



# **Curtain Wall as Part of a Comprehensive Flood Protection and Restoration Strategy in South Dade**

**South Florida Water Management District  
Task Force Meeting  
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## Background and History

- Restoring the Everglades and Florida Bay hinges on increasing water levels in the Everglades National Park while simultaneously managing the resulting seepage
- The Central Everglades Panning Project included installation of a curtain wall as part of the seepage management strategy
- Several studies have identified curtain walls as part of a comprehensive flood protection strategy in South Dade
- A recently completed project funded by the Miami-Dade Limestone Products Association demonstrated the concept
- SFWMD is advancing an initiative to implement a curtain wall project in South Dade



# Flow to Shark River Slough



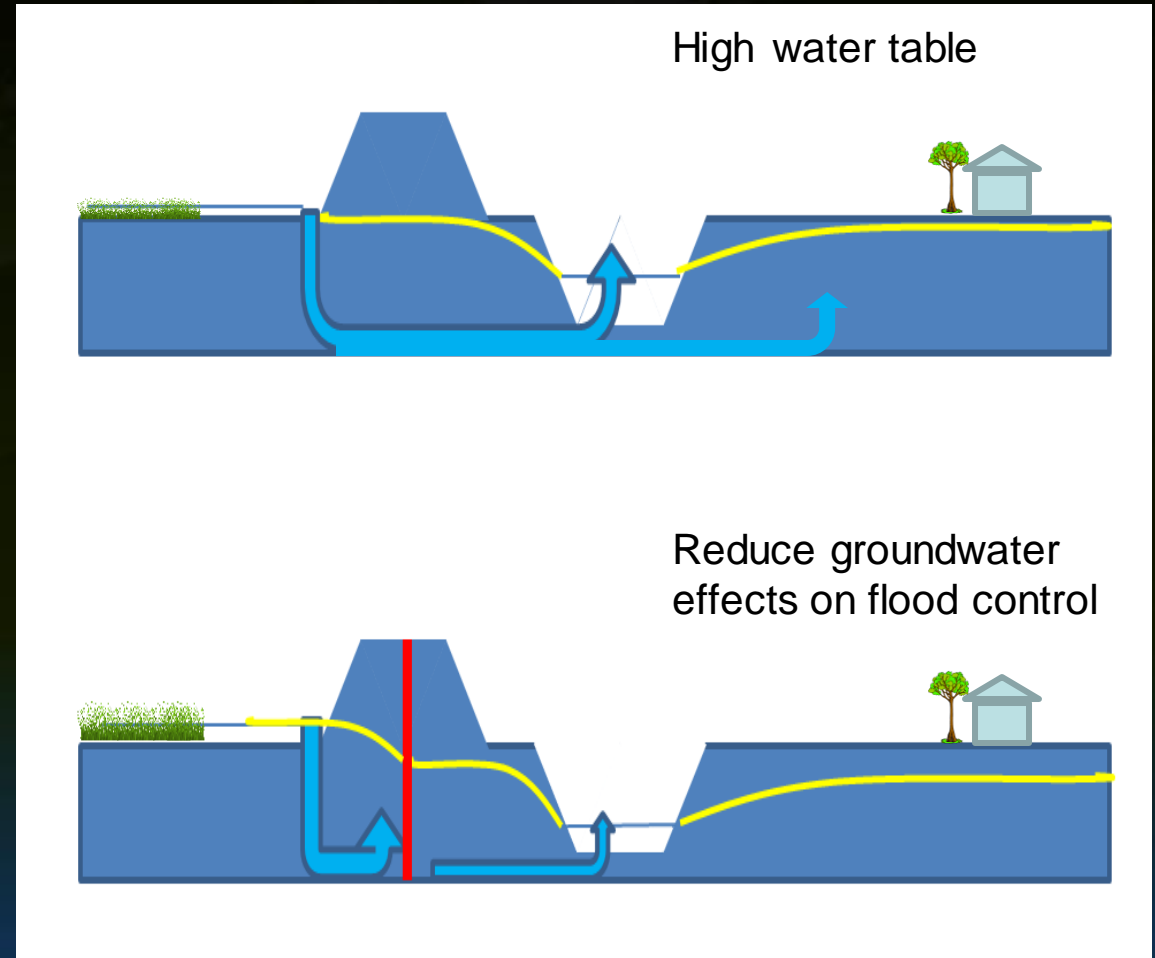


# Flooding Is An Issue Further South



# Characteristics of Curtain Walls

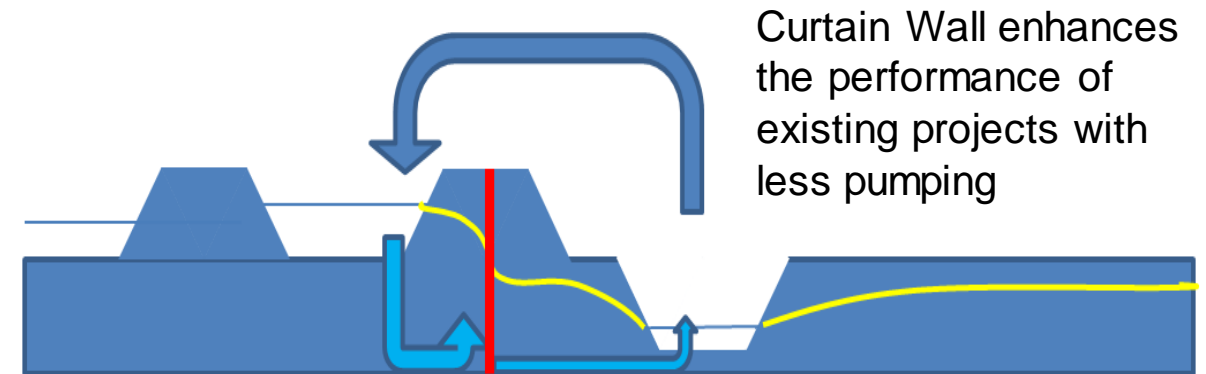
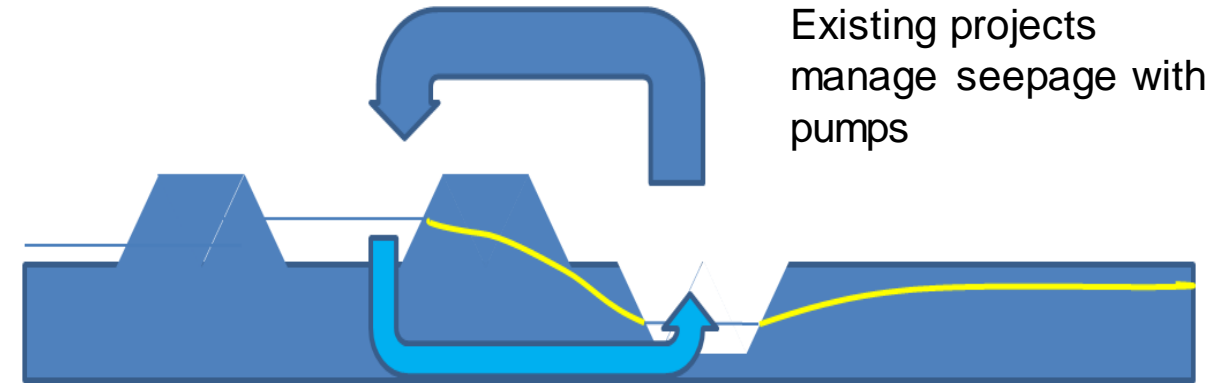
- In South Dade, the goal is to improve flood control in areas impacted by elevated water tables
- The use of a less permeable material placed in the flow path will help manage groundwater
- Goal is to allow a little higher water level in the natural areas (keeping the water where it is needed) while achieving a little lower water table in the developed areas





