

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: Friday, March 31, 2017
TIME: 1:30 p.m. Eastern Time
PLACE: Conference call meeting
Teleconference Phone Number: 888-670-3525
At the prompt, enter the
Participant Code: 552 583 4898 #

THIS MEETING IS OPEN TO THE PUBLIC.

Agenda

1. Introductions
2. Review minutes of December 9, 2016 meeting
3. Old Business
 - 15-02 Nitrogen-Reducing Media Lined Drainfields
 - 16-03 NSF 245 Nitrogen reducing ATU's
4. New Business
5. Other items of interest to the Technical Review and Advisory Panel
6. Public Comment

Scott Johnson
PROFESSIONAL ENGINEER

Pam Tucker
REAL ESTATE INDUSTRY

Martin Guffey
SEPTIC TANK INDUSTRY

Ron Davenport
SEPTIC TANK MANUFACTURER

Glenn Bryant
COUNTY HEALTH DEPARTMENT

Russ Melling
CONSUMER

Scott Franz
SOIL SCIENTIST

Sonia Cruz
ENVIRONMENTAL HEALTH

Julie Bortles
LOCAL GOVERNMENT

Ken Odom, Chair
HOME BUILDING INDUSTRY

Roy Pence, Vice Chair
HOME BUILDING INDUSTRY

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TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING MINUTES

DATE: Friday, December 9, 2016
PLACE: Florida Department of Health in Orange County
South Side Health Center (Auditorium)
6101 Lake Ellenor Drive
Orlando, Florida 32809

Members present were:

Ken Odom, <i>Home Building Industry, Chair</i>	Scott Franz, <i>Soil Scientist</i>
Roy Pence, <i>Home Building Industry, Vice Chair</i>	Martin Guffey, <i>Septic Tank Industry</i>
Julie Bortles, <i>Local Government</i>	Scott Johnson, <i>Florida Engineering Society</i>
Glenn Bryant, <i>County Health Department</i>	Russ Melling, <i>Consumer Representative</i>
Sonia Cruz, <i>Environmental Health</i>	Pamela Tucker, <i>Real Estate Professional</i>
Ron Davenport, <i>Septic Tank Manufacturer</i>	

Alternate members present:

Mary Howard, <i>Environmental Health</i>	Johanna Whelan, <i>DOH-CHD (by phone)</i>
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Department of Health staff present:

Ed Barranco, *Environmental Administrator*
Dale Holcomb, *Environmental Administrator*
Eberhard Roeder, *Engineer*
Marcelo Blanco, *Environmental Consultant*
Kim Duffek, *Environmental Consultant*
Denworth Cameron, *Env. Consultant*

Absent members and alternates:

Robert Baker, *Septic Tank Manufacturer*
Vic Godlewski, *Local Government*
Oren Reedy, *Soil Scientist*
Joseph Sullivan, *Soil Scientist*
Mark Tumeo, *Professional Engineer*
Robert Washam, *Consumer*
Dewayne Bingham, Jr., *Septic Tank Industry*

Others present:

Roxanne Groover, <i>Florida Onsite Wastewater Association</i>	Cindy Guffey, <i>Martin Septic Service</i>
Damann Anderson, <i>Hazen and Sawyer</i>	Rick Hicks, <i>DEP</i>
Thomas Lyon, <i>Presby Environmental</i>	Audra Burchfield, <i>DOH-Orange</i>
Mark Fricke, <i>Presby Environmental</i>	Yelitza Jimenez, <i>DOH-Orange</i>
Lee Rashkin, <i>Presby (by phone)</i>	

Scott Johnson
PROFESSIONAL ENGINEER

Glenn Bryant
COUNTY HEALTH DEPARTMENT

Victor Godlewski
LOCAL GOVERNMENT

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REAL ESTATE INDUSTRY

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Sonia Cruz
ENVIRONMENTAL HEALTH

1. INTRODUCTIONS

Chairman Odom called the meeting to order at 10:10 a.m. and invited the members and Department staff present to introduce themselves. All eleven member-represented groups were present, representing a quorum.

2. REVIEW MINUTES OF LAST MEETING

The TRAP reviewed the minutes of the August 31, 2016 meeting.

MOTION by Ron Davenport and seconded by Scott Franz, for the TRAP to approve the minutes from the August 31, 2016 meeting.

PASSED unanimously.

3. OLD BUSINESS

Issue 16-01 considered first as it was anticipated to be brief.

Issue 16-01 Drip Emitter System Slope

MOTION to approve (for purpose of discussion)
Scott Franz made a motion to discuss

MOTION by Scott Franz to accept 16-01 as written. Seconded by Scott Johnson.
PASSED Unanimously

Issue 15-02 Nitrogen-Reducing Media Lined Drainfields

Chairman Odom introduced the issue with a brief recap of the meeting with DEP and stakeholders as directed October TRAP meeting and the concerns raised in the DEP meeting had been addressed in this version of the language.

Chairman Odom introduced a letter from Presby Environmental to the Florida Department of Health saying that some of the language in the rule proposal was an infringement on a patent held by Presby Environmental. Ed Barranco responded that the Department is still reviewing and has not reached a decision on Presby Environmental's claims. Dale Holcomb advised that our instruction from our legal counsel was to continue moving forward while the patent matter was being reviewed.

Scott Johnson made a MOTION to accept 15-02 (for discussion)
Seconded by Ron Davenport

There was a brief discussion recapping the motion of the October, 2016 meeting, regarding the creation of the pilot project, stakeholders met with DEP to the pilot project, Damann subsequently provided a document suggesting five variations to be studied, the department selected three, created the version of the language that was shared with the TRAP before Thanksgiving, the stakeholders, DEP and DOH had a teleconference meeting to raise any issues. General consensus was reached and the resulting language was sent to TRAP as the issue being discussed at this meeting.

Pam Tucker asked about funding opportunities that were to be discussed and Rick Hicks offered that there were grant opportunities for a group such as FOWA or another organization to administer and also money had been funded by the legislature last year to study alternative onsite sewage systems DEP was working with the Northwest Florida Water Management District for alternative septic system construction to pilot some of these systems.

Ken Odom, Scott Johnson led a discussion with the following results:

Line 11 remove "first".

Line 14 make it "five to ten".

Line 16 add "if the nitrogen reduction targets are achieved".

Discussion regarding the need for language to shut off the standard liner system if they do not perform.

Pam Tucker expressed concerns regarding causing homeowners to have to pay for a system modification if it was found that the systems were performing poorly. Discussion regarding funding issues and protecting homeowners in case the system they have installed does not perform. Roxanne Groover reiterated the need to make some of these options available for installation and use so that there were options in addition to septic-to-sewer conversion. Scott Johnson explained the engineer's perspective regarding early system adoption and testing.

Sonia Cruz expressed concerns over the patent issue. Ken Odom offered that any motion to move forward should address resolving the patent issue before we get to rulemaking.

Rick Hicks - Line 16 add "based on favorable results".

A discussion of Presby's concerns that a gravity system not be prohibited and a discussion of lift dosing, gravity, flow.

Dale Holcomb - Line 21 a gravity flow version of variant two may be tested.

Discussion of 'serial' distribution versus 'even' distribution and allowing that to be tested. Mark Frike described some of Presby's experience with serial distribution and that dosed distribution is not optimum for the Presby design.

Dominique Buhot discussed a design alternative for multiple gravity distribution points as a lower cost alternative to low-pressure dose.

