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, December 9, 2016
TIME: 10:00 a.m. Eastern Time
PLACE: Florida Department of Health in Orange County
South Side Health Center (Auditorium)
6101 Lake Ellenor Drive
Orlando, FL 32809

THIS MEETING IS OPEN TO THE PUBLIC.

Agenda

1. Introductions

2. Review minutes of August 31, 2016 meeting

3. Old Business
   - 15-02 Nitrogen-Reducing Media Lined Drainfields
   - 16-01 Drip Emitter System Slope

4. New Business
   - 16-03 NSF 245 Nitrogen reducing ATU's

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

6. Public Comment

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TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING MINUTES

DATE: Wednesday, August 31, 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, *Home Building Industry, Chair*
Roy Pence, *Home Building Industry, Vice Chair*
Julie Bortles, *Local Government*
Glenn Bryant, *County Health Department*
Sonia Cruz, *Environmental Health*
Ron Davenport, *Septic Tank Manufacturer*
Scott Franz, *Soil Scientist*
Martin Guffey, *Septic Tank Industry*
Scott Johnson, *Florida Engineering Society*
Russ Melling, *Consumer Representative*
Pamela Tucker, *Real Estate Professional*

Alternate members present:

Dewayne Bingham, Jr., *Septic Tank Industry*
Johanna Whelan, DOH-CHD *(by phone)*

Department of Health staff present:

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

Absent members and alternates:

Robert Baker, *Septic Tank Manufacturer*
Vic Godlewski, *Local Government*
Mary Howard, *Environmental Health*
Oren Reedy, *Soil Scientist*
Joseph Sullivan, *Soil Scientist*
Mark Tumeo, *Professional Engineer*
Robert Washam, *Consumer*

Others present:

Roxanne Groover, *Florida Onsite Wastewater Association*
Anthony Rios
Sheryl Ervin, *Biomicrobics*
Damann Anderson, *Hazen and Sawyer*
Don Orr, *Advanced Drainage Systems*
Andrea Samson, *JMI*
Mike Sundin, *ABST*
Dominique Buhot, *Greens Env. Services*
Jerry Prescott, *Liberty*
Robert Maglievaz, *FDOH-Volusia*
Laura Kramer, *FDOH-Volusia*
Bart Harriss, *FDOH-Orange*
Lee Rashkin, *Presby*
Kevin Sherman, *Presby*
Daniel Dooley, *FDOH-Marion*
Mark Repasky, *WTI*

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1. INTRODUCTIONS

Chairman Odom called the meeting to order at 10:05 a.m. and invited the members and Department staff present to introduce themselves. The TRAP members and alternates introduced themselves as did the Department staff present. All eleven groups were present, representing a quorum.

2. REVIEW MINUTES OF LAST MEETING

The TRAP reviewed the minutes of the October 22, 2015 meeting.

> MOTION by Ron Davenport and seconded by Sonia Cruz, for the TRAP to approve the minutes from the October 22, 2015 meeting. All were in favor, none opposed, and the motion passed unanimously.

During the discussion of the minutes Ms. Tucker and Chairman Odom discussed past TRAP issues and getting that backlog moving again. Dale Holcomb offered that regarding the rule reduction package that had been discussed but not voted on by TRAP, the intent was to restore the 'controversial' items and bring that back to TRAP for its initial vote, once nitrogen reduction was completed. Additionally, there are about 25 issues that were fully completed by TRAP and were incorporated into the rule reduction when that seemed to be the fast-moving rule package. Since nitrogen reduction is now the priority, the intent is to take any of those 25 approved issues that have already passed TRAP and incorporate them into the Nitrogen rulemaking package as it moves toward rule adoption.

Scott Franz asked that new issue 16-01 be brought up first as it could probably be dealt with quickly before we delve into the lengthier nitrogen-reduction issue. The panel had no objection to hearing 16-01 first.

