



# City of Marco Island

Meeting Date: April 7, 2025

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 W&S Department is operating within the approved budget. Below is a summary of department activities during the past month.

## **FDOT Project - Roberts Bay Bridge Replacement**

The Florida Department of Transportation (FDOT) is currently in the design phase for the replacement of the Caxambas Court Bridge, originally constructed in 1973. This project aims to enhance structural integrity, incorporate current design standards, and improve overall safety, drainage, signage, striping, and pavement quality.



One significant aspect of the project involves the relocation of utility mains that currently traverse bridge structure. Two options are under consideration:

1. Subaqueous Crossing: This approach involves replacing the mains through a directional drill process prior to bridge construction. The estimated cost for engineering and construction of this subaqueous crossing is approximately \$900,000.
2. Replacement in Kind: Alternatively, the utility mains can be replaced in kind, attaching them to the new bridge during construction. The estimated cost for this method is approximately \$1,200,000.

It's important to note that this project is not currently included in the Fiscal Year 2025 Water and Sewer (W&S) Capital Improvement Program (CIP) budget, nor in the 5-year CIP plan.

### Financial Considerations:

- If the decision is made to proceed with the subaqueous crossing, funding for engineering and construction will need to be identified in the current fiscal year.
- Alternatively, if the decision favors attaching the mains to the new bridge, only funding for design costs will be required in FY25, with construction funding needed in FY26.

Once we have identified the best alternative, the project will be presented to City Council for funding consideration.

### **Annex 2<sup>nd</sup> Floor Reconfiguration**

The contractor responsible for the Annex project is currently in the final stages of mudding, sanding, and priming the drywall. By the end of March, they will commence preparations on the existing concrete slab for the flooring installation. Additionally, the contractor will undertake the replacement of existing windows with impact-resistant ones, compliant with current building codes.

Due to the window replacements and unforeseen delays caused by hurricanes and existing conditions, the project schedule has been significantly impacted. Consequently, the contractor has formally requested and been granted a 120-day time extension to the contract. This extension adjusts the anticipated completion date to July 18, 2025.



### **South Water Treatment Plant - Odor Control Rehabilitation Project**



This is a comprehensive rehabilitation plan for the odor control system, which includes two degasifiers and a scrubber. The project encompasses the furnish and installation of the interior packing support structure, degasifier media replacement, chemical feed port, monitor port, acoustic wall replacement, and protective coating to the entire outdoor structures. The public advertisement of the Invitation to Bid (ITB) is scheduled for March 30 and the bid opening on May 6. The staff plans to start and complete this work between June to September 2025.

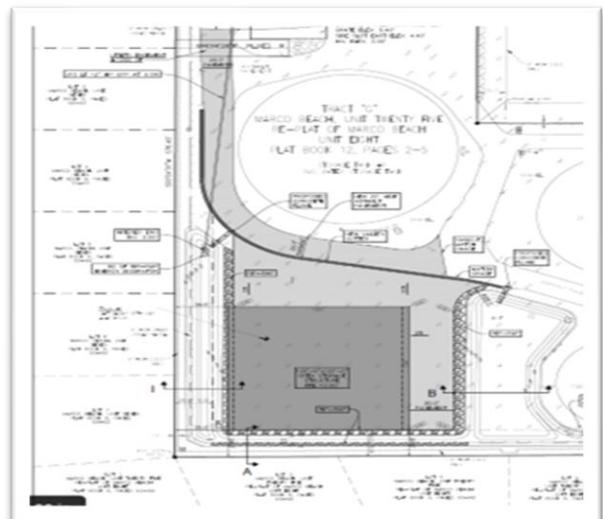
### **South Water Treatment Plant - Generator Open Storage Structure**

The design of the new generator open storage structure is currently in progress. This 120-foot by 120-foot metal-roofed structure will be located at the southeast corner of the South Water Treatment Plant at 415 Lily Court. The project includes the construction of the structure, a paved area, and site improvements to enhance environmental resilience.

In compliance with the Environmental Resource Permit (ERP) recommendations, the project will incorporate swales between the property line and the new structure, with riprap stone for erosion control. The W&S Department has secured grant funding to support this initiative.

Funding for this project is included in the approved FY25 budget. Staff anticipate presenting an award of contract for City Council consideration in the coming months, with construction expected to begin in Fall 2025.

Once completed, this facility will provide covered storage for W&S portable generators, protecting them from environmental exposure. These generators are essential for maintaining operations at sanitary sewer lift stations and water supply wells during power outages.



## South Water Treatment Plant Electrical Improvements – Breaker Replacement

The Motor Control Center (MCC) at the South Water Treatment Plant (SWTP) is the original electrical equipment for the facility since 1990. Over the past year, the facility encountered a significant electrical issue that left the water production facility without power for several hours. The MCC is responsible for controlling all the equipment at the SWTP. Unfortunately, the parts for the MCC are now obsolete, and replacement components can primarily be found on used parts websites.



