

RESEARCH REVIEW AND ADVISORY COMMITTEE

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0065(4)(a), FLORIDA STATUTES

Final Minutes of the Meeting held at the Southwood Office Complex, 4025 Bald Cypress Way, Room 130L, Tallahassee, Florida
December 12, 2017

In attendance:

Research Review and Advisory Committee (RRAC) Members and Alternates:

In person:

- Bill Melton (Vice-Chair, member, Consumer)
- Craig Diamond (member, Environmental Interest Group)
- Eberhard Roeder (member, Department of Health)
- Elke Ursin (alternate member, Department of Health)

Via teleconference:

- Carl Ludecke (Chair, member, Home Building Industry)
- Roxanne Groover (member, Septic Tank Industry)
- John Schert (member, State University System)
- Eric Rollings (member, Real Estate Profession)
- Clay Tappan (alternate, Professional Engineer)
- Chris Pettit (alternate, Local government)
- Bob Himschoot (alternate, Home Building Industry)
- Daniel Meeroff (alternate, State University System)
- Robert Washam (alternate, Consumer)
- Thomas Baker (alternate, Real Estate Profession)

Absent members and alternates:

- Geoff Luebke (member, Restaurant Industry)
- Mark Tumeo (member, Professional Engineer)
- Mark Repasky (alternate, Restaurant Industry)
- Matt Surrency (alternate, Local Government)

Department of Health (DOH), Onsite Sewage Program Section:

In person:

- Ed Barranco, Xueqing Gao, Dale Holcomb, Debby Tipton, Alan Willet, Onsite Sewage Program

Other attendees:

Via teleconference:

- Mary Paulic (DEP)
- Quentin Beitel (Home Owner)
- Scott Hersey (City of Ocala)
- Eanix Poole (Consumer)
- Terry Lowery (Jones Edmunds)

In person:

- Tim Banker (DEP)
- Emily Forinash (DEP)

- 1. Introductions** – Nine out of ten groups were present, representing a quorum. The meeting started at 1:00 pm. The agenda was presented, introductions were made, and some housekeeping issues were discussed. **Xueqing Gao** briefly summarized the discussions during the RRAC session on October 20, 2017 and indicated that the focus of this meeting was to rank the proposed research projects. In addition, staff from the Florida Department of Environmental Protection (DEP) Clean Water State Revolving Fund (CWSRF) Program and Nonpoint Sources Program were invited to introduce to RRAC possible funding sources for septic systems. Ms. Terri Lowery from Jones Edmunds Associates, contracted by the Florida Water Environment Association Utility Council, was

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invited to introduce the guidance of septic-to-sewer conversion. Xueqing Gao also announced that Ms. Elke Ursin, previously an environmental manager with the Onsite Sewage Program, was appointed by the Secretary of the Florida Department of Health (DOH) as an alternate RRAC member representing DOH.

2. **Review of previous meeting minutes** – Chair Carl Ludecke called to review the RRAC meeting minutes of the October 20, 2017 meeting.

Motion by Mr. Craig Diamond and seconded by Mr. Bill Melton for the RRAC to approve the minutes of the October 20, 2017 meeting with no changes. All were in favor, none opposed, and the motion passed unanimously.

3. **Old Business and Research Program News** – Xueqing Gao went over the action items from the last meeting.

Action Item 1 - Propose research projects. By November 17, 2017, the Onsite Sewage Program staff received totally nine proposed research projects. Two projects were similar and, therefore, were combined. The eight proposed projects were sent to all RRAC members on December 1, 2017 for review. A ranking sheet and ranking instructions were also sent to all RRAC member on the same day.

Action Item 2 – DOH to clarify budget needs of the Onsite Sewage Program. The Onsite Sewage Program prepared a legislative budget request (LBR) for increased workload that could result from the implementation of the onsite sewage treatment and disposal system (OSTDS) remediation plans being developed by DEP. The LBR was based on number of OSTDSs in the priority focus areas (PFAs) of nutrient-impaired Outstanding Florida Springs (OFSs) that might be impacted by the remediation plans and requested about \$1.4 million extra fund for staff augment. The requested fund will support 19 new full-time employee (FTE) positions in county health departments in spring PFAs and one FTE at the Onsite Sewage Program main office. By December 12, the budget request had been put on the Governor's budget list for fiscal year 2018-2019.

Action Item 3 – DOH to finalize the date and time for the next RRAC meeting. The RRAC meeting date was set at December 12, 2017.

Action Item 4 – DOH to post meeting materials used for the October 20, 2017 meeting onto Department's RRAC web page. All meeting materials for the RRAC meeting on October 20, 2017 were posted at <http://www.floridahealth.gov/environmental-health/onsite-sewage/research/rrac.html>.

Action Item 5 – DOH to invite Mr. Tim Banks (DEP) to provide a presentation on CWSRF. Mr. Tim Banks was invited to provide an introduction on the Florida CWSRF program and possible funding mechanism to OSTDS remediation. In addition, Ms. Emily Forinash from the DEP Nonpoint Sources program was invited to the RRAC meeting to provide an introduction on the 319 Grant and TMDL grant.