3. NEW BUSINESS

Issue 16-01 Drip Emitter System Slope

Scott Franz explained the issue of applying the general system standards to drip systems, and that the current rule, applying the general drainfield language to drip systems, causes drip fields that are only a few inches out of level to be releveled to meet the rule. He discussed DOH's concerns related to drip lines draining once the pressure is removed from the system. Mr. Franz recommended that the sentence dealing with drainfield areas with slope over 10 percent be deleted from the issue language as unnecessary. The quantity of water being discharged as the drip lines drain is incidental.

The issue was discussed regarding concerns and experiences with drip systems. by Pam Tucker, Eb Roeder, Mark Repasky, Scott Johnson, discussed their concerns and experiences.

Mark Repasky suggested that we remove any standard for drip line slope and make the engineer responsible for it.

Pam Tucker asked what the manufacturer's manuals say.

Eberhard Roeder reported that most all sources indicated that they should be installed level but that it was not imperative, however, there should be some restrictions.

Scott Johnson talked about the inconsequential seepage of water from the emitters released over time. He also offered a point of order that there should be a motion and a second before there is time spent discussing an issue. Someone might pose an issue that is not worthy of discussion and time should not be spent on discussion unless the issue can garner at least a motion and a second.

> Scott Franz made a MOTION to AMEND and APPROVE the issue by deleting the sentence [lines 19 and 20] related to when the slope of the drainfield area exceeds 10 percent.
> Seconded by Scott Johnson

Chairman Odom cautioned that we not introduce language that conflicts with other rule language requiring that the manufacturers manual be followed.

Scott Franz offered that he didn't see a conflict.

Mark Repasky indicated that there was nothing in the code that would conflict.

Ed Barranco suggested that we at least keep in mind what the manufacturers say in their recommendations.

Ron Davenport and Eberhard Roeder discussed what the various sources said and that the proposal was closer to those sources that the current rule language.

Pam Tucker suggested adding "unless if otherwise stated in the manufacturer's manual."

Will Bryant offered that this is more restrictive than at least one manufacturer's manual. Removal of a product approval might be more appropriate if the manual incorporated something that was objectionable.

Ed Barranco suggested that incorporating a manual into the rule would be problematic and it was better to keep the manual in the product approval process.

Eberhard Roeder pointed out the the manuals say "level" without saying what "level" means re: how level is level.

Will Bryant suggested that there is ambiguity currently regarding "level" but we do not want to make something that is more restrictive in some cases while less restrictive in others.

Mark Repasky reported that they want the lines to slope back to the header to drain back to the tank.

Chairman Odom asked if we could have it say "per the design manual" or "per the design engineer" since they are responsible for it.

Pam Tucker asked if we really want to incorporate manuals into the rule.

Scott Franz pointed out that incorporating manuals would bring things into the inspector's purview that he currently doesn't inspect.

Chairman Odom called for the vote.

The MOTION to APPROVE as AMENDED (delete second to last sentence regarding slopes over 10 percent) was PASSED unanimously

4. OLD BUSINESS

Issue 15-02 Nitrogen-Reducing Media Lined Drainfields

Elke Ursin made a presentation regarding springs protection, Basin Management Action Plans (BMAPs), Priority Focus Areas (PFAs), the Passive Nitrogen Study and how we got to our current place in rule development.

Ed Barranco explained that we are hearing more from non-springs areas asking where our tools are and when the passive nitrogen systems will be available.

Will Bryant made a MOTION to APPROVE for Discussion purposes
Seconded by Russ Melling

Chairman Odom asked that we get these issues out to the committee members sooner.

Scott Johnson asked how the department will keep track of the 100 systems. The Department offered we can keep track of it in the EH Database. Mr. Johnson Pointed out two typos then asked how an engineer was going to specify replenishing spent media as mentioned in the proposal. The Department offered that it doesn't have a method but it was suggested by a stakeholder and we can change that to "the engineer may specify methods" to put the suggestion in the rule but to not require it.

Dale Holcomb responded to a question by clarifying that the proposal would require all of these liner systems to be low-pressure dosed.

Chairman Odom asked several questions regarding allowing 12-inch separation for repairs; if someone installs a liner that is larger than the 3.5 foot perimeter dimension; a method for mixing the lignocellulosic and sand; the wisdom in not requiring sampling.

