

Palm Beach County Potential Alternative Route for Lake Okeechobee Releases



JULY 16, 2026
WATER RESOURCES TASK FORCE

Paul Linton, PE, PBC Water Resources Manager



13081 S. MILITARY TRAIL
DELRAY BEACH, FLORIDA 33484-1105

April 14, 2026

Commissioner Greg Weiss, Chairman
Palm Beach County Water Resources Task Force
301 North Olive Avenue
West Palm Beach, FL 33401

SUBJECT: Request for Presentation to the Palm Beach County Water Resources Task Force – Cooperative C-51 Canal Water Resource Project

Dear Commissioner Weiss:

Following recent discussions with Palm Beach County (County) staff regarding the possibility of a cooperative multi-objective water resource project on the C-51 Canal, I am writing to formally request an opportunity for the Lake Worth Drainage District (LWDD) to make a presentation to the Water Resources Task Force supporting this initiative.

As you are aware, the County has identified a concept to construct additional pumping capacity within the LWDD to divert excess local runoff and Lake Okeechobee regulatory discharges that would otherwise impact the ecology of the Lake Worth Lagoon. The intended purpose is to redirect these releases to the LWDD when there is a beneficial water resource use, particularly during dry periods when flood risks are low. The conceptual plan includes the installation of new 100 cfs pump stations at Control Structure #6 and SCS#7 to facilitate these diversions into the LWDD 13-Basin and 16-Basin. The LWDD Board of Supervisors has indicated a willingness to support the project, led by the LWDD, in a 50/50 cost-share agreement with the County.

A presentation to the Task Force would allow us to provide the necessary conceptual information and technical details required for the project to move forward through the County's budget review process.

We look forward to discussing how this partnership can improve regional water quality and provide sustainable water resource benefits for our community.

Sincerely,

Tommy B. Strowd, P.E.
Executive Director & District Engineer

Attachment

TBS/

Board of Supervisors
James M. Alderman
Stephen Bedner
Carrie P. Hill
Jeffrey P. Phipps, Sr.
John L. Whitworth III
Executive Director
Tommy B. Strowd, P.E.
District Counsel
Mark A. Perry, P.A.

Technical Summary: C-51 Canal Water Resource Project

This project serves as a replacement for the previously implemented "sediment trap" agreement, shifting focus more toward active water management to protect the Lake Worth Lagoon.

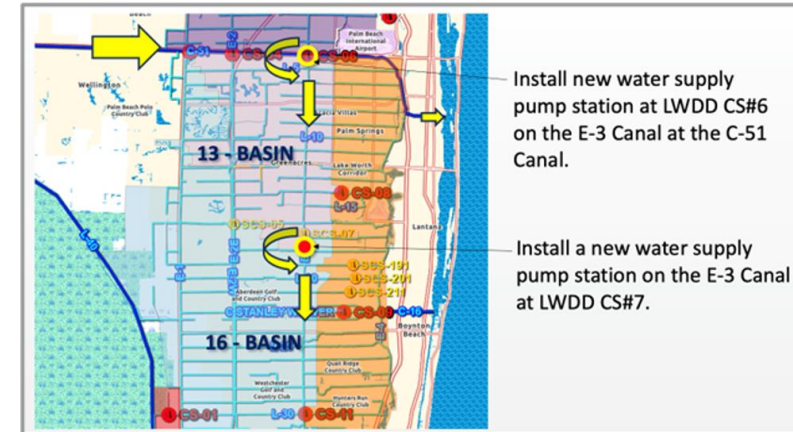
Core Infrastructure Components

- **CS#6 Pump Station:** A proposed 100 cfs pump at the E-3 Canal and C-51 Canal intersection. It will divert excess water from the C-51 into the **13-Basin**.
- **SCS#7 Pump Station:** A 100 cfs pump at the basin divide on the E-3 Canal. This allows the District to move water from the 13-Basin into the **16-Basin** as needed.

Strategic Benefits

- **Water Quality:** By diverting Lake Okeechobee regulatory discharges into the District's canal system, we reduce the volume of nutrient-rich fresh water impacting the delicate salinity balance of the Lake Worth Lagoon.
- **Supply Resilience:** SFWMD recently updated regional conditions to a "moderate risk for water supply" this season. These pumps provide a mechanism to capture regionally available water for beneficial use during these dry periods.
- **Operational Safety:** Diversions are strictly limited to periods when regional conditions are wet enough to require Lake releases, but local LWDD flood risk remains low.

