

LEWES BPW

Howard Seymour Water Reclamation Plant

Operation and Maintenance Report



November 2022

Executive Summary

	Green	Yellow	Red
Headworks			
Oxidation Ditch			
Filters			
Generator			
Weather			
Solids Handling			
NPDES Parameters			
Pump Stations			
Personnel			
Safety			
Compliance			

(New information in bold font)

- Headworks- **Inframark continues to utilize the dewatering roll off container to capture screening while the Lipactor is offline.**
- Oxidation Ditch-Cracks were identified in the concrete tank walls. BPW is working with their consultants to determine the best path to resolve.
- Filters- De-ragging UF Train 4 was completed during the week of 12-27-2021. De-ragging UF Train 1 was completed during the week of 5-16-2022. UF Train 2 De-ragging completed week of 6-27-2022. UF Train 3 De-ragging completed 8-24-2022. Citric Acid and Sodium Hypochlorite Recovery Cleans were completed for all 4 trains during October and the first week of November.
- A rental emergency generator is online at Pump Station 4 while plans for a permanent solution are being evaluated. Pump and valve replacement proposals are being evaluated for PS3 by BPW Staff. Inframark continues to visit PS3 daily to top off oil to Pump 2 and ensure it has maintained prime. Approval for a proposal to replace wet well piping in PS2 is required. Frequent control issues have occurred at PS17 over the past two years. An unusual configuration exists to supply single phase power to the station. Plans to rehabilitate the station should be considered in the immediate future. PS16 is currently being serviced by one pump. The second pump had been sent to Hills for repair evaluation. The cost of the repair the pumps exceeds its value. A second pump is being purchased by BPW and will be installed as soon as it is received. **New pump installed the week of 11-28-2022.** Bypass connections and valves have been installed as a backup while the pump station is serviced by one pump. Inframark has solicited proposals for a spare pump at PS13. The station utilizes a single pump and there is no spare. A PO was issued to STH for a new Grundfos Pump for PS13. **Pump received 11-17-2022.**
- Personnel- Richard Plack left Inframark Lewes to pursue other opportunities. Michael Wolgemuth and David Weed will be Co-DRCs until the open manager position is filled. DNREC has been notified of the change in leadership. Four additional FTEs are assigned to the project, three of which are DE licensed operators.

Critical Issues

- Covid- Inframark is following CDC recommendations to ensure uninterrupted service to the BPW and the Lewes community.
- Condition of headworks screening equipment is in critical need of repair or replacement to decrease excessive ragging of UF membranes.
- Spare pumps are not in stock for PS11, PS15, PS16, PS17, PS17B, PS18 and PS32. Inframark does not have maintenance records for existing pumps. Based on recommendations made in Severn Trent's 2016 Annual Report, most pumps were in need of replacement within five years. We have found no evidence that these pumps had been replaced during the past five years. Many pump station control panels are in need of repair or replacement including PS1, PS2, PS5, PS6, PS7, PS9, PS10, PS11, PS12, P13, PS14, PS15, PS16, PS17, PS18, PS33, PS74 and PS83.

Projects

Project	Status	Priority Level	Approval	Est. Complete Date
Headworks Replacement	In design	High	BPW Project	
Replace Generator and ATS at PS4	GMB and Keystone are evaluating size based on future needs. Inframark soliciting quotes for temporary transfer switch.	High	BPW Project	
Rehab Pumps at PS3	Proposals to replace pumps under consideration. Inframark requested updated quote from Hills	High	BPW Project	QTR 1 2023
Replace wet-well piping PS2	Proposal from Sprig submitted to BPW, Inframark Soliciting Additional Quotes	High	Needed	QTR1 2023
Rehab PS17 Controls	Planning	High	Needed	
Electric Manhole Sump Pump power and control replacement	Soliciting Quotes	Medium		QTR1 2023
Megger Power Cables	Soliciting Quotes	Predictive		QTR1 2023

