Lewes Board of Public Works
Contingency Committee Meeting Minutes
December 1, 2023
3:00pm

Committee Members

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

Others Present

- Sharon Sexton, BPW Executive Assistant

The meeting was called to order at 3:00pm.

Key Takeaways

- The purpose of the meeting was to continue discussions on Aqua Nereda AGS technology, review of current plant costs, layout options and possible locations for wastewater treatment facility.
- The main issues discussed included uncertainty about tank sizes, sludge handling, and power usage, and concerns about the cost and logistics of rebuilding the treatment plant.
- Open questions arose about power requirements, sludge digestion, tank sizes, and sludge handling at a new site.
- Next steps include gathering more information, scheduling future meetings, and requesting clarification from the vendor.

Current Workflow

- Aqua Nereda responded to questions sent by the committee and a SBR preliminary design.
- Discussed reusing existing equipment and evaluating alternative approaches to save costs.
- Discussed costs and strategy of sludge handling at treatment plant.
- Discussed the advantages of the Sequential Batch Reactor (SBR) treatment system that requires less manpower and has similar electricity costs to other systems. Mr. Prouty expressed familiarity and expertise with SBR, having designed multiple systems in the past.

- Explored solutions such as building a dike and upgrading the roadbed for improved access during high water.
- Highlighted the interconnection agreement with Sussex County in wastewater treatment process.
- Proposed alternative plant location and highlighted maintenance cost-effectiveness.
- Reviewed Whitefish, Montana project, SBR plant.
- Compared current BPW wastewater treatment plant, SBR plant, and AGS plant. Refer to spreadsheet.

Goals

- Aimed to reduce operational costs through technology.
- Focusing on adhering to wastewater treatment ordinances.
- Discussed exploring technology options that would benefit all parties.
- Aspires to improve technology to address contaminants like PFAS.
- Aims to ensure effective handling of the PFAS requirement.

Team Size for Alternative Technologies

- Discussed allocating manpower and potentially hiring personnel for handling the treatment system.
- Debated the necessity of relying on an external party for planning and expressed dissatisfaction with this arrangement.

Challenges

- The current design flow of 1,500,000 gallons per day.
- Sludge handling will need to be addressed at the new site.
- There is a dramatic difference in power use per day between the SBR technology and the Aqua Nereda Technology.
- Potential difficulties adhering to ordinances if wastewater treatment demand increases.
- Lack of specific electrical use data for different parts of current system.
- Voiced frustration with relying on external parties for plan development.
- Expressed the need for an alternative site due to concerns about access during high water.
- Ms. Colton does not believe that it was reasonable to spend money on increasing capacity at a vulnerable location due to the potential for a storm event.
- Expressed concerns about starting a new treatment system and potential setbacks.
- Emphasized the need to conduct a relevant analysis to identify problems.
- The GHD report doesn't make sense because it ends at 2050, but BPW is discussing debt service that could potentially go until 2058.

Decision

- Agreed on exploring solar panel installation to reduce electricity costs.

- The committee will contact Whitefish plant to discuss the level of efficiency.

Feature Request

- Illustrate Idaho Springs Wastewater Treatment Plant gate study and potential treatment agencies.
- The advantages of the AGS system include its smaller footprint and lower lifecycle cost due to reduced energy usage.

Follow-up Meeting

- The next meeting is scheduled for Friday, December 13, 2023, at one o'clock.

Respectfully submitted,
Sharon Sexton
Executive Assistant

	CURRENT	SBR	AGS (NEREDA)
DESIGN INFLUENT CONDITIONS	AVE 1.5 MGD	AVE 2.1 MGD	AVE 2.1 MGD
HEADWORKS SCREENING	5 mm & 2 mm	6 mm/ 1/4"	6 mm/ 1/4"
EQ BASIN OR INFLUENT BUFFER SIZE	526,000 GAL		29' x 92' x 17' (?); 285,310 GAL
AVE POWER /DAY			225 kWhr
BASIN COST		?	?
SECONDARY TREATMENT TECHNOLOGY	OXIDATION DITCHES	SEQUENCING BATCH REACTORS	AGS (NEREDA)
EQUIPMENT COST		$1,833,630	$2,822,460
TREATMENT TANK/BASIN SIZE, # & GEOMETRY		2 @ 80' x 96' x 24'; RECTANGULAR	2 @ 59' x45.5' x 24'; RECTANGULAR
BASIN COST	?	?	?
TREATMENT TANK/BASIN GALLONS	2 anoxic zones @ 67,300 + 2 aerobic @ 146,000 = 426,000 (408,000 per GHD report)	1,206,000	420,000
HYDRAULIC RETENTION TIME	0.34 DAYS	1.09 DAYS	0.40 DAYS
POWER USE/DAY		2621.9 kWhr	689 kWhr @ 80%
POST-EQ TANK		33' x 74' X ? 191,746 GAL	80' x 20' x 24'(?) 227,980 GAL
POWER USE/DAY		341.8 kWhr	225.5 kWhr
SLUDGE BUFFER			11' x 20' x 24'(?) 25,106 GAL
POWER USE/DAY			16 kWhr
AEROBIC DIGESTER	ANOXIC TANK 20,000 GAL 1ST & STAGE TANKS @ 125,000 GAL	62' x 74' x 24' 720,683 GAL	
POWER USE/DAY		1,538.74 kWhr	
TERTIARY TREAMENT	MBR	2 AQUA-DISK FILTERS@ 4 DISKS/FILTER	2 AQUA-DISK FILTERS@ 4 DISKS/FILTER
TANK/BASIN GALLONS	4 @ 23,000 = 92,000		
POWER USE/DAY		20.7 kWhr	20.7 kWhr
EQUIPMENT COST		$482,740	$482,740
DISINFECTION	UV: CAPACITY 3 MGD	UV	UV
POWER USE			
CHEMICALS USE	$967/ DAY	?	
TOTAL POWER USE/DAY	6538 kWhr	4523 ++	1176 ++

WHITEFISH PREDESIGN SBR TOTAL POWER USE/DAY (not AquaNereda)		**6,903 kWhr**	
MAIN LIFT PUMPS		2,685	
PRETREATMENT (SCREEN, WASH, COMPACT, VENTILATION)		80	
GRIT REMOVAL		116 kWhr	
SBR		2,649	
SOLIDS HANDLING		859	
UV DISINFECTION		120	
OTHER (CHEM FEED, HVAC, ETC)		358	