Scott Johnson – Add language re: "A gravity system is permissible". Additional sampling ports would be necessary do see if we have different readings at different portions of the system.

Ken Odom – discussion of the perimeter drainage factor and can the liner extend many feet beyond the drainfield? Dale Holcomb responded that the answer is yes, and the drainfield does not need to be extended however the setback would be extended with the liner.

Will Bryant asked if the toilet flange needed to be glued led to a discussion about sampling/observation ports, the toilet flange and perforations, pipe thickness dimensions and methods on construction.

Line 57 - Use "securely" attached for the toilet flange.

Line 58 - Need perforations at the lowest point possible to allow water to get into the pipe and provide an accurate water level.

Ken Odom continued asking for comments and received the following suggestions:

Line 71 "plan" view not "map" view

Line 85-87 maintain 5 feet for the setback between the liner and the building foundation, pilings for elevated structures and vertical obstructions.

Line 84 change "pitch" to "slope"

In the figures, please put text out to the side or improve contrast between colors and words (in grayscale).

Ron Davenport asked how the 65% goal for liner systems and how it was developed. Ed Barranco explained that it was from the study report. Damann Anderson explained the observations and readings that they got during the study of the liner system and the importance of getting the effluent into contact with the media and methods to achieve that goal.

In all drawings use "seasonal high water table" and change "6" to SHWT to be "at least 6"

Roxanne Groover – Addressing Pam Tucker’s earlier concern about unlimited systems and then discovering that they only meet 40% reduction, what should we do. Dale Holcomb – DEP want some an unlimited number option so that we can continue to install systems while we are reading results. Rick Hicks – does not want to be bound to a formal approval process that might take a long time. Use "favorable results". Scott Johnson stated that we need a document that advises homeowners that this is a test system. Dale Holcomb clarified that the intent in paragraph (e) line 190 is that if a system needs to be repaired, it needs to be repaired to meet the standard. But if the only non-achievement is that the system is meeting 40% rather than 65%, that does not cause the system to have to be replaced to meet 65%.

Need to have language that provides disclosure that the system was installed to provide nitrogen reduction.

Staff should come up with an innovative system acknowledgement signed by the owner or agent and indemnification letter and this is innovative but homeowner is not held responsible if any of the nitrogen portion of the system – filed with deed. Perhaps borrow language from PBTS rule.

Ken Odom continued with language changes:

Line 101 – insert "minimum" or "at least"

Line 117 – use “at least” throughout document.

Line 120 – delete “mechanically” with regard to mixing media and soil throughout.

Figure 3 – top of liner should be 4-6 inches below the bottom of the drainfield.

Figure 4 - top of liner should be 4-6 inches below the bottom of the drainfield.

Figure 4 – bottom of inner liner should be 6-8 inches above the bottom of the outer liner.

Perimeter loading factor needs to apply to the outer liner of variant 3.

Rick Hicks suggested - Line 173 change “each” to “appropriate” because we cannot measure dissolved oxygen in lysimeters.

Damann Anderson suggested that we provide sampling going off to the side: Where there is no liner going up, sample out to the side to make sure the effluent is not going laterally. Line 165 “at least at the following locations” in variant 1 use suction lysimeters because they are not saturated.

Pam Tucker inquired about the intent and impact of long term monitoring and leaving monitoring devices in place for future monitoring. Damann Anderson offered that sampling ports need caps to protect the devices and prevent water intrusion. Additional discussion of who does the monitoring and who provides the reports to the department.

Ken Odom led a discussion regarding being sure to include language that the design engineer and staff will inspect the media and liner and that after the pilot is over, the master contractor will do media and liner certification then the department will do the final inspection. Will Bryant asked if we could allow or require photos of the buried portions that were only observed by the contractor or engineer but not observed by the department.

Eberhard Roeder – should photos be required?

Scott Johnson – pictures are optional.

Mark Fricke – discussed the error in the proposed numbering on line 200. Dale Holcomb responded that that was indeed an error, there was no intent to replace old paragraph (7) with the new language, the intent is to insert new (7) and renumber old (7) through (10) as (8) through (11) with no change.

Roxanne Groover – Line 190 add a field component to the course work.

Discussion regarding whether the installers should need to go through the course also. Consensus was not to require it of installers since the work is to be inspected by the design engineer.

The panel asked the Department to bring back the failed issue regarding ATU installers no longer to be approved by the manufacturer – for discussion.

Scott Johnson amended his original MOTION to Approve for 15-02 as amended during the discussions and recommendations to move to the Variance Committee. Regarding the patent infringement issue, as the committee is not in a position to address the patent infringement issue one way or the other, it is a staff issue, and the TRAP should proceed with its approvals and later if there is any patent issue, staff will bring that back to TRAP to address at that time.

Seconded by Will Bryant
PASSED Unanimously

4. NEW BUSINESS

Issue 16-03 NSF 245 Nitrogen-Reducing ATU's

Eberhard presented the issue and discussed the changes.

Discussion regarding the reason we didn't make a change before regarding why we didn't make the sizing criteria change (Lines 46-47) when TRAP addressed it once before. Also, what are the manufacturers' comments. Dale Holcomb will bring the old issue back to see what the comments were.

Scott Johnson made a MOTION to Approve for variance committee review subject to more information on the sizing issue. Seconded by Scott Franz.

PASSED Unanimously.

Roy Pence made a MOTION to Adjourn. Seconded by Will Bryant
PASSED

Meeting Adjourned at 1:00 PM

Next Trap Meeting:

Subject: Nitrogen-Reducing Media Lined Drainfields

Rule Sections: 64E-6.009

Issue: The Passive Nitrogen Study provided at least one system that is simple enough and reliable enough to allow incorporation into the prescriptive portion of the rule. This is the most simple of them.

Issue Originated By: Tom Frick, DEP

Purpose and Effect The proposed changes allow owners to opt to install engineer-designed nitrogen-reducing media layers under the conventional drainfield and provides the prescriptive requirements for such an installation.

Proposed Rule Change: 15-02--64E-6.009 Nitrogen-reducing media layer- showing changes from 12-3-16 to 2-24-17.docx (See Attached)

Summary: Provides for engineer-designed nitrogen-reducing liner beneath a conventional drainfield.

Possible Financial Impacts: The installation of the media will be an expense in addition to the conventional system. If embraced by the BMAP or mitigation requirements, this is a lower cost alternative to other performance-based nitrogen-reduction systems and requires no operating permit or maintenance contract.

Date New: 8/27/2015

Initially Reviewed by Trap: 10/22/2015

Tabled by Trap: 8/31/2016

Trap Review Finished: 12/9/2016

Variance Committee Reviewed: 3/2/2017

Trap Review Variance Comments:

Trap Final Decision:

Final Outcome:

Comments: 10/22/2015 TRAP tabled for additional information. DH
3/16/2016 Made amendments to incorporate ideas received re-non-engineers, replacing media, media example, subsequent collection and drainfield. DH
5/14/2016 Incorporated ideas related to soil textures and improving effluent affinity to treatment media. DH
8/8/2016 Incorporated staff comments and addressed sampling and mounding issue.
8/31/2016 Trap Tabled for several changes and to incorporate a technology verification program to provide more information and experience on the

technology before general approval occurs.

9/15/2016 Incorporated TRAP language changes and began pilot verification language development. Sent proposed language - under development- to TRAP and others for 9/16/2016 meeting with DEP.

