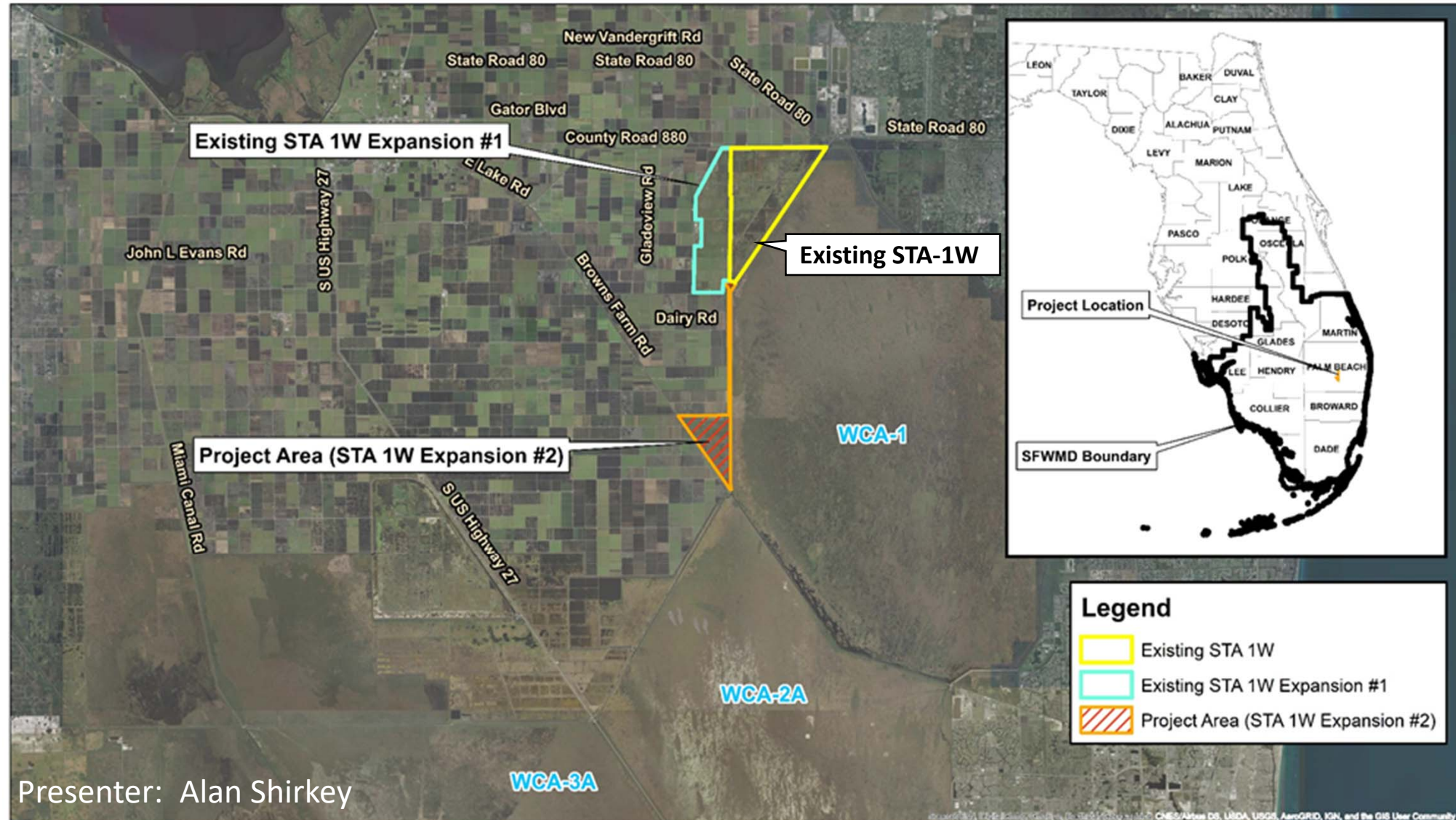


# Restoration Strategies STA-1W Expansion # 2 and STA-1W Refurbishment Project

Alan Shirkey, P.E.  
Bureau Chief, Engineering and Construction  
South Florida Water Management District  
Governing Board  
August 13, 2020

