City of Marco Island

Meeting Date: January 5, 2026
To: City Council
From: Jeffrey E. Poteet, General Manager- Water & Sewer
Through: Casey Lucius, Interim 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.

Update - Advanced Metering Infrastructure (AMI)

The City's AMI modernization program continues to advance on schedule. Following City Council approval in June, staff and Johnson Controls, Inc. (JCI) have been preparing the systems, equipment, and infrastructure needed for full deployment. Most small and large meters have been delivered, and integration work with the Tyler Munis billing system is almost completed.

Field installation activities are now underway. To date, the contractor has replaced 186 legacy water meters with new AMI meters at residential properties located in the areas of Nassau Court, Gold Coast, Tripoli Court, and Bimini Avenue. A map showing the locations of meters that have already been replaced is provided below for reference.

To assist residents in determining when their meter is scheduled to be replaced, the Water and Sewer Department has developed an interactive GIS web map, available on the City's website on the front page and under Water and Sewer Projects or use this link (AMI Meter Replacement Project Schedule Web Map). Residents can access the map by clicking the magnifying glass icon and entering their street name, or by zooming in to locate their neighborhood. Meter replacement areas are grouped and color-coded by billing routes, with the scheduled month displayed in the center of each area. When a neighborhood is next in line for meter changeouts, the map will be updated from "TBD" to a scheduled date at least one month prior to replacement.
The map can be accessed via the City's website.

All agreements for the AMI communication network have been finalized, including tower rentals, and installation of the three data collectors is scheduled for December 2025. Multiple installation crews will continue deployment activities, with the project expected to progress through fall 2026.

The next areas scheduled for meter replacement in January are highlighted in red on the map below.

As previously noted in the Revised Lead and Copper Rule report, the required service line material survey under the EPA's Lead and Copper Rule is being completed concurrently with meter replacements. Public notifications will continue to be issued prior to work beginning in each area.

Overall, the AMI project remains on schedule, within budget, and continues to make steady progress toward full system modernization.

Update – Bioloigically Active Filter, Changer Order Request
On February 7, 2024, City Council approved the $9.82 million construction of two new Biologically Active Filter (BAF) systems at the City's Source Water facility. The project is approximately 72 percent complete and remains on schedule and within budget.

The BAF system relies on a transfer pumping station that conveys feedwater from the south lake. While the project includes replacement of the primary electric pump with a new 200-horsepower unit, the existing 75-horsepower diesel backup pump was originally planned for replacement under a separate federal resiliency grant project.

Following completion of detailed engineering, staff determined that the existing diesel pump cannot support the operational demands of the upgraded system, even as a temporary emergency backup. Full redundant pumping capacity is required to ensure reliable operations and avoid service disruptions.

The proposed work includes installation of a new 200-horsepower vertical turbine transfer pump with VFD and associated engineering services to revise and resubmit State permit documentation.

Currently we have an opportunity to replace the diesel-driven pump now, while the contractor is mobilized onsite. Completing this work under the existing contract will save an estimated $200,000 to $300,000 compared to a future standalone project. Approximately $622,000 in funding is available from the federal resiliency grant project, with the remaining costs funded through the approved Capital Improvement Program. No additional appropriation is required to fund this project. Staff plans to present this change order request for City Council's consideration at the January 20 meeting and recommends approval.

Update on Clean Marco Waters, LLC Petition for Administrative Hearing
On November 14, 2025, Clean Marco Waters, LLC filed a Petition for Administrative Hearing with the Florida Department of Environmental Protection (FDEP) challenging the issuance of the City's renewed wastewater treatment plant permit (Permit No. FLA014167-027-DW1P).

On December 9, 2025, FDEP issued an Order Dismissing the Petition with Leave to Amend, finding that the original filing did not meet the legal requirements for initiating an administrative hearing. FDEP determined that the petition failed to adequately explain how the petitioner's substantial interests were affected, failed to identify disputed issues of material fact, lacked a concise statement of ultimate facts, and did not cite specific statutes or rules that would require reversal or modification of the permit.

In response to FDEP's order, Clean Marco Waters, LLC submitted an Amended Petition for Administrative Hearing on December 11, 2025, within the timeframe allowed by the Department. In the amended filing, the petitioner asserts administrative standing on behalf of its members,

identifies alleged disputed issues of material fact, and cites specific statutes and Florida Administrative Code provisions related to water quality standards, reuse system performance, and non-degradation requirements. The amended petition also includes an affidavit from the petitioner's representative and multiple exhibits intended to support the asserted claims.

FDEP has not yet issued a determination on the legal sufficiency of the amended petition. Until such a determination is made, the City's renewed wastewater treatment plant permit remains fully valid and in effect, and wastewater operations continue in compliance with all permit conditions.