Xueqing Gao also summarize the Program News:

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- (1) **Dr. Eb Roeder** was reappointed by the DOH Secretary as the primary RRAC member representing DOH. **Ms. Elke Ursin** was appointed as DOH's alternate member to serve on the RRAC. Both members will serve the RRAC through January 31, 2021.
- (2) The Onsite Sewage Program staff received applications from **Mr. Craig Diamond** (Environmental Interest Group) and **Mr. Geoff Luebke** (Florida Restaurant and Lodging Association) to renew their memberships. Their applications were being processed by the DOH management.
- (3) DEP published draft basin management action plan (BMAP) reports for three OFS basins, including the Kings Bay-Crystal River basin, Volusia Blue Spring basin and Suwannee River Spring basin. DEP planned to brief the DEP Secretary about these BMAPs before the end of 2017. It was possible that the DEP Secretary might sign one or all of these BMAP reports. DOH was working with DEP to revise the interagency agreement to help implement the OSTDS remediation plans. In addition, DOH had been having discussions with DEP regarding possible funding sources for the OSTDS remediation. DOH was also in the process of preparing education materials to inform homeowners about the remediation plans.

Ed Barranco pointed out that DOH had been in conversation with DEP, requesting delaying the adoption of these BMAP-remediation plans. It was very critical that proper funding mechanisms be established and education be provided to regional home owners before these BMAPs and remediation plans were put into effect.

Bill Melton asked whether there was an agreement from DEP that they need to provide funding for the implementation of the remediation plan. The implementation will not work without funding. Individual home owners would not be OK with paying for these expensive systems.

Ed Barranco indicated that DEP understood the need for funding. The statute also speaks to the need of the funding. The funding mechanism for septic-to-sewer conversion is very well laid out. Utilities will work with their counties and follow the guidance of getting funding from DEP. The major concern was for those onsite systems that were not included in any major projects. It is very important for DEP to slow down the BMAP adoption process long enough, keep conversation with and educate impacted counties about the importance of aggregating these systems that are not in any septic-to-sewer conversions world into projects that DEP can recognize. It is very important that a mechanism be established that fits into DEP's funding process so that the spring protection fund can be disbursed to the local level and individual homeowners. It is also important that individual homeowners are informed about what is coming. Draft BMAP reports include some plans for education. But the education should be ahead of the BMAP adoption. Internally, DOH is creating an information campaign that our communication office is putting together for us. The Onsite program is still in the process of finding out the best approach to deliver the information to homeowners. The information would certainly be passed on to DOH county health departments. Hopefully, county health departments would work with their counterparts at the county level and bring the information to homeowners.

Bob Himschoot stated that what all being told so far was the obstacles and the reason why funding onsite systems could not be done. Bob felt that the focus should be on how to get the funding and get the funding to the League of Cities, county commissioners, and county planning

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agencies through the engineer community instead of just talking about the obstacles. A presentation on how to get the funding instead of the obstacles would be very useful. The counties had been saying this since 1980s when there were no sustainable funding and only grants were available for sewing everything up. The reason why the State Revolving Fund was established was because it is sustainable. A funding mechanism similar to the water utility and sewer district for sewer systems could be set up for onsite systems too. A critical factor is how to collect the loan repayment. This is something that counties and cities can do just like what they have been doing with the water and sewer bonds so that they can get bonding to finish the project. It is true that counties and cities are very used to using this mechanism for sewer projects. But this is a tool in the toolbox for the onsite systems too.

Clay Tappan agreed with what Bob said that if septic systems want to stay autonomous, somehow they need to establish the districts and collect user fees to generate a revenue for replacing and remediating septic systems. That was also a topic when EPA tried to bring septic systems into the utility world, whether it is a separate utility or part of the existing water/sewer utility, to generate money. Different areas with different density may charge different rates. People must realize that there is no free ride forever. Some kinds of monthly or quarterly fees should be charged to cover the septic systems.

Ed Barranco reminded everybody that, while it is very important to figure out a long-term funding mechanism for septic systems remediation, spring protection is a separate matter and has more urgency for a proper funding mechanism.

Dan Meeroff asked what is the order of magnitude of the user assessment.

Eb Roeder answered that it depends on what you want to buy for it. This topic was brought up during Wakulla BMAP meetings several times regarding what a feasible amount might be. A rough estimation was \$20 per month.

Scott Hersey (Utility of City of Ocala) said we needed to start the funding mechanism somewhere. This is virally important not only for the spring protection but everywhere. We had to overcome the obstacles. That is part of why we are in this industry. The City of Ocala had been doing great things on sewer systems now and other cities and counties were catching up. The city gives monthly update on what the city utility does. Anybody had any question and suggestions regarding city projects could contact Scott.

Quentin Beitel asked for the number of onsite systems in City of Ocala.

Scott Hersey said that he could find the exact number of onsite systems in City of Ocala and provide to Quentin. With the funding currently available to the city, the city plans to take out 850 to 1000 onsite systems.

- 4. Research Project Ranking** – Xueqing Gao provided a general introduction on the project received and suggested that the authors of these propose projects briefly discuss the significance of the

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proposed projects. He first invited Bob to talk about the significance of the project of developing funding mechanism for OSTDS remediation and upgrades.

(1) Development of Funding Mechanisms for OSTDS Remediation and Upgrades.

