

# LAKELAND SANITARY DISTRICT NO. 1

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## NOTICE OF MEETING - AMENDED

**TITLE OF GROUP MEETING:** LAKELAND SANITARY DISTRICT NO. 1

**PLACE:** LAKELAND SANITARY DISTRICT NO. 1 OFFICE  
8780 MORGAN RD.  
MINOCQUA, WI 54548

**DATE:** SEPTEMBER 27, 2022

**PURPOSE:** REGULAR MEETING

**TIME:** 4:00 P.M.

### **AGENDA:**

1. CALL MEETING TO ORDER.
2. APPROVAL OF 9-27-22 AGENDA
3. APPROVAL OF 8-30-22 MEETING MINUTES
4. PAT MORROW – MSA – REVIEW OF FACILITY UPGRADE PLAN
5. REVIEW OF OPTIONS FOR FUTURE EMPLOYEE RETIREMENT SICK TIME PAYOUT
6. APPROVE SEPTEMBER CREDIT CARD STATEMENT & PAYMENTS
7. SIGN CHECKS/PAY BILLS
8. INFORMATION/CORRESPONDENCE

**TIME OF POSTING:** SEPTEMBER 23, 2022

**NAME AND TITLE OF PERSON DIRECTING THAT THIS NOTICE BE POSTED:** TOM WIPPERFURTH  
PRESIDENT

Upon reasonable notice, efforts will be made to accommodate the needs of the disabled individuals through appropriate aids and service. Contact the Lakeland Sanitary District @ 715-356-4454.

NOTICE OF MEETING.doc

LAKELAND SANITARY DISTRICT NO. 1

Regular Meeting

September 27, 2022

Present: R. LaPlante, T. Wipperfurth, M. Killian

Absent: J. Benson

Others: W. Peters, Pat Morrow – MSA Engineering, Brian Jopek – Lakeland Times

The meeting was called to order by President T. Wipperfurth on September 27, 2022 at 4:00 P.M. All public notices have been posted to meet with the open meeting law and the building is accessible for the handicapped.

**Approval of Agenda 9-27-22:** R. LaPlante made a motion to approve 8-30-22 agenda. M. Killian seconded the motion. All in favor, motion carried.

**Approval of Minutes 8-30-22 Meeting:** M. Killian made a motion to approve the minutes for the 8-30-22 meeting; R. LaPlante seconded the motion. All in favor, motion carried.

**Agenda Item #4: Pat Morrow – MSA – Review of facility upgrade plan:** Pat Morrow presented the board with a handout on the MSA facility upgrade recommendations for the Lakeland Sanitary District's wastewater plant. P. Morrow went over the handout and updated the board in depth about MSA's evaluations. Handout is attached. He stated that the initial cost estimate was \$23-25 million for a total upgrade of the entire plant. Due to the significant cost of the proposed upgrades, some upgrades were identified as future in-kind replacements utilizing WWTF Equipment Replacement Fund dollars, while recommended upgrades for this project are prioritized. He stated the main focus for upgrades is the sludge processing/ ATAD systems as well as electrical, instrumentation and controls. He also stated that upgrading the primary clarifiers to operate as anaerobic selector tanks for Enhanced Biological Phosphorus Removal would reduce chemical usage and related costs. He went into depth explaining the items that were originally included in the recommended improvements however due to overall costs they have been removed from the project.

The District is eligible for funding through WDNR's Clean Water Fund Program and up to 20% principal forgiveness on a subsidized interest rate loan. As part of the extensive infrastructure funding provided by the Bipartisan Infrastructure Law, CWFP funding has increased to \$2,000,000.00. P. Morrow told the board that Lakeland Sanitary District's sewer rates are a quarter less than other districts of the same size and is recommending the District to increase the sewer rates to help offset the costs of the upgrades. Currently the District charges on average \$25 per month for residential users and he is proposing the District increase this rate to \$50-\$60 per month. T. Wipperfurth questioned if the \$50 is in addition to the \$25 or \$50 total? P. Morrow said it would be \$50-\$60 total. W. Peters stated that he really is not in favor of such a high sewer rate increase to the District's customers for the plant upgrades. Essentially the upgrades are needed due to the increase of septage coming to the plant from haulers and property owners that are not served by the District. It would be unfair for all the District's customers having to pay more for their service due to this. The WDNR has decreased the amount the haulers can dump on fields and haulers have been coming to the plant more and more. The plant was not originally designed to accept and process outside septage and W. Peters stated that he has reduced the amount of septage the plant will accept in order to keep the plant running properly and to the WDNR standards. W. Peters believes that if the

