City of Marco Island

Meeting Date:	Dec. 6, 2021
To:	City Council
From:	Jeffrey E. Poteet, General Manager- Water & Sewer
Through:	Mike McNees, City Manager
Re:	Water and Sewer (W&S) Departmental Report

Both the City's drinking water and wastewater operations follow Florida Department of Environmental Protection (FDEP) regulations and all other regulatory entity requirements. The Water and Sewer (W&S) Department is operating within the approved budget. Below is a summary of department activities during the past month.

Water and Sewer Impact-fee Study

During the 2021 legislative session, HB 337 was passed among other items, HB 337 requires that all impact fees be based on most recent and localized data. In 2006, the City's water and sewer impact-fee structure and schedule were adopted. These fees consist of a one-time charge for new or expanded connections to the City's water and wastewater systems and are designed to recover the costs of infrastructure, assets, and water supply to benefit new development. These fees are based on certain assumptions: water demand, wastewater generation, building code, needs of the community, and land uses. Since 2006, there have been many changes to the Florida building code, needs of the community, new uses (such as food truck parks), and most recently the City's Comprehensive Plan changes. Therefore, the impact-fee ordinance needs to be updated periodically to ensure that those assumptions are still valid, and implementation meets current rules and regulations.

Furthermore, the Water and Sewer Department is aware of several large developments planned to be constructed within the City's Water and Sewer service area over the next few years. While the structure to calculate impact fees for residential customers is straight forward, the calculation for the commercial class can be difficult to understand and needs revision. Recently, the method of the alternative water and sewer impact fee has been questioned and needs to be revised.

Therefore, staff will be soliciting proposals from financial consultants specializing in water and sewer rates/impact-fees. The consultant will review our impact-fee rate structure, schedule, and ordinance for City Council's consideration. The estimated cost to have a financial rate consultant review, evaluate and recommend changes is $30,000.

There is current funding available in the W&S FY22 operating budget for this expense (gl# 400-5300-5363-525805 contingency – unassigned). Once the work is completed by the consultant, staff will present a revised ordinance for consideration.

Sewer Manhole Rehabilitation

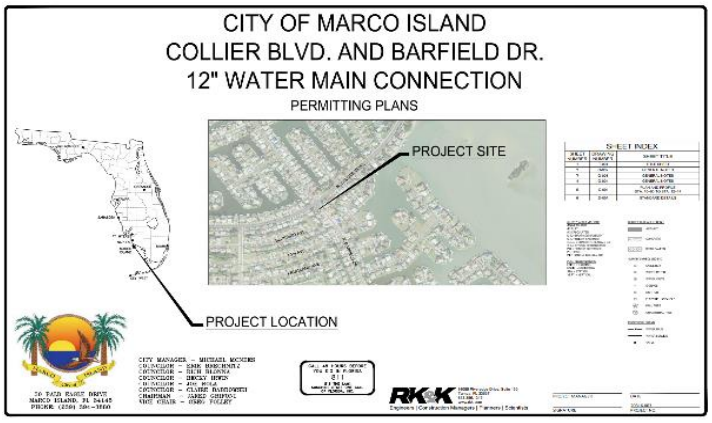
This project consists of the rehabilitation of existing sanitary sewer manholes located along N. Barfield Dr., Bluebird Ave, Rose Ct, and Waikiki Ct. A total of 31 existing manholes will be rehabilitated, and approximately 10 existing manholes will be repaired.

The work includes the repair and rehabilitation of the manhole walls, floor, trough, and the reestablishment of inlet piping to outlet piping flow to restore. In addition, the sandblasting, pressure washing, sealing, lining, and chimney sealing will be rehabilitated to prevent inflow and infiltration.

The project will start at the end of November and is expected to be completed by February. The west turn lane on Collier Blvd southbound and the north turn lane on N. Barfield Drive eastbound at the intersection of Collier Blvd and N. Barfield Drive will be temporarily closed during construction to perform the work on manholes #1353 and #522.

Collier Blvd and N. Barfield Water Main Connection

This project consists of connecting two 12-inch PVC water mains at the corner of Collier Blvd and N. Barfield Drive. The Engineer is completing and finalizing the 100% design drawings and specifications. The construction of this project is scheduled for January 2022. This project will have a minimum traffic impact.



Purchase of Standby Generators

The City was awarded A FEMA grant in 2020 for the purchase of 60 portable generators. The generators will be used during power outages to power the City's 105 lift stations and 14 brackish water wells. The FEMA grant provides 75% of the funding. The pandemic and supply chain issues have impacted the delivery schedule. A dozen generators were delivered in November for a total of 13 so far.

Acidification of Brackish Groundwater Wells No. 14 and No. 19.
The acidification treatment of brackish groundwater production wells 14 and 19 has been completed. The Contractor and the Engineer performed the step drawdown pumping test and verified a 619% improvement in well production capacity. The traffic maintenance signs have been removed.

Ten Year Water Supply Facilities Work Plan (Plan)
The Plan is a document that identifies the City's water supply sources and facilities needs for existing and new development within the City's water service area. State law requires the Plan to be adopted into the City's Comprehensive Plan. As done in the past, the Plan is a standalone document and will be adopted by reference into the City's Comprehensive Plan by ordance. The Plan must be presented to the Planning Board, City Council for first reading, State for review, and finally back to City Council for the second reading and adoption. To reduce amendments to the proposed document, staff asked the State for an informal review of the Plan. The State offered several suggestions which will be incorperated into the document. The presention of the Plan to the Planning Board is tentatively scheduled for their January meeting.