Operations

NPDES Permit Compliance

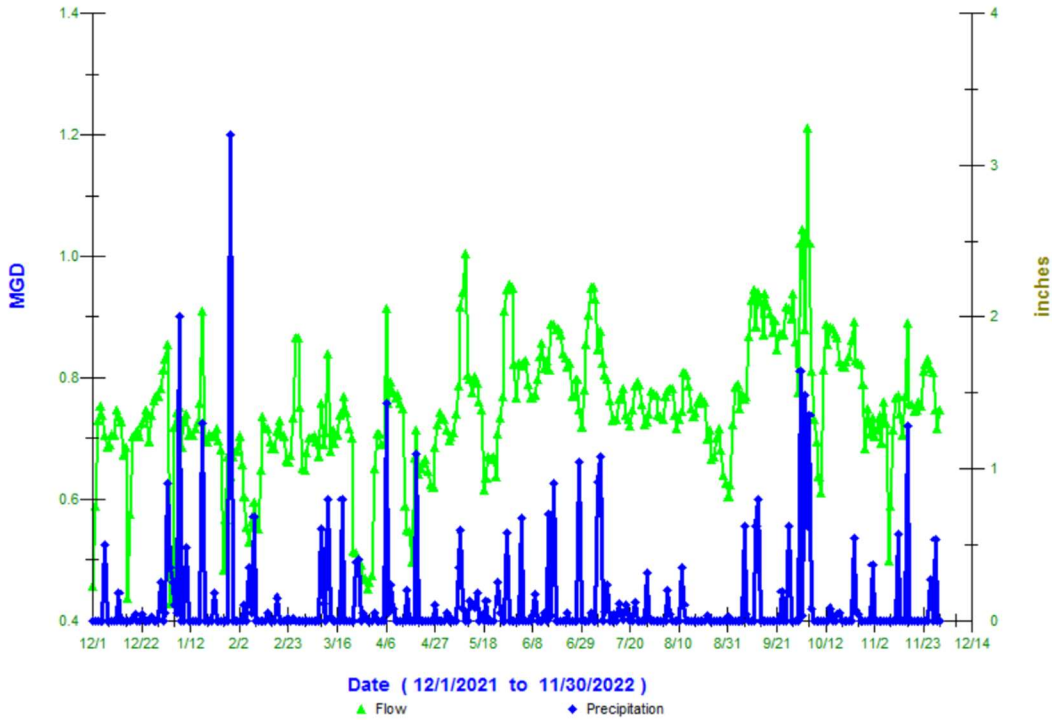
- Please review the following tables that summarize NPDES reporting criteria for November 2022. No violations will be reported for November 2022. The DMR included in report attachments.
- The average daily influent flow for November was 0.754 MGD with a maximum daily flow of 0.876 MGD. Precipitation totaled 3.0 inches for November with a maximum daily total of 1.3 inches.

	Max	Sum			
Precipitation (inches)	1.28	3.02			
Influent	Limit	Average	Min	Max	Vio
Flow (MGD)		0.754	0.666	0.876	
BOD (mg/L)		103	103	103	
TSS (mg/L)		110	110	110	
Effluent	Limit	Average	Min	Max	Vio
Flow (MGD)		0.768	0.687	0.860	N
Dissolved Oxygen (mg/L)		5.90	5.14	6.72	N
pH (SU)	Min 6/ Max 9	7.18	6.93	7.37	N
Enterococcus (col/100ml)	Avg 10/ Max 104	<1	<1.0	<1.0	N
BOD (mg/L)	Avg 15/ Max 23	<2.5	<2.4	<3.0	N
BOD Load (lbs)	Avg 188/ Max 288	<16	<14	<18	N
BOD Removal (%)		97.6	97.6	97.6	
TSS (mg/L)	Avg 15/ Max 23	<0.6	<0.5	0.8	N
TSS Load (lbs)	Avg 188/ Max 288	<4	<3	6	N
TSS Removal (%)		99	99	99	
Total Nitrogen (mg/L)	Avg 8	4.07	4.07	4.07	N
Total Nitrogen Load (lbs)	Avg 100	17.63	17.63	17.63	N
Total Phosphorous (mg/L)	Avg 2	0.07	0.07	0.07	N
Total Phosphorous Load (lbs)	Avg 25	0.43	0.43	0.43	N
Process		Average	Min	Max	
Bio #1 MLSS (mg/L)		9,172	1,160	12,100	
Bio #2 MLSS (mg/L)		12,500	11,100	13,400	
Train 1 MLSS (mg/L)		10,420	6,000	13,300	
Train 2 MLSS (mg/L)		11,200	10,300	12,500	
Train 3 MLSS (mg/L)		10,975	7,600	12,800	
Train 4 MLSS (mg/L)		11,575	10,100	12,700	
TSS Digester 1 (mg/L)		18,620	16,500	20,100	
TSS Digester 2 (mg/L)		18,220	15,900	19,600	
		Average	Max	Sum	
Sludge Wasted (gallons)		12,533	14,000	376,000	