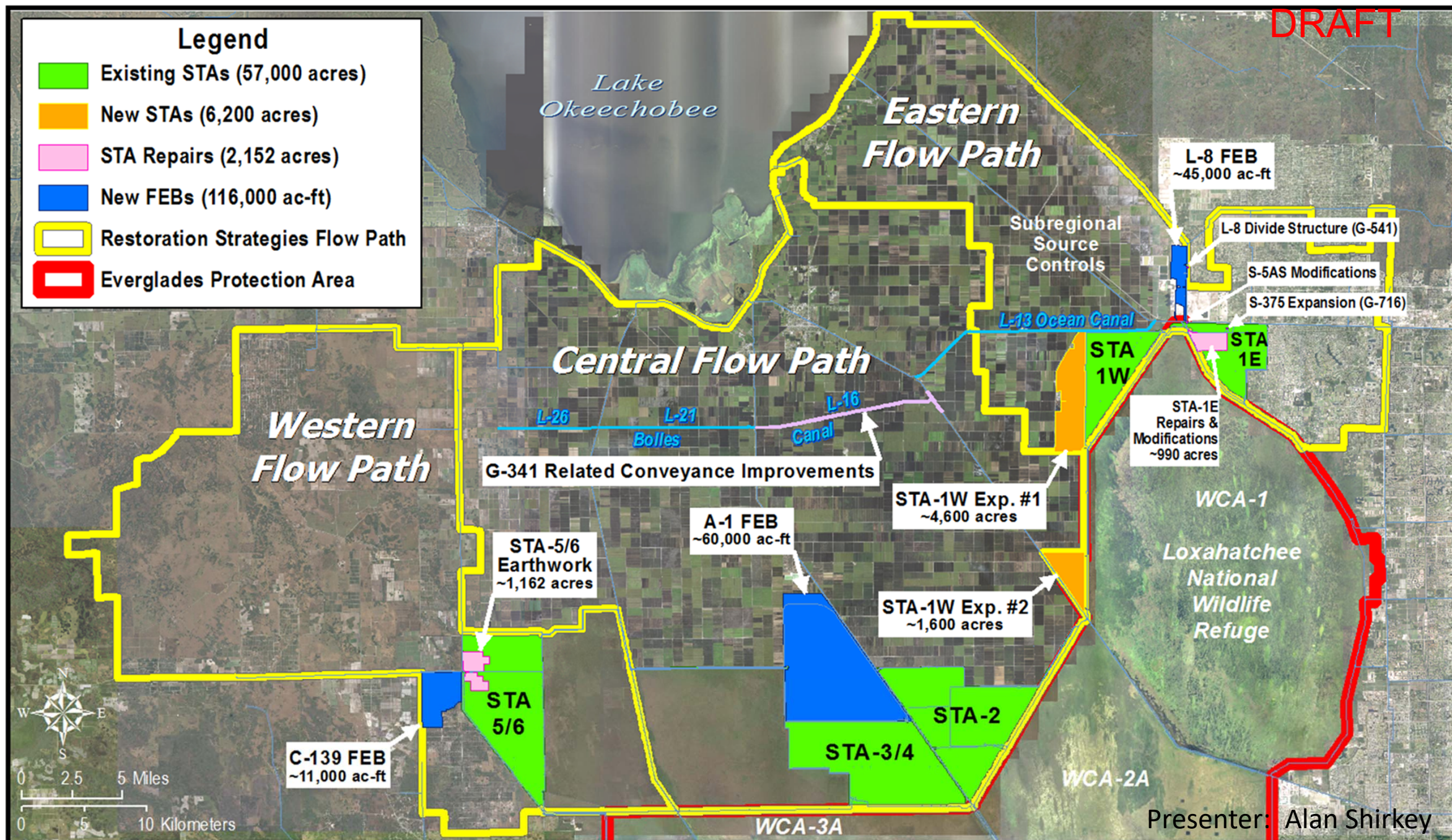


# Location Map





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# Eastern Flow Path: Restoration Strategies Project Status

## Completed

- L-8 Divide Structure (G-541)
- S-5AS Modifications
- S-375 Expansion (G-716)
- L-8 FEB

*Multi-Use Operation*

## Ongoing

- STA-1W Expansion #1
- STA-1W Expansion #2
- STA-1E Repair
- G-341 Related Conveyance Improvements

