

Lewes Board of Public Works
Contingency Committee Meeting Minutes
August 29, 2023
11:00am

Committee Members

- Barbara Curtis, BPW Assistant Treasurer, chair
- Tim Ritzert, City Council Ex-Officio
- Mark Prouty, Committee Member
- Donna Colton, Committee Member- Virtual
- Sumner Crosby-Virtual
- Austin Calaman, BPW General manager- Absent
- Earl Webb, BPW Board Director- Absent
- Daphne Fuentevilla, Committee Member-Absent
- Bob Heffernan, Committee Member, Absent

Others Present

- Sharon Sexton, BPW Executive Assistant

The meeting was called to order at 11:02pm.

Key Takeaways

- The meeting addressed Aqua-Nereda technology and its potential benefits. The outcome was to continue reviewing and discussing it in future meetings, addressing concerns and evaluating feasibility.
- The main topics discussed were the Aerobic Granular Sludge treatment process and Sequencing Batch Reactor (SBR)treatment process, technical difficulties with the current technology, and discharging to wetlands.
- The open questions revolved around working with existing wetlands, advantages, and disadvantages of different treatment systems, and handling different water situations.

Discussions

- Discussed benefits of Aqua-Nereda process, Membrane Bioreactor (MBR), and Biological Nutrient Removal (BNR) systems in wastewater treatment.
- Discussed Aqua Aerobic Sequencing Batch Reactor (SBR) system as a reliable and cost-effective solution for nutrient removal and energy efficiency.
- Discussed Aqua-Nereda system for its small footprint and ability to remove nutrients without chemicals.
- Reviewed slides related to Aqua-Nereda technology.
- Reviewed comparison of technology chart.
- Discussed benefits of a different location and efficient operational costs.

- Discussed limitations of current MBR system.
- Mr. Prouty acknowledges the need for effluent filtration in the SBR systems. The Berlin plant uses disc filters that are easy to operate. The SBR filters produce good water.
- SBR systems would not need an equalization tank at the headworks, but a smaller equalization tank would be needed after secondary treatment.
- SBR could be built in the existing BPW site.
- Discussed technical data and permit limits from GHD study for vendor selection.
- Suggested providing materials to Aqua-Nereda before their presentation.
- Suggested: Include questions about the number of operators required and certification requirements for the plant.
- Training and resiliency were good additions to the list.

Challenges

- The low elevation of the drying beds is a significant vulnerability of the current plant.
- Cost implications of retrofitting the existing plant versus finding a new site were discussed.
- Faced issues with the plant's floodplain that could be solved by relocating or elevating the facility.
- Expressed interest in the idea of a program that can run efficiently with lower operational costs.
- Challenges of finding people to man the plant.
- Discussed the need for additional information regarding technology, water quality, and managing sudden influx of rain (freshwater) into the impacts on the treatment system. Mr. Prouty stated that the influx of freshwater is not a biological or chemical issue, but more of a hydraulic problem.
- The classic SBR process has higher operating expenses compared to the Aqua-Nereda process.
- The addition of chemicals to the sludge production results in an added cost for the SBR process.
- Let's think about it in a different way.
- There is a significant level of concern about disrupting the existing biological activity in a functioning Marsh or Wetland when using it as the receiving end of a treated effluent process.
- Concerned about the potential impact of non-saline treated effluent on tidal wetlands' biological balance.
- The challenge of working the volume of treated water through the well heads if below-grade injection is considered.
- Frustrated with poor audio quality on Zoom causing miscommunication.
- The county must have a solution for taking the water through the Marsh.
- The lack of subject matter experts within our team is hindering our ability to address certain areas of concern.

- Relying on experts to work with existing wetlands can be challenging based on recent readings.
- Working with existing wetlands can be challenging when dumping quantities of water into them.
- Finding land for spray irrigation in constructed wetlands is challenging due to the requirement of a large area for construction.
- Concerned about the trade-off of growing their own AGS versus importing AGS from another Nereda plant, the need for more data on sludge management and its impact on space requirements and energy use, and the uncertainty over the system's performance during storms and potential effects of saltwater intrusion.
- Growing one's own AGS would be less expensive, but problematic if starting with a new plan, as it may be necessary to meet permit limits from the start. If retrofitting the existing plant, may be feasible to run both systems simultaneously.
- The claim about how the Aqua-Nereda system works during storms is an important component that needs further clarification.
- The challenge with the BPW plant is finding qualified operators due to the design of our plant. It's hard to find people who are certified to work on our plant.

Action Items

- Mark Prouty
 - Arrange a visit to a treatment plant in Berlin, Maryland, after Labor Day for insights into the system's operation.
- Austin Calaman
 - Follow-up contact with the Riveria Aqua-Nereda site in Alabama.
- Sumner Crosby
 - Gather information about salinity levels in wetlands near the canal.
 - Contact University of Delaware for wetlands information and assistance

Decision

- Agreed that inviting representatives of technology-selling plants would be useful.
- Agreed to invite County's presence to committee meetings, especially to vendor presentations.
- Decided to continue the presentation by Mr. Crosby about storm resiliency and long-term saline situations.
- Agreed the need for accurate data and mathematics in making informed decisions.
- Determined need for further exploration and analysis before making board recommendations.

Goals

- Aims to compare water quality and cost of the proposed technology with their current system.
- Understand salinity levels in wetlands near the canal.

- Understand the challenges of working with existing wetlands.
- Define design needs and include desirable average daily flow.
- Address permit limits and discharge quality data.
- Intends to ask vendors about the advantages and disadvantages of MBR and SBR systems.

Technologies

- The BPW currently uses the MBR system.

Follow-up Meeting

Next contingency committee meeting will be held on September 14, 2023, at 2:30 pm.

Adjournment

Mr. Crosby motioned to adjourn the meeting. Mr. Prouty seconded the motion, which passed unanimously. Meeting was adjourned at 12:40pm and can be viewed at https://www.youtube.com/watch?v=DnC8_9H3w-c&t=8s.

Respectfully Submitted
Sharon Sexton
Executive Assistant