

Florida Department of Health Bureau of Onsite Sewage Programs Research Review and Advisory Committee Meeting

DATE AND TIME: June 10, 2010 at 9:30 a.m. EDT

PLACE: Gulf Coast Research and Education Center 14625 County Road 672 Wimauma, FL 33598 813-634-0000

> **Or via conference call / web conference:** Toll free call in number: 1-888-808-6959 Conference code: 1454070 Website: http://connectpro22543231.na5.acrobat.com/rrac/

This meeting is open to the public

AGENDA: FINAL

- 1. Introductions and Housekeeping
- 2. Review Minutes of Meeting March 23, 2010
- 3. Town of Suwannee Study Final Report Presentation
- 4. Nitrogen Study
 - a. Budget proviso language
 - b. Comment on deliverables and next steps
- 5. Discussion on DEP's Wekiva Fertilizer Report
- 6. Discussion on Continuation of Inventory of OSTDS and relationship to Maintenance and Management Program (SB 550)
- 7. Update on Study of Performance of Advanced Systems in Florida
- 8. Alternative Drainfield Products Discussion
- 9. Discussion on Research Budget
- 10. Election of Chair and Vice Chair
- 11. Other Business
- 12. Public Comment
- 13. Closing Comments, Next Meeting, and Adjournment

There will be a tour of GCREC facility, after the meeting has adjourned, for all interested parties.

Research Review and Advisory Committee for the Bureau of Onsite Sewage Programs

Approved Minutes of the Meeting held at the Gulf Coast Research and Education Center, Wimauma, FL June 10, 2010 Approved by RRAC November 5, 2010

In attendance:

- Committee Membership and Alternates:
 - In person: Quentin (Bob) Beitel (alternate, Real Estate Profession); David Carter (chairman, member, Home Building Industry); Kim Dove (member, Division of Environmental Health); Bob Himschoot (member, Septic Tank Industry); Kriss Kaye (alternate, Home Building Industry); Carl Ludecke (alternate, Home Building Industry); Jim Peters (alternate, Professional Engineer); Patti Sanzone (member, Environmental Interest Group); and Clay Tappan (member, Professional Engineer)
 - Via teleconference: Bill Melton (member, Consumer); and Pam Tucker (member, Real Estate Profession)
 - Not represented: Restaurant Industry, State University System, and Local Government
- Visitors:
 - In person: Damann Anderson (Hazen and Sawyer); Blaine Carter (FHBA); Larry Danek (ECT); Josefin Edeback (Hazen and Sawyer); Brian King (York ISG); Don Orr (FOWA); Daniel Smith (AET); Nancy Smith (Orange County Health Department)
 - Via teleconference: David Winialski; Mary Howard; Sarah Fowler
- Department of Health (DOH), Bureau of Onsite Sewage Programs:
 - In person: Paul Booher; Eberhard Roeder; and Elke Ursin
 - Via teleconference: Debra Roberts
- 1. Introductions Seven out of ten groups were present, representing a quorum. Chairman Carter called the meeting to order at 9:38 a.m. Introductions were made and some housekeeping issues were discussed.
- 2. Review of Previous Meeting Minutes The minutes of March 23, 2010 were reviewed.

Motion by Bill Melton and seconded by Clay Tappan to approve the minutes as amended. All were in favor with none opposed and the motion passed unanimously.

Quentin Beitel brought up that alternates cannot vote when the member is present. His comment was noted. Only voting members are allowed to vote.

3. Town of Suwannee Study – Elke Ursin presented a brief overview of the status of this project. The final draft report has been submitted. Comments are to be emailed to Elke Ursin by end of June to finalize the report. Larry Danek with ECT presented. The goal of this project was to evaluate the impacts of closing 850 OSTDS in the Town of Suwannee. Baseline data was collected during a study in the winter of 1996. A copy of this presentation is available on the Department's website.

4. Nitrogen Study

Elke Ursin introduced the study and gave an overview outlining what has happened since the last meeting. Damann Anderson presented and the presentation is posted on the Department's website. A background of the study was given, Dr. Smith discussed the second stage of the passive nitrogen removal study, the proposed project scope for Phase I and II were discussed, and at the end of the meeting a tour of the test facility was given.

David Winialski suggested that one of these passive systems could have the maintenance and management done under the new Senate Bill 550 inspection program, so they would only be inspected once every five years. Eberhard Roeder responded by saying that this depends on how the system is classified. If it is classified as a conventional system, then that would be the case, but if it is classified as an advanced system then it would need to meet a more frequent inspection schedule. Damann Anderson said that part of the study will look at this and evaluate this.

