City of Edgewater Department of Environmental Services

1. Surface Water Discharge
2. Septic to Sewer
3. Lessons Learned – Hurricane Ian

2024 FRWA ANNUAL CONFERENCE

July 29-31, 2024

Hilton Daytona Beach

Daytona Beach FL

Randy J. Coslow P.E. – Department Director/City Engineer
Jeff Thurman – Environmental Services Deputy Director
Matt Hixson – Wastewater Plant Manager

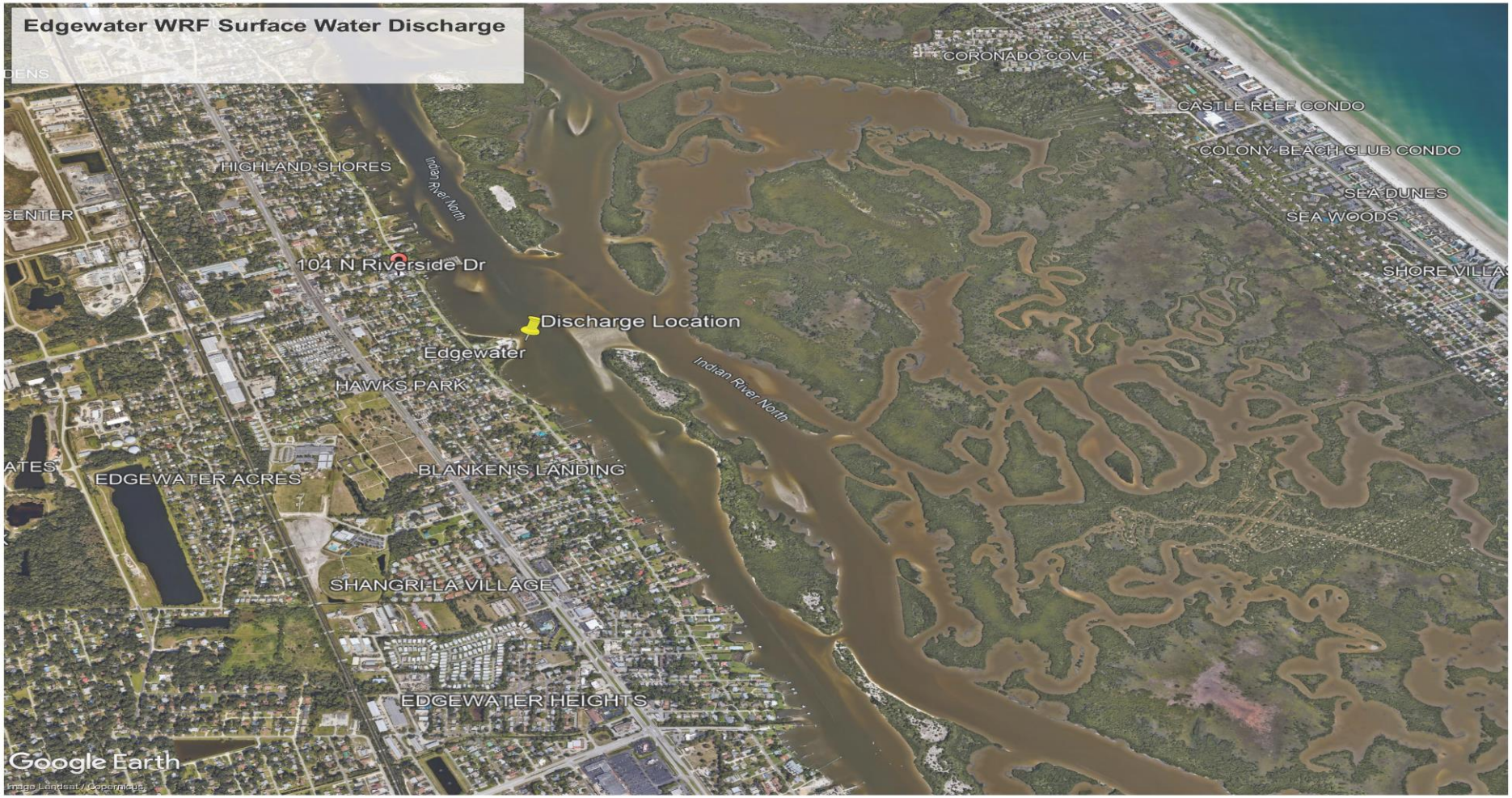
"Committed daily to building a better community through reliable infrastructure and exceptional service."

City of Edgewater

- 23 Square Miles
- Department/Division
- Number of customers

Municipal Boundary and Service Area

1. Surface Water Discharge




EPA
1970-PRESENT

The Clean Water Act of 1972

- Two Major Objectives:
  1. Set Surface Water Quality Standards
  2. Regulate Discharge of Pollutants

- States are responsible for implementation

Our Advanced Wastewater Treatment Plant- FL0021431

- 5-Stage Bardenpho
- 2.75 MDG Permitted Capacity

- In 1999 revisions to Chapter 620610.F.A.C, expanded, strengthened and refined the requirements

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

The Florida APRICOT Act of 1994

Home » Divisions » Division of Water Resource Management » Domestic Wastewater Program » The Florida APRICOT Act of 1994

The Florida APRICOT Act of 1994 was enacted as a result of Project APRICOT, which stands for A Prototype Realistic Innovative Community of Today. Project APRICOT, developed in the late 1980s, made it possible for the city of Altamonte Springs to fund and integrate reuse into its water resource management landscape.
Two provisions of this act were significant to Florida's Water Reuse Program.

1. Section 2 of the Act (found in Section 403.086(8), Florida Statutes (F.S.)), allowed for permitting of backup discharges for reuse systems when the utility provides advanced waste treatment.
2. Advanced water treatment is defined in 403.086, F.S., as having annual average limits for CBOD5, total suspended solids, total nitrogen (as N), and total phosphorus of 5,5,3, and 1 mg/L, respectively and has received high level disinfection, as defined by rule of the department.
   - Florida's high-level disinfection criteria are contained in Rule 62-600.440(5), Florida Administrative Code, (F.A.C). It is interesting to note that in certain cases (i.e., back-up discharges to public access reuse systems), the intermediate disinfection criteria in Rule 62-600.440(7), F.A.C., are allowed to serve as the high-level disinfection criteria.
   - These discharges are limited to 30 percent of the permitted reuse capacity on an annual basis.
   - The section authorizes the department to require backflow prevention devices on potable water lines within reclaimed water service areas. The department is directed to determine under what conditions back-flow prevention devices are necessary or not necessary.
3. Section 3 of the Act (found in Section 403.859(8), F.S., allowed high-quality reclaimed water to be injected into certain potable ground waters.
   - These are potable ground waters, as defined in Chapter 62-520.410, F.A.C., which contain 500 mg/L or less total dissolved solids, provided that the injection is done in accordance with department rules.
   - The section moderated the previous prohibition on injection of reclaimed water into any formation of the Floridan or Biscayne aquifers. The previous prohibition was enacted in the mid-1980s in response to opposition to Orlando's proposed CONSERV I project. That proposal involved injection of high-quality reclaimed water into the upper layer of the Floridan Aquifer.

