

CENTRAL AND SOUTHERN FLORIDA (C&SF) FLOOD RESILIENCY (Section 216) STUDY – Miami River and Nearby Basins (Reach C)

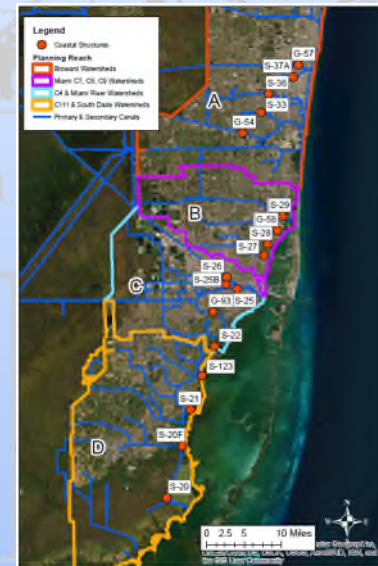
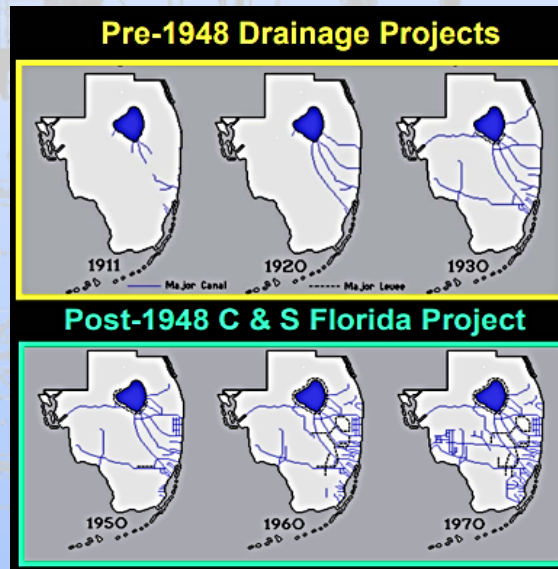


Draft Final Array of Alternatives
Public Meeting, July 10, 2026

Working Today to Build a Better Tomorrow



US Army Corps
of Engineers®





Housekeeping items



US Army Corps
of Engineers®
Jacksonville District

- This meeting is being recorded and transcribed.
- Please be muted during presentations.
- Please enter your contact information in the chat.
- There will be opportunities for project questions at the end of today's discussion.
- Please use the chat function to submit only “clarification” questions during a presentation.
- You are welcome to submit follow-up questions by email to CSFFRSComments@usace.army.mil



Statement of Intent



**US Army Corps
of Engineers®**
Jacksonville District

- The intent of this forum is to allow federal, state and local agencies, and tribal governments to exchange views, information, or advice relating to the Central and Southern Florida (C&SF) Flood Resiliency (Section 216) Study – Miami River and Nearby Basins (Reach C).
- This meeting is not a forum for official policy discussion or formulation.



Agenda



**US Army Corps
of Engineers®**
Jacksonville District

- Opening Remarks
- Project Background and Status
- Initial Array of Alternatives
- Hydrologic Model Refresher
- Draft Final Array of Alternatives
- Next Steps
- Integrated Strategy
- Closing Remarks



**US Army Corps
of Engineers®**
Jacksonville District

1. Opening remarks

Presenters:

Dr. Carolina Maran: Division Director, Flood Control and Water Supply
Planning and Chief of District Resiliency at the South Florida Water
Management District

Tim Gysan: Chief of Ecosystems Projects Section and Resilience
Coordinator with USACE



**US Army Corps
of Engineers®**
Jacksonville District

2. Project Background and Status

Presenter: Jennifer Smith



Project Overview



**US Army Corps
of Engineers®**
Jacksonville District

Project Goals: To develop, evaluate and recommend flood risk management measures and adaptation strategies to build flood resiliency in the communities served by the C&SF system, now and in the future

Study Objective: Enhance C&SF Project water control structures' functionality and capacity to reduce flood damages and improve resiliency caused by inundation and changed conditions within the Study Area over the 50-year period of analysis of 2035–2085

STUDY HIGHLIGHTS

Study focuses on the primary canals and coastal water control structures in the managed watersheds that are part of the C&SF project in Miami-Dade County (Reach C) using authority granted by Section 216 of the Flood Control Act of 1970.

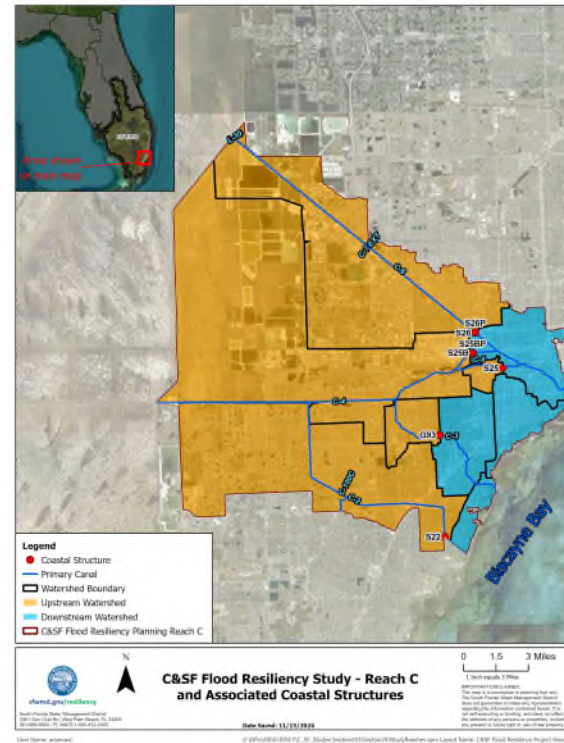
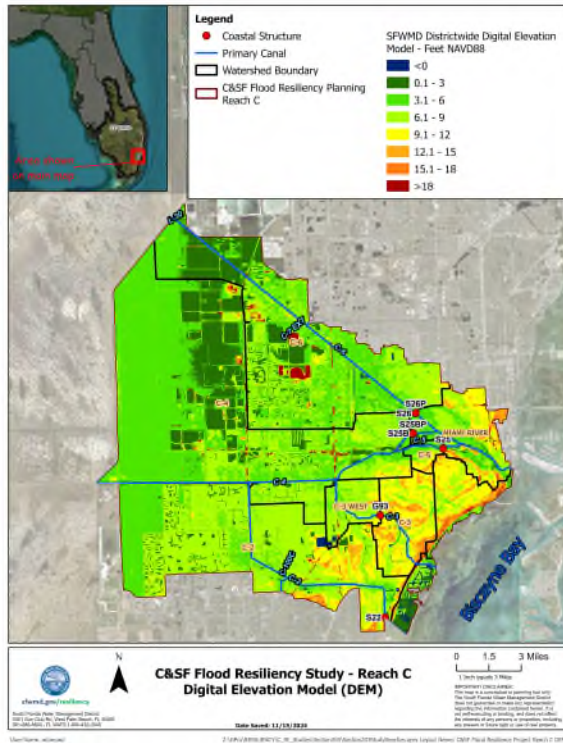
- Scoping meetings
- Successful Alternatives Milestone Meeting (with required documentation report summary, review plan, risk register, Project Mgmt. Plan, slides)
- Developed evaluation criteria with stakeholders' input
- Technical model analysis and adaptation strategy for sea level change
- Future without project (FWOP) MIKE SHE/ HYDRO modeling with sea level change
- In-person workshops
- Multiple vertical team coordination meetings during scoping and Vertical Team Alignment Memo development
- Tribal consultation
- HEC-FDA Modeling of Existing and FWOP
- Coordination with NFS and stakeholders to develop integrated approach (Miami Dade County, the City of Miami, City of Coral Gables, Miami International Airport)
- Targeting TSP Milestone in March 2027



Project Study Area – Managed Basins Reach C



US Army Corps
of Engineers®
Jacksonville District





Project Study Area – Managed Basins Reach C



US Army Corps
of Engineers®
Jacksonville District

MANAGED BASIN	PRIMARY CANAL	PRIMARY WATER CONTROL STRUCTURE
C-2 Basin	C-2 Canal	S-22 Gated Spillway
C-3 Basin	C-3 Canal	G-93 Gated Spillway
C-4 Basin	C-4 Canal	S25B Gated Spillway
C-5 Basin	C-5 Canal	S-25 Gated Spillway
C-6 Basin	C-6 Canal	S-26 Gated Spillway





**US Army Corps
of Engineers®**
Jacksonville District

3. Plan Formulation - Refresher

Presenter: Erik Adamiec / Zulamet Vega-Liriano



**US Army Corps
of Engineers®**
Jacksonville District

Plan Formulation Strategy

Study Goal

To develop, evaluate and recommend flood risk management measures and adaptation strategies to build flood resiliency in the communities served by the C&SF system, now and in the future.

Problems

The existing C&SF system was not designed to manage the combination of runoff, storm surge, high tides and a high groundwater table, which is exacerbated by sea level rise, extreme rainfall events and land development patterns. Therefore, natural, agricultural and highly-dense urban areas in south Florida are currently experiencing significant flooding and conditions are expected to worsen in the future. Enhancements to the existing C&SF infrastructure are necessary to provide flood protection and water supply to more than 9 million people.

Opportunities

- Manage life safety risk caused by inundation.
- Manage risk to historical and cultural resources.
- Unify coordination and build trust with stakeholders and the public.

Objectives

Enhance the C&SF system water control and salinity control structure's functionality and capacity to reduce flood damages caused by inundation and changed conditions and to improve resiliency within southern Palm Beach, Broward and Miami Dade counties over 50-year period of analysis from 2035-2085.

Constraints

- Avoid, minimize and/or mitigate induced flood risk to other areas within the study area over the period of analysis.
- Avoid, minimize, and/or mitigate impacts to objectives and authorized benefits of other Federal studies and projects within the study area.

