

Project Name: C&SF: CERP Indian River Lagoon – South (IRLS)
C-23/C-24/C-25/Northfork and Southfork Storage Reservoirs (UU P1 & UU P2) and
C-44 Basin Storage Reservoir (B)

Project ID: 1101 (CERP Project WBS # 07)

Lead Agency: USACE / SFWMD

Authority: WRDA 2000; WRDA 2007; (“C-44 Basin Storage Reservoir (B)” was a WRDA 2000
Initially Authorized Project; uncompleted portions were de-authorized in WRDA 2007 when
the broader IRL-S project was authorized for construction)

Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 Secondary: 2-A.3, 1-B.1, and 1-B.2

Measurable Output(s):

- 130,000 acre-feet reservoir storage (12,000 acres of above-ground storage)
(C-23/24 N: 43,920 ac-ft; C-23/24 S: 48,900 ac-ft; C-44: 33,150 ac-ft; C-25: 5,176 ac-ft)
- 9,000 acres of manmade wetlands (C-23/24: 2,363 acres; C-44: 6,000 acres; C-25: 142 acres)
 - 122 metric tons/yr. phosphorus expected load reduction
 - 475 metric tons/yr. nitrogen load expected reduction
- 99,781 acres of habitat improvement/restoration and additional water storage
 - Mosaic: 95,230 acres natural upland/wetlands habitat
 - Allapattah: 42,348 acres
 - Palmar: 17,143 acres
 - Cypress Complex: 32,639 acres
 - North Fork: 3,100 acres (flood plain preservation)
 - Aquatic Habitat: 4,551 acres in St. Lucie River and Estuary
 - Benthic: 2,650 acres
 - Submerged: 922 acres aquatic vegetation restoration
90 acres artificial submerged vegetation habitat
- 889 acres or more of oyster habitat (muck removal at 1.8 ft = 7.9 M yd²)

April 1999 (Restudy) Project Synopsis: Included above-ground reservoirs with a combined storage capacity of approximately 349,400 acre-feet located in the C-23/C-24/C-25/ Northfork and Southfork basins in St. Lucie and Martin Counties, as well as an above-ground reservoir with a total storage capacity of approximately 40,000 acre-feet located in the C-44 Basin in Martin County. The initial design of the reservoirs in the C-23/C-24/C-25 Basins assumes 39,000 acres (water levels up to 8 feet above grade) and 9,350 acres (water levels up to 4 feet above grade). And the initial design of the reservoir in the C-44 basin assumes 10,000 acres (water levels up to 4 feet above grade). Features are to capture runoff and provide water quality improvement including reduced loading of nutrients, pesticides and runoff pollutants.

Current Project Synopsis: This project is located in the Martin, St. Lucie, and Okeechobee counties.

The C-44 storage area feature was one of the initially authorized projects for implementation in WRDA 2000 and was recommended by the Chief of Engineers in August 2004. Plans and specifications for the C-44 Reservoir and STA were also part of the SFWMD early start work.

Since that time, the combined cost for the IRL-S project was estimated at \$1.365 billion when the entire project was authorized for construction in WRDA 2007, dependent on appropriations from Congress. Based on the feasibility study and the PIR, and further refinements, the entire IRL-S project is expected to include the following components:

- Construction and operation of an additional 12,000 acres of above-ground storage and their connecting canals, control structures, levees and pumps to capture water from the C-44, C-23, C-24 and C-25 canals.
- Construction and operation of four new stormwater treatment areas to reduce sediment, phosphorus, and nitrogen going to the St. Lucie River estuary and the lagoon. STAs are planned for each of the basins: C-44 basin (1), C-23/24 basin (2) and C-25 basin (1) reducing damaging effects of watershed runoff
- Restoration of the upland/wetland mosaic with ditch plugging, berm construction, and periodic fire maintenance at three locations.
- Redirection of water from the C-23/24 basin to the Northfork of the St. Lucie River attenuating freshwater flows to the estuary.
- Muck removal from the north and south forks of the St. Lucie River and the middle estuary reducing nutrients (nitrogen and phosphorus). Oyster shell, reef balls, and artificial submerged aquatic vegetation near muck removal sites will be added for habitat improvement.

