

Wekiva River, Rock Springs Run, and Little Wekiva Canal Basin Management Action Plan

Onsite Sewage Treatment and Disposal Systems (OSTDS) Remediation Plan Meeting

Summary

Thursday, October 13, 2016

9:30 AM

*Public Works West Altamonte Operations Facility
(Lake Lotus Training Room)
950 Calabria Drive
Altamonte Springs, FL 32714*

Attendees

Advisory Committee Members

Julie Bortles, Orange County
Jay Exum, Friends of Wekiva River
Roxanne Groover, FOWA
Bart Harris, FDOH
Danielle Marshall, City of Altamonte Springs
Nick Mcray, Lake County
Eisabetta Natale, Orange County Utilities
Bob Samson, Homeowners
Jessica Schilling, City of Apopka

Others

Damann Anderson, Hazen and Sawyer
Quinten (Bob) Beitel, Resident
Carter Belvin, ATM
Keith Browning, OUC
Dominique Buhot, Green Environmental Services
Tiffany Busby, Wildwood Consulting
Nancy Christman, SJRWMD
Dennis Davis, Wright-Pierce
Teayann Duclas, FDOT D5
Chris Ferraro, DEP
Scott Franz, CFP Soil Solutions
Xueqing Gao, FDOH
Dave Herbster, DEP

Moira Homann, DEP
Charles Legros, DEP
Carl Ludecke, RRAC
Daniel Millan, City of Eustis
Sharon Nehring, Representative Jennifer Sullivan's Office
Megan Nelson, OCU
Nancy Prine
Anthony Rios, Plastic Tubing Industries
Chris Rowe, Plastic Tubing Industries
Andrea Samson, Resident
John Shearer, SCI
Heather York, Wildwood Consulting

Welcome and Introductions

Tiffany Busby welcomed attendees to the OSTDS advisory committee meeting. She stated that the focus of the meeting will be to look at the nitrogen contributions to the Wekiva River, Rock Springs Run, and Little Wekiva Canal and specifically at the contribution from OSTDS. She thanked the advisory committee for their time. She reminded attendees that the meeting format is

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different than previous meetings because the Florida Department of Environmental Protection (DEP) wants to engage committee members. She stated that attendees could offer public comments at different points during the meeting and asked attendees to be brief. She welcomed feedback from the advisory committee throughout the meeting. She stated that although the advisory committee meetings will focus on septic systems, the other sources will be addressed during other meetings.

Tiffany stated that DEP is using "GovDelivery" for emails and she is aware that there may be some issues. If anyone is not receiving emails, they can contact Tiffany. She stated that the agenda and email have additional links to resources on the public website. Tiffany stated that she is a DEP contractor. Attendees introduced themselves. Tiffany introduced Moira Homann as the basin coordinator and main point of contact.

Moira thanked the advisory committee for their time and participation and provided an overview of the agenda. She thanked the City of Altamonte Springs for the use of the meeting space. She stated that she would provide opportunities for public comment during the meeting and at the end of the meeting. She reminded committee members of the Sunshine Law requirements. She displayed updates to the advisory committee members. Jessica Schilling and Julie Bortles stated that they emailed Moira with the name of an alternate. Moira will ensure that these additional advisory committee members receive the operating procedures for the committee.

Funding

Moira stated that \$50 million was appropriated for springs restoration projects for fiscal year 2016/2017. She stated that each water management district identifies potential projects for funding and DEP evaluates the projects based on a set of standard criteria. She stated that the DEP Division of Water Restoration Assistance link in the presentation is a live link to additional information. She stated that the division can be contacted directly if stakeholders have specific questions. She stated that there is money available and the group needs to focus on what types of projects should be presented to the legislature.

Moira displayed the website for the springs project story map that includes project information and funding information, and noted that she will send the link to the site after the meeting.

St. Johns River Water Management District (SJRWMD) Springs Projects

Moira stated that the different types of projects eligible for funding include the following:

1. Water conservation.
2. Reclaimed water system enhancement.
3. Alternative water supply development.
4. Water quality improvements such as wastewater treatment plant (WWTP) upgrades, septic tank conversions and stormwater treatment.
5. Innovative technologies such as potable reuse, biologically active media in rapid infiltration basins (RIBs).

