

FY 2023

Annual Operations Report



July 1, 2022 – June 30, 2023

Overview

During the fiscal year of July 1, 2022 - June 30, 2023, Veolia is still responsible for the Operations and Maintenance of the Rockland Wastewater Treatment Facility and its 13 lift stations.

On June 30, 2023, Veolia completed their 4th year of a 15-year partnership with the Rockland Sewer Commission. The current term of this contract is for five years expiring on 6/30/24 where both parties may enter an additional two five-year extensions based on mutually acceptable terms and conditions.

1.0 Staffing

Veolia remains staffed at the project level for its O&M contract. The Veolia technical support and operational staff for the Rockland project this year includes:

- Director Operations North East Region: Michael Burke
- Project Manager: Richard Kotouch
- Assistant Project Manager: Megan Lynch
- Laboratory Technician: Steven Butts
- Maintenance Foreman: Charles Amaral
- O & M II Technicians:
 - Garry Murrill
 - Terry O'Callaghan
 - Shaun Chaponis (part-time)
- O & M Tech I:
 - Maxwell Jackson
 - Cristian Ryan

In FY 2022-2023, we gained 1 new employee. Cristian Ryan was hired by Veolia in August 2022.

Current Employee Licenses as of 06/30/2023											
		Hoisting		Wastewater				NEWEA Collections			NEWEA Laboratory
Employee	Title	1C Forklift	1B Boom Truck & Forklift	3M	4M	5C	7C	I	II	IV	I
Rick Kotouch	Project Manager						X			X	
Megan Kelly Lynch	Asst. Project Manager	X					X				
Steven Butts	Lab Technician						X				X
Chuck Amaral	Maintenance Foreman					X			X		
Garry Murrill	O & M Tech II					X			X		
Shaun Chaponis (Part Time Weekends)	O & M Tech II					X		X			
Maxwell Jackson	O & M Tech I			X							
Cristian Ryan	O & M Tech I										

1.1 Employee Training and Continuing Education

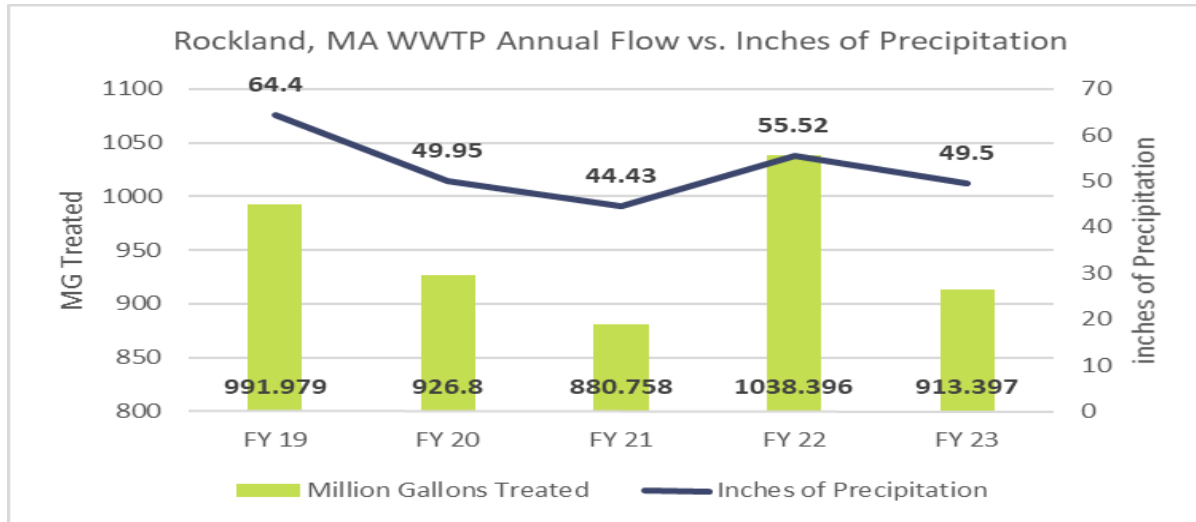
Having highly trained and certified operators is very important to delivering a high level of operational performance. Beyond having competent operators, Veolia also encourages all staff to take relevant training to attain their current certifications and to advance their knowledge in their fields.

To celebrate and encourage employee educational accomplishment, the Veolia Tuition and Education Assistance program reimburses employees attending any accredited college/university.

2.0 Facility Overview

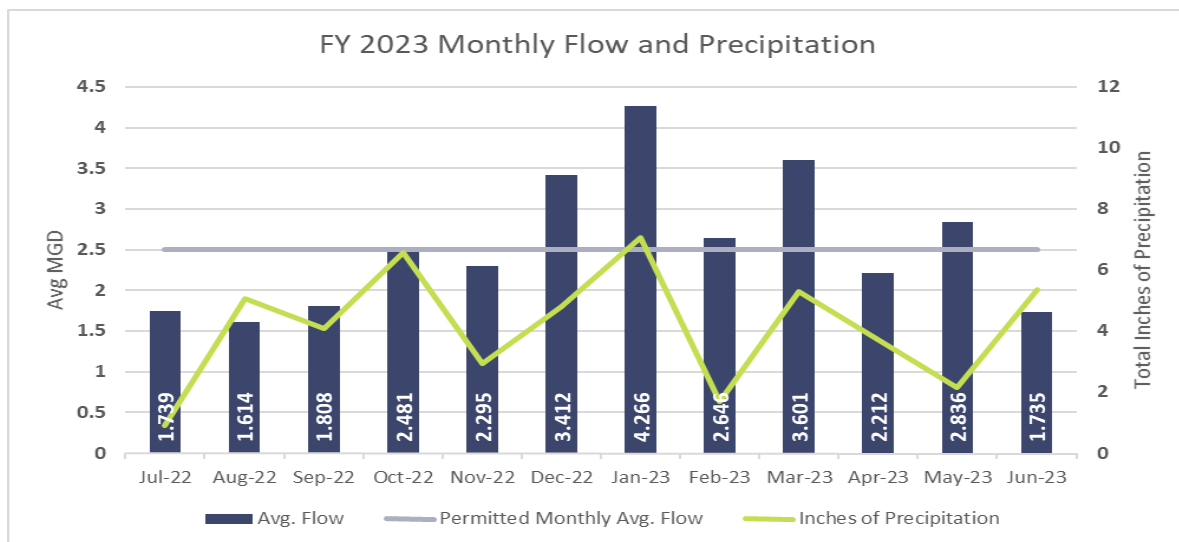
2.1 Weather

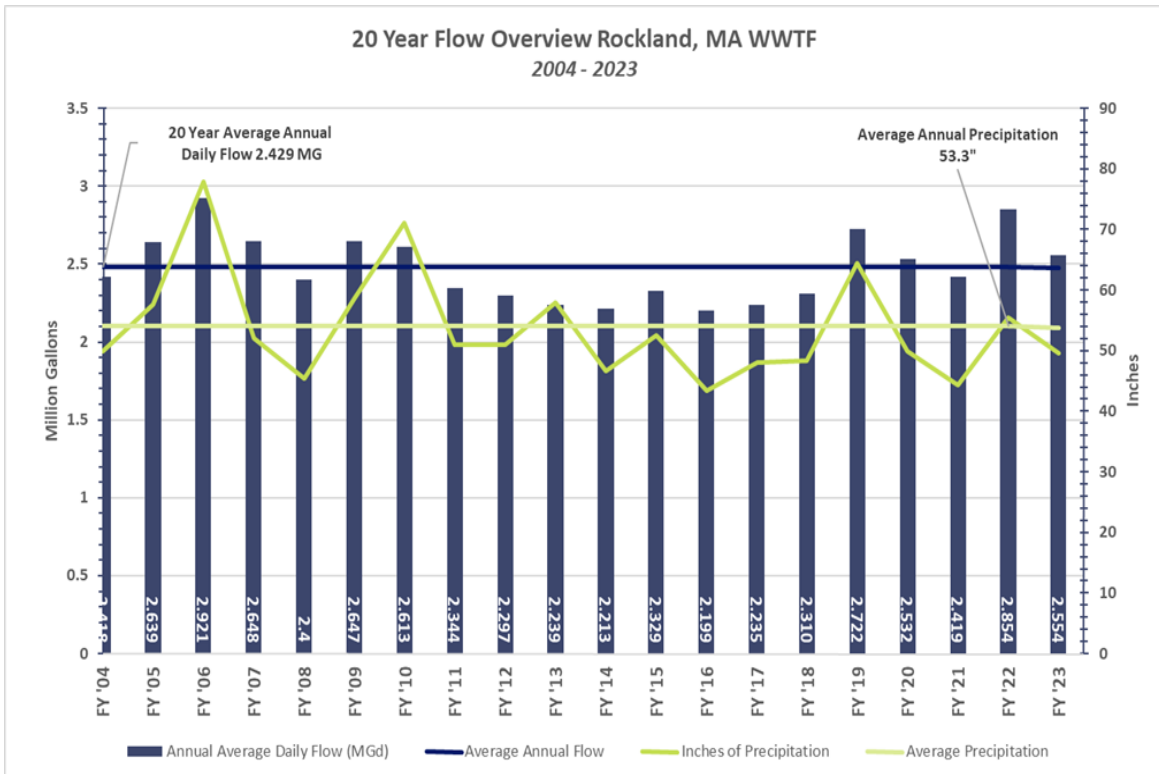
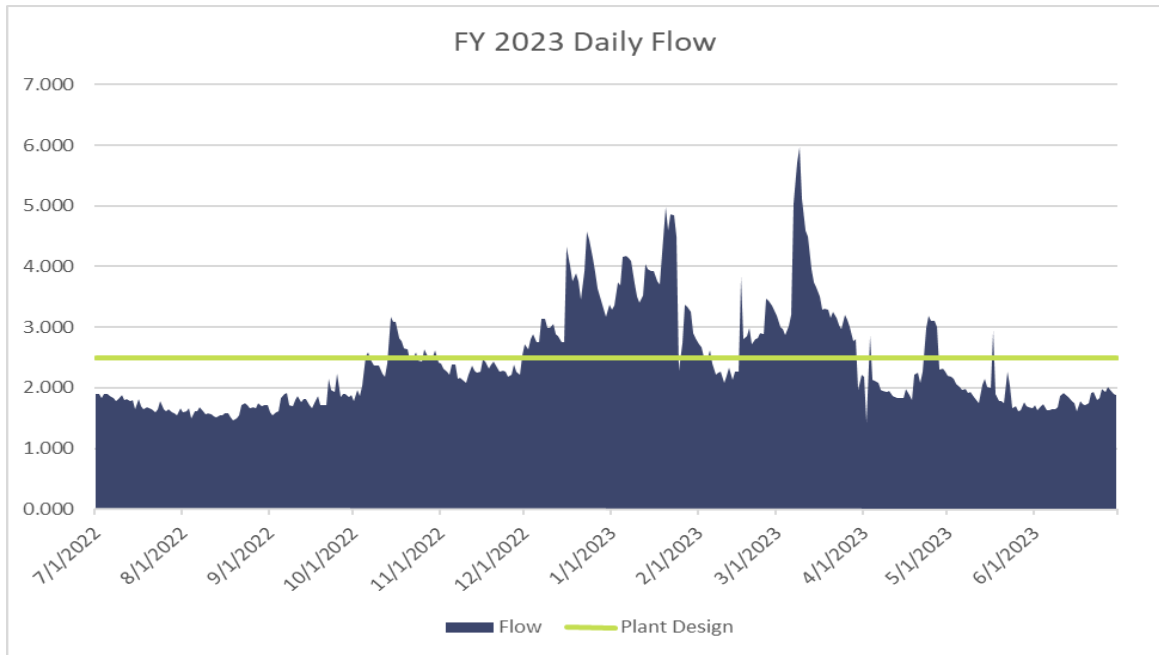
The facility received a total of **49.6"** of precipitation during FY 2022-2023. This amount was **3"** less than the previous five-year average of **52.5"**. The highest single day total of precipitation occurred on August 22nd, 2022 with a total of **2.08"**. The coldest temperature of the year of **-12°F** occurred on February 4th, 2023, while the warmest day occurred on July 24th, 2022 with a temperature of **99°F**.



