

December Superintendents Report

January 9, 2024

December Precipitation was 5.85 inches. We had a total of 43.33 inches of precipitation in 2023. Our 17 year average Precipitation is 41.24 inches/Year.

Average Daily plant flow was 24.79 MGD which is 10.36 Mgd greater than November. Our Average Daily flow for the year was 17.80 MGD. Total influent for 2023 was 6,496,260,000 Gallons.

CBOD = 11 mg/L. TSS = 11 mg/L. TN = 3.5 mg/L with 5 data points remaining. NH3 = 0.12 mg/L. Phos = 0.506 mg/L.

Micro-Turbines produced 139,447 kwh. Solar produced 1967 kwh.

Annual Micro-Turbine Production = 1,177,923 kwh for Approximately \$82,479.69

Annual Solar production = 54,975 kwh for \$3,776.42.

Combined Micro-Turbine and Solar = \$86,256.11

Annual Electric cost for both facilities was approximately 805,131.00

Digesters averaged 56.25% Volatile Solids Reduction for the month.

Digesters averaged 60.64% Volatile Solids Reduction for the year.

2023 saw us close out the CN Viewport recovery project.

Identified a water leak in the Micro-Turbine underground piping and repaired.

Identify and work towards the H-Line, Emseal replacement project.

Replacement of HVAC Condenser coils for the UV building.

2024 Budget Process.

With Mr. Crumb performing the majority of the work, we updated the Rules and Regulations for the Binghamton-Johnson City Sewage Treatment Plant.

Mechanical department all attended a 4 day welding class.

Replaced the Spray water wash check valve.

The Solar Array inverter was replaced under warranty.

We experienced 1 power failure from NYSEG, the generator system worked as designed. The power failure lasted approximately ½ hour.

All in all it has been a trying year with the 2 major work efforts. I would like to report even with these added work efforts the City, Village, Board and Plant workers all worked together to overcome once again. We were able to perform Approximately 5,225 work orders for the year.

Each year we track over 44,400 data points to fill out the Discharge Monitoring Report.

We had less than 6 numbers out of limit.

We update a minimum of 32 Workbooks/Spreadsheets monthly.

Write a minimum of 10 Annual reports for the DEC and EPA.

Annual Laboratory Audit and proficiency tests.

With GHD, filed the NY2A application (300 pages) for Permit renewal.

Superintendents Summary Report for 2023

	FLOW	Precip	CBOD5		REM	Tot Susp Solids		REM	Settleable Solids		REM	Total Nitrogen		REM	Phosphorous		REM	Ammonia		REM	TKN		REM
	MGD	Inches	In	out	%	In	out	%	In	out	%	In	out	%	In	out	%	In	out	%	In	out	%
	AVG			limit			limit			limit			limit			limit			limit			limit	
			18 mg/L			20 mg/L			0.3 mL/L			6.0 mg/L			1.0 mg/L			1800 lbs./Day			11000 lbs/Day		
Jan	21.29	3.29	165	14	92%	151	11.5	92%	7.60	0.07	99%	17.9	3.6	80%	3.10	0.400	87%	9.80	0.20	98%	17.5	1.8	90%
Feb	17.08	1.53	198	10	95%	189	6.8	96%	9.50	0.05	99%	22.7	3.7	84%	5.10	0.321	94%	12.90	0.30	98%	22.4	1.5	93%
Mar	20.76	2.82	177	9	95%	183	5.3	97%	8.40	0.03	100%	19.1	3.8	80%	2.78	0.303	89%	10.20	0.14	99%	18.6	1.4	92%
Apr	16.88	3.47	200	10	95%	178	5.1	97%	12.40	0.07	99%	21.9	2.8	87%	3.00	0.470	84%	12.90	0.136	99%	21.8	1.6	93%
May	18.46	0.62	204	9	96%	192	4.8	98%	11.60	0.10	99%	21.9	2.7	88%	3.20	0.416	87%	11.60	0.107	99%	21.7	1.3	94%
Jun	13.19	4.40	201	8	96%	207	4.0	98%	15.00	0.10	99%	21.3	3.3	85%	3.00	0.445	85%	14.50	0.196	99%	21.3	1.6	92%
Jul	16.20	6.82	153	6	96%	170	3.9	98%	12.80	0.10	99%	15.7	3.5	78%	2.42	0.551	77%	8.90	0.160	98%	15.6	1.19	92%
Aug	16.47	4.79	168	7	96%	174	6.0	97%	12.00	0.10	99%	18.1	3.3	82%	2.94	0.600	80%	12.80	0.122	99%	18.0	1.36	92%
Sep	15.92	2.97	160	9	94%	163	6.0	96%	17.00	0.10	99%	21.4	2.5	88%	3.10	0.470	85%	13.00	0.145	99%	21.3	1.5	93%
Oct	17.69	5.28	171	8	95%	166	6.0	96%	13.20	0.10	99%	20.1	3.5	83%	3.70	0.525	86%	12.50	0.139	99%	19.9	1.65	92%
Nov	14.43	1.49	229	10	96%	233	7.0	97%	15.10	0.12	99%	24.2	2.9	88%	5.02	0.496	90%	14.2	0.164	99%	24.5	1.9	92%
Dec	24.79	5.85	135	11	92%	136	11	92%	8.40	0.12	99%		3.5		2.60	0.506	81%	6.9	0.12	98%		1.5	
		TOT																					
Avg	17.76	43.33	180	9	95%	179	6.5	96%	11.92	0.09	99%	20.4	3.3	84%	3.33	0.459	85%	11.68	0.16	99%	20.24	1.53	92%

TN = 3.5 mg/L with 5 data points to go

TKN = 1.5 mg/L with 5 data points to go

Ammonia limit equates to approx 6 mg/L monthly Avg. / TKN limit equates to 38 mg/L Monthly Avg.