Bob Himschoot indicated that the people served by the decentralized wastewater infrastructure had not be served by the tax dollars they paid. A funding mechanism needs to be established to address this issue. It makes no sense that the county commissioner says to the people that we will not charge you \$500 for the mandatory septic tank maintenance once every five years but turns around and tell people that we will assess you up to \$20,000 over 20 years to put in a central sewer and you will pay \$50 - \$100 per month forever for the wastewater treatment. Assuming we can get adequate treatment on either side of the treatment infrastructures, the tax payers using the decentralized infrastructure, which serves about 30% of the State of Florida, have not get the benefit of their dollar. The Florida Department of Health has been delegated the responsibility to oversees the OSTDS program by the DEP. Yet DEP controls the funding. It should be up to the Department of Health to develop a mechanism to make it easy for communities to apply for funding from the State Revolving Fund. Bob mentioned that he had been involved with the CWSRF. The National Onsite Wastewater Recycling Association had taken the establishment of funding mechanism as one major project. The project had obtained recognition from EPA. EPA also indicated that the federal capitalizes the state revolving fund for each state. Each state has mechanisms to distribute the fund. EPA does not discourage the use of the fund for decentralized systems. However, nobody from the public sector has applied for the State Revolving Fund for decentralized system. Just recently, the private sector might have some opportunities to apply for those funds. But the application is complicated and private entities had to be big players to access those funds. While the basin management action plans talk about remediation of existing onsite systems vs. the septic-to-sewer hook-up, there needs to be more resource available for the onsite system remediation rather than asking everybody to hook up to a sewer. The funding mechanism does not need to be over complicated. We need to establish districts, establish a repayment collection methodology, and put somebody in charge of it to collect the fund to help pay for the construction. Bob mentioned that they discussed about this topic a couple of months ago during a national association meeting when a group of onsite industry people went to Hill over Delaware. These people had a chance to talk to Congressmen Brendan Rooney, Darren Soto, and Brian Mast about this topic. It is very important to establish the funding mechanism through the Department of Health with the blessing of DEP. RRAC as a group should work with the legislature to put the funding mechanism into a statute.

Xueqing Gao thanked Bob's insight and also mentioned that Tim Banks once mentioned that the state revolving fund could be used to fund the decentralized system. However, because of the existing low market interest rate, the low interest rate state revolving fund as a loan had not been very attractive. In addition, Florida legislature designated \$1 billion over the next 20 years for spring protection, a mechanism to disburse that fund to individual homeowners should also be established. Therefore, the Onsite Sewage Program staff made a slight revision on the state revolving fund project proposed by Bob and include the grant funding into this research topic. The Onsite Program believes that the mechanisms of using either loan or grant to assist the remediation of onsite systems share many similarities. Including grant funding mechanism into the state revolving fund investigation project provides information to both funding approaches.

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Bob Himschoot stated that it would be great to take the grant money as the seed money to help develop the state revolving fund administrative capability. This can be the extra money that local counties do not have to take out of their own pockets.

Xueqing Gao invited Ms. Elke Ursin to give some brief summaries on the three projects that she proposed, including the "Continuation of Florida Water Management Inventory", the "Community Outreach and Education for OSTDS", and the "Update DEP Nitrogen Source Inventory Loading Tool (NSILT) for OSTDS".

(2) Continuation of Florida Water Management Inventory (FLWMI).

Elke Ursin: The Florida Water Management Inventory is a GIS database that shows for every built property whether it is on septic or sewer and where its water supply comes from. It is a data source that has so many applications that it started from the onsite sewage program and had expanded into many different areas. Yet the project still lacks of a permanent funding source. One funding source that the project likes to continue to apply for is the 319 grant. But the grant needs a match fund, and the project's request is to have a small amount of matching fund coming from B9. With the funding, the application can be updated so that it will not become a one-time snap shot. Currently, there is no career service personnel for the project. There are only OPS and temporary staff working on the project. That appears to be the most affordable way of doing the project. The request for B9 funding will not start until next fiscal year. The budget for this fiscal year has been covered. The fund will be used to update the data gap that the application still has and incorporate new information as septic-to-sewer projects are carried out.

Bill Melton asked how well counties participated in this project.

Elke Ursin said the project had a very good participation. Most large utilities are very responsive, especially those utilities that have GIS capability. Some difficulties were encountered when collecting data from larger private utilities. But small private utilities had a very good participation rate. Some small cities do not have the GIS capability and have to rely on the external billing service to form the data. Data collection from these entities were relatively slow.

(3) Community Outreach and Education for OSTDS.

Elke Ursin: This project piggybacks on the requirements from the BMAP OSTDS remediation plan for education. In order to properly education individual homeowners, it is probably more efficient to go beyond the current outreach method used by the department and hire a professional advertisement agency to do public education on spring protection. This project may potentially coordinate with some grant funding and using the onsite sewage fee as the potential match.

(4) Update DEP Nitrogen Source Inventory Loading Tool (NSILT) for OSTDS

Elke Ursin: Andy Canion from the St. Johns River Water Management District had developed a method of using the STUMOD and ArcNLET model simulates to link with the Florida Water

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Management Inventory data to simulate the OSTDS hot spot. The current NSILT only uses generic values to simulate the OSTDS nitrogen loading and can benefit from the modeling results to make the loading simulation more site specific. It is not sure at this point whether this project will be out sourced or conducted by the onsite program staff collaborating with Andy Canion or with DEP.