2.2 Flows

The facility treated a total of 913,397,000 gallons throughout the year with a daily average flow of **2.554** MGD. The highest total daily flow recorded was March 6th, 2023 at **5.963** MGD while the lowest total daily flow recorded was on April 9th, 2023 at **1.427** MGD.





3.0 Operational Overview

3.1 Process Control

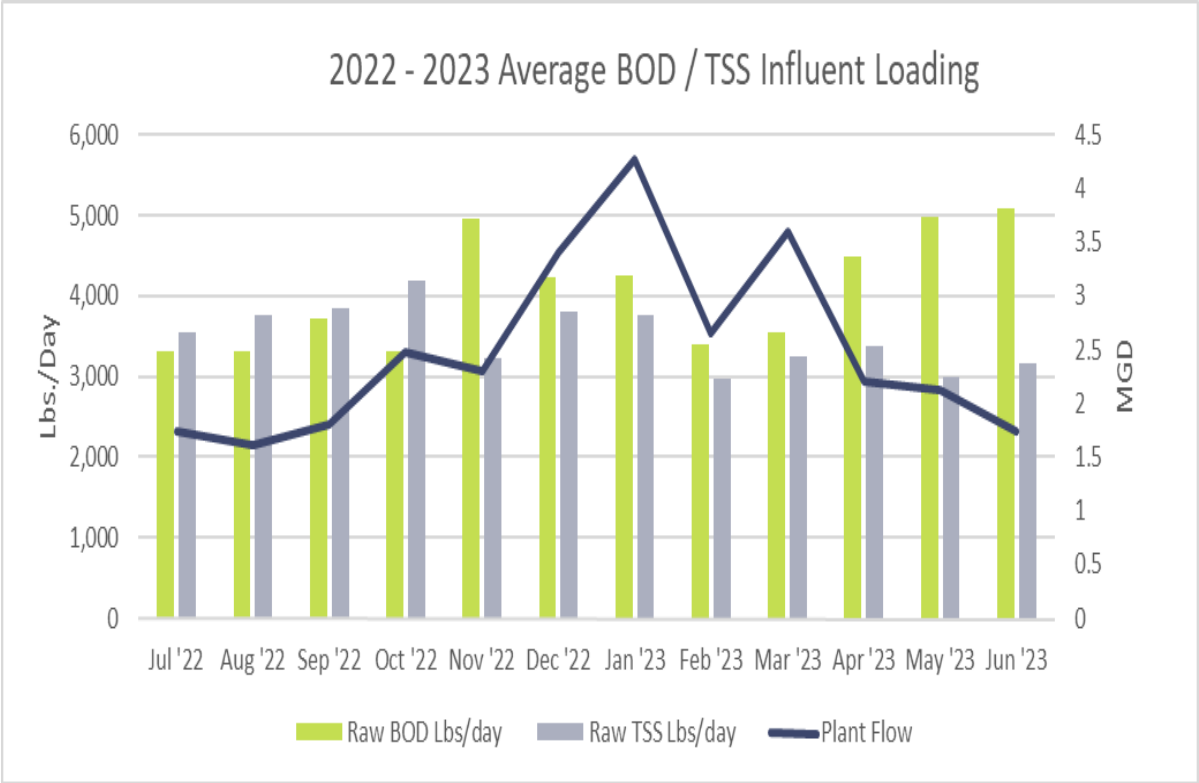
The Veolia staff has continued to deliver exceptional high-quality effluent throughout 2022-2023. This was achieved through the combined effort, experience, and expertise of the highly qualified staff. Process control continues to be a true passion of the staff who take pride in operating the facility for the Town of Rockland.

The Veolia- Rockland management team continues to work with the Veolia Technical Services group to evaluate opportunities for process optimization and energy savings at the facility as part of the Rockland RIPE (Research, Investigate, Process, Evaluation) program. Key points that have been identified during this program were ways to improve plant capacity during wet weather events, energy consumption, solids handling and reducing chemical usage. The Rockland team will continue to work with the Technical Services group through 2023-2024 to look for other key areas of opportunity.

3.2 Influent Loadings

The influent BOD lbs. /day average increased by **7.5%** from FY '22 to FY '23 with an average of **3,112** lbs./day in FY '22 to **4,050** lbs./day FY '23. The influent TSS lbs./day average increased by **4.7%** with an average of **3,790** lbs./day in FY '22 to a total of **3,489** lbs./day in FY '23.

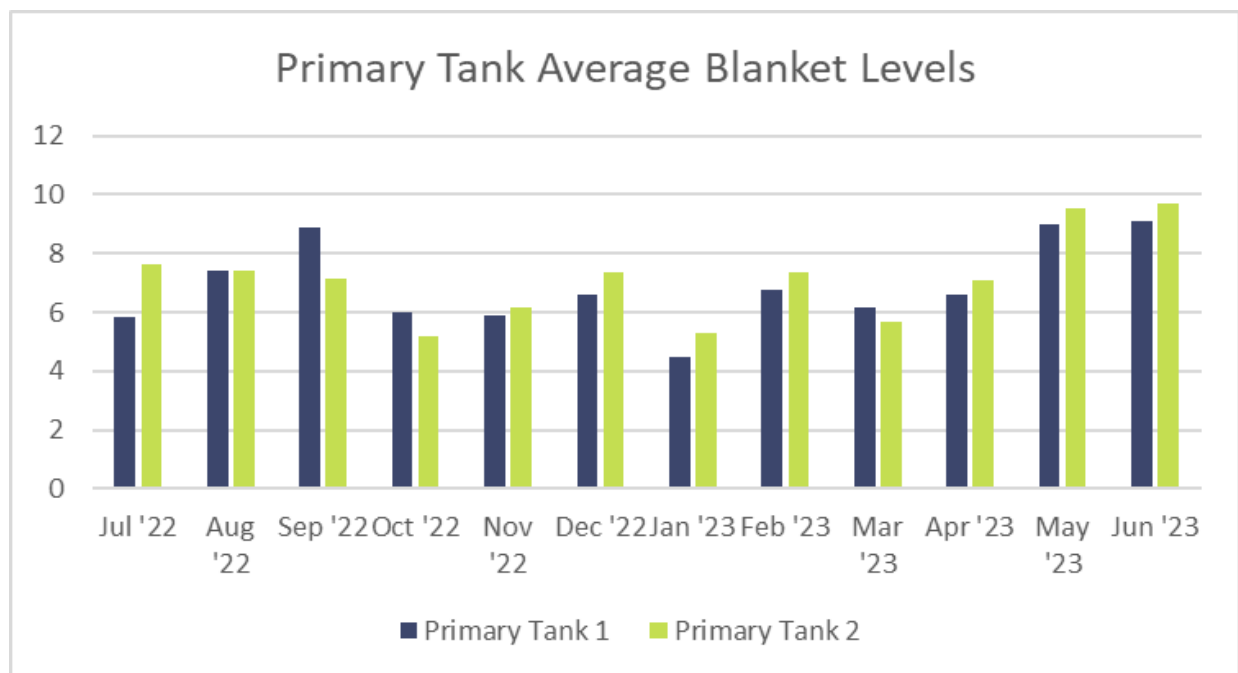
2022 - 2023 Influent Flow and Loadings							
Month	Plant Flow	Raw BOD	Raw BOD	Raw TSS	Raw TSS	Raw NH3	Raw Total P
		Mg/l	Lbs/day	Mg/L	Lbs/day	mg/l	Mg/L
Jul '22	1.739	229	3,316	246	3546	30	4.10
Aug '22	1.614	248	3,313	281	3758	34	6.00
Sep '22	1.808	247	3,716	254	3838	31	4.80
Oct '22	2.481	166	3,323	209	4180	24	4.10
Nov '22	2.295	262	4,948	171	3227	25	4.20
Dec '22	3.412	165	4,234	143	3802	27	4.10
Jan '23	4.266	126	4,250	111	3763	14	2.40
Feb '23	2.646	143	3,408	124	2970	15	3.10
Mar '23	3.601	118	3,539	107	3250	21	3.30
Apr '23	2.212	214	4,495	160	3386	45.6	3.14
May '23	2.124	243	4,969	144	2999	23.8	3.89
Jun '23	1.735	294	5,090	183	3154	27.2	3.49
Average	2.494	205	4050	178	3489	25	3.89



3.3 Primary Treatment

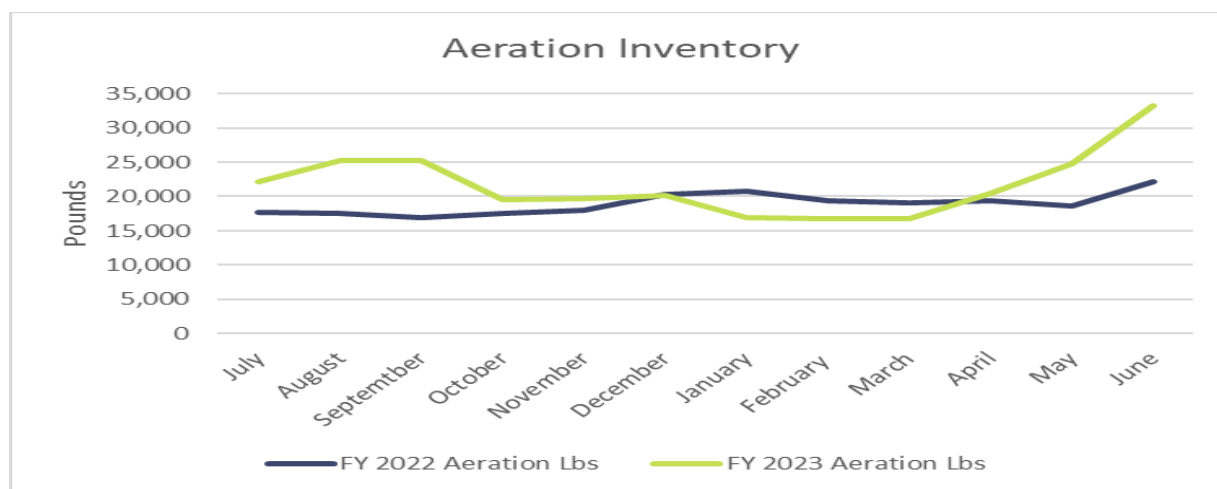
The primary treatment TSS % removal decreased in FY '23. The TSS Percent Removal was 60% in FY 2022 and the % decreased to 31% in FY 2023. The primary treatment BOD % removal had shown a decrease in FY '23. The BOD % removal was 49% in FY 2022 and dropped to 19% in FY 2023. The annual average primary blanket was 4.05' in FY '22 and increased to 7.02' in FY '23.

