

## City of Othello

## Wastewater Treatment Plant

Permit No. WA0022357

## Annual Treatment Facility Review Report (Wasteload Assessment)

Reporting Year:

From: 1/1/2023

To: 12/31/2023

## Design Parameters:

Max monthly design flow (dry):	2	mgd
Max monthly design flow (wet):	7.5	mgd
Peak daily design flow:	8.4	mgd
Ave Month Design Influent BOD loading:	2,600	lbs/day
Ave Month Design Influent TSS loading:	2,600	lbs/day

Design Population Equivalent:

Present Population Served:

Projected Population growth:

Compliance with effluent permit limitation?

Yes X No

Table 1, Influent Monthly Average Loading &amp; Peak Daily Flow (From Monthly DMR) Highlighted value = Max

Month	Avg flow (mgd)	Peak flow (mgd)	BOD (lbs/day)	TSS (lbs/day)
January	0.700	0.770	1192	1438
February	0.760	0.860	1055	1843
March	0.800	0.870	1670	2098
April	0.740	0.820	1737	2286
May	0.760	1.400	1819	1863
June	0.780	0.850	1408	1164
July	0.850	0.930	1391	1563
August	0.900	1.010	1862	2597
September	0.920	1.040	2018	3335
October	0.870	0.950	1348	2225
November	0.870	0.930	1663	1686
December	0.880	0.990	1955	1786

Table 2, Maximum Influent Monthly Average Loading (Highest Month)

	Month	Max Monthly Average Value	Design Capacity	% Design Capacity	Previous year Max Monthly Avg value	% Increase / Decrease
Dry Weather Flow MGD	September	0.9200	2.0000	46.00%	0.7100	29.58%
Wet Weather Flow MGD	December	0.8800	7.5000	11.73%	0.6400	37.50%
Peak Flow MGD	May	1.4000	8.4000	16.67%	0.6900	102.90%
BOD (lbs/day)	September	2,018	2,600	77.60%	1,976	2.10%
TSS (lbs/day)	September	3,335	2,600	** 128.25%	2,149	55.17%

Table 3, Maximum Monthly Average Data for the Last Three Years

Year	Flow (mgd)	BOD (lbs/day)	TSS (lbs/day)
2023	1.4	2,018	3,335
2022	0.79	1,976	2,149
2021	1.6	1,544	2,402
2020	1.784	3,772	2,684

Estimated year when the design capacity is projected to be reached:

Flow = Greater than 2040

BOD = 2021...showing an increase

TSS = 2013/14...showing an increase

## Design Capacity Graphs

Table 4: Max month Flow Data

Year	max month avg Flow, mgd	design cap, mgd
2025		2
2024		2
2023	0.920	2
2022	0.790	2
2021	1.600	2
2020	1.784	2
2019	2.025	2
2018	1.543	2
2017	1.578	2
2016	1.484	2
2015	1.297	2
2014	1.288	2
2013	1.191	2
2012	1.302	2
2011	1.406	2
2010	1.451	2

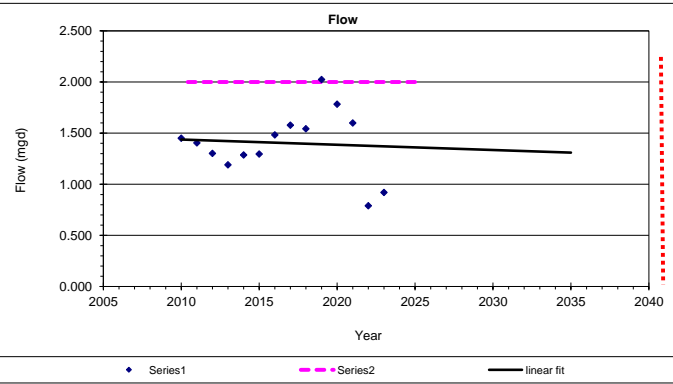


Table 5: Max month BOD Data

Year	max month avg BOD, lbs/day	design cap lbs/day
2025		2,600
2024		2,600
2023	2,018	2,600
2022	1,976	2,600
2021	1,544	2,600
2020	3,772	2,600
2019	5,340	2,600
2018	1,973	2,600
2017	2,489	2,600
2016	961	2,600
2015	1,191	2,600
2014	1,256	2,600
2013	1,329	2,600
2012	1,293	2,600
2011	898	2,600
2010	1,574	2,600

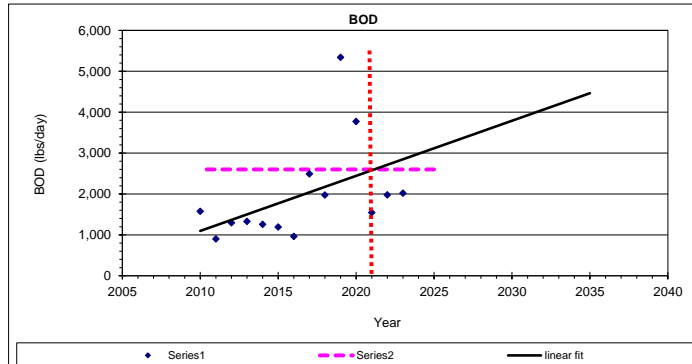
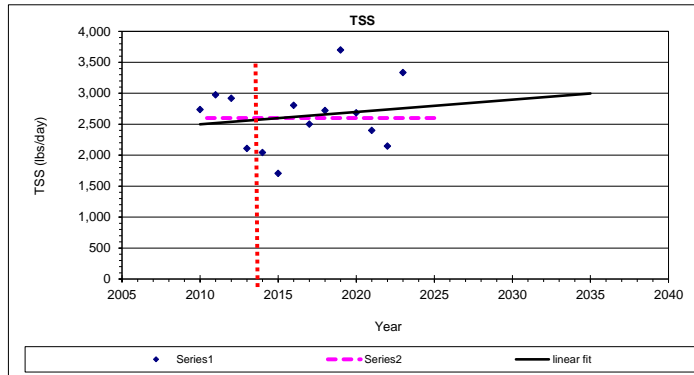