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Moira stated that SJRWMD also has cost-share opportunities available for agricultural projects, innovative projects, and general springs projects. A live link at the bottom of the slide is available for additional information.

In response to a question during the last meeting, Moira presented information on the City of Longwood Island Lake septic tank connection and removal project. This project is in the Wekiva springshed and will have an impact on Wekiva Springs. Danielle Marshall located the area on the map. Bob Beitel asked for additional cost details. Nancy Christman with the SJRWMD offered to provide more information by the end of the meeting. She stated that the information is public information.

Jay Exum asked if the funding is from the land and water conservation funding. Nancy Christman responded that the funding came from the SJRWMD cost share funds. Jay asked if this funding is separate from the funding for springs projects identified in Amendment One. He also asked if there is a timeframe to spend the \$50 million allocated by the Legislature in 2016 to 2017. He asked if it can accumulate or if the unspent funds are lost. Nancy Christman responded that the cost-share funds are separate from the springs funds. She stated that once the cost-share projects are approved by DEP, then the funds can be spent. Moira offered to verify the information with the DEP Division of Water Restoration Assistance.

Bob Samson asked if the project in Longwood is from traditional septic tanks to conventional sewer. Nancy Christman stated that she was pulling up the proposal received by the SJRWMD and will provide the information by the end of the meeting.

Dominique Buhot stated that load calculations and reductions were not being displayed for the project. He added that sanitary sewer has some exfiltration. Moira stated that DEP and SJRWMD are not trying to hide anything. Nancy Christman stated that Mary Brabham was not able to attend the meeting today. Mary is the project manager and will be glad to answer any questions if contacted. Danielle stated that the folks in the room today do not make the decisions or review these projects.

Julie asked if the \$50 million for springs projects is offered through the total maximum daily load (TMDL) grant. Moira responded that this is separate funding.

Keith Browning asked if Moira could remind everyone of the tasks for the advisory committee. Moira stated that the meeting summaries are posted to the public website and she can send the operating procedures to him. She added that the committee was formed to provide information to DEP and to aid in the development of the restoration plan.

Moira displayed a slide for the Nitrogen Source Inventory Loading Tool (NSILT) story map. The website shows where NSILT has been used to determine nitrogen sources to the springs. Moira stated that the Wekiva NSILT report should be ready for presentation to stakeholders in May or June of 2017. She added that this information will be presented during a future meeting. She stated that feedback is welcome. Dr. Gao asked if the reports identified on the NSILT story map are final. Moira responded that the draft reports are not posted, but the final reports are posted. She stated that the Kings Bay NSILT report would be a good one to review.

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Moira displayed a slide with the priority focus area (PFA) requirements in Florida Law. She stated that Wekiva Springs and Rock Springs were delineated together for the springshed. The PFA will be somewhere within the springshed. The SJRWMD provided the rough draft to DEP and DEP is in the process of reviewing the draft. Moira hopes to present the draft PFA to the group in December 2016. She added that the TMDL must be met in 20 years and the committee will help develop 5-, 10-, and 15-year milestones. She stated that the first five years will focus on the PFA. Julie asked if DEP will share the data used to develop the draft PFA. Moira responded that she will provide the data. Bart Harris asked if comments can be submitted for the draft PFA. Moira said there will be a document and map available for review and feedback. Dr. Gao stated that the Kings Bay PFA follows roads and asked if this PFA also will follow roads. Tiffany stated that the PFA is not required to follow roads but the PFA must use boundaries that can be identified on the ground surface. She added that the DEP also tries to avoid splitting neighborhoods since the boundary is not precise.

Bart asked if the draft will include loads from sources. Moira stated that the draft PFA and report will have the delineation. The loads from sources will come from the NSILT.

Nancy asked if the springshed boundary displayed by Moira is the same one that has been used in the past. Moira responded that it is a little different since Wekiva Springs and Rock Springs were combined. She added that the target area is more specific. Moira stated that they should be similar, since they came from the same supporting information.

