

PROPOSED LOCAL LIMITS FOR THE CITY OF PULASKI
MARCH 2023
UPDATED: MAY 2023

PARAMETER	PLANT PROTECTION CRITERIA			INDUSTRIAL DISCHARGE LIMITS			
	CALC. LIMIT mg/L	PRESENT LIMIT mg/L	PROPOSED LIMIT, MONTHLY AVERAGE mg/L	CALC. LIMIT mg/L	PRESENT LIMIT mg/L	PROPOSED LIMIT, MONTHLY AVERAGE mg/L	PROPOSED LIMIT, DAILY MAX mg/L
Arsenic	0.3970	0.0250	0.0250	11.56	0.383	0.383	0.766
Benzene	0.0150	0.0150	0.0150	0.395	0.222	0.222	0.444
Cadmium	0.0152	0.01057	0.01057	0.442	0.233	0.233	0.466
Carbon Tetrachloride	0.0150	0.03947	0.0150	0.388	0.615	0.388	0.776
Chloroform	0.2575	0.2570	0.2570	7.368	4.026	4.026	8.052
Chromium VI	0.0231	0.1382	0.0231	0.530	N/A	See Total Chromium	
Chromium, Total						3.175 ⁽¹⁾	6.350
Copper	0.2222	0.3636	0.2222	6.098	8.386	6.098	12.20
Cyanide	0.0352	0.0379	0.0352	0.812	0.561	0.561	1.122
Ethylbenzene	0.0286	0.02857	0.02857	0.802	0.443	0.443	0.886
Lead	0.0953	0.1444	0.0953	2.770	3.330	2.770	5.540
Mercury	0.0004	0.0010	0.0004	0.009	0.0208	0.009	0.018
Methylene Chloride	0.1315	0.1315	0.1315	3.453	2.038	2.038	4.076
Molybdenum	0.3573	0.0227	0.0227	10.388	0.283	0.283	0.566
Naphthalene	0.0045	0.0045	0.0045	0.0924	0.064	0.064	0.128
Nickel	0.3103	0.1513	0.1513	9.002	3.478	3.478	6.956
Phenols, Total	0.3289	0.50	0.3289	8.126	6.633	6.633	13.27
Phthalates, Total	0.1897	1.6125	0.1897	5.520	12.0	5.520	11.04
Selenium	0.4764	0.0302	0.0302	13.871	0.463	0.463	0.926
Silver	0.0200	0.0714	0.0200	0.582	1.641	0.582	1.164
Tetrachloroethylene	0.1250	0.1250	0.1250	3.618	1.964	1.964	3.928
Toluene	0.2142	0.2142	0.2142	5.247	2.769	2.769	5.538
Trichloroethylene	0.0909	0.0909	0.0909	2.612	1.427	1.427	2.854
Zinc	0.3656	1.25	0.3656	7.239	12.0	7.239	14.48
1,1,1 Trichloroethane	0.2000	0.20	0.2000	5.802	3.148	3.148	6.296
1,2 Transdichloroethylene	0.0045	0.0045	0.0045	0.102	0.064	0.064	0.128

(1) Value was calculated as part of the 2018 reevaluation.

**PULASKI WWTP WAUFORD PROJECT NO. 1768
CALCULATIONS OF INDUSTRIAL DISCHARGE LIMITS
5/15/2023**

WWTP CAPACITY 4,000 MGD
 WWTP CURRENT FLOW 2,104 MGD
 WASTE SLUDGE FLOW 31139,000 GPD
 INDUSTRIAL FLOW (TOTAL) 0,058 MGD
 FACTOR OF SAFETY 20.0%

