



INTEROFFICE MEMORANDUM

FROM THE DEPARTMENT OF ENVIRONMENTAL AND ENGINEERING SERVICES

DATE: February 1, 2024

TO: Development Services Department (DSD)

THRU: Curt Keyser, Director
Department of Environmental and Engineering Services (DEES)

FROM: Marta Reczko, Assistant Director – Utilities
Department of Environmental and Engineering Services (DEES)

RE: Recommendation for the Adoption of Margate Comprehensive Plan Elements:
Element III Sanitary Sewer, Solid Waste, Drainage, Potable Water & Natural
Groundwater Aquifer Recharge,
Part 1 – Potable Water

Background

Under Chapter 163, Part II of the Florida Statutes, local governments are mandated to create and integrate a "Water Supply Facilities Work Plan" (WSFWP) into their Comprehensive Plans following the approval of a regional water supply plan by the South Florida Water Management District (SFWMD). This requirement is activated once the SFWMD endorses a regional plan, such as the Lower East Water Supply Facilities Work Plan or its subsequent updates. The purpose of the City of Margate Water Supply Facilities Work Plan (WSFWP) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Residents of the City of Margate obtain their water from the Department of Environmental and Engineering Services (DEES) Utilities, which is responsible for ensuring enough capacity is available for existing and future customers.

The City is undertaking a two-phase process to amend its Comprehensive Plan. In Phase I, the Department of Environmental and Engineering Services (DEES), with support from Hazen and Sawyer consultants, conducted an evaluation of the City's 2015 Comprehensive Plan, specifically focusing on Element III, which encompasses Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge, with a particular emphasis on Part 1 – Potable Water.

This evaluation considered changes in Florida's state requirements since the last Comprehensive Plan update, ensuring alignment with the water resource and water supply development projects listed in the 2018 Lower East Water Supply Facilities Work Plan. The Work Plan is also required to span at least a 10-year planning period, identifying both alternative and traditional water supply development, as well as conservation projects, to meet the City's anticipated future demands and to match the City's vision.

Phase I, focused on the Water Supply Facilities Work Plan (WSFWP) was finalized and submitted to the local planning agency, Development Services Department (DSD) for further adaptation by the Planning and Zoning Board, Commissioners, and the state, leading into Phase II.

Summary

This report provides a summary of the City of Margate's drinking water system as outlined in the "Margate Comprehensive Plan Element III Part 1 - Potable Water 2020". It covers the city's water service area, demographic and consumption data, infrastructure, and sources of water supply, evaluating the system's capacity to meet needs through 2040. The document outlines the water treatment processes, necessary upgrades, and strategic planning for sustainability, water quality, and infrastructure management, updating previous content and incorporating the latest legislative requirements for water supply planning. Here's a overview of the WSFWP elements:

1) Service Area and History

- **Coverage:** The City of Margate provides water services to approximately 62,300 residents within Margate and southern Coconut Creek, covering 10.7 square miles primarily of residential land.
- **Historical Overview:** The first water treatment plant and distribution system were established in 1957 by Margate Utilities Corp. The City took over operations in 1977. The Department of Environmental and Engineering Services (DEES) owns and operates these facilities.

2) Water Source and Treatment

- **Primary Source:** The primary water source is the Biscayne Aquifer, a key supply for Southeastern Florida. It is recharged by rainwater and freshwater from Lake Okeechobee and conservation areas.
- **Facilities:** The water system includes a 13.5-million-gallon-per-day treatment plant, fed by 12 Biscayne Aquifer wells, 213.4 miles of distribution mains, a remote 2-million-gallon storage tank, and four interconnects with neighboring municipalities.

3) Water Supply Management

- **Permitted Withdrawals:** Governed by the South Florida Water Management District (SFWMD), the City can currently withdraw up to 8.53 million gallons per day (mgd). However, with the operationalization of the C-51 Reservoir, which construction was completed in September 2022, the City will be able to withdraw up to 10.10 mgd.
- **Forecast and Capacity:** From 2020 to 2040, the forecasted average daily raw water withdrawals are below the City's base condition. The existing water treatment capacity is sufficient to meet this demand.

4) Capital Improvement Projects

- **C-51 Reservoir Purchase:** A key project is the purchase of water storage from the C-51 Reservoir, providing 2.00 mgd of water supply. This supports additional withdrawals from the Biscayne aquifer through 2065. Other capital improvements are focused on replacing and rehabilitating existing water infrastructure.

5) Performance Assessment

- **Quality Standards:** The water system is required to meet or exceed all federal, state, and local water quality standards.
- **Annual Utility Reports:** Starting in 2020, as part of an internal initiative, an annual utility report is prepared every five years to evaluate the operational and fiscal status of the water system.
- **Capacity Evaluation:** There's an annual evaluation of treatment and water use permit capacity, with necessary measures implemented to address any deficiencies.

6) Goals, Objectives, and Policies

- **Strategic Planning:** Detailed goals, objectives, and policies related to potable water are outlined in Section 7.0 of the Work Plan, ensuring a structured approach towards sustainable water supply management.

Conclusion

The City of Margate's Department of Environmental and Engineering Services is effectively managing and planning the potable water supply to meet current and future demands. The integration of strategic capital improvements, such as the C-51 Reservoir project, and adherence to quality standards ensure the long-term viability and efficiency of the potable water system.

Recommendation for Adoption

The Department of Environmental and Engineering Services (DEES) strongly recommends adopting the "Margate Comprehensive Plan Element III Part 1 - Potable Water 2020." This plan presents a well-structured and forward-looking strategy for managing the City of Margate's potable water resources, aligning with federal, state, and local water quality standards. It introduces a proactive internal initiative for periodic operational and financial assessments through utility reports and ensures sustainable water supply management through 2040. Adopting this plan will not only enhance the city's water system efficiency and reliability but also demonstrate a commitment to environmental stewardship and public health.