11/22/16 Sent language to DEP for their stakeholders meeting on December 1.

12/3/16 incorporated comments received from DEP meeting.

12/9/2016 TRAP made numerous edits and APPROVED for Variance review.

3/2/2017 Presented issue at variance committee meeting and discussed.

Gave Committee til March 20 COB to provide comments.

3/21/2017 received comments from Variance Members CHD & ENG (See Attached)

Ready for Rule

In Rule

Rule Date:



COMMENTS FROM VARIANCE COMMITTEE MEMBER - ENG
James Schivinski, P.E.,

Dale, attached comments for discussion:

1. The system must be as affordable as possible.
2. Many of these will be replacement of existing systems, possible based on failing units.
3. SHWT are very difficult to determine in altered soils. (needs to be discussed)

My suggestion is to consider:

1. Require all systems to be low pressure dosing.
2. A 25 percent reduction giving to drain field size, no reduction to unobstructed area.
3. The bottom of the system set at the SHWT.

Due to the difficulty in determining SHWT in naturally occurring soils vs disturbed or existing systems there might need to be some discussion on where to set the bottoms?

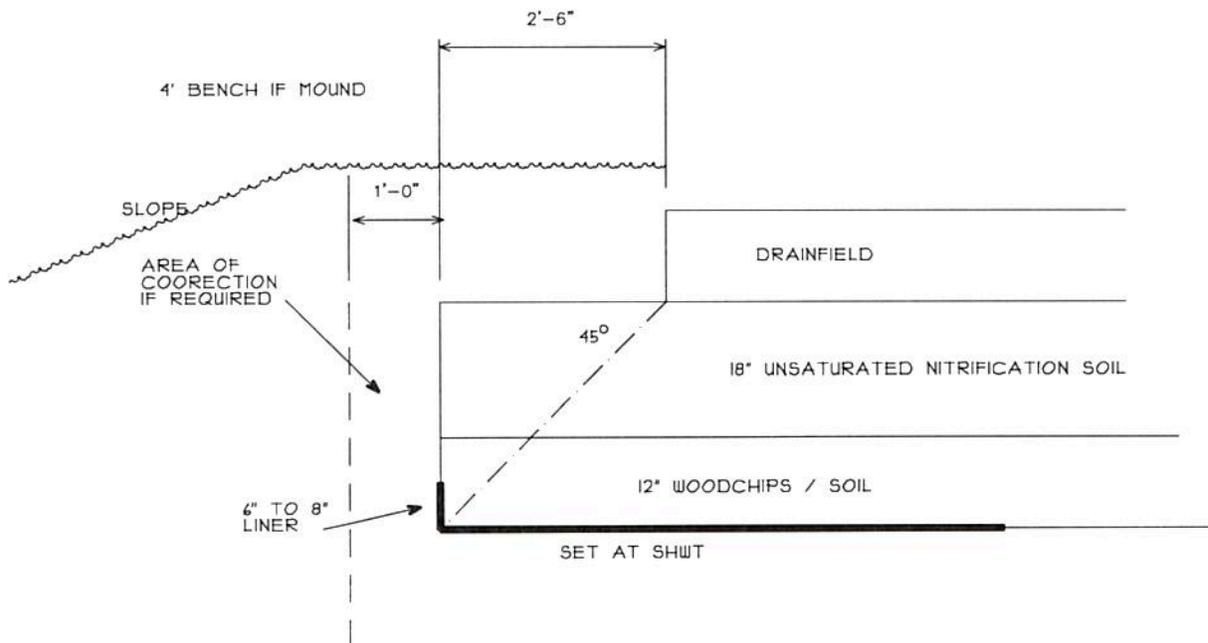
The system must be able to be constructed, the other (3) examples would be very difficult to build.

Thanks

Jim

James A. Schivinski, PE

If the above could be considered, this might be a good option for all systems, only 6' higher than required now and you get the 25% reduction.



COMMENTS FROM VARIANCE COMMITTEE MEMBER – CHD
Eric Maday

Here are my comments:

- Fine sandy loam, very fine sand, loamy fine sand, and loamy very fine sand are acceptable textures for the proposed media mixture. These are moderately limited per Table III. If the drainfield is sized based on the most restrictive soil within 24" of the bottom of the drainfield would the drainfield be sized based on moderately limited loading rates, even if the native soil profile contained only slightly limited soil? Should that be clarified in the proposed code? It would be difficult to say what the loading rate of the media layer is after material like sawdust is added. Is it the intent to consider the media layer when assigning a loading rate?
- How would this apply to a repair where either six or twelve inches of separation are required from the bottom of drainfield to estimated SHWT ? As it is written, it appears 36 inches of separation would be required if this type of system were installed.
- What would be the inspection process for this type of system ? Would the contractor have to call for inspection after specific steps ? If so, that needs to be codified. Would reinspection fees apply?
- Who would be responsible for verifying the media layer meets code both in terms of the texture of the fine aggregate used and the percentage and mix of nitrogen reducing material? Would that be the contractor, the P.E. or DOH, or a combination?
- Is there a concern about the provision that Lift-dosing may be used provided the design calculations to show that the entire distribution network will be charged with each dose ? I calculate that for a 500 square foot drainfield, using 4" pipe, that would be 109 gallons per dose which I think might overload the drainfield and cause surfacing of effluent. I also don't think even then even distribution equal to that of low pressure dosing would be achieved. The larger diameter of the pipe perforations would mean the system is never fully charged.
- In variant 2 (liner with underdrain) is the code going to have prescriptive design requirements for the underdrain or will this be up to the P.E. ?

I've worded these as questions only because I found that to be easiest. I'm not necessarily expecting direct answers back. I am the primary representative for CHD's on the OSTDS Variance Committee. Thanks.

Eric Maday, RS
Environmental Supervisor
Florida Department of Health in Volusia County
(386) 822-6242 office
Eric.Maday@flhealth.gov
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1 For TRAP Panel - These underline/strike-throughs show the changes to the proposed language since the 12/9/2016
2 TRAP meeting. All language on lines 12 through 264 is proposed rule language.
3

4 64E-6.009 Alternative Systems.

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

11 (1) through (6) No change

12 (7) In-ground Nitrogen-reducing Biofilters – Nitrogen-reducing media layers, also referred to as media layers, may be
13 placed beneath the drainfield provided the resulting system meets all requirements in this chapter except as noted in this
14 subsection. The ~~first~~ systems installed under this subsection shall be designed by an engineer with a background in wastewater
15 engineering, licensed by the state of Florida, as part of a planned pilot project to monitor and verify system performance. Upon
16 receipt of a permit application, the local county health department shall contact the Onsite Sewage Program office engineer to
17 determine if the design can be approved as part of the pilot study. There shall be the Standard Layered Nitrogen Reducing
18 System, and three variants, all of which shall be part of the planned pilot project. The pilot project shall comply with the
19 standards found in this section. Once five to ten Standard Layered Nitrogen Reducing Systems have been installed as part of
20 pilot project and provided the results are encouraging, additional Standard Layered Nitrogen Reducing Systems can be
21 installed that are not required to be part of the study.