PARAMETER	PASS THROUGH			INHIBITION THRESHOLD				SLUDGE				LIMIT INF	FINAL LIMIT INFLUENT	CURRENT INFLUENT MG/L	PARAMETER EXCEEDS LIMIT	INDUSTRIAL LIMITS						PROP INDUSTRIAL DISCHARGE LIMIT MG/L				
	PASSTHRU	PLANT	ALLOW	ACT SLDG	PRIMARY	ALLOWABLE	ALLOWABLE	MG PER	WASTE	ALLOW	ALLOW					MG PER	WASTE	ALLOW	ALLOW	ALLOW	BACKGROUND		INDUSTRIAL	BACKGROUND	AVAILABLE	INDUSTRIAL
	LIMIT MG/L	REMOVAL PERCENT	INF LB/DAY	TOXICITY MG/L	REMOVAL EFF.	HEADWORKS LOAD LBS/DAY	HEADWORKS LOAD LBS/DAY	KG DRY WT SLUDGE	SLUDGE SOLIDS	WET SLDG MG/L	INF LB/DAY					KG DRY WT SLUDGE	SLUDGE SOLIDS	WET SLDG MG/L	INF LB/DAY	INF LBS	CONC MG/L		FLOW MGD	MASS LBS	INDUSTRIAL LBS	ALLOCATE LBS
Cadmium	0.005000	67%	0.26587	5.00	15.00%	103.2198	87.74	85.00	16.09%	13.6791	5.3022	0.265869	0.0151515			0.2659	0.00000	0.0577	0.0000	0.2659	0.2127	0.442				
Chromium(VI)	0.023050		0.40447	1.00		17.5474	17.55		16.09%			0.404467	0.0230500			0.4045	0.00500	0.0577	0.0853	0.3191	0.2553	0.530				
Copper	0.080000	64%	3.89941	1.00	22.00%	22.4966	17.55	4300.00	16.09%	691.9995	280.7996	3.899413	0.2222222			3.8994	0.01343	0.0577	0.2293	3.6702	2.9361	6.098				
Lead	0.045000	53%	1.67295	2.50	57.00%	102.0195	43.87	840.00	16.09%	135.1813	66.4895	1.672947	0.0953390			1.6729	0.00033	0.0577	0.0057	1.6673	1.3338	2.770				
Mercury	0.000150	60%	0.00658	0.50	10.00%	9.7485	8.77	57.00	16.09%	9.1730	3.9704	0.006580	0.0003750			0.0066	0.00007	0.0577	0.0011	0.0055	0.0044	0.00909				
Nickel	0.180000	42%	5.44573	1.25	14.00%	25.5049	21.93	420.00	16.09%	67.5906	41.7934	5.445732	0.3103448			5.4457	0.00163	0.0577	0.0279	5.4179	4.3343	9.002				
Silver	0.005000	75%	0.35095		20.00%				16.09%			0.350947	0.0200000			0.3509	0.00005	0.0577	0.0009	0.3500	0.2800	0.582				
Zinc	0.200000	45%	6.41585	2.50	27.00%	60.0937	43.87	7500.00	16.09%	1206.9758	691.9442	6.415854	0.3656307			6.4159	0.12067	0.0577	2.0593	4.3566	3.4853	7.239				
Cyanide	0.010900	69%	0.61699	2.50	27.00%	60.0937	43.87		16.09%			0.616988	0.0351613			0.6170	0.00750	0.0577	0.1280	0.4890	0.3912	0.812				
Toluene	0.015000	93%	3.76015	200.00	16.09%	3509.4720	3509.47		16.09%			3.760149	0.2142857			3.7601	0.03530	0.0577	0.6024	3.1577	2.5262	5.247				
Benzene	0.003000	80%	0.26321	250.00	25.00%	5849.1200	4386.84		16.09%			0.263210	0.0150000			0.2632	0.00150	0.0577	0.0256	0.2376	0.1901	0.395				
1,1,1 Trichloroethane	0.030000	85%	3.50947		40.00%				16.09%			3.509472	0.2000000			3.5095	0.00093	0.0577	0.0159	3.4935	2.7948	5.805				
Ethylbenzene	0.004000	86%	0.50135	200.00	13.00%	4033.8759	3509.47		16.09%			0.501353	0.0285714			0.5014	0.00110	0.0577	0.0188	0.4826	0.3861	0.802				
Carbon Tetrachloride	0.015000		0.26321						16.09%			0.263210	0.0150000			0.2632	0.00175	0.0577	0.0299	0.2333	0.1867	0.388				
Chloroform	0.085000	67%	4.51977		14.00%				16.09%			4.519775	0.2575758			4.5198	0.00502	0.0577	0.0856	4.4342	3.5473	7.368				
Tetrachloroethylene	0.025000	80%	2.19342		4.00%				16.09%			2.193420	0.1250000			2.1934	0.00095	0.0577	0.0162	2.1772	1.7418	3.618				
Trichloroethylene	0.010000	89%	1.59521		20.00%				16.09%			1.595215	0.0909091			1.5952	0.00135	0.0577	0.0230	1.5722	1.2577	2.612				
1,2 Transdichloroethylene	0.001500	67%	0.07976		36.00%				16.09%			0.079761	0.0045455			0.0798	0.00107	0.0577	0.0182	0.0616	0.0492	0.102				
Methylene Chloride	0.050000	62%	2.30886						16.09%			2.308863	0.1315789			2.3089	0.01353	0.0577	0.2310	2.0779	1.6623	3.453				
Total Phenols	0.050000	85%	5.77216	100.00	8.00%	1907.3217	1754.74		16.09%			5.772158	0.3289474			5.7722	0.05167	0.0577	0.8817	4.8904	3.9123	8.126				
Napthalene	0.001000	78%	0.07976	500.00	44.00%	15667.2857	8773.68		16.09%			0.079761	0.0045455			0.0798	0.00142	0.0577	0.0242	0.0556	0.0445	0.0924				
Total Phthalates	0.064500	66%	3.32884		35.33%				16.09%			3.328837	0.1897059			3.3288	0.00040	0.0577	0.0068	3.3220	2.6576	5.520				
Arsenic		45%		0.10		1.7547	1.75	75.00	16.09%	12.0698	6.9656	6.965572	0.3969584			6.9656	0.00040	0.0577	0.0068	6.9587	5.5670	11.562				
Molybdenum		50%						75.00	16.09%	12.0698	6.2690	6.269014	0.3572625			6.2690	0.00100	0.0577	0.0171	6.2519	5.0016	10.388				
Selenium		50%						100.00	16.09%	16.0930	8.3587	8.358686	0.4763501			8.3587	0.00062	0.0577	0.0105	8.3482	6.6785	13.871				
NOTE: USED BACKGROUND TEST RESULTS FROM WAYPOINT ANALYTICAL (2/24/23)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T						
	FROM TDEC	FROM EPA AND SEMI-ANNUAL REPORTING DATA	A/(1-C) *8.34*WWTP AVERAGE FLOW	SAME AS EPA ACT SLDG INHIBITION MEDIAN	D*8.34* WWTP AVERAGE FLOW	40CFR503.13 TABLE 3	FROM WWTP RECORDS	F * G	H*8.34*CURRENT SLUDGE FLOW (MGD)/B	MINIMUM ALLOWABLE	J/(8.34* WWTP AVERAGE FLOW)	FROM LAB DATA		K*8.34* VERAGE FLO WATER ANALYSIS	FROM WWTP INF. USERS	FROM INDUST. USERS	O*8.34* (PLANT FLOW- INDUST. FLOW)	N-Q	R*(1-FACTOR OF SAFETY)	S/(8.34*P)						