TN limit is 6.0 mg/L From O1A REM = Removal %

The Permit for TN = Monitoring Monthly Avg. from Outfall OO1, Not to Exceed 639,261 lbs. as a Rolling 12 Month Avg.

Outfall OO1 includes Flow Through O1A (DN cells) and O1B (DN Cell Bypass)

These numbers represent Outfall from OO1

Landfill 2023 Summary

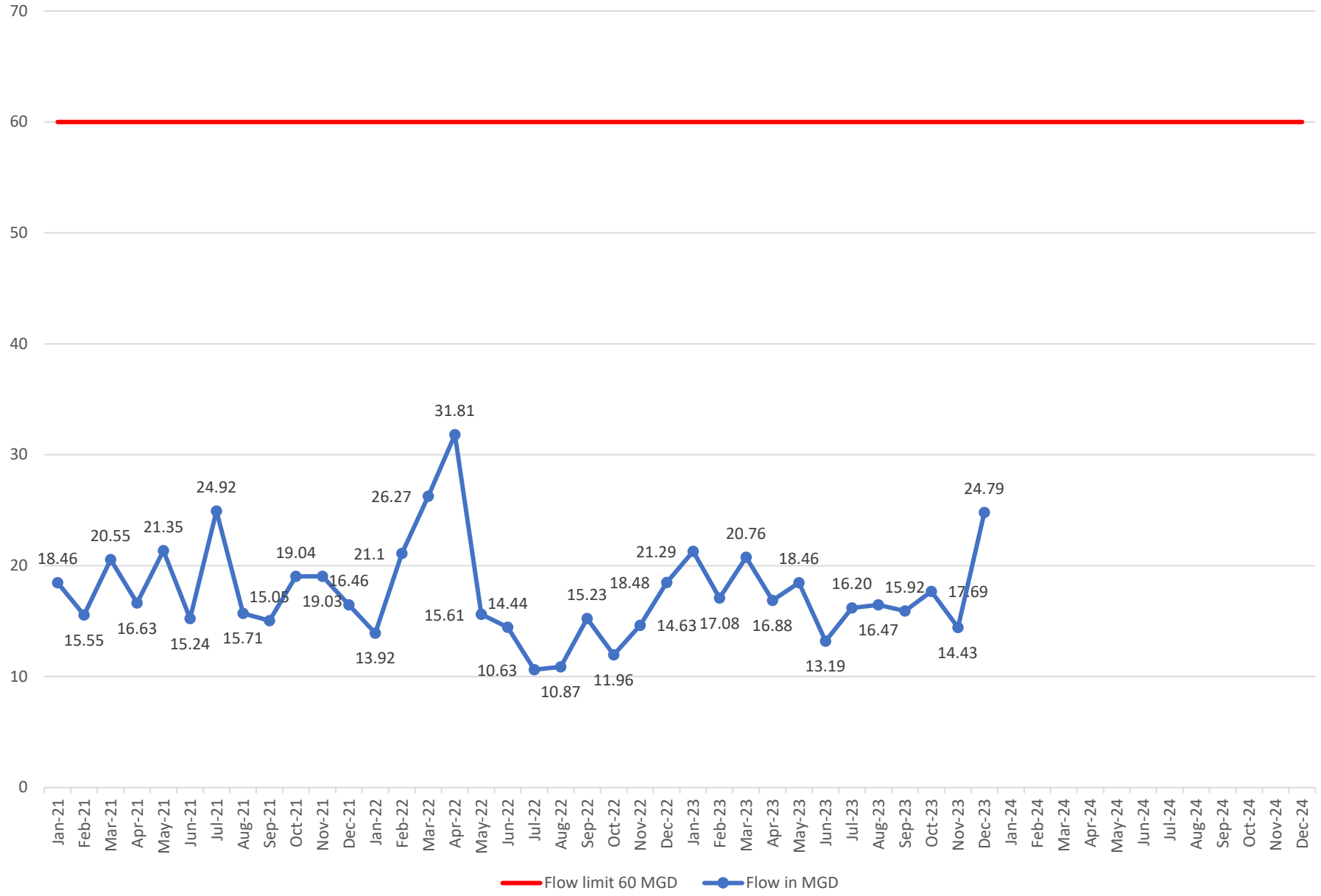
Date	Digested	Lime Stab	Solids Total		Bar screen	Grit and Screen		Grease
	Tons	Tons	Tons	Cost	Tons	Tons	Cost	Tons
January	694.60		694.60	\$27,784.00		15.70	\$706.50	
February	572.08		572.08	\$22,883.20		13.97	\$628.65	
March	702.74		702.74	\$28,109.60		25.90	\$1,165.50	
April	584.34		584.34	\$23,373.60		8.63	\$388.35	
May	669.35		669.35	\$26,774.00		28.04	\$1,261.80	
June	708.35		708.35	\$28,334.00		26.26	\$1,181.70	
July	781.79		781.79	\$31,271.60		24.07	\$1,083.15	
August	626.47		626.47	\$25,058.80		38.00	\$1,710.00	
September	629.29		629.29	\$25,171.60		25.36	\$1,153.35	
October	746.69		746.69	\$29,867.60		21.00	\$945.00	
November	726.62		726.62	\$29,064.80		22.54	\$1,014.30	
December	674.65		674.65	\$26,986.00		23.14	\$1,041.30	
Average	676.41		676.41	\$27,056.57		22.72	\$1,023.30	
Total	8,116.97		8,116.97	\$324,678.80		272.61	\$12,279.60	
				\$40/Ton			\$45/Ton	

