C43 West Basin Storage Reservoir

Hendry County Commission
January 22, 2019
Capture excess basin runoff and Lake Okeechobee releases;

Improve timing and quantity of freshwater flows to the Caloosahatchee Estuary, to help maintain proper salinity levels; and

Maintain allocated water supply to the local agricultural areas adjacent to the reservoir.
C-43 Reservoir Project Components

- 10,500 Acres (2 Cells)
- 19± Miles of Dam Embankment
- 15± Miles of Perimeter Canal
- 14 Major Water Control Structures
- 3 Pump Stations
- 3 Bridges
- Recreation Features
- Townsend Canal Improvements
Project Delivery Plan

- **4 Construction Contract Packages**
  - Package 1 - Preload & Demolition
  - Package 2 - Irrigation Pump Station S-476
  - Package 3 - Inflow Pump Station S-470
  - Package 4 - Civil Works

- **2 Preparatory Packages**
  - Site Clearing
  - Access Roads
Package 1 – Preload & Demolition

- Construct earthen Preload Mounds at seven (7) locations w/ monitoring equipment -
  ~285,000 CY ea. (2M CY Total)
- Demolition of all agricultural facilities including small irrigation pump stations (excluding LPDD1, 2 and 3),
- Improvements to existing drainage and irrigation ditches,
- Preparation of Construction Trailer Compound.
- $11 M
- NTP - Nov 2015
- COMPLETED - August 2017

MAIN PURPOSE - Consolidate the foundation (clay layer) beneath the surface to prevent the dam and structures from settling.
Package 1 – Preload & Demolition

Typical Pre-Load Mound

S-474 Preload Mound Looking West
Package 2 – Irrigation PS S-476

- **PURPOSE** - Replaces need for LPDD pump stations and Header Canal to provide irrigation water to adjacent agricultural areas.
- **195 CFS** CFS Vertical Line Electric Driven Pumps (3 @ 65 CFS ea w/ 350 HP motors)
- **$13M**
- **NTP - June 2016**
- **Final Completion - April 2019**
- **Approx 90% Complete**
Package 2 – Irrigation PS S-476
Package 3 – Inflow PS S-470

- 1,500 CFS Vertical Mixed-Flow Electric Driven Pumps (4 @ 375 CFS w/ 2,500 HP motors)
- 300’ Microwave Tower & Control Bldg.
- Townsend Canal Improvements
- SR-80 Bridge Armoring

$58.5 M

NTP - March 2018
Final Completion - May 2022
Approx 10% Complete

PURPOSE - Convey water from the Townsend Canal to the C-43 Reservoir.
Package 3 – Inflow Pump Sta S-470

- S-470 Excavation
- Stockpile Area
- Preload Mound
- Stockpile Area
- General Site
- Stockpile Area
- Dewatering
- Settling Pond
- Embankment
- Preload Mound
- Contractor's
- Compound
- Existing Grade
- Elev. ~ +16.0'
- Elev. -1.0'

S-471
Preload Mound

12/31/18
Package 4 – Civil Works

- **2-Cell Reservoir**
  - 10,500 Acres
  - 170,000 ac-ft of storage (55+ Billion Gallons)
  - Depth ranging from 15’ - 25’

- **19± Miles of Dam Embankment** (Includes Separator Dam)

- **15± Miles of Perimeter Canal** (Conveys dam seepage, storm, environmental and irrigation water, some portions will have littoral areas)

- **15 Major Water Control Structures** (includes 1 small irrigation pump station)

- **Soil-Bentonite Wall** (Seepage Control)

- **Soil-Cement Lining** (Erosion protection for upstream face of dam)

- **Recreation Features** (Boating, hiking, bicycling, equestrian, canoeing, etc.)

- **Townsend Canal Improvements** (30’ Bench & Pressure Relief System)

- **3 Bridges**
Package 4 - Dam and Canal

**Perimeter Canal**
- Approximate 110’ top width
- Varying bottom width
- Varying bottom elevation
- Length: 15+/- Miles
- Excavation Volume: 3+M CY

**Earth Dam**
- Dam Height: 27 - 38 Feet
- Length: 16+/- Miles (Excludes Separator Dam)
- Crest Width: 14+ feet
- Water Depth: 15 - 25 Feet
- Embankment Volume: 16+M CY
- Soil-Bentonite Wall: 4+M SF
- Grassing: 600 +/- AC
- Soil Cement: 980K CY

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**Diagram Details**
- Project Boundary
- Perimeter Access Road/Corridor
- Existing Ground
- Shallow Interceptor Swale
- Chimney Drain
- Toe Ditch
- Toe Road
- Reservoir
- Soil Cement Protection
- Perimeter Canal
- Existing Rock Layer
- Existing Clay Layer
- Drainage Blanket with Toe Drain Extended to Ditch
- Soil Bentonite Wall
- Culvert
Package 4 – Civil Works

- 2-Part Solicitation
  - **Part 1** - Prequalified Contractor List for 4 Major Features of Work (Dam, Soil-Bentonite Wall, Soil-Cement, & Structures)
    - GB Approved in October 2018.
  - **Part 2** - Short-listed firms received request from SFWMD to submit a price.
    - Bid Advertisement: November 16, 2018
    - Bid Opening: January 30, 2019
    - GB Approval Construction Contract: February 2019

- Estimated Cost: TBD
- Construction NTP: Spring 2019 (tentative)
- Completion: FY 22
C-43 Reservoir – Public Recreation

- Miles of trails for Hiking, Biking & Horses
- Public Parking Areas
- Equestrian Area (Parking, Paddock & Wash Area)
- Boat Launch Area
- Canoe/ Kayak Launch Area
- Information Kiosks
- Shelters
- Restrooms
C-43 Reservoir - Public Recreation

- **Public Parking**, including Information Kiosk & Restroom
- **Kayak/Canoe Facility**, including Parking and Launch
- **Public Boat Ramps**, including Parking, Restrooms (2), Information Kiosk/Shelter
- **Equestrian Area**, including Parking, Restroom, Information Kiosk, Paddock & Horse Wash
- **Hiking/Cycling & Equestrian Trail** along Perimeter Maintenance Road (Approx. 12 Miles)
- **Hiking/Cycling Trail** along Dam Crest (Approx. 19 Miles)
QUESTIONS?