

# LEWES BPW

## Howard Seymour Water Reclamation Plant

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### Operation and Maintenance Report



January 2023

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## 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. **BPW is scheduling work to be completed spring 2023.**
- Filters- De-ragging UF Train 4 is scheduled to start March 6, 2023
- A rental emergency generator is online at Pump Station 4 while plans for a permanent solution are being evaluated. **A Pump and valve replacement proposal was accepted for PS3. Three proposals to replace wet well piping in PS2 have been received for review.**
- Personnel- Jeffrey Kerin, DE Level IV Wastewater Treatment Operator started as Project Manager on 12-30-2022. **Master Electrician, Andrew Courtney, and DE Level IV Operator, Mathew Davis, started at the end of January.**

## 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	
Repair Cracks in Oxidation Ditch	<b>BPW scheduling for spring 2023</b>	High	PW Project	QTR 2 2023
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	<b>PO Issued to Hills</b>	High	BPW Project	QTR 2 2023
Replace wet-well piping PS2	<b>Three proposals obtained for review</b>	High	Needed	QTR 2 2023
Sump Pump Repairs	<b>Inframark Electrician to complete work</b>	Med	NA	QTR 2 2023
Electric panel surveys and power cable megger testing	<b>Inframark is procuring equipment to complete this work</b>	High	NA	Ongoing through 2023

## Operations

### NPDES Permit Compliance

- Please review the following tables that summarize NPDES reporting criteria for January 2023. No violations will be reported for January 2023. The January DMR will be forwarded upon completion.
- The average daily influent flow for January was 0.849 MGD with a maximum daily flow of 1.097 MGD. Precipitation totaled 3.2 inches for January with a maximum daily total of 1.2 inches.

	Max	Sum
Precipitation (inches)	1.22	3.22

Influent	Limit	Average	Min	Max	Vio
Flow (MGD)		0.849	0.665	1.097	
BOD (mg/L)		250	250	250	
TSS (mg/L)		122	122	122	

Effluent	Limit	Average	Min	Max	Vio
Flow (MGD)		0.861	0.724	1.068	N
Dissolved Oxygen (mg/L)		4.96	2.32	5.97	N
pH (SU)	Min 6/ Max 9	7.14	6.93	7.24	N
Enterococcus (col/100ml)	Avg 10/ Max 104	<1	<1.0	2.0	N
BOD (mg/L)	Avg 15/ Max 23	<2.4	<2.4	<2.4	N
BOD Load (lbs)	Avg 188/ Max 288	<17	<16	<18	N
BOD Removal (%)		99.0	99.0	99.0	
TSS (mg/L)	Avg 15/ Max 23	<0.6	<0.5	<1.0	N
TSS Load (lbs)	Avg 188/ Max 288	<4	<3	<7	N
TSS Removal (%)		100	100	100	
Total Nitrogen (mg/L)	Avg 8	4.78	4.78	4.78	N
Total Nitrogen Load (lbs)	Avg 100	13.94	13.94	13.94	N
Total Phosphorous (mg/L)	Avg 2	0.06	0.06	0.06	N
Total Phosphorous Load (lbs)	Avg 25	0.44	0.44	0.44	N

Process	Average	Min	Max
Bio #1 MLSS (mg/L)	10,628	9,720	11,500
Bio #2 MLSS (mg/L)	11,088	10,430	12,000
Train 1 MLSS (mg/L)	11,885	10,520	12,600
Train 2 MLSS (mg/L)	11,390	11,050	11,800
Train 3 MLSS (mg/L)	11,453	10,950	12,130
Train 4 MLSS (mg/L)	12,405	10,400	13,500
TSS Digester 1 (mg/L)	20,283	19,300	21,500
TSS Digester 2 (mg/L)	15,050	14,000	16,610