Back-up and Limited Wet Weather Discharges Permitted Under the APRICOT Act

- Facilities Permitted Under the APRICOT can discharge 30% of their reuse capacity
- Our annual average discharge is 0.83 MGD

Facility Name/ID	County	DEP District	WWTP Permitted Capacity (MGD)	Water Body
New Smyrna Beach/ FL0172090	Volusia	Central	7.00[(b)]	Indian River Lagoon
Edgewater/ FL0021431	Volusia	Central	2.75[(c)]	Indian River Lagoon
Poinciana #3/ FL0036862	Osceola	Central	0.85	London Creek and Lake Hatchineha
Seminole Co. – NW/ FL0042625	Seminole	Central	2.50	St. Johns River
State Road 16/ FL0043109	St. Johns	NE	1.32	Cowan Swamp

Domestic Wastewater Treatment Plants with Limited Wet Weather Discharges Permitted Under Rule 62-610.860, F.A.C.

Facility Name/ID	County	DEP District	WWTP Permitted Capacity (MGD)	Water Body	P[(b)] (%)	TKN (mg/L)[(c)]	$CBOD_5$ (mg/L)[(c)]	SDF[(d)]
Cocoa Beach/ FL0021105	Brevard	Central	6.00	Indian River Lagoon	25	12	20	112
Barefoot Bay/ FL0042293	Brevard	Central	0.75	Indian River Lagoon	1.37	3.75	6.25	1.46
Vero Beach[(e)]/ FL0021661	Indian River	Central	4.50[(f)]	Indian River Lagoon	16.4	18.01	6.14	81.0
Ridaught Landing/ FL0039721	Clay	NE	1.875	Black Creek	25	1.0	5.0	5.32
Marsh Landing/ FL0044253	St. Johns	NE	0.80	Intracoastal Waterway	25	5.0	25.0	75.0
Julington Creek/ FL0043591	St. Johns	NE	1.0	St. Johns River	23	2.0	20.0	40.0
Player's Club South/ FL0044245	St. Johns	NE	0.7	Intracoastal Waterway	25	5.0	25.0	75.0
Starke City/ FL0028126	Bradford	NE	1.65 (LWWD 0.4)	Alligator Creek	16	5.0	15.0	102
Jacksonville Beach/ FL0020231	Duval	NE	4.5	Cradle Creek	2.0	Report	25.0	392
Palm Coast/ FL0116009	Flagler	NE	4.55 (LWWD 1.6)	Intracoastal Waterway	61.0	20.0[(e)]	20.0[(g)]	166
Innlet Beach/ FL0044237	St. Johns	NE	0.5	Intracoastal Waterway	25.0	5.0	25.0	75
Lake Butler/ FL0118338	Union	NE	0.7	Richard Creek	25.0	5.0	20.0	65

Note: (a) Facilities with limited wet weather discharges allowed to discharge 91 days/year in an average rainfall year. (b) P = Percent of days of the year a limited wet weather discharge will occur during an average rainfall year. (c) Monthly maximums. (d) SDF = Stream

Dilution Factor. (e) Facility allowed to discharge only 60 days/year. (f) Annual average discharge is 0.74 MGD. (g) Annual Average.

Reclaimed Water and Effluent Limitations and Monitoring Requirements- Surface Water Discharges

- Surface Water Discharges
- During the period of the permit, we are authorized to discharge effluent from Outfall D-001 to the Indian River North (Mosquito Lagoon)
- We are limited to specific permit conditions

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (discharge)	MGD	Max Max	0.83 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-1	See I.A.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	**5.0** 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	See I.A.6
Solids, Total Suspended	mg/L	Max Max Max	**5.0** 6.25 7.5	Annual Average Monthly Average Weekly Average	Weekly	16-hr FPC	EFD-1	See I.A.6
Solids, Total Suspended	mg/L	Max	**5.0**	Single Sample	4 Days/Week	Grab	EFB-1	See I.A.6
Coliform, Fecal, % less than detection	percent	Min	**75**	Monthly Total	4 Days/Week	Calculated	EFA-1	See I.A.7
Coliform, Fecal	#/100mL	Max	**25**	Single Sample	4 Days/Week	Grab	EFA-1	
Enterococci	#/100mL	Max Max	**35** **130**	Monthly Geometric Mean 90th Percentile	Weekly	Grab	EFA-1	See I.A.8 and I.A.9
pH	s.u.	Min Max	**6.5** 8.5	Single Sample Single Sample	Continuous	Meter	EFD-2	See I.A.3
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-1	See I.A.3 and I.A.10
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Daily; 24 hours	Grab	EFD-2	See I.A.3 and I.A.10
Nitrogen, Total	mg/L	Max Max Max Max	**3.0** 3.75 4.5 6.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	
Nitrogen, Total	lb/yr	Max	7580	Annual Total	Monthly	Calculated	EFD-1	
Phosphorus, Total (as P)	mg/L	Max Max Max Max	**1.0** 1.25 1.5 2.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	
Phosphorus, Total as P)	lb/yr	Max	2530	Annual Total	Monthly	Calculated	EFD-1	
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Grab	EFD-2	