David Winialski asked if these systems produce any by-products that would cause environmental problems. Dr. Smith stated that the systems will be designed to keep any discharges below the maximum contaminant level.

David Carter presented the budget proviso language that was approved to be in this year's budget. It gives \$2,000,000 to continue the study and requires an interim report on February 1, 2011 and a final report on May 16, 2011. The language also states that DEP is to have maximum technical input. David Carter has asked Elke Ursin to make sure that Jerry Brooks is notified of the RRAC meetings. The language also states that the main focus of the work this year is to focus on developing, testing, and recommending cost effective design criteria. This does not change the contract terms, but emphasizes focusing on passive technologies. Damann Anderson stated that this goes in line with the existing contract. Bob Himschoot asked whether any of the existing approved passive systems will be tested as part of this study, and Damann stated that some will, but not all of them. They will pick the systems that best meet the criteria established in an earlier task. Elke Ursin stated that the way the money was appropriated this year means that the \$2,000,000 is available July 1, 2010. Quentin Beitel stated that there was a lot of effort going into getting this money and he wanted to recognize the hard work that went into getting this funding.

Damann Anderson went into detail describing which tasks have been completed, which tasks are proposed for Phase II, and which will remain to be completed in Phase III. Phase I ended on June 30, 2010, Phase II is for this next round of funding, and Phase III is the final phase of funding. Phase II may or may not take 1-year. There was a discussion that tasks A.27 and A.28 (draft and final passive nitrogen reduction systems phase II reports) be moved to Phase II of the project. This will require moving something from Phase II to Phase III. The details will be worked out between Hazen and Sawyer and DOH. Eberhard Roeder asked that D.14 (complex soil model) be moved up to Phase II, and to move task D.10 (multi-source aquifer model) to Phase III. Damann said that he will get with the Colorado School of Mines regarding these changes.

5. Discussion on DEP's Wekiva Fertilizer Report – Elke Ursin presented a brief background on DEP's Wekiva Fertilizer Study. They have completed their study, which focused on residential fertilizer use. The inputs were modified for wastewater treatment facilities and atmospheric deposition per comments from DOH and Damann Anderson. Fertilizer inputs were adjusted

based on the findings of the study. They also used Ellis & Associates field data for the OSTDS inputs and loadings which increased the estimate by 45% and 16% respectively. The pie charts showing the nitrate loadings for both the Wekiva Basin and the Wekiva Study Area were discussed. In 2007 the RRAC decided to postpone making a decision on whether the OSTDS contribution of nitrogen to the Wekiva Study Area was significant until the DEP study was done. Now that the study is done it is being brought back to the committee for review and consideration. Damann Anderson said that he is surprised to see the nitrogen contribution from OSTDS so high. He knows of no other study that has demonstrated this. David Carter said that the committee has gone beyond the initial question and that the nitrogen study is looking at this. The committee has decided that septic systems need to do better with nitrogen and that is what the nitrogen study is looking at. He does not think that we need to be doing anything more than what is being done right now. This appeared to be the consensus of the RRAC. No motion was made.

- 6. Discussion on Continuation of Inventory of OSTDS and Relationship to Maintenance and Management Program (SB 550) - Elke Ursin presented a brief overview of SB 550, which requires a 5-year inspection to be done on all systems in Florida. This program has a tie-in with the inventory of all systems in Florida that was completed last year. This inventory presented a snap-shot in time that could be built upon and updated. A website showing the results of this inventory has been developed and should be posted in the near future for the public to access. The RRAC had decided in a previous meeting to start working on a method to continue the inventory and to present this at a future meeting. Elke Ursin presented some proposed next steps, which included updating the Environmental Health Database, updating the data with the latest Department of Revenue information and figuring out a method of automating this task, updating the database with the latest DEP data on permitted wastewater treatment plants (WWTP), resending out letters to the WWTP requesting customer information to update the database, and using county health departments to resolve some of the unknowns. After discussion, it was decided to hold off doing anything until direction is given from Gerald on what would be most beneficial. Scott Carmody gave a brief overview of his database system and mentioned that his program is currently under contract with DEP.
- 7. Update on Study of Performance of Advanced Systems in Florida Elke Ursin gave an update on the status of this study. The draft summary report for the Monroe County portion of this project is being written. The database is mostly complete and identifies 16,802 advanced systems in the state. Summary statistics are being developed. A description of technologies that the current advanced systems use has been added to the database to make sure different technologies are sampled. Surveys were sent to various interest groups. Approximately 1,000 of the 3,800 surveys were returned as undeliverable due to various reasons such as the house being vacant, or there not being a mail receptacle. DOH staff found these owners' addresses on the property appraisers' websites and resent the letters to these new addresses. The QAPP for the sampling portion of this project is being finalized. The contract with the lab to evaluate the samples has been executed. Permit file reviews on the selected systems is ongoing. An evaluation tool to look at management practices is being developed as this project continues.
- 8. Alternative Drainfield Products Discussion Availability of data on the longevity and effectiveness of alternative drainfield projects is limited. At the last RRAC meeting staff were directed to come back with a proposed scope of work and budget. Elke Ursin presented a scope of work and wanted to hold off developing a detailed budget until RRAC directs staff on what they would like to see be done. Three different phases were proposed. Phase I would be performing an evaluation of existing data and the cost of this phase would be staff time. Phase II would be