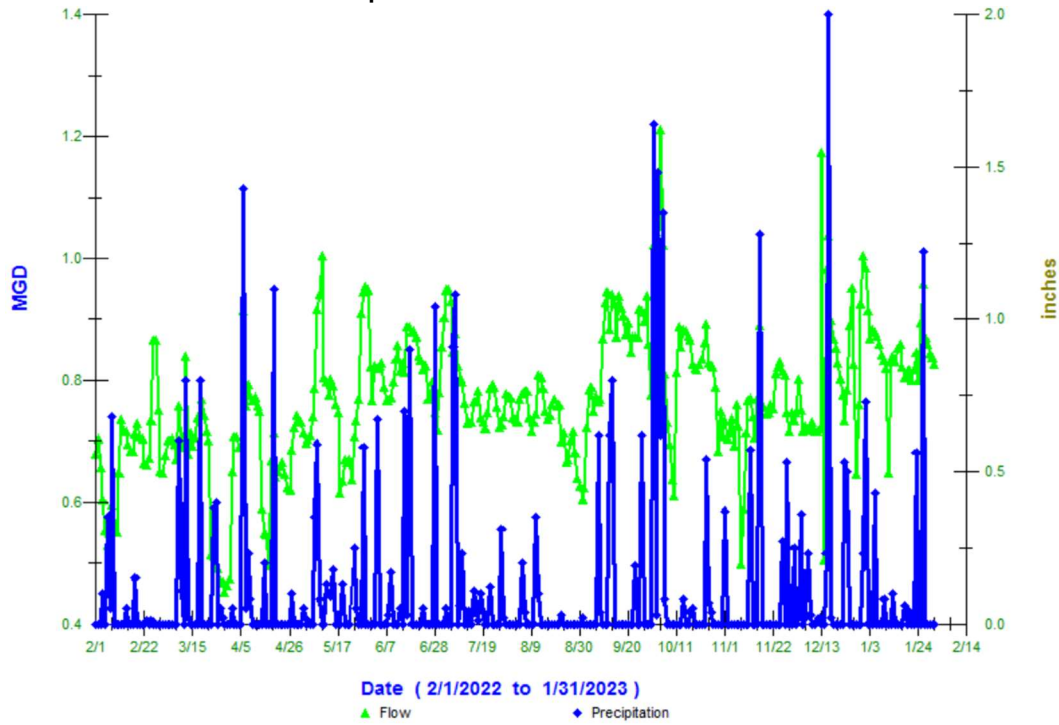
	Average	Max	Sum
Sludge Wasted (gallons)	10,737	14,000	322,101

## Sludge Operations and Disposal

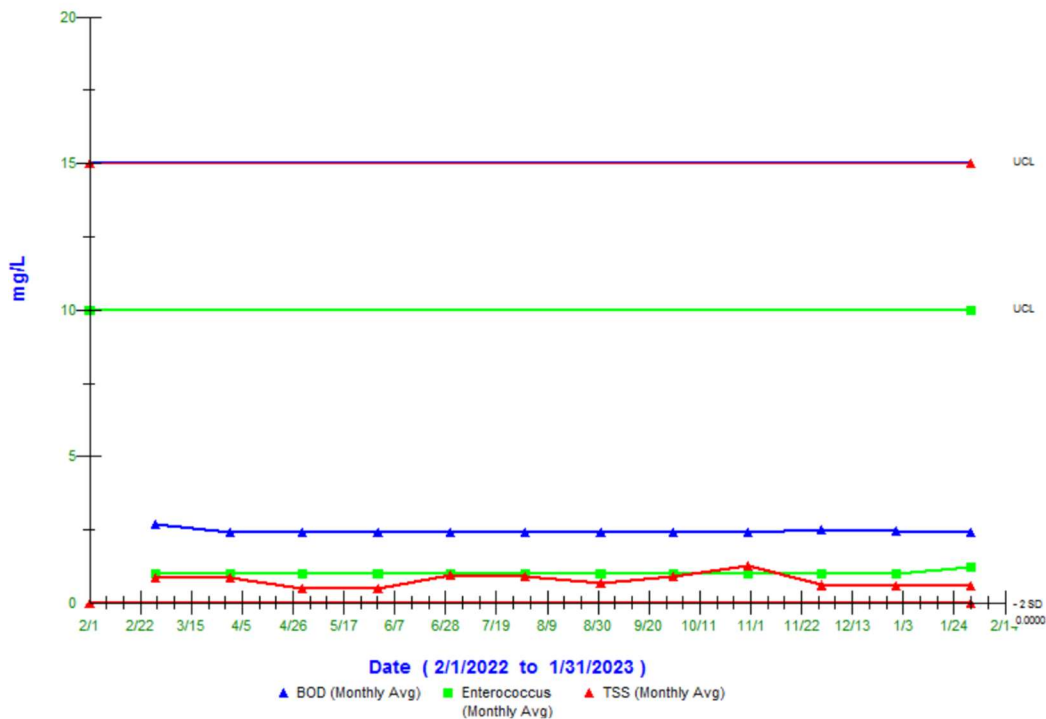
Liquid Hauled	152,400 Gallons	DELCORA
Cake Hauled	36 Wet Tons	Sussex County
Dewatering Container	13,500 Gallons	DELCORA