Bob Himschoot praised Elke for this effort.

Dan Meeroff asked whether Elke had thought about having a university GIS course do this as an annual class project.

Elke Ursin: If what Dr. Meeroff referred to was the Florida Water Management Inventory project, the project had already set up a model builder tool to automate many of the data processing procedures. The project also planned to convert the model builder tool to a Python program, which would make the data processing more efficient. Carrying out the project as a university annual class project is not a bad idea. But doing this project in house has been proved to be a better approach for quality control and also helps the onsite sewage program staff better understand how the GIS and database processes were used to achieve a certain data goal.

Chris Pettit asked whether the meeting was just running through the projects or whether RRAC members could asking questions. Chris felt that there are some significant overlapping among projects. Chris also had several questions with several projects. He decided to talk about those questions during the project ranking session.

Xueqing Gao asked Dr. Eb Roeder, who would be the next author to introduce the projects that he proposed, since the combined project document was sent to the committee more than a week before the meeting, whether it would be more efficient if we just asked the committee member to ask questions and provide suggestions instead of going through these research topics one by one.

Eb Roeder suggested that if we want to get the discussion done within the next 20 minutes or so, it would be more efficient to let committee members ask questions now.

Elke Ursin suggested that the meeting can let Dr. Roeder and Mr. Melton briefly introduce the projects that they proposed and then open for questions.

(5) Correlation between Water Quality, OSTDS, and Health Effects.

Eb Roeder: The correlation between water quality, OSTDS, and health effects was an augment to an old project that was ranked before. A student started working on it and Dr. Meeroff provided quite some comments and Dr. Roeder summarized some of the backgrounds. For now, the Florida Water Management Inventory covers both water supply and wastewater disposal data. It is a very good dataset to tie in with disease, especially water borne diseases data that could be obtained from DOH epidemiologist, and see if any patterns can be identified from the analyses.

(6) Estimation of failure or non-conformance rates of OSTDS.

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Eb Roeder: There were several aspects related to the “estimation of failure or non-conformance rates of OSTDS” project. One is the terminology. For example, the “leaking septic tanks” is a figure shows up fairly frequently in newspaper, but it is poorly defined. There is a range of failing septic systems that can go from anything where there is no septic system there, but just a straight pipe to something that is barely out of the code because the code is just changed recently. It is important to categorize these failures more clearly and then examine how many failures fell into each category. The major dataset would be the annual number of repair permits, which is generally about one to two percent of the total number of existing systems. The inverse calculation of this percentage gives the life expectancy of septic systems from 50 to 100 years. It would also be useful to include some field assessment information into consideration. Some of the septic-to-sewer conversion projects would look at a lot of onsite systems and could get some sense on how bad they were, and how they could be put into various failure categories.

Bill Milton indicated that, back before computers, he was involved in a study showing that the general life span of septic systems were about 15 years and the failure rate was about five to six percent.

Eb Roeder indicated that there was one study like that. The concern was that the study looked at the average age of failure. For systems that are up to 30 years old, age beyond 30 years could not be quantified. The average age of systems that are not older than 30 years would have to be younger than 30 years. Each individual measurement would have to be younger than 30 years. For systems that haven't failed yet, it is impossible to quantify when they will fail. So, the five to six percent would be considered a lower estimate than the actual average failure rate is. When looking at the Wekiva study, the average failure was striking that Orange County, with older houses, had higher failure age than the Seminole and Lake Counties with younger houses. This might have been happened when older houses failure was considered. The average failure age shift up if holder house failures were included in the analyses.

Quentin Beitel asked whether the study would distinguish tank failures vs drainfield failures.

Eb Roeder consider it as a very good question and indicated that what is failed should be included as part of the study.

Tom Baker asked whether the failure generally happened with tanks or with drainfields.

Eb Roeder answered that he did not have data to show that but the general feeling was the failure was more related to drainfield. It would be nice to have a summary on this aspect too.

(7) Validation and Calibration of Transport Models of Nitrogen from OSTDS.

Eb Roeder indicated that the “validation and calibration of transport model of nitrogen from OSTDS” could be a step before the NSILT refinement project proposed by Elke. There are several tools developed both as part of the Florida Onsite Sewage Nitrogen Reduction Strategies

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(FOSNRS) study, which was sponsored by DOH, and the DEP-sponsored ArcNLET modeling study. In both cases, there were very limited calibration and validation done. So, while these models provide results, how well the results match with the actual observation was less well established. It would be very useful to see how well they match up with each individual study, and also from the process one could learn how to scale up from each individual plume to subdivisions and landscapes, which would be the idea of NSILT.

Xueqing Gao asked whether Dr. Meeroff would have anything to add to the “Correlation between Water Quality, OSTDS, and Health Effects” project.

Dan Meeroff indicated that they had some university committees that help manage the confidential data related to this project. Previously, the study looked at some diseases that were not very well diagnosed in the communities. The data associated with those cases would not have very good statistical strength. Other parameters that are more telling could be examined.

Quentin Beitel asked how the study can distinguish between the water and sewage from sewage treatment break down, pipe breaking, and hurricanes.