creating an advisory group with product manufacturers, contractors, and CHD's to get an idea of how to gather the information gaps found after Phase I. Phase III would be to go out and gather the data to fill in the data gaps. The RRAC directed staff to wait and see what is going to happen with the SB 550 inspection program.

9. Discussion on Research Budget – Fiscal year 2009-2010 budget numbers were presented. There is a significant reduction in the total revenue coming in from the \$5 surcharge on new septic permits. In years past this number was around \$200,000 and now is around \$67,000. The 2010-2011 research budget request was presented. It was decided to keep the alternative drainfield product assessment and inventory phase II studies in the budget.

Bill Melton made a motion to accept the budget, seconded by Patti Sanzone, and the motion passed.

- 10. Election of Chair and Vice Chair David Carter is retiring as chair of the RRAC, Carl Ludecke is taking over his spot as the Home Building Industry primary member on the RRAC, and a new chair and vice chair are to be nominated and elected. Pam Tucker nominated Clay Tappan as the chair and Carl Ludecke as the vice chair. Nominations were closed. All were in favor with none opposed. Bill Melton thanked David Carter for all of his years of service stating that he has been remarkably even keeled and easy to deal with. There was a round of applause from those present at the meeting.
- 11. Other Business Elke Ursin brought up that the pollution prevention grant proposal was submitted on April 5, 2010 and that EPA should make a decision in July. There was a discussion about how to get the Hotel and Restaurant RRAC representatives to attend the meetings.
- **12. Public Comment** The public were allowed to comment throughout the meeting. There was no additional public comment.
- 13. Closing Comments, Next Meeting, and Adjournment Clay Tappan thanked David Carter for his dedication to the committee for over a decade. David Carter said that he has enjoyed his time on the committee. The next meeting will be scheduled for sometime in the future, with the date, time, and location being determined via email. The focus of the next meeting will be to discuss the RRAC priorities, the inventory study phase II, and the alternative drainfield products study. Damann Anderson provided some information on the tour of the research facility that occurred after the meeting.

Carl Ludecke made a motion to adjourn, seconded by Patti Sanzone, and the meeting adjourned.









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FLORIDA ONSITE SEWAGE NITROGEN REDUCTION STRATEGIES (FOSNRS) STUDY

RRAC Meeting Presentation June 10, 2010

Agenda

- FOSNRS Study Background
- PNRS II
- Proposed Project Scope Phase II and III
- Tour of the GCREC Facility



FOSNRS Study Background

- Recent concerns over impacts of nitrogen from Onsite Sewage Treatment and Disposal Systems (OSTDS):
 - Florida Keys
 - Wekiva Study Area
 - Wakulla County
 - Florida's Freshwater Springs
 - Proposed Numeric Nutrient Criteria
 - Laws of Florida, 2008-152, directed FDOH to conduct a study to further develop more *"passive"* & cost-effective nitrogen reduction strategies for OSTDS
 - RFP identified four primary tasks for the study; to be controlled by FDOH Research Review & Advisory Committee

HAZEN AND SAWYER

What are "Passive" nitrogen reduction systems?