*Initial Optimization*

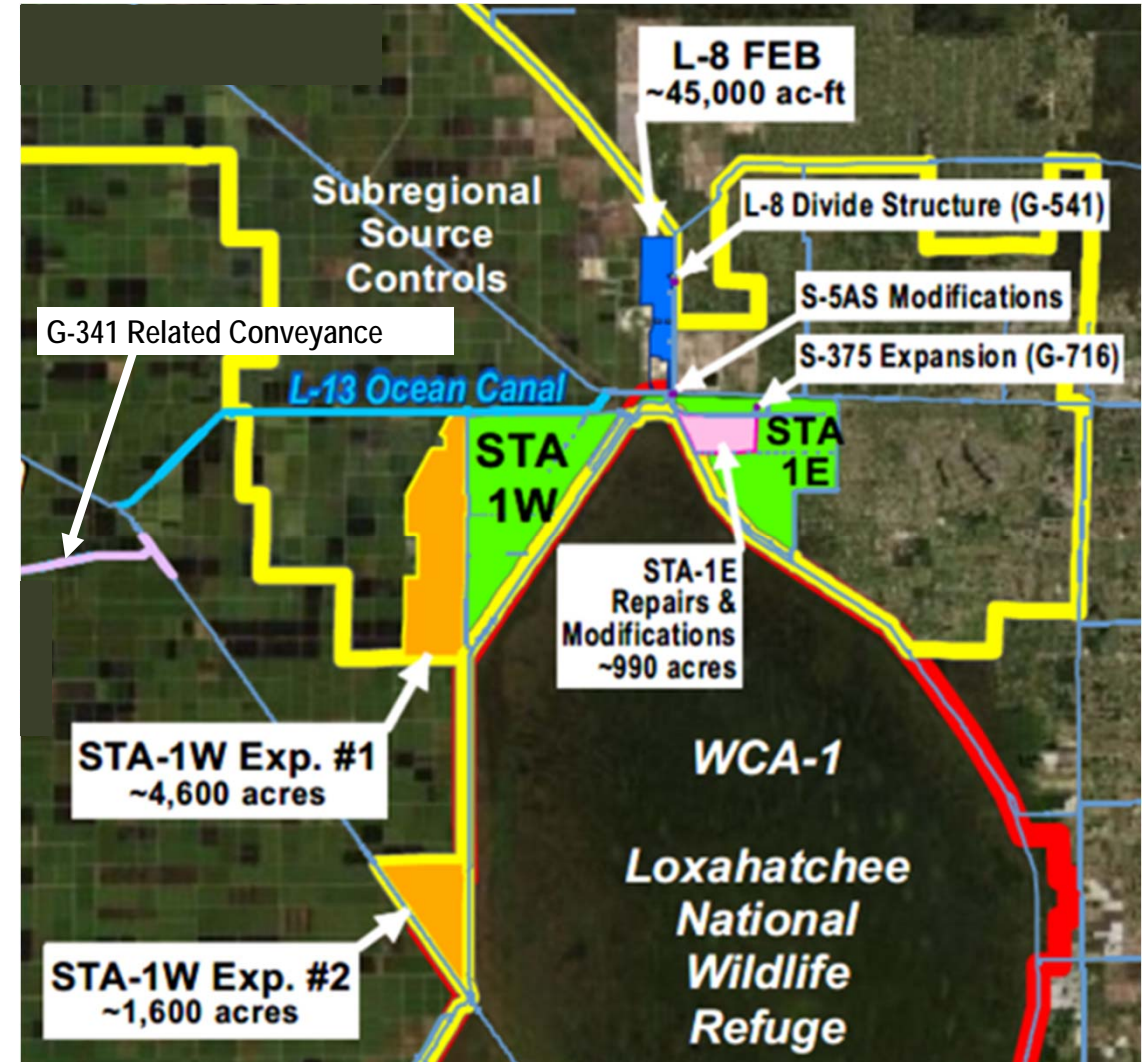
*Construction*

*Construction*

— Bolles East

*Segment 4 Construction*

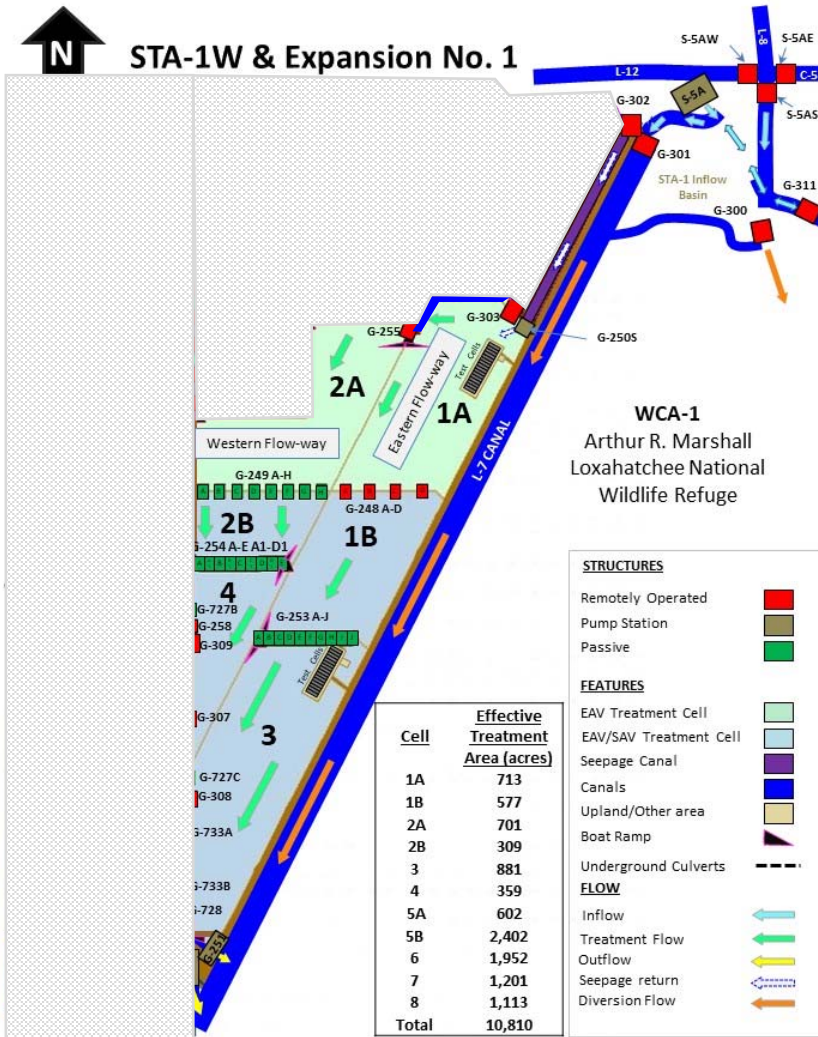
**Complete by 2024 per Consent Order**





# STA-1W History

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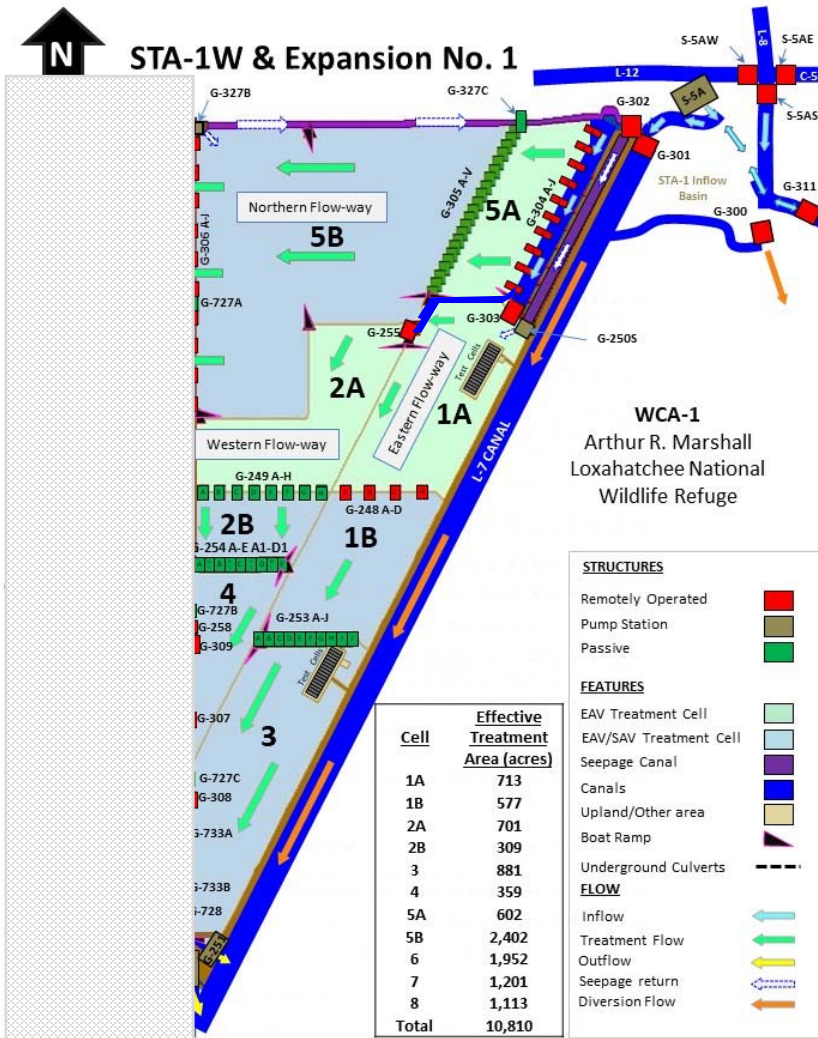


- Everglades Nutrient Removal (ENR) Project constructed 3,800 acres consisting of Cells 1-4 in 1993
- STA-1W Project modified and expanded the ENR as part of the 1994 Everglades Forever Act (EFA) mandated Everglades Construction Project and improved flow through capacity in Cells 1-4 and constructed Cells 5A and 5B in 1999 for a total revised area of 6,500 acres
