

**DRAFT**

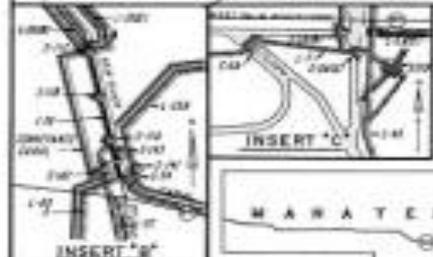
# **C-25 Reconnection Plan**



*Summary Presentation to WRAC*  
*October 2, 2014*

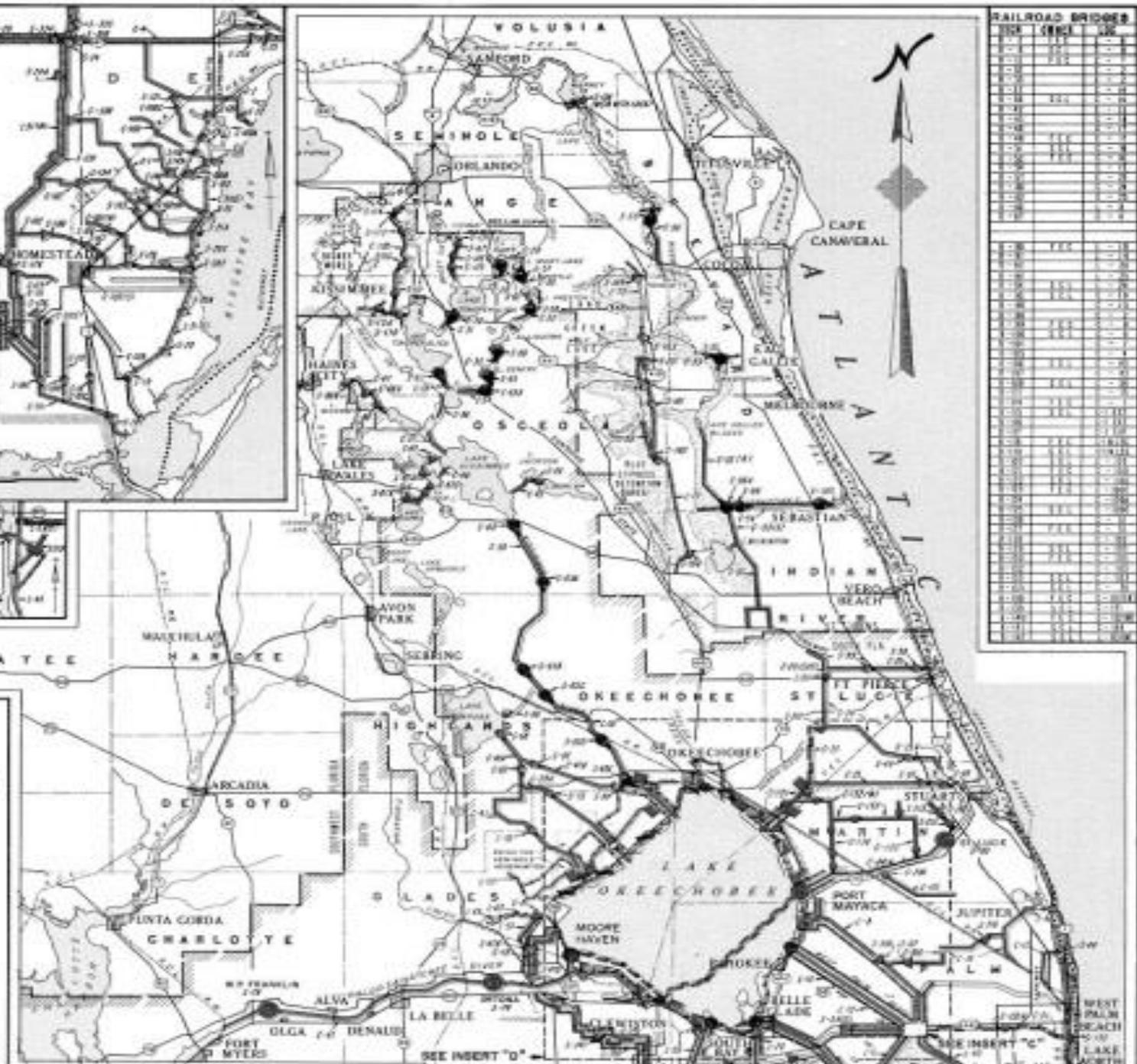
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[sfwmd.gov](http://sfwmd.gov)



