



# City of Marco Island

Meeting Date: August 19, 2024  
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.

## Annual Temporary Modification to the Drinking Water Disinfection Process

The City of Marco Island (City) will temporarily modify the disinfection process for the potable (drinking) water supply in your area (Both Marco Island and Marco Shores). From September 1, 2024, through September 30, 2024, the water will be disinfected using free chlorine instead of chloramines. This change to free chlorine, a stronger disinfectant, is necessary for the city to conduct an annual water distribution system purge, as recommended by the Florida Department of Environmental Protection for utilities employing chloramines.

The conversion process will commence on September 1, 2024, and aims to ensure the continued safety and quality of our water supply. We anticipate minimal impact on water quality during this period.



## Tropical Storm Debby

On Sunday, August 4, 2024, Tropical Storm Debby brought heavy rainfall to Marco Island, resulting in over 5.6 inches of rain. This significant rain event led to widespread flooding across the Island and presented operational challenges for the City's sanitary sewer collection system and wastewater treatment plant.

Despite the intense conditions, no wastewater spills occurred during this event. However, the storm's impact on the collection system was substantial, with inflow and infiltration causing 27 of the City's 108 lift stations to enter high-level status. To mitigate the risk of a wastewater spill and alleviate the pressure on the system, City staff, in collaboration with an outside vacuum truck contractor, transferred approximately 350,000 gallons of wastewater from critical areas back to the treatment plant for processing.



Additionally, one of the system's lift stations was undergoing repairs and was equipped with temporary pumps, which prevented the lift station lid from closing completely. In response, staff quickly constructed

a temporary berm around the station to prevent stormwater inflow, ensuring continued protection of the system.

The treatment plant, which is permitted to handle a capacity of 4.92 million gallons per day, on a three month daily average, successfully processed over 6.3 million gallons of wastewater during the storm, demonstrating the resilience and effectiveness of the City's infrastructure and emergency response measures.

#### **N. Collier Bridge Mains Replacement at Bluebonnet Waterway**

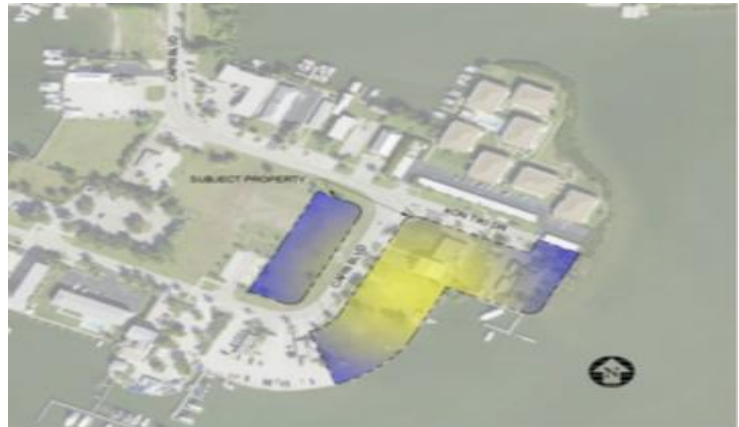
The water main and irrigation main replacement at the N. Collier Bridge is in progress. The contractor removed the existing 16-inch irrigation main and 12-inch water main located at the bridge and installed a temporary irrigation line to ensure uninterrupted irrigation service during construction. The irrigation pipe replacement phase is expected to



last approximately two months. The contractor has initiated the installation of the cradles that will support the new 20-inch water main next to the bridge. The city has encountered an issue with the connection to the existing water main reducer. Although the as-built drawing shows the location of the reducer in the right of way, the contractor has been unable to locate it in the field. The city is exploring options to find the reducer or looking for other alternatives to connect to the existing water main at south side of the bridge. This discrepancy will result in an increase cost of the project.

#### **Development of Isle Capri Harbor Marina**

The City has received a proposal for the redevelopment of the Capri Harbor Marina, which will feature a 3-story boat storage marina, a ship store, office, and an off-site parking lot. Full build-out condition includes restaurant, food operations, office, swimming facility, gym, and 56 residential units.



The project will take place on a partially previously developed  $\pm 2.21$ -acre parcel with an existing 2-story building that is to be demolished. The addition of the marina will necessitate adjustments to the utilities in the Isles of Capri Business District (ICBD) and the surrounding area. These adjustments involve the design and installation of a new sewer collection system consist of an 8-inch gravity main and a new lift station sized to accommodate the entire business district at full buildout conditions as requested by the Water and Sewer Department. The developer has completed their design of the collection system, and the City is currently reviewing their application.

#### **Source Water Facility Biologically Active Filters**

The construction of the biologically active filters located at the source water facility is in progress. The contractor removed all the vegetation on the project site, identified and located all the underground utilities, installed the silt fence and the turbidity barrier in the lake. The Contractor is getting ready to remove the existing pump and the supports. This project is on schedule and is within the approved budget.