Dan Meeroff indicated that there was an existing database that was used for the previous work. The first thing to do is to look at the database to see if these different things can be distinguished. The study could run some statistical analyses to separate those things, to examine data in different seasons, to look at disease data before the hurricane seasons. There is no money going into creating a new database. The project had to rely on the existing database.

Bob Himschoot asked Dr. Meeroff that, on his 1999 study, whether he sampled the wells or the water in the home and used that as the surrogate as the water entering the well.

Dan Meeroff answered that the 1999 study was not done by him. For work that he did in the Taylor County, water samples were not collected in the home, but from the groundwater very close to the homes that on septic systems and a similar community that was just sewered a year before. The Taylor County work was done in 2005 and 2006.

Eb Roeder mentioned that the 1999 work was done in Brevard County. The samples were collected from wells. He can send the study around if anybody was interested.

Clay Tappan suggested that the classification of various failures discussed in the “Estimation of failure or non-conformance rates of OSTDS” project is also a meaningful aspect to consider for funding prioritization. It would be useful to include the classification into the consideration of the funding mechanism project. There are some scoring processes out there for prioritizing the funding opportunity for septic-to-sewer conversion projects. The processes can also be considered by the septic remediation.

(8) Continued Monitoring on Passive Nitrogen-Reducing Onsite Systems

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Xueqing Gao introduced the passive nitrogen-reducing onsite systems identified and installed during the period of the FOSNRS study. Because of the limited amount time available to sample those systems, the long-term performance aspect of those system was not evaluated during the study. The major goal of the continued monitoring project was to collect information to examine the long-term performance of these systems on their nitrogen removal efficiency as well as the maintenance needs and energy consumption. Sample collection will be focused on various nitrogen species to examine the nitrogen dynamics through various components of these systems. At the same time, the dynamics of other critical pollutants, including biochemical oxygen demand (BOD), total suspended solid (TSS), total phosphorus (TP) and orthophosphate, fecal coliform, and E. coli concentrations will also be monitored to examine the long-term performance of these systems in removing other important pollutants in domestic water. The Onsite Sewage Program staff was in the process of applying for 319 grant support to this project. The total cost of the project was expected to be \$120,000 for a period of two years. The 319 Grant will cover about 60% of the cost and 40% of the cost would be covered with the DOH money as match.

Chris Pettit pointed out that it is very important to consider how we wanted to spend our always limited funding sources. Some of the proposed projects, such as community outreach, have been conducted by many different entities. We might not want to spend a lot of money to reinvent the wheel, while at the same time, some of the questions regarding models could be scientifically meaningful and can impact the business of other entities. These should be the projects that we wanted to spend our limited resource on. In addition, the quality control and quality assurance process should be included in these projects.

Eb Roeder suggested that, once the projects prioritization is done, the scope of high priority project can be expanded to include the quality assurance and quality control plan. When the 319 Grant fund was used for the project, the quality control plan will be reviewed by external funding agency while RRAC also reviews these projects.

Eric Rollings suggested that several projects are directly related to one another, meaning if one project is approved, but the other one is not, the project that moved forward will not be as effective. For example, the funding mechanism project, the outreach project, and the correlation between water quality, appeared to be very close to each other. If there are not enough funding for all the three projects, or these projects are not well piggybacked on one another, it would not be as effective.

Eb Roeder: There is an element that it would be great to do all of them at the same time, but the idea of prioritization is that, with limited resources, one might have to just focus on one project and see if the other ones can be picked up later, or maybe we would not loss too much by just focusing on one project.

Clay Tappan indicated that he put the continued monitoring and the inventory projects as the high priority projects. He suggested that we should keep the momentum of those projects. But he also

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suggested maybe at some point these projects should become operational protocol instead of research projects. He also questioned whether the education and public outreach should be our research because Florida Onsite Wastewater Association (FOWA), real state, or home builders do have better mechanism for public relations and media outlets and could do better job on outreach.

Xueqing Gao told RRAC members that we had received four votes on the project prioritization. For those members who hadn't submitted their votes, but were ready to do so, votes can be submitted to Xueqing during the meeting through email.

5. Florida Water Environment Association (FWEA) Utility Council's Presentation on Sewer Connection Guidance.

Ms Terri Lowery, the vice president from Jones Edmunds, which was contracted by the FWEA Utility Council gave the presentation. Her presentation introduced:

- (1) Background on the need of creating a sewer connection guidance.
- (2) Challenges facing the sewer projects.
- (3) General cost of sewer projects and possible funding sources.
- (4) Need of homeowner education to develop the acceptance and sustained political will.
- (5) The outline of the sewer connection guidance.
- (6) The education outreach done by the consultant and findings from communication with local communities.
- (7) Results from several case studies (Broward County, City of Vero Beach, City of Cape Coral, and JEA)

Ms. Terri Lowery's presentation is available at <http://www.floridahealth.gov/environmental-health/onsite-sewage/research/documents/rrac/fdoh-rrac-dec2017-presentation.pdf>.