plant would stop accepting all outside septage that only minimal upgrades would be needed and that a huge sewer rate increase would not be needed. T. Wipperfurth stated that the District may need to increase the rate for septic haulers again. Since the additional septage is in fact the main reason the upgrades are needed. He suggested that the District could charge more for septage coming from outside the District's taxpayers boundaries. W. Peters asked about the Phosphorus removal upgrade. It was discussed that the District would save approximately \$700,000 per year by doing this upgrade due to not having to purchase and use the chemicals used now for phosphorus removal. M. Killian asked what the next step is. P. Morrow stated the next step is for the board to make a decision with what items and processes in the plant the District should upgrade or replace. In summary, MSA is recommending a new ATAD system along with the electrical, instrumentation and controls that go with. The board thanked P. Morrow for his thorough presentation. T. Wipperfurth stated that upgrades are needed regardless due to the age of the equipment but that the board needs time to go over all the options and costs.

**Agenda Item #5: Review of options for future employee retirement sick time payout:** M. Killian made a motion to table this agenda item for a future board meeting. R. LaPlante seconded the motion. All in favor, motion carried.

**Agenda Item #6: Approval of September Credit Card Statements & Payments:** There was a brief discussion about charges. M. Killian made a motion to approve the September credit card statements and payments. R. LaPlante seconded the motion. All in favor, motion carried.

**Agenda Item #9: Sign checks/ pay bills**

**Agenda Item #10: Informational/Correspondence:** M. Killian asked about work Howard Brothers were doing in Woodruff. W. Peters stated that they were installing a new sewer lateral and water service for Holiday Café. There being no further business, the meeting was adjourned at 5:15 P.M., on a motion by M. Killian, seconded by T. Wipperfurth.

Clerk: *Rick A. LaPlante*

**Lakeland Sanitary District****CLIENT LIAISON:**

Pat Morrow

Phone: 608.355.8910

Email: pmorrow@msa-ps.com

**DATE:**

September 27, 2022

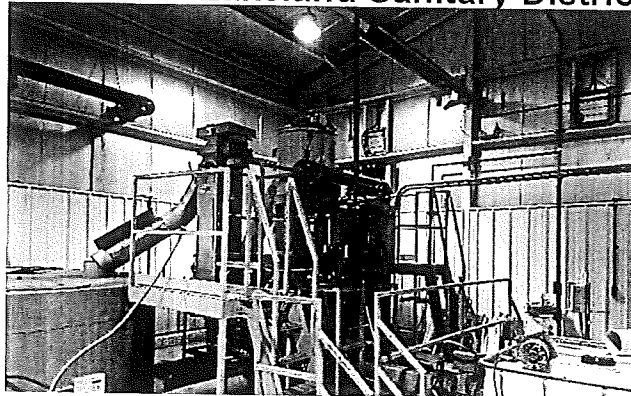


Photo of the existing sludge thickening and dewatering equipment. The equipment is recommended to be upgraded for greater processing capacity.

**WASTEWATER FACILITY PLAN**

Through MSA's initial evaluation, various items at the WWTF were identified to be replaced or upgraded. As discussed with Wilbur, initial cost estimates for all identified upgrades were between \$23M and \$25M. Due to the significant cost of these proposed upgrades, some upgrades were identified as future maintenance items the Sanitary District can complete at its discretion and potentially as in-kind replacements utilizing WWTF Equipment Replacement Fund dollars, while recommended upgrades for this project are prioritized.