Dale Holcomb responded that there is debate whether the 18-inch separation is enough and that 12 inches is probably a poor alternative and will result in less nitrification and therefore less denitrification. Regarding the 3.5 foot perimeter, we are not aware that a five feet perimeter is worse than 3.5 and that the market will probably limit spending on a much larger liner. Methods for the mixing of the media and the sand were discussed. Sampling is not intended to be required to be done at the homeowners expense. An agency that wants to see how well the systems are performing can sample them.

Scott Johnson discussed that the engineer overseeing the entire installation would be high degree of quality control provided the media mix were specified.

Chairman Odom and Mr. Johnson discussed installation and oversight. Chairman Odom asked about the engineering costs. Discussion regarding the engineer oversight rather than numerous inspections by the department and what key points the engineer would need to inspect the system as an alternative to inspecting the entire system.

Kevin Sherman explained regarding engineer's staff doing field work are still the responsibility of the engineer.

Chairman Odom expressed concern that the master contractor repair inspection language in the general rule potentially conflicts with this proposal.

Kevin Sherman suggested "notwithstanding the provisions of 64E-6.003…" to address issue.

Sheryl Ervin, asked how we know if the system is functioning properly or that the media needs replacing if the systems are not being sampled.

Chairman Odom asked regarding replacing the media.

Dale Holcomb again remarked that we don't see a method of replacing the media that doesn't involve replacing the entire liner, media, and drainfield but the language encourages and does not discourage innovation.

Will Bryant offered that so long as the media remains saturated that the media should survive, perhaps as long as the drainfield.

Russ Melling asked about media size and differential settling. Also he suggested that these liner systems are not going to be an option for most old systems.

Ed Barranco agreed that these systems would only be used in areas of deep sands and deep water tables. The in-tank passive systems under PBTS rules would be available for other situations. Elke Ursin pointed out that these systems may be most useful in the areas of higher recharge.

Chairman Odom asked if the media language would conflict with the compaction requirements of the rest of the rule.

Chairman Odom asked Kevin Sherman to speak about media.

Kevin Sherman asked about patents.

Ed Barranco responded that the attorneys looked at what we were doing and their reaction was that there is no substantive infringement on any of the patents that have been made available to us.

Kevin Sherman shared his experiences with media in tanks. He explained that the woodchips would impart an uptick in the BOD of the effluent that was in contact with the woodchips and he had an issue with the perimeter application rates. He suggested that the chips be 2 or 3 inches in size and explained the anoxic conditions that are trying to be achieved in the liner system. He made the following suggestions:

The current language for low-pressure dose allows a 25% deviation within the system. That might not be adequate for this application.

Require the calculation to be included in the design.

Eberhard Roeder clarified that the requirement is to show the calculation for the first and last hole and that they need to show the difference between. The other holes will fall in between.

Kevin Sherman discussed sulfur as a medium and how to ensure that the effluent was getting into the media and pushing the old effluent out.

Damann responded that there were methods to facilitate that.

Ed Barranco reminded them that this was not intended to be the 80% system.

More discussion regarding adding and removing liners, enhancing effluent movement, media replacement, system longevity and reliability.

Russ Melling expressed concerns about reliability and longevity and asked about wood chips versus mulch.

A suggestion was made to specify that if a failure occurs and only the failed item needs to be replaced and the media need not be replaced if it is still functioning.

Kevin Sherman suggested a design and operation manual.

Lee Rashkin addressed the panel regarding:

Replacing media; sampling; dosing versus gravity; 1 foot versus 3.5 feet perimeter width; media material; hydraulic perimeter loading rates; drainfield geometry; guidance documents.

Will Bryant asked what specific provision of the proposal precluded the use of their product.

Lee Rashkin responded that the low-pressure dosing requirement was the only item.

The panel took a 10-minute break

Sheryl Ervin addressed the panel regarding:

Many products can meet the nitrogen-reduction level; this proposal has no history and no testing; the proposal short-circuits innovative testing that the other products are required to go through; she agrees with Mr. Rashkin's concerns; investigate how to bring more systems and approval of other products.