Date	Primary Tank 1 Blanket	Primary Tank 2 Blanket	Raw Influent BOD	Raw Influent TSS	Raw Influent NH3	Raw Influent Total P	Tank 1 %TS	Tank 1 %VS	Tank 2 %TS	Tank 2 %VS	Primary Eff. TSS	Primary Eff. Bod	Primary Eff. NH3	Primary Eff. Total P	Primary TSS Removal	Primary BOD Removal
	Feet	Feet	mg/L	mg/L	mg/L	mg/L	%	%	%	%	mg/L	mg/L	mg/L	mg/L	%	%
Jul '22	5.85	7.63	229	246	30	4.10	2.21	72.24	2.12	73.51	80	118	36	3.20	64	45
Aug '22	7.44	7.40	248	281	34	6.00	1.92	74.00	2.00	71.43	120	150	41	2.80	59	39
Sep '22	8.88	7.15	247	254	31	4.80	1.79	71.16	1.94	70.18	123	138	40	2.60	49	24
Oct '22	6.02	5.18	166	209	24	4.10	2.25	71.99	2.48	71.02	135	80	32	6.90	26	43
Nov '22	5.90	6.17	262	171	25	4.20	2.45	75.25	2.62	78.03	75	129	24	2.10	55	38
Dec '22	6.58	7.37	165	143	27	4.10	2.49	76.28	2.53	78.03	91	141	32	3.10	35	-8
Jan '23	4.45	5.31	126	111	14	2.40	2.81	79.82	2.99	80.26	46	44	18	1.80	35	23
Feb '23	6.77	7.36	143	124	15	3.10	2.82	80.83	2.88	80.29	58	73	18	1.80	54	48
Mar '23	6.16	5.66	118	107	21	3.30	2.96	80.71	3.18	79.86	70	83	28	3.00	16	18
Apr '23	6.62	7.07	214	160	46	3.14	2.48	80.02	2.65	78.38	96	286	60	4.25	38	-34
May '23	9.02	9.55	243	144	24	3.89	2.27	76.61	2.21	78.90	134	296	22	6.32	6	-24
Jun '23	9.12	9.69	294	183	27	3.49	2.01	72.96	2.36	71.91	294	238	33	8.25	-69	20
Average	6.90	7.13	205	178	27	3.89	2.37	75.99	2.50	75.98	110	148	32	3.84	31	19



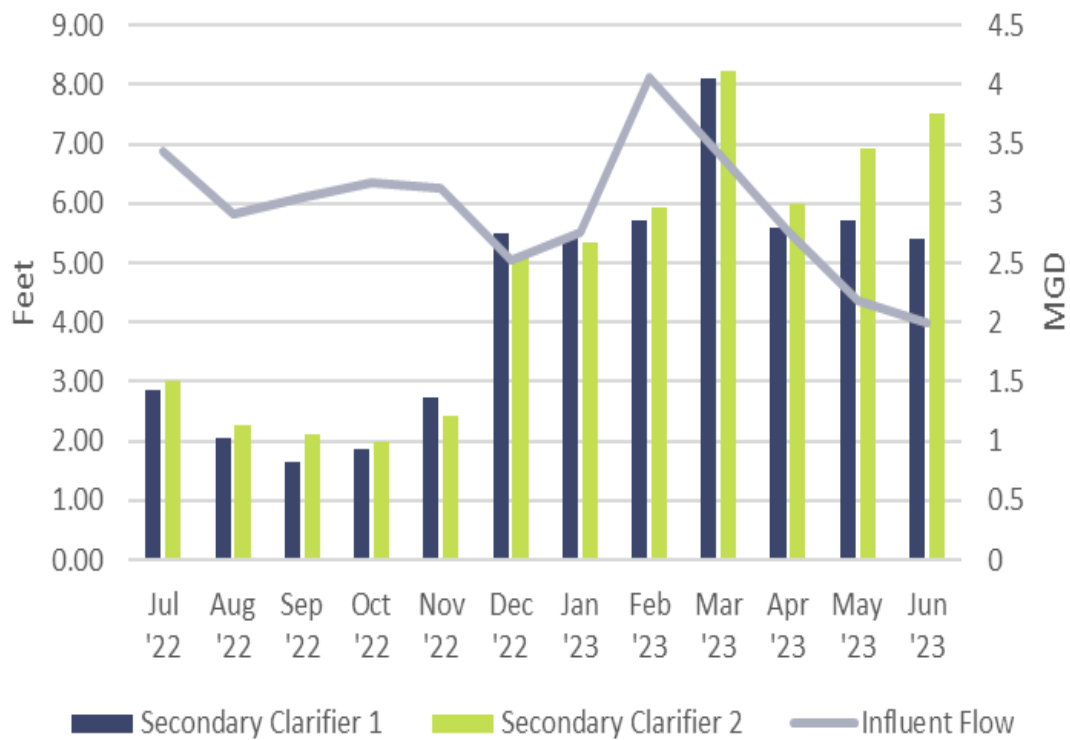
3.4 Secondary Treatment

Throughout FY 2022 - 2023, the Rockland staff continued to implement procedures to increase plant solids removal which helps reduce excess loadings to the aeration system coming from the primary treatment system due to the digester overflow. The annual average total aeration inventory increased from **23,021** lbs. in FY '22 to **27,425** lbs. in FY '23. The average clarifier loading throughout the year was **18.52** lbs./day/ft2.

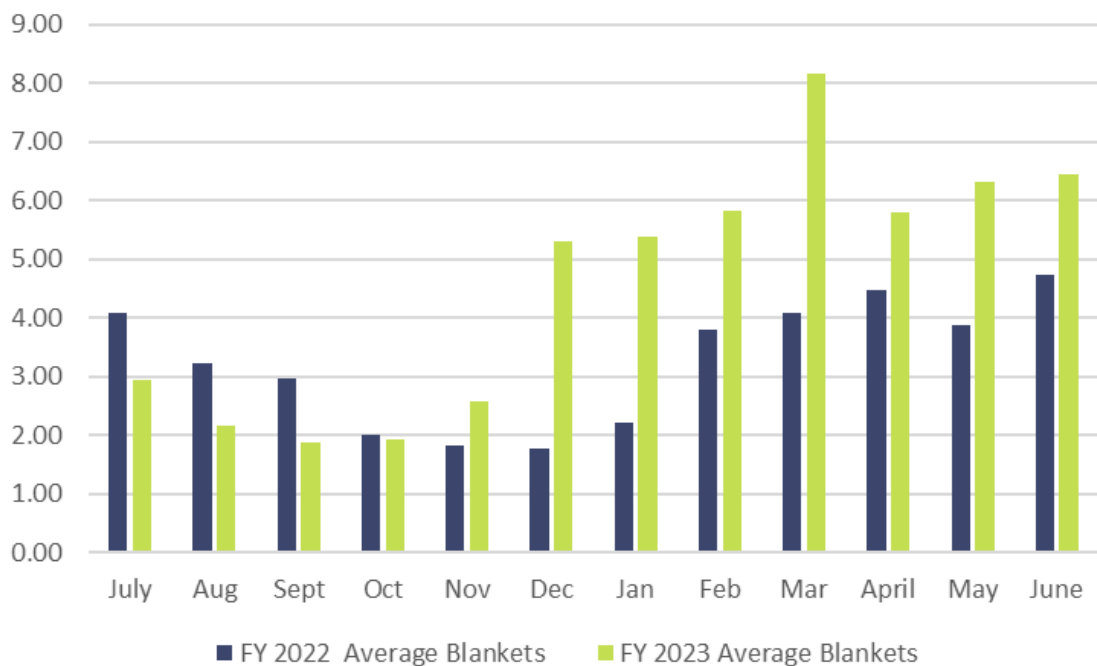


Date	RAS Flow	Clarifier Loading	Tank 1 Blanket	Tank 2 Blanket	Avg. Aeration	Avg. MLSS	Average RASSS	Avg. MLVSS	RASVSS	Lbs. in Aeration	Total Inventory	WAS Avg. GPD	Aeration MCRT	Total Inventory MCRT	F/M Ratio	Avg. Clarifier
	MGD	lbs/day/ft2	Ft	Ft	Ph	Mg/l	Mg/L	Mg/l	Mg/l	Lbs.	Lbs.	Gal.	Days	Days	Ratio	SVI
Jul '22	2.273	15.11	2.85	3.02	7.08	2,545	4,266	1,865	3,080	22,076	25,442	52,077	9	14	0.12	170
Aug '22	2.330	17.07	2.06	2.28	7.00	2,908	4,939	2,048	3,164	25,221	28,049	46,710	10	15	0.11	136
Sep '22	2.309	18.05	1.65	2.10	6.89	2,910	5,330	2,071	3,660	25,242	28,370	58,093	7	11	0.11	113
Oct '22	2.240	15.63	1.87	1.98	6.84	2,256	4,590	1,617	3,343	19,568	21,865	53,510	7	11	0.14	108
Nov '22	2.018	14.19	2.72	2.43	6.76	2,261	4,528	1,688	3,571	19,613	22,845	43,983	9	14	0.17	146
Dec '22	2.827	20.64	5.50	5.12	6.68	2,321	4,892	1,806	3,824	20,130	26,932	53,832	7	12	0.28	174
Jan '23	3.394	21.20	5.44	5.35	6.76	1,958	4,180	1,732	3,576	16,985	22,588	51,490	7	13	0.09	180
Feb '23	2.865	16.59	5.70	5.94	6.82	1,930	3,832	1,591	3,295	16,740	22,545	62,443	6	11	0.13	281
Mar '23	3.380	19.23	8.10	8.23	6.52	1,941	3,732	1,555	2,939	16,836	23,528	48,826	9	16	0.22	280
Apr '23	2.468	17.79	5.60	6.00	6.83	2,356	4,340	1,853	3,318	20,433	27,903	51,200	8	15	0.19	285
May '23	2.304	20.36	5.72	6.93	7.05	2,858	5,564	2,134	4,125	24,785	33,874	50,603	8	15	0.13	208
Jun '23	2.569	26.38	5.40	7.52	7.09	3,831	6,188	2,717	4,480	33,225	45,155	55,243	9	16	0.14	187
Annual Avg.	2.581	18.52	4.38	4.74	6.86	2,506	4,698	1,890	3,531	22,183	27,425	52,334	8	14	0.15	189

Secondary Clarifier Blanket Levels



FY 2022 to FY 2023 Secondary Blankets

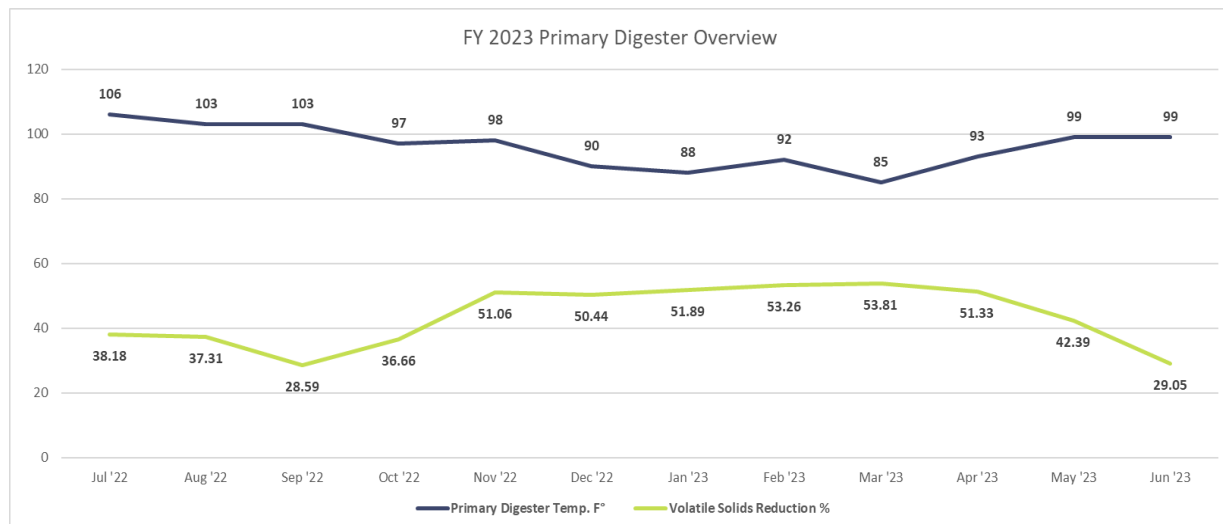


3.5 Digester Performance

The annual average Primary Digester temperature in FY 2023 was **96°F**. The average Volatile Solids Reduction was **76%**. The new digester boiler installation was completed in December of 2022.

During this fiscal year the digester overflow which goes back into the primary treatment was decreased by nearly 390k gallons (gallons pressed vs pumped to digestion).

