

NLTUA Operations Report – August 2023

TO: Chris Holton, NLTUA
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DATE: September 14th, 2023

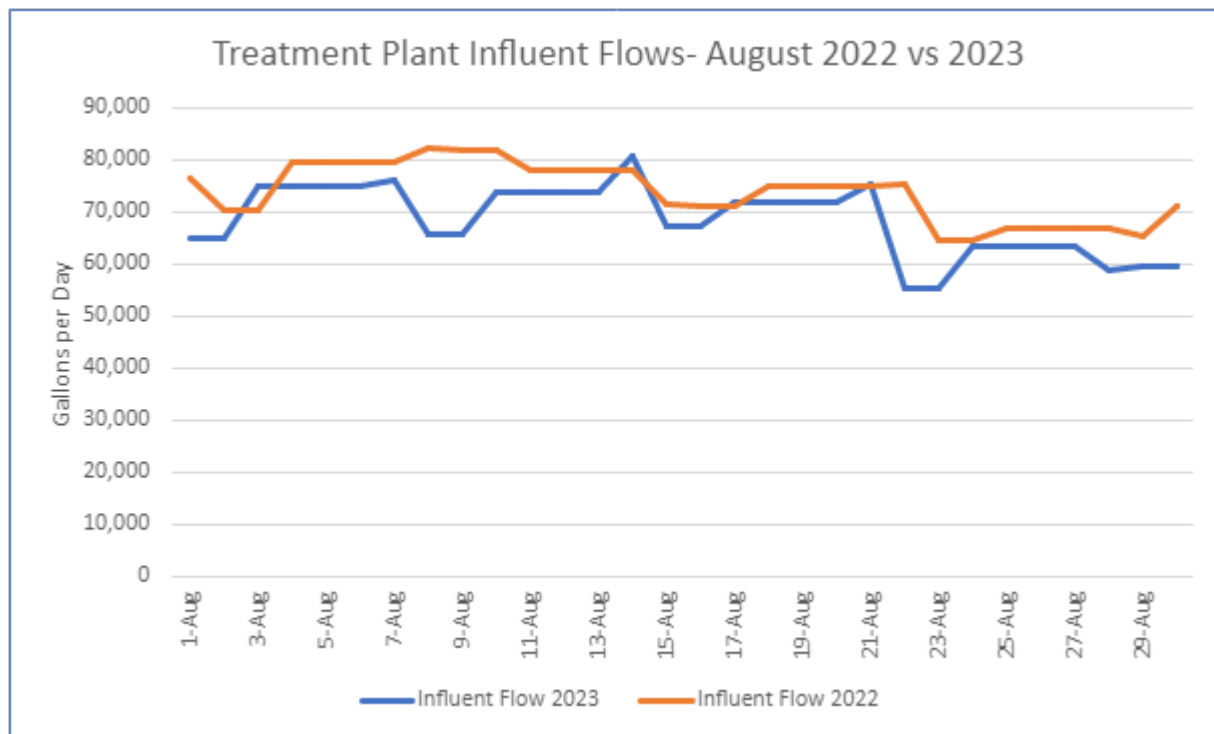
COPY: Nick Lenzi, Jacobs
Andrew Waldron, Jacobs
Justin Straub, Jacobs

This report describes our activities during the month of August 2023. 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

	August	Last Month	Last Year
Influent flow daily average, GPD	68,589	73,171	73,997
Monthly electrical usage, Kw Hrs*	25,755	26,038	32,163

* Note: Wind turbine is permanently out of service.



The above graph compares the plant influent flows of last year to that of 2023.

We replaced a faulty distribution valve pin for rapid infiltration bed #3a. Additionally, we took a proactive approach by replacing the valve pins in the adjacent valves for infiltration beds #3b and #3c. These pins are low-cost but necessitate a two-person confined space entry for replacement. This proactive replacement strategy helps save on future repair labor costs.



The contractor tasked with replacing blower #2 completed the blower replacement but did not replace the motor. We've reached out to the contractor to determine when they will return for the motor replacement and commissioning and are awaiting their response.

The lower sand filter cabinet heater failed and needs replaced. A new heater has been ordered for both cabinets.

We rebuilt ferric chloride pump #1 and put it back into operation. To minimize equipment downtime and ensure redundancy, we keep rebuild kits in inventory for the ferric pumps since they are classified as critical assets.

We received an alarm call regarding a high reject chamber situation and upon inspection, we identified that a breaker within the sand filter control cabinet had tripped. This led to a loss of air to the filter, resulting in an excessive flow directed to the reject chamber, which overwhelmed the pumps. Once we restored the sand filter to service, the reject flow rate returned to normal, enabling the pumps to handle the incoming flow effectively.

Lift Stations / Collection System

On August 8th, we addressed a power outage situation at both the Northport Point Rd. lift station and the Main lift station. To handle this, we deployed a portable generator at the Northport Point station, ensuring it had power until utility power supply was restored. Furthermore, the Main lift station has an on-site auto-transfer generator, which efficiently supplied power until the main power source was reinstated.

On August 16th, we addressed another power outage at Northport point Rd lift station. The portable generator was staged until utility power supply was restored.

Northport Point Rd. Portable Generator Setup



Residential Grinder pumps

To enhance our efforts in minimizing recurring service requests for residential grinders, we conduct the following checks prior to concluding our work on-site. The grinder pump responses are summarized in Table 1 below. Additionally, Jacobs holds a stock of repair parts for residential grinder pumps, encompassing control components, float control switches, and pumps themselves. In the event of a malfunctioning pump, it is transported to a nearby repair facility, where a determination is made regarding the feasibility of repair versus replacement. Opting for a repair proves to be more cost-effective compared to acquiring a new pump. Further specifics can be furnished upon inquiry.