Damann Anderson addressed the panel regarding:

This design needs refinement; only reduction achieved was in the nitrification zone; no reduction in the media; working on refinements now; seeing 95% reductions in Massachusetts in the summer months; make sure the technology works; install one at a time; make modifications; don't just start dropping systems in the ground.

Regarding specific proposals:

Do not allow 12 inches of separation. 18 inches is probably okay.
Use a 50/50 media/soil mixture
Add fine sand in the media mix
All wood mixes seem to work
Soil helps pull material into the media
Check the perimeter loading rates. Long narrow drainfields are the goal
The engineer observation of the installation will add a lot of cost
The media ought to last 20-30 years

Damann Anderson answered questions about water movement through soil layers and woodchips, percentage of Nitrogen removal versus cost, woodchip sizes, semi-permeable barriers, degradation of woodchips in an unsaturated condition, operation at vacation homes.

Scott Johnson expressed his concern that he could not convince a homeowner to use one of these systems with the information currently available.

Dominique Buhot addressed the panel regarding:

cost of installing systems deep in the ground versus cost of a pump; an 18-inch nitrification zone might not be enough 7 feet down; 73% of systems are in a primary focus area; liner installation and adding a cinderblock support around the liner; adding sand to mulch is a good option; drainfield reductions need to be looked at; vacation homes or snow-birds should not be a problem.

Chairman Odom and Damann Anderson discussed having DEP fund the first 100 systems to be refined and sampled.

Scott Johnson advised Chairman Odom that he would have trouble designing one of these systems without lots of disclaimers regarding their innovative nature.

Scott Franz pointed out that innovative testing is required for other technologies.

Ed Barranco explained that the state of Florida paid for a study and obtained data in a Florida Study. DEP wants to create a version that is less costly in addition to the in-tank systems that we are moving to PBTS permitting. Until we get something into the ground, we are not reducing any nitrogen.

Roxanne Groover addressed the panel regarding:

Write a Basin Management Action Plan section of the code; if we do not come up with a solution, the only solution will be central sewers.

Russ Melling advised that the more tools we have in the toolbox, the better. This is not going to go away.

Ed Barranco pointed out that we need to have several options. Our strategy as written into the report has been have a system that could be written into the rule without the "disincentives" on performance based systems. The other strategy is to have tools where the engineer can pick pieces that can be combined to achieve a higher level of reduction. But these options will have the performance-based oversight and some people find those objectionable.

Dale Holcomb suggested that a middle ground might be available as we look closely at these technologies to recognize that maybe they need some oversight and maintenance but not as much as a performance-based system. Maybe they do not need a maintenance entity or operating permit.

Kevin Sherman explained that DEP has two solutions: wastewater treatment plants and stormwater to achieve their Nitrogen reduction goals. Onsite is a third option for them and we can press them for support for onsite development because otherwise they are limited to wastewater treatment and stormwater.

Chairman Odom asked for a withdrawal of the discussion motion and a motion to move forward on this issue.

Will Bryant initiated a discussion of how the language should be shaped to move forward.

Doug Buck addressed the panel:

> We are not likely to get DEP to fund a study. We are unlikely to get support without monitoring. It will not do DEP any good if it doesn't work or we cannot demonstrate that it works. This is not stopping at the springs. This is going to be in every river, lagoon and lake that we have. "I haven't seen an agency get punished too much for trying to get it right rather than get it wrong early." The passive nitrogen study didn't get "finished".

The discussion of the motion picked back up with a view to the DEP meeting. There was a brief discussion of sunshine law and the makeup of the group meeting with DEP.

The DEP meeting participants were discussed to include Ken Odom, Damann Anderson, Roxanne Groover, Kevin Sherman, and Doug Buck.

Andrea Samson addressed the panel:

> You cannot pick a solution to a problem until you know how big the problem is. The solution has to be commensurate with the size of the problem. There are 12 homeowners in the Wekiva area doing sampling to determine what the load is. When we apply solutions we need to be sure that the solution works and that it is appropriate for the problem.