*The following items have been identified as recommended upgrades at this time:*

- **Class A Biosolids Process:** The existing biosolids processing system including sludge thickening, dewatering, and aerobic digestion (ATAD) was built in 1996. Due to the age (26 years old), condition, and performance of this existing equipment, upgrades and/or replacements are needed. Sizing of biosolids processing equipment has been conservative to provide reduced equipment operating times and provide additional capacity for the 20-year planning period. All biosolids alternatives also include minor rehabilitation to the existing biosolids buildings including electrical, plumbing, HVAC, and process pumps and piping. The following biosolids alternatives have been evaluated:

- **Alternative 1. ATAD Sludge Digestion Process**

Autothermal Thermophilic Aerobic Digestion (ATAD) is the current biosolids process at the facility and involves sludge thickening, digestion, and dewatering. Based on preliminary cost estimates and discussion with WWTF staff, a new concrete ATAD tank is recommended over retrofitting an existing sludge storage tank. A building to house equipment such as pumps, blowers, heat exchanger, etc. is also proposed to be constructed adjacent to the new ATAD tank. The existing thickening and dewatering equipment do not have adequate processing capacity and is recommended to be replaced. The Gravity Belt Thickener (GBT) and Belt Filter Press (BFP) from Alfa Laval, Inc. were selected by WWTF staff based on their reliability, ease of use, cost-effectiveness, and tried-and-true technology. Overall, this process is familiar to WWTF staff and is expected to produce a Class A cake similar to what is produced currently.

- **Alternative 2. Schwing Bioset Alkaline Sludge Stabilization Process**

Schwing Bioset is an alkaline stabilization process which involves blending biosolids with quicklime and sulfamic acid and then increasing temperature and pressure in a reactor. Due to the quicklime added, the cake produced by this process has high pH and is more suitable for agricultural, rather than direct residential use. Common applications include pasture / hay fields, golf courses, landfill daily cover, mine reclamation, forestry improvements, and soil amendment uses. Based on the niche applications and high pH, this product may be difficult to distribute for the Sanitary District. In addition, performance and operation of this process relies heavily on the availability and characteristics of the quicklime which is sourced from a single manufacturer. Due to the nature of the sludge produced and the lack of anticipated applications, Schwing Bioset was eliminated from further consideration.
- **Alternative 3. Shincci Sludge Dehumidification Process**

The Shincci dehumidification treatment system takes place in an enclosed chamber to recirculate and retain heat, bringing temperatures between 70 and 75°C. Dried cake out of the dehumidifier may discharge as cake strands or pellets at percent biosolids up to 90%. Therefore, a grinder may be required to produce similar soil-like product the WWTF currently achieves and dust control equipment is also recommended. This novel technology is currently installed at only one WWTF in Wisconsin with additional installations under design. Given the lack of installations in the United States and Wisconsin, coupled with the fact that the technology has not received full "Class A" biosolid approval by the Wisconsin DNR, there are uncertainties present with this technology.
- **Electrical, Instrumentation and Control:** Electrical and control upgrade including new electrical service, MCCs, generator, LED lighting, boosted Wi-Fi service for connectivity / reception, and SCADA system.
  - Electrical Service Upgrade. The WWTF currently has a 600 mAh service with a 500 kW diesel generator. Based on any of the proposed biosolids alternatives, the WWTF requires an electrical service upgrade including new generator.
  - SCADA Upgrade. The WWTF's SCADA system is outdated and is not integrated with the lift stations. A full SCADA upgrade for the WWTF (including proposed equipment) and integration with lift stations will provide flexibility, monitoring, and control of treatment and conveyance processes.
- **Waste Receiving Structures:** Waste receiving structures such as a collection system debris drying bed, septage receiving station, and RV dump station would improve day to day operations at the WWTF and cost estimates for these items have therefore been developed.
  - The debris drying bed is a sloped concrete bed that will provide a place for the collection system vacuum truck to dump collection system debris and enable it to dewater by gravity and offer improved handling of this otherwise problematic material.

