



City of Marco Island
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UNDERSTANDING RECLAIMED WATER

(November 22, 2022) The City of Marco Island collects and treats wastewater. The byproduct from that treatment process is called “reclaimed water.” Recently, there have been questions regarding the use of the City’s reclaimed water for irrigation. Below are some important facts regarding the City’s reclaimed water program.

1. The level of treatment and disinfection that the wastewater receives is dictated by the operating permit issued by Florida Department of Environmental Protection (FDEP). The City is required to report to FDEP the amount of nitrogen and phosphorous in the treatment plant’s final treated water. Additionally, quarterly groundwater samples must be taken at specific monitoring site locations and the nitrogen levels must be less than 10 mg/L. Over the last 12 months, the nitrogen in the groundwater ranged between undetected and 1.3775 mg/L – far below the 10 mg/L limit. The quality of the City’s reclaimed water meets all permit conditions to continue public reuse irrigation.
2. Although site testing for phosphorous is not required by FDEP, City staff began testing for phosphorous in the groundwater last quarter. The first set of results ranged from 0.206 mg/L to 0.450 mg/L, showing almost nonexistent levels of phosphorous.
3. The City’s Fertilizer Ordinance, which regulates the application of nitrogen and phosphorous in fertilizer, does not apply to reclaimed water. This ordinance allows residents to apply up to 4 pounds of nitrogen per 1,000 ft² annually. Although the

Ordinance does not apply to reclaimed water, the amount of nitrogen and phosphorous in the City's reclaimed water over the past 12 months were well below the amounts allowed by Ordinance.

- a. Over the past 12 months (11/21/22-10/22/22) the City's Reclaimed Water Production Facility (RWPF) utilized 718.889 million gallons of reclaimed water with an average total nitrogen of 7.52 mg/L and total phosphorous of 3.60 mg/L. This highly treated water was applied to over 27 million square feet of permeable property.
- b. The University of Florida, Institute of Food and Agricultural Sciences (UF-IFAS) recommends 0.75 – 1 inch of water is needed each week to keep most Florida turfgrasses healthy. Based on the 718.889 million gallons of reclaimed water applied to the 27 million square feet of land, approximately 0.81 inches of reclaimed water per week was applied, which is within the UF-IFAS recommendation.

While there are additional biological and chemical processes that can be added to the treatment process to reduce nitrogen and phosphorous, there is no data to support this action and no regulatory requirement given the low levels of nitrogen and phosphorous in the City's reclaimed water.

For additional information or questions regarding the City's reclaimed water, please contact the General Manager of the City's Water and Sewer Department, Jeff Poteet at 239-389-5181.