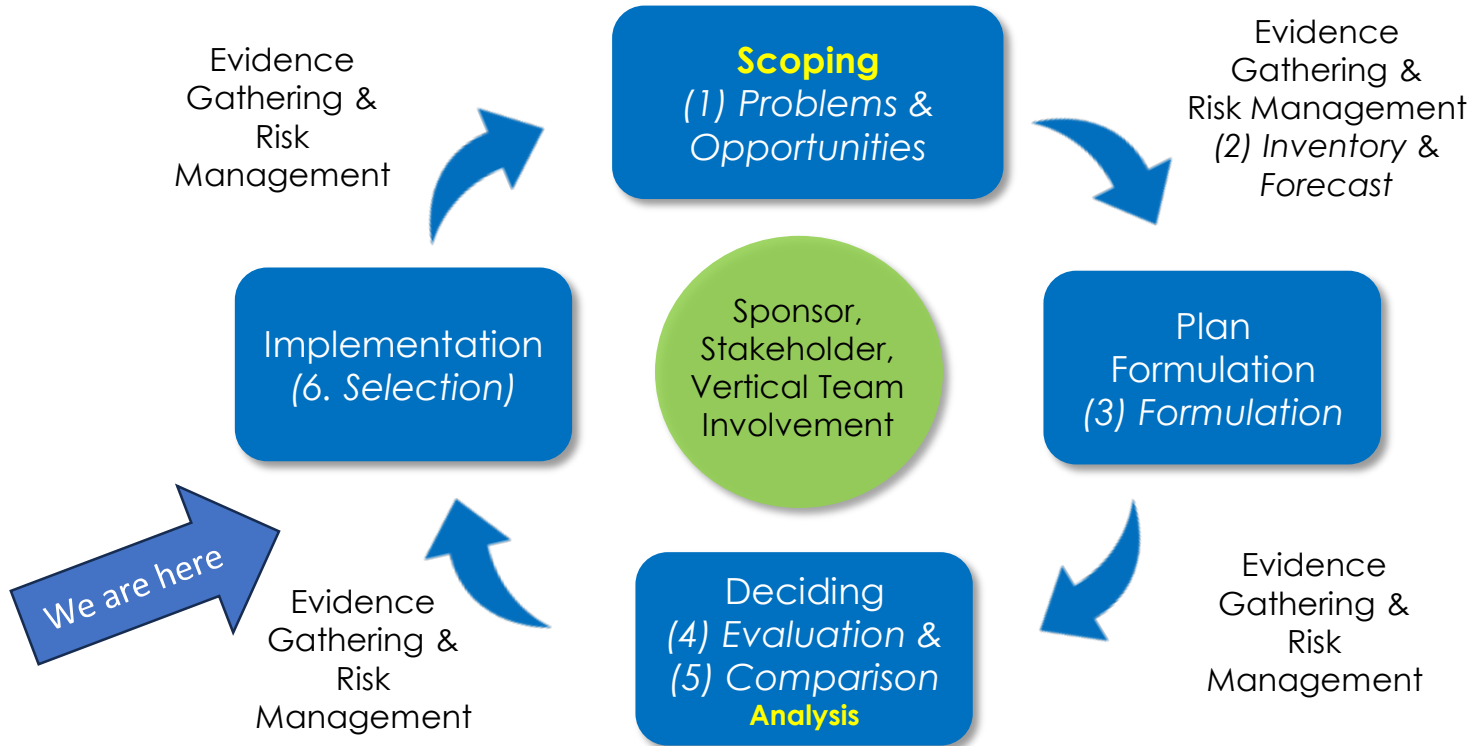
USACE Risk Informed Planning Guidance (ER 1105-2-103)



USACE -Risk-Informed Planning Process



US Army Corps
of Engineers®
Jacksonville District



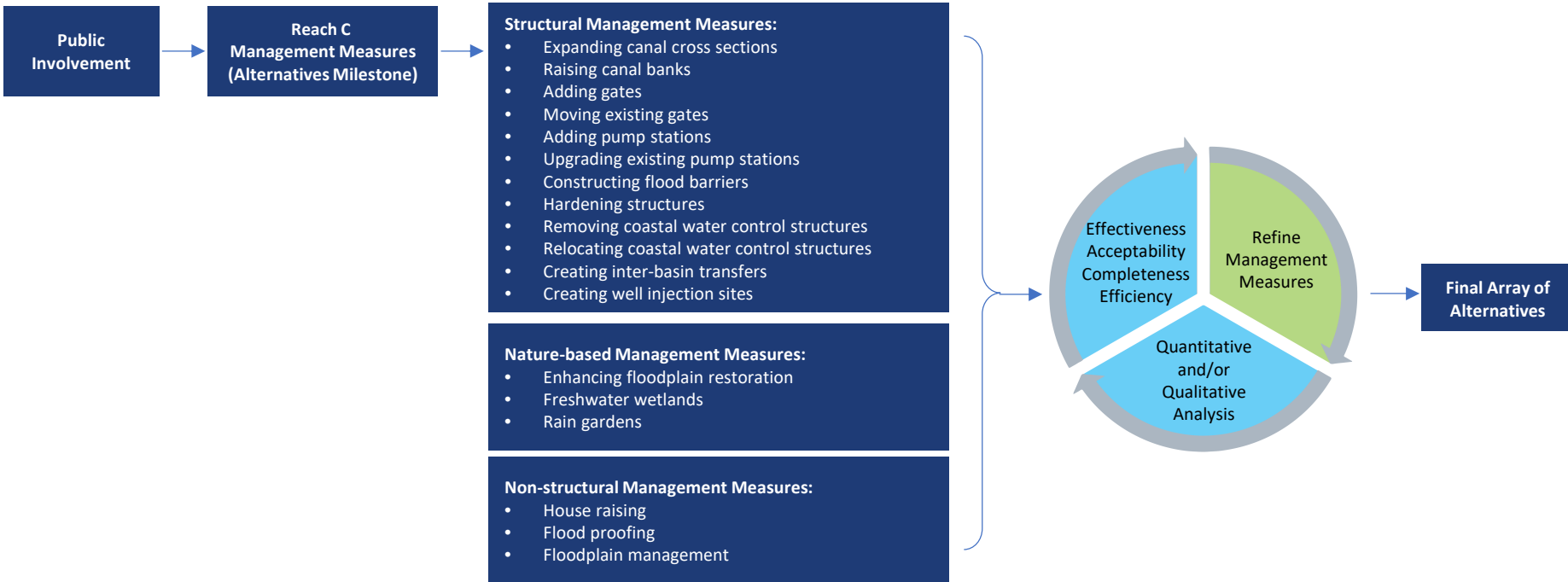
(#) Shows the planning steps within the risk-informed planning process



Study Approach & Final Array Screening



US Army Corps
of Engineers®
Jacksonville District





Initial Array of Alternatives



**US Army Corps
of Engineers®**
Jacksonville District

- No Action
- Structural - Structure Hardening and Canal Improvements (retrofitting or increasing structure capacity)
- Structural - Active Management (forward pumps)
- Nature and Nature-Base Features (NNBF)
- Non-Structural
- Structural Hardening and Forward Pumps
- Structural - Structure Hardening and Canal Improvements (retrofitting or increasing structure capacity) Add forward pumps + canal improvements



Initial Array of Alternatives



US Army Corps
of Engineers®

Initial Array of Alternative (Ranking High = 1, Med

		A-1	A-2	A-4	A-5
		No Action	Structure Hardening and Canal Improvements	Structural - Active management (forward pumps)	NNBF
Screening					
Planning Objective					
Meet the Planning Objective (Yes, No)		No	Yes	Yes	Yes
Constraints					
Constraint 1 (Low, Medium, High) Low - The alternative will have a low likelihood to minimize and/or mitigate impacts to WQ in the project area Medium - The alternative will have a medium likelihood to minimize and/or mitigate impacts to WQ in the project area High - The alternative will have a high likelihood to minimize and/or mitigate impacts to WQ in the project area		Low, "no action" means no new construction-related impacts, the existing system's ability to manage water quality will likely degrade over time due to aging infrastructure, increasing urbanization, and climate change impacts, leading to more frequent and severe water quality problems.	Medium. The structural enhancements themselves likely have minimal impact on water quality, either positive or negative. Canal improvements (dredging) could have short-term negative impacts during construction, but could be managed with BMPs to minimize impacts. Long-term, could slightly improve water quality if dredging removes pollutants.	Medium. Pumps themselves typically don't improve water quality. They might indirectly worsen it in the short term by stirring up sediment. The main water quality concern is where the pumped water is discharged. If that receiving water body is already impaired, increased discharge could negatively impact it. Proper permitting and BMPs are essential to minimize impacts. Pumps will provide an increased defense against saltwater intrusion	Highly, NBS are inherently designed to improve water quality. Practices like constructed wetlands, bioswales, and riparian buffers filter pollutants from stormwater runoff, reducing nutrient loading and improving water clarity.



**US Army Corps
of Engineers®**
Jacksonville District

4. Hydrologic Modeling Refresher

Tools, Examples, and Exploratory Testing Informing the Final Array

Presenter: Walter Wilcox

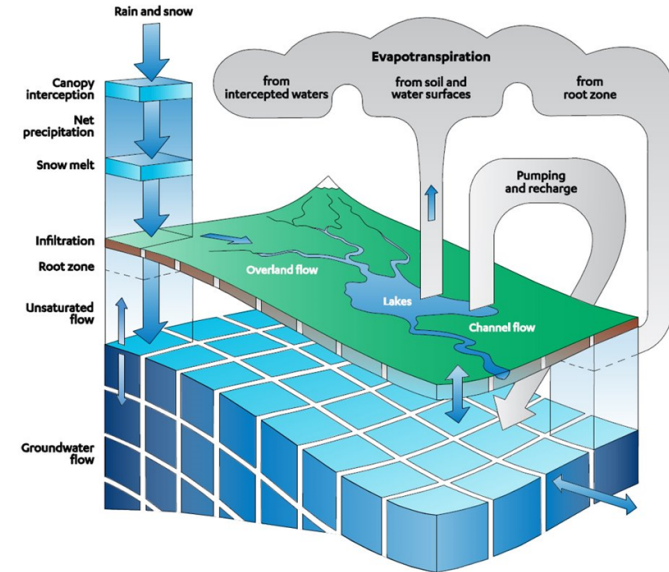


H&H Modeling Approach and Implementation



US Army Corps
of Engineers®
Jacksonville District

- Utilize available **MIKE SHE/HYDRO models** with successful application history in the SFWMD Flood Protection Level of Service
 - These models are also “approved for use” by USACE
- Available models have been extended to include the downstream coastal areas and updated with the latest available data
 - Reach C land-use based on the Florida Land Use Cover Classification System (FLUCCS) categorization codes is available for the model domain through the Florida Department of Environmental Protection (FDEP) for a range of years between 2017 and 2019.
 - The future conditions land use was informed by Miami-Dade County Future Land Use 2030.
- The focus of this study is on the primary system; however, the **models include a high level of detail within the secondary/tertiary systems.**