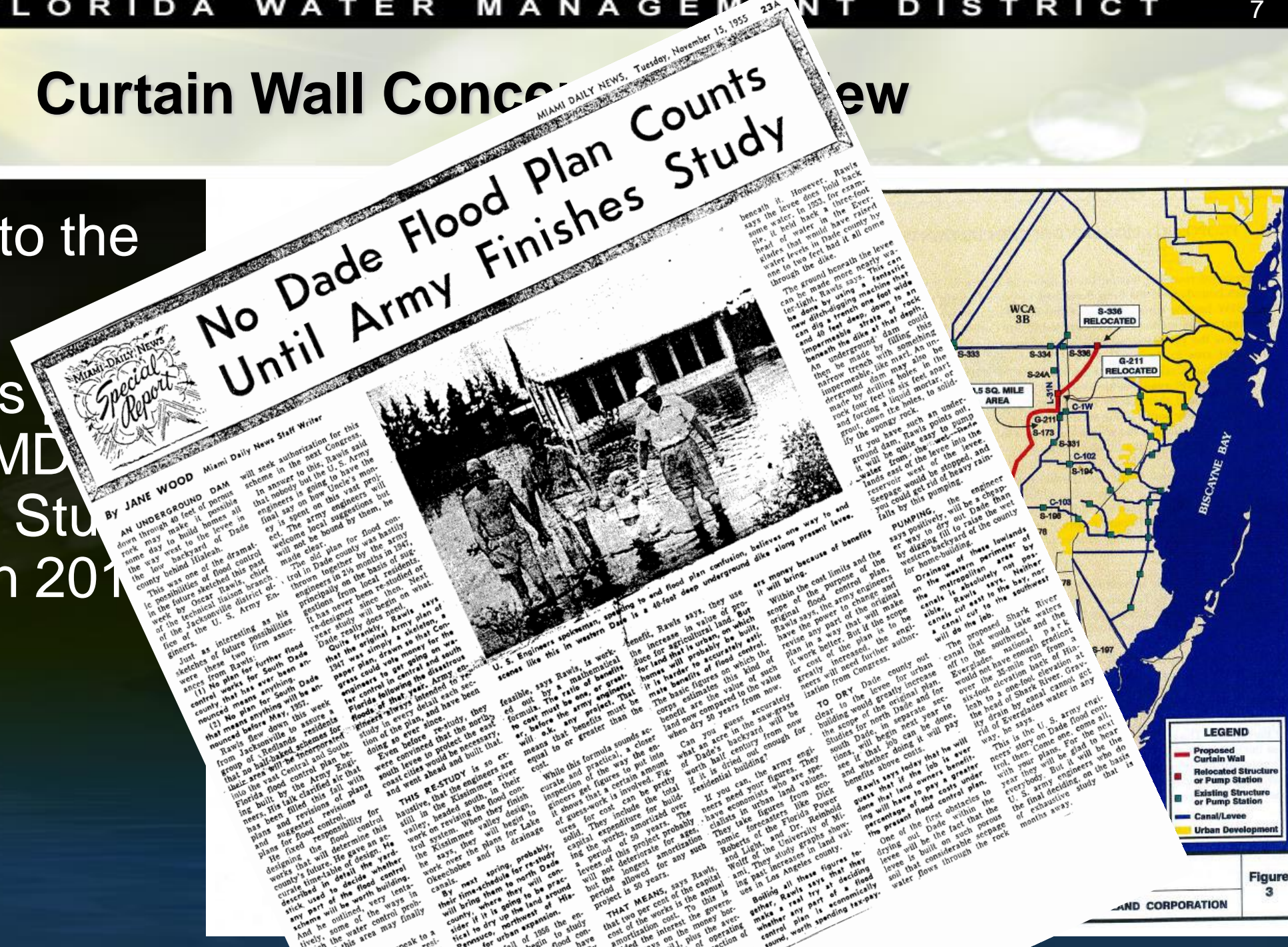
## Characteristics of Curtain walls

- Passive groundwater management solution that is typically not operated (switched on and off)
- Non-selective in function as it blocks flows in both directions
- Effective solution to provide flood protection in conjunction with other measures including pumping
- Little to no maintenance and operational costs post construction



# Curtain Wall Concepts

- Dates back to the 1990s
- Evaluated as part of the SFWMD South Dade Study completed in 2011





## Opportunity to Study and Construct a Flood Protection Solution

- Multiple requests from stakeholders, legislators and other interested parties to implement a comprehensive flood protection strategy for South Dade
- Request to consider a flood control focused study
- Protect property, mitigate flooding concerns of South Dade farmers with a view to sustain broad support for restoration initiatives in the region



