

Alternative Water Supply Pilot Project Designation Request – C-51 Reservoir Phase 1

Title: C-51 Reservoir Phase 1

Brief Project Summary: The C-51 Reservoir Phase 1 Project (Project) is a proposed regional alternative water supply project and multi-stakeholder public-private partnership that is critical for future, sustainable water supplies in South Florida. It involves the construction of a 14,000 acre-foot in-ground reservoir in central Palm Beach County immediately adjacent to the existing SFWMD L-8 Flow Equalization Basin.

Additional Background: Since 2006, Broward County, Palm Beach County and other Lower East Coast area water providers (LEC Utilities) have been collaborating in the development of the C-51 Reservoir to serve as a regional alternative water supply by storing excess wet-season stormwater runoff for later distribution and use during the dry season. Following extensive study—including robust geotechnical and hydrologic assessments; evaluations of water availability and storage capacity; detailed project costing, feasibility analyses and design; and evaluation of governance strategies and public discussion, including extensive work by SFWMD staff—elected officials convened as the C-51 Governance and Finance Work Group, representing Palm Beach and Broward municipalities, Palm Beach and Broward Counties, SFWMD, and local drainage districts. The Work Group, including SFWMD senior staff, met for nearly two years to review and provide recommendations pertaining to project costing and governance. Consultant services were secured to provide 60 percent project design and third-party project cost evaluation. Following this work, the Work Group produced a final report and collectively voted to recommend advancement of the Project as an innovative public-private partnership and preferred alternative water supply project of regional benefit. As proposed, the interested LEC Utilities and the property owner Palm Beach Aggregates would jointly develop the project, with clearly defined roles for each party, including the pro-rata contribution of capital costs by participating LEC Utilities, and, following construction, pro-rata contribution of operating and maintenance costs based upon their respective storage allocations and consumptive use permits. The project will provide 14,000 acre-feet of static storage, @ 39,000 acre-feet per year of dynamic storage (12.7 billion gallons) and 35 millions of gallons per day (MGD) for public water supply. The Project is fully permitted and provides an immediate opportunity to address water supply and environmental goals, meeting the urgent need for additional storage of excess stormwater in the regional system.

Satisfaction of Pilot Project Statutory Criteria:

1. The Project is located in the Lower East Coast Regional Water Supply Planning Area where allocation restrictions have been applied, specifically the LEC Regional Water Availability Rule.
2. The Project will provide 35 MGD in alternative water supply benefits, including Biscayne Aquifer recharge. Environmental benefits include reduction of harmful tidal discharges to the Lake Worth Lagoon, satisfying one factor for pilot project consideration named in Senate Bill 552 (Chapter 2016-1, Laws of Florida), to “provide reductions in damaging discharges to tide.” The environmental benefits of the project can be further enhanced should the reservoir be used to supplement water deliveries to the Loxahatchee River per the Comprehensive Everglades Restoration Plan (CERP). The Project also expands dynamic storage within the regional water management system to address Lake Okeechobee or other discharges and to help meet broader water quality objectives.
3. The Project is included as an alternative water supply project in the Lower East Coast Water Supply Plan and is specifically referenced in Chapter 7: Water Supply Development Projects, Page 261 - New Storage Capacity for Surface Water or Groundwater.

Project Approach: The Project will serve as an alternative water supply with the storage and redistribution of stormwater that is otherwise discharged to tide, causing harm. The Project will be constructed to include 14,000 acre-feet of storage, with water then routed via coordinated operation of the primary and secondary canal system to individual utility wellfields to provide direct aquifer recharge to offset withdrawals from the Biscayne Aquifer. Broward County Water and Wastewater Services, the City of Sunrise, the City of Lauderhill, and the City of Dania Beach have all identified the need and have submitted Letters of Intent to utilize water made available via the C-51 Reservoir as their preferred alternative water supply. Additional support has been formally expressed by other water providers and other stakeholders who recognize the long-term benefits of the Project. With this offset to aquifer withdrawals, participating water utilities will be able to expand use of the Biscayne Aquifer in full accordance with the Regional Water Availability Rule, while also taking advantage

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of existing wellfields and treatment facilities. The SFWMD is proposed to serve as the project operator with reimbursement for operational expenses by the project partners, in accordance with budgets prepared by SFWMD. Primary and secondary canal deliveries will be coordinated with the Lake Worth Drainage District and water control districts in Broward County as needed. An operational agreement is already in place with the Lake Worth Drainage District and a detailed Operations and Maintenance Agreement is ready for consideration by the SFWMD Governing Board.

Environmental Benefits: The Project serves to address pressing environmental needs of the Lake Worth Lagoon (LWL) with the capture and diversion of excess runoff. This water is currently discharged to the LWL via the C-51 Canal, generating harmful freshwater inputs and sediment loads. Historic analyses dating back to the US Army Corps of Engineers Comprehensive Review Study of the Central and Southern Florida Project (1992) have emphasized the need to reduce these discharges as a critical restoration strategy. CERP identifies the outstanding need to address the environmental needs of the LWL via a potential water user for excess water in the basin. The Project and the project partners address this need by serving as this user, using the stored water to recharge wellfields, wetlands, and combat saltwater intrusion. The environmental benefits of the Project can be further enhanced, should available storage capacity within the Project be used or expanded to supplement water deliveries to the Loxahatchee River (per CERP) or through coordinated operations with additional water management features in the regional system to help achieve broader water quality goals.

Cost: Project construction is estimated at \$161 million, to deliver 14,000 acre-feet of static storage and 35 MGD in alternative water supply for allocation.

Funding: Collectively, water providers have provided to the property owner, Palm Beach Aggregates, letters of intent for allocations totaling 14-19 MGD, at a capital cost of \$4.60 per gallon, to generate \$64-\$87 million in project commitments. **Project partners are not seeking financial participation by the SFWMD but instead will pursue legislative bridge financing for the remaining \$74-\$97 million.** Given this preference, the partner water utilities would have sought support via the State Revolving Loan Fund (SRLF) program, which would be available for individual alternative water supply projects, such as more expensive Floridan Aquifer reverse osmosis facilities. Unfortunately, the Florida Department of Environmental Protection has advised that federal restrictions on these funds prevent their use for the construction of reservoirs. Therefore, project proponents propose to work with the Legislature to obtain gap funding that would be repaid by future additional partners, as a temporary mechanism for funding outside of the SRLF, but complementary to funding strategies the state of Florida currently uses to assist local governments in implementing alternative water supply projects.

Water Made Available: The Project will deliver 35 MGD in alternative water supply to local water providers, via stormwater reuse for aquifer recharge and offset to Biscayne Aquifer withdrawals.

Schedule: The Project can be delivered in 24 months, once project funding is secured.

Outcome and Additional Benefits: This Project delivers economies-of-scale as a regional project serving multiple water providers; avoids redundant capital investments; allows utilities to gain access to existing stranded capacity; takes advantage of historical investment in regional wellfields and treatment infrastructure; provides low-energy demand and operational costs; provides recharge that will help abate saltwater intrusion; adds storage to mitigate storm-induced flooding; and allows for expansion to include Phase 2 for a total capacity of 60,000 acre-feet and 150 MGD in water supply.

Suggested Additional Evaluation Criteria: Permits issued and construction plans approved; percent of funding provided by local governments; water to address needs inside SFWMD boundaries; construction timing; regional/multi-jurisdictional participation; public process; benefits beyond water supply and environmental.

Requested by: Broward County, City of Sunrise, City of Lauderhill, City of Dania Beach, and Palm Beach Aggregates

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