Current Annual Averages

CITY OF EDGEWATER WWTP ANNUAL AVERAGES

Influent and Effluent

MONTH	Raw Flow MGD	Post Flow MGD	Comm Reuse Flow MGD	CBOD Raw MG/L	CBOD Effluent MG/L	TSS Raw MG/L	TSS Effluent MG/L	Total P Effluent MG/L	Total P Monthly LBS.	Total P YTD LBS.	Total N Effluent MG/L	Total N Monthly LBS.	Total N YTD LBS.	Fecal Coliform Monthly #/100 mL	Minimum DO MG/L	Raw Flow Monthly MG	Raw Flow YTD MG	Raw Total P MG/L	Raw Total N MG/L
Jan-24	1.559	0.338	1.175	156	1.60	294	0.70	0.040	3.50	3.50	1.95	170.4	170.4	0.5	7.43	48.332	48.332	4.9	38.5
Feb-24	1.506	0.177	1.431	163	1.00	138	0.70	0.020	0.83	4.32	1.77	73.2	243.6	0.5	7.89	43.686	92.018	4.8	45.2
Mar-24	1.438	0.000	1.580	197		143			0.00	4.32		0.0	243.6			44.577	136.595	4.3	43.3
Apr-24	1.351	0.000	1.960	188		242			0.00	4.32		0.0	243.6			40.522	177.117	5.1	49.4
May-24	1.248	0.000	2.188	195		178			0.00	4.32		0.0	243.6			38.695	215.812	6.7	45.8
Jun-24	1.317	0.000	2.075	166		177			0.00	4.32		0.0	243.6			39.510	255.322	6.1	54.4
Jul-23	1.639	0.121	1.648	167	1.26	168	1.00	0.270	8.45	12.77	1.83	57.2	300.8	0.5	7.19	50.815	306.137	4.0	37.3
Aug-23	1.604	0.134	1.675	138	1.92	168	0.80	0.240	8.05	20.82	1.92	66.5	367.3	0.5	7.45	49.738	355.875	3.2	35.8
Sep-23	1.460	0.000	1.698	147		146			0.00	20.82		0.0	367.3			43.794	399.669	4.6	38.2
Oct-23	1.917	0.411	1.535	126	1.78	178	0.87	0.115	12.22	33.03	2.40	255.0	622.4	0.5	7.30	59.437	459.106	3.4	29.3
Nov-23	1.704	0.236	1.562	130	1.72	170	0.80	0.080	4.72	37.76	1.40	82.7	705.0	0.5	7.55	51.113	510.219	4.0	41.8
Dec-23	1.671	0.339	1.323	172	3.15	173	1.00	0.050	4.38	42.14	2.20	192.8	897.8	0.9	7.51	51.812	562.031	4.9	42.0
AVG	1.535	0.146	1.654	162.1	1.78	181	0.49	0.116			1.92				7.47	46.84		4.7	41.8

Reuse

MONTH	CBOD MG/L	MAX TURB NTU	Fecal Coliform #/100 mL	MAX TSS MG/L	AUG FLOW MGD	RIVER DISCHARGE MG	IN-PLANT FLOW MG	REUSE FLOW MG	TOTAL P MG/L	TOTAL N MG/L	Monthly Rainfall Inches	Rainfall YTD Inches	TSS MG/L
Jan-24	1.47	0.90	0.5	2.10	0.000	10.478	3.527	36.432	0.050	1.99	2.7	2.7	0.9
Feb-24	0.89	1.02	0.5	1.50	0.125	5.125	43.686	41.495	0.030	1.85	3.5	6.2	0.7
Mar-24	0.68	0.88	0.5	2.10	0.138	0.000	4.395	48.988	0.040	2.06	1.7	7.9	1.0
Apr-24	0.96	1.98	0.5	2.30	0.541	0.000	2.674	58.785	0.130	5.38	1.3	9.2	1.3
May-24	1.20	1.99	0.5	2.30	0.962	0.000	2.745	67.832	0.100	5.94	2.4	11.6	1.5
Jun-24	0.46	1.86	0.5	3.00	0.846	0.000	0.165	62.238	0.300	1.02	6.8	18.4	1.6
Jul-23	1.26	1.26	0.6	2.00	0.173	3.743	3.521	51.097	0.310	1.74	8.3	26.7	0.9
Aug-23	1.35	1.25	0.5	2.10	0.180	4.167	3.915	51.933	0.480	2.36	4.6	31.3	1.1
Sep-23	1.36	0.95	0.5	1.90	0.279	0.000	3.850	50.942	0.310	2.14	8.0	39.3	1.0
Oct-23	1.29	1.33	0.6	2.10	0.041	12.755	3.705	47.579	0.110	2.38	3.5	42.8	0.8
Nov-23	1.28	1.01	0.5	2.10	0.083	7.079	3.204	46.870	0.190	2.63	7.2	50.0	1.1
Dec-23	1.96	0.87	0.9	3.70	0.024	10.509	3.943	41.028	0.060	2.35	4.9	54.9	1.2
AVG	1.18	1.28	0.6		0.283	53.856	79.329	605.219	0.176	2.65			1.1

Removal Efficiencies (%)

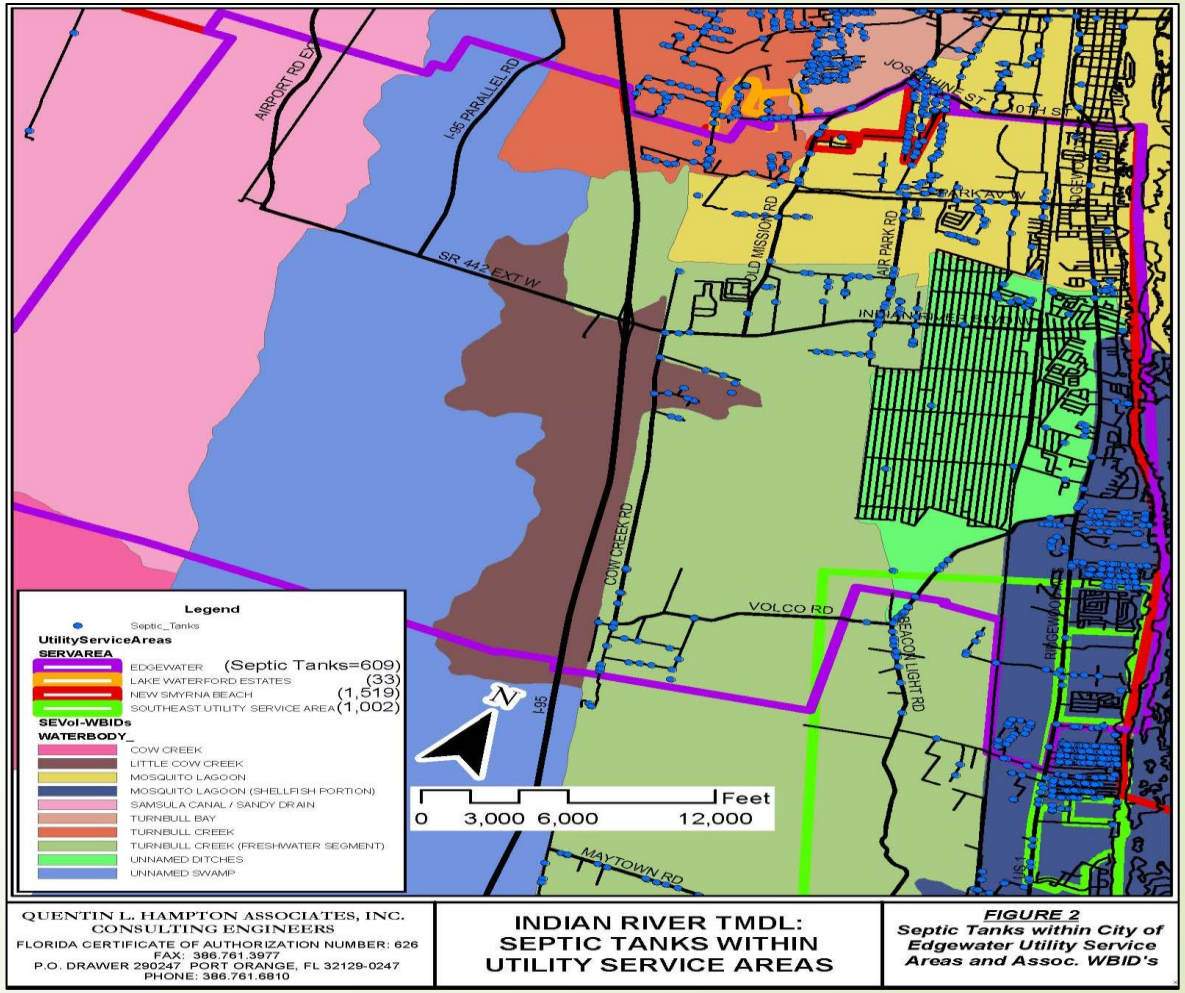
	TSS	CBOD	Total P	Total N
	99.7	99.1	99.0	94.8
	99.5	99.5	99.4	95.9
	99.3	99.7	99.1	95.2
	99.5	99.5	97.5	89.1
	99.2	99.4	98.5	87.0
	99.1	99.7	95.1	98.1
	99.5	99.2	92.3	95.3
	99.3	99.0	85.0	93.4
	99.3	99.1	93.3	94.4
	99.6	99.0	96.8	91.9
	99.4	99.0	95.3	93.7
	99.3	98.9	98.8	94.4
AVG	99.4	99.2	95.8	93.6

