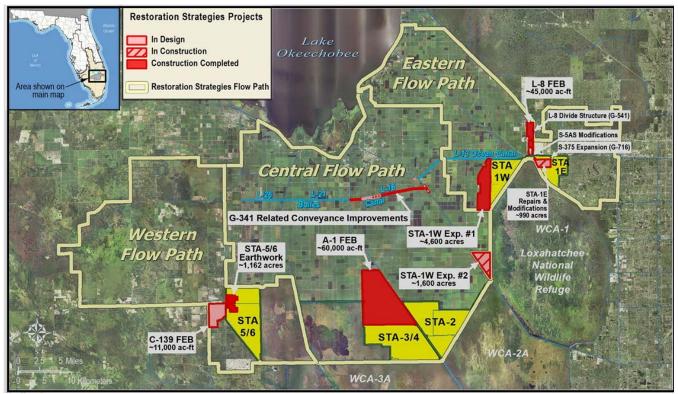
The South Florida Water Management District's (District) \$880 million Restoration Strategies Program will improve water quality flowing into America's Everglades by implementing a suite of flow equalization basins (FEB's), stormwater treatment area (STA) expansions, and conveyance improvement projects over a 13 year timeline. The program includes a robust Science Plan focused on investigating the critical factors that influence phosphorus reduction and a better understanding of improving treatment performance at low phosphorus concentrations. A third part of the program is investigation of additional sub-regional source controls – where pollution is reduced at the source – in areas where phosphorus levels in stormwater runoff have been historically higher.

In 2012, FDEP issued watershed National Pollutant Discharge Elimination System (NPDES) and Everglades Forever Act (EFA) permits to the District to continue to operate its STAs. At the same time, Consent Orders were issued with these permits that require the District to construct 13 projects on an aggressive timeline to be completed by December 2025 with specific milestone due dates for each project activity. The existing Everglades STAs, an essential component of Restoration Strategies, are unique constructed treatment wetlands designed to improve the quality of water flowing into the Everglades. Upon completion of all Restoration Strategies projects, the permits require each STA to meet the Water Quality Based Effluent Limit (WQBEL), to ensure that the State's water quality standard for the Everglades is achieved.

In addition to the Restoration Strategies projects, the District is enhancing the performance of the existing Everglades STAs through a series of construction projects to refurbish, rehabiliate, and renew large portions of the existing facilities, some of which have been in operation for the last 20 years.



**Restoration Strategies Flow Paths and Projects** 

## **Eastern Flow Path**

## STA-1E Repairs and Modifications (Cells 5 and 7)

Earthwork to regrade Cell 5 and importing of soil in Cell 7 to correct topographic deficiencies in the original construction are ongoing. Hydraulic dredge operations in the Western Distribution Cell are ongoing. Project is on schedule and expected to be completed by October 2022.

## STA-1W Expansion #1

Initial flooding and optimization period is complete. Earthwork to relocate plug in Expansion #1 Discharge Canal is complete.

## STA-1W Expansion #2

Notice to Proceed for civil works construction was issued in September 2020. Underground pipe Installation under STA-1W Expansion #1 Discharge Canal complete. Governing Board approval of pump station construction obtained in November. Notice to Proceed was issued in December 2020. Construction for civil works is ongoing.

#### **G-341 Related Conveyance Improvements**

Construction of Segment 3 in Bolles East Canal is complete. Construction of Segment 4 is ongoing. Design of Segment 5 is ongoing and construction is expected to start in 2021.

## STA-1E Refurbishment

Earthwork to degrade remnant farm roads and fill ditches in Cell 6 is complete.

## STA-1W Refurbishment

Earthwork for various enhancements is ongoing. Work includes 50-acre regrade in Cell 3 to remove finger canals, levee realignment between Cells 5B and 2A for improved flow patterns, removal of levees and structures between Cells 2B and 4, and replacement of structures between Cells 1B and 3.

#### **Central Flow Path**

#### STA-2 Refurbishment

Earthwork to regrade a 500-acre low-lying area, repair plugs in borrow canal, and other enhancements in Cell 2 is ongoing. Earthwork to make 49 cuts through remnant farm berms in Cell 3 is ongoing.

## Western Flow Path

STA-5/6 Internal Improvements

Currently in initial flooding and optimization for Cells 2A and 3A.

## C-139 Flow Equalization Basin (FEB)

FDEP and USACE permits have been received. Governing Board approved the initiation of construction in December 2020. Notice to proceed is expected in February.

#### Connection of STA-5/6 to Lake Okeechobee

Hydraulic Feasibility Study is nearly complete. Conceptual design and options are complete. Review of Technical Report is ongoing.

www.sfwmd.gov/restorationstrategies

## **Restoration Strategies Science Plan**

Of the fourteen Science Plan studies, seven have been completed and seven are in progress. Four additional study proposals have been approved and are ready to start.

