City of Marco Island

Meeting Date:	June 3, 2019
To:	City Council
From:	Jeffrey E. Poteet, General Manager- Water & Sewer
Through:	David Harden, Interim City Manager
Re:	Water and Sewer (W&S) Departmental Report

Both the City's drinking water and wastewater operations are in compliance with 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.

Source Water Facility Electrical Replacement

The design and permitting is now complete for the replacement of the electric power feeder that was severely damaged when the FPL transformer failed. The electrical contractor will coordinate with FP&L for the installation of new conduits and large diameter electric cables. Presently, only one power feeder is functional. The existing electrical switchgear in the main pump building was installed in 1980's when the building was constructed. This electrical switchgear is in extremely poor condition because of age and the humid conditions in the building. This facility supplies 80% of the potable water to the City of Marco Island.

NWTP Air Compressor Replacement

Staff completed the replacement of the NWTP membrane filtration system air compressors on 5/22/19. The new air compressors are oil-free so as to preserve the filtration capacity of the membranes. The NWTP had to be taken offline for 30 hours to perform the replacement. Staff also replaced five feed valves and cleaned the lime system clarifier propellers during the time that the plant was offline.

NWTP Membrane Softening

City staff is currently negotiating the professional consultant contract for the design of a new low-pressure reverse osmosis (LPRO) system to replace the lime softening process. The consultant was selected in accordance with the consultants' competitive negotiation act (CCNA). The design and construction oversight contract will be presented to City Council for approval at the 6/17/19 regular City Council meeting. Design of the LPRO system is expected to last eight months.

Marco Shores Alternative Water and Sewer Improvements Project

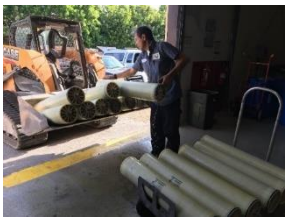
The contractor completed the horizontal drilling operations under the intersection of Capri Blvd and Collier Blvd for the sanitary force main on 5/14/19 and the installation of the Fairlawn Ct. and Waikiki Ct. forcemain at the end of April. The contractor is currently installing the new forcemain along 6th Ave.

Installation of the new forcemain crossing and along E. Elkcam Cir. from 6th Ave. to Collier Blvd is anticipated to commence during the week of 6/3/19. Road closures of E. Elkcam Cir. at the crossing will be needed. Traffic disruptions are anticipated. Maintenance of traffic signs will be posted, as appropriate. The closures will be posted on the City's website and published on the City's Twitter feed.

North of Marco Island along Collier Blvd, the contractor has been testing the existing empty 16" diameter water main that was installed in the mid 1990's when SR 951 was expanded to four lanes. This existing main was planned to be used to convey potable water from Marco Island to the Marco Shores Community. South of Capri Blvd the existing main is PVC and can be used as planned, however, North of Capri Blvd. the existing main is ductile iron and the contractor has discovered multiple leaks resulting from corrosion during pressurization and testing. Consequently, this portion of the main will not be able to be used. Staff is working with the contractor to obtain pricing for replacing the ductile iron portion of the main using the project's contingency funds.

SWTP Reverse Osmosis (RO) Membrane Replacements

City staff completed the replacement of the RO membranes in rack #4 on 5/7/19. The rack contains 180 membrane modules. This work was performed by the City's water treatment operators and saved thousands of dollars by not having to hire a contractor.



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
May-18	3	167	1 Condo-30 Units
June-18	7	310	2 Condos-196 Units
July-18	6	131	3 Condos-57 Units
Aug-18	4	115	2 Condos-74 Units
Sept-18	4	432	1 Condo-256 Units
Oct-18	6	287	1 Condo-120 Units
Nov-18	2	44	0 Condo
Dec-18	2	69	1 Condo
Jan-19	3	87	1 Condo
Feb-19	4	70	1 Condo-Owners Request
Mar-19	4	1023	All Mainsail and 1 Condo-988 Units
Apr-19	2	950	2 Condos-(950 Units)Both Condos Requested Service Interuption

Treatment Plant Data

Starting Date: **4/1/2019** Rain Fall for Time Period **2.20** Inches

Ending Date: **4/30/2019**

Aquifer Storage & Recovery

Average Daily Flow (ADF) in Million Gallons Million Gallons per Day (MGD)

ASR - Injection Avg. Daily Flow	**0.00** MGD	Apr-19
ASR - Recovery Avg. Daily Flow	**3.49** MGD	

Marco Island Drinking Water

Apr-19

		Max Day	Max Day	Flow
Combined Consumer ADF	**8.91** MGD	4/13/2019	**14.56**	MGD
NWTP Consumer ADF	**3.59** MGD	4/17/2019	**4.23**	MGD
SWTP Consumer ADF	**5.33** MGD	4/13/2019	**10.79**	MGD

Finished Water Testing

Minimum Chlorine Residual **3.20** mg/L

	Maximum	Minimum			Maximum	Minimu	
Turbidity	**0.05**	**0.03**	NTU	Chlorides	**147**	**114**	mg/L
Total Dissolved Solids	**330.00**	**243.00**	mg/L	Color	**9**	**3**	mg/L
P-Alkalinity	**9.00**	**3.00**	mg/L	Phosphate	**0.82**	**0.57**	mg/L
M-Alkalinity	**39.00**	**33.00**	mg/L	Ammonia	**0.87**	**0.7**	mg/L
Cal-Hardness	**125.00**	**90.00**	mg/L	Aluminum	**0.5**	**0.03**	mg/L
Total Hardness	**150.00**	**120.00**	mg/L	pH	**8.96**	**8.45**	SU

Apr-19

Marco Shores Drinking Water Purchase

Monthly Flow - MGD				CL2 Residual - Minimum	**0.3** mg/L
ADF	Total Flow	Monthly Max Day			
0.242	**7.3**	**4/11/2019**	**0.545**		

Apr-19

Wastewater - RWPF

	Average Flow		Monthly Max Day		Monthly Testing	Influent	Effluent	
Influent	**2.31**	MGD	**4/3/2019**	**2.895**				
Reuse	**2.41**	MGD	**4/1/2019**	**3.19**	BOD	**220.8**	**1.90**	**mg/L**
Deep Well	**0.142**	MGD	**4/4/2019**	**1.174**	TSS	**234.3**	**0.6 U**	**mg/L**
					NO3	**NA**	**4.15**	**mg/L**

Apr-19

Wastewater - Marco Shores WWTP

	Average Flow		Monthly Max Day		Monthly Testing	Influent	Effluent	
Influent	**0.104**	MGD	**4/6/2019**	**0.138**				
					BOD	**181.5**	**2.50**	**mg/L**
					TSS	**221**	**2.10**	**mg/L**