22 (a) The Standard Layered Nitrogen Reducing System, Figure 1, shall be installed as follows:

23 1. The system drainfield shall be low-pressure dosed and the application shall include the dosing design calculations unless
24 the designer chooses another method demonstrated to provide equal distribution throughout the drainfield. Lift-dosing may be
25 used provided the design calculations to show that the entire distribution network will be charged with each dose. Only
26 approved drainfield materials per 64E-6.014 or 64E-6.009, F.A.C. shall be used.

27 2. The natural and existing soil profile throughout the area of the drainfield shall indicate slightly -limited soils extending
28 from the ground surface to ~~no less than~~ at least 6 inches below the bottom of the nitrogen-reducing media liner.

29 3. The ~~nitrogen-reducing~~ media layer shall be no less than 12 inches thick.

30 4. The media layer shall be enclosed beneath and on the lower ~~six~~ 6-8 inches of all sides by an impermeable liner composed
31 of PVC, HDPE, EPDM or other material having a thickness of at least 30 mils and being certified by the manufacturer for a
32 minimum lifetime of 30 years buried in contact with sewage.

33 5. No portion of the liner or ~~nitrogen-reducing~~ media layer shall be within 18 inches of the infiltrative surface of the
34 drainfield.

35 6. The lowest point of the liner or ~~nitrogen-reducing~~ media layer shall be no less than 6 inches above the water table at the
36 wettest season of the year. There shall be at least 6 inches of unsaturated slightly limited soil between the bottom of the liner
37 and the seasonal high water table.

38 7. The ~~nitrogen-reducing~~ media layer with liner shall extend beneath the entire drainfield absorption surface to a point at
39 least 3.5 feet beyond the perimeter of any portion of the drainfield absorption surface and any other effluent release point. For
40 repairs, the 3.5 feet dimension may be reduced to 1.0 feet if necessary to comply with a setback or if physical room is
41 unavailable. Maintaining the 3.5 feet dimension shall have a protection factor of 5 in determining the relative priority of

42 competing factors in the application of rule 64E-6.015 Table V. No part of the liner shall be placed within 18 inches of the
43 pump or treatment tank.

44 8. An example of nitrogen-reducing media is lignocellulosic material such as chips or shavings of untreated lumber,
45 blended urban waste wood mulch, yellow pine sawdust, or ~~2^{1/2}-inch~~ to ~~3^{1/2}-inch~~ wood chips. The nitrogen-reducing media shall
46 be demonstrated in Florida-based studies to be effective at providing a substrate for denitrification.

47 9. The nitrogen-reducing media shall comply with the provisions of 64E-6.0151, FAC.

48 10. The soil layer between the infiltrative surface of the drainfield and the ~~nitrogen-reducing media~~ media layer shall
49 extend beneath the entire drainfield absorption surface and to a point at least 3.5 feet beyond the perimeter of any portion of the
50 drainfield absorption surface and any other effluent release point and shall consist of fine aggregate having a texture of sand or
51 fine sand but excluding:

52 a. those having color values less than or equal to 4 with chromas less than or equal to 3; or

53 b. those with colors on the gley charts.

54 11. The media layer shall be a combination of nitrogen-reducing media ~~shall be mixed at an approximate ratio of 1 part~~
55 ~~media to 1 part~~ and fine aggregate, which shall be composed of 40-60% nitrogen-reducing media by volume, with the
56 remainder to be fine aggregate. The media layer shall not be installed when the observed water table is at or above the lowest
57 depth of the media layer. The fine aggregate to be mixed with the nitrogen-reducing media shall be one or more of the
58 following textures: coarse sandy loam, sandy loam, loamy sand, fine sandy loam, very fine sand, loamy fine sand, and loamy
59 very fine sand; and shall conform to the colors in subparagraph (a)10. ~~above.~~ The media layer shall be thoroughly
60 mixed while the soil is in a non-plastic state, with the constituents uniformly distributed when installed.

61 12. The department shall not require sampling following the pilot verification project although sampling may be required
62 by the designer, municipality or other state agency as necessary to comply with applicable regulatory requirements.

63 13. Where the system has a total required drainfield size over 1500 square feet, the design engineer shall address the
64 potential for mounding of the effluent between the drainfield and the liner at the estimated sewage flow and will increase the
65 separation between the drainfield and the media to ensure no less than 18 inches of unsaturated soil beneath the drainfield. A
66 four-inch diameter observation port shall be installed in the center of the liner to allow the liquid level of effluent contained
67 within the bottom of the media liner to be monitored. The observation port shall be capped and lockable and installed within a
68 protective surface cover. A toilet flange shall be securely attached to the bottom of the observation port to prevent the port from
69 being inadvertently raised from its installed position. The observation port, including the flange, shall be perforated at the
70 lowest elevation possible to allow accurate measurements. If installed within three feet of the sidewall of a bed or trench, the
71 port shall be grouted to prevent effluent from flowing down the outer surface of the port to the media.

72 14. The perimeter of the liner, in feet, multiplied by the perimeter loading rate shall not be less than the estimated daily
73 sewage flow for the system. The most restrictive soil texture between the elevation of the bottom of the drainfield and the
74 elevation six inches below the bottom of the liner throughout the area of the installation and 24 inches beyond the perimeter of
75 the liner shall be used to determine the ~~nitrogen-reducing-media~~ layer perimeter loading rate.

77 Soil Texture	Perimeter Loading Rate
78 <u>Soil Texture</u>	(gal/ft/day)
79 Coarse sand not associated with a seasonal water table	
80 of less than 48 inches; sand; and loamy coarse sand	5
81 Fine sand	4

15. Prior to the department's construction inspection, the designer shall provide an as-built cross section and ~~map~~plan view of the installed nitrogen-reducing media liner system components and a written certification to the department that the entire installation meets the requirements of the permit and this chapter.

16. The designer may specify methods to replenish media and remove spent media if the continued presence of such spent media appreciably reduces the efficacy of the process provided the methods do not compromise the efficacy of the system.

17. Drainfield repair shall not necessitate media replacement provided the media has been in use for less than 10 years or if sampling within the previous 12 months ~~show~~shows denitrification at or above the target level for mean total nitrogen (TN) removal efficiency which shall be a minimum 65%.

18. Any seams or penetrations through the liner shall be sealed in accordance with the liner manufacturer's instructions to prevent leakage for the life of the liner.

19. Provided the effluent has passed vertically without pressure through at least 24 inches of unsaturated soil, the designer, if an engineer, may specify the collection of the effluent and distribution to an absorption drainfield that is separated from the seasonal high water table by no less than least 6 inches and may be more than 30 inches below the ground surface. Minimum ~~pitch~~slope from previous components shall be used to maintain distribution as high as possible above the seasonal high water table.

20. Setback distances to the liner, denitrification media or soil material directly above denitrification media extending to the infiltrative surface of the drainfield shall be reduced by the following:

a. Except for building foundations, vertical obstructions and pilings for elevated structures, where the required setback is ≤ 5 feet, the setback shall be reduced to one foot.

b. Where the required setback is ≥ 10 feet, the setback shall be reduced by five feet.

c. Setbacks to all other parts of the system shall be in compliance with the requirements in this Chapter and s. 381.0065, FS.