Bob Himschoot commented that he saw Drew Bartlett's presentation to the Senate Committee of Environmental Preservation, talking about Florida Spring and Aquifer Protection. In many instances, wastewater treatment plants use rapid infiltration basins to dispose the treated wastewater, and many sewage treatment plants have not reach the AWT standard. That is basically not different from a septic system. Most of these systems are secondary treatment aeration-based that has nothing to do with reducing phosphorus and nitrogen. A nitrogen standard is required for these wastewater facilities to discharge to rapid infiltration basins and water reuse. Bob's question was that, in the State of Florida, many of the 2000 wastewater treatment plants still discharge to surface waters. There are 100 or so wastewater treatment plants in the Indian River Lagoon basin discharges 80 to 100 mgd treated wastewater into the lagoon. There are only 2 or 3 of those plants that he could identify as AWT facilities for their treatment systems. While the septic-to-sewer conversion is nice in language and as easy as a concept, and relative expansive as mentioned in Terri's presentation, we are sitting here trying to figure out existing system remediation, those facilities, instead, is exacerbating the disposal problem by dumping it into the surface water. Bob believes that the focus should be treating the wastewater where it is created.

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Terri Lowery agreed with Bob that we should continue to increase AWT where we are and certainly in those sensitive areas. Citrus County is moving to AWT. Hernando County is currently looking at upgrade one of their plants to AWT. Facilities in areas of several spring basins are looking at improving treatment level of nitrogen.

6. Introduction to the Clean Water Act State Revolving Fund (CWSRF).

Tim Banks: the program administrator for the DEP CWSRF program gave the presentation. His presentation introduces:

- (1) What is CWSRF? A low interest rate loan.
- (2) What are the major sources of fund for CWSRF? 80% federal capital money, 20% match from each state, and loan repayment each year. Tim mentioned that the Florida CWSRF got about \$45 million from federal as capital fund. The state matches the federal cap fund with about \$8 to \$10 million. Loan repayment is about \$120 million. Including the balance from the previous year, the available fund each year is generally \$250 – 260 million.
- (3) CWSRF eligible sponsors: generally local government. The non-governmental parties eligible for the loan are limited to those related to stormwater control and agricultural operation.
- (4) Eligible projects include wastewater, reuse, stormwater, nonpoint source pollution control, and estuary facilities.
- (5) Non-traditional projects: onsite system repair and enhancement and decentralized systems are theoretically eligible projects, but the Florida CWSRF program does not have adequate staff to review credit of each individual applicant and issue the loan. The program prefers that the local government will aggregate individual systems into larger projects and apply for the loan through the local governmental entities.
- (6) Possible funding mechanism for onsite system: Linked deposit system and local government partnership. Because of the low interest rate of current market, linked deposit system is not feasible. The CWSRF program prefers that the local government will be the loan management entity for local projects.
- (7) Loan application processes and required application documents.
- (8) Cost effectiveness, design alternative analyses, environmental benefit/effects, financial feasibility, project schedule, public participation, readiness to proceed for construction, are very important aspects for successful loan application.
- (9) Loan terms, financing rate calculation, and affordability index.
- (10) Several financing rate reduction mechanisms.

Mr. Banks' presentation is now posted at http://www.floridahealth.gov/environmental-health/onsite-sewage/research/RRAC%20meeting%20presentation_Tim.pdf.

Eb Roeder asked whether hybrid wastewater treatment systems will be regulated as centralized system described in Chapter 403, F. S. or regulated as DOH systems.

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Tim Banks answered that it depends on the size of the system. It can go either way. The CWSRF program had issues with some small advanced systems. If these systems are not maintained, they can be worse than the regular septic tanks. That is why the program has issues funding these systems on their own. It would be more attractive as a project if local government can ensure that they can be maintained properly, especially if some case studies can be used to demonstrate the long-term worth of these projects.

Ed Barranco asked how the CWSRF program deal with individual farmers. How were they getting the funds for their BMPs?

Tim Banks said the program issue funding directly to farmers. The effectiveness of the funding varied. The program had one default in 30 years and it was from a farmer. It was an agriculture BMP for cattle and it went bankrupt. The program also funded another agricultural project, which was a nursery. That one was award winning. These two projects were oppositely extremes. Part of the problem is doing the credit worthiness. The program is quite proficient in doing the credit worthiness analyses on public entities, not quite proficient as banks can do it with private entities. Again, the staff of the program is very small and very limited.

Bill Milton asked, when Tim talked about the decentralized system, whether he meant a utility set up by a local community, which charges each home a sewer fee.

Tim Banks said yes. Sometimes the sewer fee could be lower than the standard.

Ed Barranco asked what the utility would do with the loan, draw down the loan to repair or upgrade each individual septic system?

Tim Banks answered that, for decentralized systems, the local built the infrastructure. If it is individual septic tank, you would have to upgrade to advanced systems and maintain them. Buying needed equipment could be rolled into the loan too.

Ed Barranco indicated that if the existing built areas needed to be tackled with, a challenge would be to get each individual homeowner to agree.

Tim Banks: If it is a built-out area, likely it will be a central collection system. The program can be the bad guys there to say that you will have mandatory connections because it is dictated by the loan. The project will not be feasible without enforced connection.

Bill Milton went back to the individual systems and wanted to confirm with Tim that, essentially, in order to get funding, some sort of tax industry needs to be created.