- Most N-removing onsite systems used in FL are mechanical treatment units utilizing an activated sludge biological process
- "Passive" nitrogen removal OSTDS are similar to conventional onsite systems in their operation and maintenance
 - Previous FDOH Study: Florida Passive Nitrogen Removal Systems (PNRS I) Study (Smith et. al., 2008) defined passive systems:
 - Passive nitrogen removal systems are those that use only one pump and a "reactive media" for denitrification
 - PNRS I demonstrated effluent TN <10 mg/L



FOSNRS Study Overview Four Primary Study Areas

- Task Series A: Technology evaluation for field testing, Test facility design & construction, Pilot testing of Passive nitrogen removal systems (PNRS II)
- Task Series B: Field testing of full-scale treatment technologies, Performance & cost documentation
- Task Series C: Evaluation of nitrogen reduction provided by Florida soils & shallow groundwater
- Task Series D: Nitrogen fate and transport modeling, Development of decision support tools for OSTDS planning & management



FOSNRS Study Overview How do tasks relate to N-removal strategies?

Task A Nitrogen treatment and removal options for Florida

Task BPerformanceverification of nitrogenremoval in full scale systems

Task C Evaluation of N reduction in Florida soil and groundwater

Task D Decision support tools for OSTDS planning & mgmt; N-removal goals for Florida



Project Status

- Project began early 2009
- Sub-tasks completed to date
 - Task A, C and D literature review reports (available at www.doh.state.fl.us/environment/ostds/research/)
 - Task A
 - Draft technology classification, ranking criteria, and priority list for testing
 - PNRS II Quality Assurance Project Plan (QAPP)
 - PNRS II Test Facility Design & Construction
 - Task C: QAPP, Soil & Groundwater Test Facility Design
 - Task D: Selection of existing datasets for model calibration







Passive Nitrogen Removal Study II PNRS II (Task A)





PNRS I: Passive Two Stage Biofiltration (Smith et. al., 2008)



Passive Nitrogen Removal Study I PNRS I Results

 8 months operation of bench-scale units at Flatwoods Park, Hillsborough County

Elemental sulfur as electron donor for denitrification

97% nitrogen reduction from septic tank effluent



Passive Nitrogen Removal Study I PNRS I Results

- Showed feasibility of passive two stage biofiltration
- One pump, no aerators, reactive media
- Continuous 24/7 operation for 8 months
- Proof of passive 2-stage biofiltration concept provided





Passive Nitrogen Removal Study II PNRS II Objectives

- Follow up to PNRS I with larger, pilot scale units and various media
- Develop detailed performance data for passive biofiltration designs
- Produce scalable design data from pilot scale biofilters for subsequent full-scale testing in Task Series B



Passive Nitrogen Removal Study II PNRS II Approach

- Establish test facility at Gulf Coast Education and Research Center (University of Florida IFAS)
- Test program for in-vessel and in-situ pilot systems
- Operate on septic tank effluent for 12 months
- Various nitrification and denitrification biofilters to be tested



Gulf Coast Research and Education Center (GCREC)



- University of Florida, Institute for Food & Agricultural Sciences (IFAS)
- 475 acres of land in SE Hillsborough County
- Facility conducts agricultural research & trials for vegetables, fruit and ornamental plants
- 16 laboratories housed onsite (1 water quality lab)

HAZEN AND SAWYER

GCREC Facility and FOSNRS Project Area



GCREC FOSNRS Project Area



Passive Nitrogen Removal Study II Significant Features

- Couple first stage recycle (mixed biomass) to denitrification (separate stage biomass)
- Stage 1 unsaturated filter: 2 layer stratification design with 2 media depths
- Evaluate lignocellulosic and sulfur based Stage 2 denitrification biofilters
- Test reactive media in in-ground systems



Two Stage Single Pass Biofilters



Stage 1 Recirculating Biofilters



Stage 1 Media (nitrification)

Expanded clay

Zeo-Pure clinoptilolite



Expanded polystyrene

Stage 2 Media (denitrification)

Expanded clay



Lignocellulosics



Elemental sulfur

PNRS II Test Facility Construction



Setting up tanks



Mixing media batches



Gravel underdrain



Placing media in tanks







2-Stage Single Pass Biofilters





Stage 1 Recirculating Biofilters & Stage 2 Horizontal Saturated Biofilters



Stage 1 Recirculating Biofilters



Stage 2 Saturated Biofilters

Monitoring & Controls



Flow Monitoring





Control Panel



PNRS II Test Facility Nearing Completion



Completed PNRS II Test Facility



Passive Nitrogen Removal Study II

In-Ground Engineered Media Concept



Passive Nitrogen Removal Study II

Application of Technologies

	Passive Two Stage Biofiltration	In-Situ Biofiltration	Passive Denitrification
New or replacement systems	X	X	
Retrofit to existing conventional system	X	X	
Addition to existing aerobic treatment system		X	X