## Trends

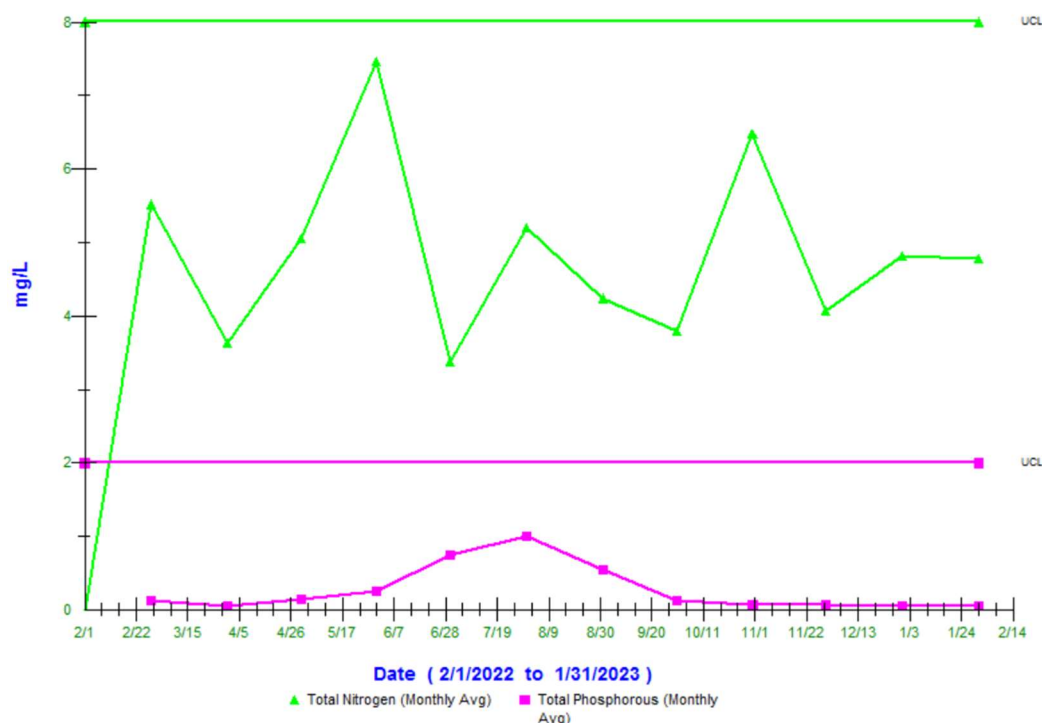
### Influent vs Precipitation Trend Previous 12 Months



### Effluent Biological Contaminants Trend Previous 12 Months



## Effluent Nutrient Trends Previous 12 Months



## Maintenance, Repair and Activities

1-3-2023- WWTP Headworks- Freemire was out to troubleshoot Pista-grit issues. They determined the bladder for the pinch valve needs replaced. A proposal was forwarded and accepted for the bladder and installation.

1-4-2023- WWTP Process Building- Inframark torqued UF hose couplings to all 4 trains.

1-12-2023- WWTP Process Building- American Crane was onsite to complete the annual hoist and trolley inspections to the one ton and five-ton units.

1-28-2022- WWTP Process Building- Inframark installed a tank and a sodium hypochlorite chemical feed pump to work with the Zenon Foam System to address excessive foaming on the UF Trains.