- STA-1W Enhancements Project added, replaced and improved structures, levees and operations from 2003 to 2008
- STA-1W Independent Western Flow-way Project constructed a berm to separate the eastern and western flow-ways in 2015

1. Updated 03/11/2020.  
 2. Drawing Not to Scale.  
 3. Effective treatment areas exclude inflow canals and include utility easements and test cells located in Cells 1A, 1B, and 3.



# STA-1W History (continued)

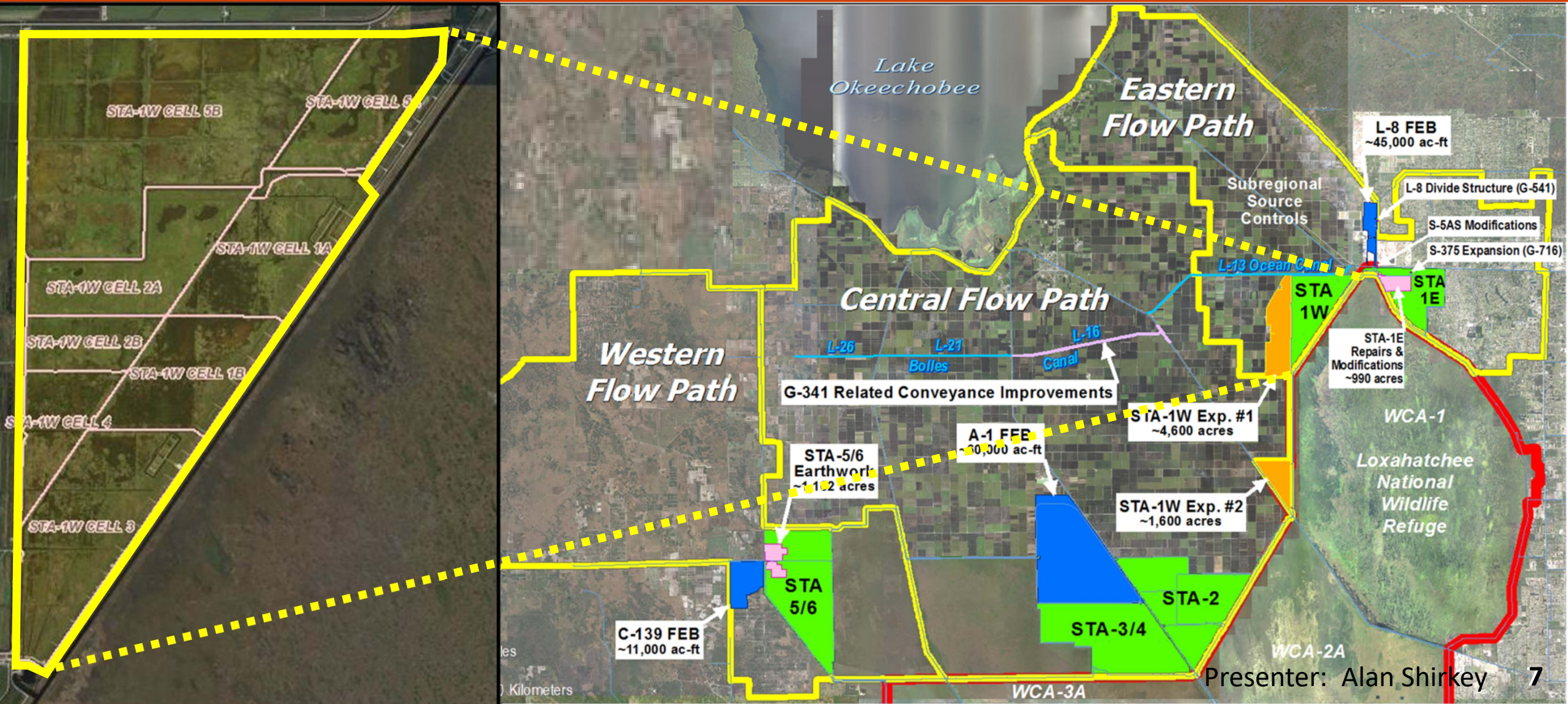


1. Updated 03/11/2020.  
 2. Drawing Not to Scale.  
 3. Effective treatment areas exclude inflow canals and include utility easements and test cells located in Cells 1A, 1B, and 3.