FOSNRS Summary

- Multi-prong project underway to reduce nitrogen from Florida's Onsite Sewage Treatment and Disposal Systems
- Integrated tasks of:
 - Treatment technology evaluation including new passive systems
 - Full-scale field testing of treatment technologies
 - Monitoring of nitrogen fate and transport in subsurface
 - Modeling and planning tools to support regulatory decision making

Successful results would allow OSTDS to achieve nutrient removal similar to wastewater treatment plants and play a role in nitrogen reduction in sensitive watersheds






Proposed Project Scope Phase II and Phase III



FLORIDA Gulf Coast Research

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Scope – Task A

Task	Phase I	Phase II	Phase III
A.1 Draft Lit Review	1		
A.2 Final Lit Review	1		
A.3 Draft Classification of Tech	1		
A.4 Draft Tech Ranking Criteria	1		
A.5 Draft Priority List for Testing	1		
A.6 Tech Classification, Ranking & Prioritization Workshop	1		
A.7 Final Classification of Tech	1		
A.8 Final Tech Ranking Criteria	1		
A.9 Final Priority List for Testing	1		
A.10 Draft Innovative Systems Application		5	
A.11 Final Innovative Systems Application		5	
A.12 Identification of Test Facility Sites	2		
A.13 Draft QAPP PNRS II	1		
A.14 Recommendation for Process Forward	1		
A.15 Final QAPP PNRS II	1		
A.16 Materials Testing for FDOH Additives Rule	2	2	
A.17 PNRS II Specification Reports	1	1	

Scope – Task A (continued)

	Task	Phase I	Phase II	Phase III
	A.18 PNRS II Test Facility Design 50%	1		
	A.19 PNRS II Test Facility Design 100%	1		
	A.20 PNRS II Test Facility Construction Support & Admin	2		
	A.21 PNRS II Test Facility Construction 50%	2		
	A.22 PNRS II Test Facility Construction 100%	1		
	A.23 PNRS II Test Facility Construction Sub. Completion	1		
	A.24 PNRS II Test Facility Accept Construction	1		
100	A.25 Monitoring and Sample Event Reports	1	5	
100	A.26 Data Summary Report		6	
	A.27 Draft PNRS II Report			1
07.0	A.28 Final PNRS II Report			1
	A.29 Draft Task A Final Report			1
222	A.30 Task A Final Report			1



Scope – Task B

Task	Phase I	Phase II	Phase III
B.1 Identification of Home Sites		10	
B.2 Vendor Agreement Report		8	
B.3 Draft QAPP for Field Testing	1		
B.4 Recommendation for Process Forward		1	
B.5 Final QAPP for Field Testing		1	
B.6 Field System Installation Report		8	
B.7 Field System Monitoring Report		4	4
B.8 Field System Op., Maintenance & Repairs Report			8
B.9 Technical Description of Nitrogen Reduction Tech. Report			1
B.10 Acceptance of System by Owner Report		4	4
B.11 Draft LCAA Template Report		1	
B.12 Final LCCA Template Report			1
B.13 LCCA Report (per system)			8
B.14 Draft Task B Final Report			1
B.15 Task B Final Report			1
	TaskB.1 Identification of Home SitesB.2 Vendor Agreement ReportB.3 Draft QAPP for Field TestingB.4 Recommendation for Process ForwardB.5 Final QAPP for Field TestingB.6 Field System Installation ReportB.7 Field System Monitoring ReportB.8 Field System Op., Maintenance & Repairs ReportB.9 Technical Description of Nitrogen Reduction Tech. ReportB.10 Acceptance of System by Owner ReportB.11 Draft LCAA Template ReportB.13 LCCA Report (per system)B.14 Draft Task B Final ReportB.15 Task B Final Report	TaskPhase IB.1 Identification of Home SitesB.2 Vendor Agreement ReportB.3 Draft QAPP for Field TestingB.4 Recommendation for Process ForwardB.5 Final QAPP for Field TestingB.6 Field System Installation ReportB.7 Field System Monitoring ReportB.8 Field System Op., Maintenance & Repairs ReportB.9 Technical Description of Nitrogen Reduction Tech. ReportB.10 Acceptance of System by Owner ReportB.11 Draft LCAA Template ReportB.12 Final LCCA Template ReportB.13 LCCA Report (per system)B.14 Draft Task B Final ReportB.15 Task B Final Report	TaskPhase IB.1 Identification of Home Sites10B.2 Vendor Agreement Report38B.3 Draft QAPP for Field Testing1B.4 Recommendation for Process Forward1B.5 Final QAPP for Field Testing1B.6 Field System Installation Report1B.6 Field System Installation Report4B.7 Field System Op., Maintenance & Repairs Report4B.9 Technical Description of Nitrogen Reduction Tech. Report4B.10 Acceptance of System by Owner Report4B.11 Draft LCAA Template Report4B.12 Final LCCA Template Report1B.13 LCCA Report (per system)1B.14 Draft Task B Final Report1B.15 Task B Final Report1



