



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

**DATE AND TIME:** February 3, 2009 at 10 am

**PLACE:** Florida Onsite Wastewater Association Onsite Wastewater Training Center  
5115 State Road 557  
Lake Alfred, FL 33850-7202  
(407)937-2228

This meeting is open to the public

**AGENDA:** FINAL

1. Introductions and Housekeeping
2. Review Minutes of Meeting 1/5/2009
3. Presentation from Florida Department of Environmental Protection and Mote Marine Lab on the Optical Wastewater Tracers Study
4. Lunch
5. Presentation from the U.S. Geological Survey on the Woodville Karst Plain Septic Tank Study
6. Brief Updates on Ongoing and Future Projects
7. Other Business
8. Public Comment
9. Closing Comments, Next Meeting, and Adjournment

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

Approved Minutes of the Meeting held at the FL Onsite Wastewater Training Center, Lake Alfred, FL

February 3, 2009

Approved by RRAC May 27, 2009

### In attendance:

- **Committee Membership and Alternates:** Sam Averett (alternate, Septic Tank Industry); David Carter (chairman, member, Home Building Industry); Kim Dove (member, DOH-Environmental Health); Anthony Gaudio (member, Septic Tank Industry); Tom Higginbotham (alternate, DOH-Environmental Health); Mike McInarnay (alternate, Septic Tank Industry); Bill Melton (member, Consumer); Eanix Poole (alternate, Consumer); Patti Sanzone (member, Environmental Interest Group); John Schert (member, State University System); Vincent Seibold (alternate, Local Government); and Pam Tucker (member, Real Estate Profession)
  - **Not represented:** Restaurant Industry, Professional Engineer
  - **Visitors:** Chris Anastasiou (Florida Department of Environmental Protection); Damann Anderson (Hazen and Sawyer); Rick Baird (Orange County Environmental Protection Department); Quentin (Bob) Beitel (Markham Woods Association); Camia Buehler (Mote Marine Lab); John Byrd (Orange County Government Mayor & Board of County Commissioners); Ron Davenport (Infiltrator); Maya Dobrzeniecka (Mote Marine Lab); Kelly Dixon (Mote Marine Lab); Josefin Edeback (Hazen and Sawyer); Jack Hannahs (Markham Woods Association); Jerry Henkins (Seminole County Environmental Health); Bruce Higginbotham (FOWA member); John Higgins (Markham Woods Association); Brian Katz (USGS); Steven Meints (Averett Septic); Walter Wood (Lake County Government); and Tresa Woodward (Representative Bryan Nelson's Office)
  - **Department of Health (DOH), Bureau of Onsite Sewage Programs:** Paul Booher; Eberhard Roeder; and Elke Ursin
1. **Introductions:** Eight out of ten groups were present, representing a quorum. Chairman Carter called the meeting to order at 10:05 a.m. Introductions were made and some housekeeping issues were discussed. Some of the changes to the committee were presented by Elke Ursin. Vincent Seibold is the new alternate for Local Government, Kim Dove is the new DOH member, Tom Higginbotham is the new DOH alternate, Patti Sanzone has moved from the alternate position to the member position for the Environmental Interest Group, and all of the Septic Tank Industry representatives (Anthony Gaudio member, Sam Averett and Mike McInarnay alternates) have been reinstated for the next three years.
  2. **Review of Previous Meeting Minutes:** Patti Sanzone made a correction on one of the visitor's names. **Motion by Anthony Gaudio and seconded by Eanix Poole to approve the minutes as amended. All were in favor with none opposed and the motion passed unanimously.**
  3. **Presentation from Florida Department of Environmental Protection and Mote Marine Lab on the Optical Wastewater Tracers Study** - The purpose of the study was to test the feasibility of detecting wastewater inputs to Florida surface waters using optical characteristics such as optical brighteners from laundry detergents as tracers. The draft final report has been submitted and Kelly Dixon with Mote Marine Lab presented on the report.

