

SEWER ADMINISTRATORS REPORT LELAND TOWNSHIP SEWER SYSTEM DECEMBER 2020

Prepared by Steve Patmore, Sewer Administrator
For January 2021 Meetings

The influent levels for December 2020 continued the seasonal downward trend and were the same as the influent flows in December 2019, and 3% lower than last month. Flows are monitored weekly.

Effluent flows are being managed to be at our allowable discharge rate in order to lower the lagoon level.

The lagoon is now over 2 ½ feet lower than this time last year, and 1'-7" lower than last month, and is within the operational guidelines.

2020 Annual Flow Totals: Effluent: 27.33 MG = 83% of Capacity.

Influent: 20.58 MG = 62% of Capacity.

Monitor well quarterly phosphorous results from November 2020 continue to show a downward trend. Please refer to the graph in the separate pdf file.

SEWER OPERATIONS (IAI report attached)

- New Technician Lin Marlof is adjusting well and is nice to work with.
- IAI had to replace the Biofilter backwash pump. This pump was installed in 2018.
- Phosphorous effluent sample in December was 3.89 mg/l.
- December was a relatively quiet month for call-outs. All call-outs were related to the WWTP.
- There is a STEP pump repair underway this first week of January.

OTHER ON-GOING PROJECTS / MAINTENANCE / REPAIRS

- IAI is monitoring the Hydrogen Sulfide levels at the lift stations – treatment equipment to be installed at Thompson Street Lift Station this winter.
- Planning for spring 2021 lagoon sludge pumping – IAI received one proposal and are awaiting another proposal before we bring it to the Commission for a recommendation.
- Septic Tank Annual Pumping.
- Need for asset management program to track repairs. (Capital Improvement)

SYSTEM ADMINISTRATION

- Questions on connections and the sewer system.
- Research on previous engineering capacity studies and update data.
- Weekly Meter Readings of automated meters.
- Miss Dig staking requests remain above normal levels for this time of year.
- Connection on Cedar Street.
- Connection on Penwood Dr.
- Sewer Permit change for Penwood.
- New sewer permit on M-22 S. of Leland.
- New sewer permit on West Street.
- January sewer billing.
- Budget and Capital Improvement Plan work.
- Research on Rate Studies – Contacted Gosling Czubak



**INFRASTRUCTURE
ALTERNATIVES, INC.**

**Leland Township WWTP Operations Report
December 2020**

Prepared by Tom Lutke, Operations Specialist
for January 2021 Sewer Commission Meeting

Operations Summary:

- Freeboard is within target range
- Total phosphorus levels in the effluent are 3.89mg/L
- All four aerators in service and running
- Nova filter backwash pump failed on 12/15. Filter was out of operation for 13 days but effluent was still discharging. The phosphorus level in unfiltered effluent was 4mg/L which was not significantly higher than the filtered effluent.
 - Backwash pump was replaced on 12/28 and is running well.
- The H2S study is collecting data.
 - We are beginning to receive preliminary data on the H2S levels in the Lift Stations. Thompson St. and the Narrows LS are measuring at Oppm. Terrace Lane is measuring at 12ppm. Duck Lake LS is averaging 39ppm and Popp Rd LS is averaging at 105ppm. We will continue data collection at Duck Lake and Popp Rd to see if the levels remain consistent.
- We received one proposal for the Lagoon sludge removal this spring/summer and are expecting another one in January.
- Propane was filled on 12/22
- Annual generator maintenance performed by Graham Motors on all three generators. They recommend load testing every 2-3 years. Generators were load tested last year.
- All other monthly operations performed
- 3 callouts for the month.



**INFRASTRUCTURE
ALTERNATIVES, INC.**

Totals:

	November 2020	December 2020	Year to Date	Units
Effluent	2.55	2.57	27.33	MG
Influent	1.73	1.68	20.58	MG
Freeboard	-1.2	-1.6	-2.5	FT
Propane	85	155	1,140	GAL
Ferric Chloride	*134.45	*124.51	*1,489.21	GAL

**Estimate Only*

Call-outs:

12/6/2020	WWTP	Sludge Pump tripped breaker. Reset breaker and system flow.
12/9/2020	WWTP	Sludge Pump tripped breaker. Reset breaker and system flow.
12/10/2020	WWTP	Sludge Pump tripped breaker. Reset breaker and system flow.