Conceptual Basin Map for C-51 Canal Resource Project



Lake Okeechobee Release Route



Current Release Route

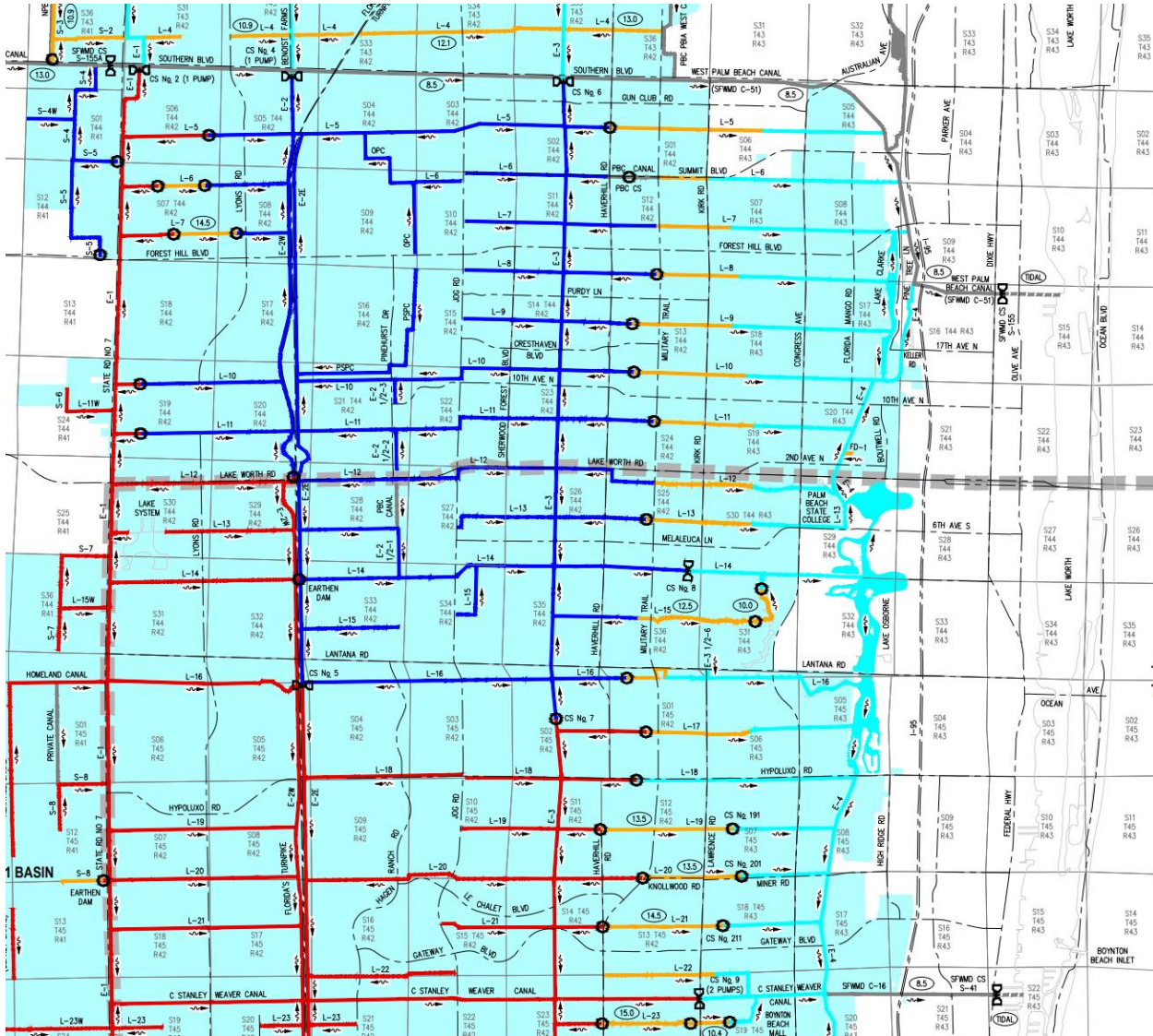
- The figure to the left shows the route for Lake Okeechobee releases to the Lake Worth Lagoon Estuary (LWL Estuary). This is a very complicated route as it must be coordinated with the operation of SFWMD L-8 FEB and STA-1 East and West.
- The primary detriment of the Lake Okeechobee releases is the sediment load, which is released 7 to 9 miles from the inlets resulting in the sediment settling permanently.