\$336,958.40

Annual Cost to Date

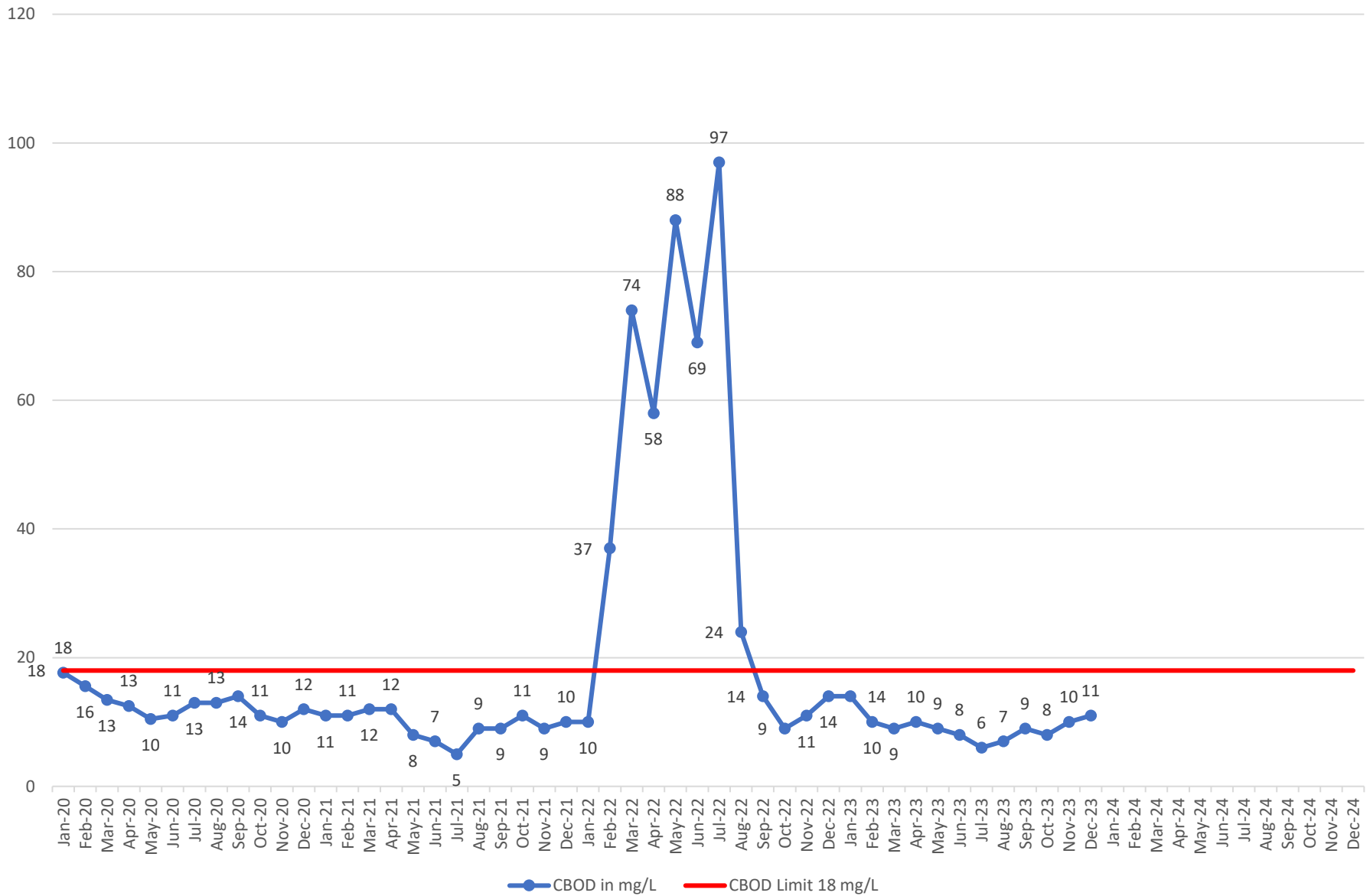
\$400,000 budgeted

2021-2023 Flow