1-30-2022- WWTP Headworks- Inframark Electrician troubleshoot and repair control issue with 2mm Macerating Pump.

## Maintenance Budget

Monthly Budget	January 2023	Contract Year to Date	Over/Under
\$6,667	\$11,095.01	\$15,726.43	\$-64,273.57

## Maintenance Expenditures

See attached January Expense Report

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## Afterhours Callouts

1-24-2023- PS9 High Level- One leg of the power feed was offline at the electric pole.

## Health & Safety

- As of January 31, 2023, Inframark staff and contractors have worked 834 days at the Lewes Facilities without a lost time injury.
- Inframark Training and Presentations – Incident Reporting

## Personnel

Name	Title	DE Certification
Jerry Shupe Jr.	Regional VP	NA
Michael Wolgemuth	Regional Manager	DE Class IV WW
Jeffrey Kerin	Project Manager	DE Class IV WW
Mathew Davis	Lead Operator	DE Class IV WW
Paul Smith	Operator II	DE Class III WW
Vince Catalano	Lead Operator	DE Class II WW
Kurt Brittingham*	Operator II	DE Class I WW
Andrew Courtney	Lead Maintenance Electrician	NA
Michael Mazzetti	Maintenance Technician III	OIT
David Weed	**PT Operator III	DE Class IV WW
Tom Callahan	Regional Safety Advisor	NA

\*Medical leave.

\*\*Currently working 20-30 hours per week.

## Attachments

- January Sussex County Flow Totals
- Zenon Reports- (none received, reached out to Zenon)
- December 2022 DMR
- 2022 AEMR

DATE	INVOICE	REPORT	VENDOR	MEMO	AMOUNT
12/16/2022	0137066	Jan 2023	Hill's Electric Motor Service	PS9 Pump Rebuild	\$2,938.86
12/21/2022	FPS0083170	Jan 2023	Fidelity Power Systems	Troubleshoot issue with WWTP Generator	\$971.20
1/5/2023	PCARD	Jan 2023	Amazon	electric trash pump for 2mm screen	\$1,226.09
1/5/2023	PCARD	Jan 2023	Fisher Auto Parts	oil filters for plant generator	\$172.00
1/5/2023	PCARD	Jan 2023	Fisher Auto Parts	Feul, Air, Coolant Filters for plant generator maintenance	\$425.54
1/7/2023	PCARD	Jan 2023	Home Depot	gate repairs on pump stations	\$40.31
1/7/2023	PCARD	Jan 2023	Bests Ace Hardware	fittings for air release valve pump2 ps#4	\$35.34
1/7/2023	PCARD	Jan 2023	Home Depot	plumbers putty for pista grit cabinet- hose repair - anoxic valv	\$67.63
1/7/2023	PCARD	Jan 2023	Home Depot	2mm pump check valve	\$29.60
1/7/2023	PCARD	Jan 2023	Home Depot	straps for high level float - jb weld for pista grit	\$22.48
1/7/2023	PCARD	Jan 2023	Penco Corp	2mm pump check valve	\$74.15
1/15/2023	00348572	Jan 2023	Carter Machinery Co Inc	PS4 Generator Rental	\$1,768.68
1/26/2023	PCARD	Jan 2023	Grainger	(4) Life Rings and bouy rope bags, anchor mounted boot brush, can of chain lube for front gate opener	\$717.98
1/26/2023	PCARD	Jan 2023	Orchard Pump and Supply	2 inch utility pump	\$933.00
1/26/2023	PCARD	Jan 2023	Horney Industrial	Calibrate Flow Meters	\$640.10
1/28/2023	PCARD	Jan 2023	Home Depot	Sump pump for digester building, heater for kubota membrane permeate valve	\$362.97
1/28/2023	PCARD	Jan 2023	USA Blue Book	50 gallon chemical storage tank for foam pump	\$575.06
1/28/2023	PCARD	Jan 2023	Home Depot	Plumbing parts for digester 1 return	\$24.03
1/28/2023	PCARD	Jan 2023	Auto Zone	Hydraulic fluid for skid steer	\$69.99
				<b>Monthly Total</b>	\$11,095.01

Cap budget \$6,666.67  
Client Total \$4,428.34