OSTDS Remediation Plan Components

Moira reminded attendees that the OSTDS remediation plan components are a public education strategy, projects, and scientific information on OSTDS effects. She stated that the public education component will be discussed today. She displayed the discussion objectives. Tiffany assisted with the discussion. Tiffany stated that septic systems are owned by homeowners who will need to be educated. She added that elected officials will also need to be educated. She stated that every basin is different and asked the committee if there are other audiences that should be addressed. Bob Samson asked if golf courses are included in the basin since they are contributors. Moira stated that golf courses are considered but not as a part of these meetings focused on OSTDS. She added that the Florida Department of Agriculture and Consumer Services (FDACS) is focused on agriculture. Bob Samson stated that the state park also is on septic. Moira added that there are probably businesses on septic tanks as well. Roxanne Groover suggested reaching out to homeowner associations (HOAs).

Danielle asked what the campaign looks like. Tiffany responded that we will need to come up with the messages. Danielle stated that the message might change with the target audience.

Nick Mcray suggested service providers as another audience. Moira responded that builders also could be a target audience. Jay stated that we need to have the facts, data, environmental benefits, process, actual costs, long-term cost, and timeframe of disruption information available for the public education campaign. He added that it would be helpful to have comparable information prepared for similar systems. Bob Samson agreed. He stated that homeowners own the system and need to understand it. He stressed the importance of keeping the message simple.

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Jay stated that there are some golf courses on septic tank systems in the springshed. Roxanne stated that the local Florida Department of Health (FDOH) has a database of septic systems that will help identify these parcels and target audiences. Bart asked if the public education is only in the PFA. Tiffany responded that the public education campaign would start in the PFA but it is okay to expand outside of the PFA.

Bob Samson stated that it will be confusing for the homeowners to understand the difference in passive and active systems. He stated that we need a list of solutions for them and must show that tax dollars are being used effectively.

Danielle stated that she understands the committee does not decide which projects are funded and how money is spent. She asked if we are trying to convey to the public why certain projects are funded. Moira stated that we are in a way. The committee will have a list that is presented for funding. Danielle asked if we must convey the information if it is not a project prioritized by the committee. Tiffany stated that this is a good point and the OSTDS plan needs to contain an education component. She stated that local governments, The FDOH, DEP and the water management districts all have a part in educating the public. Danielle stated that it would be good if all of the agencies have the same message. Tiffany agreed. She added that the Tampa Bay Estuary Program is coming to talk about their message to the Springs Coast BMAP areas. She stated that the water management district conducted a survey and provided feedback as well on public perceptions of springs issues. She stated that it is good to have local input because the concerns may be different. She stated that at this time there is not a single agency or entity that has all of the audience and educational pieces needed.

Julie stated that it would be good to have evidence to support the environmental benefits. Bob Samson stated that there is also a transient population of snowbirds and students to consider. Moira suggested real estate offices as a target audience. Bob Samson reiterated that the message should be simple, consistent, and easy to understand.

Jay stated that there may be a misconception for septic tank owners that there is zero cost. However, there is a long term cost to own and maintain the systems. Danielle agreed. Bob Samson suggested developing an outline of what a good maintenance program entails and stated that each county is supposed to have this information available. Roxanne stated that this is not a mandatory requirement and that none of the counties have developed a maintenance plan. Roxanne stated that conventional systems even when installed properly were never designed to reduce nitrogen. She stated that this needs to be clear in the public education campaign.

Bob Samson stated that there is a study going on in the springshed now that should have results soon.

Roxanne stated that she has 30-second and 60-second public service announcements available regarding maintenance. She would be happy to provide these to the group for use.

Jay stated that many HOAs have newsletters that could be used for education. Moira added that municipalities may also be able to send information with their utility bills. Danielle stated that

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the information in the utility bills would only be received by septic tank owners if the homeowner has public water.

Dominique stated that public education could be distributed during local festivals. Danielle suggested real estate agents passing out information to new homeowners. Jessica stated builders could also pass along the information to new homeowners.

Tiffany stated that DEP can come back during a future meeting with some of these thoughts and priorities. She added that she can be contacted if other ideas come to mind.

Bob Samson asked if there is a group at the state level addressing stream banks. He stated that cypress trees can be used to reduce nitrogen. He stated that this could be part of an education campaign and restore trees that were cut years ago. Moira stated that some counties and water management districts do restoration of shorelines. Danielle added that the Florida Yards and Neighborhoods program also does similar activities.