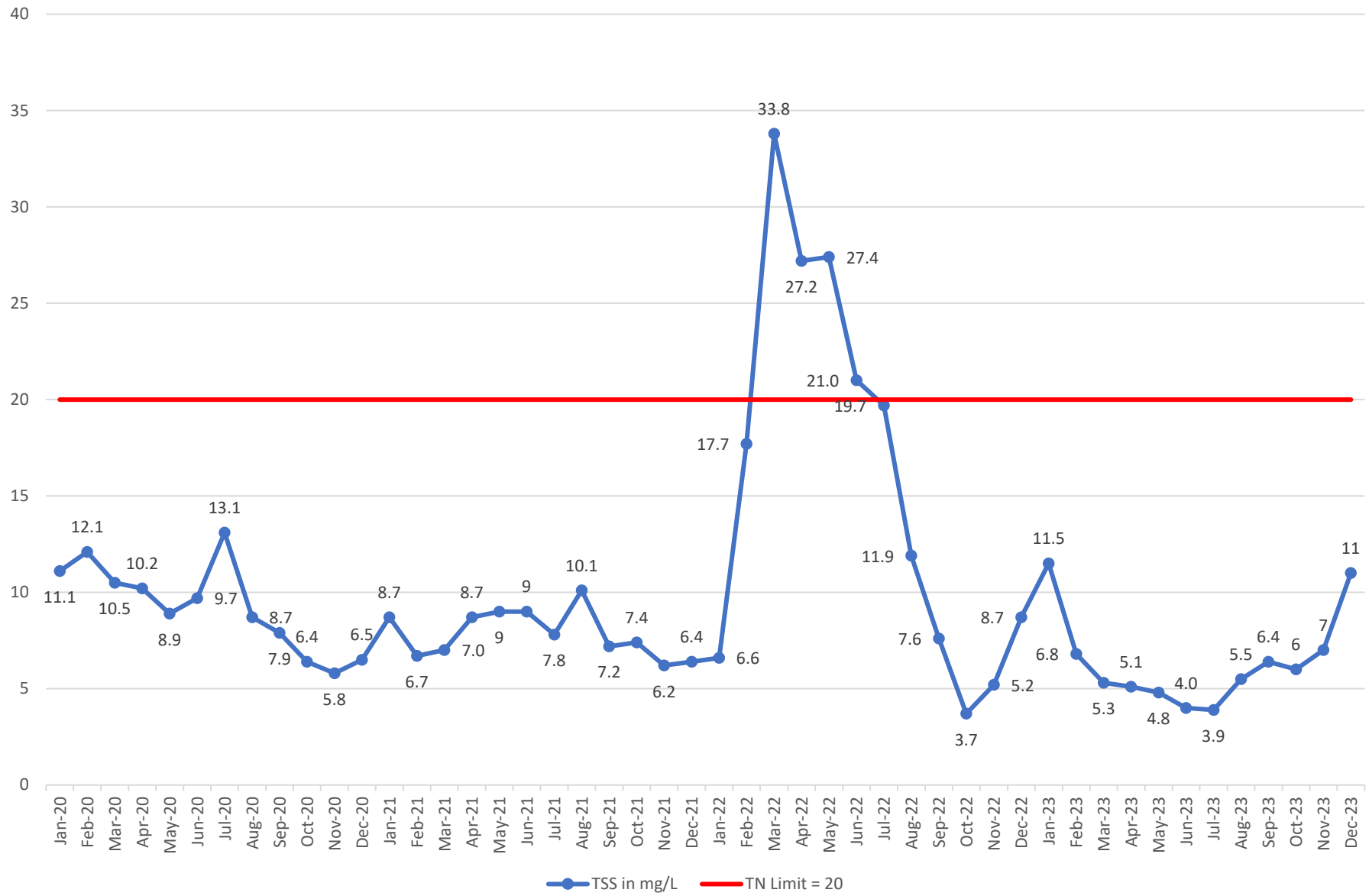


2020-2023 CBOD

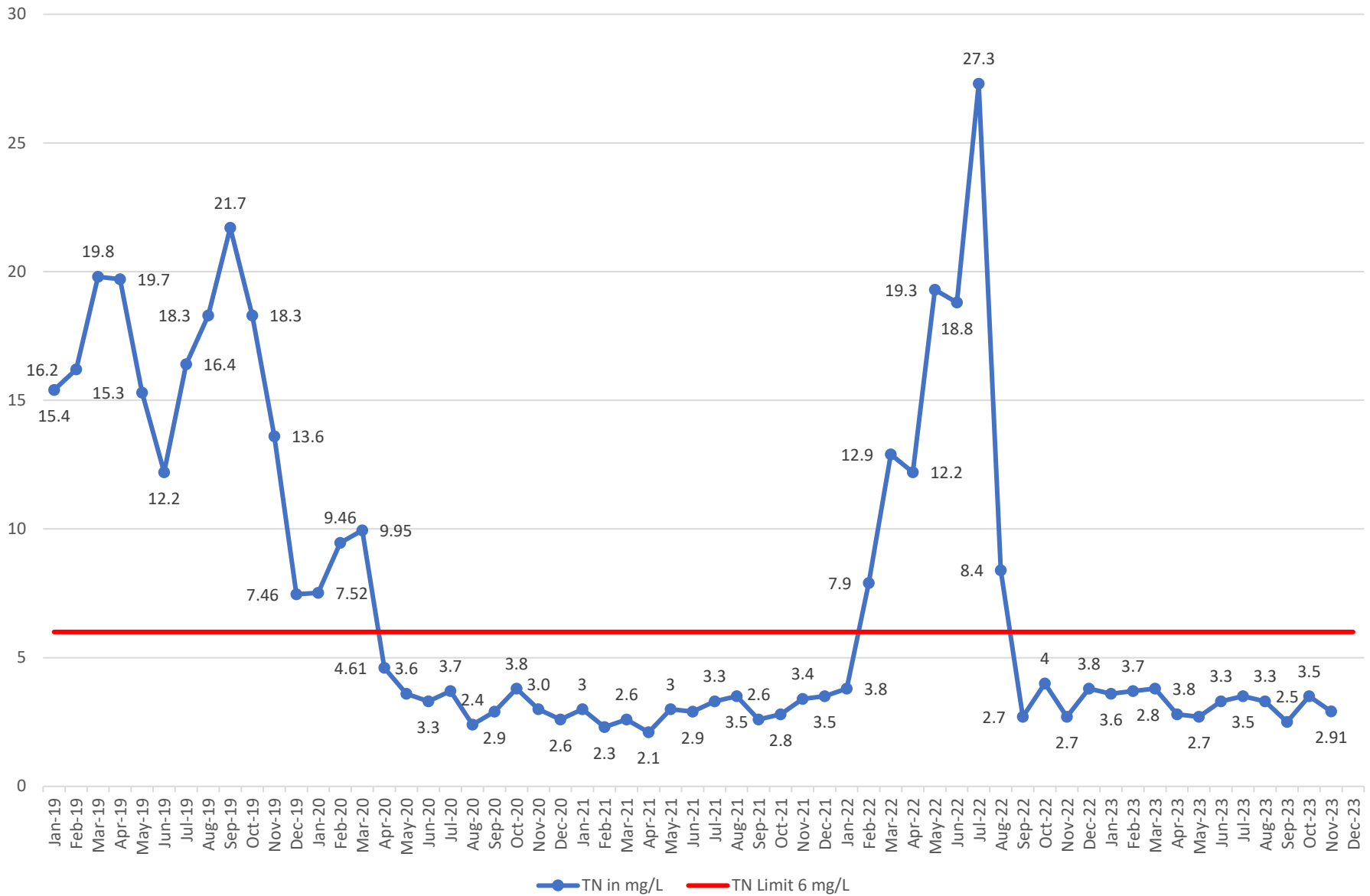