City staff will continue to coordinate with FDEP and will provide City Council with updates as the administrative review process progresses.

Mechanical Integrity Testing for Deep Injection Well #2
The City of Marco Island operates two deep injection wells (IW-1 and IW-2) that are used to dispose of saltwater concentrate generated as a byproduct of the reverse osmosis process at the South Water Treatment Plant, as well as treated effluent from the Marco Island Reclaimed Water Production Facility. These wells are critical components of the City's wastewater and water treatment infrastructure. Both wells are regulated by the Florida Department of Environmental Protection (FDEP) as Class I Underground Injection Control (UIC) wells and are subject to stringent operational, monitoring, and testing requirements to protect groundwater resources and public health.

A key regulatory requirement for Class I injection wells is Mechanical Integrity Testing (MIT). MIT is performed to verify that the well casing, tubing, and cement remain structurally sound and that injected fluids are fully contained within the approved deep injection zone. This testing is designed to confirm that there is no migration of injected fluids into underground sources of drinking water.

Under the current FDEP operating permits, mechanical integrity testing is required at least once every five years. Deep Injection Well #2 (IW-2) is scheduled to undergo MIT in 2026. The required testing program includes pressure testing, downhole logging, and other diagnostic evaluations, with all results reviewed and approved by FDEP.

There is a fiscal impact associated with this requirement, as the City must retain a qualified professional consultant under the City's continuing services contract to prepare the MIT work plan, oversee field testing, analyze results, and prepare the required regulatory reports. Funding for consultant support and MIT-related activities is included in the Fiscal Year 2026 budget.

This briefing is provided to keep City Council informed of this important regulatory obligation. Mechanical integrity testing is a routine but essential component of safely operating the City's deep injection well system and maintaining compliance with state environmental regulations.

No City Council action is required currently

DEP Grant Agreement L0255 – Biologically Active Filters Improvements
City Council has previously approved the Biologically Active Filters (BAF) Improvements Project at the Source Water Facility and was informed that the State of Florida awarded the City $750,000 in DEP grant funding to support the work. This report provides notice that the City has now received the DEP Grant Agreement L0255 from the Florida Department of Environmental Protection.

The grant funding, provided through Line Item 1555 of the FY 2025–2026 Water Protection and Sustainability Trust Fund, will reimburse 100% of eligible project costs with no local match required. The agreement formalizes the State's commitment to funding construction of the two horizontal BAF systems and associated improvements previously approved by City Council.

Staff will be requesting formal authorization from City Council to accept the grant agreement so that the City may proceed with reimbursement activities.

Watermain Repair – South Collier Blvd. at Huron Ct.
Two watermain repairs were completed at the same time in the area of Huron Court and South Collier Boulevard to improve system reliability and maintain adequate fire protection. The first repair involved the replacement of a failed 12-inch gate valve that feeds Plantation Condominium. This valve is a critical component of the water distribution system, and its replacement restored proper operational control and reliability to the area. The second repair included the replacement of an existing fire hydrant located near Huron Court and South Collier Boulevard that was originally installed in the 1970s. Due to its age and condition, the hydrant was replaced with a new, up-to-date model that meets current standards and improves fire protection capabilities.

Both repairs involved Asbestos Cement (AC) pipe, which presented challenges due to variations in pipe dimensions. Prior to cutting the pipe, the outside diameter was measured at 14.41 inches; however, AC pipe is not always uniform, and the section where the coupling was required measured approximately 14.5 inches. Because a properly sized coupling could not be located to fit the existing pipe, trained staff used an alternative repair method. Using the appropriate Personal Protective Equipment, including protective clothing and respirators, staff carefully reduced the outside diameter of the pipe at the fitting locations with a hand grinder to achieve a proper fit. This process was performed at both repair locations and was completed successfully.

After the fittings were installed, concrete thrust blocking was placed to prevent movement or shifting of the pipe due to water pressure. Both repairs were completed without incident, and the final installations were successful, with no leaks observed at either location. Completing both repairs simultaneously minimized service disruptions while ensuring long-term system reliability and improved fire protection for the area.

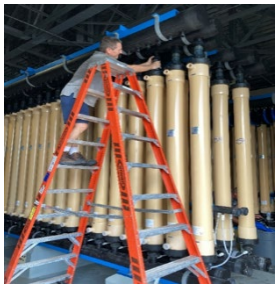
North Water Treatment Plant Sodium Hypochlorite Tank Failure
On Thanksgiving morning, staff at the Northwest Water Treatment Plant (NWTP) identified several pinhole leaks on the main sodium hypochlorite storage tank. The product remained fully contained, and there was no environmental release, safety concern, or impact to water quality or operations. Staff immediately installed a temporary strap around the tank, which successfully stopped the leak and allowed normal plant operations to continue without interruption. The NWTP

maintained full disinfection capability and continued to meet all regulatory and community water demand requirements.