Lake Worth Drainage District

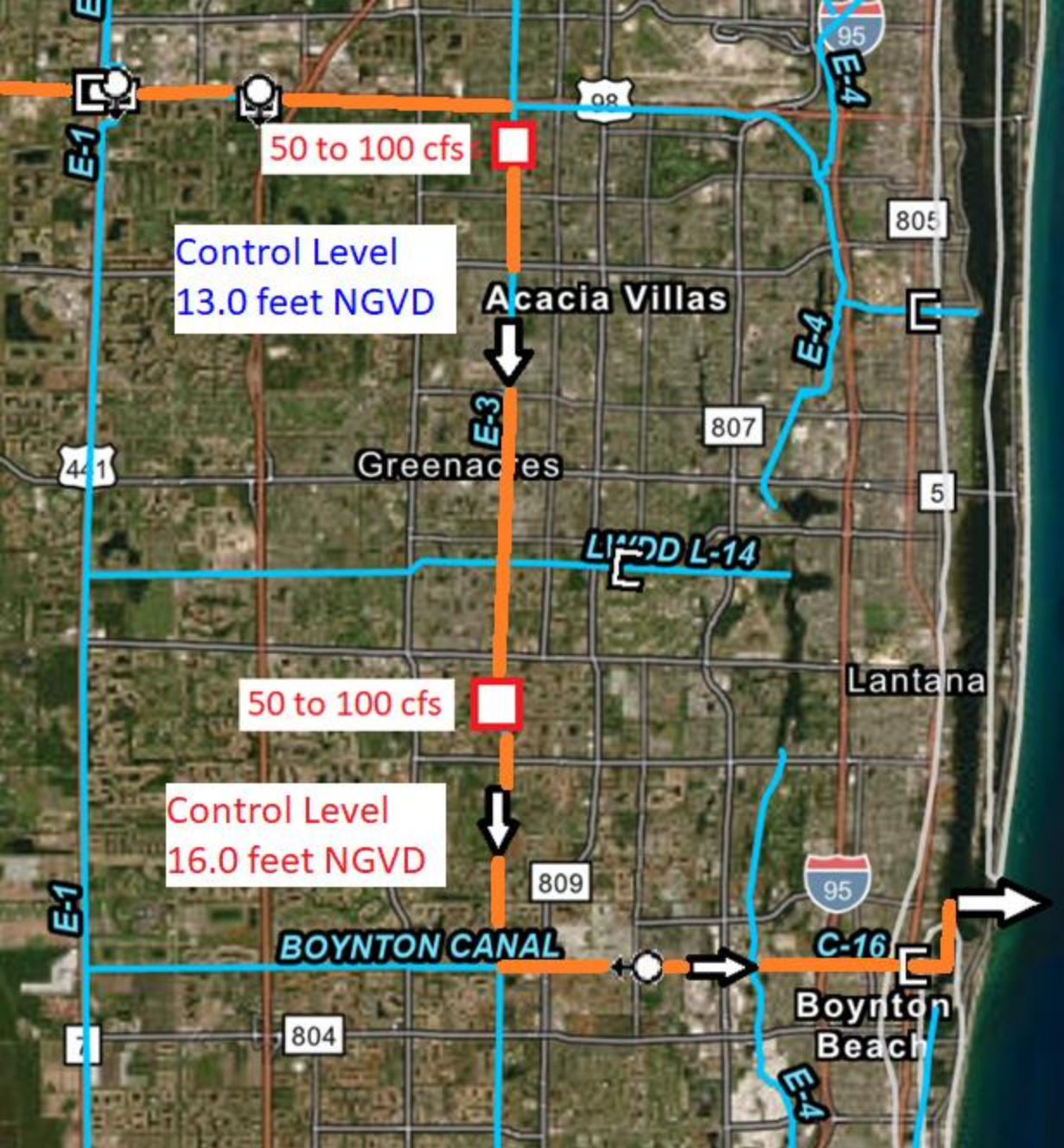
- Lake Worth Drainage District (LWDD) provides drainage and water supply for most of PBC south of Southern Blvd (C-51 Canal).
- After rainfall, LWDD primary source of water is the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge) which has the C&SF Project designation at WCA-1.
- Water levels generally lower to the East.

MAINTAINED CANAL ELEVATIONS:

-  CANAL ELEVATION = 8.5' NGVD (SEE NOTE No 1)
-  CANAL ELEVATION = 9.3' NGVD (SEE NOTE No 1)
-  CANAL ELEVATION = 13.0' NGVD (SEE NOTE No 1)
-  CANAL ELEVATION = 16.0' NGVD (SEE NOTE No 1)



Alternative Route



- Use LWDD E-3 Canal to convey water from SFWMD C-51 Canal to SFWMD C-16 Canal where it discharges into the LWL Estuary near the Boynton Beach Inlet.
- Requires two pump stations. First pump station lifts water from C-51 Canal into the E-3 in the basin with a Control Stage of 13 feet NGVD. Second pump station lifts water into the E-3 Canal basin with a Control Stage of 16 feet NGVD.
- A route capacity of 100 cfs in combination with LWDD existing water supply capacity along the C-51 Canal would all capture of most releases.

Benefits

- During dry periods, this additional capacity along with existing capacity allows most of the Lake Okeechobee releases to be discharged near the Boynton Beach Inlet.
- Sediment is more likely to stay in suspension when conveyed through the E-3 Canal rather than through the E-4 which flow through several lakes.
- This route would not require lowering the C-16 Canal to convey water from the C-51 Canal. Lowering the C-16 Canal to pull water through the E-4 increases operational complexity and results in only a small portion being able to be pulled south (e.g. less than 30 percent).
- The water diverted can be used for water supply reducing the demand on the Refuge.
- During water supply shortage, having this capacity would facilitate capturing the available runoff before it is discharged to tide.

Scope, Cost, and Status

- Scope consists of two electrical driven pump stations, each with two 50 cfs units, with no backup power for pump operations, as these pump stations are not for flood control.
- Estimated order of magnitude cost estimated at \$10M built to LWDD standards
- With both Palm Beach County (PBC) and the LWDD receiving benefits a cost share between PBC and LWDD is appropriate. With LWDD receiving the structure a potential cost share could be PBC providing 50 percent of the design capital costs up to \$5M.
- LWDD would be responsible for all of the Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRRR) costs, and would have an obligation to convey water when LWDD has capacity.