Limit = 18 mg/L/Day Monthly Avg



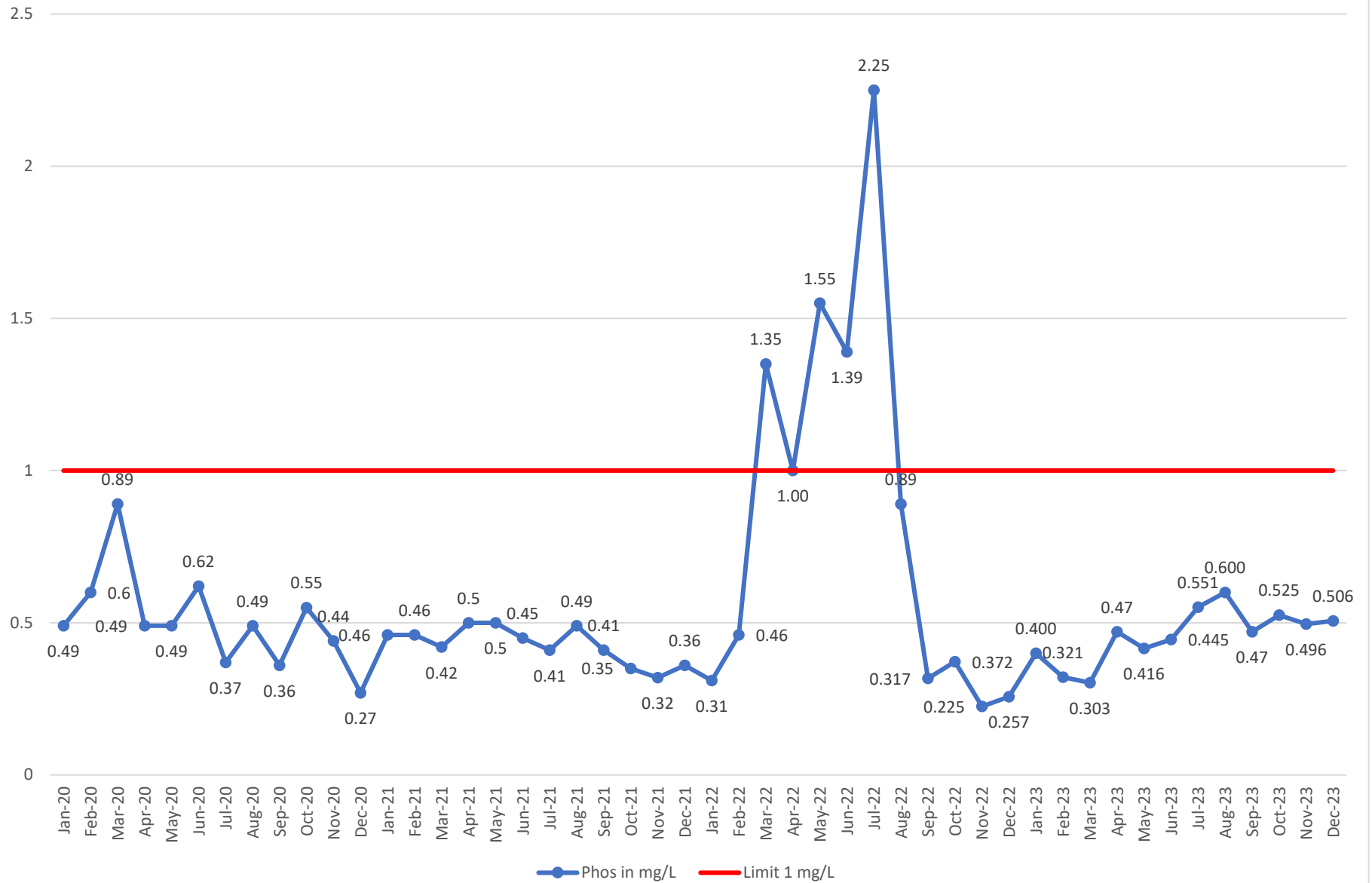
TSS 2020-2023
Limit = 20 mg/L/Day Monthly Avg



