

# **Boulder County LID – Eldorado Springs Wastewater Plant**

Operations Report

March 2022

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## **WWTP**

- Please see the attached results for the samples and flows collected from the WWTF.
- The DO equipment is assisting in achieving a more consistent effluent, however proving increasingly difficult to meet the standard below 10. Fluidyne has been consulted to provide assistance.
- Effluent pump #2 will need to be removed, repaired or replaced. It would be beneficial to install the slide rail system to enable a more expedient approach to maintenance of the facilities pumps. This is yet to be scheduled. We recommend purchasing a spare effluent pump as the prior spare was utilized.

## **Collections system**

- The grinder panel at 52 Artesian has been replaced. All factors were troubleshooted in an attempt to find the fault in this grinder pit, the power cable, the check valve, the control panel. The last resort is to excavate the check valve and discharge piping to evaluate the condition of the pipe and appurtenances. We excavated the pump pit and piping to assess the condition of the check valve and curb stop. We found that the check valve may have been rotated 90 degrees so as to possibly allow water to flow backwards. The service line piping was reamed out to ensure it was free flowing. The unit was reinstalled and is now working as it should. Another new pump was installed into the pit.
- ORC and Jon exposed all valves in the collection system to verify operation. 4/5 are operational. We anticipate an expense of roughly \$15000 to excavate and replace all 4 valves. This is on a time and materials basis depending on the type of valve, and how it is connected to the existing piping. Vacuum services may also be required to dispose of the material in the line during construction.
- The grinder pump at 102 Artesian was replaced.

**ELDORADO SPRINGS WWTP**

PERMIT# CO 0047651

Permitted Flow 0.032 (MGD)

Permitted Loading 73#/day

(cells highlighted contain formulas)

(to be completed by operator)

Parameter	22-Mar	22-Feb	22-Jan	21-Dec	21-Nov	21-Oct	21-Sep	21-Aug	21-Jul	21-Jun	21-May	21-Apr
<b>INFLUENT - MONTHLY</b>												
Average Influent/Effluent Flow (MGD)	0.016	0.019	0.020738	0.0169	0.017547	0.015314	0.01677	0.0178	0.0204	0.01618	0.0183	0.0148
Maximum Influent/Effluent flow (MGD)	0.019	0.022	0.0234	0.0218	0.019627	0.02397	0.0171	0.02	0.0182	0.01828	0.0216	0.020006
Influent BOD (mg/L)	112	287	321	203	180	782	259	220	280	185	214	354
Influent BOD (#s/d)	15.88	52.66	50.87	27.33	25.48	122.09	34.93	35.70	39.96	27.22	34.80	51.05
Influent TSS (mg/L)	215	584	332	197	316	1305	494	174	369	294	79	488
Influent TKN (mg/L)	59.60	68.50	49.30	47.90	59.00	82.40	83.20	64.30	84.80	28.30	44.80	68.60
* Plant Capacity Hydraulic P (%)	50.00%	58.67%	64.81%	52.81%	54.83%	47.86%	52.41%	55.63%	63.75%	50.56%	57.19%	46.25%
* Plant Capacity Organic Q (%)	21.75%	72.14%	69.68%	37.43%	34.91%	167.25%	47.85%	50.27%	54.73%	37.28%	47.68%	69.93%
Day of sample Influent/Effluent Flow (MGD)	0.017	0.022	0.019	0.016	0.017	0.019	0.016	0.020	0.017	0.018	0.020	0.017
<b>EFFLUENT - MONTHLY</b>												
Ammonia Nitrogen (mg/L)	0.2	<0.03	0.17	0.71	0.03	0.56	0.05	0.12	0.63	0.66	10.21	22.65
Ammonia Nitrogen RA - See Tab	0.195	0.235	0.295	0.8	0.185	1.205	1.74	0.12	3.33	5.42	5.2	11.3825
TIN(mg/L) 10 max	10.38	11.45	8.64	13.46	11.52	12.32	24.5	20.78	1.76	1.22	11.07	23.11
TIN RA	11.555	12.712	11.876	11.757	10.937	10.680	10.895	9.237	8.336	8.579	8.858	8.221
NO2+NO3 (mg/L)	10.17	11.45	8.47	12.74	11.52	11.76	24.45	20.66	1.14	0.56	0.86	0.46
Ecoli (876 ml) Geomean Use actual on DMR	1	4	1	1	1	1	1	1	1	1	1	1733
* Ecoli RA 127	1.27	158.73	158.45	158.45	158.45	158.45	158.45	158.45	158.45	158.64	158.64	158.64
pH (Minimum) 6.5	6.82	6.93	7.10	6.79	6.90	6.94	6.55	6.80	7.10	6.97	6.95	7.20
pH (Maximum) 9.0	7.71	8.15	7.57	7.26	7.11	7.72	7.88	7.20	8.06	7.40	7.51	7.78
Effluent TKN	2.00	0.10	1.00	0.10	0.10	0.60			4.50	5.90	16.10	23.60
* Average #'s Nitrate	1.44	2.10	1.34	1.71	1.63	1.84	3.30	3.45	0.16	0.08	0.14	0.07
<b>EFFLUENT - 2X/YEAR</b>												
Effluent Arsenic (ug/L)			5.20				3.70					
ZYR Arsenic (ug/L)			4.83				4.53					
Effluent Copper (ug/L)			11.40				24.70					
ZYR Copper (ug/L)			12.65				16.15					
<b>EFFLUENT - QUARTERLY</b>												
Effluent BOD (mg/L) 30/45 mg/L	4	10	8	4	0	2	2	4	8	23	15	5
Highest BOD	10	10	8	4			8			23		
Effluent TSS (mg/L) 30/45 mg/L	8	11	9	7	0	0	12	9	21	26	30	16
Highest TSS	11		7				21			30		
* BOD % Removal	96.43%	96.52%	97.51%	98.03%	100.00%	99.74%	99.23%	98.18%	97.14%	87.57%	92.99%	98.59%
Lowest BOD %	96.43%			98.03%			97.14%			87.57%		
* TSS % Removal	96.28%	98.12%	97.29%	96.45%	100.00%	100.00%	97.57%	94.83%	94.31%	91.16%	62.03%	96.72%
Lowest TSS %	96.28%			96.45%			94.31%			62.03%		