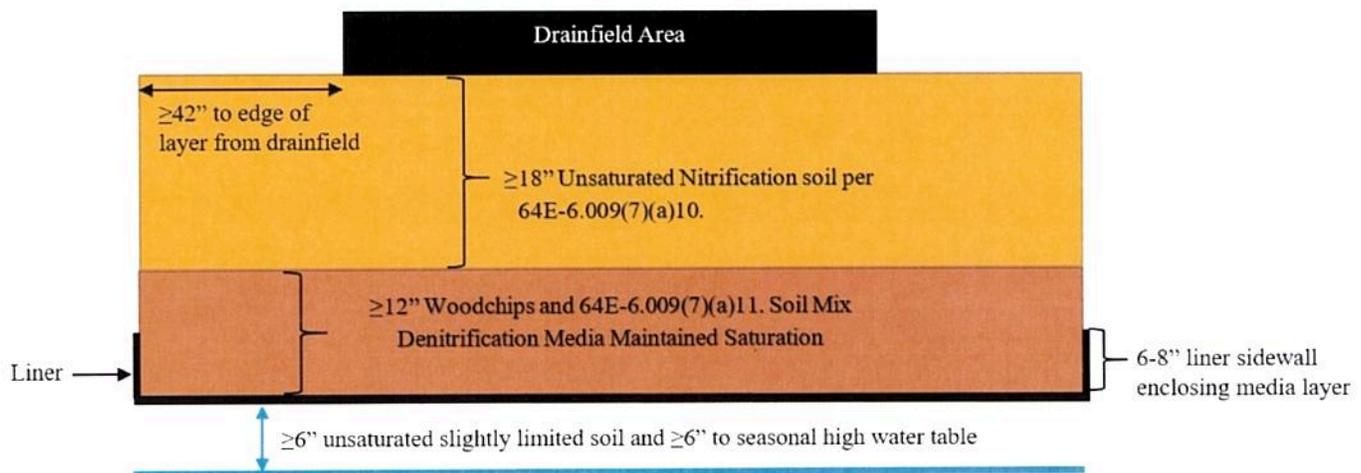


Figure 1 Standard Layered Nitrogen Reducing System

(b) Variants to the Standard Layered Nitrogen Reducing System shall be allowed in compliance with the requirements of this subsection. The target level for mean total nitrogen (TN) removal efficiency shall be a minimum of 65%, however if the Standard Layered Nitrogen Reducing System achieves a mean total nitrogen removal efficiency of greater than 65%, all variants will be required to reach that same level in order to continue to be used after the pilot system testing. Where a variant

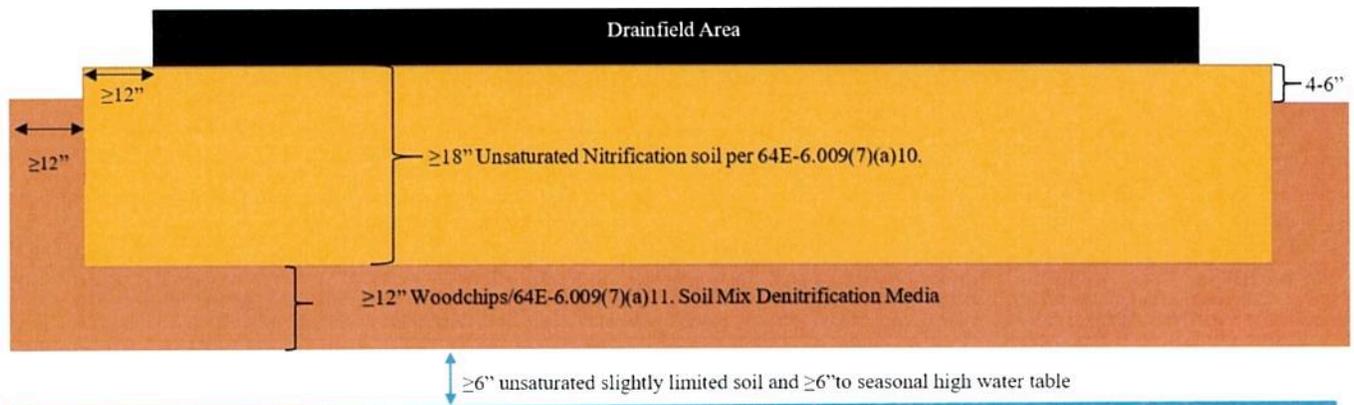
112 does not modify a standard found in paragraph (a), the standard found in paragraph (a) shall apply.

113 1. Variant One, Figure 2, shall be installed as follows:

114 a. The drainfield shall be installed over sand fill material that is at least 18²² inches thick and conforms to [the textures and](#)
115 [colors in 64E-6.009\(7\)\(a\)10.](#) and ~~that extends~~ [shall extend at least](#) one foot past the perimeter of the drainfield. The drainfield
116 shall be centered ~~in~~ [above](#) the ~~replacementsand fill~~ area.

117 b. Below the layer required in 1.a., there shall be a media layer that is [at least 12²² inches](#) thick and extends beneath the
118 entire drainfield absorption surface and extends at least 24²² inches beyond the perimeter of any portion of the drainfield
119 absorption surface and any other effluent release point. The media layer shall also extend upward along the boundary of the
120 sand fill material to a point four to six inches below the bottom of the drainfield. The drainfield shall be centered ~~in~~ [above](#) the
121 ~~replacement area~~ [media layer](#). The media layer shall ~~include the lignocellulosic material described in conform with 64E-~~
122 ~~6.009(7)(a)8., in combination with the soil material referenced in and 64E-6.009(7)(a)11. and must be homogenous throughout~~
123 ~~its thickness and shall be thoroughly mechanically mixed while the soil is in a non-plastic state.~~ The media layer shall not be
124 installed when the observed water table is at or above the lowest depth of the media layer. The bottom of the ~~nitrogen-reducing~~
125 media layer shall be a minimum 6²² inches above the wet season water table.

126 c. This variant does not include a liner beneath the denitrification media. [The samples for this variant shall be collected via](#)
127 [lysimeter or by other method agreed to by the design engineer and the Onsite Sewage Program office engineer.](#)



128 Figure 2 – Variant One

129 2. Variant Two, Figure 3, shall be installed as follows:

130 a. The drainfield shall be installed over sand fill material that is at least 18²² inches thick and conforms to [the textures and](#)
131 [colors in 64E-6.009\(7\)\(a\)10.](#), and extends [at least 18²² inches](#) past the perimeter of the drainfield. The drainfield shall be
132 centered ~~in~~ [above](#) the ~~replacementsand fill~~ area.

133 b. Below the layer required in 2.a., there shall be a media layer that is [at least 12²² inches](#) thick and extends [at least 18²²](#)
134 [inches](#) past the perimeter of the drainfield. The media layer shall ~~include the lignocellulosic material described in conform with~~
135 ~~64E-6.009(7)(a)8., in combination with the soil material referenced in and 64E-6.009(7)(a)11. and must be homogenous~~
136 ~~throughout its thickness and shall be thoroughly mechanically mixed while the soil is in a non-plastic state.~~

137 c. An impermeable liner meeting the construction standards of 64E-6.009(7)(a)4. shall be installed below the
138 denitrification media which extends to a point at least 18²² inches past the perimeter of the drainfield, at which point the liner
139 shall be directed upwards toward the ground surface maintaining contact with the layers described in 2.a. and b., stopping at a
140 point four to six inches below the level of the bottom of the drainfield. No portion of the liner or ~~nitrogen-reducing-media~~ [layer](#)
141 shall be ~~within less than~~ [18 inches of below](#) the infiltrative surface of the drainfield. The ~~nitrogen-reducing~~ media layer with
142

liner shall extend beneath the entire drainfield absorption surface and extend at least 18²² inches beyond the perimeter of any portion of the drainfield absorption surface and any other effluent release point. No part of the liner shall be placed within 18 inches of the pump or treatment tank.

d. An underdrain shall be installed on top of and in contact with the interior surface of the bottom of the liner within the media layer, which disperses and shall disperse to a separately sized, located and installed drainfield. The underdrain shall be designed to maximize effluent movement through the lignocellulosic-soil denitrification media into the underdrain. The transmission line from the underdrain to the separate drainfield shall be set to maintain the liquid level within the liner at saturation to the top of the denitrification-media layer.

e. The minimum thickness of the media layer between the top of the underdrain and the top of the media shall be 7 inches.