Chairman Odom and Elke Ursin discussed percent Nitrogen contributions from onsite systems and the work being done to affect contributions from other sources.

Russ Melling talked about the BMAP process and the other sources of nitrogen and other agencies approving new nitrogen sources.

Will Bryant amended the MOTION to TABLE the document for revision with the changes discussed and turn it over to Chairman Odom to take to a meeting with DEP and the listed stakeholders.

Seconded by Scott Johnson

PASSED unanimously

The meeting was ADJOURNED at 3:00 p.m.

15-02 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 12/5/2016 10:48:24 AM

Next Trap Meeting: 12/9/2016

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.doc (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:	
Variance Committee Reviewed:	
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.

Ready for Rule ☐
In Rule ☐
Rule Date:

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 (6) No change

(7) In-Ground Nitrogen-reducing Biofilters – Nitrogen-reducing media layers, also referred to as media layers, may be placed beneath the drainfield provided the resulting system meets all requirements in this chapter except as noted in this subsection. The first systems installed under this subsection shall be designed by an engineer with a background in wastewater engineering, licensed by the state of Florida, as part of a planned pilot project to monitor and verify system performance. There shall be the Standard Layered Nitrogen Reducing System, and three variants, all of which shall be part of the planned pilot project. The pilot project shall comply with the standards found in this section. Once five Standard Layered Nitrogen Reducing Systems have been installed as part of pilot project, additional Standard Layered Nitrogen Reducing Systems can be installed that are not required to be part of the study.

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

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

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

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

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

5. No portion of the liner or nitrogen–reducing media shall be within 18 inches of the infiltrative surface of the drainfield.

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

7. The nitrogen-reducing media layer with liner shall extend beneath the entire drainfield absorption surface to a point at least 3.5 feet beyond the perimeter of any portion of the drainfield absorption surface and any other effluent release point. For 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 unavailable. Maintaining the 3.5 feet dimension shall have a protection factor of 5 in determining the relative priority of 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 pump or treatment tank.

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

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

10. The soil layer between the infiltrative surface of the drainfield and the nitrogen-reducing media shall consist of fine aggregate having a texture of sand or fine sand but excluding:

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

b. those with colors on the gley charts.

11. The nitrogen-reducing media shall be mixed at an approximate ratio of 1 part media to 1 part fine aggregate by volume. The fine aggregate to be mixed with the media shall be one or more of the following textures: coarse sandy loam, sandy loam, loamy sand, fine sandy loam, very fine sand, loamy fine sand, and loamy very fine sand; and shall conform to the colors in subparagraph (a)10. above.

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

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

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

Soil Texture	Perimeter Loading Rate (gal/ft/day)
coarse sand not associated with a seasonal water table of less than 48 inches; sand; and loamy coarse sand	5
fine sand	4
loamy sand; coarse sandy loam; and sandy loam	3

15. Prior to the department's construction inspection, the designer shall provide an as-built cross section and map 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 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 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 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.

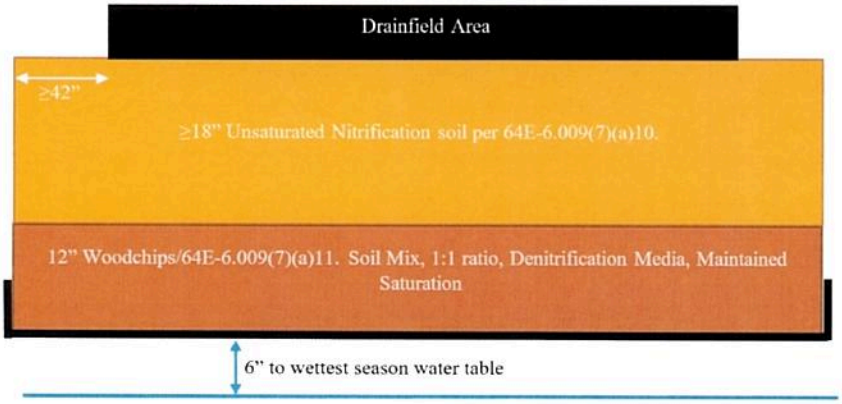

Figure 1 Standard Layered Nitrogen Reducing System

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

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

a. The drainfield shall be installed over sand fill material that is at least 18" thick and conforms to 64E-6.009(7)(a)10. and that extends one foot past the perimeter of the drainfield. The drainfield shall be centered in the replacement area.