2. Septic to Sewer Conversion

- Brief introduction
- Importance of transitioning from septic to sewer systems

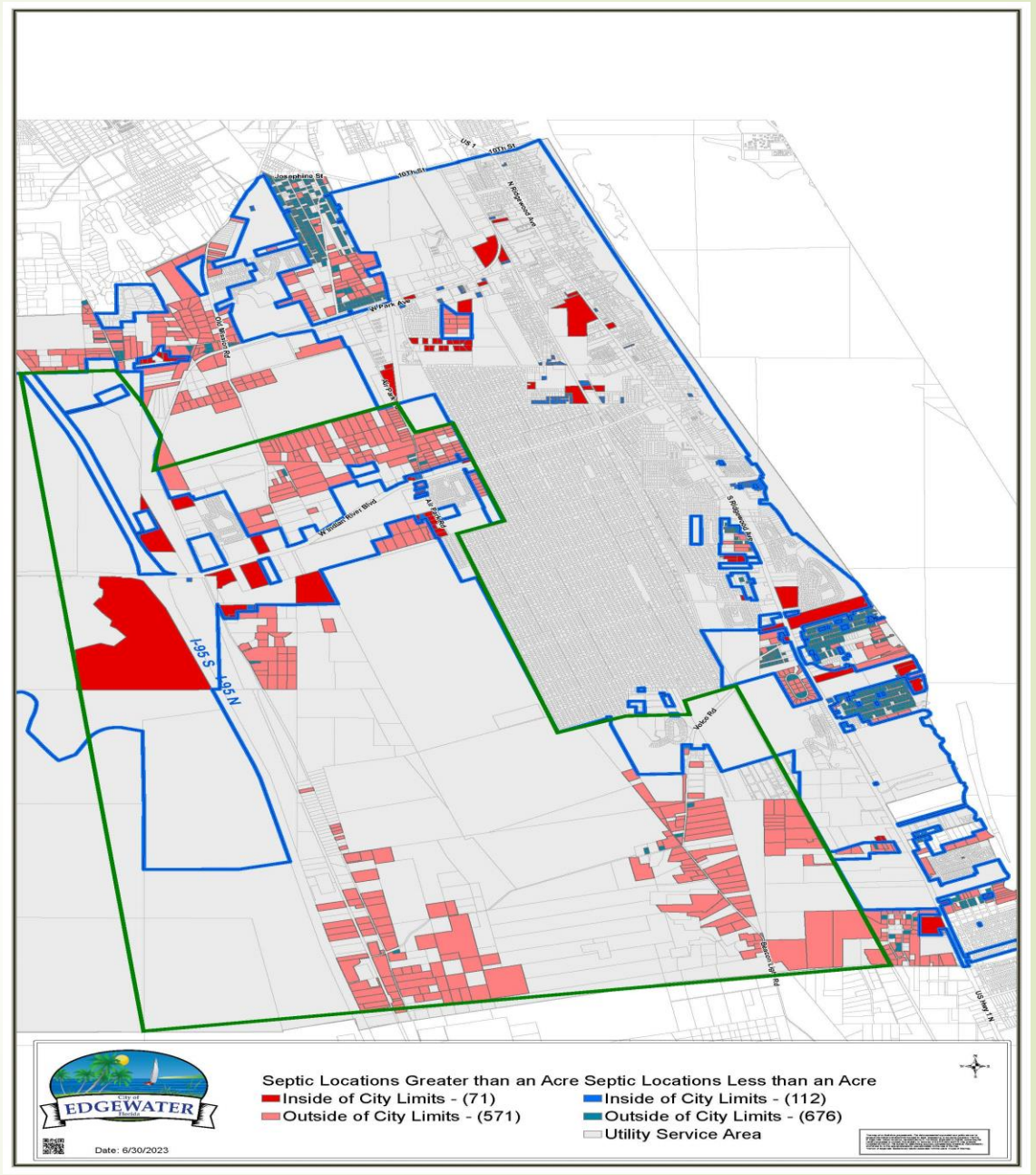
Indian River TMDL: Septic Tanks Within the Utility Service Areas

- 609 in our service area



Septic Tank Locations

- 183 - Inside City limits
- 1,247- Outside City limits by inside Edgewater's Utility Service Area