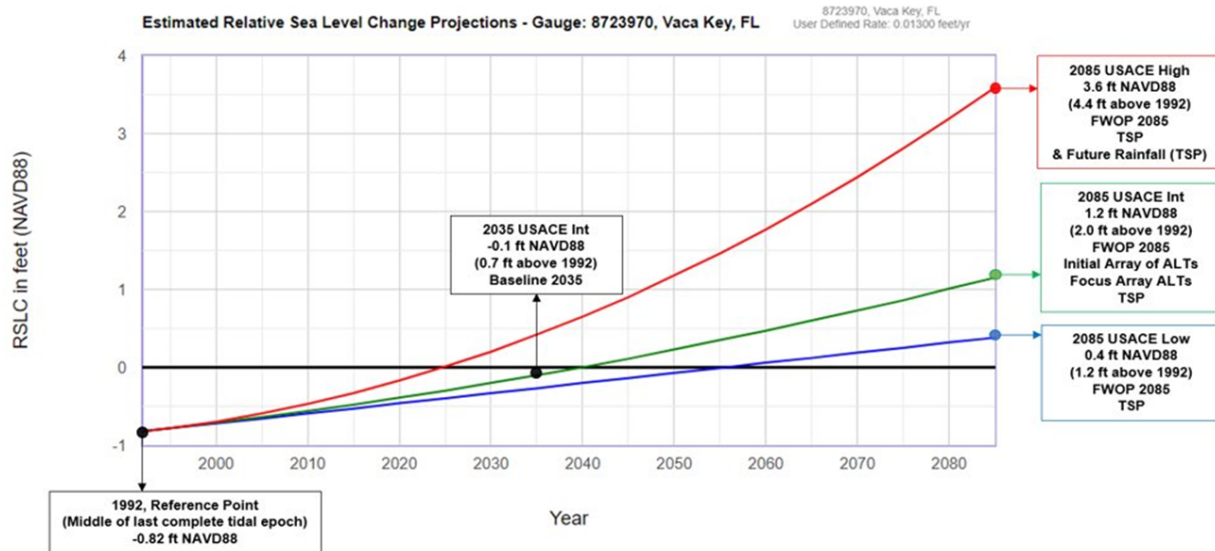
Modeling Approach: Climate Change Strategy



US Army Corps
of Engineers®
Jacksonville District

Sea Level Change

- SLC will be incorporated into the modeling as a boundary condition. The coastal water level for the Base Year (2035) was modified using linear superposition, using the Intermediate curve. The Future conditions will assess project performance for the Low, Intermediate, and High curves for 2085 – denoted as 2085l, 2085i, 2085h, respectively





Probability Events: Evaluation of Compound Flooding



US Army Corps
of Engineers®
Jacksonville District

- The total water level (i.e., compound flooding) due to multiple flood sources, including rainfall runoff, groundwater and coastal forcings will be simulated.
- Hydrologic & Hydraulic model simulations include an array of rainfall and coastal return frequency events. Sea level change is included in the coastal water level data & run in parallel for sea level scenarios.
- For the Initial Array evaluation, the following conditions were examined:
 - 2-year Surge, 25-year Rainfall for Intermediate SLC (2S25R85i)
 - 20-year Surge, 25-year Rainfall for Intermediate SLC (20S25R85i)
 - 20-year Surge, 25-year Rainfall for High SLC (20S25R85h)

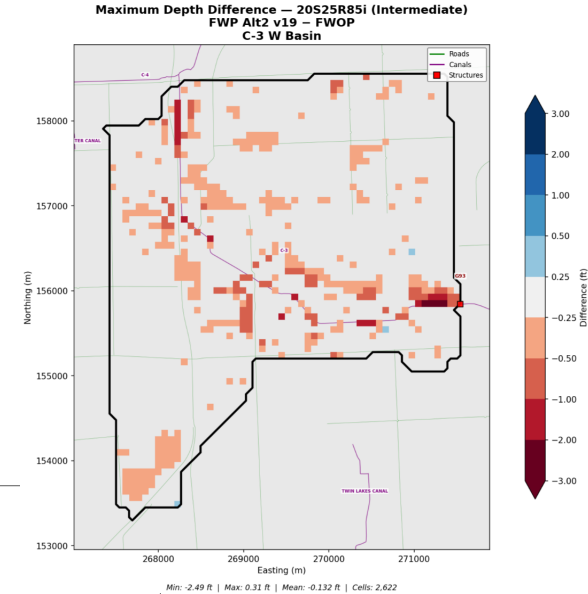
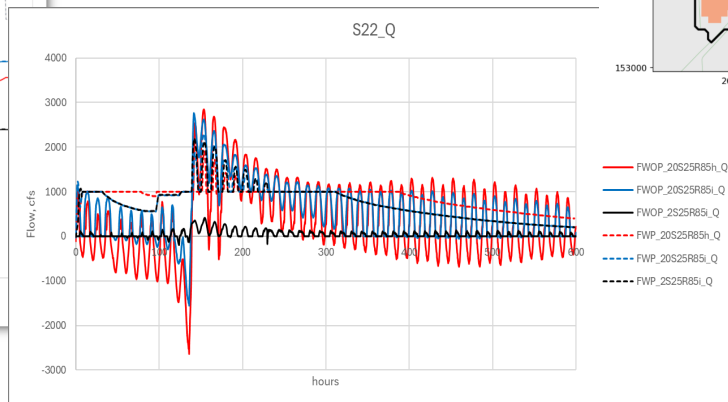
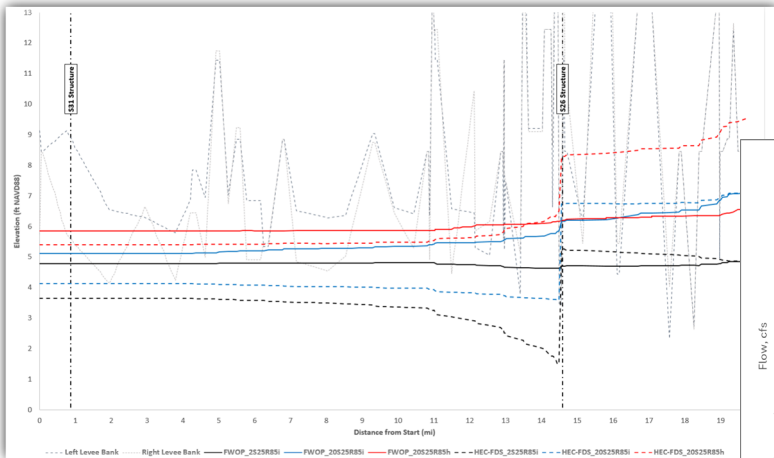
Coastal water level Return Period (CHS data)	Rainfall return period (NOAA Atlas14)
2-year	5-year
2-year	10-year
10-year	10-year
2-year	25-year
20-year	25-year
2-year	100-year
100-year	100-year
2-year	500-year



Viewing & Evaluating Model Results



- Several ways of examining & summarizing modeling data are available
- For the exploratory testing, these include:
 - Maximum Canal Profiles
 - Depth Difference Maps
 - Structural Performance (Stages + Flows)



Min: -2.49 ft | Max: 0.31 ft | Mean: -0.132 ft | Cells: 2,622



Future Without Project (FWOP) Results Summary

20-yr coastal, 25-yr rainfall



U.S. Army Corps
of Engineers
South Florida Water Management District

Canal	Stage Profile	Structure	Performance Trends with Increasing SLC				
			Forward Discharge Capability	Peak HW/TW	Peak Discharge Delay	Peak Backflow	Pump Operation
C2	Peak stage > embankment (4.5 of 13 miles) - Residential - Natural - Commercial - Residential				FWOP High		
C3	Peak stage > embankment (2.5 of 8 miles) Residential/golf course				FWOP Int and FWOP High		
C4	Peak stage > embankment (2.5 of 16 miles) High density residential and commercial The C4 Emergency Detention contributes to a reduction in the peak canal stages				FWOP Int and FWOP High		No pumping in FWOP High
C5	Peak stage > embankment (3.2 of 3.5 miles) Residential				FWOP Int and FWOP High		
C6	Peak stage > embankment (3 of 20 miles) - Industrial - Park/natural areas				FWOP High		No pumping in FWOP High



Examples of Initial Exploratory Testing of Management Measures



US Army Corps
of Engineers®
Jacksonville District

- **Structure Hardening**
 - **Modify all tidal structures to block tidal inflow from 100year Surge, 2085 high sea level**
 - **Modify overflow weirs, sluice gate heights, and upstream cross section to eliminate bypass flow.**
- **Structure Gravity Improvements**
 - Add additional gate at G-93
 - Add two additional gates to S-25
 - Test with pre-storm draw down operations and assuming hardening
- **Adding Pumps or Increasing Pump Capacity at Structures**
 - Increasing Canal Conveyance – Modifying Cross Sections
 - Pump Capacity Sensitivity



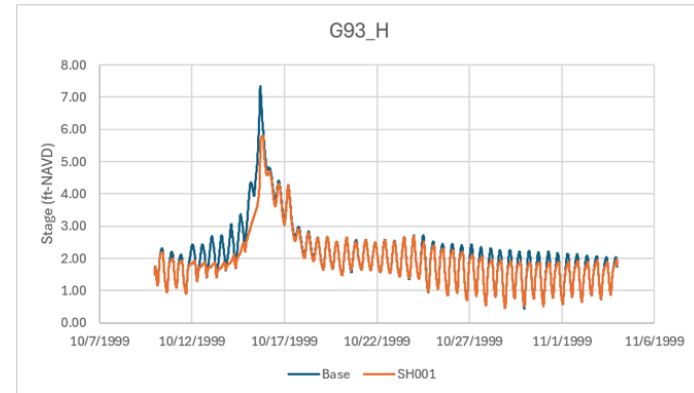
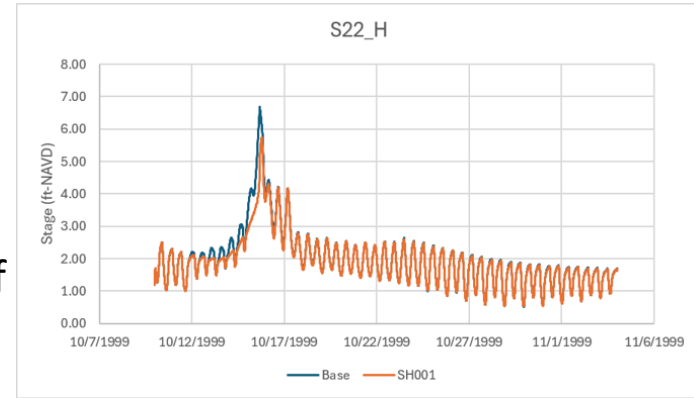
Example Of Structure Hardening Testing- Structure HW



US Army Corps
of Engineers®
Jacksonville District

- Test: FWP_20S25R85i_SH001
 - Shows reduced peak stages at all structures (0.33 ft - 1.53 ft)
 - Reduced overland stages upstream of tidal structures