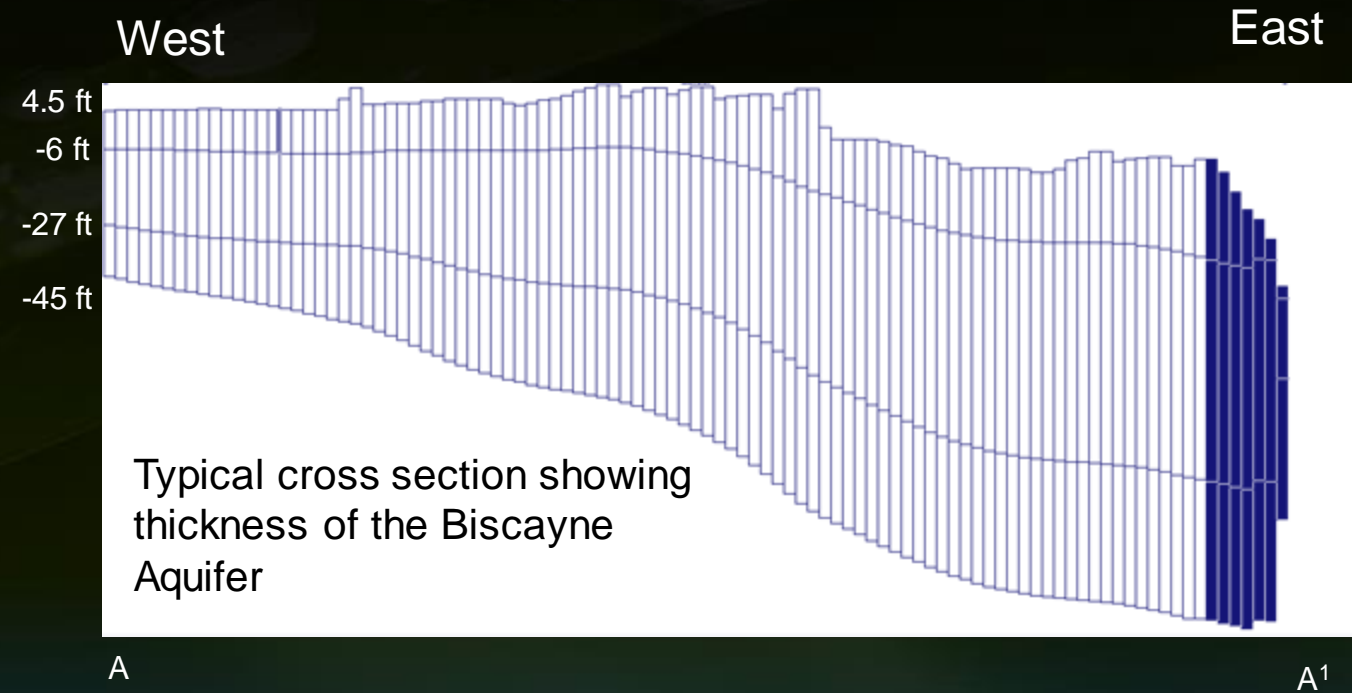
# Overview of 2018 Assessment of Curtain Wall as Part of a Comprehensive Flood Protection Strategy

Comprehensive study outside the scope of any one ongoing study or project

- Provide flood protection to homeowners and agriculture east of ENP
- Integrates and functions seamlessly with existing efforts
- Preserves existing water supply and salt water intrusion protection
- Ensures the continuation of significant investment in managing ecosystem restoration benefits



# Scope and Project Conceptualization



(Not to scale)