Scope – Task C

	Task	Phase I	Phase II	Phase III
	C.1 Draft Literature Review on N Reduction in Soil	1		
	C.2 Final Literature Review on N Reduction in Soil	1		
	C.3 Draft QAPP Eval. of N Red. by Soils & Shallow GW	1		
	C.4 Recommendation for Process Forward	1		
	C.5 Final QAPP Eval. of N Red. by Soils & Shallow GW	1		
	C.6 S&GW Test Facility Design 50%	1		
	C.7 S&GW Test Facility Design 100%	1		
	C.8 S&GW Test Facility Design Final	1		
	C.9 S&GW Construction Support & Admin.		2	
	C.10 S&GW Test Facility Construction 50%		2	
	C.11 S&GW Test Facility Construction 100%		1	
2	C.12 S&GW Test Facility Con. Substantial Completion		1	
	C.13 S&GW Test Facility Accept Construction		1	
	C.14 Soils & Hydrogeologic & Monitoring Plan for S&GW		1	
	C.15 Tracer Testing at GCREC		3	
	C.16 S&GW Sample Event Reports		6	6
	C.17 S&GW Data Summary Report		6	6
	C.18 Test Facility Closeout Report			1
38	C.19 Field Site Selection		8	

Scope – Task C (continued)

Task	Phase I	Phase II	Phase III
C.20 Instrumentation of GCREC Mound System	0.5	0.5	
C.21 GCREC Mound Sample Event Report		3	1
C.22 GCREC Mound Data Summary Report		3	1
C.23 Instrumentation of Remaining Field Sites Report		2	3
C.24 Field Sites Sample Event Reports		4	16
C.25 Field Sites Data Summary Report		4	16
C.26 Draft Site Summary and Close-Out Report			5
C.27 Final Site Close-Out Report			5
C.28 Draft Task C Final Report			1
C.29 Task C Final Report			1



Scope – Task D

	Task	Phase I	Phase II	Phase III
	D.1 Draft Lit Review on N Fate & Transport Model	1		
	D.2 Final Lit Review on N Fate & Transport Model	1		
	D.3 Selection of Existing Data Set for Calibration	1		
	D.4 Draft QAPP N Fate & Transport Models	1		
	D.5 Recommendation for Process Forward	1		
	D.6 Final QAPP N Fate & Transport Models		1	
	D.7 Simple Soil Model Development		1	
	D.8 Non-Steady State Aquifer Model, Simple Soil Model		1	
Second Second	D.9 Aquifer Model with Averaged Output, Simple Soil Model		1	
No.	D.10 Multi-Source Aquifer Model		1	
1000	D.11 Calibrate Non-Steady State Aquifer Model		1	
	D.12 Calibrate Aquifer Model			1
	D.13 Calibrate Multi-Source Aquifer Model			1
	D.14 Complex Soil Model Development			1
VANAS	D.15 Non-Steady State Aquifer Model, Complex Soil Model			1
なななない	D.16 Aquifer Model with Averaged Output, Complex			1

Scope – Task D (continued)

	Task	Phase I	Phase II	Phase III
	D.17 Multi-Source Aquifer Model, Complex			1
	D.18 Calibrate Non-Steady State Aquifer Model, Complex			1
	D.19 Calibrate Multi-Source Aquifer Model, Complex			1
	D.20 Uncertainty Analysis for Non-Calibrated Models		1	
ANA CONSCIENCES	D.21 Validate/Refine Non-Steady State Aquifer Model with Task C Data			1
	D.22 Validate/Refine Complex Soil with Task C Data			1
	D.23 Uncertainty Analysis for Calibrated Models			1
	D.24 Validate/Refine Non-Steady State Aquifer, Complex with Task C Data			1
New York	D.25 Decision-Making Framework Considering Uncertainty			1
10000	D.26 Validate/Refine Multi-Source Aquifer Model, Complex with Task C Data			1
1	D.27 Draft Task D Final Report			1
150	D.28 Task D Final Report			1

Environmental Engineers & Scientists

Scope – Task E

Task	Phase I	Phase II	Phase III
E.1 Project Kick-Off Meeting	1		
E.2 PM – Project Progress Reports	6	4	12
E.3 RRAC or TRAP Presentation	2	1	4
E.4 RRAC or TRAP Meeting Attendance	1	1	4
E.4 PAC Meetings		1	3







Questions?