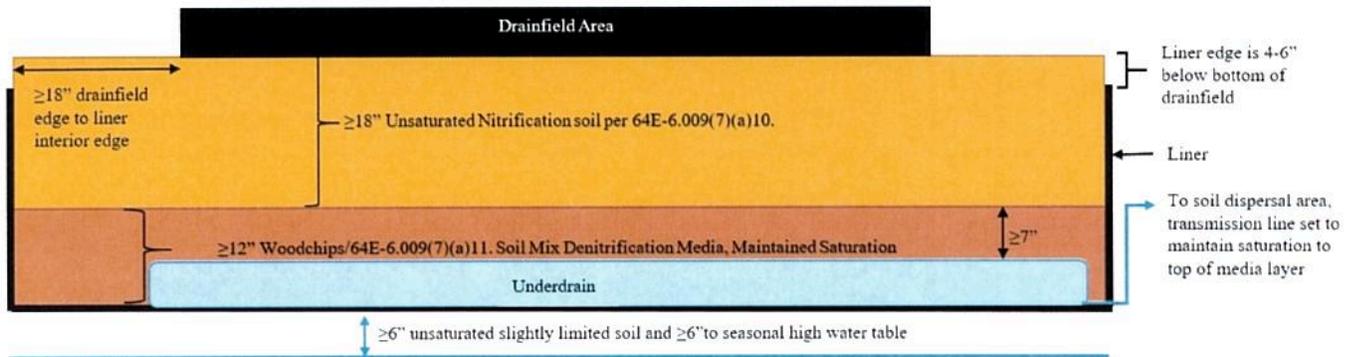


Figure 3 – Variant Two

3. Variant Three, Figure 4, shall be installed as follows:

a. The drainfield shall be installed over sand fill material conforming to the textures and colors in 64E-6.009(7)(a)10. that is at least 18²² inches thick and that extends at least one foot past the perimeter of the drainfield. The drainfield shall be centered in above the replacement sand fill area.

b. Below the layer required in 3.a., there shall be a media layer that is at least 12²² inches thick and extends at least 2 feet past the perimeter of the drainfield. The media layer shall include lignocellulosic material described in conform with 64E-6.009(7)(a)8., either, in its entirety when installed by itself, or it shall be in combination conformance with the soil material referenced in 64E-6.009(7)(a)11. which must be homogenous throughout its thickness and shall be thoroughly mechanically mixed while the soil is in a non-plastic state.

c. An impermeable liner meeting the construction standards of 64E-6.009(7)(a)4. shall be installed along the sidewalls of the layer required in 3.a. which shall begin at 4-6 inches below the bottom of the drainfield, and shall extend downward eight to 6 inches into the layer required in 3.b.

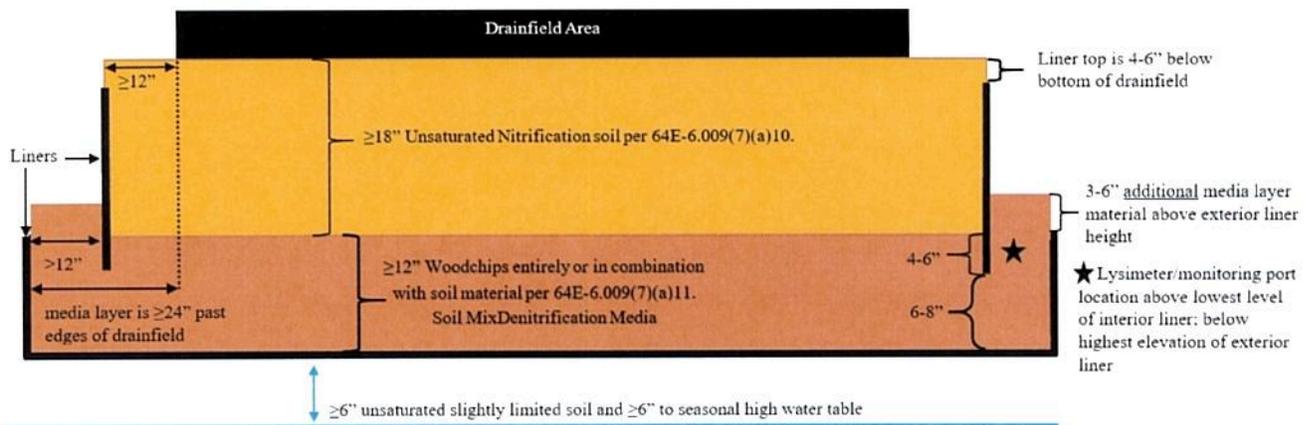
d. An impermeable liner shall be installed below the layer required in 3.b. and shall extend upwards along the perimeter of denitrification media layer terminating at the top of the layer required in 3.b.

e. An additional three to six inches of denitrification media shall be placed in the area between the two liners that is above the top of the lowest liner in order to facilitate effluent movement out of liner.

f. No portion of the liner in specified 3.d. or nitrogen-reducing media layer shall be within 18 inches of the infiltrative surface of the drainfield. The nitrogen-reducing media layer with liner shall extend beneath the entire drainfield absorption surface and extend at least 2 feet beyond the perimeter of any portion of the drainfield absorption surface and any other effluent release point. No part of the liner shall be placed within 18 inches of the pump or treatment tank.

g. The system shall comply with the perimeter loading provisions of 64E-6.009(7)(a)14. calculated at the outermost liner

175 h. Sample collection points shall include the region between the two liners at an elevation 6 to 8 inches above the bottom
176 of the liner described in 3.d.



177 Figure 4_ Variant Three

178 (c) Planned pilot system testing shall be required for no less than five and up to ten systems of the Standard Layered
179 Nitrogen Reducing System as well as each of the variants. The installer of these specific systems shall notify the local county
180 health department and the Onsite Sewage Program office as early as feasible, but not less than 48 hours prior to any
181 construction activities. A variant system design shall be installed and monitored in conformance with this subsection prior to
182 the variation being allowed for unlimited use in the state.

183 (d) For the pilot program study, the four system types: Standard Layered Nitrogen Reducing System, Variant One, Two
184 and Three, shall each have a monitoring plan acceptable to the Florida Department of Environmental Protection and the Onsite
185 Sewage Program office. The monitoring plan for any system type shall be established prior to any construction permit being
186 issued for a system of that type. The accepted monitoring plan shall be incorporated into the design and permit for each
187 individual system. The monitoring plan shall include:

188 1. Monitoring locations and devices shall allow for the measurement of liquid levels and obtaining samples at the
189 following locations as a minimum requirement: prior to entering the drainfield, prior to entering the denitrifying media, after
190 leaving the denitrifying media, and in shallow groundwater influenced by the effluent. Except for Variant 2, a minimum of six
191 sampling sites for effluent after leaving the media layer shall be located immediately adjacent to and along the outside
192 perimeter of the media layer, to collect samples from a depth that is most likely to directly distribute effluent from the media
193 layer, and shall include the following locations:

- 194 a. the midpoint, plus or minus one foot, of the media layer along its shortest dimension as well as its opposite side
- 195 b. a distance equal to 1/3 and 2/3 of the longest dimension of the media layer, plus or minus one foot, as well as the
196 opposite side.