Current Status:

Construction of the C-44 reservoir and stormwater treatment area component of the IRL-S project began in 2011 and, it is being implemented through use of multiple construction contracts by the USACE and the SFWMD until its current scheduled construction completion in the year 2020. The first major construction contract (canals, roads, culverts, and bridge work) was awarded in July 2011 and will be completed in 2014. Due to questions regarding the 2008 design, Contract 2 (reservoir, pump station, and discharge canal) was divided in two phases. Contract 2 Phase 1 design addressed questions regarding surveys accuracy, need for additional surveys, removal of unnecessary low-level discharge culverts, construction phasing, appropriate storm-routing analysis, incorporation of latest guidance and standards from USACE and SFWMD, and embankment armoring soil-cement mix and design. Phase 1 was completed in April 2012. The design of Phase 2 began in October 2012 and addresses the changes identified in technical memoranda prepared by the designer of record during phase 1 design. Scheduled completion of Contract 2 design is 2014. Scheduled Contract 2 (reservoir and discharge canal) is scheduled for award in 2015. STA and Pump Station contracts will be issued by the SFWMD in FY15.

Est. Cost: \$ 2,397,900,000

Project Schedule:	2011	C-44 reservoir construction began
	2014	C-44 Contract 1 (canals, roads, culverts, and bridge work) completed; Initiate construction of C-44 STA with 10-mi of discharge canal
	2015	Initiate construction of C-44 Reservoir and Pump Station
	2017	C-44 STA and Pump Station finish
	2020	C-44 Reservoir and 2-mi of discharge canal finish; C-23/24 north and south reservoirs construction begins
	2025	C-25 reservoir and STA construction begins
	2028	Allapattah complex construction begins
	2037	Palmar complex construction begins
	2041	Cypress Creek / Trail Ridge complex construction begins
	2028	Muck removal & artificial habitat construction begins
	2032	North fork land acquisition (flood plain) begins

Detailed Project Budget Information (rounded):

IRLS	Obligations Thru FY 2013
USACE	\$57,260,072
SFWMD	\$500,000,049
Total	\$557,260,121



Aerial photo of C-44 Reservoir and Stormwater Treatment Area's intake canal at Citrus Blvd bridge (March 2014).