Due to the condition of the tank, repair was determined to be impractical, and replacement was deemed necessary. Staff coordinated with the original tank supplier to evaluate warranty coverage while the temporary mitigation remained effective. The vendor subsequently confirmed the issue was covered under warranty and replaced the tank at no cost to the City. The incident was resolved with no service disruption, no financial impact, and no effect on public health.

North Water Treatment Plant (NWTP) Microfiltration (MF) Membranes Replacement

The North Water Treatment Plant (NWTP) treats surface water supplied from the City's Source Water Facility (SWF) located on Collier Boulevard in Naples. Raw water is pumped from the SWF to the NWTP, where it undergoes a lime softening process followed by microfiltration (MF). The MF system consists of six (6) racks, each containing seventy-two (72) membrane modules. Over time, MF membranes become fouled, resulting in reduced permeability and production capacity. Under normal operating conditions, the membranes have an expected service life of approximately 8–10 years. Two MF trains are scheduled for replacement in the current fiscal year at an estimated cost of $700,000. Although these two racks were installed in 2018, they experienced accelerated fouling due to exposure to a direct-filtration cycle.



The direct-filtration cycle involved routing raw water directly through the membranes without lime softening pretreatment for mineral removal. This operating mode was used during a pilot study conducted in 2019 to collect data for future plant development, which contributed to the premature fouling of the membranes.

Water and Sewer (W&S) staff intend to procure the replacement membranes through a non-competitive purchase from the original equipment manufacturer. This approach is necessary to ensure compatibility with the existing membrane racks, instrumentation and control systems, and established operating procedures.

The membrane module replacements are included in the Water and Sewer Capital Improvement Program (CIP) under the Repair and Replacement (R&R) funding category.

Water Service Interruptions with Boil Water Notice (BWN)			
Month	Number of Service Calls Resulting in a BWN	Number of Customers	Large Interuptions 50 Customer or More
Dec-24	3	160	1771 Mainsail 100, 901 South Collier 52.
Jan-25	3	66	
Feb-25	2	40	
March-25	0	0	NO PRECAUTIONARY BOIL WATER
April-25	1	72	72 units at Stevens Landing
May-25	3	32	Town Center-7 Units
June-25	3	37	
July-25	3	367	Smokehouse Bay-349
Aug-25	3	291	Smokehouse Bay, Sandollar, Westview
Sept-25	6	236	Court Yard Towers-12
Oct-25	7	216	
Nov-25	2	84	667 Thrush Ct.

Treatment Plant Data

Starting Date: **10/1/2025**

Ending Date: **10/31/2025**

Rain Fall for Time Period **3.70** Inches

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	**6.30** MGD	Oct-25
ASR - Recovery Avg. Daily Flow	**0.00** MGD	

Marco Island Drinking Water

		Max Day	Max Day	Flow
Combined Consumer ADF	**9.88** MGD	10/1/2025	**11.67**	MGD
NWTP Consumer ADF	**3.66** MGD	10/22/2025	**5.79**	MGD
SWTP Consumer ADF	**6.22** MGD	10/1/2025	**7.92**	MGD

Finished Water Testing

Minimum Chlorine Residual **1.70** mg/L

	Maximum	Minimum			Maximum	Minimum	
Turbidity	**0.01**	**0.01**	NTU	Chlorides	**128**	**108**	mg/L
Total Dissolved Solids	**268.00**	**27.00**	mg/L	Color	**12**	**2**	mg/L
P-Alkalinity	**7.00**	**4.00**	mg/L	Phosphate	**0.9**	**0.67**	mg/L
M-Alkalinity	**39.00**	**33.00**	mg/L	Ammonia	**1.26**	**0.12**	mg/L
Cal-Hardness	**74.00**	**60.00**	mg/L	Aluminum	**0.95**	**0.01**	mg/L
Total Hardness	**100.00**	**80.00**	mg/L	pH	**8.94**	**8.71**	SU

Oct-25 Wastewater - RWPF

Monthly Testing

	Average Flow		Monthly Max Day			Influent	Effluent	
Influent	**2.11**	MGD	**10/11/2025**	**2.71**	BOD	**277.6**	**6.14**	**mg/L**
Reuse	**1.82**	MGD	**10/20/2025**	**2.24**	TSS	**197.6**	**0.6 U**	**mg/L**
Deep Well	**0.279**	MGD	**10/11/2025**	**1.623**	Total N	**NA**	**9.57**	**mg/L**
					Total P	**4.52**	**2.88**	**mg/L**