Background Concentrations

Pollutant				Average
Cadmium				
Chromium	< 0.01	< 0.01	< 0.01	0.005
Copper	0.0127	0.0139	0.0137	0.013433333
Lead	< 0.0005	0.0005	< 0.0005	0.000333333
Mercury	< 0.00013	< 0.00013	< 0.00013	0.000065
Nickel	0.0023	0.0011	0.0015	0.0016
Silver	0.00004	0.00005	0.00007	5.33333E-05
Zinc	0.132	0.078	0.152	0.1207
Cyanide	< 0.005	0.012	0.008	0.0075
Toluene	0.102	0.0037	< 0.0004	0.0353
Benzene	< 0.0046	< 0.0004	< 0.004	0.0015
1,1,1 Trichloroethane	< 0.0048	< 0.0004	< 0.0004	0.000933333
Ethylbenzene	< 0.0056	< 0.0005	< 0.0005	0.0011
Carbon Tetrachloride	< 0.005	< 0.0005	< 0.005	0.00175
Chloroform	< 0.0089	0.0089	0.0017	0.005016667
Tetrachloroethylene	< 0.0049	< 0.0004	< 0.0004	0.00095
Trichloroethylene	< 0.0069	< 0.0006	< 0.0006	0.00135
1,2 Transdichloroethylene	< 0.0054	< 0.0005	< 0.0005	0.001066667
Methylene Chloride	0.0387	< 0.0019	< 0.0019	0.013533333
Total Phenols	0.05	0.049	0.056	0.0517
Napthalene	< 0.007	< 0.0007	< 0.0008	0.001416667
Total Phthalates	< 0.002	< 0.0002	< 0.0002	0.0004
Arsenic	0.0005	0.0003	0.0004	0.0004
Molybdenum	0.001	0.001	0.001	0.0010
Selenium	< 0.0005	0.0007	0.0009	0.0006