Areas, Properties, and Cost per Properties

			Septic to Sewer Areas:	1158	143,800	124.18				
FM on US-1	East or We	North to South		**# Properties**	**LF Roads**	**LF/EA**	**$30,000/EA**	**$700/LF**		
Grav Repur	E	1	Palm Breeze Dr	25	2,200	88.00	$750,000.00	$1,540,000.00		
Grav Repur	W	2	Joseph St/Alice St	40	3,500	87.50	$1,200,000.00	$2,450,000.00		
FM on US-1	E	3	Cory Estates	81	5,100	62.96	$2,430,000.00	$3,570,000.00		
FM on US-1	E	4	Hazelwood River Rd	40	2,900	72.50	$1,200,000.00	$2,030,000.00		
FM on US-1	W	5	Adams Rd	43	3,500	81.40	$1,290,000.00	$2,450,000.00		
FM on US-1	E	6	Arbor Ln	22	3,700	168.18	$660,000.00	$2,590,000.00		
FM on US-1	E	7	Packwood	3	1,300	433.33	$90,000.00	$910,000.00		
FM on US-1	W	8	Omni Circle	31	3,400	109.68	$930,000.00	$2,380,000.00		
FM on US-1	E	9	Waterway Park	172	13,100	76.16	$5,160,000.00	$9,170,000.00		
FM on US-1	E	10	Jones Fish Camp	17	2,400	141.18	$510,000.00	$1,680,000.00		
FM on US-1	W	11	Clinton Cemetery	30	6,000	200.00	$900,000.00	$4,200,000.00		
FM on US-1	E	12	Williams St	33	3,300	100.00	$990,000.00	$2,310,000.00		
FM on US-1	W	13	Ariel Rd	44	9,200	209.09	$1,320,000.00	$6,440,000.00	**$41,720,000**	581
										$45,892,000.00
							$25,000/EA	**$700/LF**		
			15th St & 16th St, Mango Dr to Juniper	37	2,700	72.97	$925,000.00	$1,890,000.00		
			Josephine>Massey	279	30,000	107.53	$6,975,000.00	$21,000,000.00		
			Taylor/Glencoe/Old Mission	96	21,400	222.92	$2,400,000.00	$14,980,000.00		
			Lukas Ln/Oak Ln	23	5,100	221.74	$575,000.00	$3,570,000.00	**$39,550,000.00**	
			Ragis-Oak Trl-Pinedale	142	25,000	176.06	$3,550,000.00	$17,500,000.00	**$17,500,000.00**	
									$98,770,000.00	
			Cost Estimate Back-Up Info							
				EA	**LF**	**LF/EA**	**All-in Project Cost**	**$/EA**	**$/LF**	
			Indian Harbor Estates	250	11,900	48	$6,927,024.57	$27,708.10	$582.10	$630.25
			Ponce Circle	25	1,400	56	$1,591,973.50	$63,678.94	$1,137.12	
			Spring Hill	116	10,240	88	$2,848,059.50	$24,552.24	$278.13	
										$430.12

Future Growth Projections

15,755.27 Acres Adding to ISBA + Volaco PUD and Potential Incoming Projects									
ISBA FLU	Acreage	Percentage	Units per Acre	Percent Residential	Residential Acreage	Stormwater Acreage Accounting for 30% - Acreage Left Over	Projected Maximum Units	Projected Total Unit Count	Projected Population Increase
Open Space/Conservation	11,034.54	70.04%	0	0.00%	0	0.00	0	39,062	89,842
Low Density Transition	815.09	5.17%	1	100.00%	815.09	570.56	571		
Low Density Residential	402.89	2.56%	4	100.00%	402.89	282.02	1,128		
Medium Density Residential	138.28	0.88%	8	100.00%	138.28	96.80	774		
Mixed Use	957.06	6.07%	12	60.00%	574.236	401.97	4,824		
Volco Gateway Shopping District	748.14	4.75%	30	40.00%	299.256	209.48	6,284		
Cow Creek Urban Core	269.12	1.71%	150	70.00%	188.384	131.87	19,780		
Cow Creek Innovation Corridor	1140.15	7.24%	0	0.00%	0	798.11	0		
Commercial	250	1.59%	0	0.00%	0	175.00	0		
Volaco PUD	670.27	N/A	12	60.00%	402.162	120.6486	4,102		
US 1 Industrial Property	160	N/A	4	100.00%	160	112	448		
Coral Trace Outparcels	44	N/A	12	100.00%	44	30.8	370		
Dairy Farm Glencoe	111	N/A	4	100.00%	111	77.7	311		
Mango Tree	26	N/A	8	100.00%	26	18.2	146		
Tatum	18.9	N/A	8	100.00%	18.9	13.23	106		
Alcantara	78	N/A	4	100.00%	78	54.6	218		
					Entitled			11,681	26,866
					Current Population				23,990
					Total Projected Population				140,698