Date	Primary Digester Temp.	Primary Digester Ph	Primary Digester DT	Digester Feed	Avg. Primary Sludge TS	Avg. Primary Sludge VS	Secondary Digester VS	Primary Digester Vol. Acids	Primary Digester Alkalinity	Primary Digester VA/ALK	Gas Production	Volatile Solids Reduction
	F°	Ph	Days	GPD	%	%	%	mg/L	mg/L	mg/L	CCF/Day	%
Jul '22	106		28	16,910.74	2.17	72.88	62.16				198	38.18
Aug '22	103		23	20,194.29	1.96	72.71	62.56				226	37.31
Sep '22	103		25	18,357.27	1.87	70.67	62.82				203	28.59
Oct '22	97		30	17,047.55	2.36	71.51	60.63				247	36.66
Nov '22	98		43	10,847.00	2.54	76.64	61.14				203	51.06
Dec '22	90	7.4	36	13,008.77	2.51	77.15	62.44					50.44
Jan '23	88		44	10,452.71	2.90	80.04	65.81	305	2,500	0.1220	256	51.89
Feb '23	92		41	11,449.00	2.85	80.56	65.80				277	53.26
Mar '23	85		52	9,483.84	3.07	80.29	65.05				257	53.81
Apr '23	93		45	10,605.63	2.57	79.20	64.86				227	51.33
May '23	99		43	10,639.35	2.24	77.75	66.68				208	42.39
Jun '23	99		36	13,726.03	2.17	72.57	65.12	75	1,930	0.0389	225	29.05
Average	96	7.40	37	13,560	2.43	76.00	63.76	190	2215	0.0805	230	43.66



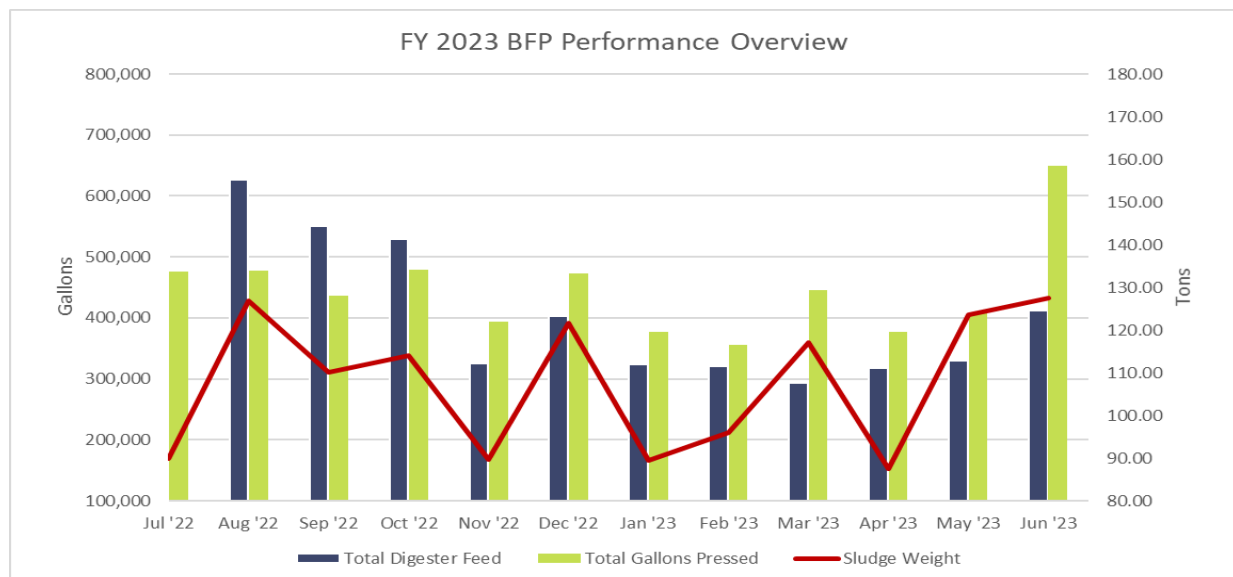
3.6 Solids Removal

Veolia staff operated the Belt Filter Press for a total of **1,709** hours during FY '23, down **1%** from the FY '22 total of **1,724** hours. The average percent solids fed to the BFP from the digestion system was 1.99%, and the BFP solids averaged **21.43%**.

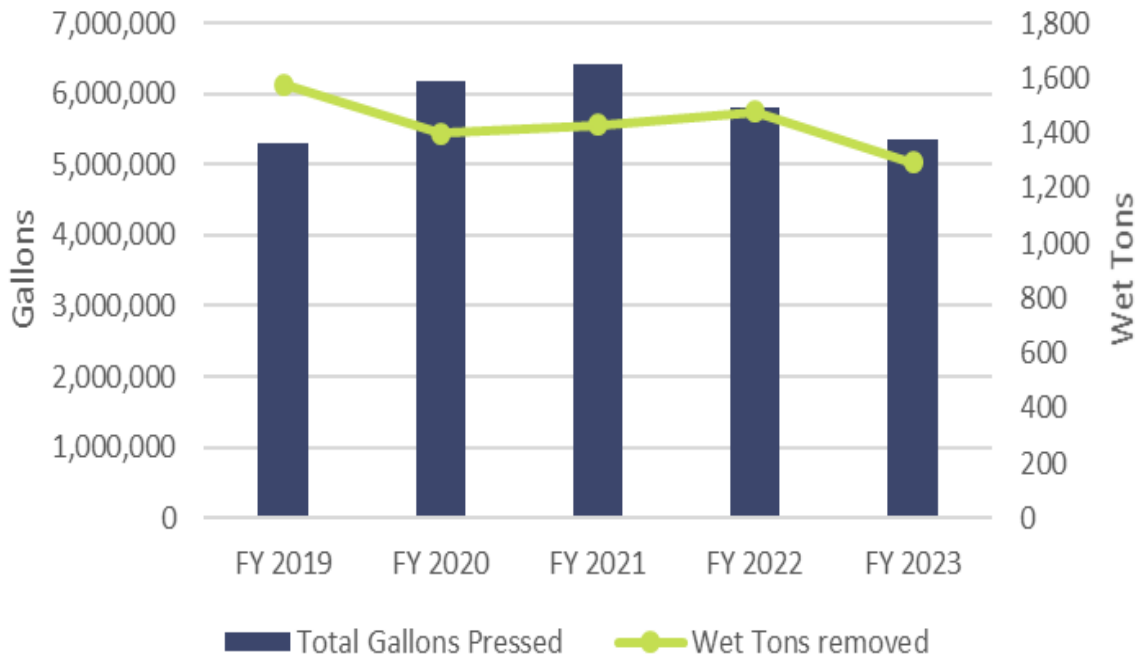
A total of **5,347,044** gallons were pumped to the BFP throughout the year. Solids removal was up **7%** from FY '23 with **1,192** wet tons of sludge hauled to the Synagro Incineration Facility in Woonsocket, RI. The sludge hauler was South Shore Disposal of Bridgewater, MA. A total of **72** sludge dumpsters were hauled from the facility throughout the year to Synagro.

Synagro closed down for emergency repairs in the months of August 2022, February 2023, and May 2023. During the months that they were shut down caused a drastic increase (pounds) in Rockland's sludge that overwhelmed all of the clarifier's and aeration basins.

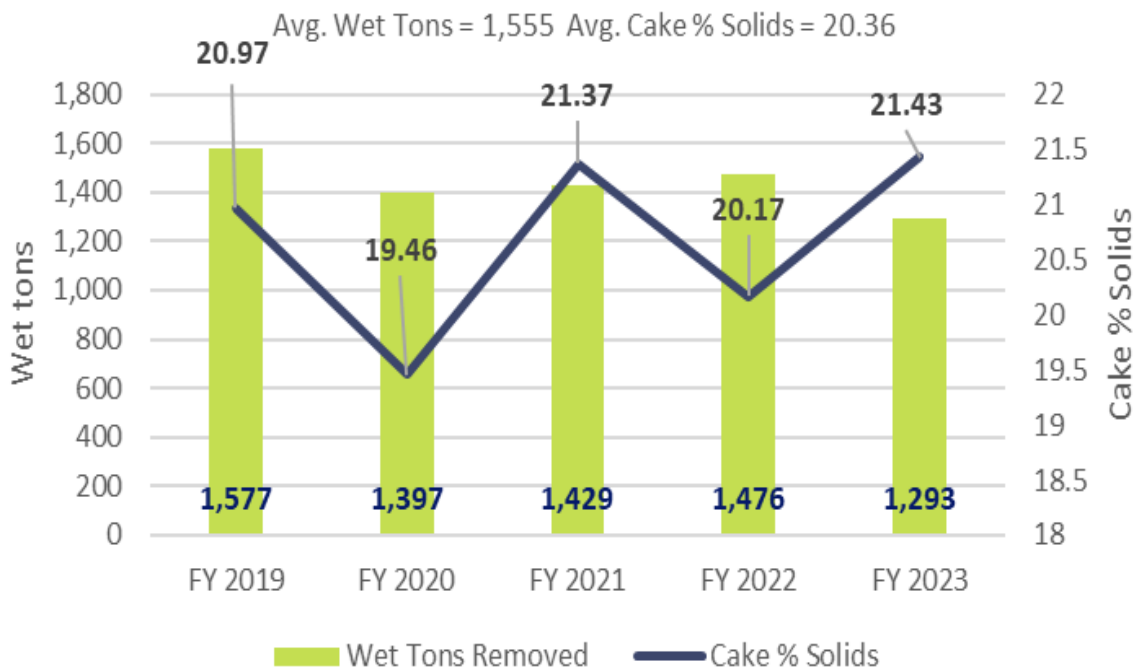
Date	BFP Run Hours	Total Digester Feed	Total BFP Feed	Digester Overflow	Sludge Weight	Press Feed Solids	Cake Solids	Sludge Pick-ups	Grit Removed
	Hrs	Gals	Gals	Gals	Wet Tons	Avg. %	Avg. %	Dumpsters	Tons
Jul '22	137.5	524,233	475,614	48,619	93.9	2.04	22.05	5	
Aug '22	152.6	626,023	477,850	148,173	87.93	2.15	23.45	7	
Sep '22	140.6	550,718	436,908	113,810	120.65	2.46	24.43	5	
Oct '22	154.3	528,474	478,215	50,259	141.43	2.48	22.86	6	
Nov '22	130.0	325,410	393,155	-67,745	85.27	1.96	22.45	5	
Dec '22	150.5	403,272	472,903	-69,631	85.6	1.73	20.27	6	
Jan '23	129.2	324,034	377,362	-53,328	77.53	1.72	19.24	6	
Feb '23	134.3	320,572	355,441	-34,869	84.61	1.59	18.77	6	
Mar '23	147.1	293,999	445,395	-151,396	97.86	1.62	18.98	6	
Apr '23	123.3	318,169	377,424	-59,255	89.52	2.21	20.87	6	
May '23	125.6	329,820	407,350	-77,530	99.48	2.08	21.52	6	
Jun '23	183.7	411,781	649,427	-237,646	128.61	1.88	22.32	8	
Annual Total	1,709	4,956,505	5,347,044	-390,539	1,192	****	****	72	4
Avg.	142	413,042	445,587	-32,545	99	1.99	21.43	6	****