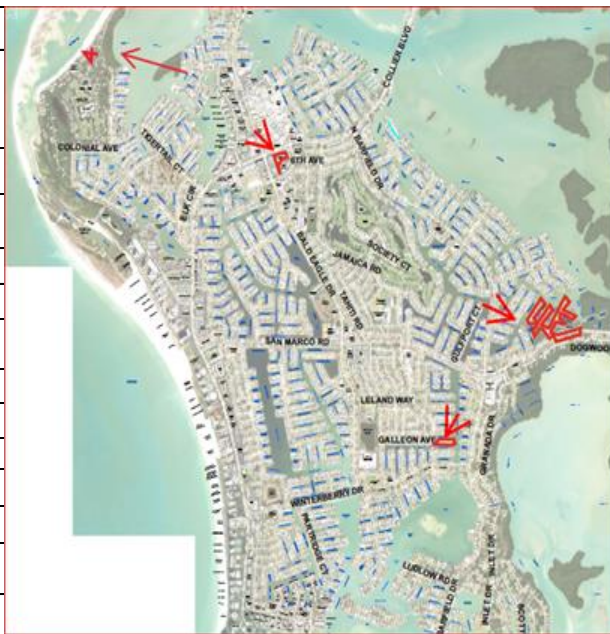


## Collections and Distribution (C&D) Building and Covered Open Storage Structure

The architecture continues to review shop drawings submittals for the new C&D Building and Covered Open Storage Structure. The C&D Building foundation has been poured and stem walls constructed, backfilled and compacted. Plumbing and electric lines are in the process of being installed and expected to be completed in August. At the Covered Open Storage site, existing underground pipes have been rerouted to go around the new structure's foundation. The contractor will begin preparing the footings and foundation and installing plumbing and underground electric in August. The construction of the new C&D Building and covered opens storage structure is on schedule and is within the approved budget



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 Interruptions 50 Customer or More
July-23	7	564	Somerset-122, Shalimar -247
Aug-23	6	317	Grand Bay Condo- 60, Gulfport 93, Mainsail 88.
Sept-23	5	378	1065 Borghese 123; 991 Barfield 60;1150
Oct-23	4	190	1065 Borghese 123.
Nov-23	2	52	
Dec-23	9	528	Seabreeze W. 70, Tradewinds-204
Jan-24	3	174	Marco Villas 95
Feb-24	0	0	
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-



Treatment Plant Data									
Starting Date:		6/1/2024		Rain Fall for Time Period		17.20 Inches			
Ending Date:		6/30/2024		Average Daily Flow (ADF)		Million Gallons per Day (MGD)			
Aquifer Storage & Recovery						Jun-24			
ASR - Injection Avg. Daily Flow		0.45 MGD		"U" Undetected - results below detection limit					
ASR - Recovery Avg. Daily Flow		0.65 MGD							
Marco Island Drinking Water									
Combined Consumer ADF		9.61 MGD		Max Day	Max Day	Flow			
NWTP Consumer ADF		4.22 MGD		6/5/2024	11.76	MGD			
SWTP Consumer ADF		5.39 MGD		6/5/2024	5.14	MGD			
				6/22/2024	6.79	MGD			
Finished Water Testing									
Minimum Chlorine Residual		3.30 mg/L							
		Maximum	Minimum			Maximum	Minimum		
Turbidity		0.01	0.00 NTU	Chlorides	146	118	mg/L		
Total Dissolved Solids		409.00	318.00 mg/L	Color	5	2	mg/L		
P-Alkalinity		7.00	4.00 mg/L	Phosphate	0.75	0.61	mg/L		
M-Alkalinity		40.00	32.00 mg/L	Ammonia	0.93	0.7	mg/L		
Cal-Hardness		102.00	48.00 mg/L	Aluminum	0.79	0.03	mg/L		
Total Hardness		138.00	112.00 mg/L	pH	8.8	8.65	SU		
Jun-24 Wastewater - RWPF									
Average Flow		Monthly Max Day		Monthly Testing					
Influent	2.59 MGD	6/12/2024	5.32	BOD	145.5	1.00	mg/L		
Effluent	1.53 MGD	6/8/2024	2.53	TSS	137	0.625	mg/L		
Deep Well	0.984 MGD	6/12/2024	4.502	Total N	NA	5.32	mg/L		
				Total P	NA	2.95	mg/L		

## Treatment Plant Data

Starting Date: **7/1/2024**

Rain Fall for Time Period **9.60** Inches

Ending Date: **7/31/2024**

Average Daily Flow (ADF)

### Aquifer Storage & Recovery

Million Gallons per Day (MGD)

ASR - Injection Avg. Daily Flow

**6.07** MGD

Jul-24

ASR - Recovery Avg. Daily Flow

**0.00** MGD

"U" Undetected - results below detection limit

### Marco Island Drinking Water

Combined Consumer ADF

**9.17** MGD

NWTP Consumer ADF

**3.95** MGD

SWTP Consumer ADF

**5.22** MGD

Max Day

Max Day

Flow

7/8/2024

**11.39**

MGD

7/8/2024

**4.87**

MGD

7/10/2024

**6.86**

MGD

### Finished Water Testing

Minimum Chlorine Residual

**3.00** mg/L

Maximum

Minimum

Maximum

Minimum

Turbidity

**0.01**

**0.01**

NTU

Chlorides

**120**

**96**

mg/L

Total Dissolved Solids

**314.00**

**219.00**

mg/L

Color

**8**

**3**

mg/L

P-Alkalinity

**8.00**

**4.00**

mg/L

Phosphate

**0.93**

**0.04**

mg/L

M-Alkalinity

**43.00**

**32.00**

mg/L

Ammonia

**0.9**

**0.08**

mg/L

Cal-Hardness

**98.00**

**76.00**

mg/L

Aluminum

**0.12**

**0.04**

mg/L

Total Hardness

**122.00**

**96.00**

mg/L

pH

**8.93**

**8.8**

SU

Jul-24

Wastewater - RWPF

### Monthly Testing

Average Flow

Monthly Max Day

Influent

Effluent

Influent

**2.25** MGD

7/4/2024

**2.69**

BOD

**165.3**

**1.00**

mg/L

Reuse

**1.42** MGD

7/11/2024

**2.05**

TSS

**147.3**

**0.6 U**

mg/L

Deep Well

**0.812** MGD

7/29/2024

**1.613**

Total N

**NA**

**6.52**

mg/L

Total P

**4**

**3.53**

mg/L