b. Below the layer required in 1.a., there shall be a media layer that is 12" thick and extends beneath the entire drainfield absorption surface and extends at least 24" beyond the perimeter of any portion of the drainfield absorption surface and any other effluent release point. The media layer shall also extend upward along the boundary of the sand fill material to a point four to six inches below the bottom of the drainfield. The drainfield shall be centered in the replacement area. The media layer shall include the lignocellulosic material described in 64E-6.009(7)(a)8., in combination with the soil material referenced in 64E-6.009(7)(a)11. and must be homogenous throughout its thickness and shall be thoroughly mechanically mixed while the soil is in a non-plastic state. The media layer shall not be installed when the observed water table is at or above the lowest depth of the media layer. The bottom of the nitrogen-reducing media layer shall be a minimum 6" above the wet season water table.

c. This variant does not include a liner beneath the denitrification media.

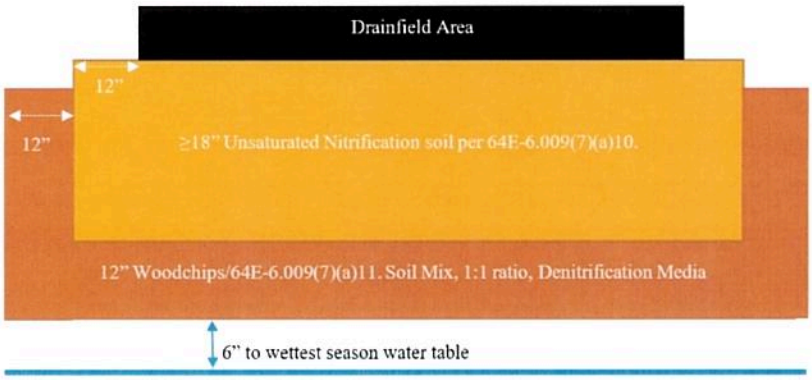

Figure 2 – Variant One

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

a. The drainfield shall be installed over sand fill material that is at least 18" thick and conforms to 64E-6.009(7)(a)10., and extends 18" past the perimeter of the drainfield. The drainfield shall be centered in the replacement area.

b. Below the layer required in 2.a., there shall be a media layer that is 12" thick and extends 18" past the perimeter of the drainfield. The media layer shall include the lignocellulosic material described in 64E-6.009(7)(a)8., in combination with the soil material referenced in 64E-6.009(7)(a)11. and 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 below the denitrification media which extends to a point at least 18" past the perimeter of the drainfield, at which point the liner shall be directed upwards toward the ground surface maintaining contact with the layers described in 2.a. and b., stopping at a point four to six inches below the level of the bottom of the drainfield. No portion of the liner or nitrogen–reducing media 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 18" 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 liner within the media layer, which disperses 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 drainfield shall be set to maintain the liquid level within the liner at the top of the denitrification media.