5 Year Gallons Pressed vs Wet Tons Removed



5 Year Solids Removal

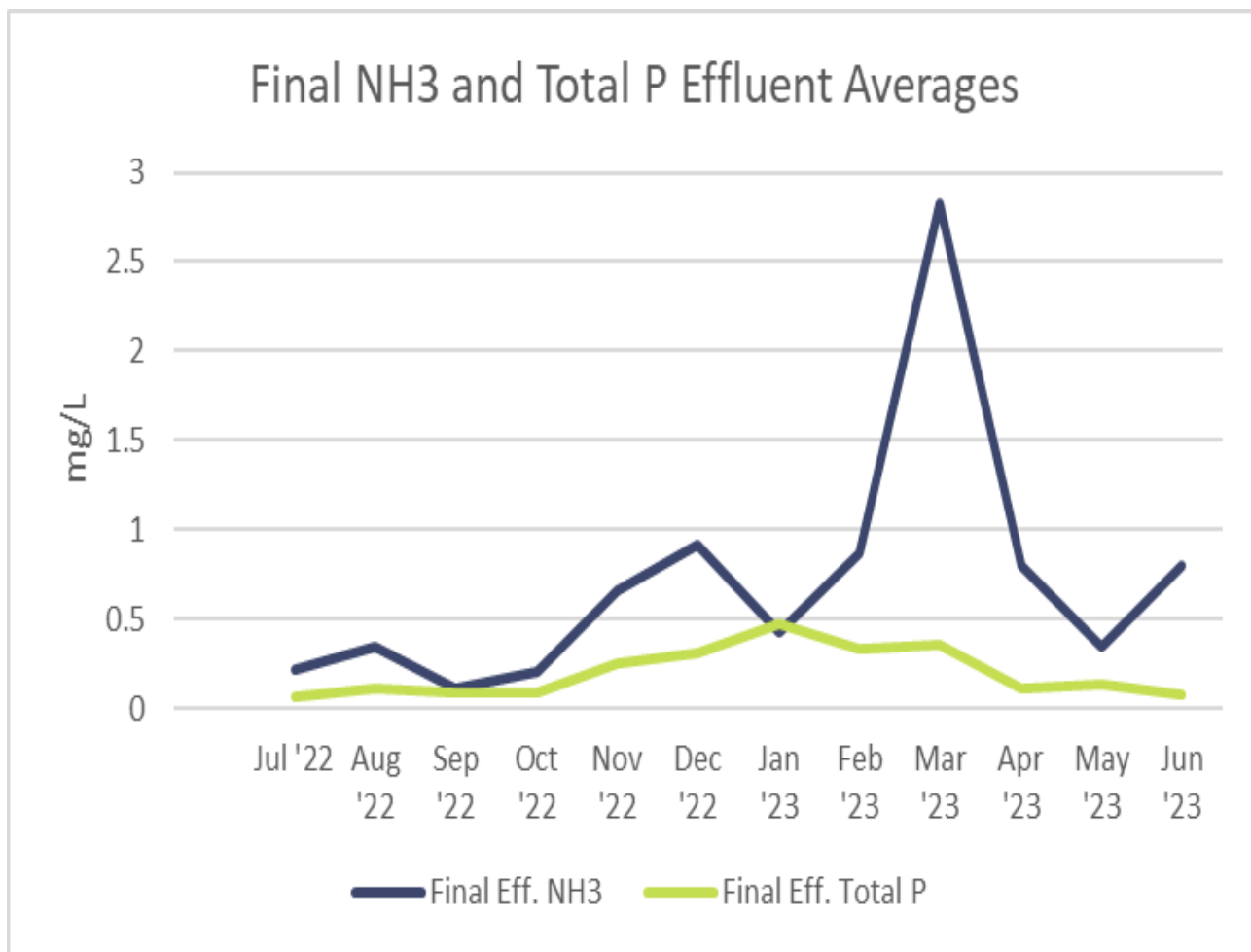


A new NPDES Medium Wastewater Treatment Facility General Permit was issued on 04/01/2023 to the Town of Rockland. This authorizes the Rockland Wastewater Treatment Plant to discharge it's effluent into the receiving water named French Stream South Coastal Watershed.

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The Final Effluent Total Phosphorus monthly average during the summer reporting period was 0.097 mg/L while the NPDES permit limit was 0.1 mg/L. During the winter reporting period it was 0.344 mg/L while the NPDES limit is 1.0 mg/L.

The Final Effluent Ammonia monthly average during the summer reporting period was 0.371 mg/L while the NPDES reporting limit was 1.0 mg/L. During the Spring reporting period it was 0.570 mg/L while the NPDES permit limit was 2.5 mg/L. During the winter reporting period it was 0.982 mg/L while the NPDES permit limit was 3.3 mg/L.



3.9 Wet Weather Management

The Rockland sewer system continues to experience significant infiltration and inflow during rain events. The Rockland High Flow Management Plan was developed many years ago to alleviate peak flows from creating any adverse impacts at the treatment facility. The plan includes setting up the facility's portable diesel-powered Godwin pumps during high flows to reduce the influent flow and to protect the downstream treatment process. Staff will utilize these pumps to shave off any excessive flow during wet weather events and fill all off-line tanks before implementing the MADEP approved HFMP.

Veolia and the Rockland staff implemented the MADEP Sewage Notification Plan per MASSDEP 314 CMR 16.00 on **two** occasions (1/26/23 & 3/15/23) in FY 2023 and was required to shave influent flow on **three** different occasions. A total amount of **15.569 MG** gallons was shaved but not discharged from the facility. A total amount of **2.813 MG** was partially treated and blended with the effluent flow.

All High Flows are reported to the MADEP and EPA via the Sanitary Sewer Overflow (SSO)/Bypass notification form as well as reported internally through the Veolia's Intelix event reporting system.

Date Fiscal Year	Total HFMP Reported	Total MGD (Includes HFMP)	Average Daily Flow MGD	Godwin Flow Shaved MGD (Influent)	Godwin Flow Blended MGD (Effluent)	Total Precipitation Inches
Jul '22		53.90	1.739			0.91
Aug '22		50.02	1.614			5.06
Sep '22		54.23	1.808			4.07
Oct '22		76.91	2.481			6.57
Nov '22		68.86	2.295			2.93
Dec '22		105.76	3.412	1.573		4.81
Jan '23	1	132.23	4.266	5.683	1.000	7.07
Feb '23		82.38	2.942			1.69
Mar '23	1	111.62	3.601	8.313	1.813	5.28
Apr '23		77.57	2.586			3.72
May '23		77.40	2.497			2.15
Jun '23		62.49	2.083			5.37
TOTAL	2	953.38	2.610	15.569	2.813	49.63

Date Fiscal year	Total HFMP Reported	Total MGD (Includes HFMP)	Average Daily Flow MGD	Godwin Flow Shaved MGD (Influent)	Godwin Flow Blended MGD (Effluent)	Total Precipitation Inches
2020	1	926.80	2.532	2.740	0.333	49.950
2021	0	879.32	2.722	2.440	0	64.400
2022	0	1075.00	3.478	1.229	0	54.791
2023	0	953.38	2.610	15.569	2.813	49.630

ENVIRONMENT, HEALTH, SECURITY AND SAFETY

Safety Training

Veolia is committed to providing its employees with a comprehensive, job-specific environment, health, security, and safety training program. This training program is based on individual training needs of each employee. Training courses are assigned to the individual employees based on job responsibilities. Veolia offers many other critical high value training programs. The 12 Life Saving Rules are also implemented at all projects and they remain to be a core element of the safety culture in Rockland.

- Proficiency training completed at the facility for LOTO procedures ensuring that all staff are capable of properly de-energizing equipment safely.
- Safe Work Plan: All routine work procedures performed by the operational staff have a Safe Work Plan. The plan identifies the Hazards and Controls to safely perform the work.
- Leading Indicators: All Unsafe Conditions or Near Miss incidents are recorded and corrected. A corrective action plan is created for each incident and completed by a set completion date.

Environmental Compliance

Veolia has an excellent environmental compliance record that reflects a high level of compliance at all projects including Rockland, MA. One of the highest priorities is complete transparency in all environmental matters at all projects. To accomplish this, the state-of-the-art Water Information Management System (Hach WIMS™) is used to monitor and track all compliance data. This data is reviewed daily, weekly, and monthly, any issues are immediately reported, investigated for root-causes, and appropriate corrective and preventive measures are implemented. This data is automatically transferred into a monthly report format for the State, thus eliminating the potential for any data transcription/calculation errors.

Due to these and other compliance initiatives, the Rockland Project did not experience any missed samples or reporting deadlines during the period ending June 30, 2023. Veolia also participates in its parent company's (Paris based Veolia) annual Global reporting campaign. Pertinent data from all projects is reported to Paris and is benchmarked against water and wastewater treatment facilities across the world. Any deviations are noted and shared with the management team and are used to optimize plant operations for the clients we serve. This is a high-value service, which Veolia provides to all its clients at no cost to them.

The following regulatory reports and plans completed during the 2022-2023 operating period:

- Monthly DMR reports – due the 15th of the following month
- Monthly UST inspections completed by Dependable Petroleum of Plymouth, MA
- Annual EPA 503 Sludge Report
- Annual Tier II Report
- Annual DMR QA Study
- Annual IPP Report

LABORATORY

Effective February 2023, per the EPA NPDES Permit the Veolia laboratory was no longer required to test for Fecal Coliform and now performs Escherichia Coliform (E. Coli) testing on the Effluent wastewater. So in FY 2023 the lab maintained its certification to perform in-house E. Coli's, Settable Solids, Low Level Total Residual Chlorine, and pH examinations.

The laboratory has a professional staff with 30 years of combined experience. Steve Butts, laboratory technician holds a MA Grade 7 wastewater license with 26 years of laboratory experience.

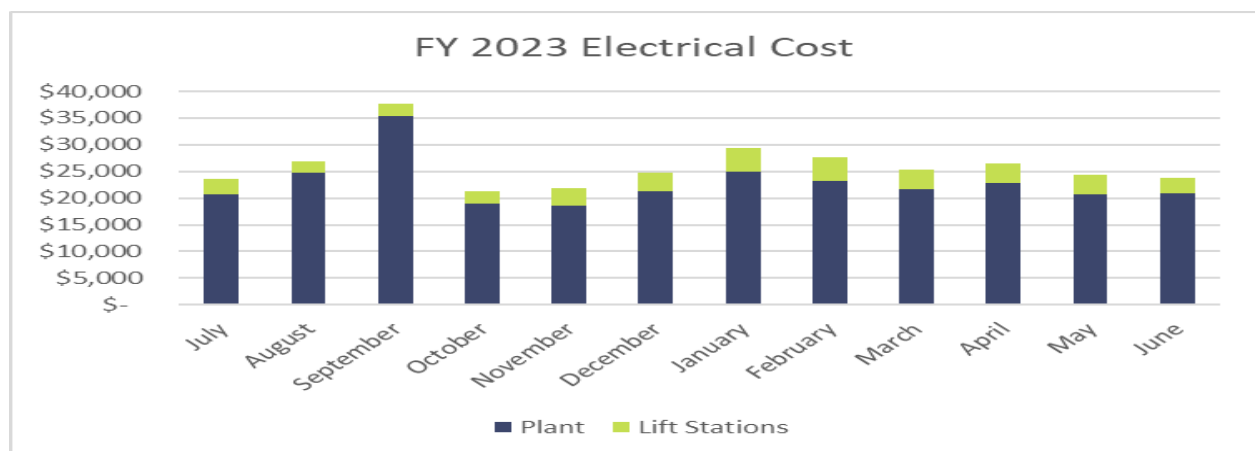
The laboratory reported more than 950 National Pollutant Discharge Elimination System (NPDES) required tests and had zero missed samples. The lab also performed hundreds of other required process control analyses.