The conclusions were summarized. One conclusion was that there are widely varying concentrations of optical brighteners in different brands of laundry detergents so when you are looking for effluent from a single septic system multiple potential peaks will need to be looked at. Wastewater treatment plants will have a blend of multiple detergents. Due to soil absorption, expect to see optical brighteners coming from OSTDS only if there is a fairly direct connection. Most of the optical methods investigated have to account for light absorption. Colored dissolved organic matter (CDOM) varies regionally. No unique visible range exists for optical brighteners alone that distinguish them from CDOM, but the UV peak is quantitative with detergent and is present in almost all of the optical models. Field instruments should consider the linearity of any system. Some of the future steps were outlined.

Several questions were asked throughout the presentation. One question asked was where the sewage samples were taken, and the answer was that for wastewater treatment plants they were taken at the discharge point, and for septic systems they were taken from the groundwater directly below the drainfield. Chris Anastasiou indicated that the purpose of getting samples from septic systems was not to characterize the systems, but to see what was making it to the environment and to discover a field method. There was a discussion on whether this study would show loading of OSTDS to a surface water body, and the answer was that this is not a loading tool because of the wide variety of optical brighteners in detergents. Another question was asked whether the optical brightener detected is coming from a wastewater treatment plant or a septic system, and the answer was that from one sample this would be difficult to detect, but it might be possible to tell this if it were an ongoing flow through test where spikes occurred at each house that was passed. The question that the study was set out to answer was whether optical brighteners, which are uniquely human fluorescent compounds, can be used to determine pollution sources in areas where bacteria and/or nutrients are problematic in surface waters. The study collected samples from many different environments with many different confounding factors to develop an instrument to detect the presence of optical brighteners. Another question asked was whether this was an effective method for detecting optical brighteners, and whether the field technique is a good technique, and the answer was yes to both parts. A question was asked whether the results could be replicated without having to go through all of the testing again, and the answer is yes. Damann Anderson stated that this method would be useful for malfunctioning systems, as properly functioning systems would have most of the optical brighteners removed by the soil. Another question asked was that if you show high nitrogen levels but no optical brighteners can you say that septic systems are not the problem and the answer was that you could not say this is the case because properly functioning systems get rid of the optical brighteners but not the nitrogen. It was pointed out that this study was more of how to design a test rather than performing an actual test of water quality.

#### 4. Brief updates on other projects

##### a) Ongoing projects

- **Florida Onsite Sewage Nitrogen Reduction Strategies Study** – The contract with Hazen and Sawyer was executed on January 28, 2009. The progress report to the legislature finalized and submitted. Some of the tasks to be accomplished in February are to have a provider's project kick-off meeting, identify test facility sites, and the Quality Assurance Project Plan for the Passive Nitrogen Reduction Study Phase II will be drafted. An update from David Carter was given on the status of this project with the legislature. He stated that the original \$1,000,000 has been reduced to \$900,000, and that

funding for this coming year will be tough to get, but that it is \$2,000,000 in a \$50,000,000 budget with some high level support. He stated that it will not be easy. A brief summary of the Springs Bill was given by John Byrd. Anthony Gaudio mentioned that if there was no additional funding that would have a significant impact on the current course of work.