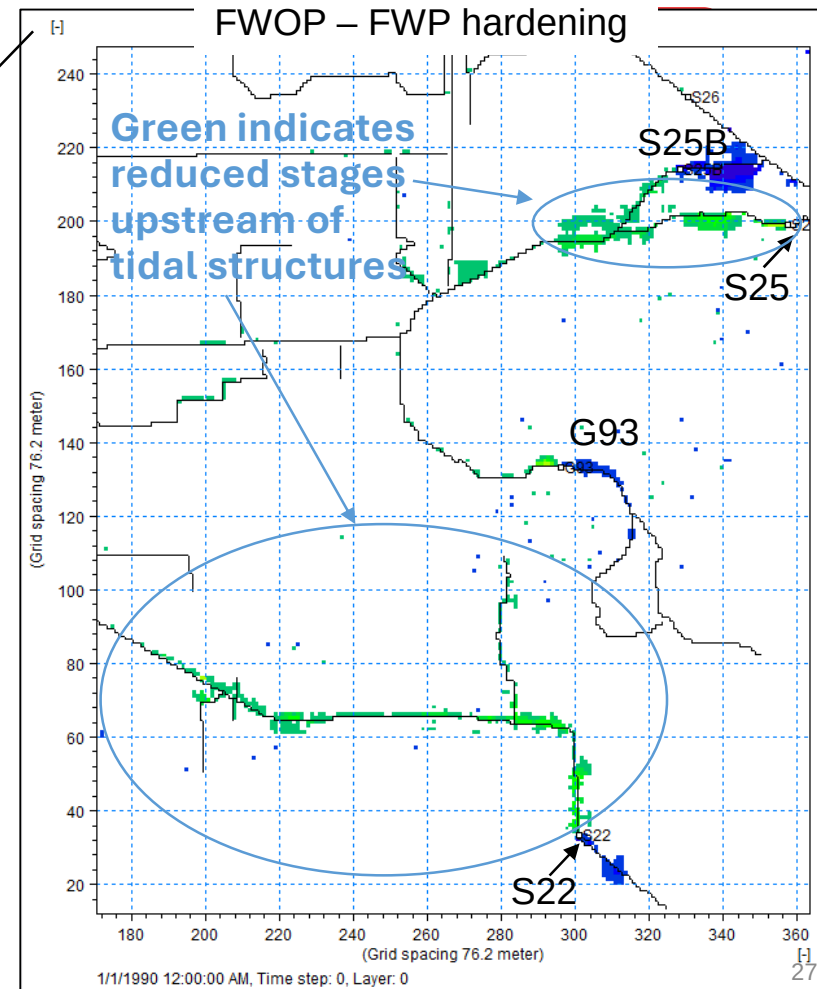
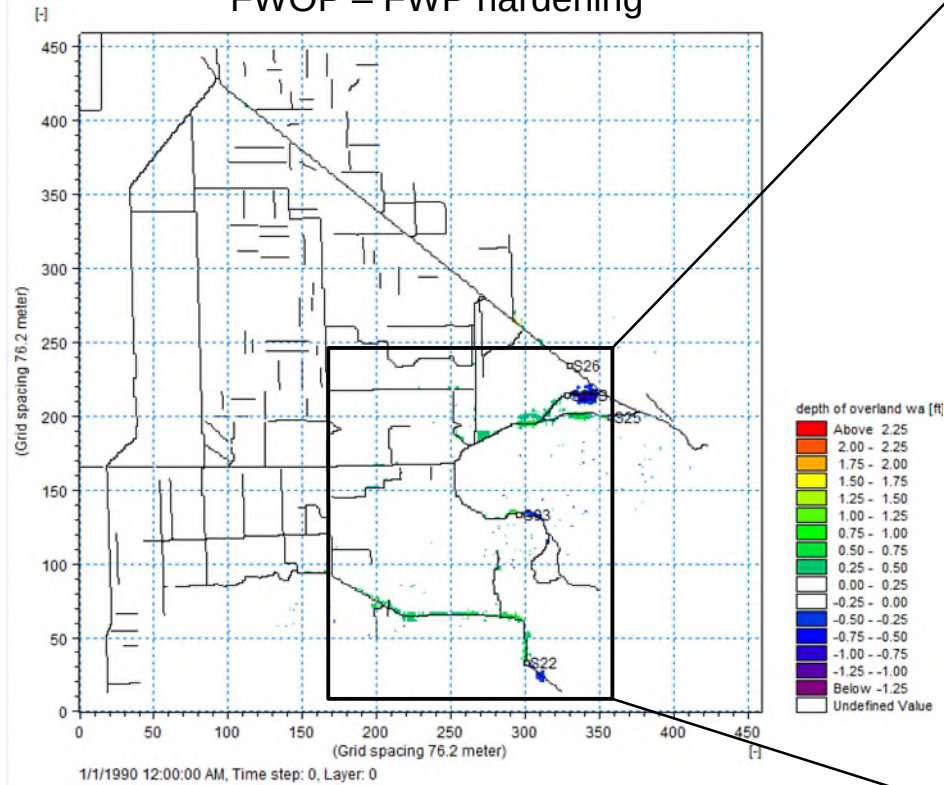
Location	Peak Difference (ft)
S22_H	0.95
G93_H	1.53
S25_H	1.31
S25B_H	0.60
S26_H	0.33





Example Of Structure Hardening Testing – Depth Difference

FWOP – FWP hardening





Examples of Initial Exploratory Testing of Management Measures



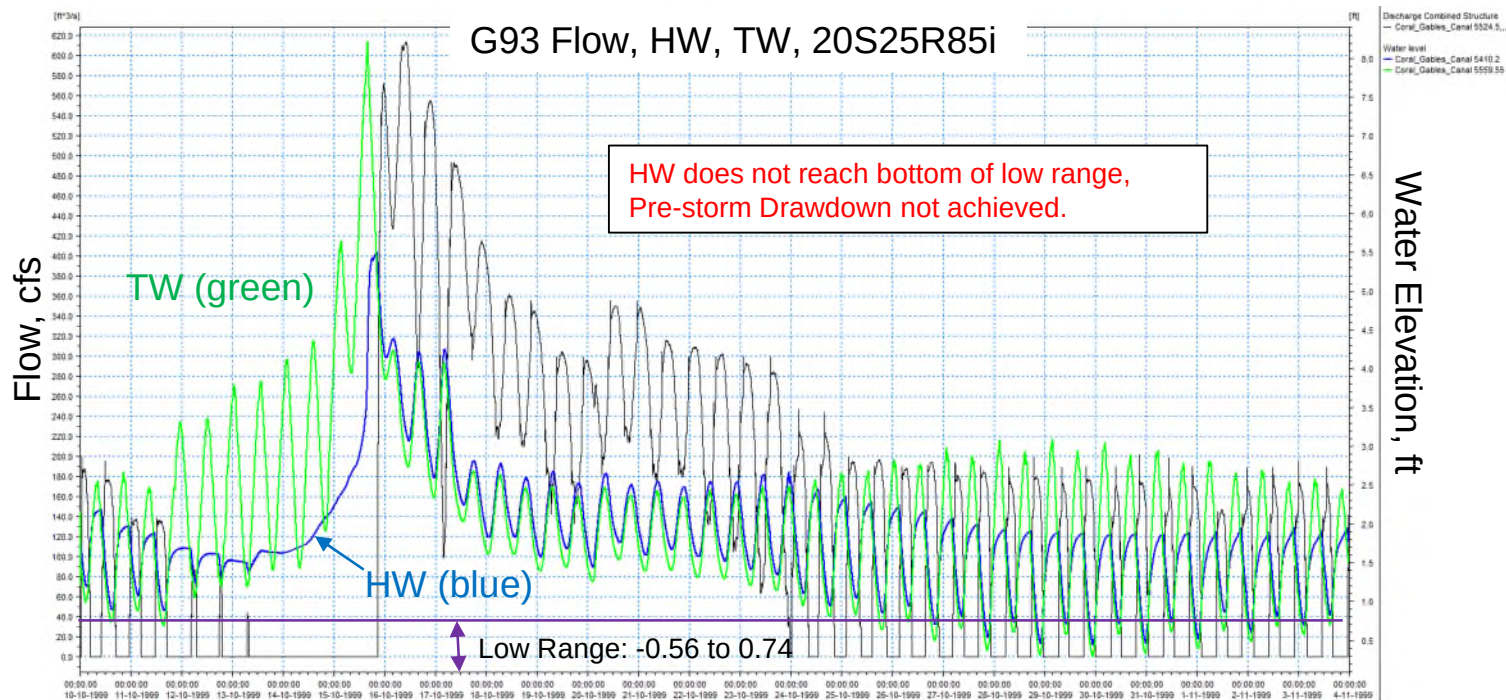
US Army Corps
of Engineers®
Jacksonville District

- Structure Hardening
 - Modify all tidal structures to block tidal inflow from 100year Surge, 2085 high sea level
 - Modify overflow weirs, sluice gate heights, and upstream cross section to eliminate bypass flow.
- **Structure Gravity Improvements**
 - **Add additional gate at G-93**
 - **Add two additional gates to S-25**
 - **Test with pre-storm draw down operations and assuming hardening**
- Adding Pumps or Increasing Pump Capacity at Structures
 - Increasing Canal Conveyance – Modifying Cross Sections
 - Pump Capacity Sensitivity