Ongoing Scient Plan Studies	Completion By
Vegetation Inundation Depth and Duration Sustainability	Sept 2021
Factors for Formation of Floating Tussocks in STAs	Sept 2021
L-8 FEB and STA Operational Guidance	Sept 2021
Improving Resilience of Submerged Aquatic Vegetation in STAs	Sept 2022
Effects of Faunal Species on P Cycling in STAs	Sept 2022
Periphyton and Phytoplankton P Uptake and Release	Sept 2023
Soil Amendments to Control P Flux	Sept 2023

## **Additional Studies**

Biomarker Study	Sept 2022
Fauna study	
Data Integration Study	Sept 2023
P Dynamics Study	Sept 2023



Aerial view of STA-1E Cell 6 refurbishments. Photo illustrates degrade of remnant farm berms using an amphibious excavator that digs up the berm material and drops it into the adjacent ditch as it advances backward (to the left).

EASTERN FLOW PATH					CENTRAL FLOW PATH		
STA-1W Expansion #2 (100864)			G-341 Related Conveyance Improvements (100802)			STA-2 Expansion: Compartment B	
Activity	Deadline		Activity	Deadline		Activity	ſ
Complete land acquisition	3/31/2018	✓	Initiate design	10/1/2020	✓	Initial flooding and optimization period complete	5
Initiate design	10/1/2018	✓	Submit state and federal permit applications	8/1/2021	✓		
Submit state and federal permit applications	8/1/2019	✓	Complete land acquisition (if required)	9/30/2021		A-1 FEB (100706)	
Complete design	7/31/2020	✓	Complete design	7/31/2022		Activity	C
Initiate construction	11/30/2020	✓	Initiate construction	11/30/2022	✓	Initiate design	4
Construction status report	3/1/2021		Construction status report	3/1/2023		Submit state and federal permit applications	1
Construction status report	3/1/2022		Construction status report	3/1/2024		Design status report	Ę
Complete construction	12/31/2022		Complete construction	12/31/2024		Complete design	٤
Initial flooding and optimization period complete	12/31/2024					Initiate construction	6
		-	L-8 Divide Structure (100817)			Construction status report	3
STA-1W Expansion #1 (100818)			Activity	Deadline		Construction status report	;
Activity	Deadline		Initiate design	10/1/2012	✓	Complete construction	7
Complete land acquisition	9/30/2013	✓	Complete design	9/30/2014	✓	Operational monitoring and testing period complete	7
Initiate design	9/30/2013	✓	Initiate construction	10/1/2016	✓		
Submit state and federal permit applications	7/30/2014	✓	Complete construction	9/30/2018	1	WESTERN FLOW PATH	
Complete design	7/30/2015	1				STA-5/6 Internal Improvements (1008	68)
Initiate construction	1/31/2016	✓	S-5AS Modifications (100822)			Activity	Ē
Construction status report	3/1/2017	✓	Activity	Deadline		Initiate design	10
Construction status report	3/1/2018	✓	Initiate design	10/1/2012	✓	Submit state and federal permit applications	8
Complete construction	12/31/2018	✓	Complete design	9/30/2014	✓	Complete design	10
Initial flooding and optimization period complete	12/31/2020	✓	Initiate construction	10/1/2014	✓	Initiate construction	1
			Complete construction	9/30/2016	✓	Construction status report	3
STA-1E Repairs and Modifications						Construction status report	3
Activity	Deadline		S-375 Expansion (100819)			Complete construction	12
PSTA Decommissioning complete	12/31/2022	✓	Activity	Deadline		Initial flooding and optimization period complete	12
Culvert repairs complete	12/31/2022	✓	Initiate design	9/30/2013	✓		
Cell 5 and 7 improvements complete	12/31/2022		Complete design	7/30/2015	✓	STA-5/6 Expansion: Compartment C	2
			Initiate construction	1/31/2016	✓	Activity	,
L-8 FEB (100813)			Complete construction	12/31/2018	✓	Initial flooding and optimization period complete	5
Activity	Deadline						_
Submit state and federal permit applications	1/31/2014	✓				C-139 FEB (100867)	
Construction status report	3/1/2014	✓	LEGEND			Activity	ſ
Construction status report	3/1/2015	✓	Flow Equalization Basin			Initiate design	10
Complete construction (begin multi-purpose ops)	12/31/2016	✓	Stormwater Treatment Area			Submit state and federal permit applications	8
Long term operations commence	12/31/2022		✓ Complete			Complete design	10
			• complete			Initiate construction	1
Projects Complete = 7 of 13				Construction status report	Ĩ		
Activities Complete = 57 of 74			Construction status report	Ę			
% Activities Complete = 77 %			Construction status report	Ę			

% Time Complete = 63 %

Deadline 5/31/2014 ✓

**Deadline** 4/1/2012

12/1/2012

3/1/2013

8/1/2013

6/30/2014 3/1/2015

3/1/2016

7/30/2016

7/29/2018

 Deadline

 10/31/2019
 ✓

 8/30/2020
 ✓

10/31/2021 1/31/2022

3/1/2023

3/1/2024

12/31/2024

12/31/2025

**Deadline** 5/31/2014 ✓

**Deadline** 10/31/2018

8/30/2019

10/31/2020

1/31/2021

3/1/2021 3/1/2022

3/1/2023

12/31/2023 12/31/2024

Complete construction

Operational monitoring and testing period complete

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