Steve Patmore

From: Christian, Barry (EGLE) <ChristianB2@michigan.gov>
Sent: Monday, December 21, 2020 11:38 AM
To: tlutke@iawater.com; Susan Och; Susan Och (ochouse@gmail.com); Steve Patmore
Cc: Scott Jozwiak; John Barthels; Sierra Brown
Subject: CWSRF monies available from State of Michigan - Act Now

Hi Tom, Susan and Steve:

Do you have a wastewater infrastructure project planned for 2022? If so, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) may have financing and funding options available to assist municipalities in getting their projects constructed.

EGLE, through its Finance Division, provides a low-interest loan financing program to assist qualified municipalities with the construction or upgrade of water pollution control facilities. The fund is more commonly referred to as the Clean Water State Revolving Fund (CWSRF).

Financing projects through the CWSRF Program has several advantages:

- **Low-interest rates:** Interest rates are set below the market rate each year (e.g., 1.875% for 20-year loans and 2.125% for 30-year loans for fiscal year [FY] 2021).
- **Long repayment:** Loans have a maximum repayment period of 30 years.
- **Principal forgiveness:** Disadvantaged communities may be eligible for loan principal forgiveness.
- **Principal forgiveness for energy efficiency, water efficiency, and green infrastructure:** Elements of projects implementing qualifying energy efficiency improvements, water efficiency improvements, green infrastructure, or environmentally innovative approaches may be eligible for loan principal forgiveness under the Green Project Reserve program.

For FY 2022, EGLE anticipates the fundable range for CWSRF projects to be \$500 million. As of today, municipalities have expressed interest in just over \$200 million in project costs for FY 2022 CWSRF funding. EGLE is requesting municipalities to look at asset management plans, capital improvement plans, and schedules contained in permits and/or consent orders to determine if any projects could benefit from CWSRF funding.

Municipalities interested in financing a wastewater infrastructure project in 2022 should submit an Intent to Apply (ITA) form to the Water Infrastructure Financing Section (WIFS) of EGLE's Finance Division by **January 31, 2021**. This is the first step in the application process for inclusion in the FY 2022 project priority lists for CWSRF funding. Submittal of the ITA form will trigger a meeting with EGLE staff where you will learn more about the CWSRF process and available financing options.

Please contact the WIFS at 517-284-5433 with additional questions or visit our Web site at: Michigan.gov/CWSRF for more details and to find the ITA form mentioned above.

Regards,
Barry

Barry Christian, P.E.

Michigan Department of Environment, Great Lakes and Energy
Water Resources Division

LELAND SEWER SYSTEM

SEWER IMPROVEMENT / CAPITAL IMPROVEMENT FUND PROJECTS

PROGRESS MADE IN 2020

January 7, 2021

2019-2020 FISCAL YEAR – IN PROGRESS

Projects Remaining for 2019-2020		estimate
1. Hydrogen Sulfide Control Pilot Equipment	<i>(done)</i>	\$ 10,000
2. Automatic Transfer Switches at Popp Road & Duck Lake Rd LS	<i>(done)</i>	\$ 9,700
3. WWTP PLC Programming	<i>(done)</i>	\$ 6,400
4. Replace Pump at Duck Lake Road LS	<i>(done)</i>	\$ 10,000
5. WWTP Disk Filter Replacement	<i>(done)</i>	\$ 3,000
6. Utility Billing Software Upgrade	<i>(done)</i>	<u>\$ 2,000</u>
	Remaining:	\$ 41,100

2020-2021 FISCAL YEAR – Proposed

Projects for 2020-2021 (No Particular Priority)		estimate
1. Continue Hydrogen Sulfide Pilot Study (Odor)	<i>(in progress)</i>	\$ 10,000
2. Thompson Street Lift Station – Pull and re-seat pump	<i>(done)</i>	\$ 2,000*
3. WWTP Influent Valve Manhole Rehabilitation	<i>(not done)</i>	\$ 10,000
4. Collection System Manhole Rehabilitation- Chandler St.	<i>(not done)</i>	\$ 12,000
5. Collection System Televising of Chandler St. 10" sewer line	<i>(not done)</i>	\$ 8,000
6. Air Relief Valve Chamber on M-22 Repair	<i>(not done)</i>	\$ 4,000
7. WWTP Water Well Upgrade/Repairs	<i>(not done)</i>	\$ 2,000
8. WWTP Aerator Repair	<i>(done)</i>	\$ 1,500*
9. STEP System Upgrades/Replacements	<i>(done)</i>	\$ 20,000
10. WWTP Dosing Station Reconstruction	<i>(not done)</i>	\$ 25,000*
11. Biosolids Removal	<i>(in progress)</i>	\$100,000*
12. Replace Junction Boxes at Lift Stations (4) – Above Grade	<i>(partial)</i>	\$ 28,000*
13. WWTP Dosing Valve Replacement	<i>(partial)</i>	<u>\$ 4,000</u>
	Subtotal:	\$ 226,500

*Per IAI Facility Assessment Report.