197 Variant 2 sampling shall be from a port installed in the line carrying the effluent from the underdrain to the separately located
198 drainfield. Sampling ports shall be capped and lockable which shall be locked closed at all times when sampling is not being
199 performed, and shall be installed within a protective surface cover. The designer shall include these in the system construction
200 application documentation. An estimation method for sewage flow through the system shall be included.

201 2. Sampling procedures and analytical methods. Methods shall follow Florida Department of Environmental Protection
202 standard operating procedures, unless alternates are specified and approved by the Onsite Sewage Program office. Each
203 sampling event shall obtain water quality samples, and field measurements, such as flow, electricity use, operational
204 conditions, occupancy of the establishment, water levels, specific conductance, dissolved oxygen, or pH.
205

206 3. The analytical parameters for sample analysis at ~~each~~the appropriate location for each sampling event shall include at
207 least concentrations of total nitrogen, the sum of total Kjeldahl nitrogen, and nitrite/nitrate-nitrogen, and an analyte that will
208 assess dilution. In addition, dissolved oxygen, CBOD5, TSS, and fecal coliform shall be determined in the effluent leaving the
209 denitrifying media.

210 4. Identification and qualifications of the entities that will perform the monitoring and sample collection, and the current
211 certification of the laboratory analyzing the samples by the National Environmental Laboratory Accreditation Program.

212 5. Each system shall be monitored and sampled at intervals of at least two and up to four months for at least one year while
213 in use. At a minimum, four successful sampling events shall be reported for each pilot system. A successful sampling event is
214 defined as one where all the required analytes are reported at each sampling location. Monitoring devices to facilitate long-term
215 monitoring shall be installed when the system is constructed and left in place after the pilot phase.

216 6. The monitoring entity shall forward the monitoring results at least quarterly to the DOH county health department, the
217 Onsite Sewage Program office and the Florida Department of Environmental Protection for review. The quarterly time period
218 shall begin when the system is given final approval, and the report shall be supplied not later than two weeks after the
219 following quarter begins.

220 7. Within two weeks after the end of the pilot project the information listed in 64E-6.0295(1)(a) through (f), and (i) shall
221 be provided to the Onsite Sewage Program Office for evaluation. Those systems that do not perform to the average nitrogen
222 removing levels of the standard layered nitrogen reduction system shall not be allowed for installation after the pilot project.

223 (e) Repairs of systems incorporating ~~nitrogen-reducing~~ media layers shall be re-designed by an approved entity and must
224 meet the current standard for nitrogen reduction. The provisions of 64E-6.003(3) shall not apply to repair of systems that
225 include ~~nitrogen-reducing~~ media layers, nor shall repairs be allowed per 64E-6.015(3).

226 (f) After the completion of the pilot verification project, subsequent systems shall be designed by an engineer with a
227 background in wastewater engineering, licensed by the State of Florida or, if not precluded by Rule 64E-6.004(4), by a master
228 septic tank contractor. ~~The engineer and~~ The master septic tank contractor shall have successfully passed a department-
229 approved course in the installation of alternative nitrogen-reducing systems and have installed at least 5 of these systems that
230 were designed by an engineer. ~~The coursework shall include all aspects of design including repairing liner defects or flaws.~~
231 ~~The systems~~ The system designs shall be in accordance with the design criteria that are successfully demonstrated in the pilot
232 verification project. The coursework shall comprise classroom and field exercises to include, at a minimum, the following
233 topics:

234 (81. Complete system design and specifications, materials to be used, to include all system components and their proper
235 alignment, and use of benchmarks during installation and inspection of the system, including lignocellulosic and other material
236 sourcing, specifications and proper mixing with appropriate soil textures to form the required media layers.

237 2. Compaction of lignocellulosic material or media layers during construction.

238 3. System construction methods, including vertical and horizontal liner installation and placement issues and techniques;
239 proper alignment of system components.

240 4. Repairing liner defects or flaws in accordance with manufacturer's prescribed methodology.

241 5. Sampling device materials, construction, installation and monitoring methods and sampling techniques.

242 (g) Any system installed as part of the planned pilot project shall not be required by the department to modify the system if
243 the system is found to be reducing nitrogen at a lower level than designed, however if the system fails it shall be repaired in
244 accordance with (e). This statement shall be included as part of the notice required in (j).

245 (h) Notwithstanding the requirement that all system drainfields in the pilot program shall be low-pressure dosed or use

246 another method by which equal distribution throughout the drainfield is achieved, where the applicant includes a signed and
247 dated written request as part of the system application that their engineer design a system which uses gravity to distribute the
248 sewage to the drainfield, said design will be allowed in conformance with the following requirements, that are in addition to the
249 standards in this subsection. A copy of the written requests shall be copied to the Onsite Sewage Program office engineer.

250 1. The Standard Layered Nitrogen Reducing System, as well as each of the variants, shall allow for an additional five to
251 ten systems to be designed using gravity flow to distribute flow to the drainfield.

252 2. Where gravity distribution is used, design criteria shall include a method to observe effluent distribution and absorption
253 surface usage for each drainfield line beginning at the point of effluent distribution in the drainfield and ending at the end of
254 each drainfield line, with observations to be taken at equidistant intervals not to exceed 20 feet. The method shall be provided
255 as part of the system design. Any ports used for visual observation shall be capped and lockable and installed within a
256 protective surface cover. Ports shall be kept in a closed and locked position when direct visual observations are not being made.

257 (i) The engineer shall inspect the system concurrent with or prior to the department inspection. Final system approval shall
258 not be granted until the engineer has supplied a report to the department stating the system has been installed in conformance
259 with permitting requirements.

260 (j) Final installation approval shall not be granted until the county health department has confirmed that the property owner
261 has executed and recorded in the public property records at the county courthouse, a written notice that informs all subsequent
262 property owners of the use of the nitrogen-reducing media onsite system that may require special repair or maintenance
263 procedures. The notice shall include the department's construction permit number for the system, and that additional
264 information may be obtained by contacting the local county health department.

265
266 (7) through (10) Renumber as (98) through (11) No change

267 *Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History--New 12-22-82, Amended 2-5-85, Formerly*
268 *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,*
269 *6-25-09, .*

16-03 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 3/23/2017 5:28:59 AM

Next Trap Meeting:

Subject: NSF 245 Nitrogen reducing ATU's

Rule Sections: 64E-6.012

Issue: NSF has an approval protocol for Nitroden-reducing ATU's that is not incorporated into our rule. Also, our existing NDF references are out of date. The sizing of ATU's has been out-of-sync with the system flows for years requiring ATU's that are sized larger than the actual flows.

Issue Originated By: Eberhard Reoder, DOH

Purpose and Effect The proposed changes incorporate NSF 245 into the rule and updates the references to the NSF standards that ATU's are required to meet. Also a disparity in sizing ATU's is addressed to allow ATU's that are rated for the anticipated flow.