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_07_irl_south.cfm

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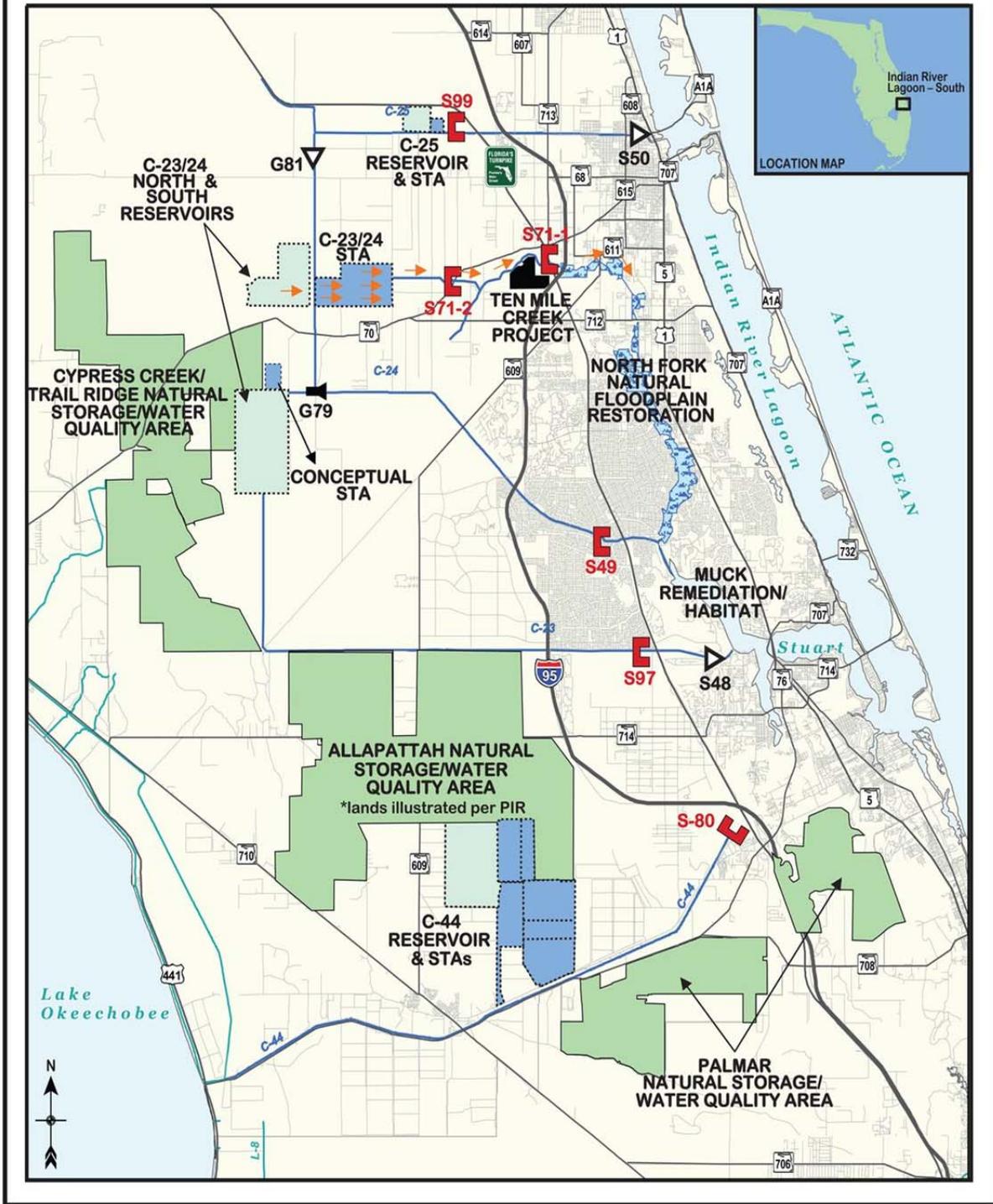
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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (Restudy) (1999)*. Cost estimate and current project status includes information summarized from the *Central and Southern Florida Project Indian River Lagoon – South Final Integrated Project Implementation Report (PIR) and Environmental Impact Statement (EIS) (2004)* and is updated to reflect current price levels in October 2009 dollars; along with the authorization in WRDA 2007. Current status was provided by the project manager. Actual expenditures include all federal expenditures through FY09 (Sept, 2009) and sponsor verified and recorded in kind credit through 4th quarter FY07. Schedule is updated based on the approved *Integrated Delivery Schedule Through 2020* (February 10, 2010).

Additional Information: (next page)

Indian River Lagoon – South



Program Name: Infrastructure
Project Name: C&SF: CERP - Indian River Lagoon South - C-23/C-24/
C-25/Northfork and Southfork Storage Reservoirs (UU) and C-44 Basin Storage Reservoir (B) - Project includes C-44 (St. Lucie Canal) Reservoir / Stormwater Treatment Area (STA)
Project ID: 1101A (CERP Project WBS #07)
Lead Agency: SFWMD
Authority: C-44 initially authorized in WRDA 2000;
Memorandum of Agreement Regarding Acceleration of the CERP
WRDA 2007
Project Partnership Agreement with USACE - September 2010
Funding Source: State and Federal

Strategic Plan Goal(s) Addressed: 1.A.1

Measurable Output(s): 50,600 ac-ft reservoir, pump station and 6,300-acre STA (C-44 measurable outputs are part of the overall project total; the north and south C-23/24 reservoirs, the C-23/24 STA and the C-25 reservoir and STA are on hold while the agencies concentrate on the C-44 construction effort).