US Army Corps
of Engineers®
Jacksonville District

Example of Structure Gravity Improvements at G-93





Examples of Initial Exploratory Testing of Management Measures



US Army Corps
of Engineers®
Jacksonville District

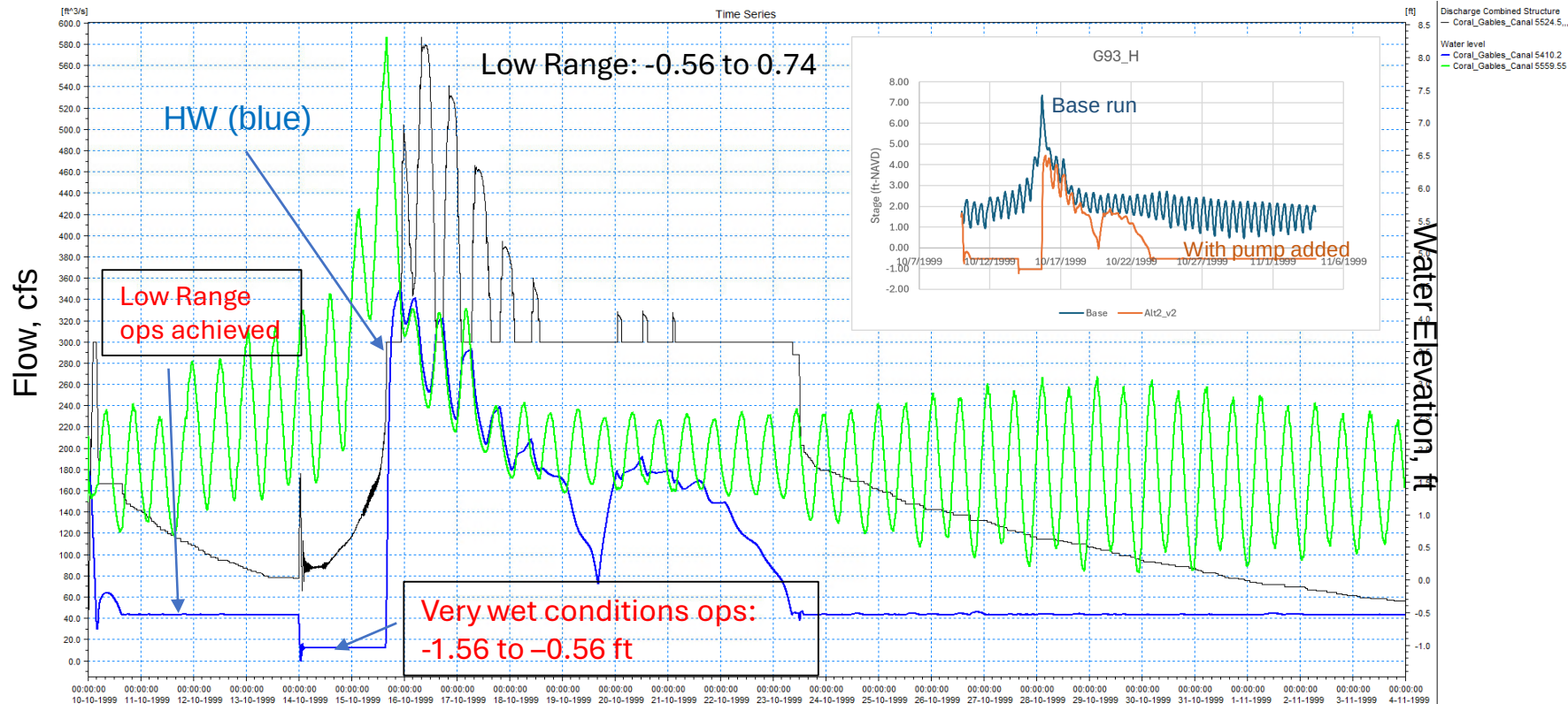
- Structure Hardening
 - Modify all tidal structures to block tidal inflow from 100year Surge, 2085 high sea level
 - Modify overflow weirs, sluice gate heights, and upstream cross section to eliminate bypass flow.
- Structure Gravity Improvements
 - Add additional gate at G-93
 - Add two additional gates to S-25
 - Test with pre-storm draw down operations and assuming hardening
- **Adding Pumps or Increasing Pump Capacity at Structures**
 - **Increasing Canal Conveyance – Modifying Cross Sections**
 - **Pump Capacity Sensitivity**



US Army Corps
of Engineers®

Example Of Operations at G-93 With Added Pump

Pre-storm drawdown can be achieved with pump at G93- 20S25R85i

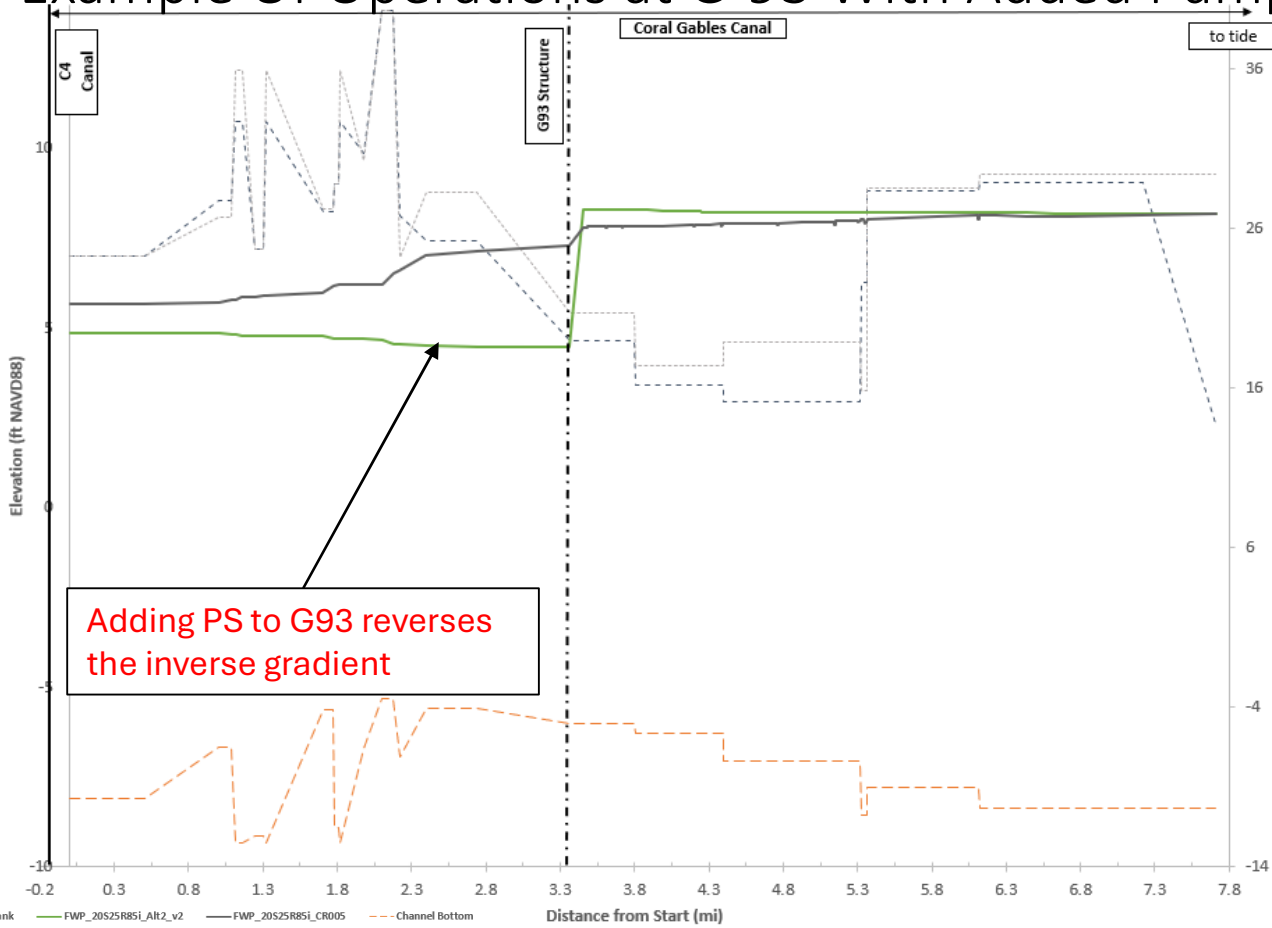




Example Of Operations at G-93 With Added Pump



US Army Corps
of Engineers®
Jacksonville District



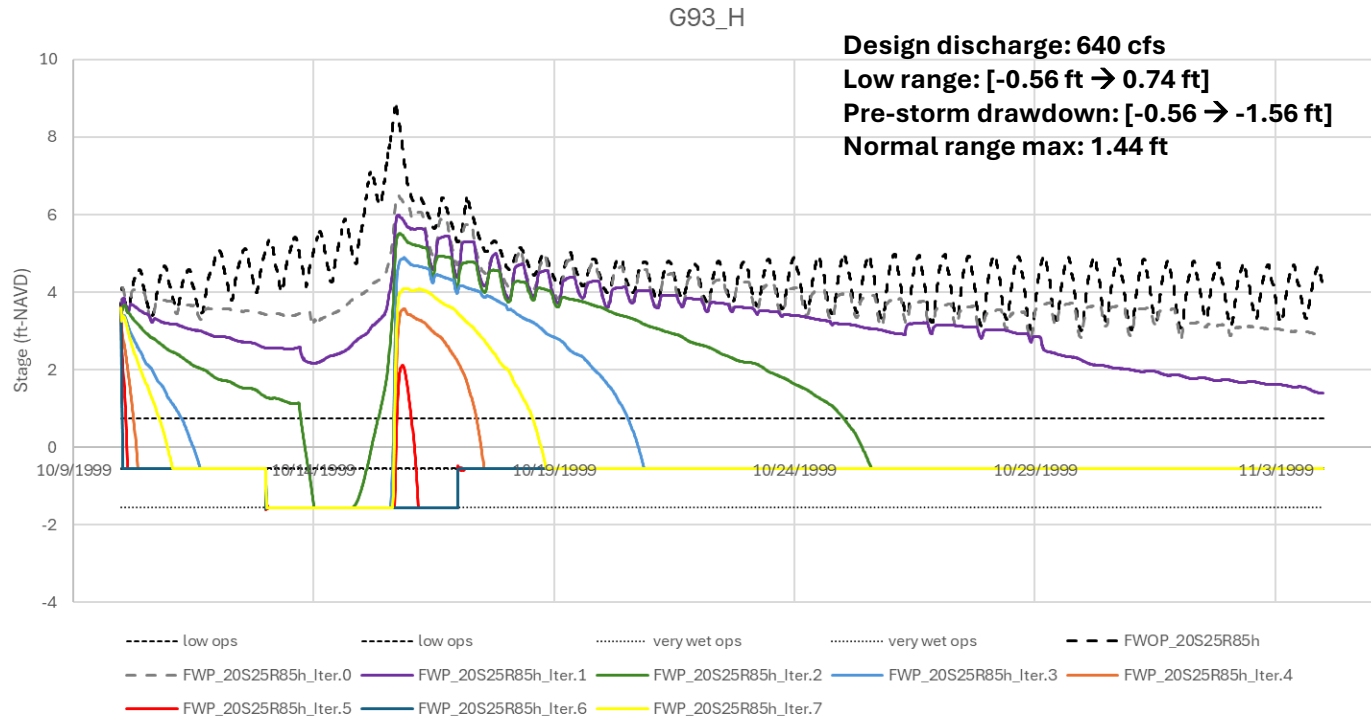


Example Pump Sizing Sensitivity Testing @ G-93



Smallest pump size to achieve pre-storm drawdown: **Iteration 3**

Structure	Pump Capacity [cfs]							
	x0	x0.5	x0.75	V19-HECFDA x1	x1.5	x2	x3	Iteration_7
	Iteration_0	Iteration_1	Iteration_2	Iteration_3	Iteration_4	Iteration_5	Iteration_6	
G93	0	150	225	300	450	600	900	300



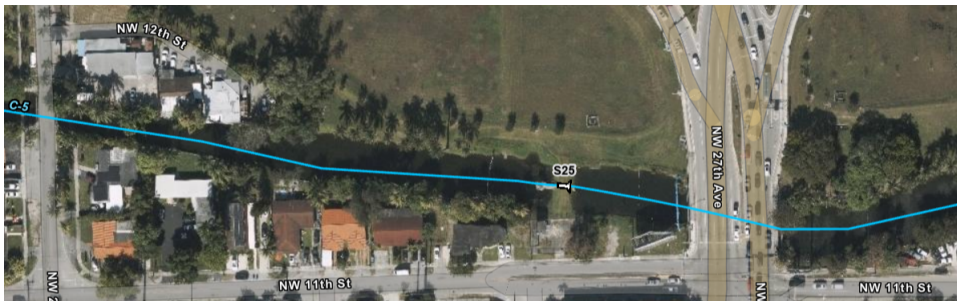


Draft Final Array Site Considerations



US Army Corps
of Engineers®
Jacksonville District

- Existing sites for S-22, G-93 were not large enough to support new proposed facilities
- S-25: existing topography and adjacent features (bridge) would have resulted in undesirable backwater effects for different facilities and operation of the same.
- New locations were chosen downstream of the structure which offered the highest topography to enhance flood risk reduction