Andrea Samson stated that a concern during the performance based treatment system (PBTS) mandate was that they compromised the value of the homes and were expensive. She added that real estate agents were hesitant to show homes in the area. She stated that homeowners don't want to do anything that will compromise the value of their home or quality of their life.

Moira stated that the committee will discuss OSTDS projects during the next meeting. Tiffany added that the committee also will discuss constraints on sewerage or septic tank remediation as well as science needs.

Moira introduced Dr. Xueqing Gao with FDOH.

Advanced OSTDS in Florida

Dr. Gao thanked Dr. Eberhard Roeder and Elke Ursin for the use of some of the slides in the presentation. He stated that he will be presenting many technologies and summarized them in a handout. He stated that conventional septic systems reduce nitrogen by 30 %. Lined drainfields and existing advanced technologies reduce nitrogen by 50 to 70 %, and nitrogen reducing systems can reduce nitrogen by up to 93 %. Dr. Gao gave an overview of nitrogen removal. He stated that in conventional OSTDS there are two components including the septic tank and drainfield. He stated that those that are installed properly have 24 inches below the bottom of the drainfield and top of the water table.

Dr. Gao stated that aerobic treatment units (ATU) add an aeration tank when there is not 24 inches of soil available. These have achieved National Sanitation Foundation (NSF)40 certification. They achieve about 50 % nitrogen reduction. He then displayed a schematic of a NSF245 Certified ATU, which recycles effluent from the aeration tank back to the septic tank. He stated that the NSF245 units meet NSF40 certification plus they reduce nitrogen by 50 %. He suggested this might be a good option in some areas.

Bob Samson stated that once a pump is added, the system is no longer passive. Dr. Gao stated that by definition the passive system allows one pump, which sometimes is needed to overcome

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gravity. Bob Samson reiterated that the term "passive" is misleading to homeowners, if there is a pump.

Dr. Gao displayed a schematic for additional nitrogen removal processes using PBTS. These are specifically designed to remove nitrogen and are approved for use in Florida. In addition, passive nitrogen reduction systems are being tested in Florida. Dr. Gao stated that these systems reduce nitrogen using reactive media for denitrification and use a single pump, if necessary. There are in tank passive systems and in ground passive systems. These systems do not have an aeration tank. He stated that these systems can remove over 90 % of the nitrogen.

Carl Ludecke asked how long the media lasts. Dr. Gao stated that there are not enough data at this time, but it could be as long as 100 years. Dr. Gao stated that FDOH is continuing to collect data. Damann Anderson stated that the media can last anywhere from 30 to 100 years. He stated that there are other studies on the media.

Bob Samson asked if there is an estimate of the footprint for the technologies. Damann stated that it depends on the size of the home. He added that more flow equals a larger system. He stated that the hope is to get the liner system the same size as a conventional system. Roxanne stated that the in-tank systems can also be built as load-bearing systems, which could be located under driveways or structures. Bob Samson responded that the problem is that homes with a small footprint typically indicates a lower income homeowner. He stated that these systems are expensive. Dr. Gao stated that as more systems are installed they will be less expensive. Dr. Gao stated that life cycle costs are being calculated by Damann, which will assist with making decisions.

Dr. Gao stated that there are three permitting categories including the following:

1. ATU
2. PBTS
3. Innovative systems which are a subcategory of PBTS.

Bob Samson asked where monitoring is being conducted to account for the 30 %, 70 %, and 90 % reductions and if the soils are taken into consideration. Dr. Gao stated that the monitoring is done at the effluent point of the septic tank or at the end of the ATU. He stated that soils are considered depending on the system.

Dr. Gao displayed the definition of ATU which is a sewage treatment unit that introduces air into sewage to provide biochemical stabilization within a treatment receptacle. He stated that those with NSF40 and NSF245 certification are probably the ones local governments want to look into.

Dr. Gao displayed the definition of PBTS as specialized OSTDS that achieve a specific and measurable established performance standard for multiple parameters. These must be designed by a professional engineer. A special category of PBTS is the innovative systems. Dr. Gao stated that these are being tested and must undergo monitoring. He stated that there are currently about 10 systems being tested.