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Tim Banks said that is typically done in the other states and hasn't been done in Florida at all. Tim mentioned that Alabama and Tennessee have a lot of decentralized systems. They have a lot of management entities there to do onsite systems. Florida hasn't been very receptive to that.

Xueqing Gao asked whether the CWSRF program directly issue loans to farmers.

Tim Banks said yes for those to agriculture cases. But after what happened to the cattle BMP, the program would now want additional help with underwriting. The program probably will go through a bank to issue the loan, which may make the loan less cost-effective. It may be even better to go through a bank with a linked-deposit system. Of course, if the interest rate goes up, the program may still choose to use the linked-deposit approach to issue the loan.

Ed Barranco asked what is the incentive for someone to create a level four maintenance entity to take on CWSRF.

Tim Banks said the Program prefers to work with local government. However, the local governments, by far, prefer sewer projects than onsite systems.

Chair of the Soil Water Conservation District of the Orange County mentioned that they had successful experience going to the U.S. Department of Agriculture Nature Resource Conservation Service (NRCS) with issues related to fund farmers.

Tim Banks mentioned that Minnesota uses local water conservation service district to funnel the money to homeowners. If any local like to use this mechanism in Florida, the Florida CWSRF can work with them.

7. Introduction to nonpoint source funding opportunities

Emily Forinash from the DEP Nonpoint Source Program gave the presentation. Her presentation covered both the federal 319 Grant and the state total maximum daily load (TMDL) grant:

- (1) The federal 319 Grant
 - a. Florida gets about \$5-6 million from United States Environmental Protection Agency on the annual basis. Florida received \$6.3 million in 2017.
 - b. Funding Cycle: usually takes about two years from application to obtaining the money. Plan ahead!! Readiness for construction is an important criteria for project selection.
 - c. 319 Grant Timeframe: fund is award annually. Project during is typically 3 years.
 - d. Eligible projects include construction of stormwater projects, administration, BMP development, education, septic tank pollution prevention. In 2017-2018 fiscal year, DEP set aside \$1 million specifically as the education fund. The same amount will be dedicated to education in the 2018-2019 fiscal year.
 - e. Eligible applicants: private entity not included.

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- f. Evaluation criteria: Emphases include project effectiveness monitoring, cost-effectiveness, use of innovative BMPs, and project-related public education.
 - g. Funding eligibility: Design, engineering, land acquisition, activities required by federal permits are NOT eligible for the 319 Grant.
 - h. Match eligibility: Minimum 40% of non-federal match is required. Match cannot be alternative federal funding and land acquisition cost.
- (2) TMDL Grant
- a. Florida has about \$5 million TMDL grant on the annual basis. Local governments and state water management districts are eligible applicants. Eligible projects are urban stormwater BMPs.
 - b. TMDL grant project selection criteria: readiness for construction, monitoring for effectiveness, project during no more than 3 years.
 - c. Funding eligibility: Construction, monitoring, and project related education are fundable. Design, engineering, and land acquisition are not.
 - d. Match: must be equal or greater than the grant amount.
- (3) Ms. Emily Forinash also mentioned a new DEP funding program – the Spring Legislative Process Program currently led by Sandra Waters. She mentioned that the program recently funded a decentralized system project located in the Volusia County, which planned to enhance about 200 onsite systems. There were some questions regarding whether this is the project that involves the OnSyte Performance System, who will be the owner of the system, and who will regulate the system. DEP would check and find out the details.

Mr. Forinash's presentation is posted at http://www.floridahealth.gov/environmental-health/onsite-sewage/research/floridasection319_tmdl-grantprograms-final.pdf.

Dan Meeroff asked whether there were any guidance where the OSTDS to sewer hookup is needed.

Xueqing Gao: Not know any specific guidance exists. People in several spring basins have been analyzing the GIS, groundwater recharge, basin vulnerability, and OSTDS density to determine where onsite systems should be sewer or enhanced.

Tim Banks: If the question was about the loan process, the program can review the loan credit.

Eb Roeder: One factor to consider is that if local wants to repay the loan, people using the sewer should pay the service.

Elke Ursin asked whether the state revolving fund can be used as match.

Tim Banks: It can. However, one part of the state revolving fund is federal money. One cannot use it to match 319 grant. If it is state money, there is no limit.

Emily Forinash: The TMDL money requires 25% match from local. The other portion has no limit.

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Tim Banks: We can talk about this. Because it is a loan, it will eventually be paid back. But of course, the payback is also local money.

8. Project ranking: The Onsite Sewage Program staff received project scores from the following primary members before or during the meeting:

Dr. Eb Roeder (Department of Health)
Ms. Roxanne Groover (Septic Tank Industry)
Mr. Carl Ludecke (Home Building Industry)
Mr. Craig Diamond (Environmental Interest Group)
Mr. Bill Melton (Consumer)
Dr. John Schert (State University System)
Mr. Eric Rolling (Real Estate Profession)

Scores were received from an alternate member before the meeting:

Mr. Clay Tappan (Professional Engineer)

Scores were received from an alternate member after the meeting:

Mr. Chris Pettit (Local Government)

Scores from the Restaurant and Lodging Industry were not received.