G93 Upstream view of
Historical Features



**US Army Corps
of Engineers®**
Jacksonville District

5. Draft Final Array of Alternatives

Presenter: Walter Wilcox



Summary of Draft Final Array of Alternatives



**US Army Corps
of Engineers®**
Jacksonville District

Alternatives proposed in the Final Array:

- Alternatives – 7S, 7B and 8 will be compared to No Action (Future Without Project)
- Each increasing in complexity or level of intervention (and associated cost).
- Alternatives focus on improvements to the inland watersheds; targeted coastal watershed modifications may be considered when optimizing the selected plan

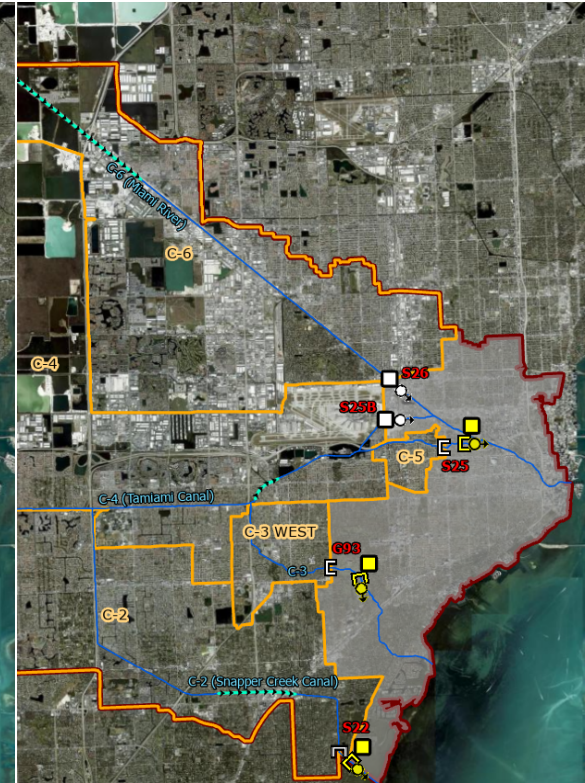
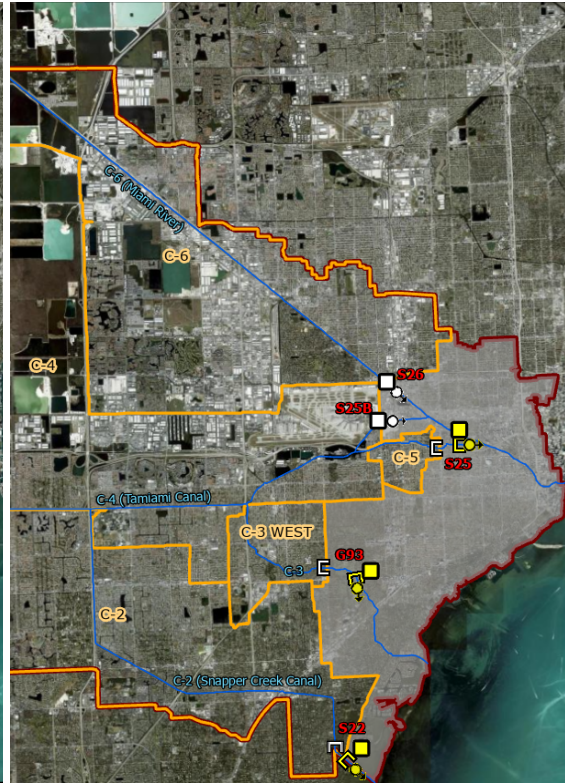
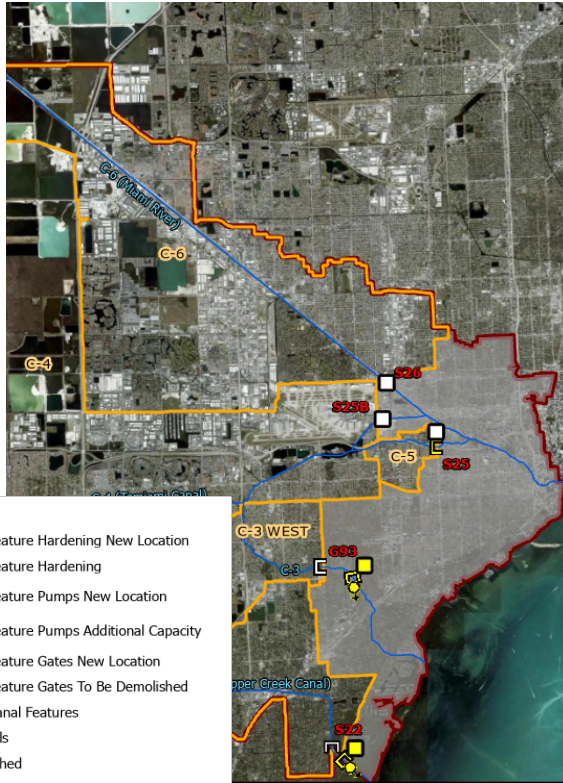
Infrastructure modifications proposed in Final Array:

- Tidal gate structure improvements
 - Hardening, Capacity (Gravity or Pump)
 - Changes to pre-storm operation levels
- Primary C&SF Canal Conveyance Capacity improvements
 - Channel improvements to improve areas of constricted flow; not intended to represent large-scale, uniform canal expansion or widening
 - Bridges and/or culvert enhancements to address significant constrictions

ALTERNATIVE 7S

ALTERNATIVE 7B

ALTERNATIVE 8



- Legend**
- Final Array Feature Hardening New Location
 - Final Array Feature Hardening
 - Final Array Feature Pumps New Location
 - ⊗ Final Array Feature Pumps Additional Capacity
 - Final Array Feature Gates New Location
 - Final Array Feature Gates To Be Demolished
 - Final Array Canal Features
 - Primary Canals
 - Study Watershed
 - Downstream Area
 - C&SF Flood Resiliency Planning Reaches



Summary of Draft Final Array of Alternatives

Project Type	Project Type Detail	Alternatives		
		Alt7s	Alt7b	Alt8
Primary Structure Modification	Gates	S-22 move to Section 216 location; No gate expansion, G-93 move to Section 216 location; add third gate (3 EA x 10 ft width), S-25 change to spillway - add 1 add'l gate (2 EA x 8 ft width)	S-22 move to Section 216 location; No gate expansion, G-93 move to Section 216 location; no gate expansion, S-25 move to Section 216 location; change to spillway - add 1 add'l gate (2 EA x 8 ft width)	S-22 move to Section 216 location; No gate expansion, G-93 move to Section 216 location; add third gate (3 EA x 10 ft width), S-25 move to Section 216 location; change to spillway - add 2 add'l gates (3 EA x 8 ft width)
	Pump	S-22: New 1500 CFS - C-2+, G-93: New 450 CFS - C-3W+	S-22: New 1000 CFS - C-2+, G-93: New 300 CFS - C-3W+ S-25BP: Increase capacity by 400 CFS - C-4 S-25: New 160 CFS - C-5+ S-26: Increase capacity by 400 CFS - C-6	S-22: New 1500 CFS - C-2+, G-93: New 320 CFS - C-3W+ S-25BP: Increase capacity by 900 CFS - C-4 S-25: New 260 CFS - C-5+ S-26: Increase capacity by 1135 CFS - C-6
	Hardening	S-22: (C-2+), G-93: (C3W+), S-25B: (C-4), S-25: (C-5), S-26: (C-6)	S-22: (C-2+), G-93: (C3W+), S-25B: (C-4), S-25: (C-5+), S-26: (C-6)	S-22: (C-2+), G-93: (C3W+), S-25B: (C-4), S-25: (C-5+), S-26: (C-6)

Note: If not listed, the structure retains its current geometry & capacity in the Alternative



Summary of Draft Final Array of Alternatives



US Army Corps
of Engineers®
Jacksonville District

Project Type	Project Type Detail	Alternatives		
		Alt7s	Alt7b	Alt8
Primary C&SF Canals	Canal Cross Section Modification			C-2 Canal (~ 3 mi of Snapper Creek Canal), C-4 Canal (~ 1 mi), C-6 Canal (~6.2 mi)
	Culverts/Bridges	G-93: Leave pedestrian bridge	G-93: Leave pedestrian bridge	G-93: Leave pedestrian bridge
Primary Structure Modification	Pre-storm Drawdown	All managed watersheds, all alternatives	All managed watersheds, all alternatives	All managed watersheds, all alternatives
Assumed Inflows from Secondary to Primary	Pre-storm Drawdown	All managed watersheds, all alternatives		



