PBC Water Resource Management

C-51 Reservoir Phase Cell 12 and 13

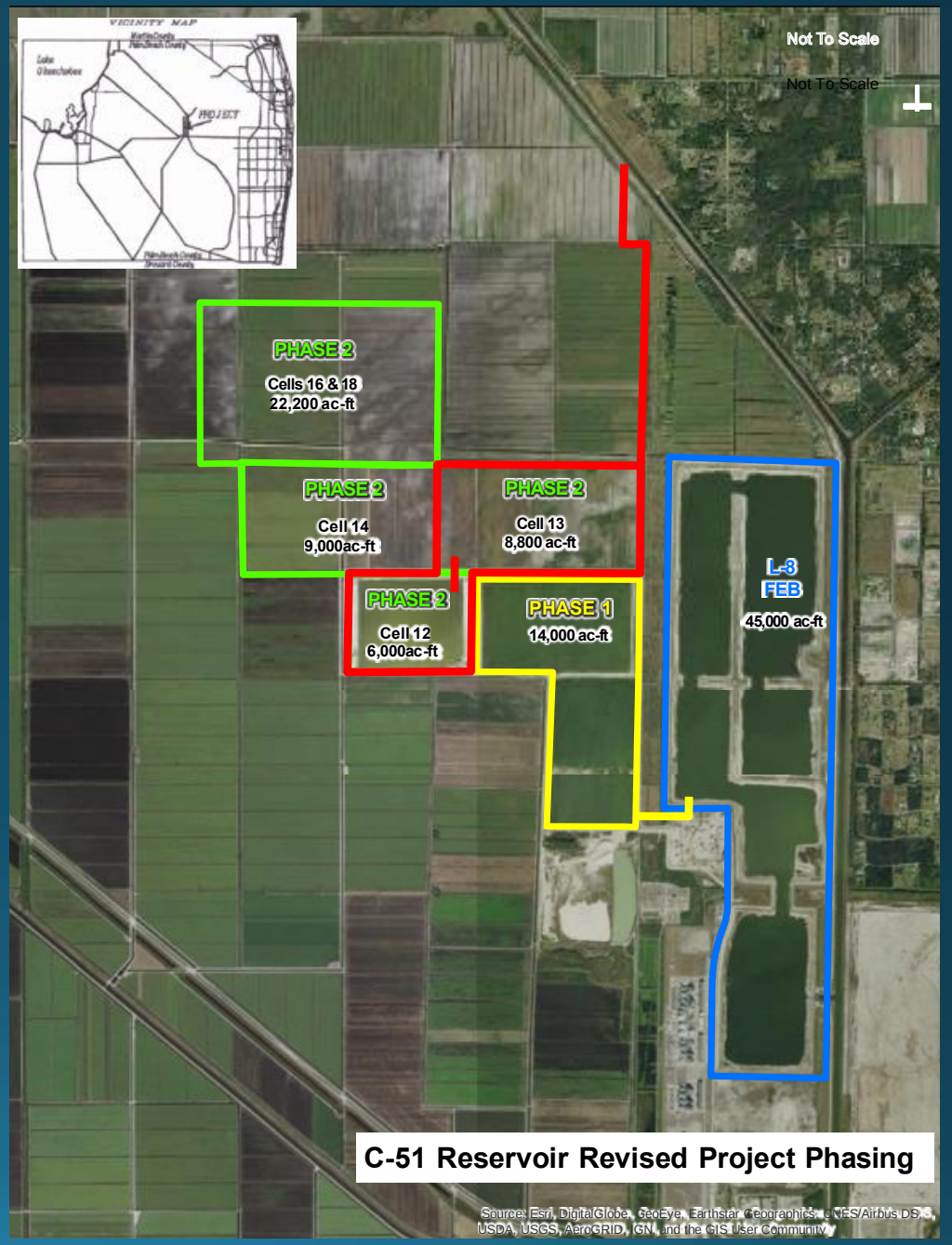
Background

The Comprehensive Everglades Restoration Plan (CERP) identified the need and benefits for 45,000 acre-feet of reservoir storage in the L-8 Basin.

- Receives runoff from 109,598 acres
- Receives runoff from basins that serve over 40,000 PBC residents
- Drains (by gravity) into Lake Okeechobee and C-51 Canal
- Can impact/complicate SFWMD STA-1 capacity/operation
- Can impact/complicate C-51 capacity/operation

Background

- SFWMD L-8 FEB - 45,000 acre-feet of storage for leveling of flow into STA-1.
- C-51 Reservoir Phase 1 – 14,000 acre-feet (AF) dedicated solely to water supply with associated allocation increases.
- C-51 Reservoir Phase 2 will be a multipurpose reservoir with a separate connection to the L-8 Canal
  - Cells 12 & Cell 13 (~14,800 AF) is fully funded and will be the first delivered storage volume
  - Land available with confirmed low permeability is sufficient to provide total of about 46,000 AF of storage volume