- EFA Consent Order issued in 2012 and kicked off the Restoration Strategies Projects
- Restoration Strategies Eastern Flow Path projects include the design and construction of the L8 Divide Structure (G-541), S-5AS Modifications, S-375 Expansion (G-716), L8 FEB, STA1W-Expansion #1, STA-1W Expansion #2, STA-1E Repairs and G-341 Conveyance Improvements to meet the Water Quality Based Effluent Limit (WQBEL)
- STA-1W Expansion #1 constructed 4,300 acres in 2018 consisting of Cells 6-8
- Design intent is to discharge from STA-1W separately to Expansion #1 (4,300 acres) and Expansion #2 (1,600 acres)
- STA-1W Refurbishment Project is a proactive opportunity to make additional improvements

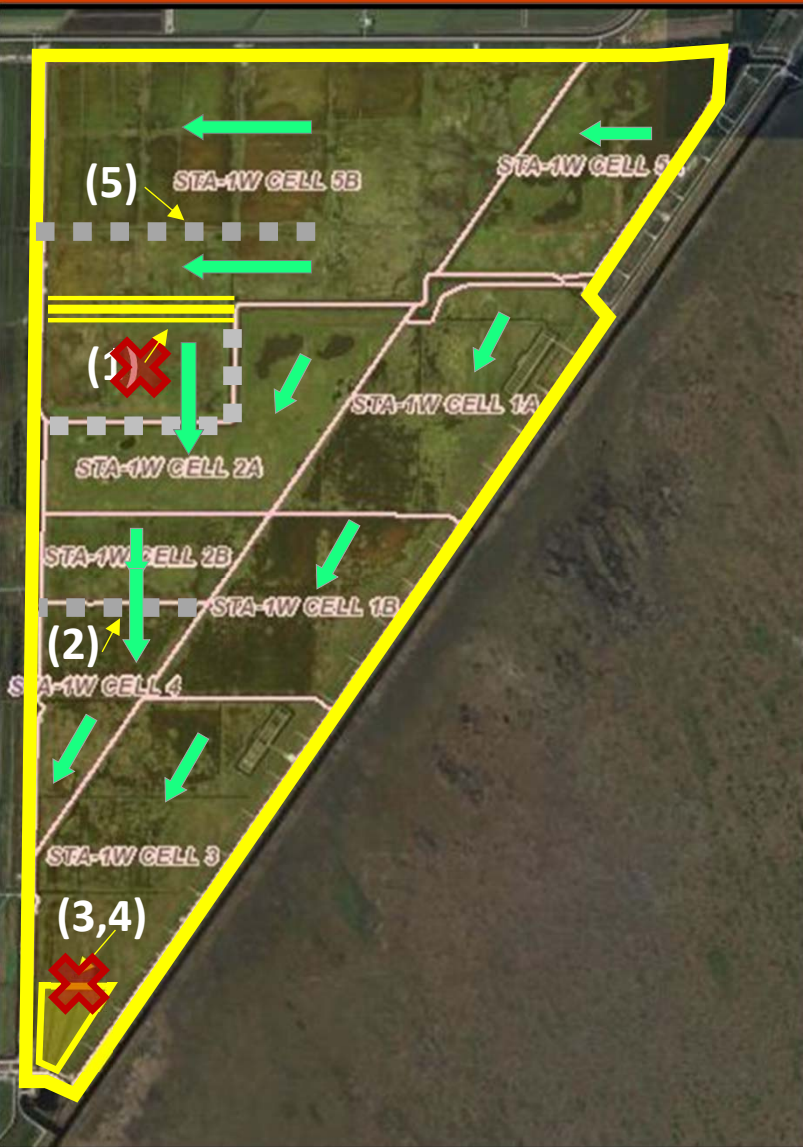


# STA-1W Refurbishment Location





# STA-1W Refurbishment Project



- Decline in vegetation despite major rehabilitation and vegetation enhancement efforts, leading to a decline in treatment performance
- Primary cause is Poor Flow Patterns caused by irregular cell configuration (Cells 5B/2A and 2B/4), uneven cell topography (Cell 3) and localized features that promote short-circuit paths (remnant farm ditches Cell 5B and non-functioning canals Cell 3)
  - Improve cell configuration
    - (1) Relocate levee between Cells 5B and 2A
    - (2) Remove levee between Cells 2B and 4
  - Improve flow through high ground area
    - (3) Regrade Cell 3
  - Mitigate short-circuit paths
    - (4) Remove canals in Cell 3
    - (5) Remove canal Cell 5B