Last year, the electrical manufacturer performed repairs on a failed breaker and recommended a retrofit for the current Motor Control Center (MCC). The electrical manufacturer provided a turnkey solution to upgrade and retrofit the breakers, which includes reusing some existing components and adding new breakers that come with a 12-month warranty and readily available parts. The retrofit consists of 11 new breakers, surge protection, and metering ports. The installation will require brief power outages at the site while the manufacturer replaces these 11 breakers and performs a full startup and commission testing procedure to verify that the switchgear passes all the tests on new equipment, including contact resistance and insulation resistance. The project cost \$989,876.



During the 15-day retrofit period, the staff will develop a plan to keep the MCC operational and minimize downtime for water production. The plan involves retrofitting all the breakers, testing electrical tolerances of all components, and re-certifying the unit. This project offers significant cost savings compared to a complete redesign and total MCC replacement in the amount of \$3.5 Million.

## Caught in the Act

In alignment with the City of Marco Island's Caught in the Award policy, we recognize Silvestre Rodriquez and Mateo Munoz Rueda for their outstanding initiative and contributions beyond their regular duties in the Water and Sewer Department. Their efforts in addressing safety and operational challenges with innovative solutions exemplify the purpose of this award.

Silvestre and Mateo took proactive steps to resolve a long-standing issue with backflows discharging water near the entrance gate to the water and wastewater treatment plants. Silvestre designed and constructed a drainage system that not only mitigated the problem but also improved the area's appearance and functionality. Silvestre and Mateo also identified and addressed excessive water accumulation under the Headworks structure, eliminating a serious slip hazard through a well-engineered drainage solution. Their attention to detail, problem-solving skills, and commitment to safety go beyond routine responsibilities.



As per the Caught in the Act Award policy, both employees were presented with a \$50 gift card in recognition of their exceptional efforts. Silvestre's leadership in mentoring Mateo reinforces a culture of excellence and quality workmanship, setting a strong example for their peers.

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Water Service Interruptions with Boil Water Notice (BWN)			
Month	Number of Service Calls Resulting in a BWN		Large Interruptions 50 Customer or More
March-24	3	193	Royal Marco Way-112, Mainsail-80
April-24	5	290	Eagle Cay-126, Madeira-103
May-24	2	403	4 Condos
June-24	4	229	4000 Royal Marco Way-
July-24	4	170	San Marco Villas-65
Aug-24	0	0	****NOTE NO PRECAUTIONARY BOIL WATER
Sept-24	4	307	Marco Villas-68 Twice, and
Oct-24	5	320	Aquarius 50, Marco Villas-68, 6000 Royal Marco Way-78, Seawatch-80
Nov-24	6	383	6000 Royal marco Way-78, Tradewinds-204
Dec-24	3	160	1771 Mainsail 100, 901 South Collier 52.
Jan-25	3	66	
Feb-25	2	40	



## Treatment Plant Data

Starting Date: 1/1/2025 Rain Fall for Time Period 0.50 Inches  
 Ending Date: 1/31/2025

### Aquifer Storage & Recovery

ASR - Injection Avg. Daily Flow 0.00 MGD Jan-25  
 ASR - Recovery Avg. Daily Flow 1.65 MGD  
 Average Daily Flow (ADF) Million Gallons per Day (MGD)  
 "U" Undetected - results below detection limit

### Marco Island Drinking Water

	Max Day	Max Day	Flow
Combined Consumer ADF	10.18 MGD	1/4/2025	11.48 MGD
NWTP Consumer ADF	3.97 MGD	1/15/2025	4.53 MGD
SWTP Consumer ADF	6.21 MGD	1/6/2025	7.22 MGD

### Finished Water Testing

Minimum Chlorine Residual 3.40 mg/L

	Maximum	Minimum		Maximum	Minimum	
Turbidity	0.21	0.01	NTU	125	112	mg/L
Total Dissolved Solids	289.00	111.00	mg/L	8	1	mg/L
P-Alkalinity	7.00	4.00	mg/L	1.03	0.57	mg/L
M-Alkalinity	56.00	37.00	mg/L	0.85	0.53	mg/L
Cal-Hardness	104.00	10.00	mg/L	0.1	0.05	mg/L
Total Hardness	130.00	100.00	mg/L	8.97	8.6	SU

Jan-25

### Wastewater - RWPF

### Monthly Testing

	Average Flow	Monthly Max Day		Influent	Effluent	
Influent	2.46 MGD	1/2/2025	3.02	BOD	230.2	4.32 mg/L
Reuse	1.64 MGD	1/28/2025	2.22	TSS	209.2	0.6 mg/L
Deep Well	0.793 MGD	1/1/2025	1.781	Total N	NA	6.03 mg/L
				Total P	6.22	3.92 mg/L