5.0 Electrical and Natural Gas usage

5.1 Electric Overview

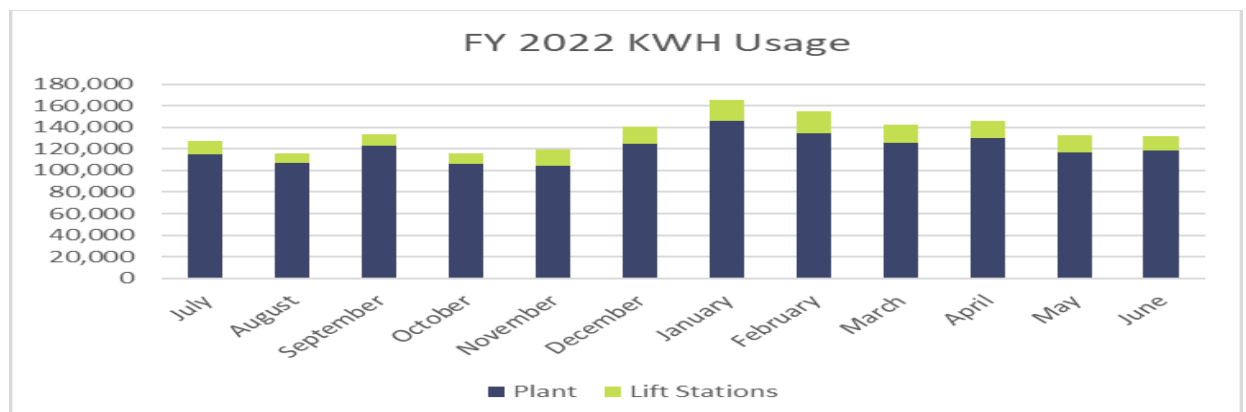
The total electrical cost for FY 2022 - 2023 was **\$313,402.90**. The lift stations accounted for **13%** of the total cost at **\$39,482.72**. The electric cost for the main plant was **\$273,920.18**.

FY 2023 Total Electrical Cost													
	July	August	September	October	November	December	January	February	March	April	May	June	Total
Plant	20,765.43	24,804.78	35,310.24	18,939.30	18,580.89	21,318.27	25,041.52	23,202.13	21,613.14	22,773.52	20,674.18	20,896.78	\$ 273,920.18
Stations													
HINGHAM NORTH	\$ 564.43	\$ 472.67	\$ 510.66	\$ 468.23	\$ 669.04	\$ 647.46	\$ 794.25	\$ 795.24	\$ 680.08	\$ 678.19	\$ 798.92	\$ 541.78	\$ 7,620.95
HINGHAM SOUTH	\$ 948.89	\$ 643.29	\$ 708.84	\$ 644.74	\$ 928.31	\$ 1,018.94	\$ 1,348.44	\$ 1,437.20	\$ 1,112.70	\$ 1,148.06	\$ 926.07	\$ 861.76	\$ 11,727.24
SPRUCE	\$ 34.30	\$ 34.56	\$ 32.76	\$ 34.62	\$ 53.35	\$ 57.47	\$ 43.87	\$ 41.46	\$ 40.73	\$ 64.58	\$ 49.00	\$ 35.21	\$ 521.91
BUTTERNUT	\$ 23.41	\$ 20.34	\$ 21.46	\$ 20.15	\$ 25.99	\$ 24.13	\$ 27.87	\$ 29.42	\$ 25.09	\$ 106.51	\$ -	\$ (81.49)	\$ 242.88
OLD CO. WAY	\$ 195.96	\$ 171.56	\$ 199.98	\$ 186.37	\$ 222.94	\$ 269.42	\$ 322.81	\$ 405.42	\$ 292.22	\$ 290.88	\$ 272.09	\$ 224.01	\$ 3,053.66
MARKET	\$ 85.42	\$ 83.27	\$ 82.62	\$ 85.84	\$ 208.37	\$ 192.20	\$ 219.68	\$ 212.58	\$ 199.81	\$ 199.57	\$ 184.20	\$ 165.50	\$ 1,919.06
WOODBURY	\$ 204.48	\$ 161.50	\$ 188.84	\$ 212.87	\$ 302.69	\$ 281.73	\$ 413.69	\$ 415.49	\$ 327.32	\$ 311.67	\$ 333.07	\$ 241.51	\$ 3,394.86
LINCOLN	\$ 47.66	\$ 39.99	\$ 44.30	\$ 48.67	\$ 67.89	\$ 77.20	\$ 86.88	\$ 84.52	\$ 81.34	\$ 72.81	\$ 79.15	\$ 54.74	\$ 785.15
FOREST	\$ 308.10	\$ 272.30	\$ 301.77	\$ 287.53	\$ 444.47	\$ 457.88	\$ 561.60	\$ 551.23	\$ 492.11	\$ 437.11	\$ 496.68	\$ 365.56	\$ 4,977.34
WHEELER	\$ 22.53	\$ 20.34	\$ 21.46	\$ 20.15	\$ 25.09	\$ 23.47	\$ 23.47	\$ 36.66	\$ 59.73	\$ 22.60	\$ 27.97	\$ 22.43	\$ 325.90
SUMMER	\$ 25.84	\$ 24.70	\$ 24.49	\$ 21.90	\$ 27.58	\$ 24.36	\$ 23.47	\$ 23.25	\$ 22.68	\$ 24.61	\$ 24.15	\$ 22.90	\$ 289.93
MILBROOK	\$ 279.17	\$ 191.44	\$ 220.91	\$ 231.93	\$ 306.52	\$ 390.11	\$ 454.30	\$ 418.78	\$ 395.47	\$ 349.83	\$ 439.20	\$ 336.82	\$ 4,014.48
JOHN BURKE	\$ 35.23	\$ 29.81	\$ 30.26	\$ 28.27	\$ 41.42	\$ 55.05	\$ 67.37	\$ 77.27	\$ 82.89	\$ 62.32	\$ 37.57	\$ 61.90	\$ 609.36
												Total Plant	\$ 273,920.18
												Total Lift Station	\$ 39,482.72
												Total Electrical Cost:	\$ 313,402.90

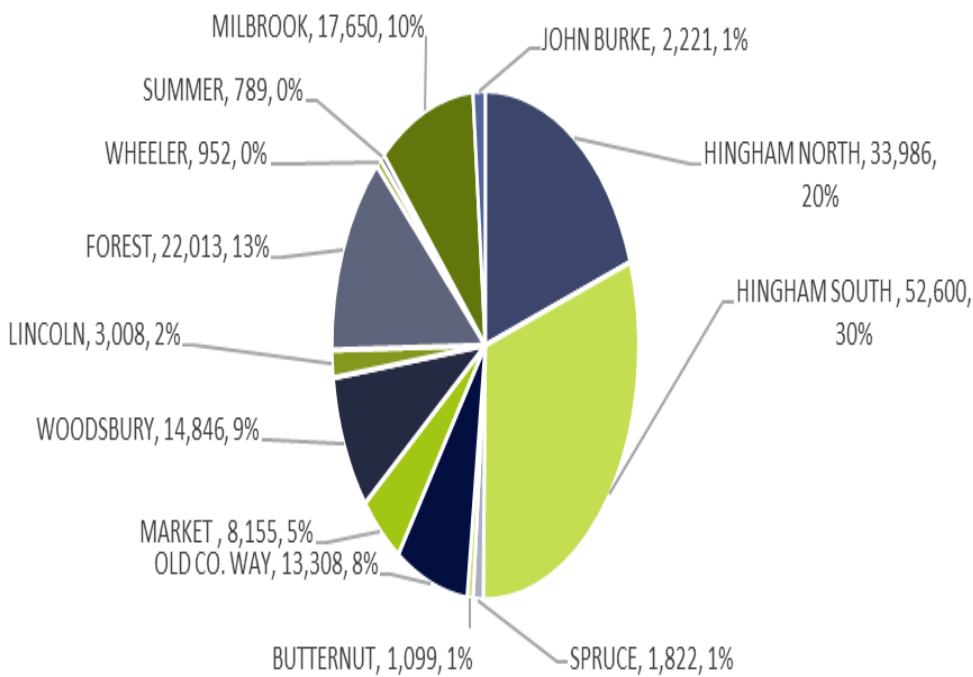


The total KWH usage throughout FY 2022 - 2023 was **1,623,849** KWH. The lift stations accounted for **11%** of total KWH using **172,449** KWH. The main plant used **1,451,400** KWH.

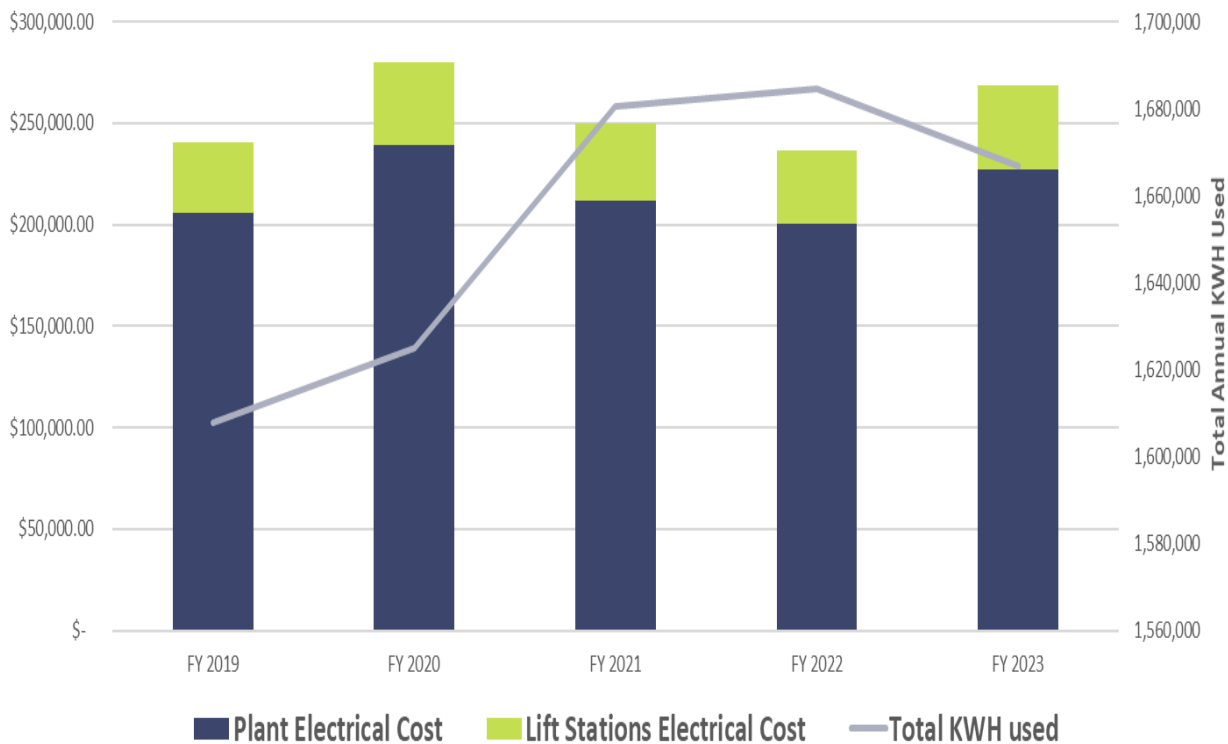
FY 2023 KWH Usage													
	July	August	September	October	November	December	January	February	March	April	May	June	Total
Plant	114,900	106,800	123,300	105,900	104,700	124,800	146,400	134,400	125,400	129,600	116,400	118,800	1,451,400
Stations													
HINGHAM NORTH	2,540	2,119	2,293	2,094	2,943	2,907	3,375	3,577	3,039	2,995	3,531	2,373	33,986
HINGHAM SOUTH	4,300	2,900	3,200	2,900	4,100	4,600	6,100	6,500	5,000	5,100	4,100	3,800	52,600
SPRUCE	109	110	102	110	195	218	156	145	141	246	176	114	1,822
BUTTERNUT	63	49	54	48	73	66	83	90	70	434	0	69	1,099
OLD CO. WAY	853	741	871	807	952	1,184	1,427	1,802	1,281	1,260	1,174	956	13,308
MARKET	347	337	334	348	887	832	957	924	862	851	781	695	8,155
WOODSBURY	892	695	820	928	1,308	1,240	1,841	1,848	1,440	1,353	1,447	1,034	14,846
LINCOLN	168	134	153	172	260	308	352	341	325	283	311	201	3,008
FOREST	1,371	1,202	1,337	1,269	1,942	2,043	2,515	2,466	2,187	1,915	2,179	1,587	22,013
WHEELER	59	49	54	48	69	63	63	123	227	58	82	57	952
SUMMER	74	69	68	56	80	67	63	62	59	67	65	59	789
MILBROOK	1,234	832	967	1,015	1,325	1,734	2,026	1,863	1,749	1,524	1,922	1,459	17,650
JOHN BURKE	113	89	91	82	142	207	263	308	332	236	125	233	2,221
												Total Plant	1,451,400
												Total Lift Station	172,449
												Total KWH Usage:	1,623,849