Project Synopsis: A 3,400-acre, above-ground reservoir approximately 15 feet deep (50,600 acre-feet) to capture local C-44 basin runoff with 6,300 acres of Stormwater Treatment Areas. This USACE-led project is a component of the Indian River Lagoon South (IRL-S) Project Implementation Report (PIR) and is located in southern Martin County, adjacent to and north of the C-44 Canal, between Lake Okeechobee and the east coast.

Current Status: Plans and specifications for the C-44 Reservoir and STA were part of the early-start work by the SFWMD and were completed in 2007 and updated in 2008. The SFWMD has completed construction for three C-44 project related relocation efforts; the C-132 and northern C-133 canal modifications, the Troup Indiantown Water Control District temporary modifications and the C-44 Communication Tower. The USACE Construction Contract 1, which includes the Intake Canal, Project Access Road, C-133 Canal and the Citrus Boulevard Bridge, is expected to be complete in 2014. The USACE continued with the conversion of the Contract 2 design documents for the 50,600 acre foot reservoir for a proposed FY15 construction start. In 2013, it was determined that the SFWMD would construct the STA along with the system discharge canal and spillway, with an expected construction start date of September 2014. In early FY14 it was also determined that the SFWMD would construct the Reservoir Pump Station, with an expected construction start date of April 2015.

Total Estimated Project Cost: \$1,336,696,000 (all reservoirs and STAs, without land)

Actual Construction Start Date: May 2010 (SFWMD contract)
Scheduled Construction Start Date: October 2011 (USACE contract 2, C-44 Reservoir)
Scheduled Construction Start Date: June 2014 (SFWMD STA Package 1)
Scheduled Project Completion Date: September 2020

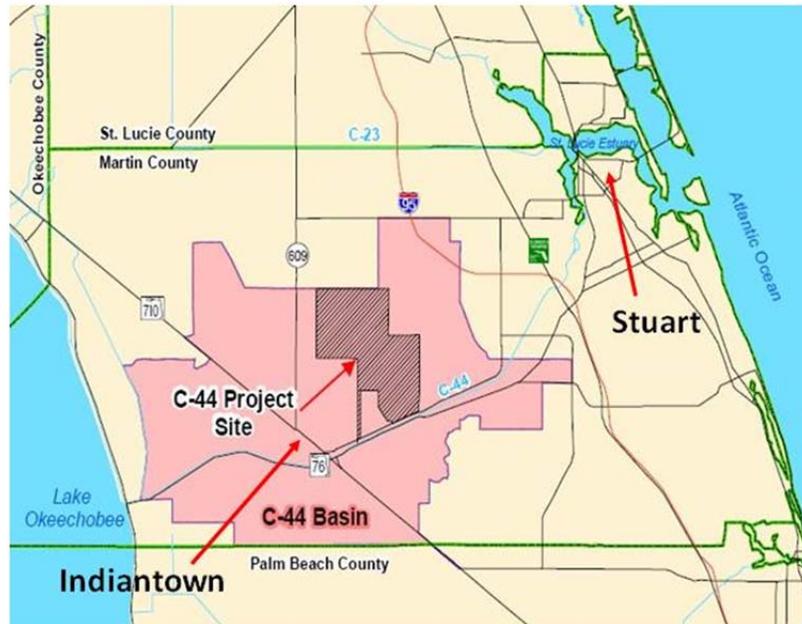
Actual Expenditures to date by SFWMD:

	Thru 2008	2009	2010	2011	2012	2013	2014	Total
SFWMD	\$31,355,063	\$108,156	\$1,785,915	\$6,698,912	\$1,300,000	\$5,938,385	\$2,448,055	\$47,186,431

Hyperlink:

http://www.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/2013_sfer/v3/chapters/v3_ch2.pdf

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C-44 Project site location maps shown above.