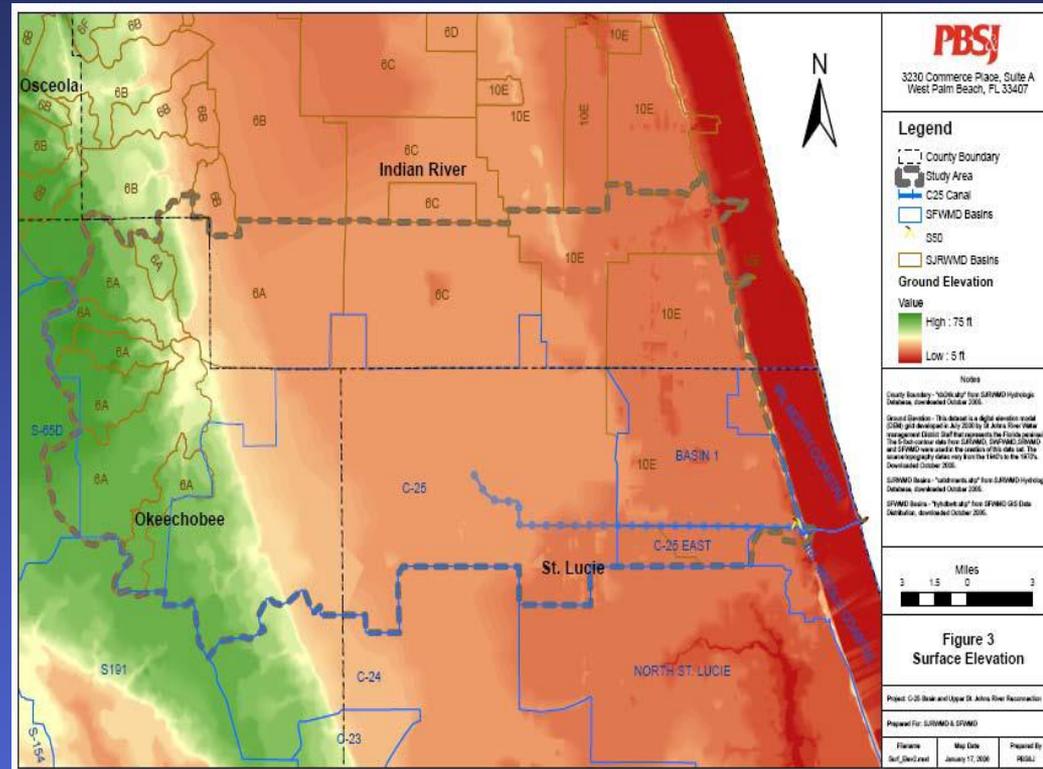
**LEGEND**

- COMPLETED OR UNDER CONSTRUCTION
- REMAINDER OF PROJECT
- CANAL
- LEVEL
- ELEVATING LEVEL TO BE ENLARGED
- LEVEL WITH HIGHWAY OR CROWN
- FURTING STATION
- CULVERT
- SPILLWAY
- SPILLWAY WITH NAVIGATION LOCK
- LOCK AND HURRICANE BATE
- LOCK, DAM, & SPILLWAY
- EXISTING HURRICANE BATE TO BE MODIFIED
- EXISTING LOCK
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT BOUNDARY



# Natural (Pre-Project) Conditions

- Boundary Between SF and SJR Water Management Districts Generally Flat (North to South)
- Natural Flows Largely Dependent on Local Rainfall