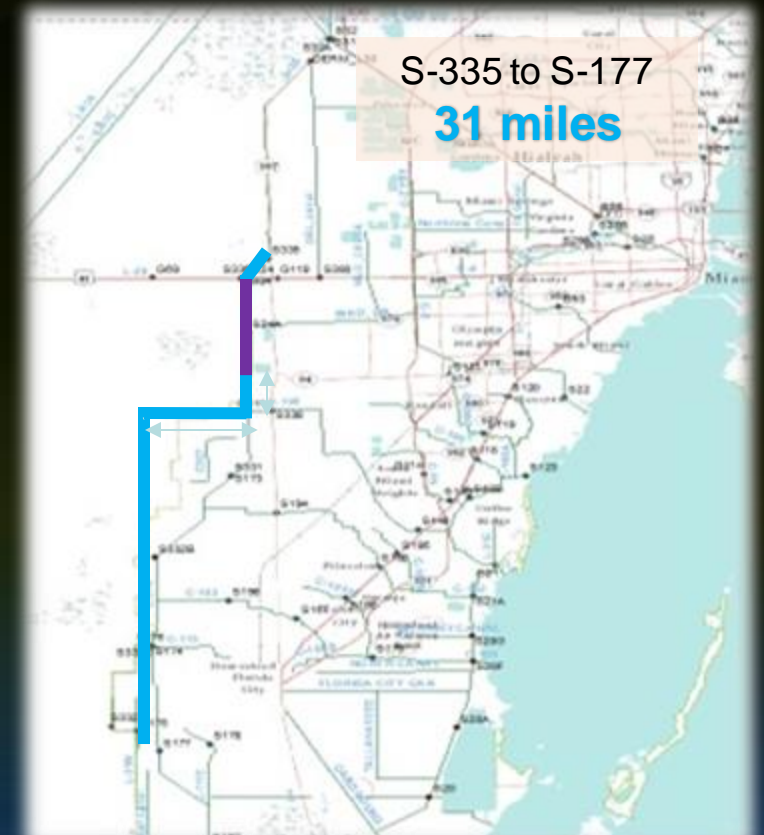
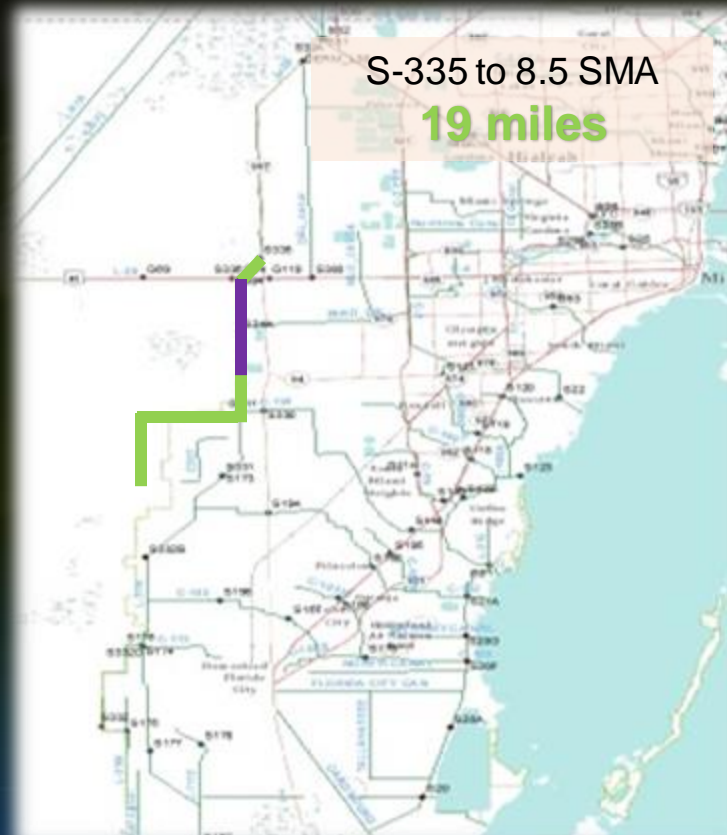
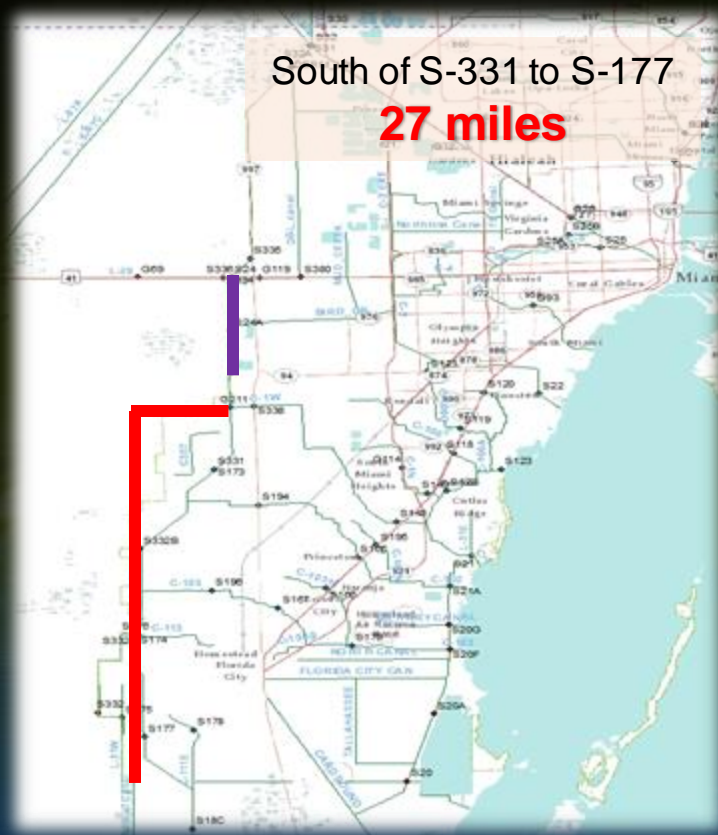