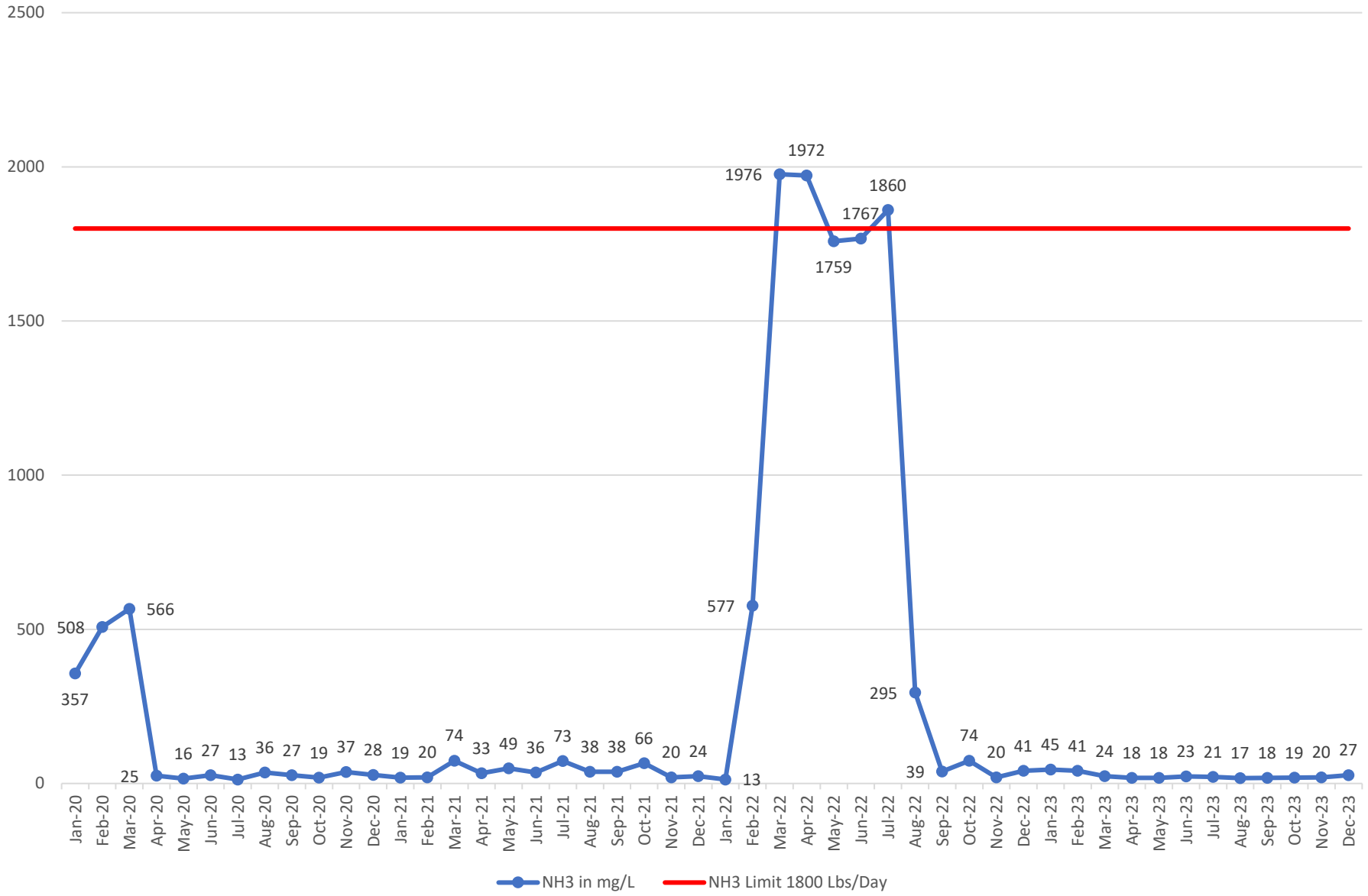
TN 2019-2023
Limit = 6.0 mg/L /Day Monthly Avg



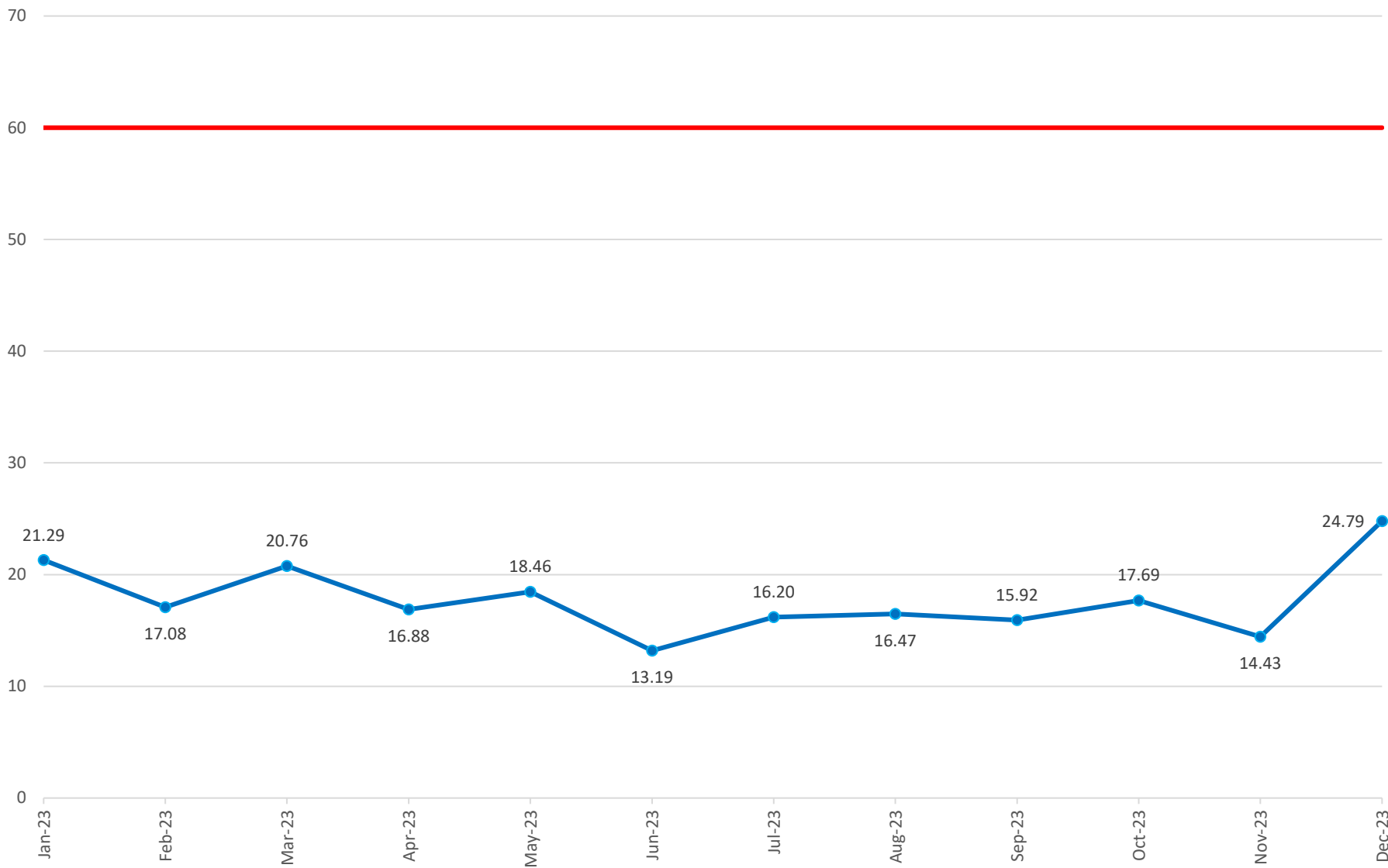
2020-2023 Phos Limit = 1.0 mg/L/Day Monthly Avg