Department of Health Bureau of Onsite Sewage Programs Research Review and Advisory Committee

Thursday June 10, 2010 9:30 am - 3 pm



Agenda:

- Introductions and Housekeeping
- 1. 2. 3. Review Minutes of Meeting March 23, 2010
- Town of Suwannee Study Final Report Presentation
- 4. Nitrogen study
 - Budget proviso language a)
 - Comment on deliverables and next steps b)
- 5. Discussion on DEP's Wekiva Fertilizer Report
- 6. Discussion on Continuation of Inventory of OSTDS and Relationship to Maintenance and Management Program (SB 550)
- 7. Update on Study of Performance of Advanced Systems in Florida
- 8. **Alternative Drainfield Products Discussion**
- 9. **Discussion on Research Budget**
- 10. Election of Chair and Vice Chair
- 11. Other Business
- 12. Public Comment
- 13. Closing Comments, Next Meeting, and Adjournment



Introductions & Housekeeping

- Roll call
- Identification of audience
- How to view web conference
- DO NOT PUT YOUR PHONE ON HOLD!!!!
- Download reports:

http://www.myfloridaeh.com/ostds/research/Index.html



Review Minutes of Meeting March 23, 2010

• See draft minutes



Town of Suwannee Study

Purpose: Test the difference in water quality after central sewer has been installed in an area previously served by onsite sewage systems

Progress:

- Final draft report submitted
- Presentation by Larry Danek from ECT
- Comments on report due by end of June



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Purpose: Develop passive strategies for nitrogen reduction that complement use of conventional onsite sewage treatment and disposal systems, and further develop costeffective nitrogen reduction strategies

Nitrogen Reduction Strategies Study

• Proviso language:

From the funds in Specific Appropriation 486, \$2,000,000 from the Grants and Donations Trust Fund is provided to the department to continue phase II and complete the study authorized in Specific Appropriation 1682 of chapter 2008-152, Laws of Florida. The report shall include recommendations on passive strategies for nitrogen reduction that complement use of conventional onsite wastewater treatment systems. The department shall submit an interim report of phase II on February 1, 2011, a subsequent status report on May 16, 2011, and a final report upon completion of phase II to the Governor, the President of the Senate, and the Speaker of the House of Representatives prior to proceeding with any nitrogen reduction activities.



Nitrogen Reduction Strategies Study

Presentation by Hazen & Sawyer



DEP's Wekiva Fertilizer Report

- Wekiva nitrate sourcing study complete
- Focus on residential fertilizer use
- Inputs were modified for WWTF and atmospheric deposition per comments from DOH and Damann Anderson
- Fertilizer inputs were adjusted based on the findings of the study
- Used Ellis & Associates field data for the OSTDS inputs and loadings (increased the estimate by 45% & 16% respectively)



Nitrate Loadings

Wekiva Basin

Wekiva Study Area



DOH number of septic systems were used directly in calculating loadings in WSA, and extrapolated for the basin calculations



DEP's Wekiva Fertilizer Report

• Next steps



New Legislation (SB 550): Maintenance and Management Program

5-year inspection of all systems in Florida

Requiring:

- Pump-out tanks
- Repair failing systems
- Minimum water table separation
 Before 1983 = 6-inch, if repaired = 12-inches
 After 1983 = 12-inch, if repaired = 24-inches

FL Wastewater: Results of Inventory

PLEASE NOTE This site is under development and is not available for the general public to view at this time. We are working on making this publicly available.





Continuation of Inventory

- EHD updating
- DOR updating
- DEP data update
- Letters to WWTP
- CHD's to resolve unknowns



319 Project on Performance and Management of Advanced Onsite Systems

Purpose: Assess water quality protection by advanced OSTDS throughout Florida

Progress:

- Monroe County Project
 Draft summary report being drafted
- Database
 - Mostly complete
 - 16,802 identified advanced systems in the state
 - Summary statistics to be developed
 - Description of technology used has been added (unsaturated fixed media, combined media, extended aeration)