Intake Canal Construction – December 2012





This is the Intake Canal at the new Citrus Boulevard Bridge



This is the new Citrus Boulevard Bridge

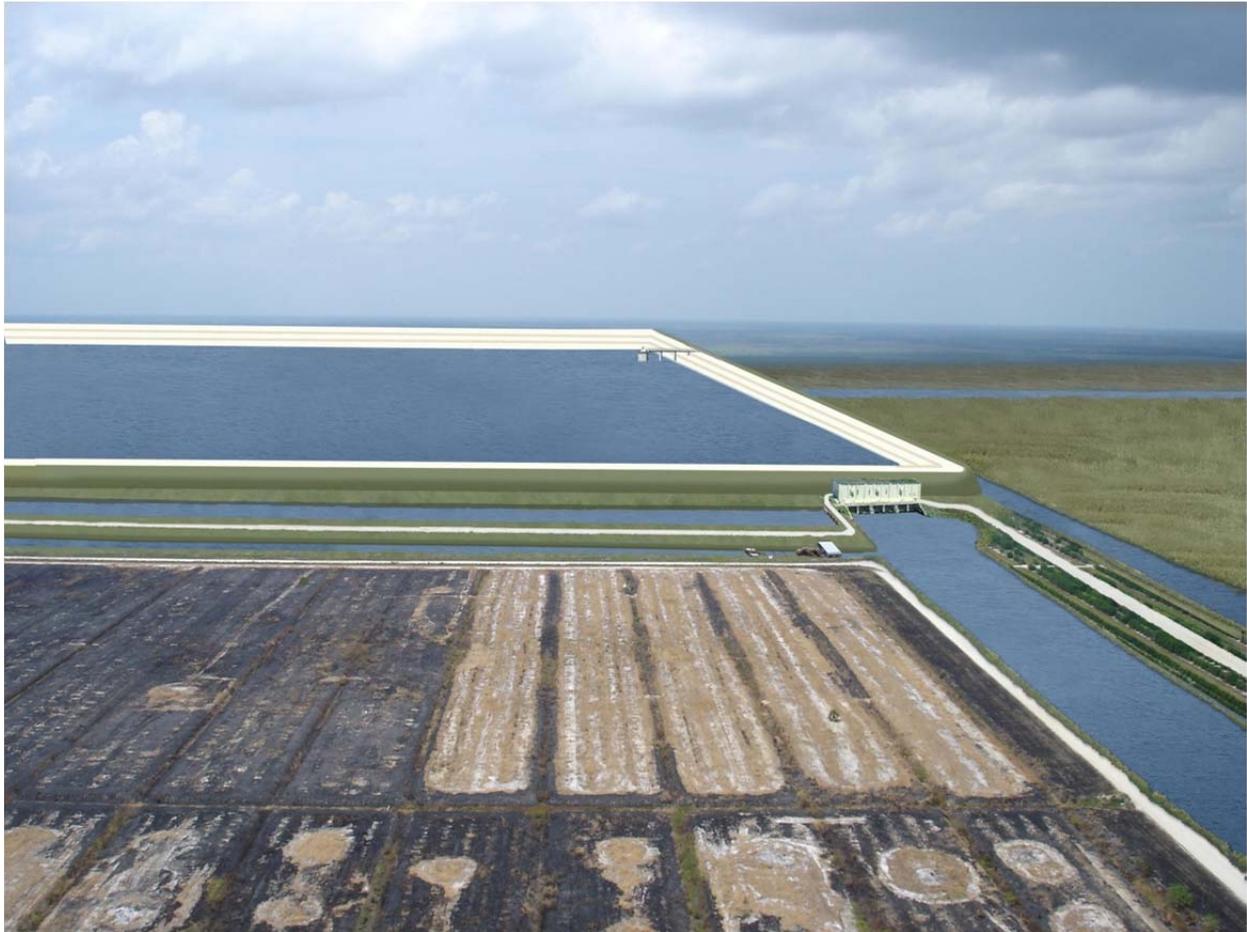


This is the C-44 Communication Tower





This is the Intake Canal, looking north from the transmission power line easement



Artist's rendering of the C-44 Reservoir/STA Project looking from the southeast corner of the reservoir at the inflow pump station, with STAs to the east.