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

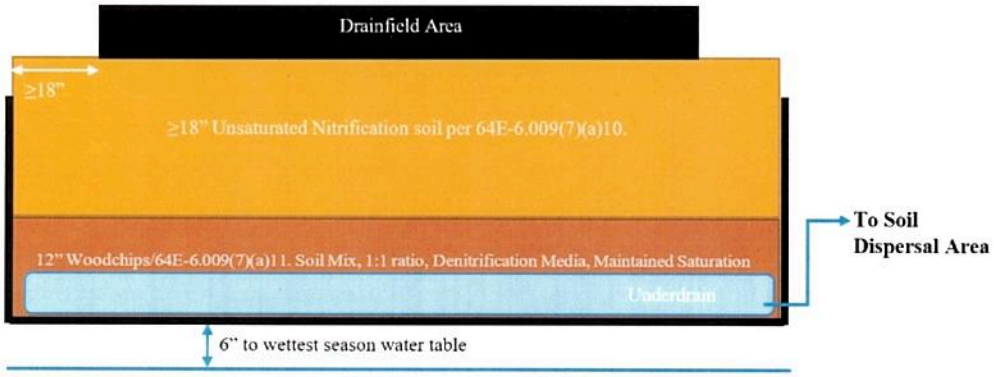

Figure 3 – Variant Two

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

a. The drainfield shall be installed over sand fill material conforming to 64E-6.009(7)(a)10. that is at least 18" thick and that extends one foot past the perimeter of the drainfield. The drainfield shall be centered in the replacement area.

b. Below the layer required in 3.a., there shall be a media layer that is 12" thick and extends 2 feet past the perimeter of the drainfield. The media layer shall include lignocellulosic material described in 64E-6.009(7)(a)8., either in its entirety or in combination 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 the bottom of the drainfield, and shall extend downward eight 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 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.

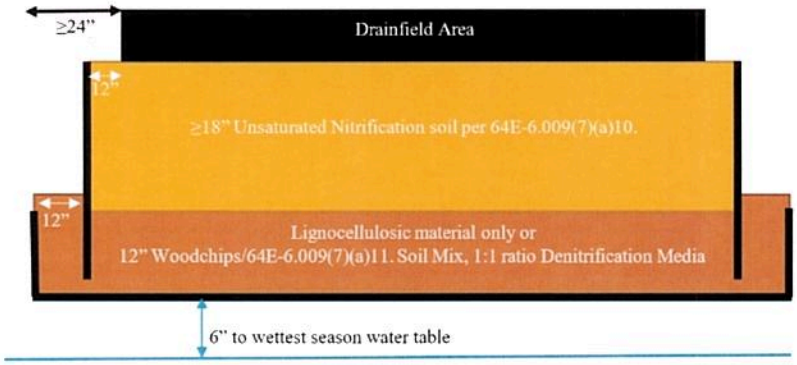

Figure 4 Variant Three

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

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

1. Monitoring locations and devices shall allow obtaining samples prior to entering the drainfield, prior to entering the denitrifying media, after leaving the denitrifying media, and in shallow groundwater influenced by the effluent. The designer shall include these in the system construction application documentation. An estimation method for sewage flow through the

system shall be included.

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

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

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

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 in use. At a minimum, four successful sampling events shall be reported for each pilot system. A successful sampling event is defined as one where all the required analytes are reported at each sampling location. Monitoring devices to facilitate long-term monitoring shall be installed when the system is constructed and left in place after the pilot phase.

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

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 be provided to the Onsite Sewage Program Office for evaluation. Those systems that do not perform to the average nitrogen removing levels of the standard layered nitrogen reduction system shall not be allowed for installation after the pilot project.

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

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

(8) through (10) Renumber as (9) through (11) 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,_____.

16-01 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 12/5/2016 10:48:26 AM

Next Trap Meeting: 12/9/2016

Subject: Drip Emitter System Slope

Rule Sections: 64E-6.009(5)(a)

Issue:	In the absence of specific language addressing the maximum permissabole slope for drip emitter lines, the standard "level to 1 inch per 10 feet" could apply. This is not an appropriate restriction for the pumped emitter system and certainly is not necessary for pressure-compensating emitters. This issue seeks to remedy that by creating sub-paragraph 27. and also cleans up some minor language issues in sub-paragraph 20. and 26.
Issue Originated By:	Scott Franz, Soil Scientist
Purpose and Effect	The proposed changes provide a broader range of allowable slopes based on the manufacturer's recommendations differentiating between the type of emitter being used in the installation. May provide an alternative to drop boxes for sloping lots.
Proposed Rule Change:	16-01--64E-6.009 Drip Emitter System Levelness.doc (See Attached)
Summary:	This proposal eases the requirements for drain line slope for drip emitter systems.
Possible Financial Impacts:	As the proposal eases the requirements, the financial impact should either be none or possibly provide a lower cost or more desireable alternative on sloping lots.
Date New:	2/11/2016
Initially Reviewed by Trap:	8/31/2016
Tabled by Trap:	
Trap Review Finished:	8/31/2016
Variance Committee Reviewed:	12/1/2016
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	