The final ranking of the top five research projects:

- (1) Continuation of Florida Water Management Inventory
- (2) Continued Monitoring on Passive Nitrogen-reducing Onsite Systems
- (3) Development of Funding Mechanism for OSTDS Remediation and Upgrades
- (4) Correlations between water quality, OSTDS, and Health Effects
- (5) Estimation of Failure or Non-conformance Rates of OSTDS

Motioned by Bill Belton and seconded by Roxanne Groover to accept the ranking. All were in favor, none opposed, and the motion passed unanimously.

9. Closing Comments, Next Meeting, and Adjournment

Bob Himschoot had the feeling after listening to Mr. Tim Banks' presentation that the DEP CWSRF program would support, but not encourage the septic remediation. He felt that his feeling was confirmed by Mr. Drew Bartlett's talking at a FWEA Utility Council meeting, as cited by Ms. Terri Lowery that DEP would sewer the State of Florida, instead of remediating the septic systems. Bob felt that the septic industry and DEP were working against each other instead of working with

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each other. Bob suggested that DOH and RRAC should have a meeting with DEP to talk about this issue.

Roxanne Groover agreed with Bob's comments. While she felt that RRAC got a lot of things done and especially ranked those research projects, she also felt that we were at the beginning of the end as we were told generally being pushed out of the way.

Xueqing Gao felt that DEP actually contacted local governments and tried to find out potential takers of the CWSRF, but there were no takers. It might be useful for us to conduct some investigations to identify the reason why there was no takers and what are the major issues that prevent the locals from taking the loan fund.

Ed Barranco felt that the major issue that prevent locals to take the loan fund for onsite system remediation is the complex processes of getting and managing the fund. If we want the local to draw the loan fund for septic system remediation, we need to find the takers and find the takers who like to invest in a funding structures. Ed felt that we needed to start finding who we need to talk to in order to get even fund application started. While locals are very familiar of getting and managing the fund for sewer infrastructure, the entity that manages the fund for onsite system remediation is not in existence except for one or two pilot studies.

Roxanne Groover stated that the biggest challenge was that we were OK with what they told us to be the truth. She felt that the challenge for us to lead the charge is to change that thought process. RRAC as a group needs to find somebody who will go along with what it does, and talk them into using septic systems instead of always big pipes, and suggesting and moving that boundary of thought of how you do permitting and how you do things. If we don't lead that charge, nobody will. Roxanne felt that we are so OK with how this is written. This is written this way because it is design to do the central sewer. If you take that discussion off the block, just like they do with the agriculture industry. One success, one not, one good thing, one bad thing. You don't want to do it because there is one bad thing. That is 50/50. She didn't feel it is fair to go totally negative with that. She felt that we as a group should challenge that methodology of thinking that because it is always done this way that it has to always continue to be done this way. The stake is changed. The options have changed. The reason why existing septic system is doing these things that everybody was blaming it for is not because we don't have the technology available. It is because nobody has asked us to have the technology available. We have to change that whole discussion from septic is bad to onsite system are a permeant part of the wastewater infrastructure, and as we realize that, how do we made sure there is a funding mechanism. There are a plenty of people out there who will tell you that they don't want to hook up with the central sewer. I hope we as a group can challenge this thought process because the thought process was put in place to aid the septic to sewer conversion.

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Xueqing Gao asked Roxanne that he remembered Roxanne mentioned in one of the BMAP meetings that FOWA has been working with some local communities to develop some fund management entities. Xueqing asked whether Roxanne can provide a little more details on that.

Roxanne Groover indicated that this is one of the new funding campaigns that FOWA put together. FOWA is hiring a consultant to look how we as an industry can move forward into the concept of utility management. How do we work with the community leaders but no to have the community take the lead but actually let the onsite industry take the lead. This is still at a preliminary stage. FOWA just filed the paperwork with the consultant. That is where we as the industry move forward. We are not just accepting the boundary of the existing thinking. We need to find a way to change the thought process so that we can be part of the infrastructure. And depending on what our need is, we put the right system in the right place.

Ed Barranco indicated that today we heard about the state revolving fund and the 319 grant. But there is also the spring protection fund. Leon and Wakulla Counties obtained the \$1.5 million spring protection fund to conduct a pilot project to enhance 60 to 70 onsite systems. But this is a pilot project and it has not been done yet. Once the BMAP starts, there might be some adjustment. But mechanism of disbursing the spring protection fund to homeowners are different from those of the state revolving fund and 319 grant. We should be working on both fronts.

Bob Himschoot suggested that through the DOH with the guidance from the RRAC, we need to several things. Number one we need to have a good healthy understand of DEP so that we will not knock head with them. The second thing is to develop that protocol and structure where one of these maintenance entities can be established whether it is done by private entities or done by public entities, in particular, county and municipalities of some sort where they can make this application that we heard Tim Banks' requirements. Most private entities will not meet some of the requirements without some significant help from the Department of Health. So, we need to move forward rapidly and develop a relationship with DEP to be on the same footing rather than on unequal footing and be oppose on one another in community meeting and city council meeting. Secondly, develop an infrastructure inside the Department of Health to help pay those state revolving fund to make it easier for counties to make application.

Motion by Dr. Eb Roeder and seconded by Ms. Roxanne Groover, for the RRAC to adjourn at 4:14 p.m. All were in favor, none opposed, and the motion passed unanimously.