Water Service Interruptions with Boil Water Notice (BWN)			
Month	Number of Service Calls Resulting in a BWN	Number of Customers Affected in the Month	Large Interuptions 50 Customer or More
Nov-20	2	104	1 Condo - 80 Units
Dec-20	4	135	North Collier-80
Jan-21	3	203	Mainsail-100
Feb-21	4	358	2 Condos-333 Units
March-21	2	31	
April-21	1	37	
May-21	1	22	
June-21	4	163	1 Royal Marco Way-112
July-21	8	223	2 Marco Villas-140
Aug-21	3	222	Somerset -122 and Royal Marco Way- 80
Sept-21	4	550	Marco Villas-148 Units
Oct-21	6	208	Eagle Cay-126

The average daily raw wastewater influent and final plant effluent Total Phosphorous (PO_4) has been added to the Treatment Plant Data report. The BOD (actually CBOD - Carbonaceous Biochemical Oxygen Dmand), TSS (Total Suspended Solids), NO_3 (Nitrate, Total, as N), and PO_4 are results from weekly, 16-hr flow proportionate samples. There is some natural reduction of PO_4 in the wastewater biological treatment process. Additional treatment methods will be required if further reductions are desired.

Treatment Plant Data

Starting Date: **9/1/2021** Rain Fall for Time Period **9.80** Inches

Ending Date: **9/30/2021**

Average **D**aily **F**low (ADF)

Million **G**allons per **D**ay (MGD)

"U" Undetected - results below detection limit

Aquifer Storage & Recovery

ASR - Injection Avg. Daily Flow	**5.03** MGD	Sep-21
ASR - Recovery Avg. Daily Flow	**0.00** MGD	

Marco Island Drinking Water

		Max Day	Max Day Flow
Combined Consumer ADF	**7.37** MGD	9/11/2021	**9.12** MGD
NWTP Consumer ADF	**3.33** MGD	9/20/2021	**3.92** MGD
SWTP Consumer ADF	**4.03** MGD	9/29/2021	**5.38** MGD

Finished Water Testing

Minimum Chlorine Residual **1.20** mg/L

	Maximum	Minimum			Maximum	Minimum	
Turbidity	**0.01**	**0.01**	NTU	Chlorides	**120**	**88**	mg/L
Total Dissolved Solids	**308.00**	**259.00**	mg/L	Color	**7**	**1**	mg/L
P-Alkalinity	**8.00**	**4.00**	mg/L	Phosphate	**0.8**	**0.07**	mg/L
M-Alkalinity	**41.00**	**33.00**	mg/L	Ammonia	**0.05**	**0**	mg/L
Cal-Hardness	**80.00**	**66.00**	mg/L	Aluminum	**0.1**	**0.04**	mg/L
Total Hardness	**110.00**	**92.00**	mg/L	pH	**9.01**	**8.48**	SU

Sep-21 Wastewater - RWPF

	Average Flow		Monthly Max Day			Monthly Testing Influent	Monthly Testing Effluent	
Influent	**1.99**	MGD	**9/16/2021**	**2.71**	BOD	**172.2**	**1.83**	**mg/L**
Reuse	**1.55**	MGD	**9/10/2021**	**2.17**	TSS	**146.8**	**0.6 U**	**mg/L**
Deep Well	**0.5**	MGD	**9/17/2021**	**1.359**	NO3	**NA**	**6.61**	**mg/L**
					PO4	**4.05**	**3.33**	**mg/L**

Treatment Plant Data

Starting Date: **10/1/2021** Rain Fall for Time Period **4.70** Inches

Ending Date: **10/30/2021**

Average **D**aily **F**low (ADF)

Million **G**allons per **D**ay (MGD)

"U" Undetected - results below detection limit

Aquifer Storage & Recovery

ASR - Injection Avg. Daily Flow	**7.00** MGD	Oct-21
ASR - Recovery Avg. Daily Flow	**0.00** MGD	

Marco Island Drinking Water

		Max Day	Max Day Flow
Combined Consumer ADF	**7.84** MGD	10/23/2021	**9.53** MGD
NWTP Consumer ADF	**3.38** MGD	10/4/2021	**4.29** MGD
SWTP Consumer ADF	**4.45** MGD	10/12/2021	**7.02** MGD

Finished Water Testing

Minimum Chlorine Residual **1.10** mg/L

	Maximum	Minimum			Maximum	Minimum	
Turbidity	**0.01**	**0.01**	NTU	Chlorides	**120**	**103**	mg/L
Total Dissolved Solids	**292.00**	**269.00**	mg/L	Color	**9**	**3**	mg/L
P-Alkalinity	**8.00**	**3.00**	mg/L	Phosphate	**0.87**	**0.67**	mg/L
M-Alkalinity	**60.00**	**33.00**	mg/L	Ammonia	**0.87**	**0.44**	mg/L
Cal-Hardness	**110.00**	**1.00**	mg/L	Aluminum	**0.6**	**0.04**	mg/L
Total Hardness	**126.00**	**92.00**	mg/L	pH	**8.97**	**8.6**	SU

Oct-21 Wastewater - RWPF

	Average Flow		Monthly Max Day			Monthly Testing Influent	Monthly Testing Effluent	
Influent	**2.08**	MGD	**10/13/2021**	**2.51**	BOD	**261**	**3.75**	**mg/L**
Reuse	**1.89**	MGD	**10/5/2021**	**2.75**	TSS	**190**	**0.6 U**	**mg/L**
Deep Well	**0.391**	MGD	**10/26/2021**	**1.118**	NO3	**NA**	**7.09**	**mg/L**
					PO4	**4.51**	**3.41**	**mg/L**