- The septage receiving station will provide receiving, screening, and monitoring of waste and hauled septage brought to the WWTF, reducing staff labor requirements and increasing the robustness and improving the treatment of hauled waste received at the facility.
- The RV dump station provides a separate area for recreational vehicles to discharge waste without interfering with septage haulers.
- **Phosphorus Removal:**
  - The existing chemical room would benefit from minor improvements including spill containment and updated pumps and controls. These are recommended safety and convenience measurements but can be performed per the Sanitary District's discretion.
  - The primary clarifiers have potential to operate as anaerobic selector tanks for Enhanced Biological Phosphorus Removal (AKA EPBR, or "Bio-P"). Incorporation of Bio-P would reduce chemical usage and related costs. Initial evaluations indicate that the wastewater strength is suitable for Biological Phosphorus removal and the pay off period is within the 20-year planning period. Upgrades would include existing tank rehabilitation, pump and valve replacement, installation of mixers, and re-routing of RAS recycle feed.

*The Items below were originally included in the recommended improvements. However, due to the overall costs of the project and discussions with the District, they have been removed from the project. While there remains a need for upgrades or replacements of these items, it will be more cost effective to pursue these as stand-alone, maintenance-type projects.*

- Grit Rehabilitation
- Headworks Odor Control
- Equalization Tank Blower replacement
- Administration Building HVAC
- Secondary Clarifier inspection and rehabilitation
- UV Disinfection System replacement

These upgrades can be completed per the Sanitary District's preferred schedule and are not included as part of the recommended upgrades. These can still be incorporated into the recommendations of the Facility Plan per the Sanitary District's direction, if desired.

### **Cost Estimates and Sewer Rates**

Preliminary cost estimates for the two biosolids alternatives (ATAD and Shinneci) and the additional recommended upgrades have been prepared. Generally, alternatives within 10% present worth costs of each other are considered equal on a monetary evaluation which is the case for the two biosolids alternatives. Based on a non-monetary and risk evaluation, Alternative 1: New ATAD is the recommended upgrade.

The total project cost has been presented as an estimated range. The low end of the range indicates capital cost if only the biosolids and electrical upgrades are to be completed, this can be thought of as a "minimal required upgrades" option. Meanwhile the high end of the range

indicates capital cost if the additional recommended upgrade items (septage receiving station, debris drying bed, RV dump station, chemical room rehabilitation, selector tank retrofit) are also completed.

Project costs and sewer rate ranges are provided in the table below. Note that significant water/sewer users will pay sewer rates respective to their usage, as typical for utilities. The sewer rates presented are per month per residential equivalent unit (REU). The current average monthly sewer rate per REU is approximately \$25/month.

The Sanitary District is eligible for funding through WDNR’s Clean Water Fund Program (CWFP) and up to 20% principal forgiveness on a subsidized interest rate loan. Recently, WDNR released their Intended Use Plan (IUP) for State Fiscal Year 2023. As part of the extensive infrastructure funding provided by the Bipartisan Infrastructure Law (BIL), CWFP funding has increased. The general Principal Forgiveness (PF) cap per municipality has increased from \$750,000 to \$2,000,000. Based on the estimated project costs and eligible percentage, the Sanitary District would be expected to receive general Principal Forgiveness on a CWF loan up to \$2,000,000. This PF is reflected in the sewer rate estimates in the table below, as well as estimates of additional incentives like 0% interest on CWF Loan portion that is tied to septage receiving and treatment of hauled wastes.

<b>Preliminary Cost Comparison</b>	<b>Alt. 1: New ATAD</b>	<b>Alt. 3: Shinnci Dehumidifier</b>
Total Capital Cost	\$16,400,000 - \$20,200,000	\$14,000,000 - \$17,800,000
20 Year Present Worth (includes O&M and replacement costs)	\$28,400,000 - \$32,400,000	\$28,300,000 - \$32,300,000
Proposed Average Monthly Sewer Rate (per REU)	\$50 - \$60 / month	\$50 - \$60 / month