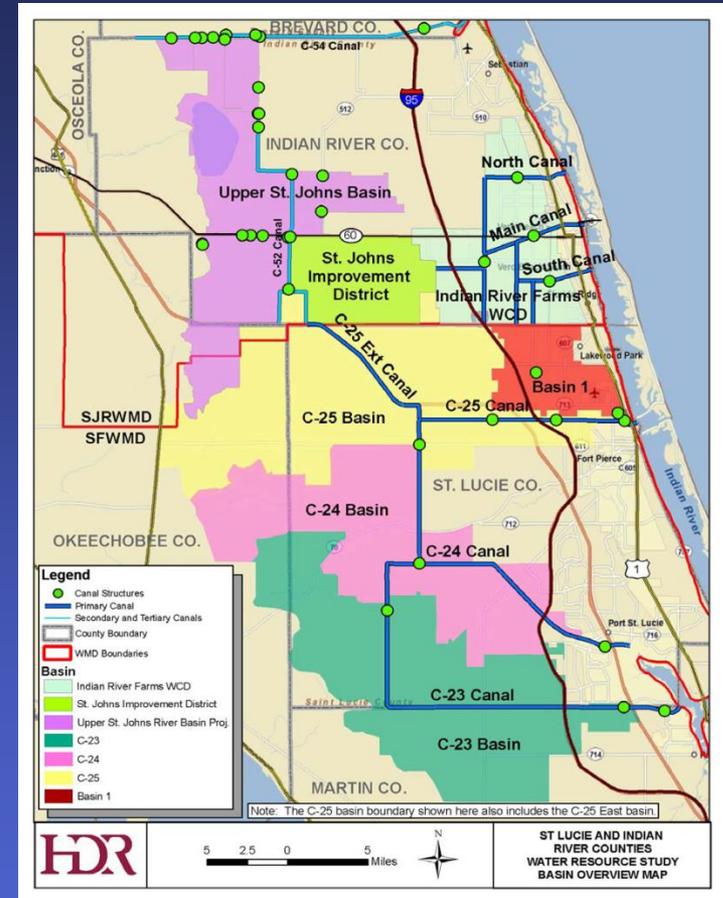
# Historical Perspective

- C&SF Project (1948)
- Preliminary Engineering Study of Flood and Water Control Problems in the Upper St Johns River Basin (C&SF FCD, 1956)
- Water Resources Act (1972)
  - Separation (Politically and Hydraulically) of Districts
- Sunshine State Parkway (Turnpike)



# Current Boundary Conditions

- Districts are Separated Hydraulically, with Exceptions (C-25 Extension Basin, etc.)
  - SFWMD (C-23, C-24, C-25 and Ft. Pierce Farms WCD Basins) Discharge to IRL and SLE
  - SJRWMD Discharge to St. Johns River (Upper St. Johns Basin, SJID) and IRL (Indian River Farms WCD)



# Previous Studies

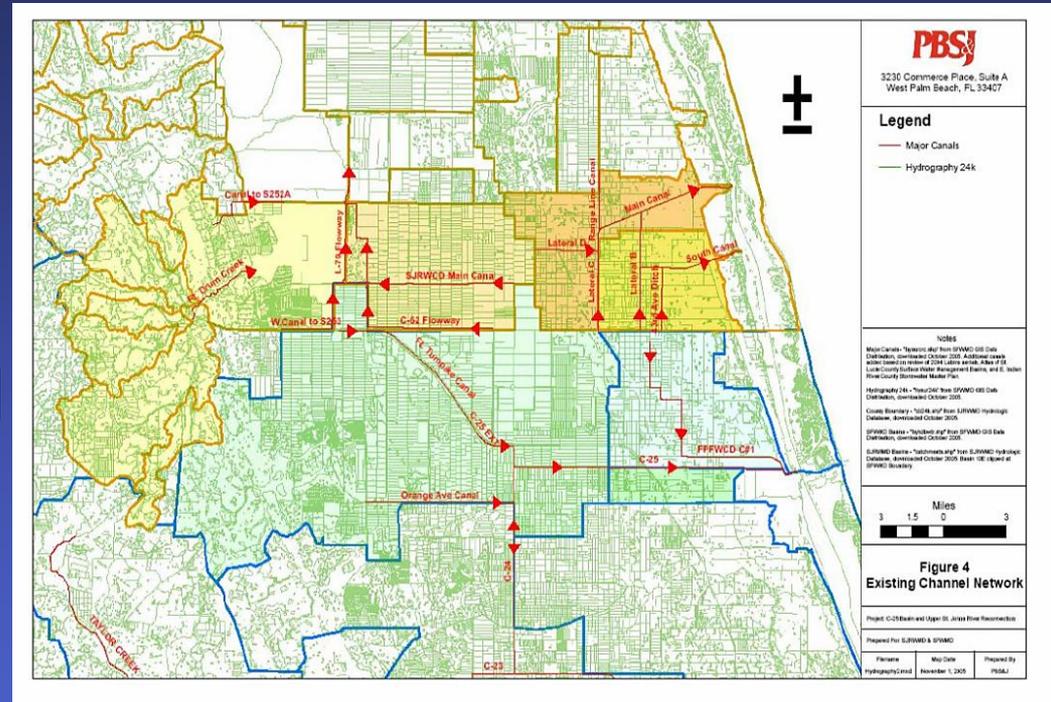
- C-25 and Upper St. Johns River Basin Reconnection (PBSJ, 2006)
- St. Lucie and Indian River Counties Water Resources Study (HDR, 2009)
- Financial Feasibility Study of the Grove Land Reservoir and STA (GLRSTA), Phase 2 Study (Hazen and Sawyer et.al., 2014)
- Assessment of Water Farming on Agricultural Lands (AECOM, 2012)