- ✓ 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: Grinder Pump Responses

Date	Location	Alarm/Issue	Resolution
8-8-23	577 South Shore Dr.	<ul style="list-style-type: none"> High Level Motor Overload 	<ul style="list-style-type: none"> Replaced start and run capacitors. Replaced a burnt wires
8-9-23	8812 Dawn Haven Rd.	<ul style="list-style-type: none"> High Level Motor Overload 	<ul style="list-style-type: none"> Replaced start and run capacitors Replaced start relay Replaced motor starter Replaced corroded wiring Removed grease buildup from wet well
8-10-23	785 Wagon Wheel Dr.	<ul style="list-style-type: none"> High Level 	<ul style="list-style-type: none"> Replaced PVC check valve
8-14-23	12161 Indian Beach Rd.	<ul style="list-style-type: none"> Motor Overload 	<ul style="list-style-type: none"> Replaced loose wire connections Replaced starter relay Replaced pump run control float switch
8-14-23	187 South West St.	<ul style="list-style-type: none"> Motor Overload 	<ul style="list-style-type: none"> Replaced start capacitor
8-14-23	12169 Indian Beach Rd.	<ul style="list-style-type: none"> High Level 	<ul style="list-style-type: none"> Replaced pump run float switch
8-18-23	12660 E. Woosley Lake Rd.	<ul style="list-style-type: none"> Water backing up into toilet and tub 	<ul style="list-style-type: none"> Grinder pump was functioning normal. Informed homeowner to contact plumber to address blockage in lateral. Proactively replaced both pump capacitors due to condition and to prevent a future call out.
8-16-23 8-19-23	12949 Northport Point Rd.	<ul style="list-style-type: none"> High Level 	<ul style="list-style-type: none"> Intermittent problem with evacuating flow from the well. To address this, we emptied the well entirely and flushed the system with clean water multiple times. During our inspection, we discovered that the pump discharge rail bracket was loose, which occasionally prevented the pump from fully seating. We resolved the issue by tightening both the pump base and rail bracket, and we have not encountered any problems since then.
8-19-23	12423 E. Woolsey Lake Rd.	<ul style="list-style-type: none"> Pump Overload 	<ul style="list-style-type: none"> Removed a washcloth from the grinder pump intake. Replaced both pump capacitors
8-25-23	110 Park St.	<ul style="list-style-type: none"> High Level 	<ul style="list-style-type: none"> Removed a significant amount of grease from the wet well. Grease was interfering with the pump control switches. Replaced alarm light bulb Replaced capacitors Replaced 2 relays Replaced faulted alarm flasher Adjusted float control switch elevations
8-28-23	12131 North Shore Dr.	<ul style="list-style-type: none"> High Level 	<ul style="list-style-type: none"> Replaced start capacitor

Grease removed from 110 Park St. grinder pump well



On the Horizon

Task	Update	Estimated time of completion
Aeration blower #2 repair or replacement	Blower was replaced. Awaiting contractor to schedule motor replacement and commissioning.	2023
Force main cleaning from main lift station to plant	Jacobs provided proposal for consideration	2023
Settling basin engineering evaluation	NLTUA to consult their engineer	2023
Ferric chloride room day tank relocation	NLTUA to consult their engineer	2023
Quarterly Monitoring Well Sampling	Next sampling scheduled for August	August 2023
Northport WWTP Annual Public Open House	Providing plant tours to the public	October 10 th , 2023
Annual settling basin cleaning	Scheduling for Fall	October 2023
Main lift station controller replacement	Complete and commissioned April 2023.	Complete
7th St. station controller replacement	Complete and commissioned July 2023.	Complete
Replace failed VFD on mixer 7	Completed July 2023	Complete

Financial Report

Current Reporting Month	Aug-23	Comments
Repairs Spending Treatment Plant Current Month	\$ -	
Repairs Spending Treatment Plant Year to Date	\$ 1,289.07	
Repairs Spending Residential Grinder Pumps Current Month	\$ 11,416.68	Purchased grinder pumps for inventory and spare control component parts.
Repairs Spending Residential Grinder Pumps Year to Date	\$ 26,159.16	
Repair Spending Collection System (lift stations/sewer) Current Month	\$ -	
Repair Spending Collection System (lift stations/sewer) Year to Date	\$ 1,273.36	
Repairs Hours Treatment Plant Current Month	-	
Repairs Hours Treatment Plant Year to Date	-	
Repairs Hours Treatment Plant Current Month	13.50	
Repairs Hours Treatment Plant Year to Date	139.00	
Repairs Hours Residential Grinder Pumps Current Month	36.00	
Repairs Hours Residential Grinder Pumps Year to Date	140.00	
Repair Hours Collection System (lift stations/sewer) Current Month	8.00	
Repair Hours Collection System (lift stations/sewer) Year to Date	71.00	
Total Repair Hours Current Month	44.00	
Total Repair Spending Current Month	\$ 11,416.68	
Total Repair Hours Year to Date	350.00	
Repairs Hours Budget Remaining (Limit 300 Hrs)	(50.00)	Amount over limit
Total Repair Spending Year to Date	\$ 28,721.59	
Repair Spending Budget Remaining (Limit \$8,000)	\$ (20,721.59)	Amount over limit
Total Repair Hours 2022	679.50	
Total Repair Spending 2022	\$ 45,783.13	

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

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