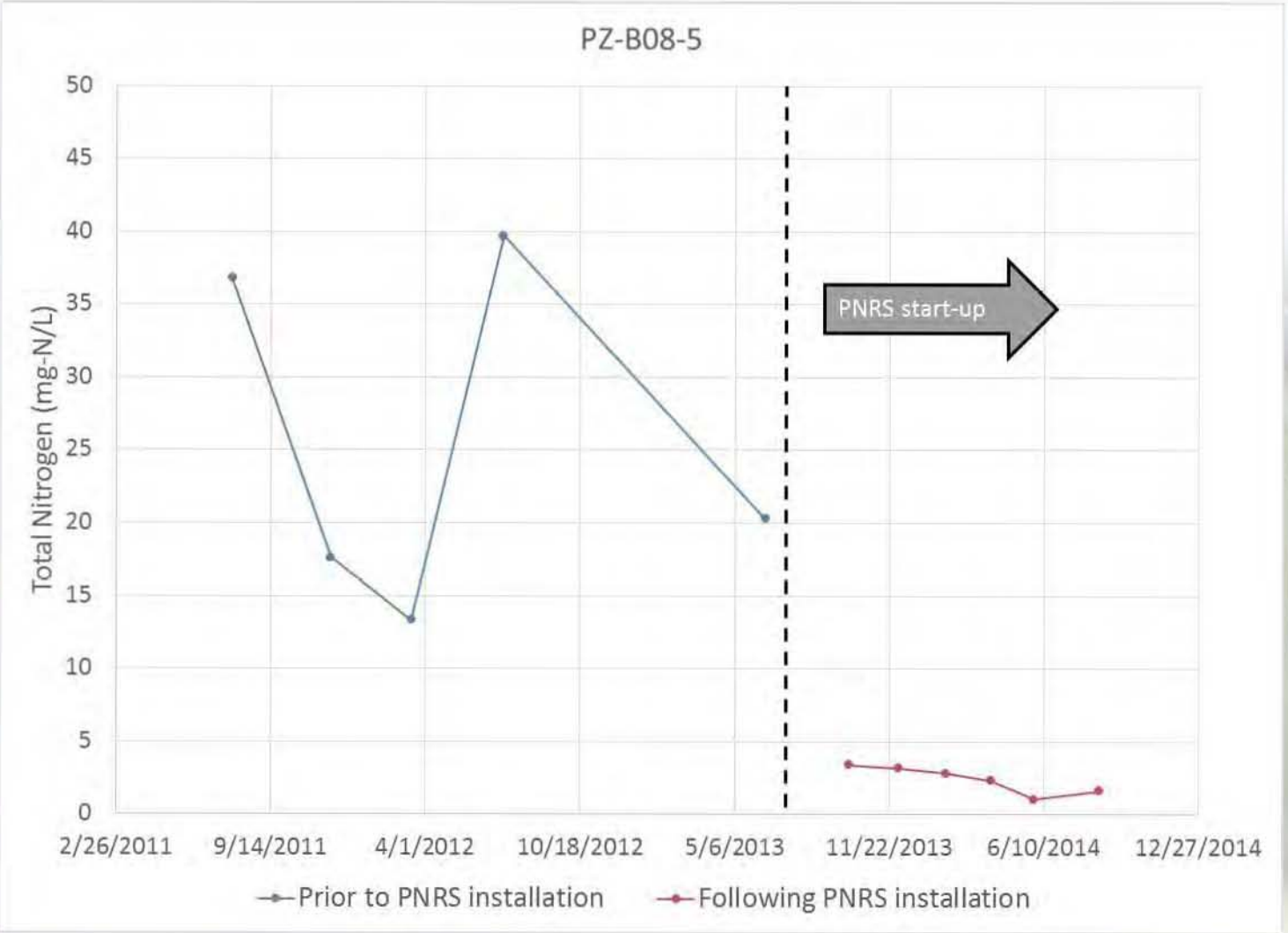


Task C monitoring – after PNRS installed



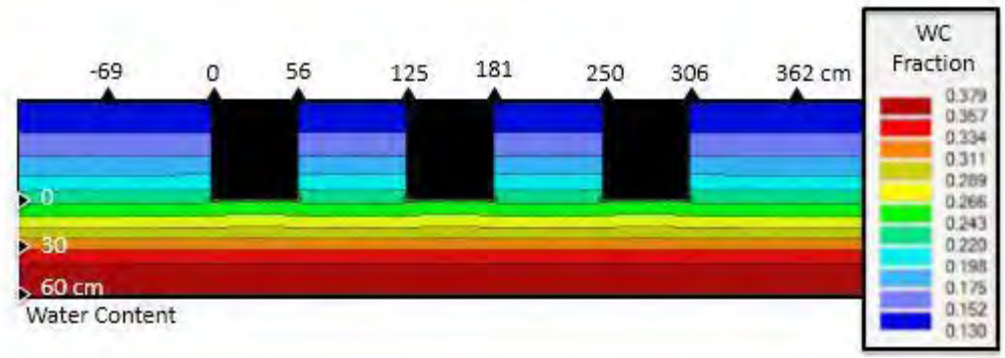