# PBSJ Study Summary (cont.)

- Significant Rainfall Variability Between Districts
- Recommended Further Analysis and Scenario Testing



# HDR Study Summary

- **Study Objectives**

- Evaluate potential excess discharges to Indian River Lagoon & St Lucie Estuary
- Focus on water available for beneficial uses
- Evaluate options for increased flexibility in water management



# HDR Study Summary (cont.)

- Detailed Evaluation of Four Alternatives
- Top-Ranked Alternative: C-23, C-24 and C-25 Central Storage Reservoir (ICS-02)
  - Inter-District Connection / 5,000 Ac Reservoir / 5,000 Ac STA
  - 120 MGD Delivery Rate (90% Reliability)
  - 142,000 Ac-Ft Flow Reduction to IRL
  - Similar Function to C-25 IRL-S Project (CERP)
  - Multi-Phased Approach
  - Dependent on C-23/C-24 IRL-S Project Completion (CERP) for Water Quality



# HDR Study Summary (cont.)

- In Addition to the Studied Project Alternatives, Report Discussed DWM / Water Farming as an *Interim Solution* to Meet Some Study Objectives
- Led to 2012 *Assessment of Water Farming on Agricultural Lands*



# HDR Study Summary (cont.)

- Proposed Implementation Plan

- *Interim DWM / Water Farming*

- Phase 1 Construction

- Land Acquisition

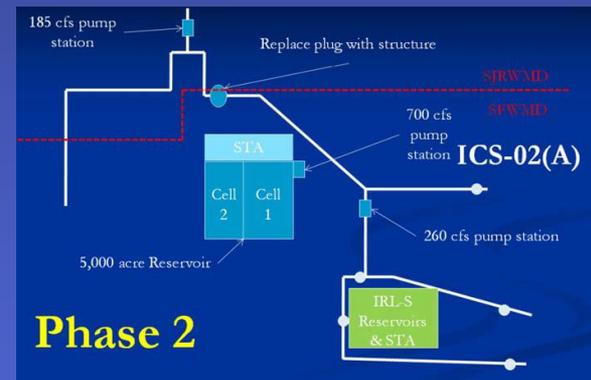
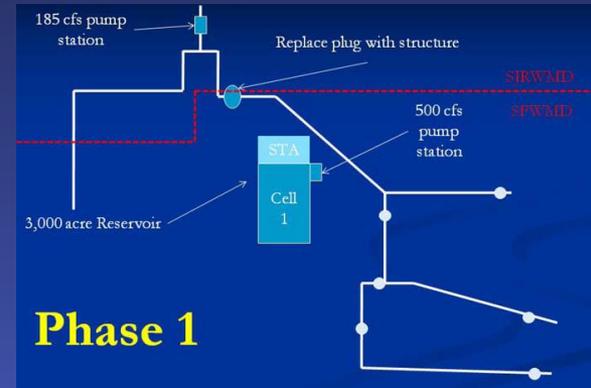
- 3,000 Ac Reservoir/2,500 Ac STA