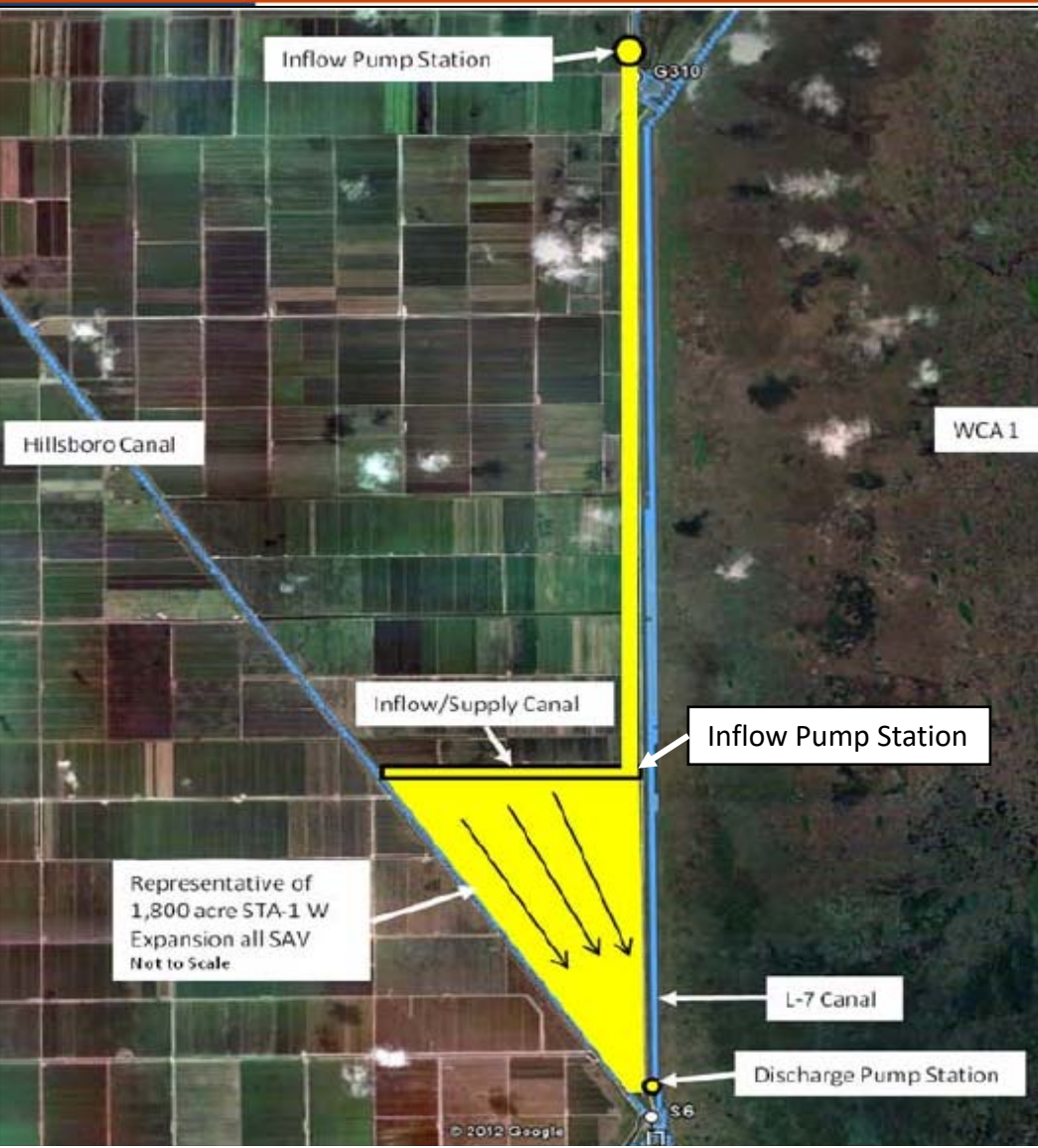


# STA-1W Refurbishment Bid Summary

- RFB Advertised: July 6, 2020
- Bid Opening: August 5, 2020
- Number of Bids Received: 4
- Bid Range: \$10,980,000 – \$17,655,000
- Engineer's Estimate: \$18,441,000 to \$20,334,000