- **Town of Suwannee Study** –The draft Quality Assurance Project Plan (QAPP) has been submitted and comments were sent back to the provider. If enterococci are present, microbial source tracking will be included. Once the QAPP has gotten final signatures the field work can commence.
- **Inventory Study** – The first task is to collect and organize the data. A detailed survey to the county health departments has been drafted and should be sent out soon. The purpose of this survey is to find out from the County Health Department's whether there are any existing inventories, any lessons learned, to discover local resources of information, and obtain an estimate of the number of OSTDS in each county. About 1800 letters were sent out to all of the DEP regulated wastewater treatment systems to gather information about properties these systems serve. The response to this letter was overwhelmingly positive. The next task is to compile best management practices on surveys that have been completed to develop a tool that others can use to create an inventory. John Byrd requested that any information on the location of systems in Seminole, Orange, and Lake Counties be sent to help with the Wekiva and Lake Jessup Basin Management Action Plan (BMAP) program. The final report will be completed by June 30, 2009.
- **Manatee Springs, Performance of Onsite Systems Phase II Karst Study** – QAPP for Phase II has been executed. Construction permits for both systems at the park have been issued. A background sampling event has been completed prior to the system modifications. A request for quotes for a septic contract to perform the modifications was sent out and is due Wednesday February 4<sup>th</sup>. Eberhard Roeder described both of the systems that are planned to be studied. One, designed by Dr. Roeder, is to test the hypothesis brought up in the St. George Island study: if wastewater from an ATU is put on two-feet of unsaturated soil the nitrogen will go away. This ATU has been in operation for several years. The other system is a FAST system that involves installing a new tank, and this may require a start-up period. Anthony Gaudio mentioned that if the old drainfield is going to be used the nitrogen in the ground from the old system will need to be accounted for.
- **Monroe County Performance Based Treatment System Performance Assessment** – A presentation to WEFTEC was given on the variability of grab and composite samples in October of 2008. The quality control check of the existing data is ongoing. The Phase III sampling protocol is nearing completion, with the same procedures being used from the Phase II sampling. There are a total of 25 Onsite Wastewater Nutrient Reducing Systems (OWNRS) to be sampled (18 residential and 7 commercial) and 5 interim residential systems will be sampled. A temporary employee was hired to do the sampling, and one recent sampling event has been completed.
- **319 Project on Performance and Management of Advanced Onsite Systems** – Database of advanced systems task is anticipated to be completed by Bureau staff with possible volunteer assistance. Anticipate advertising and hiring a temporary position to help with this project in the very near future. A

Request for Quotes was advertised 12/1/08 with responses due December 16<sup>th</sup> to design and conduct a survey of various user groups regarding advanced onsite systems. Two proposals were received and are currently being evaluated.

- b) Projects coming up – None scheduled at this time. Perhaps another round of prioritization could be done after the legislative session. David Carter asked when the budget needs to be finalized for the research program, and Elke Ursin said that generally a budget is requested prior to the beginning of the fiscal year which starts on July 1<sup>st</sup>. From the list of priorities from 2008, most of the projects have been lumped into the Nitrogen Study with the exception of the Alternative Drainfield Study and the Tank Deformation Study. The Tank Study seems to be more geared to a TRAP issue. There was a discussion on the Alternative Drainfield Study and how that project would be designed. Bill Melton said that as the consumer representative he would want to know which product is the best product for him to use. Sam Averett stated that as an installer he would want to know which is the better product for him to install.

**Bill Melton made a motion, seconded by Pam Tucker, to put the first year of the Alternative Drainfield Product Assessment for the 2009-2010 budget in the amount of \$150,000. All were in favor with none opposed, and the motion passed unanimously.**

5. **Presentation from Brian Katz with USGS on the Woodville Karst Plain Septic Tank Study** – A presentation was made summarizing a cooperative study conducted by USGS, FDEP, and FSU to look at the subsurface removal of nutrients, organic wastewater compounds, microorganisms, and pharmaceutical compounds under drainfields in the Woodville Karst Plain.
6. **Other Business** – None.
7. **Public Comment** - The public was allowed to comment throughout the meeting.
8. **Next Meeting** –The next meeting will be scheduled for sometime in May with a possible teleconference at the end of March if necessary. Some of the upcoming meeting topics are to hear presentations on the Inventory Study, the Suwannee Study, and to have the workshop for the Nitrogen Reduction Strategies Study.

The meeting adjourned at 2:46 p.m.



