



**CITY OF FORT LAUDERDALE
City Commission Agenda Memo
CONFERENCE MEETING**

#19-1123

TO: Honorable Mayor & Members of the
Fort Lauderdale City Commission

FROM: Chris Lagerbloom, ICMA-CM, City Manager

DATE: November 5, 2019

TITLE: C-51 Reservoir Allocation Purchase – **(Commission Districts 1, 2, 3, and 4)**

The purpose of this conference item is to discuss long-term water supply needs for the City, specifically the purchase of an allocation from the C-51 Reservoir in preparation of executing a Capacity Allocation Agreement during an upcoming Regular Commission Meeting.

The C-51 Reservoir was proposed as a regional alternative water supply project since 2006 and was first conceptualized in the 1992 Everglades Restoration Plan where the need to reduce discharges to the Lake Worth Lagoon via a potential water user for excess water in the basin was deemed a critical restoration strategy.

The City has been supportive of the project in the past by participating in joint funding for a third-party assessment in 2013 and issuing a letter of support to the South Florida Water Management District in 2016. The C-51 Reservoir is also identified as an alternative water supply (AWS) project in the City's 2019 Water Supply Plan and listed as a potential AWS project in the existing City's Water Use Permit that expires in 2028.

The project has reached an important milestone; utilities are entering into capacity allocation agreements with the C-51 Reservoir owner, Palm Beach Aggregates, LLC (PBA). Total Phase I capacity of the project is 35 million gallons per day (MGD). Currently, four utilities have signed an agreement reserving 13 MGD. Two other utilities have reported an interest in 4 MGD and the City is requesting an allocation of 6 MGD. It is reported that PBA and Miami-Dade County are in discussion relative to reserving the remaining capacity and their potential demand reportedly exceeds the remaining capacity. As such, it is important that the City follow-up the Letter of Intent dated October 25, 2019 by executing a Capacity Allocation Agreement in order to reserve its allocation from the C-51 Reservoir.

Staff engaged the services of Hazen and Sawyer to evaluate options for alternative water supply sources. The planning period selected for their analysis was 2045, which assumes/allows five years to implement Fiveash Water Treatment Plant improvements

(rehabilitation and/or replacement on-site or elsewhere) and 20 years of operation. The two options they considered were:

- Option 1 – assumes the City completes the purchase of the 6 MGD C-51 allocation, thereby enabling additional Biscayne Aquifer withdrawal from the Prospect Wellfield.
- Option 2 – assumes the City does not purchase the C-51 Reservoir allocation, and instead utilizes the permitted Floridan Aquifer capacity at Dixie Wellfield [note: the City currently has a permitted allocation of 8.64 MGD in its current Water Use Permit]

In summary, in reference to cost the report concludes the following:

Raw Water Supply Options	Net Present Value (NPV) Additional Finished Water Produced (interest rate = 3.5%)
Option #1A – 100% Nanofiltration of Prospect Wellfield from Purchase of 6 MGD of C-51 Allocation	\$120,900,000
Option #1B – 100% Lime Softening of Prospect Wellfield from Purchase of 6 MGD of C-51 Allocation	\$64,800,000
Option #2 – Reverse Osmosis (RO) of 8.6 MGD Floridan Aquifer at Peele-Dixie	\$127,900,000

Based upon the above costs, it appears that purchase of C-51 water (Option 1) may be more economically advantageous compared to utilization of Floridan Aquifer water at the Dixie Wellfield, dependent upon the treatment efficiency of the technology selected for Fiveash Water Treatment Plant improvements (or replacement).

In addition, the purchase of C-51 water supply offers qualitative benefits over installing a RO treatment system at Peele-Dixie to treat Floridan Aquifer from the Dixie Wellfield. Some of those benefits are being a regional solution, lowering carbon footprint, higher utilization of raw water resources, and maximizes diversification of water sources.

Resource Impact

Specific to the Capacity Allocation Agreement, there is no FY20 impact associated with this action at this time. Future fiscal impacts will be a one-time capital cost of \$27.6 million and a recurring annual operating cost of \$219,309 will be required as long as terms of the agreement are in effect

Strategic Connection

This item supports the *Press Play Fort Lauderdale 2024 Strategic Plan*, specifically advancing:

- The Infrastructure Focus Area
- Goal 1: Build a sustainable and resilient community.
- Objective: Secure our community's water supply and support water conservation measures.

This item advances the *Fast Forward Fort Lauderdale Vision Plan 2035: We Are Ready*.

Attachments

Exhibit 1 – Letter of Intent dated October 25, 2019

Exhibit 2 – Hazen and Sawyer Technical Memorandum

Prepared by: Todd Hiteshew, Public Works

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