# STA-1W Expansion No. 2

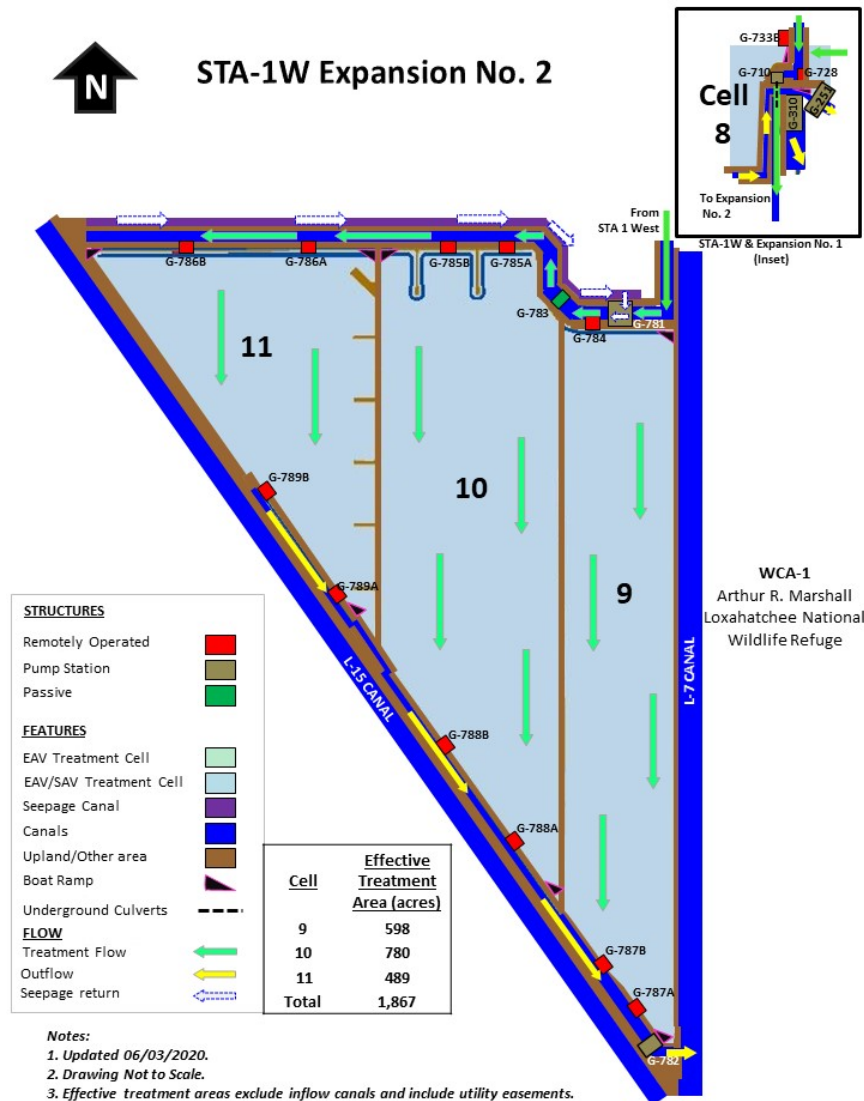


- Purpose: Extend treatment flow-ways for STA-1W
- Overall Estimated Cost \$180M
- Features 1,600 acres of additional treatment area
- Inflows
  - S-5A and C-51 West Basins via STA-1W
- Outflow
  - Water Conservation Area 1



# STA-1W Expansion No. 2 – Schedule of Bid Packages

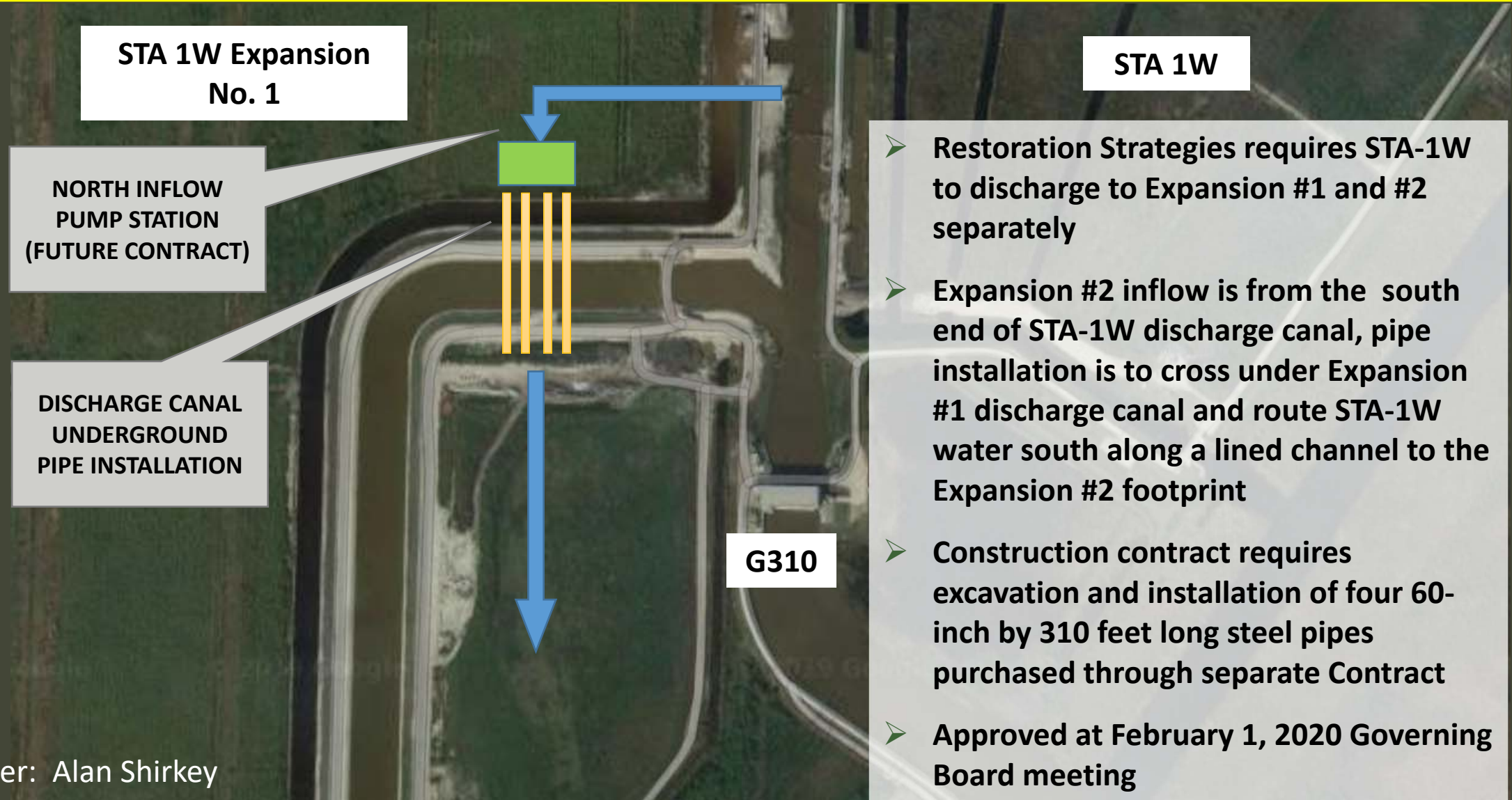
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- **Package A - Underground Piping**
  - Complete Design - December 2019 ✓
  - Start Construction - February 2020 ✓
  - Complete Construction - October 2020
- **Package B – STA and Connector Canal**
  - Complete Design - June 2020 ✓
  - Start Construction - September 2020
  - Complete Construction - December 2022
- **Package C - Inflow & Outflow Pump Stations**
  - Complete Design – October 2020
  - Start Construction – November 2020
  - Complete Construction – December 2022