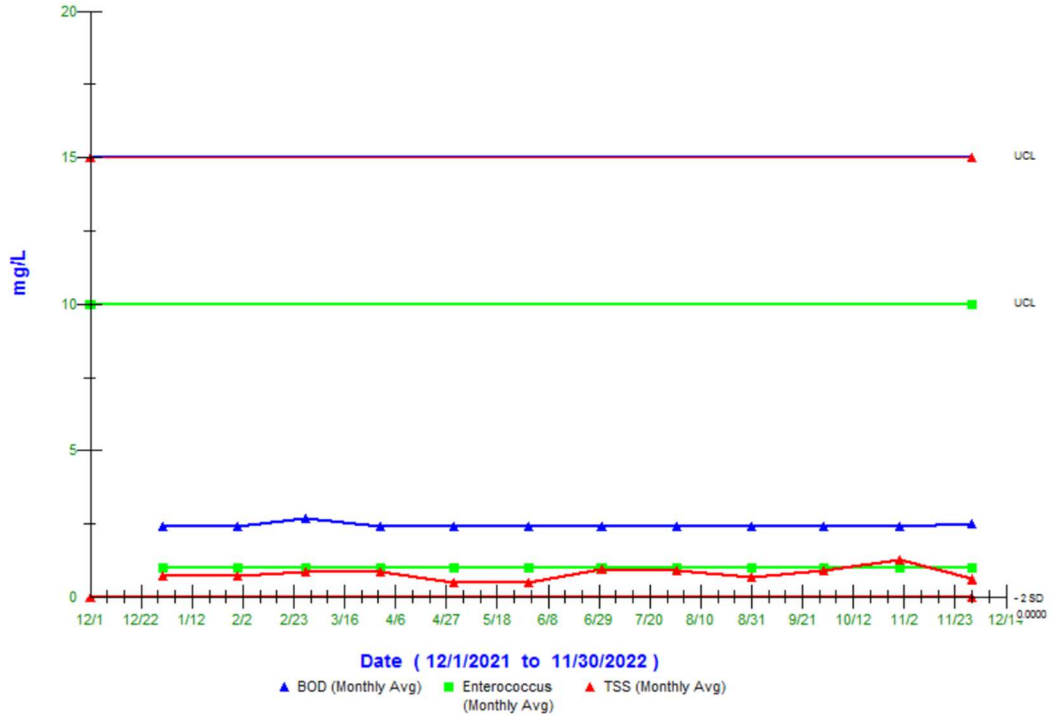
Sludge Operations and Disposal

Liquid Hauled	210,000 Gallons	DELCORA
Cake Hauled	29.8 Wet Tons	Sussex County
Dewatering Container	12,100 Gallons	DELCORA