Table 6: Max month TSS Data

Year	max month avg TSS, lbs/day	design cap lbs/day
2025		2,600
2024		2,600
2023	3,335	2,600
2022	2,149	2,600
2021	2,402	2,600
2020	2,684	2,600
2019	3,701	2,600
2018	2,723	2,600
2017	2,502	2,600
2016	2,806	2,600
2015	1,707	2,600
2014	2,043	2,600
2013	2,111	2,600
2012	2,921	2,600
2011	2,976	2,600
2010	2,737	2,600



EFFLUENT QUALITY SECTION--Permit Limits

Parameter	Monthly Avg. Units	Monthly Avg. Limit Lb.	Weekly Avg./Max Daily	Weekly Avg. Limit Lb.
*Flow (mgd)	7.50			
BOD, mg/L	30	390	45	585
TSS, mg/L	45	776	65	1,163
Fecal Coliform (cfu/100 mL)	100		200	
pH max	9			
pH min	6			
Copper ug/L	17.3		25.3	
Nickel ug/L	287		419	
Zinc ug/L	112		163	
Total CL2 ug/L	9.6		19.3	

Table 8: Effluent monthly AVERAGES (max/min for pH) for subject year

Month	Avg flow mgd	Effluent BOD		Effluent TSS		Total Coliform MPN/100 mL	Min pH Std. Units	Max pH Std. Units	Copper ug/L	Nickel ug/L	Zinc ug/L	CL2 ug/L	Other ug/L
		mg/L	Lb.	mg/L	Lb.								
January	1.330	26	289	30	330	1	7.1	7.8	2.4000	1.4000	8.0000	2.0000	-
February	1.150	25	252	22	218	13	6.9	7.7	2.2000	1.6000	8.5000	3.4000	-
March	1.000	19	159	29	234	1	7.0	8.2	1.0000	1.0000	8.5300	2.0000	-
April	0.770	20	136	91	591	2	7.2	8.9	1.0000	1.0000	27.7000	2.0000	-
May	0.540	27	155	45	261	3	6.6	9.1	1.9800	1.2800	88.9000	2.0000	-
June	0.520	36	126	45	156	1	6.9	8.9	1.7200	1.3000	4.7000	2.0000	-
July	0.310	63	212	60	152	6	7.0	8.9	1.6000	1.3700	6.3900	2.0000	-
August	0.730	41	234	81	481	3	6.7	8.9	2.4300	1.0000	7.5900	2.0000	-
September	0.850	30	219	71	520	8	7.2	9.1	3.3900	13.6000	1.4800	2.0000	-
October	0.800	26	176	102	690	3	6.7	9.0	1.0000	1.0000	6.5700	2.0000	-
November	1.020	9	77	37	314	1	6.4	8.3	1.0000	1.5200	2.1500	2.0000	-
December	1.190	19	174	30	301	3	7.1	8.7	1.0000	1.0000	4.0300	2.0000	-

Table 9: Effluent monthly and (daily) MAXIMUMS for subject year

Month	Max flow mgd	Effluent BOD		Effluent TSS		Total Coliform MPN/100 mL	Min pH Std. Units	Max pH Std. Units	Copper ug/L	Nickel ug/L	Zinc ug/L	CL2 ug/L	Other ug/L
		mg/L	Lb.	mg/L	Lb.								
January	1.400	42	361	48	560	1	7.1	7.8	2.4000	1.4000	8.0000	2.0000	-
February	1.290	31	330	31	445	84	6.9	7.7	2.2000	1.6000	8.5000	1.5000	-
March	1.160	17	139	58	426	1	7.0	8.2	1.0000	1.0000	8.5300	2.0000	-
April	0.860	21	127	263	1701	2	7.2	8.9	1.0000	1.0000	27.7000	2.0000	-
May	1.310	35	210	74	401	4	6.6	9.1	1.9800	1.2800	88.9000	2.0000	-
June	1.070	54	308	72	164	1	6.9	8.9	1.7200	1.3000	4.7000	2.0000	-
July	0.440	73	163	74	204	6	7.0	8.9	1.6000	1.3700	6.3900	2.0000	-
August	0.930	59	433	108	631	6	6.7	8.9	2.4300	1.0000	7.5900	2.0000	-
September	0.970	50	353	90	658	56	7.2	9.1	3.3900	13.6000	1.4800	2.0000	-
October	1.000	57	317	93	641	517	6.7	9.0	1.0000	1.0000	6.5700	2.0000	-
November	1.080	11	93	47	413	1	6.4	8.3	1.0000	1.5200	2.1500	2.0000	-
December	1.300	46	383	32	336	3	7.1	8.7	1.0000	1.0000	4.0300	2.0000	-

Table 9: Effluent monthly VIOLATIONS calculated for subject year (violations are designated by an "X")

Month	Max flow gpd	Effluent BOD		Effluent TSS		Fecal Coliform no./100 mL	pH MIN S.U.	pH MAX S.U.	Copper ug/L	Nickel ug/L	Zinc ug/L	CL2 ug/L	Other ug/L
		mg/L	Lb.	mg/L	Lb.								
January		X		X									
February		X											
March				X									
April				X	X								
May		X		X				X					
June		X		X									
July		X		X									
August		X	X	X									
September		X		X				X					
October		X		X		X							
November				X									
December		X											

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