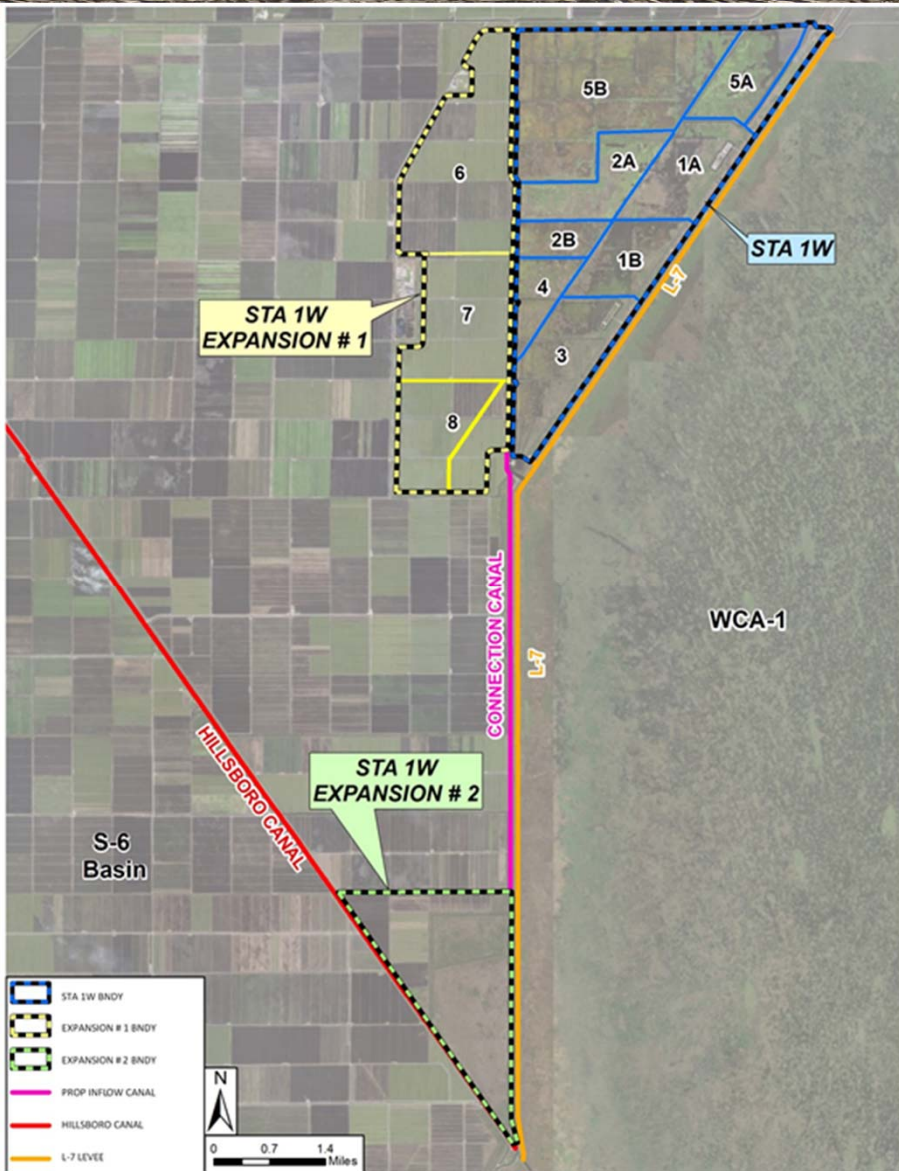


# Bid Package A – Underground Pipes





# Bid Package B - Background



- STA-1W Expansion #2 consists of approximately 2,071 acres and is connected to the existing STA-1W complex by a new canal. This connection canal encompasses approximately 100 acres of land running north-south parallel and adjacent to the existing L-7 levee.
- Project includes but is not limited to the construction of three (3) new STA cells, a 6-mile concrete lined connection canal, perimeter and interior levees, canals, structures, culverts, boat ramps, maintenance ramps, and all other associated appurtenances
- Inflow and Outflow Pump Stations will be constructed under a separate contract



# Bid Package B - Summary

- RFB Advertised: June 12, 2020
- Bid Opening: August 4, 2020
- Number of Bids Received: 3
- Bid Range: \$96,800,000 to \$194,825,000
- Engineer's Estimate: \$95,401,819 to \$106,444,115



# Resolutions

**A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a 600-day contract with Bergeron Land Development, Inc., the lowest responsive and responsible bidder, for the STA-1W Refurbishments Project, in the amount of \$10,980,000, of which dedicated funds (Land Acquisition Trust Fund and Save Our Everglades Trust Fund) and Ad Valorem funds in the amount of \$100,000 are budgeted in Fiscal Year 2019-2020, and the remainder is subject to Governing Board approval of future years budgets; providing an effective date. (Contract No. 4600004296)**

**A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a 745-day contract with Thalle Construction Company, Inc., the lowest responsive and responsible bidder, for the STA-1W Expansion #2 STA Project, in the amount of \$96,800,000, of which \$1,000,000 in dedicated funds (Land Acquisition Trust Fund) and Ad Valorem funds are budgeted in Fiscal Year 2019-2020 and the remainder is subject to Governing Board approval of future years budgets; providing an effective date. (Contract Number 4600004295)**