Capacity Analysis Report

Attachment B.3: Capacity Analsysis Report 2021 thru 2031

2021

CITY OF EDGEWATER WWTP
F.D.E.P. WASTEWATER PERMIT
APPLICATION

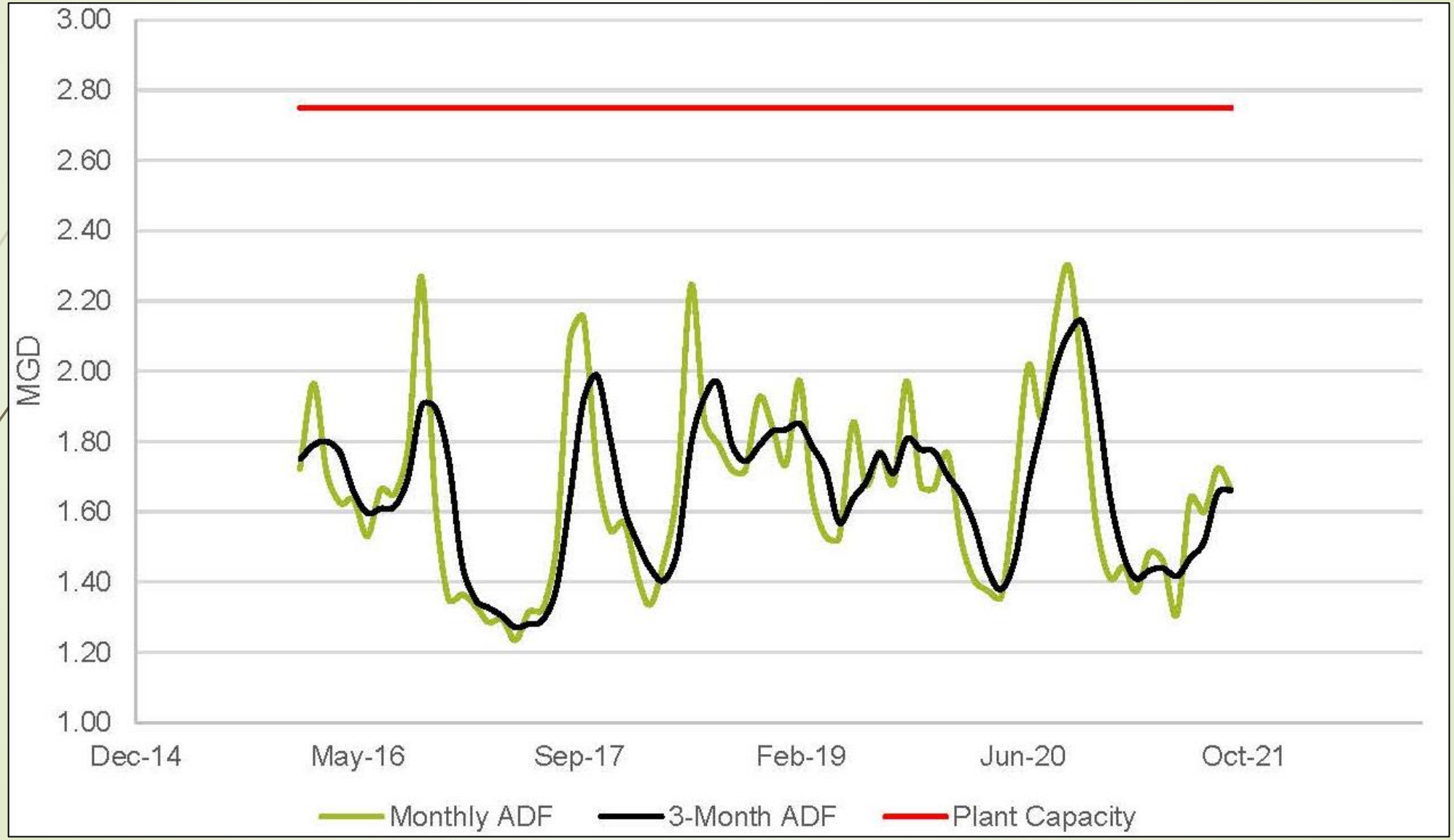
-CAPACITY ANALYSIS REPORT-
SECTION D

F.D.E.P. PERMIT NO. FL0021431
PERMIT EXPIRATION: June 10th, 2022

Report prepared by

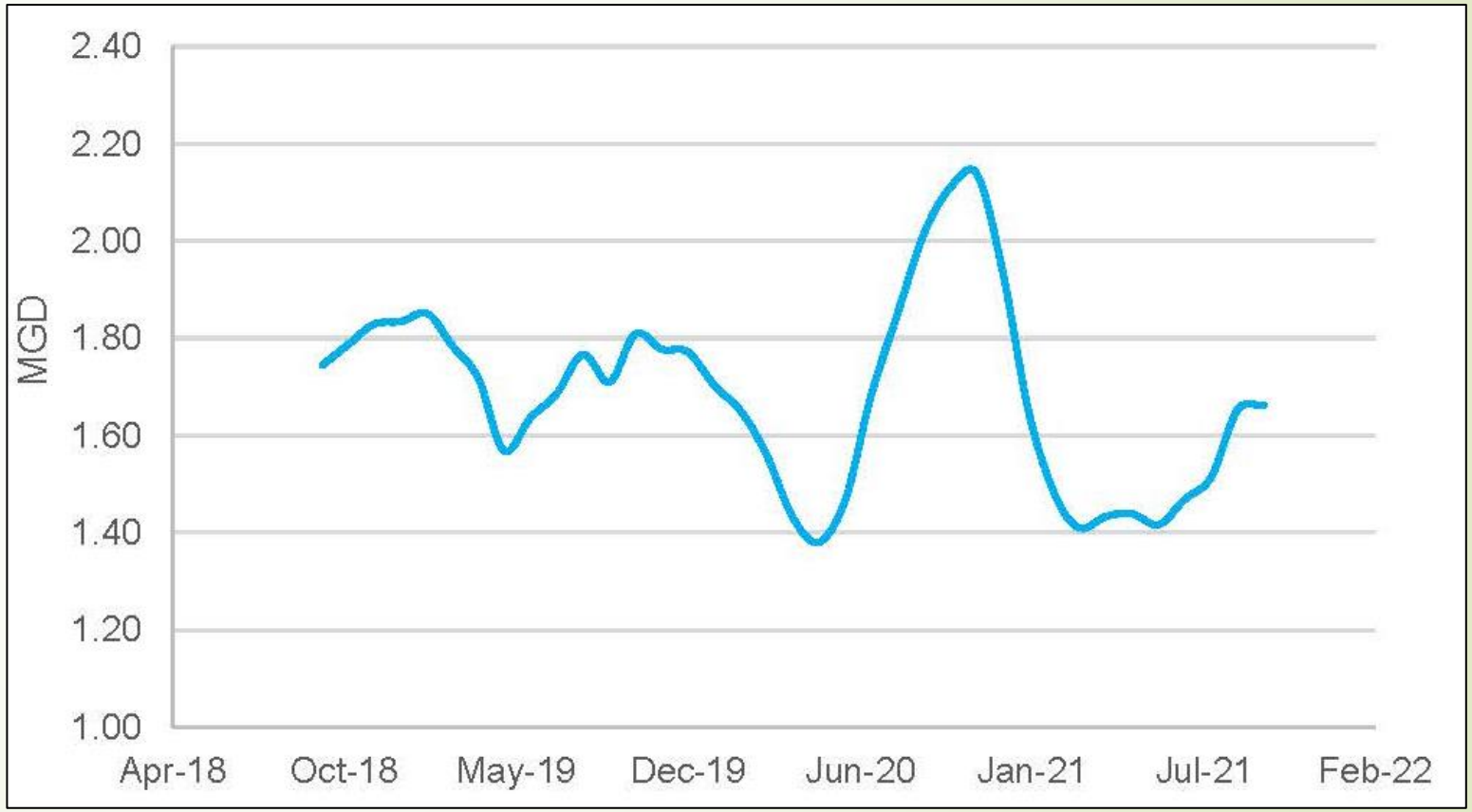
Mead & Hunt

Historical Flow



Seasonal Flow Variations

- Three-month rolling average
- Seasonal Low during Summer
- Seasonal high in the winter