**If the sample resulted in a BDL, half of the BDL was used to calculate the background concentration

Effluent Characteristic	Apr-18	Oct-18	Apr-19	Oct-19	Apr-20	Oct-20	Apr-21	Oct-21	Apr-22	Average
Copper	71.3%		82%	51.5%	73.9%		56.9%		47.8%	64.0%
Chromium, III	58%									58.0%
Chromium, VI										#DIV/0!
Nickel										#DIV/0!
Cadmium										#DIV/0!
Lead	54%	70%	37%	27.0%	92.1%	36.5%				52.8%
Mercury	49%									49.2%
Silver										#DIV/0!
Zinc	31.8%		44%	24.7%	52.4%	40.2%	48.0%		76.0%	45.3%
Cyanide			25%							25.3%
Toluene										#DIV/0!
Benzene										#DIV/0!
1,1,1 Trichloroethane										#DIV/0!
Ethylbenzene										#DIV/0!
Carbon Tetrachloride										#DIV/0!
Chloroform										#DIV/0!
Tetrachloroethylene										#DIV/0!
Trichloroethylene										#DIV/0!
1,2 trans Dichloroethylene										#DIV/0!
Methylene Chloride										#DIV/0!
Phenols, Total								91.4%	78.3%	84.8%
Naphthalene									---	#DIV/0!
Phthalates, Total									---	#DIV/0!

Average Industrial Flow Data Reported in Semi-Annual Reports			
Significant Industrial User	Oct-21	Apr-22	Oct-22
Frito-Lay	27,065	28,400	41,783
Magotteaux	19,625	18,552	19,768
Parr Industries, 11th St.	6,000	6,000	6,000
Parr Industries, W. Shoal St.			
Marelli Tenn. (Metal)			
Total Industrial Flow (MGD)	0.053	0.053	0.068

Average Total Industrial Flow	0.058
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MGD

Effluent Characteristic	RDL (mg/L)
Copper	0.001
Chromium, III	0.001
Chromium, VI	0.01
Nickel	0.01
Cadmium	0.001
Lead	0.001
Mercury	0.002
Silver	0.001
Zinc	0.001
Cyanide	0.005
Toluene	0.001
Benzene	0.001
1,1,1 Trichloroethane	0.001
Ethylbenzene	0.001
Carbon Tetrachloride	0.001
Chloroform	0.005
Tetrachloroethylene	0.005
Trichloroethylene	0.001
1,2 trans Dichloroethylene	0.001
Methylene Chloride	0.001
Phenols, Total	---
Naphthalene	---
Phthalates, Total	---

Average Daily Sludge Waste(gal)			Dry Metric		Total		Percent Solids
			Tons	lbs, dry	Gallons	lbs total	
	lb/1000 kg	2204.62	2.24	4928.4	3866.26	32244.59	15.28%
	lb/gal	8.34	3.17	6991.8	5154.07	42984.96	16.27%
3866.26			3.61	7965.09	6430.61	53631.31	14.85%
5154.07			4.13	9105.09	6848.80	57118.99	15.94%
6430.61			4.17	9195.41	6667.32	55605.47	16.54%
6848.80			5.37	11838.8	8561.00	71398.74	16.58%
6667.32			2.74	6030.71	3984.61	33231.67	18.15%
8561.00			4.36	9607.89	6907.74	57610.57	16.68%
3984.61			2.32	5122.07	4035.90	33659.41	15.22%
6907.74			5.02	11072.9	8339.68	69552.91	15.92%
4035.90			3.88	8553.94	6359.60	53039.06	16.13%
8339.68			1.77	3904.32	3116.68	25993.09	15.02%
6359.60				7859.7	5856.023	48839.23	16.09%
3116.68							
5856.02				0.16093			