- Inter-District Connection

- Phase 2 Construction

- Dependent on C-23/C-24 CERP

- Additional 2,000 Ac Reservoir/2,500 Ac STA



# GLRSTA Study Summary

- Performed for Grove Land Utilities, a PSC-certified W/WW Utility
- Proposed Reservoir/STA Straddling SF and SJR Water Management Districts
- Proposal Similar to Preferred Alternative in 2009 HDR Study
- Study Performed to Determine Economic and Financial Feasibility of Proposed Project



# GLRSTA Study Summary (cont.)

- Project Components
  - 5,000 Ac Reservoir / 2,000 Ac STA
  - Inter-District Connection
  - New Pump Stations at G-78 and G-81
  - Improvements to C-25 Canal
  - Numerous Conveyance Improvements in Upper SJR Basin



# GLRSTA Study Summary (cont.)

- **Project Benefits (i.e. – Services)**
  - Water Supply (136 MGD)
  - Nutrient Reduction (TP and TN)
  - Reduced Flow Volumes to IRL (155,000 Ac-Ft / Yr)
  - Minimum Flow and Level Compliance (SJR)
  - Replaces Some Components of CERP IRL-S
- **Project Beneficiaries (i.e. – Who's Going to Pay For It?)**
  - Water Utilities
  - Water Management Districts / State of Florida
  - Local Agencies and Ag Landowners
  - Federal Government (CERP)



# GLRSTA Study Summary (cont.)

- **Issues Affecting Feasibility (Partial List)**
  - **Inter-District Transfers**
  - **CUP and Water Reservations**
  - **Recharge-to-Withdrawal Ratio (Assumed 90%)**
  - **Impacts to Other Entities**
  - **ACOE Review / Federal Funding**



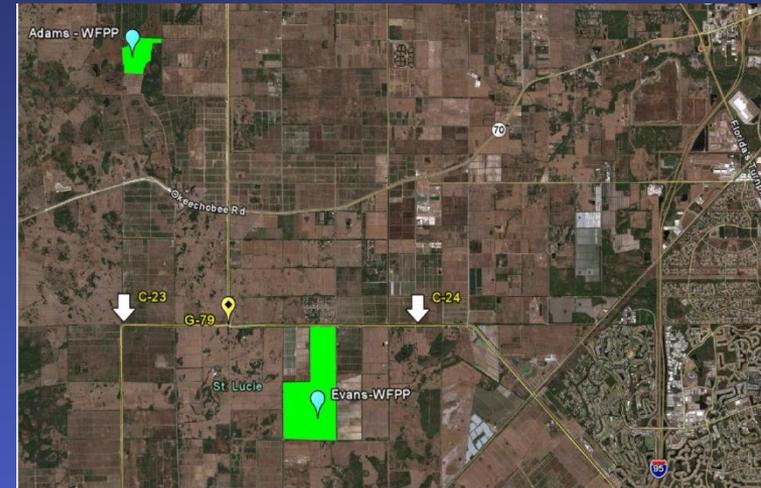
# Water Farming Study Summary

- Feasibility Analysis Performed in 2012
- Idea Similar to Earlier FRESP / NE-PES
- Analyzed Costs / Benefits of Enhanced Water Management Activities on Fallow Citrus Groves



# Water Farming Study Summary (cont.)

- Studied Various Shallow-Depth Alternatives on Two Project Sites
  - Maximum Water Depth of Two Feet
- Looked at Discharge Reduction and *Potential* Beneficial Use
- Led to Water Farming Pilot Studies



# Water Farming Pilot Program

- 3 Studies Currently Underway
- What Are We Trying to Learn?
  - Wet Season Discharge Reductions
  - Nutrient Reduction
  - Beneficial Use In Dry Season?



# Summary

- **Reconnection of SFWMD / SJRWMD Has Numerous Potential Benefits**
  - System Flexibility
  - Reduced Discharge (Volume and Nutrients) to IRL
  - Water Supply
- **Storage is Key Component (But Where? How?)**
- **Issues Going Forward**
  - Project Prioritization – Where Does This Fit?
  - Completion of Water Farming Pilots
  - Technical / Financial / Political Issues with GLRSTA Project



# Discussion / Questions



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