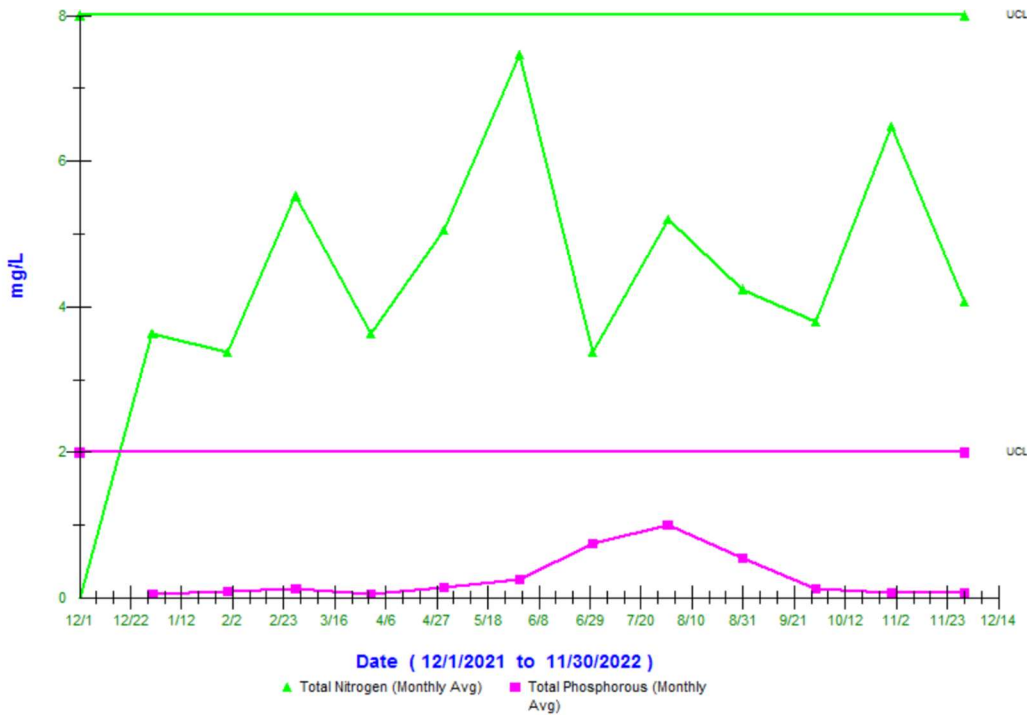
Trends Influent vs Precipitation Trend Previous 12 Months



Effluent Biological Contaminants Trend Previous 12 Months



Effluent Nutrient Trends Previous 12 Months



Maintenance, Repair and Activities

11-09-2022- WWTP- Replaced digester anoxic recycle bypass valves

11-08-2022- WWTP- Replaced temporary 2mm screen sump pump, sent old pump to Hills for repair.

11-17-2022- WWTP-Replace drive belts to Process Blower #1.

Maintenance Budget

Monthly Budget	November 2022	Contract Year to Date	Over
\$6,667	\$51.83	51.83	\$79,948

Maintenance Expenditures

See attached November Expense Report

Afterhours Callouts

none

Health & Safety

- As of November 30, 2022, Inframark staff and contractors have worked 772 days at the Lewes Facilities without a lost time injury.
- Inframark Training and Presentations –

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- Electrical Safety
 - Sodium Hypochlorite Safety

Personnel

Name	Title	DE Certification
Jerry Shupe Jr.	Regional VP	NA
Michael Wolgemuth	Regional Manager	DE Class IV WW
Open	Project Manager	
Paul Smith	Operator II	DE Class II WW
Vince Catalano	Lead Operator	DE Class II OIT WW
Kurt Brittingham	Operator II	NA
Michael Mazzetti	Maintenance Technician III	NA
David Weed	PT Operator III	DE Class IV WW
Tom Callahan	Regional Safety Advisor	NA

Attachments

- November DMR
- November Sussex County Flow Totals
- Zenon Reports

November Maintenance Expenses

DATE	INVOICE	REPORT	VENDOR	MEMO	AMOUNT
11/19/2022	PCARD	NOV	Home Depot	Conduit, straps, PVC Cement and hole saw for high level float	\$71.80
11/19/2022	PCARD	NOV	Home Depot	credit for double charged hole saw	(\$19.97)
Monthly Total					\$51.83

Cap Budget \$6,666.67