Technology	Manufacturer	Product	Aeration_sub	Product	suptype	Approach
Approach			_type	sample	sample	sample
Combined	Bio-Microbics	FAST	Diffuser	35	35	70
	Jet	Jet	Aspirator	35	35	
Extended aeration	Acquired Wastewater Technologies	Alliance	Diffuser	2	35	70
	Ecological Tanks, Inc.	Aqua Aire	Diffuser	2		
	Ecological Tanks, Inc.	Aqua Safe	Diffuser	2		
	Aqua-Klear	Aqua-Klear	Diffuser	4		
	American Wastewater	B.E.S.T. 1	Diffuser	3		
	Acquired Wastewater Technologies	Cajun Aire	Diffuser	3		
	Clearstream	Clearstream	Diffuser	3		
	Delta	DF or UC	Diffuser	3		
	Hoot	Hoot	Diffuser	4		
	Hydro-Action	Hydro-Action	Diffuser	2		
	H.E. McGrew	Mighty Mac	Diffuser	3		
	Consolidated	Nayadic	Diffuser	4		
	Consolidated	Multi-Flo	Aspirator	15	35	
	Consolidated	Enviro-Guard	Aspirator	3		
	Norweco	Singulair	Aspirator	17		
Fixed media	Orenco	AdvanTex		6		70
	Quanics	Aerocell		4		
	Quanics	Biocoir		4		
	Premier Tech	EcoFlo		9		
	EcoPure	EcoPure		8		
	Earthtek	EnviroFilter		14		
	Klargester	Klargester		2		
	Rotodisk	Rotodisk		3		
	Ruck	Ruck		7		
	NoMound	NoMound		8		
	Sandfilter	Sandfilter		5		



319 Project on Performance and Management of Advanced Onsite Systems

Progress cont. :

- Surveys of interest groups
 - Surveys have been finalized and mailed to interest groups
 - Approximately 1,000 of 3,800 surveys sent to users were returned as undeliverable, almost all were resent to owner's mailing address

Sampling

- QAPP is being finalized
- Contract with lab has been executed
- Permit file reviews are ongoing
- Management Practices
 Evaluation tool being developed to evaluate CHD's



Alternative Drainfield Products

Problem statement: Since approximately 2004 alternative drainfield products are installed at rates higher than aggregate. System field longevity and effectiveness of minimum drainfield size are untested. Availability of data is limited.

Proposed scope of work:

- 1. Evaluate existing data (cost will be staff time)
- 2. Create an advisory group with product manufacturers, contractors, and CHD
- 3. Fill in blanks from data evaluation by doing detailed surveys on repairs utilizing contractors and CHD staff





Research Budget

For fiscal year 2009 - 2010:

- Beginning Cash Balance
- Total Revenue (permit fees)
- Current Year Expenses
- Ending Cash (05/31/2010)

\$655,830 \$66,992 \$177,847 \$544,975



B9 Onsite Sewage Research Budget Request

2010 - 2011 Fiscal Year

Salaries	\$ 60,000
Expense	\$ 25,000
Contracted Services	
a) Alternative Drainfield Product	
Assessment	\$ 40,000
b) Inventory Phase II	\$100,000
c) Columbia County River Front	
Survey	\$ 5,000
d) Other	\$ 30,000
Subtotal	\$175,000
Total	\$260,000

Grants and Appropriations	Onsite Sewage Resea Request	arch Budget
2009 - 20	10 Fiscal Year	
319 Advanced Systems		\$221,490.20
a) Travel	\$50,711.08	
b) Expense	\$3,359.59	
c) Contracted Services		
FSU	\$7,375.50	
Niteline Contract Employee	\$27,119.03	
Lab (Sampling)	\$127,925.00	
Public Education	\$5,000.00	
Nitrogen Study		\$2,000,000.00
a) Expense	\$50,000	
b) Contracted Services		
Hazen & Sawyer	\$1,949,000.00	
F.A.C.	\$1,000.00	
Total for all projects		\$2,221,490.20



Election of Chairman and Vice-Chairman

- Recommendation of nominees
- Vote



Other Business

Pollution Prevention Grant Proposal Grease Sludge Waste in Establishments on Onsite Sewage Treatment and Disposal Systems Generating Commercial Strength Sewage Waste

- Objective: Develop and verify best management practices for grease reduction and reuse in facilities generating commercial strength sewage waste
- Grant proposal submitted on April 5, 2010
- EPA should make decision in July



Public Comment


Next Meeting

Upcoming meeting topics:

- RRAC Priorities
- Inventory study phase II discussion
- Alternative drainfield products discussion

Proposed dates for next meeting: •Suggestions?



Closing Comments and Adjournment