# Initial Curtain Wall Configurations

**South:** including portion of 8.5 SMA

**North:** Stops after 8.5 SMA

**Full:** Full extent



## Key Findings of the 2018 Assessment

- South Wall configuration shows the potential of a well-designed curtain wall to improve flood protection to the residential and agricultural lands in South Dade without adversely impacting conditions in Everglades National Park
- Assessment of flows to Biscayne Bay highlights the importance of ongoing efforts to send more flows to the Bay now and as restoration projects continue
- Flood control with passive curtain walls must be paired with operations to ensure desirable flows continue to Biscayne Bay and for Water Supply
- Design of curtain wall and operations that allow some flows through S-331 South will improve flows through Taylor Slough to eastern Florida Bay.



# Planned Activities Current Fiscal Year

## Goal for 2020:

- Identify key concepts that will support design
- Determine conceptual project for subsequent design and refinement

## Data acquisition and site-specific details:

- Collect field data of aquifer characteristics
- Assess canal system connection and conveyance

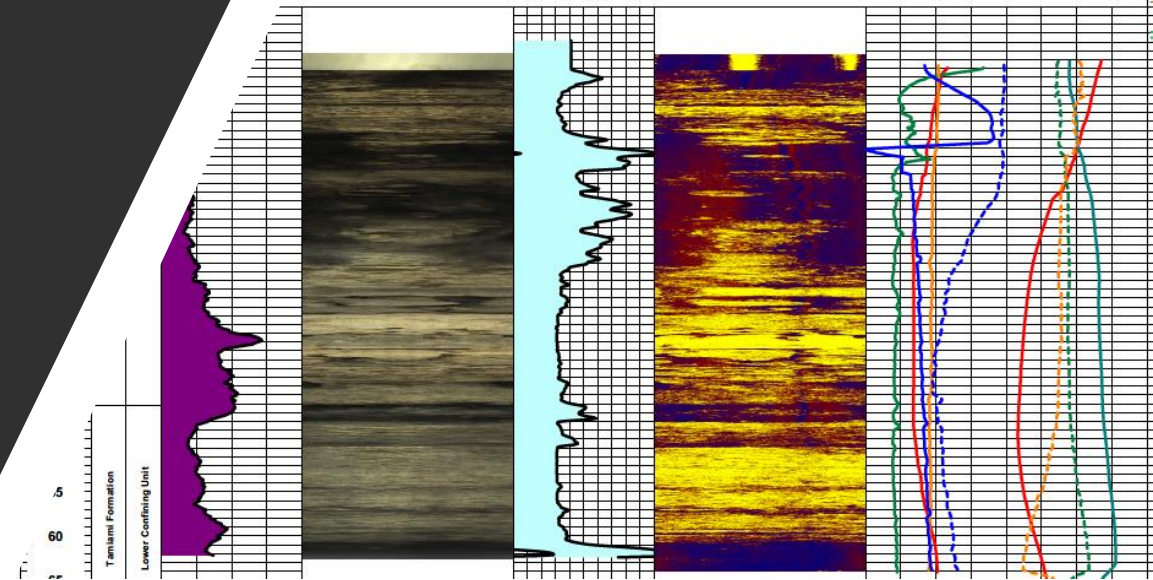
## Planning process:

- Public engagement

# 2020 Timelines for South Dade Curtain Wall

## Schedule:

- Collect aquifer field data:  
November 2019 – November 2020
- Assess existing canal system:  
January 2020 – September 2020
- Public engagement: May –  
November 2020
- Complete planning process:  
February 2021





# Questions



Images from MDPLA Curtain Wall Project  
Site



## SCHEDULE – L31N SEEPAGE BARRIER GEOTECHNICAL EXPLORATION





Notice To Proceed – 2/03/20

Draft Geotechnical Data Report – 8/21/20

DrChecks review – 9/21/20

Respond to comments – 10/5/20

Close comments – 10/12/20

Final Report – 11/02/2020