Comments: 8/31/2016 - remove the second to the last sentence "when the slope.. ..of the zone." and pass on to variance for review.
12/1/2016 - Variance Committee considered issue and provided the following comments: STI-"OK"; REI-"OK"; DEP-"No comment"; HBI-Not present; SHO-"Great"; CHD-"A standard for drip slope should be prescribed as gravity slope standards are applied in the field. Training or memorandum (with pictures) should be provided to CHD's to assist inspectors with identification of pressure compensating emitters."

64E-6.009 Alternative Systems.

(1) through (4) No change

(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. through 19. No change

20. All onsite sewage treatment and disposal systems that include a drip effluent disposal system and aerobic treatment unit or performance-based treatment system 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.

21. through 25. No change

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 stabilized in the same way or vegetated with plant species specified by the design engineer. The species specified shall not include trees.

27. For drip emitter lines using non-pressure-compensating emitters, the maximum elevation difference shall be four inches between the highest and the lowest emitter in any individual line segment between the supply and the return line. For drip emitter lines using pressure-compensating emitters, there shall be no more than 18 inches of elevation difference between the highest and lowest emitter in any line. Neither property slope nor drip emitter line slope shall result in the depth of cover over the drip emitter lines to be outside of the range permitted in 64E-6.009(5)(a)19.

(b) No change

(6) 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,_____.

16-03 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 12/5/2016 10:48:28 AM

Next Trap Meeting: 12/9/2016

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 ruile 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 ATU Sizing.docx (See Attached)
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:	
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) Aerobic treatment units ~~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 State Health Office. Aerobic treatment units shall be in compliance with at least one of the following standards: ~~for~~ Class I systems as defined by ANSI/NSF International Standard Number 40, revised April 2013~~July 2000~~, herein incorporated by reference; nitrogen reduction as defined by ANSI/NSF International Standard Number 245, revised April 2013, herein incorporated by reference; or onsite residential and commercial water reuse treatment systems as defined by ANSI/NSF Internation Standard Number 350, revised December 2012, 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 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 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:

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. 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 treatment unit~~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 the applicable standards of 64E-6.012(1)~~Class I effluent quality standards as defined by ANSI/NSF Standard 40~~.

(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 IV.

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

For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by 60~~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) 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. For units discharging into alternative systems according to 64E-6.009(5), the designing engineer may specify recirculation up 50% of the disposal rate.

(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 its ~~Class I~~ standards ~~as specified by ANSI/NSF Standard 40~~ shall be reported to the maintenance entity for correction within 10 working days.

(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 Class I units~~ W~~w~~here 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.

(i) A manufacturer, distributor or seller of aerobic treatment units shall furnish, to the State Health Office, in Microsoft Word document format, Portable Document Format (PDF) or other electronic format accepted by the Department, 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 DOH county health departments and the State Health Office.

(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.

(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 written assurance that spare mechanical and structural parts are available, upon request, for purchase, to all other approved maintenance entities.

(l) Where local building occupancy codes require that the DOH county health department 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.

(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 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.

(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 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,-or a combination of aerobic treatment units treating flows according to 64E-6.004(4)(a) or (b), F.A.C. 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 for $CBOD_5$ and TSS established ~~by DEP~~ in Rule 64E-6.025(12)(a)~~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 rule.~~

(a)~~(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.

(b)~~(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 $CBOD_5$, and suspended solids ~~and fecal coliform~~ shall be collected at least semi-annually and such samples shall be analyzed by a department-approved laboratory.

(c)~~(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.

(d)~~(e)~~ 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, shall be made to the DOH county health department 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.

(6) 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,_____.