OTHER CAPITAL IMPROVEMENT PROJECTS (No Particular Order)

1. Lift Station Gate Valve By-Pass Replacements (frozen gate-valves)
2. WWTP Stuck Gate Valves.

3. WWTP Building Repairs (siding, paint, roof, etc)
4. Manhole inspections and rehabs.
5. Sewer Collection Line Evaluations
6. Narrows Lift Station Pump #2 (original pump in use - \$11,000 est.)
7. STEP Pump System Replacements (\$5000 / station - repair parts are hard to get)
8. Clarifier Improvements (sludge build-up problems - \$100,000 est)
9. WWTP Aerators replacements
10. Standby Generator at Thompson Street Lift Station.
11. Pump Control / Level Control at Lift Stations including Variable Speed Controls.
12. Fence around Ferric Chloride Tank.
13. Cherry Street Sewer Improvements (freezing / pumping problems)
14. Eliminate STEP Systems at the Merc., Cove, & Fishtown with gravity line.
15. Central Pump Station on Avenue A instead of STEP Pumps.
16. Water Meter upgrades/replacements
17. Investigate potential cost savings by replacing alarm system from telephone lines to cellular or radio.
18. Capacity Study
19. Rate Study

LELAND SEWER SYSTEM

SEWER IMPROVEMENT / CAPITAL IMPROVEMENT FUND PROJECTS

PROPOSED FOR 2021

January 7, 2021

2021-2022 FISCAL YEAR – Proposed

<u>Projects for 2020-2021 (No Particular Priority)</u>	<u>estimate</u>
1. Continue Hydrogen Sulfide Pilot Study (Odor)	\$ 10,000
2. Biosolids Removal from WWTP Lagoon	\$100,000*
3. WWTP Influent Valve Manhole Rehabilitation	\$ 10,000
4. WWTP Stuck Gate Valves	\$
5. Collection System Manhole Rehabilitation- Chandler St.	\$ 12,000
6. Collection System Televising of Chandler St. 10" sewer line	\$ 8,000
7. WWTP Water Well Upgrade/well screen	\$ 5,000
8. STEP System Upgrades/Replacements	\$ 20,000
9. WWTP Dosing Station Reconstruction	\$ 25,000*
10. Roof at WWTP Building	\$
11. Sewer System Rate and Capacity Study Updates	\$
12. Asset Management Software	\$
13. Replace Junction Boxes at Lift Stations (2) – Above Grade	<u>\$ 14,000*</u>
Total:	\$

*Per IAI Facility Assessment Report.

OTHER CAPITAL IMPROVEMENT PROJECTS (No Particular Order)

1. Lift Station Gate Valve By-Pass Replacements (frozen gate-valves)
2. Air Relief Valve Chamber on M-22
3. WWTP Building Repairs (siding, paint, roof, etc)
4. Manhole inspections and rehabs.
5. Sewer Collection Line Evaluations
6. Narrows Lift Station Pump #2 (original pump in use - \$11,000 est.)
7. STEP Pump System Replacements (\$5000 / station – repair parts are hard to get)
8. Clarifier Improvements (sludge build-up problems - \$100,000 est)
9. WWTP Aerators replacements
10. Standby Generator at Thompson Street Lift Station.
11. Pump Control / Level Control at Lift Stations including Variable Speed Controls.
12. Fence around Ferric Chloride Tank.
13. Cherry Street Sewer Improvements (freezing / pumping problems)
14. Eliminate STEP Systems at the Merc., Cove, & Fishtown with gravity line.

15. Central Pump Station on Avenue A instead of STEP Pumps.
16. Water Meter upgrades/replacements.
17. Investigate potential cost savings by replacing alarm system from telephone lines to cellular or radio.
18. Investigate potential cost savings with WWTP Supervisory Control System.
19. WWTP Dosing Valve replacements.