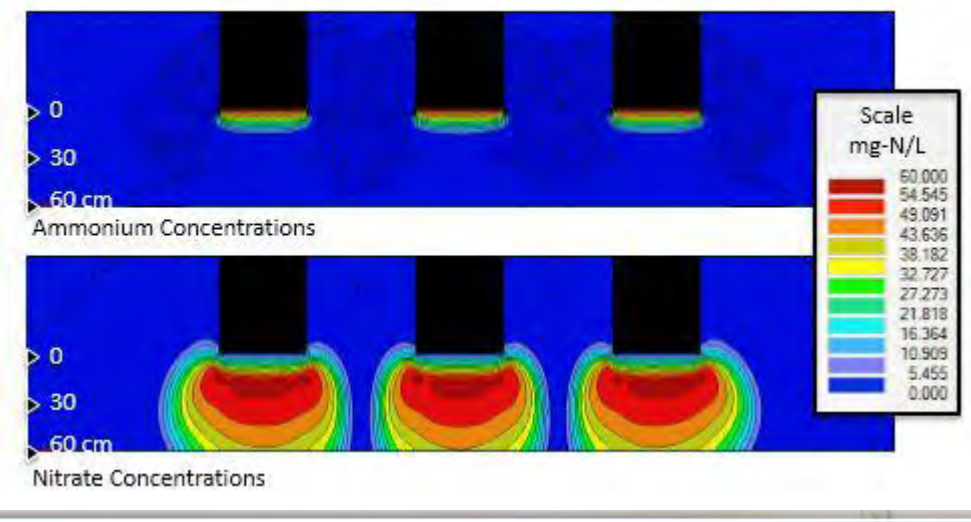
Task C monitoring – after PNRS installed