2020-2023 NH3 in Avg. Lbs/Day
Limit = 1800 Lbs/Day

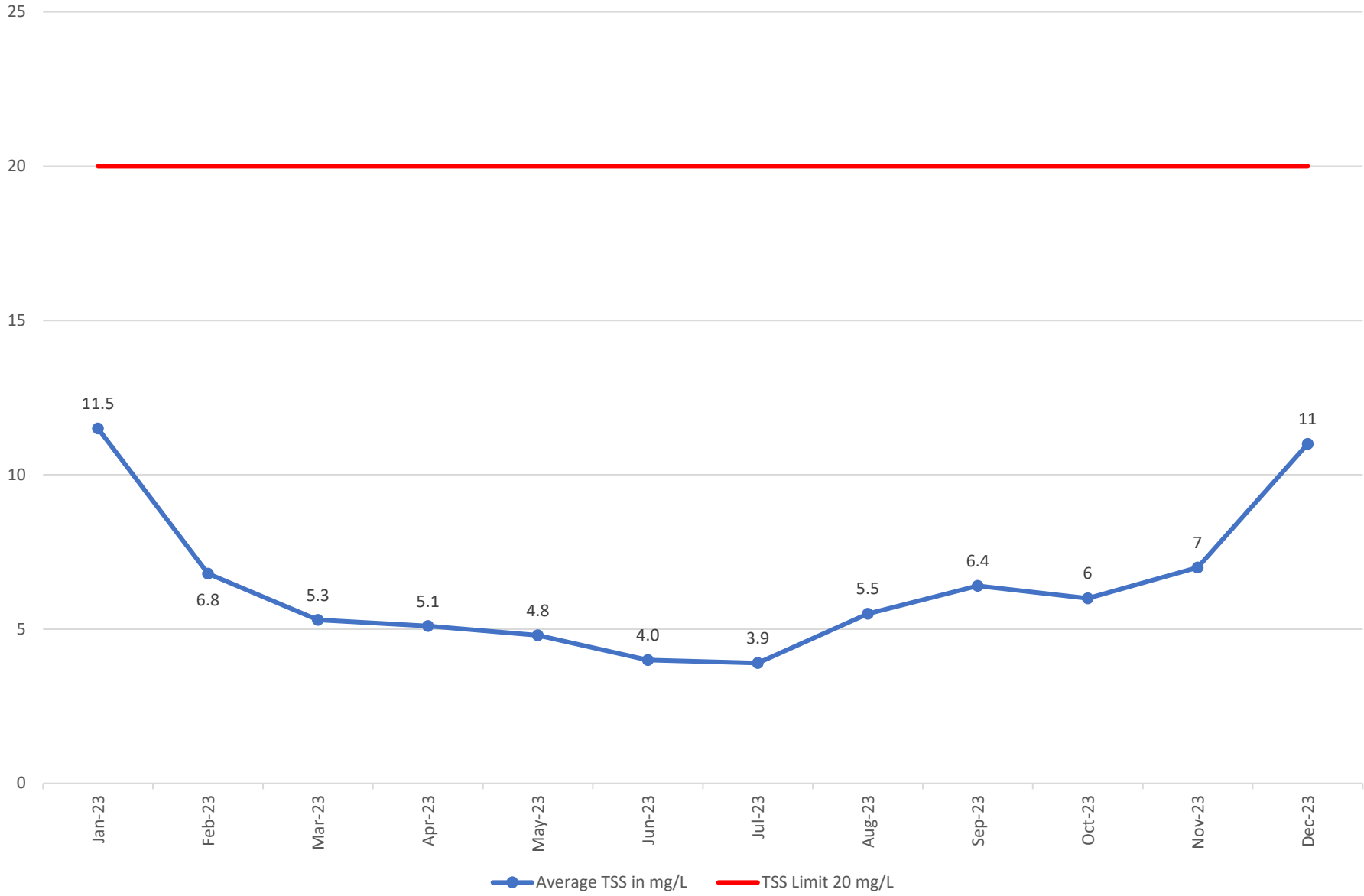


2023 Daily Avg Flow
17.76 MGD Average Flow

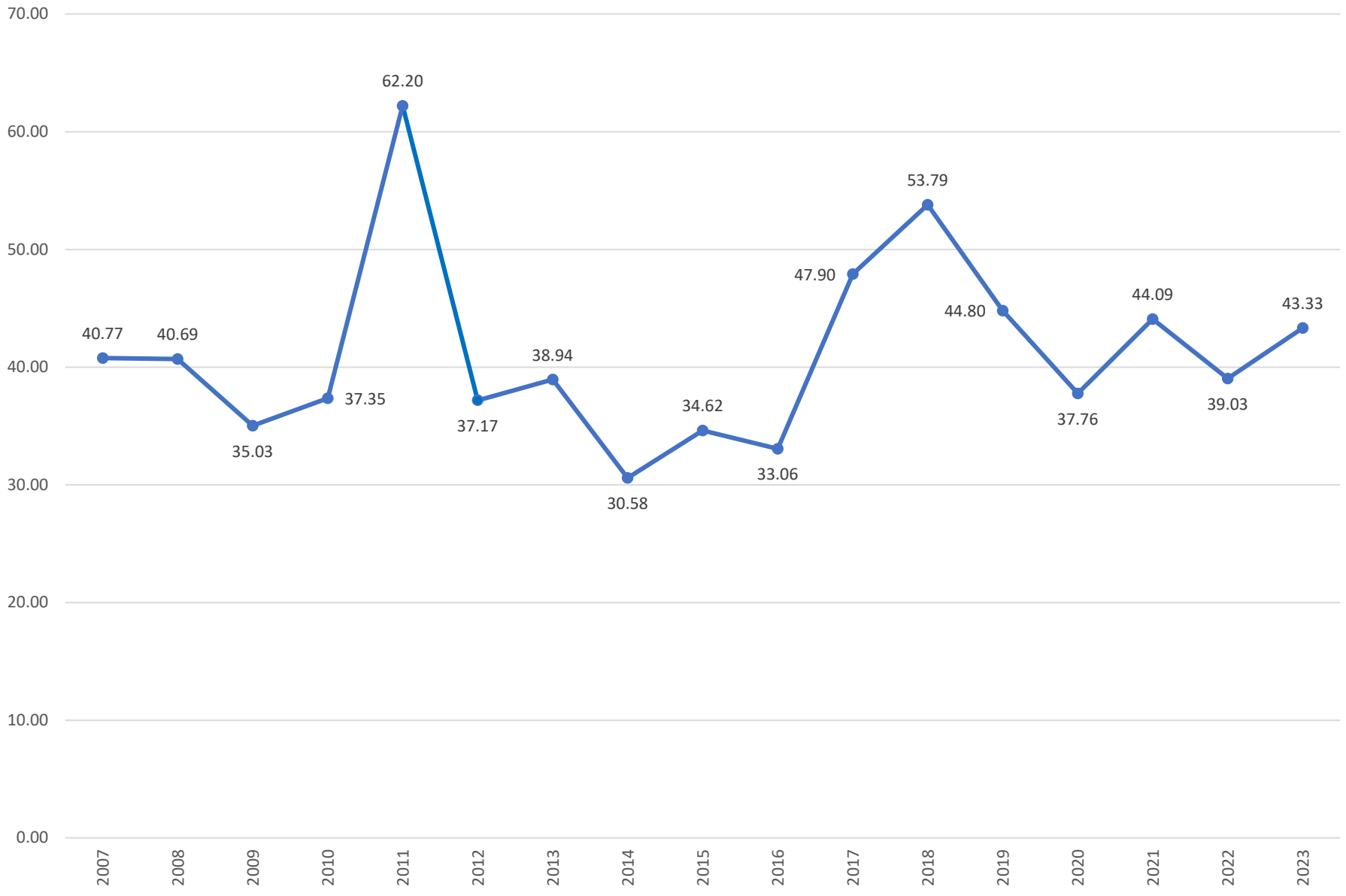


Permit 60 MGD Daily Avg Flow

2023 Monthly Avg TSS
6.4 mg/L/Year



Annual Precipitation
2007-2023 AVG 41.24/ 17 Years



2023 Plant Mercury							
Date	Result Bing INF Mercury ng/L	Result Bing INF Mercury ng/L Blank	Result JC INF Mercury ng/L	Result JC INF Mercury ng/L Blank	Result Effluent Mercury ng/L	Result Effluent Mercury ng/L Blank	Rep Limit ng/L
January	4.120	<0.231	12.500	<0.231	0.668	<0.231	0.500
February	19.400	<0.231	10.300	0.580	<0.231	<0.231	0.500
March	19.000	<0.208	20.200	<0.208	0.680	<0.208	0.500
April	<0.208	<0.208	6.470	<0.208	0.530	<0.208	0.500
May	9.850	<0.208	12.200	<0.208	0.520	<0.208	0.500
June	20.400	<0.208	3.060	<0.208	0.484	<0.208	0.500
July	7.920	0.232	17.000	<0.208	<0.208	0.787	0.500
August	21.000	<0.208	35.400	<0.208	<0.208	<0.208	0.500
September	7.290	<0.208	8.120	<0.208	<0.208	<0.208	0.500
October	28.800	<0.208	200.000	<0.208	0.396	1.570	0.500
November	22.600	<0.208	46.600	<0.208	0.801	<0.208	0.500
December	15.300	<0.208	27.700	<0.208	0.757	<0.208	0.500
Avg in ng/L	15.971		33.296		0.605		0.500
Effluent Limit = Daily Max 50ng/L and 12 Month Rolling AVG = 24ng/L							
Method: EPA 1631E							
Metals testing performed by Microbac Laboratories							