Population and Flow Projections

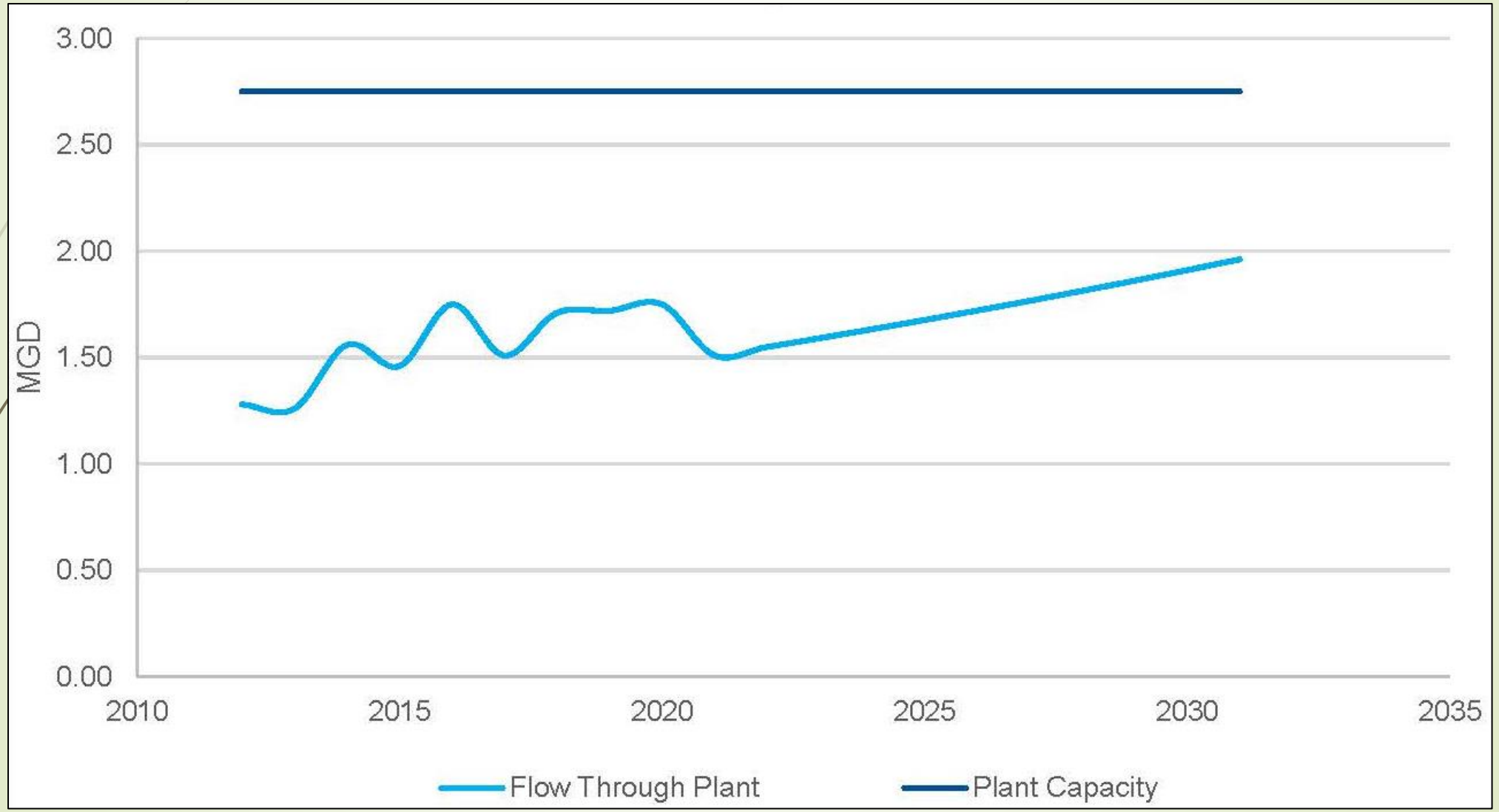
4.1 Wastewater Flow Projections

Flow data was obtained from the WWTF's Discharge Monitoring Reports (DMRs) for the last nine years from 2012 through 2021 are compiled and compared to the permitted capacity to review percent of the current capacity being utilized and to assist in projecting flows. Projected wastewater demand was estimated using the AADF from 2012 to 2021 and calculating the average yearly change percentage to project ADF from 2022 to 2031, as shown in ***Table 4.*** Plant Capacity is not expected to exceed 63% by 2026, and no more than 71% by 2031. The existing WWTP has adequate capacity to meet projected flows throughout the next permit period.

If future flow does increase beyond the permitted capacity, wastewater flow may be diverted to Volusia County's SE Regional Facility where adequate capacity allocated to the city exists.

Year	Total Flow Through Plant AADF (mgd)	Yearly Change (%)	Percent Capacity
2012	1.28	N/A	47%
2013	1.26	-1.56%	46%
2014	1.56	23.81%	57%
2015	1.46	-6.41%	53%
2016	1.75	19.86%	64%
2017	1.51	-13.71%	55%
2018	1.71	13.25%	62%
2019	1.72	0.58%	63%
2020	1.75	1.74%	64%
2021	1.51	-13.71%	55%
	Average Yearly Change (%)	**2.65%**	
2022	1.55	2.65%	56%
2023	1.59	2.65%	58%
2024	1.63	2.65%	59%
2025	1.68	2.65%	61%
2026	1.72	2.65%	63%
2027	1.77	2.65%	64%
2028	1.81	2.65%	66%
2029	1.86	2.65%	68%
2030	1.91	2.65%	69%
2031	1.96	2.65%	71%

Wastewater Flow Projections 2012-2031



Population Growth

42 Population Growth

Reviewing current population trends assists a municipality in projecting further growth of the area. The data may be used for planning purposes including projecting future wastewater flows.

The 2019 US Census population of the City of Edgewater was 23,918 and the current population is approximately 24,388 with an existing service area as depicted in ***Figure A*** Attached.

Population growth within the City of Edgewater's service area is estimated to increase over the next decade, primarily as a result of the expanded wastewater service area and proposed development. ***Table 5*** presents the projected population for the planning period based on the City's service area and population projections.

Year	Population
2019	23,918
2020	24,153
2021	24,388
2022	24,623
2023	24,858
2024	25,093
2025	25,328
2026	25,563
2027	25,798
2028	26,033
2029	26,268
2030	26,503
2031	26,738

Committed Capacity Report

November 10, 2023

Glenn Irby, City Manager
City of Edgewater
PO Box 100
Edgewater, FL 32132
[Original delivered via email to girby@cityofedgewater.org]

Re: Committed Capacity Report for Water, Wastewater, and Solid Waste, FY2022-2023

Mr. Irby,
The City of Edgewater Comprehensive Plan, Chapter 4-Utilities, includes various Sub-Elements which pertain to the City's enterprise utilities and adopts certain Level of Service (LOS) standards for each. Included below is an analysis of the recent usage of each system by the number of accounts served, a review of committed capacity for entitled developments, an estimate of the remaining capacity available in each system prior to significant capital investment (i.e. expansion), and a summary of anticipated developments which are not yet entitled and for which capacity has not yet been committed.

Over the last five (5) years, from September 2018 through October 2023, over 1,100 applications for new utility service were processed by the Environmental Services Department. This totals 1,139 Equivalent Residential Units (ERU) of service.