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

**Tuesday February 3, 2009**

**10 am - 3 pm**



# Agenda:

1. Introductions and Housekeeping
2. Review Minutes 1/5/09 Meeting
3. Presentation on Optical Wastewater Tracers Study
4. Lunch
5. Presentation on Woodville Karst Plain Septic Tank Study
6. Updates on Ongoing and Future Projects
7. Other business
8. Public comment
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# Introductions & Housekeeping

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- Role call
- Identification of audience
- Changes to the RRAC:
  - Local Government Rep. alternate Vincent Seibold
  - New DOH member Kim Dove
  - New DOH alternate Tom Higginbotham
  - Environmental Interest Group member Patti Sanzone
  - FOWA members and alternates remain the same



# Review Minutes of Meeting 1/5/2009

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- See draft minutes



# Optical Wastewater Tracers Study

**Purpose:** Test the feasibility of detecting wastewater inputs to Florida surface waters using optical characteristics such as optical brighteners from laundry detergents as tracers

**Progress:**

- Draft final report has been submitted



# Optical Wastewater Tracers Study

- Presentation on project results by DEP and Mote Marine Lab



# Woodville Karst Plain Septic Tank Study

- Presentation by USGS



# Ongoing projects



# Florida Onsite Sewage Nitrogen Reduction Strategies Study

- Contract executed on January 28, 2009 between DOH and Hazen and Sawyer
- Progress report to legislature finalized and submitted
- Tasks to be accomplished in February:
  - Providers project kick-off meeting
  - Identification of test facility sites
  - Draft QAPP for Passive Nitrogen Reduction Study II



# Town of Suwannee Study

- Comments on draft QAPP submitted to provider and revised report received
- If enterococci is present, microbial source tracking will be included
- Once document has final signatures, field work can commence



# Inventory Study

- First task is to collect and organize the data:
  - Detailed survey to County Health Department (CHD) is getting ready to be sent out
  - Purpose of this survey is to find out from the CHD's whether there are any existing inventories, lessons learned, discover local resources, and obtain an estimate on the number of OSTDS
  - Letter requesting information from DEP regulated facilities has been sent out and the response was overwhelming
- Next task is to compile best management practices on surveys that have been completed to come up with a tool that others can use to conduct an inventory



# Manatee Springs, Performance of Onsite Systems Phase II Karst Study

**Purpose:** Test the difference in water quality after nutrient reducing systems are installed in a Karst area

**Progress:**

- QAPP for Phase II has been executed
- Construction permits for both systems have been issued
- Background sampling event completed
- Request for quotes for septic contractor to perform the modifications has been sent out and is due Wednesday February 4th



# Monroe County PBTS Assessment: Next Phase of Sampling in the Keys

**Purpose:** Evaluate effectiveness of Performance Based Treatment Systems in the Keys

**Progress:**

- WEFTEC presentation on the variability of grab and composite samples (October 2008)
- QC of existing data ongoing
- Phase III Sampling Protocol nearing completion, same procedures will be used from Phase II:
  - 25 OWNRS (18 residential and 7 commercial)
  - 5 interim systems (residential)
- OPS hired to do sampling
- One recent sampling event completed



# 319 Project on Performance and Management of Advanced Onsite Systems

**Purpose:** Assess water quality protection by advanced onsite sewage treatment and disposal systems

**Progress:**

- Database of advanced systems:
  - Anticipated to be completed by Bureau staff with possible volunteer assistance
- Survey of user groups perceptions task:
  - Request for Quotes advertised 12/1/08 with responses due December 16<sup>th</sup>. Two proposals received, currently being evaluated.
- Anticipate advertising and hiring a temporary position to work on this project in the near future



# Upcoming projects



Other Business



# Public Comment



# Next Meeting

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## **Upcoming meeting topics:**

Presentations on Inventory Study, Suwannee Study, and Workshop for Nitrogen Reduction Strategies Study

## Proposed dates for next meeting:

- May 5<sup>th</sup> or May 7<sup>th</sup>?
- May 12<sup>th</sup> or May 14<sup>th</sup>?
- Other suggestions?



# Closing Comments and Adjournment