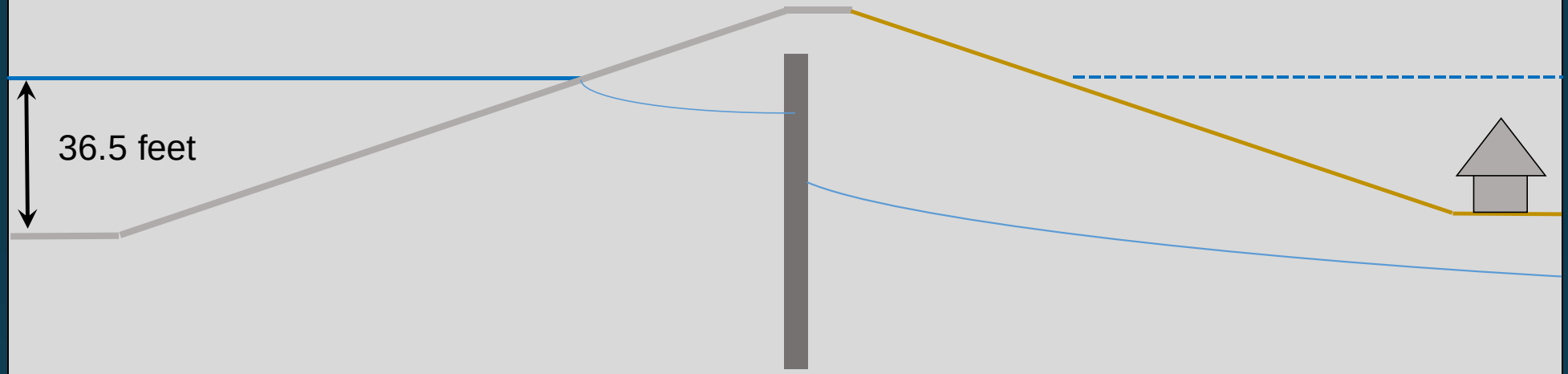


C-51 Reservoir - Cells 12 & 13

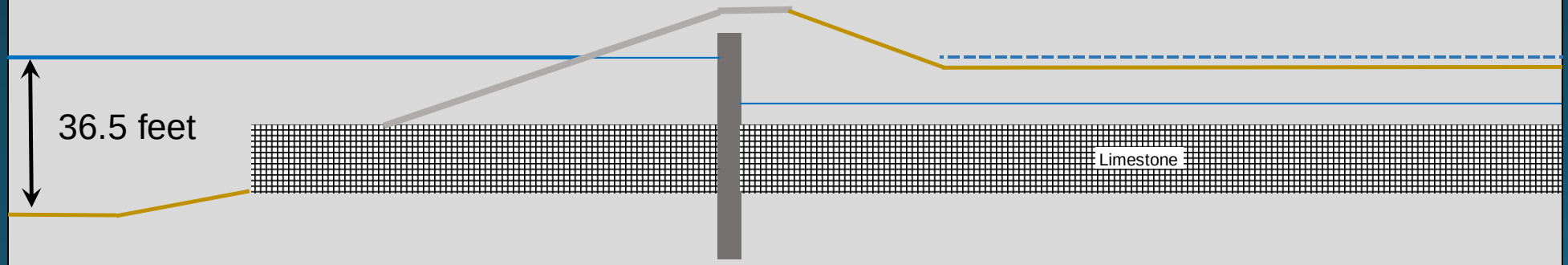
- Cells have a total storage depth of 36.5 feet with 4 feet above ground and 32.5 feet below ground (+16.5 to -20.0 feet NAVD)
- Storage of ~14,800 acre-feet equivalent to 4.8 billion gallons.
- Full perimeter seepage barrier installed down to an elevation of -30 feet NAVD (ten feet below the bottom of the reservoir).
- Inflow structure with a minimum capacity of 300 cfs, outflow pump station with 150 cfs, and conveyance improvements.
- Has access to water from the L-8 Basin and C-51 canals
- Cells 12 and 13 not for additional consumptive use of water
- Reduce discharges to Lake Worth Lagoon, support restoration of Loxahatchee River, combat salt-water intrusion, increase water supply resiliency, expand operational flexibility, provide other water resource benefits

Not a High Hazard Dam

High Hazard Above Ground Reservoir (water level 35 feet above surrounding land)



Low Hazard Below Ground Reservoir (water level only 4 feet above surrounding land)



What Cells 12 and 13 can do

How 14,800 acre-feet is large – it can provide the following concurrently:

- Five days of 300 cfs drainage assistance to the L-8 Basin (by retaining the required storage volume)
- Provide Minimum Flow and Level (MFL) of 35 cfs for the Northwest Fork of the Loxahatchee River (NWFLR) for 60 days
- Also provide 6,400 acre-feet of storage for other water management needs

What Cells 12 and 13 can do

How 14,800 acre-feet is small – it can only provide the following while retaining storage for 5 days of L-8 Basin runoff at 300 cfs and 3-day 100 year rainfall:

- 18 days of 300 cfs drainage assistance to the L-8 Basin.
- 21 days of Lake Worth Drainage District's (LWDD's) annual allocation of 167 mgd (259 cfs).
- 22 days of Palm Beach County's Raw Water Demand during a 1 in 10 year drought (for reference only as Cells 12 and 13 are not dedicated for consumptive use and do not change allocations).
- 0.4 inches on Lake Okeechobee surface area of 450,000 acres.

C-51 Reservoir Phase 1 Photograph

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C-51 Reservoir Phase 1 Photograph

C-51 Reservoir Phase 2 Cell 12 Photograph

C-51 Reservoir Phase 2 Cell 12 Photograph

C-51 Reservoir Phase 2 Cell 12 Photograph

C-51 Reservoir Phase 2 Cell 13 Photograph

Thank you!

Questions?

For more information or to visit site, contact:

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