FY 2023 Lift Station KWH Usage



5 Year Electrical Cost and Usage Overview



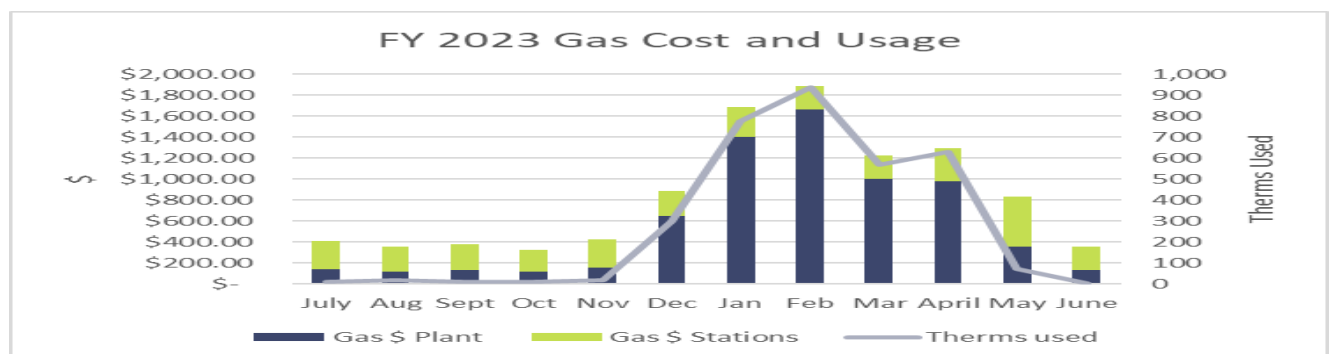
5.2 Natural Gas Overview

The total Natural gas cost for FY 2022-2023 year was **\$10,077.27**. The lift stations accounted for **32%** of the total cost at **\$3,222.83**. The total cost for gas usage at the main plant was **\$6,854.44**.

Total therms used in the FY 2022-2023 year was **3,360**. The lift stations accounted for **4%** of the usage with **130** therms used. The main plant used **3,230** therms throughout the year.

FY 2023 Natural Gas Cost													
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	Total
Plant	\$ 144.53	\$ 120.78	\$ 131.58	\$ 119.48	\$ 156.67	\$ 648.79	\$ 1,401.99	\$ 1,660.34	\$ 1,004.86	\$ 979.81	\$ 354.61	\$ 131.00	\$ 6,854.44
Stations													
Hingham South	\$ 141.96	\$ 119.29	\$ 133.43	\$ 109.38	\$ 147.25	\$ 130.33	\$ 128.80	\$ 123.38	\$ 120.45	\$ 151.40	\$ 262.89	\$ 121.33	\$ 1,689.89
Old Country Way	\$ 33.15	\$ 38.47	\$ 30.75	\$ 25.12	\$ 32.58	\$ 28.15	\$ 28.15	\$ 27.95	\$ 26.30	\$ 44.06	\$ 57.20	\$ 27.33	\$ 399.21
Forest	\$ 58.82	\$ 50.07	\$ 53.58	\$ 45.37	\$ 59.07	\$ 54.01	\$ 78.95	\$ 52.18	\$ 48.90	\$ 73.94	\$ 107.60	\$ 48.90	\$ 731.39
Milbrook	\$ 35.03	\$ 26.63	\$ 27.70	\$ 25.14	\$ 33.81	\$ 26.49	\$ 46.97	\$ 26.30	\$ 24.75	\$ 47.85	\$ 54.21	\$ 27.46	\$ 402.34
Total Stations:	\$ 268.96	\$ 234.46	\$ 245.46	\$ 205.01	\$ 272.71	\$ 238.98	\$ 282.87	\$ 229.81	\$ 220.40	\$ 317.25	\$ 481.90	\$ 225.02	
Total Lift Station													\$ 3,222.83
Total Cost:													\$ 10,077.27

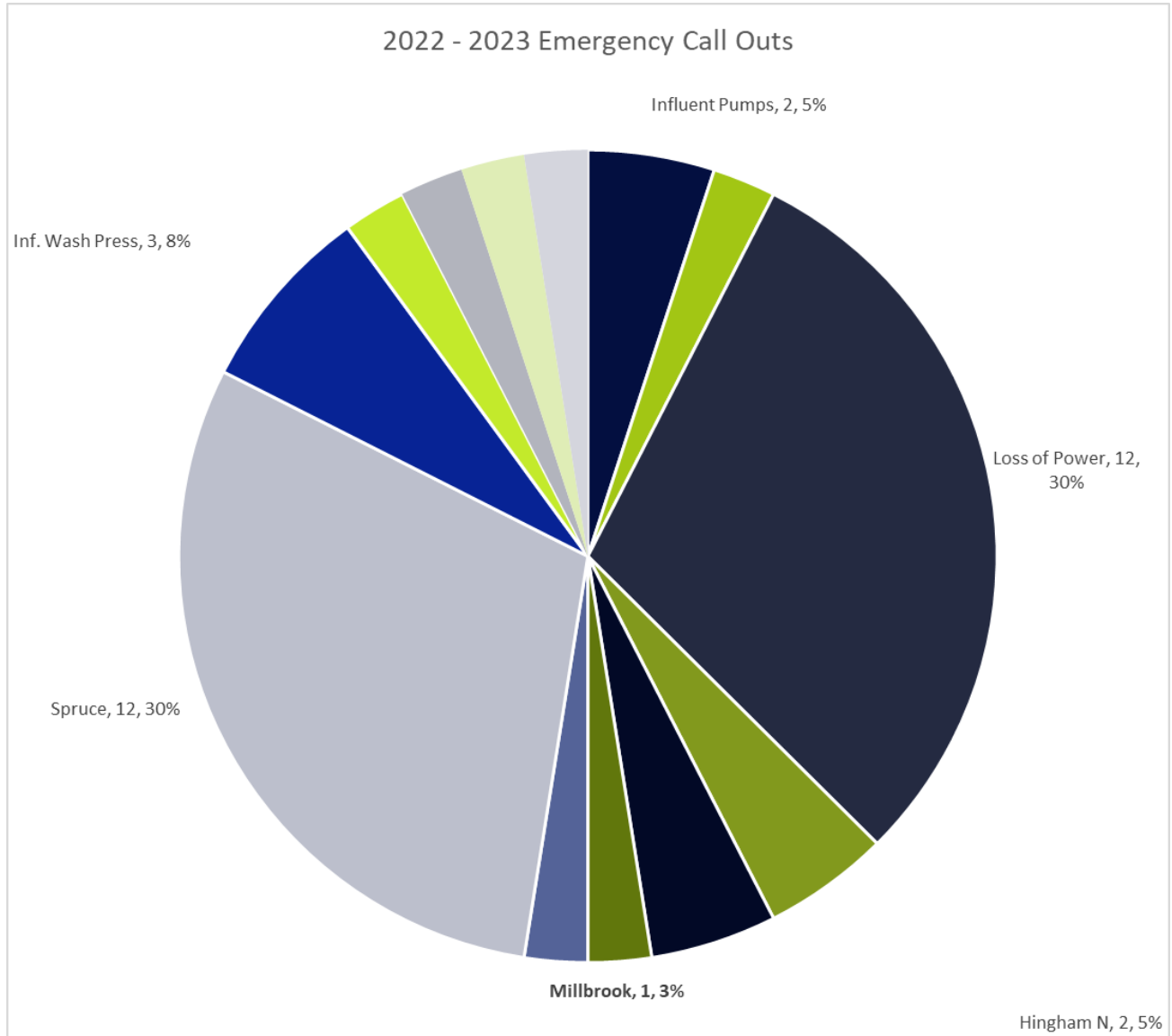
FY 2023 Natural Gas Therms Used													
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	Total
Plant	2	3	2	7	9	297	746	930	570	592	70	2	3230
Stations													
Hingham South	3	2	4	1	4	1	0	2	0	5	1	1	24
Old Country Way	2	9	2	1	1	0	0	1	0	9	0	1	26
Forest	2	2	1	1	1	1	16	2	0	11	1	0	38
Milbrook	4	2	1	2	3	0	13	1	0	14	1	1	42
Total Therms:	13	18	10	12	18	299	775	936	570	631	73	5	
Total Lift Station													130
Total Therms:													3,360