Chapter 4.2 Potable Water Sub-Element

Permitted Plant Capacity:	5,000,000 gpd Max Day
12-month Annual Average Daily Flow:	2,073,667 gpd AADF
Existing Accounts:	11,975 of which 975 serve unincorporated properties
Average Flow per Existing Account:	173 gpd
Adopted LOS per Policy 1.1.1:	204 gpd/ERU
Outstanding Committed Capacity:	1,070 ERU (218,280 gpd AADF)
Remaining Capacity Available:	13,275 ERU (2,708,053 gpd AADF)

Department of Environmental Services
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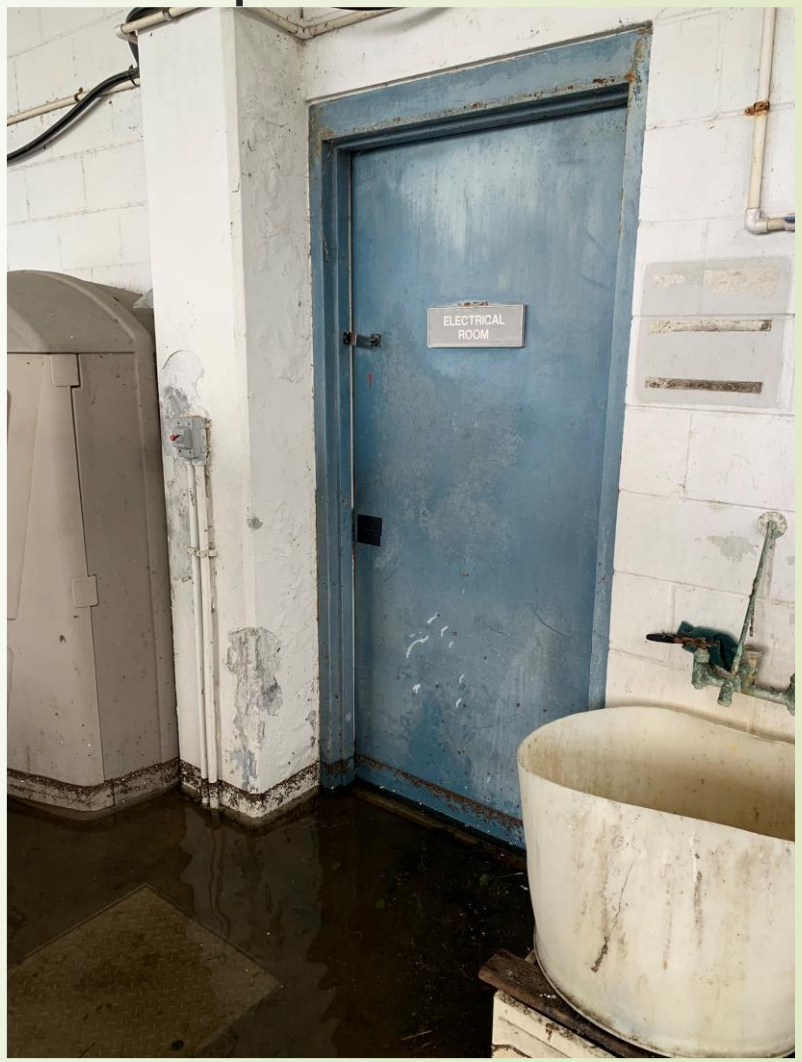
(386) 424-2400 x4007 • Fax (386) 424-2480
www.cityofedgewater.org

3. Lessons Learned – Hurricane Ian

Summary of Hurricane Ian's Impact

Impacts on Wastewater Plant and Operations

- Timeline
- Impact Summary



Edgewater WRF Electrical Checkout

October 1, 2022

Miscellaneous Items

- Roster: Ken Tripp, Beau Griffin, Jay , Matt Hixson, Joe Lavender, Randy Harris, Charlie Hicks
- The goal is to safely verify operational status of all equipment and processes with the intent to get the plant operational as soon as possible
- Discuss as to whether we should notify EOC or FD about ongoing work
- Matt Hixson will be coordinating the effort. All work will be documented, so let me know what the task status is. If anything is picture-worthy, please take a photo.
- Safety Items – Consider that you are working in raw sewage. First aid kit is available if needed. No energizing of circuits, equipment, etc. without prior notification of everyone in the plant. Need to figure out how to communicate with each other. Need to put up no-wake signage. We will be opening MCC room doors. If you need to leave the door open, make sure someone is manning the door in the event a vehicle drives by.
- All MCC cabinets have had some submergence in water. Main MCC and MCC's 3 and 4 (Sludge Thickening Building) were submersed 2-3 inches. The submergence level of the BNR and Reuse High Service Pump MCC's is not known.
- Have Fleet verify that generator is ready to run. Make sure day tank has not been compromised. Water depth had increased after it was last run.
- All UPS/battery backup systems laying in the bottom of electrical cabinets have more than likely been compromised. Unplug and remove them. Take a roll of painters' tape and label where they came from.
- If anyone has any other suggestions, concerns, or items for discussion, please speak up.
- Ideas on how to go about troubleshooting the control circuits? Should we check the control circuits after verifying the operational status of each MCC feed before moving onto the next task?
- Dennis Taylor is available. Need to figure out when to bring him in. Don't know how much he can do until SCADA has power.
- Other operational staff is available as needed if necessary
- After completing any assignment, please let me know so it can be documented. Do not move onto anything else until given the clearance to do so. We need to know where everyone is at all times!
- Randy and Charlie are here to help in any way possible. They have some non-electrical repairs to take care of and can assist with troubleshooting equipment as it becomes operational (chemical feed pumps, cleaning up the ops building, etc.) All this is wishful thinking!
- Need to work with Beau at some point to work on a daily flow estimation. Will need some info for DEP within a few days. All info needs runs through management.
- As-built drawings are available for reference. May be able to print some of them out for use in the field.
- If anyone runs into a problem, we will discuss it as a group. Do not try to resolve it by yourself.
- Need to discuss breaks, restroom availability, hydration, food, charging stations for phones, radios, availability of everyone for the day, when to quit for the day, when to regroup tomorrow, etc.
- Discuss methodology of work with electricians. Electricians working independently or as a combined effort on each task, etc.?

System Checks

- Check for FPL power. If no power, contact FPL and have them check out main feed transformer before they energize
- Verify working order of the feeds from the generator into the Main MCC
- Verify working order of feeds from the Main MCC to each of the remote MCC's. The feeds to MCC 5 and MCC 6 need verified only at this time. Not worried about pumping reuse water, however, we do need the A/C units operational in all MCC's to help dry them out.
- Establish what are non-essential electrical (digester blowers, feeds from old equipment no longer in use, etc.) items. Label any non-essential buckets with painter's tape so there's no wasted effort.
- Establish MCC work order. Get input on starting at end and working toward headworks. Will need to get BNR alive before it can process flow. At a minimum, sodium hypochlorite and bisulfite chemical feed systems need operational. Alum will help with settling solids before clarification.
- Discuss as a group which motors need megged. FYI: WAS, RAS, and scum pump motors were partially submerged.

Questions and Answers

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Jeff Thurman – Deputy Director
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Matt Hixson – Wastewater Plant Manager
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