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**FROM:** Mark Huggard, Jacobs

**DATE:** January 7, 2022

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Andrew Waldron, Jacobs  
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This report describes our activities during the month of December 2021. If you require additional information that would make these monthly reports more useful to you, please let us know. Permit compliance report data is submitted to the Department of Environment Great Lakes and Energy (EGLE) electronically.

### Treatment Plant

	December	Last Month	Last Year
Influent flow daily average, GPD	50,831	68,540	51,728
Monthly electrical usage, Kw Hrs	27,584	20,990	15,793

Windmueller Electric installed conduit and wiring to allow monitoring of recycle pump #1's seal fail and over temperature status. The addition of this monitoring provides alerts in advance of failure and allows us to run the pump without voiding warranty.

### Lift Stations / Collection System

On December 11<sup>th</sup>, we responded to a main lift station pump #1 failure alarm (pump #2 previously failed on October 29<sup>th</sup>). We confirmed the pump was unable to operate which left the station without either submersible pump available. The replacement for pump #2 had been ordered but lead times were approximately 8-10 weeks. Recently failed pump #1 (new in 2018) was taken to a local repair shop to determine the cause of failure. It was determined the 2" drive shaft had broken rendering the pump unrepairable therefore requiring replacement. A second bypass pump was rented from Mercino Pumping restore pump redundancy. Considering our options, we reached out to Kerr Pump's repair team to see if the two failed pumps could be combined to make one functional pump as an interim solution. Pump #1 was delivered to their repair shop and in less than 2 weeks they were able to construct one functional pump. The pump was installed and tested on January 1<sup>st</sup>, 2022, which eliminated the need for 24/7 pump watch and bypass pump rental. The table below details the estimated cost savings associated with combining the failed pumps into one vs continuous bypass pump monitoring and pump rental, also included is the estimated cost of the new submersible pumps. The cost to combine the failed pumps was recovered within 9 days of installation, resulting in continued savings of approximately \$894.00/day until the new pump(s) arrive, which are currently scheduled for delivery in late January/early February

Main lift station repair cost summary

Estimated weekly cost for pump watch and bypass pump rental	Pump watch labor	\$4,620.00	Weekly estimated total = <b>\$6,261</b>
	Bypass pump rental	\$1,641.00	
Cost of combining 2 failed pumps to make one operational pump			Total = <b>\$7,648</b>
Estimated cost of 2 new submersible pumps	Ordered and awaiting delivery		Total = <b>\$30,179</b>

Main Lift Station Bypass Pump



**Residential Grinder pumps**

As part of our due diligence to reduce repeat call outs to residential grinders we perform the following checks before leaving the site. Table 1 below details our grinder pump responses.

- ✓ Tighten all control connections within control cabinet.
- ✓ Remove grease and debris from grinder tank.
- ✓ Remove all grease buildup from float switches.
- ✓ Verify all float switches operate properly and are positioned properly.
- ✓ Confirm proper pump operation.
- ✓ Verify alarm light is operational and audible alarm, if applicable.
- ✓ Inspect wet well components.
- ✓ Replace both the start and run capacitor.
- ✓ Inform homeowner of findings and what not to put in their sewer.

Table 1

Date	Location	Alarm/Issue	Resolution
11251	North Shore Dr.	<ul style="list-style-type: none"> <li>• Discharge line break</li> </ul>	<ul style="list-style-type: none"> <li>• Pump left off until site can be excavated for repair.</li> </ul>
13170	E. Paradesia Point Rd.	<ul style="list-style-type: none"> <li>• Seal fail alarm</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnected seal fail alarm until new seal fail relay is received.</li> </ul>

**On the Horizon**

- Aeration blower #2 repair or replacement. NLTUA sent letter to Manufacturer to recoup cost.
- Fine screen brush replacement - 2022
- 7th St. station upgrade - 2022
- Repair utility sink cold water line - 2022
- Ferric Chloride room day tank relocation - 2022
- Hach SC 100 replacement - 2022
- Main lift station re-lining - 2022
- MBBR tank roof coating – 2022
- Settling basin engineering evaluation – 2022
- Capacity evaluation task 1 and 2 – 2022
- Low pressure force main cleaning - 2022

**Financial Report**

Current Reporting Month	Dec-21	Comments
Repairs Spending Treatment Plant Current Month	\$ -	NA
Repairs Spending Treatment Plant Year to Date	\$ 8,519.79	
Repairs Spending Residential Grinder Pumps Current Month	\$ -	NA
Repairs Spending Residential Grinder Pumps Year to Date	\$ 14,274.58	
Repair Spending Collection System (lift stations/sewer) Current Month	\$ 354.92	\$92.00 - Repair shop main lift station pump inspection fee. \$262.92 - Various freight charges
Repair Spending Collection System (lift stations/sewer) Year to Date	\$ 1,325.02	
Repairs Hours Treatment Plant Current Month	12.00	
Repairs Hours Treatment Plant Year to Date	205.00	
Repairs Hours Residential Grinder Pumps Current Month	5.50	
Repairs Hours Residential Grinder Pumps Year to Date	243.75	
Repair Hours Collection System (lift stations/sewer) Current Month	343.00	Associated with main lift station pump watch and repairs
Repair Hours Collection System (lift stations/sewer) Year to Date	373.00	
Total Repair Hours Current Month	360.50	343 hours associated with main lift station pump watch and repairs.
Total Repair Spending Current Month	\$ 354.92	
Total Repair Hours Year to Date	821.75	
Repairs Hours Budget Remaining (Limit 300 Hrs)	(521.75)	Annual repair hours over budget
Total Repair Spending Year to Date	\$ 24,119.39	
Repair Spending Budget Remaining (Limit \$8,000)	\$ (16,119.39)	Annual repairs spending over budget
Total Repair Hours 2020 (Not Finalized)	615.00	
Total Repair Spending 2020 (Not Finalized)	\$ 31,124.19	

If you have any questions or concerns, please feel free to contact us.

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