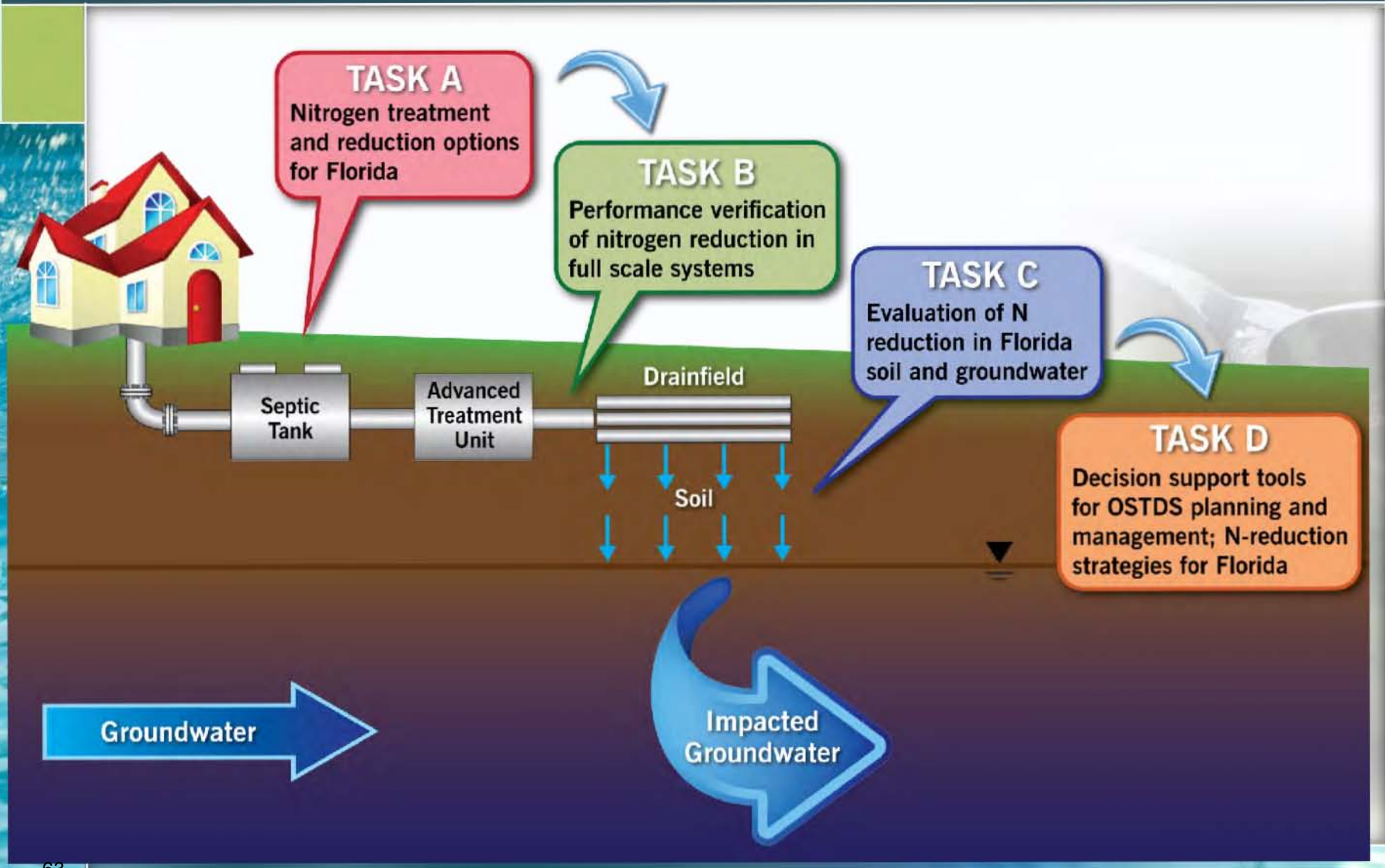
Task D is evaluating nitrogen fate and transport scenarios

Configuration: trench, equal distribution
Soil Type: less permeable sand
Loading Rate: 2.67 cm/d (0.65 gpd/ft^2)
Effluent Nitrogen: 60 mg-N/L as NH_4
Depth to Water Table: 60 cm (2 ft)





Putting it all together…



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Summary & Questions

FOSNRS Summary

- Multi-prong project underway to reduce nitrogen from Florida's Onsite Sewage Treatment and Disposal Systems
- Integrated tasks of:
  - Treatment technology evaluation including new passive systems
  - Full-scale field testing of PNRS treatment technologies
  - Monitoring of nitrogen fate and transport in subsurface
  - Modeling and planning tools to support regulatory decision making
- Successful results would allow OSTDS to achieve nitrogen removal similar to wastewater treatment plants and play a role in nitrogen reduction in sensitive watersheds.

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QUESTIONS ?

Damann L. Anderson, P.E., Vice President
Josefin E. Hirst, P.E., Senior Principal Engineer
Hazen and Sawyer
Phone: 813-630-4498
e-mail: danderson@hazenandsawyer.com
jhirst@hazenandsawyer.com