Proposed Rule Change: 16-03--64E-6.012 ATU References, Standard 245 and (See Attached) ATU Sizing.docx

Summary: The proposed changes will update the references to the ATU Standards, incorporate NSF 245 References,

Possible Financial Impacts: None

Date New: 11/10/2016

Initially Reviewed by Trap: 12/9/2016

Tabled by Trap:

Trap Review Finished: 12/9/2016

Variance Committee Reviewed: 3/2/2017

Trap Review Variance Comments:

Trap Final Decision:

Final Outcome:

Comments: 12/9/2016 Approved to go to Variance Committee. TRAP wants to see more information on sizing issue when it returns.
3/2/2017 Presented issue to Variance committee and received comments: REI, DOH - OK; STI - Agree; CHD- Support with no comments; ENG, DEP - No comment

Ready for Rule

In Rule

Rule Date:

1 **64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment**
2 **Units.**

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

5 (1) Aerobic ~~treatment units systems~~ designed to treat up to 1500 gallons of sewage waste-per day shall
6 be listed by a third party certifying program approved by the State Health Office. Aerobic treatment units
7 shall be in compliance with at least one of the following standards: ~~for~~ Class I systems as defined by
8 ANSI/NSF International Standard Number 40, revised ~~April 2013~~ ~~July 2000~~, herein incorporated by
9 reference; nitrogen reduction as defined by ANSI/NSF International Standard Number 245, revised April
10 2013, herein incorporated by reference; or onsite residential and commercial water reuse treatment systems
11 as defined by ANSI/NSF Internation Standard Number 350, revised December 2012, herein incorporated
12 by reference. An approved third party certifying program shall comply with the following provisions in
13 order for units which it has certified to be approved for use in Florida:

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

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

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

21 (d) Submit completion reports on testing for review by the State Health Office.

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

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

27 (a) An appropriate mechanism shall be provided to make access ports vandal, tamper, and child
28 resistant. Acceptable protection of openings shall consist of one or more of the following methods as
29 specified by the tank manufacturer:

30 1. A padlock.

31 2. An "O" ring with twist lock cover requiring special tools for removal.

32 3. Covers weighing 65 pounds or more, net weight.

33 4. A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to
34 fasten the hinge and hasp to the lid and tank for fiberglass, metal, or plastic lids.

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

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

41 (d) Each unit shall be designed or equipped so that regardless of unusual patterns or frequencies of
42 sewage flow into the system effluent discharged to the drainfield will be in compliance with the applicable
43 standards of 64E-6.012(1)Class I effluent quality standards as defined by ANSI/NSF Standard 40.

44 (e) Minimum required treatment capacities for systems serving any structure, building or group of
45 buildings shall be based on estimated daily sewage flows as determined from Table IV.
46

TABLE IV
AEROBIC SYSTEMS
PLANT SIZING

RESIDENTIAL:

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

47 For each additional bedroom or each additional 750 square feet of building area, or fraction thereof,
48 treatment capacity shall be increased by ~~60~~40 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

49
50 Footnotes to Table IV

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

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

58 (f) There shall be no bypass capability designed into the system which will allow waste to be
59 discharged to the drainfield without undergoing all the treatment processes necessary to achieve the desired
60 effluent quality. Bypassing, removing, or excluding any component or components of a system after the
61 system has received final installation approval is prohibited. For units discharging into alternative systems
62 according to 64E-6.009(5), the designing engineer may specify recirculation up 50% of the disposal rate.

63 (g) Effluent from an aerobic treatment unit shall be disposed of on the owner's property in
64 conformance with other requirements of this chapter except as provided for in paragraph 64E-6.012(2)(f),
65 F.A.C. Effluent quality which is found to not meet ~~its~~ Class-I standards as ~~specified by ANSI/NSF Standard~~
66 ~~40~~ shall be reported to the maintenance entity for correction within 10 working days.

67 (h) ~~Units meeting Class I Standards as specified by ANSI/NSF Standard 40 shall receive consideration,~~
68 ~~via the variance review process, for use where daily domestic sewage flow limitations of Rule 64E-6.005,~~
69 ~~F.A.C., are exceeded or where a high level of sewage treatment is warranted. Also, for Class I units~~
70 ~~Where slightly limited soil textures exist on a site, the required drainfield size may be reduced by 25~~
71 ~~percent from the requirements in subsection 64E-6.008(5) or paragraph 64E-6.009(3)(d), F.A.C.~~

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

80 (j) Manufacturers shall provide a listing of approved maintenance entities they have authorized to

81 provide service in the state and shall demonstrate that the entire state is covered by at least one maintenance
82 entity. A system using a manufacturer's unit shall not be approved in the state if the manufacturer cannot
83 demonstrate that there are maintenance entities to service it.

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

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

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

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

98 2. Provide that a maintenance entity which desires to discontinue the provision of maintenance
99 services, notify in writing, the property owners and lessees and the DOH county health department at least
100 30 days prior to discontinuance of service.

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

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

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

115 (3) An aerobic treatment unit used for treating domestic or commercial sewage flows in excess of 1500
116 gallons per day, ~~or a combination of aerobic treatment units treating flows according to 64E-6.004(4)(a) or~~
117 ~~(b), F.A.C.~~ shall be designed and certified by an engineer licensed in the State of Florida. The design shall
118 include an assessment of wastewater strength. The certification shall state that the unit is capable of
119 consistently meeting, at minimum, secondary treatment standards for CBOD₅ and TSS established by DEP
120 in Rule ~~64E-6.025(12)(a)~~ ~~62-600.420~~, F.A.C. In addition, the following requirements shall also be met:

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

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

128 ~~(b)(e)~~ A permitted aerobic unit maintenance entity ~~with a minimum Class D certified operator, or a~~
129 ~~system owner or lessee holding at minimum a Class D certification under the provisions of Chapter 61E12-~~
130 ~~41, F.A.C.,~~ shall collect effluent quality samples and submit the sample analysis reports to the DOH county
131 health department. Effluent quality samples for CBOD₅, ~~and~~ suspended solids ~~and fecal coliform~~ shall be
132 collected at least semi-annually and such samples shall be analyzed by a department-approved laboratory.

133 ~~(c)(d)~~ Written sample analysis reports shall be submitted to the DOH county health department by no
134 later than the 15th of the next month following the semi-annual sampling period. However, if the sample
135 analysis for CBOD₅ or suspended solids exceeds secondary treatment standards by more than 100 percent,
136 the maintenance entity or certified operator shall notify the DOH county health department by telephone or

137 in person within 24 hours after receipt of sample analysis results.

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

140 (4) No aerobic treatment unit shall be serviced or repaired by a person or entity engaged in an aerobic
141 treatment unit maintenance service until the service entity has obtained an annual written permit issued on
142 Form DH 4013 from the DOH county health department in the county where the service company is
143 located. Each service entity shall employ at least one plumbing contractor licensed under Section
144 489.105(3)(m), F.S., septic tank contractor registered under Part III of Chapter 489, F.S., or a state-licensed
145 wastewater treatment plant operator, who is responsible for maintenance and repair of all systems under
146 contract. Application for a Maintenance Service Permit, Form DH 4066, 02/10, herein incorporated by
147 reference, shall be made to the DOH county health department and shall contain the following information:

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

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

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

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

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

166 *Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part 1 386 FS. History—*
167 *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-*
168 *26-06, 6-25-09, 4-28-10,_____.*

169