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Dr. Gao distributed a handout of available technologies. He stated that there are currently about 2.7 million OSTDS installed in Florida and 90 % of those are traditional systems. Dr. Gao and Elke at FDOH are available for additional information and questions.

Alternative Technologies for OSTDS

Roxanne with Florida Onsite Wastewater Association (FOWA) stated that there are lots of technology available. She included live links in her presentation, so attendees to look at the data. She stated that the existing traditional septic tanks are doing the job they were designed to do. These systems reduce biological oxygen demand and total suspended solids and protect public health. She added that these systems were not designed to reduce nitrogen.

Roxanne stated that there are many proprietary systems available now but the desire is to have non-proprietary systems. She stated that she and Eb Roeder (FDOH) sit on the committee for NSF245 reviews. She stated that the committee is made up of industry, consumers, and regulators. Systems that have NSF40 certification are accepted in Florida. The NSF245 certified systems also are accepted and have an additional level of treatment.

The NSF certification requires installation of the system, testing for six months, data analysis, and issuance of a report. Roxanne stated that NSF is particular about the parameters tested for the influent and effluent. Standards must be met to receive the certification. Roxanne encouraged attendees to look at the data and the six month averages.

Roxanne stated that another verification exists and is referred to as environmental technology verification (ETV). She displayed a table comparing the NSF certification with the ETV. The testing standards for ETV are more relaxed than the stringent testing standards for NSF certification. She also displayed a list of approved units. Some of the units are allowed to be used as PBTS now and several others are going through innovative testing at this time.

Roxanne stated that there are different types of ATUs including suspended and fixed film/submerged media ATUs. Recirculation can be added to the suspended systems to increase nitrogen reduction. She stated that the fixed film/submerged media ATUs may be a good option when use is really high or really low. Roxanne also mentioned the jet system which is a standard ATU with submerged media. This system achieves nitrogen and phosphorus removal and is currently in innovative testing. She added that this system also has a small footprint.

Roxanne stated that the media units may use natural or artificial media. She stated that there are lots of data for these units and many proprietary units available now. She also stated that Bio-Microbics has some approved systems and one has a reuse option that meets NSF350 certification.

Roxanne displayed the Hoot Basic Nitrogen Reduction (BNR) system which is already in use in the Florida Keys, and the Hoot 450 Advanced Nitrogen Reduction (ANR) system with really low energy costs.

Bob Samson asked how a person could determine the amount of owner interaction required for each system. Roxanne stated that he could go to the individual websites of each vendor. She

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stated that the NSF40 certification requires operations and maintenance manuals. She added that FOWA is doing homeowner training. She stressed the importance of having knowledgeable people trained for maintenance of the various systems.

Bob Samson asked for Roxanne's definition of active and passive systems. Roxanne stated that passive usually refers to passive recirculation. She stated that Ecoflo has a gravity system without pumps. She stated that the issue we are going to have is how to treat the effluent to the treatment standard required to reduce nitrate. She added that these are low cost because there is very little energy required for the pump. Bob Samson stated that the systems with pumps are complex. Roxanne responded that she has not stated that none of these require a pump. She stated that everyone is responsible for reducing nitrate to the springs.

Nancy Christman provided an update for the Longwood project. She stated that the total project cost was \$4 million including design and construction. There are cost-share dollars for construction. The city is responsible for \$1.7 million. DEP is providing \$864,580 and SJRWMD is providing the remainder of the funds. She stated that the cost-share program solicits projects from the public and that the cost per nutrient removal is a consideration. She stated that all projects are ranked in relation to the others submitted. She added that the proposal does not contain all of the details but more details will be provided as the project moves forward.

Tiffany offered an opportunity for public comment and announcements.

Next Meeting Date

The next meeting has been proposed for either December 13th, 14th, or 15th, 2016.

Adjourn

The meeting adjourned at 12:07 pm.

Action Items

- Moira will send the committee operating procedures to alternates identified by Julie Bortles and Jessica Schilling.
- Moira will provide clarification for the springs funding with the Division of Water Restoration Assistance.
- Moira will send the link to the springs project story map.
- Moira will share the data used to develop the draft PFA when available.
- Moira will post all presentations to the public website, including Roxanne's longer presentation.
- Roxanne will send the 30 second and 60 second public service announcements to Moira.
- Moira will post the public service announcements on the public website.