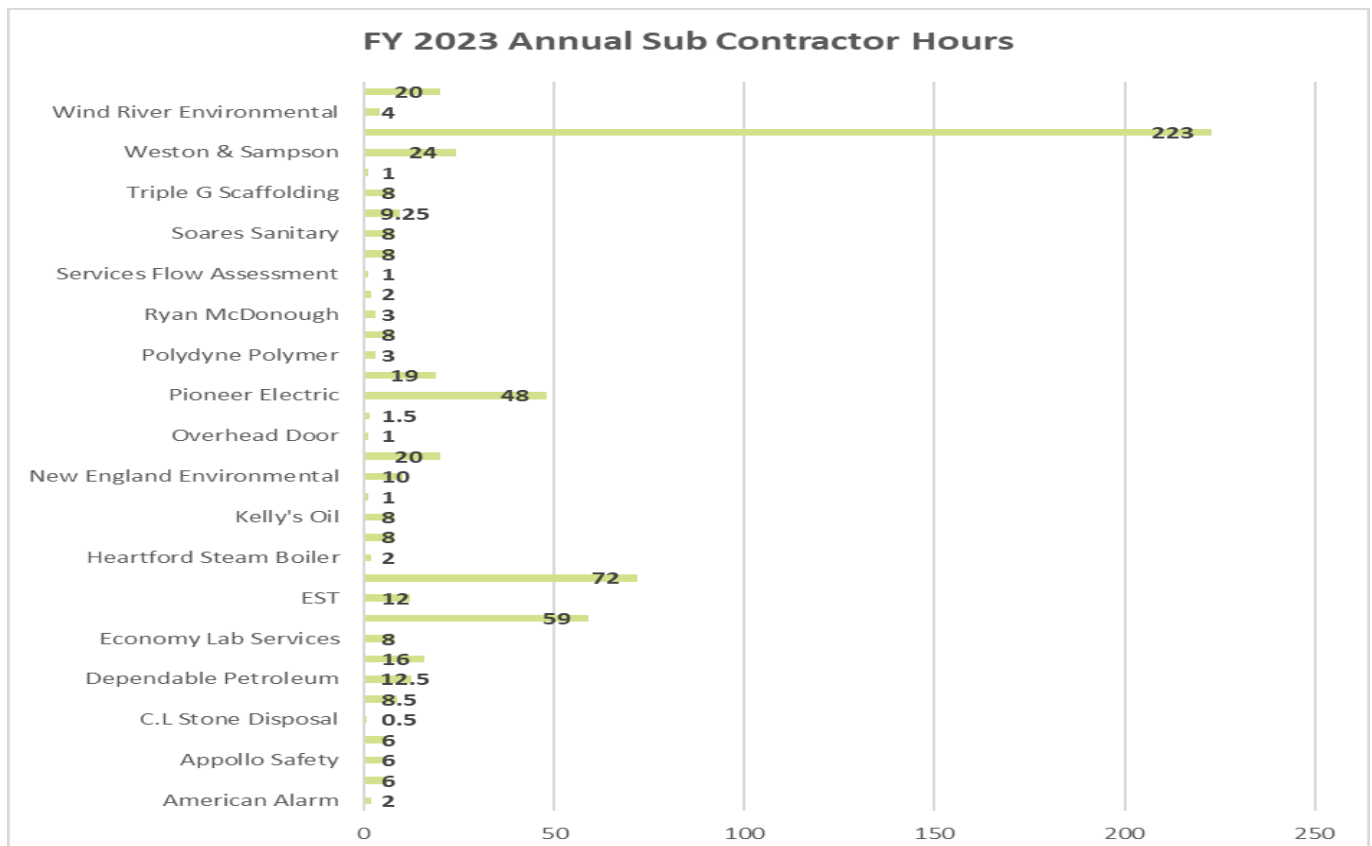
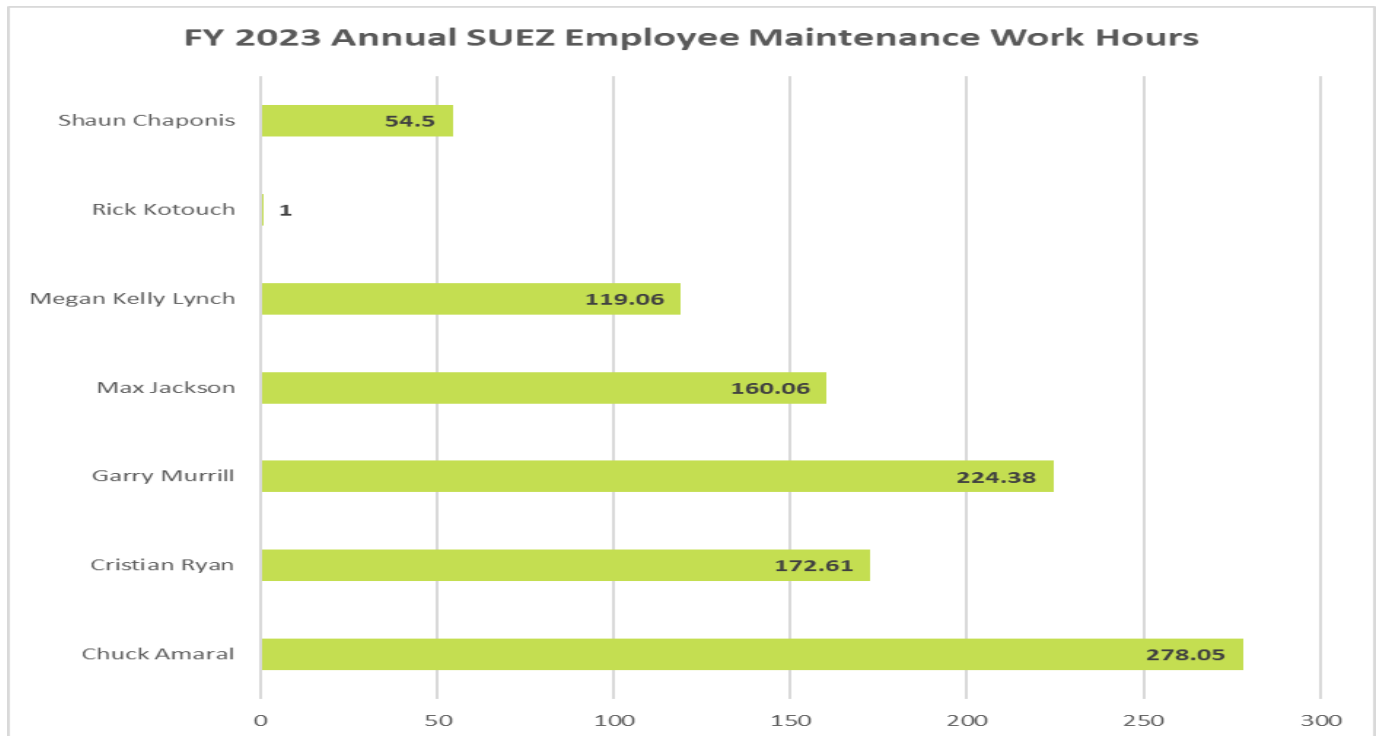
6.0 Maintenance

6.1 Work Order Overview

Veolia staff completed **2,116** maintenance work orders this year; of this amount, **156** were corrective maintenance work orders, the remaining amount of **1,960** were preventative maintenance work orders. **0** work orders were skipped during the reporting period. Of the **156** corrective work orders, **43** were due to emergency call outs.



1,658 maintenance related work hours were recorded this year. Veolia staff accounted for 1,009 hours, while sub-contractors accounted for 39% with 649 hours.



6.2 Significant Repairs, Replacements, and Installations

- Replaced Digester Boiler
- Replaced the main buildings fire alarms, the led strobe light, horn, and booster pack
- Installed a transducer at Butternut Station
- Rebuilt #1 Dry Submersible Pump
- Replaced Grit Chamber VFD
- Installed new leak detector for influent pump #1
- Installed New Effluent Flow Meter
- Replaced Clarifier #1 Drive Motor
- Installed new pump at Lincoln Station
- Replaced relay at Old Country Way
- Installed a rebuilt water pump for the Plant Generator
- Maintenance door motor was replaced
- Installed Effluent Pump #3
- New Mixer put in at Hingham North
- Replaced RKI (gas detector) in Digester Building
- Replaced faulty motion detector for security alarm

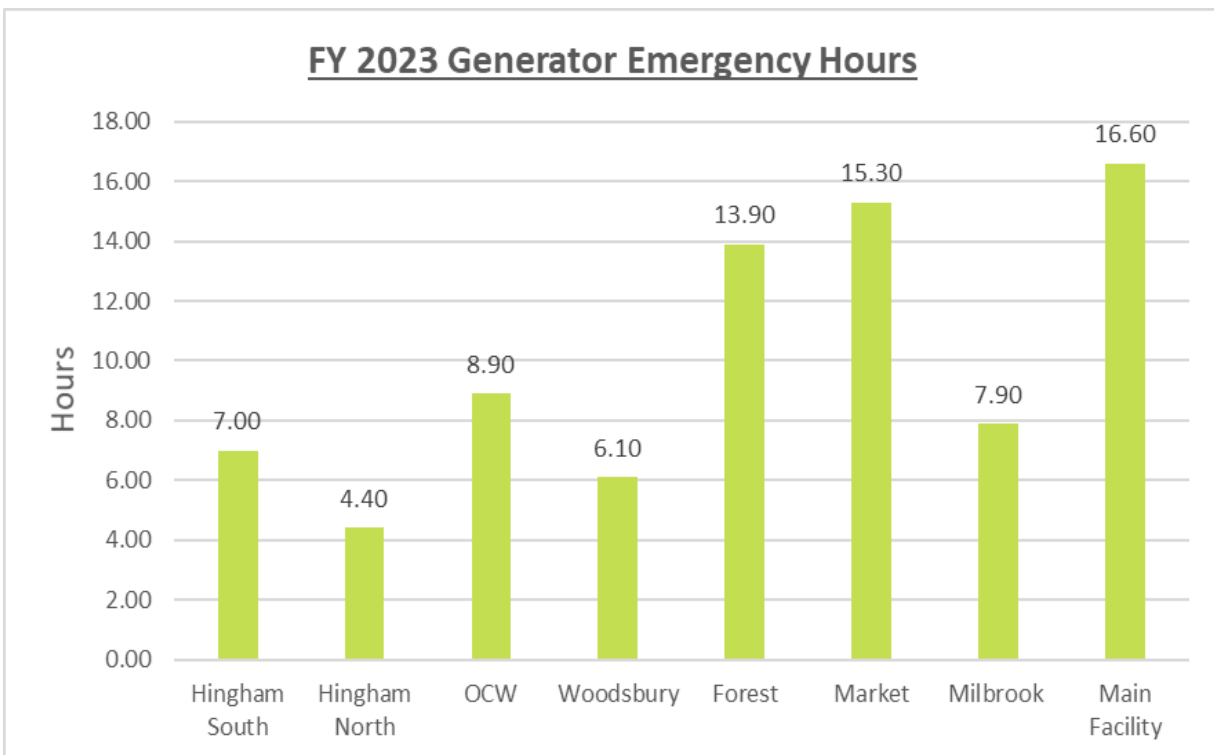
6.3 Inspections & Calibrations

- Monthly UST inspections completed 9/1/2022
- Annual laboratory equipment calibrations completed 02/7/2023
- Annual Process Meter calibrations completed 3/15/2023
- Quarterly gas detector calibrations completed 10/3/2022
- Quarterly back flow inspections completed
- Annual flow meters completed 4/10/2023
- Annual OSHA hoist inspections completed in 9/7/2022
- Annual fire extinguisher inspections completed 12/14/2022
- Annual Main Facility fire alarm inspection completed on 10/18/2022
- Annual Generator Preventative Maintenance and inspections completed by M&S Electric on 9/2/2022
- Annual Transfer Switch Preventative Maintenance and inspections were completed by National Electric Testing on 9/20/22

6.4 Emergency Generators

Veolia's staff tracked generator test and emergency run hours for all generators throughout FY 2023. The staff also continued to monitor and maintain the eight emergency backup generators throughout FY 2023. Daily visual inspections were completed on all generators as well as weekly no load test runs. Per EPA and MADEP all generators were operated monthly under load. M&S Electric Services completed the annual Preventative Maintenance and Inspections on 9/2/2022.

The Main Facility generator had the most emergency run hours in FY '23 with a total of **16.60** hours while the Hingham North Station Generator had the least amount of emergency hours with 4.40 hour.



6.5 Upcoming Projects in 2023-2024

- Replace Spruce Street
- Replace the 500Kw Plant Generator
- Digester Piping
- Remove Oil Tank

Financial Review

R&M 2022-2023 Account Overview

Item	Budget	Spent FY 2023	Remaining
R & M (Project)	\$100,000	\$100,083	-\$0.83

Significant R&M Purchases

- Pumped out the Grit Chamber for \$3,330.00
- Installed Aerator DO Sensor for \$1,413.00
- Replaced 2 Digester Sump Pump Check Valves for \$2,774.60
- Replaced booster pack to Fire Alarm Panel for \$1,239.88
- Installed grinder pump for Influent building sump for \$1,463.16
- Annual UST Inspection for \$1,050.00
- Annual OSHA Crane & Hoist Inspections completed for \$1,560.00
- Annual Generator tests for \$1,179.90
- Replaced 2-4 DO Sensor for \$1,435.00
- Troubleshoot Plant Generator for \$1,110.16
- Spare PLC for pump station for \$1,244.50
- Annual Gas meter inspections for \$2,590.00
- Replaced Roots Blower for \$1,700.00
- Installed Influent pump #3 Leak Detection Module for \$1,080.00
- Replaced fuel solenoid on Millbrook Generator for \$1,105.91
- Replaced BFP Control Panel for \$1,676.00
- Renewed Job Cal Plus support for \$1,224.00
- Down payment for fire alarm replacement for \$1,065.00
- Blue White chemical pump parts for \$1,359.45
- Installed Transfer pump for Ferric Tank for \$1,528.12
- Upgraded VPN router for \$1,827.00
- Replaced Digester Gas Meter Circuit Board for \$2,460.00
- Fog Boost chemical for Aerators for \$1,840.79
- Bacteria for Nitrification for \$1,384.49
- Replaced all Fire Alarms for \$2,485.00
- Annual Lab Equipment Calibrations for \$1,160.00
- Replaced Hingham Street Mixer for \$1,691.00
- Load Bank Test on Generator for \$1,097.10

Manager's 2022-2023 Goals

1. Continue to promote the safe work culture at the facility through leadership, communication, and training to have zero injuries in 2023-2024
2. Continue to excel at producing high quality effluent while striving for zero unavoidable NPDES violations
3. Continue to work with the Town of Rockland Sewer Department and its selected engineering firms on developing and executing an upgrade of significant processes at the facility through the CWMP
4. Continue to work on operating the project as efficiently as possible and to maintain or reduce the usage of electricity based on a KWH per Million Gallons treated baseline