Example of Array Alternative Output

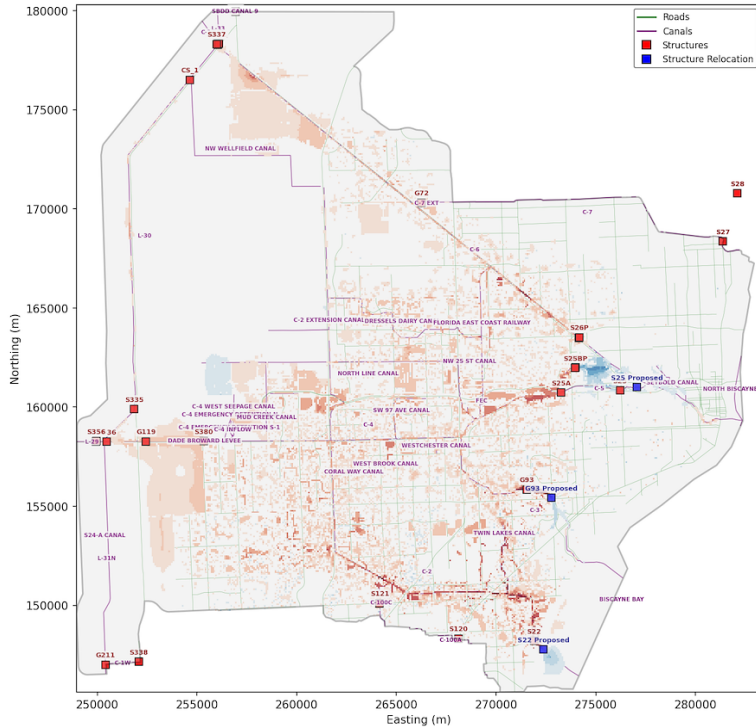
Depth Difference Maps



US Army Corps
of Engineers®
Jacksonville District

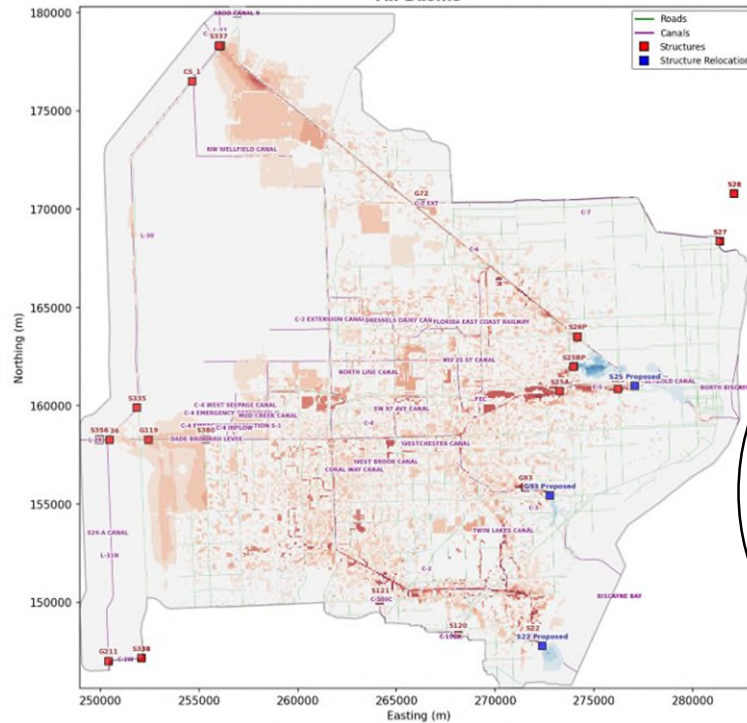
Alt7s Depth Difference for 20S25R85i

Maximum Depth Difference
FWP_20S25R85i_Alt7s - FWOP_20S25R85i
All Basins



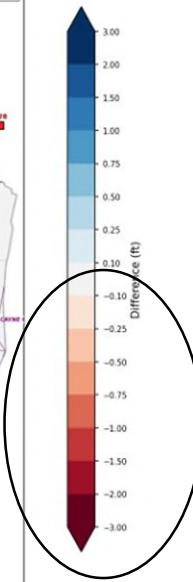
Alt8 Depth Difference for 20S25R85i

Maximum Depth Difference
FWP_20S25R85i_Alt8 - FWOP_20S25R85i
All Basins



Min: -3.31 ft | Max: 1.21 ft | Mean: -0.074 ft | Cells: 137,444

Red
indicates
degree
of flood
depth
decrease
with
Alternative





Example of Array Alternative Output

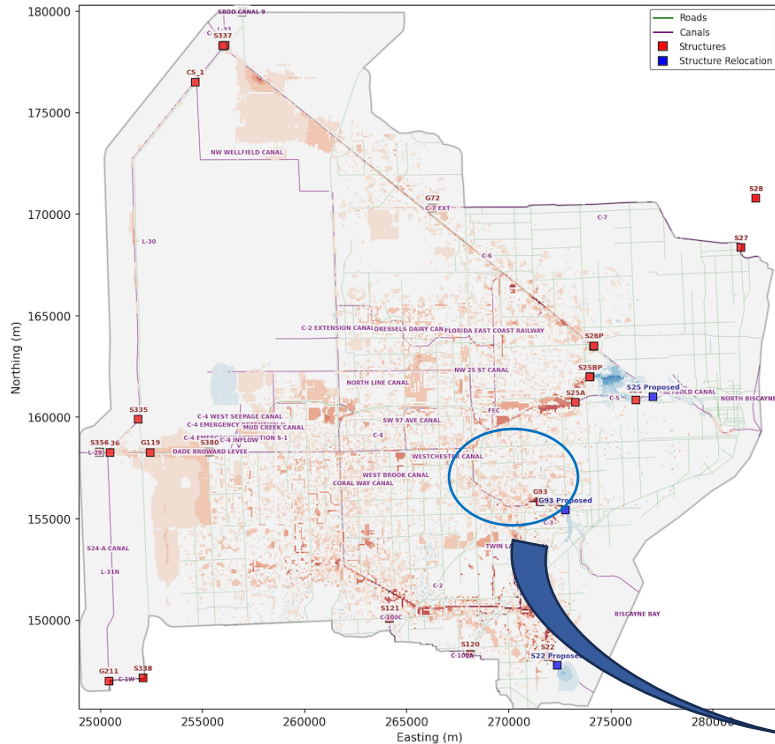
Depth Difference Maps – C3W/G-93 Focus



US Army Corps
of Engineers®
Jacksonville District

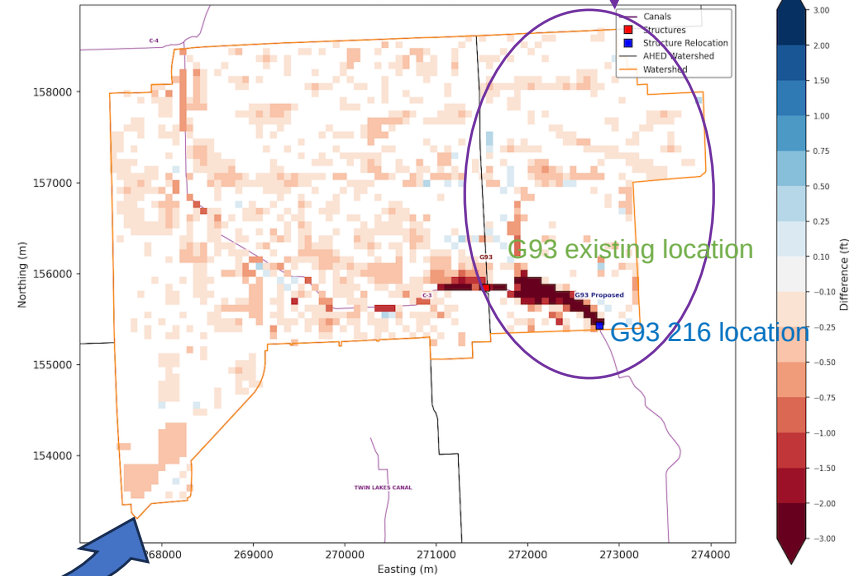
Alt7s Depth Difference for 20S25R85i

Maximum Depth Difference
FWP_20S25R85i Alt7S – FWOP_20S25R85i
All Basins



Depth Difference of C-3W Watershed with added area due to 216 location of G93

Maximum Depth Difference
FWP_20S25R85i Alt7S – FWOP_20S25R85i
C-3 W Basin





Example of Array Alternative Output

Depth Difference Maps – C5/S25 Focus



US Army Corps
of Engineers®
Jacksonville District

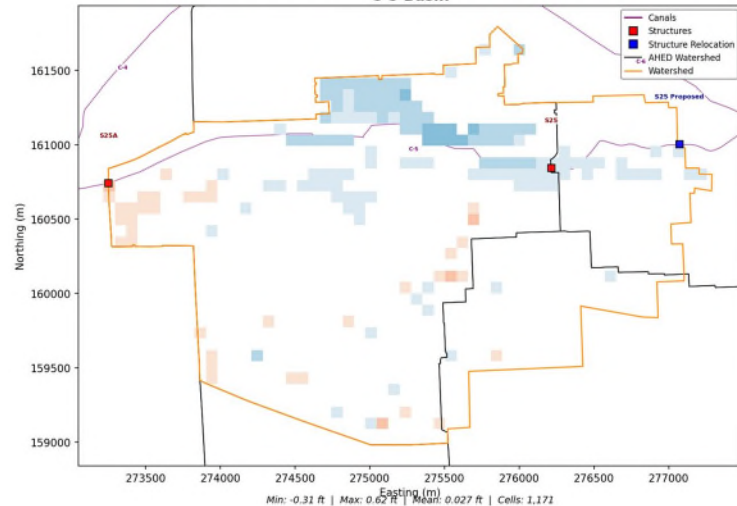
Alt7s Depth Difference for 20S25R85i

- S25 hardening and at original location
- No pump for Alt7s

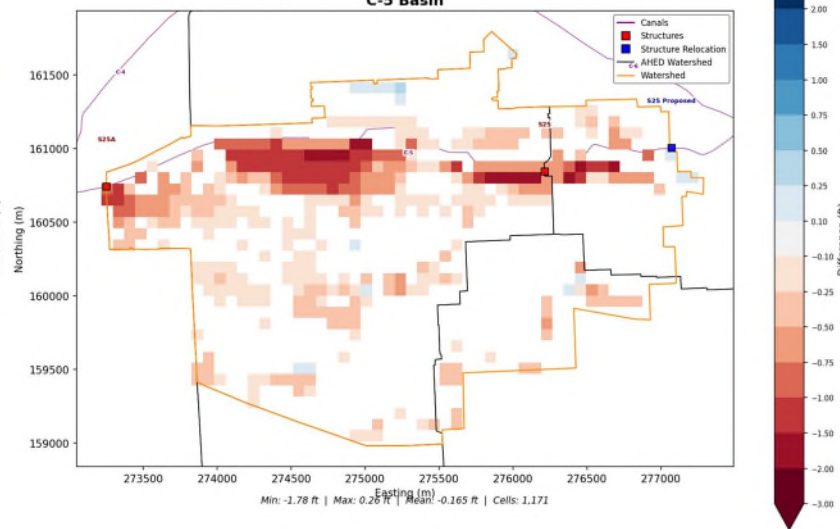
Alt8 Depth Difference for 20S25R85i

- S25 hardening and at 216 location
- 2 gates and 260 cfs pump added to S25

Maximum Depth Difference
FWP_20S25R85i_Alt7S – FWOP_20S25R85i
C-5 Basin



Maximum Depth Difference
FWP_20S25R85i_Alt8 – FWOP_20S25R85i
C-5 Basin



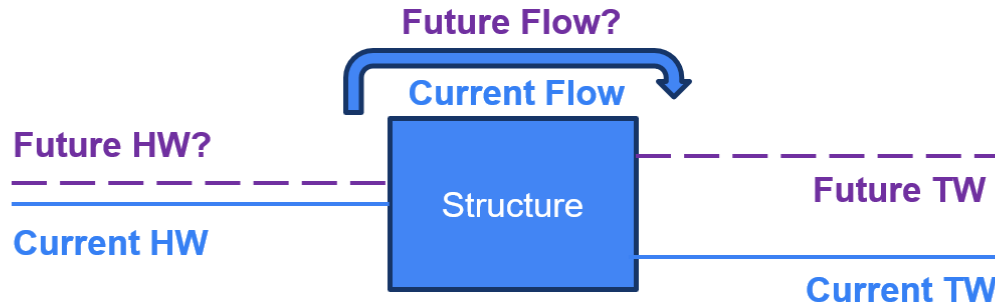


US Army Corps
of Engineers®
Jacksonville District

Example of Array Alternative Output Structure Effectiveness Table

Focusing in on the performance of the “primary” infrastructure, a normalized index examining structure headwater (HW) and volume conveyed gives additional insight:

Basin	Structure	ECB	2085L				2085i				2085h			
			FWOP	Alt7S	Alt7B	Alt8	FWOP	Alt7S	Alt7B	Alt8	FWOP	Alt7S	Alt7B	Alt8
C-2 Basin	S-22	1.00	0.87	1.00	1.00	1.00	0.70	0.99	0.99	0.99	0.26	0.96	0.92	0.96
C-3W Basin	G-93	1.00	0.76	1.00	1.00	1.00	0.61	1.00	1.00	1.00	0.25	0.89	0.89	0.94
C-4 Basin	S-25B	1.00	0.90	1.00	1.00	1.00	0.69	0.96	0.99	0.99	0.13	0.81	0.91	0.96
C-5 Basin	S-25	1.00	0.88	0.48	1.00	1.00	0.69	0.40	1.00	1.00	0.21	0.15	0.70	0.72
C-6 Basin	S-26	1.00	0.91	1.00	1.00	1.00	0.69	0.97	0.99	1.00	0.12	0.80	0.90	0.96





**US Army Corps
of Engineers®**
Jacksonville District

6. Next Steps

Presenters:

Project Next Steps - Jennifer Smith

Economics Next steps - Erik Adamiec



Project Schedule



US Army Corps
of Engineers®
Jacksonville District



Project Next Steps:

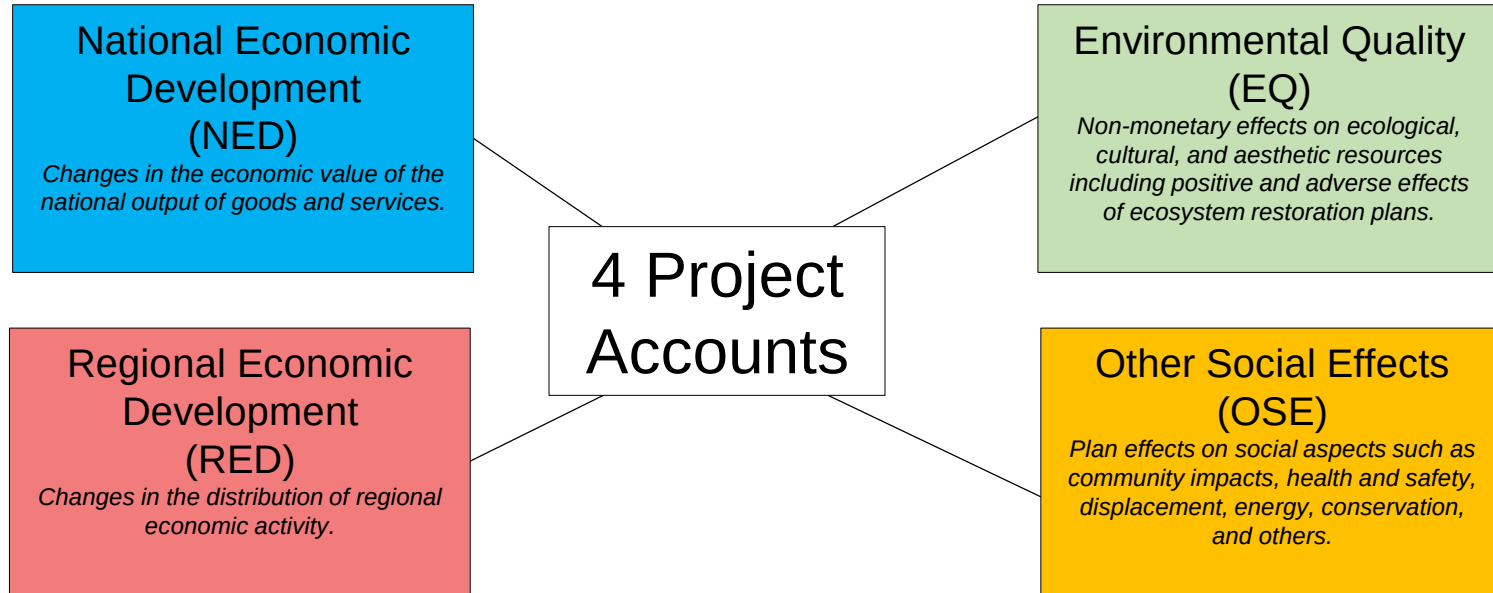
- Economics Analysis
- Final Modeling
- Comprehensive Benefits Analysis
- Real Estate Analysis
- GIS exercises
- Environmental / Cultural Impacts Analysis
- TSP Milestone



Evaluation of Alternatives – Comprehensive Benefits



US Army Corps
of Engineers®
Jacksonville District





**US Army Corps
of Engineers®**
Jacksonville District

7. Integrated Strategy

Presenter: Tim Gysan



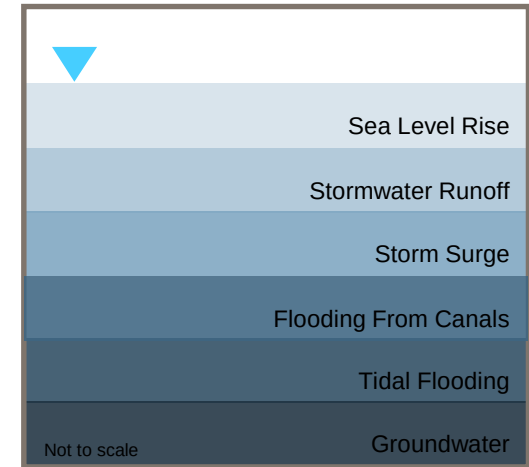
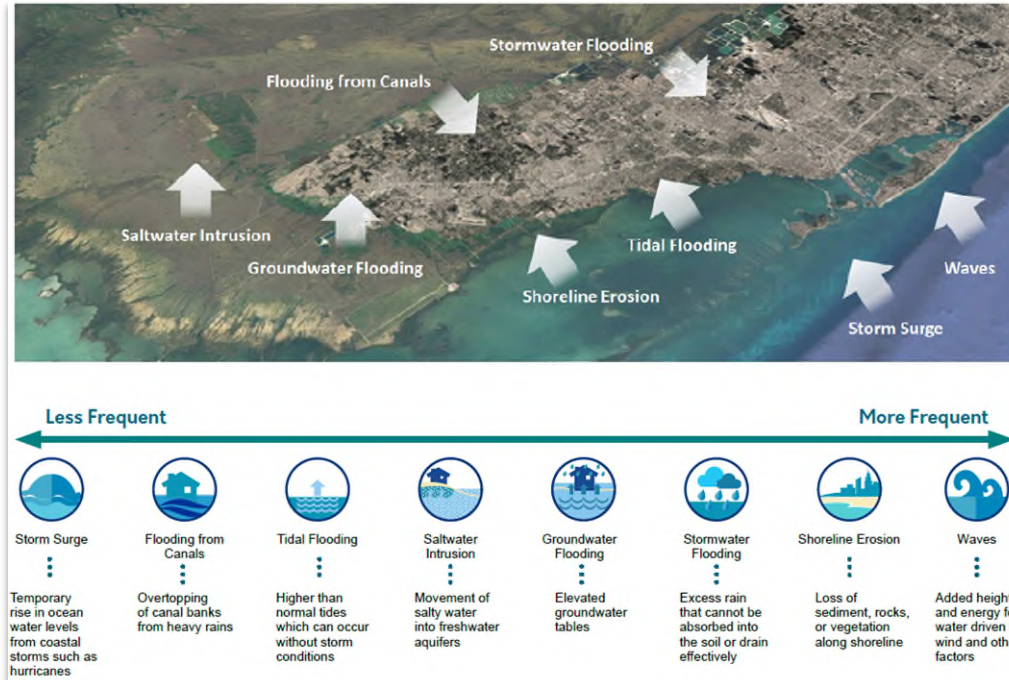
C&SF System – Total Water Level



US Army Corps
of Engineers®
Jacksonville District

Sea level rise and future extreme rainfall will increase the frequency and impact for all sources of flooding

Total Water Level





C&SF Flood Resilience: Integrated Path Forward



Planning Reach A - Broward County Basins

- Section 203 Feasibility Study – Target WRDA 26
- Funding support from FDEP and Broward County

Planning Reach B - C-7, C-8, C-9 Basins

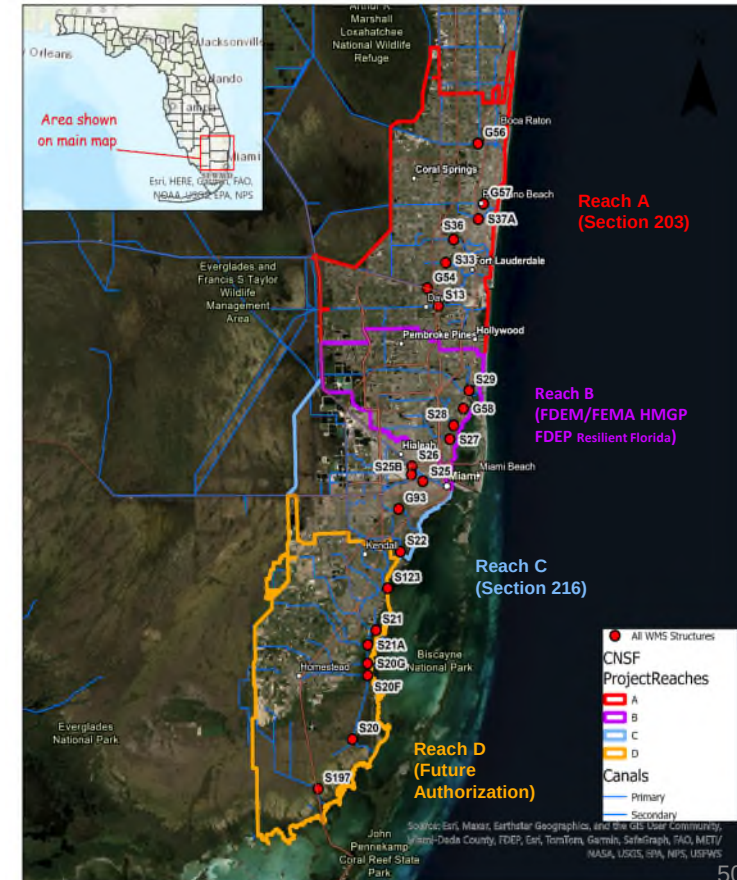
- FDEM / FEMA Hazard Mitigation
- Resilient Florida Grant
- Support from Miami Dade County

Planning Reach C – Miami River Basins

- C&SF Flood Resiliency Study – Section 216
- TSP Milestone – March 2027

Planning Reach D - South Dade Basins

- CS&F Comprehensive Study or future planning studies



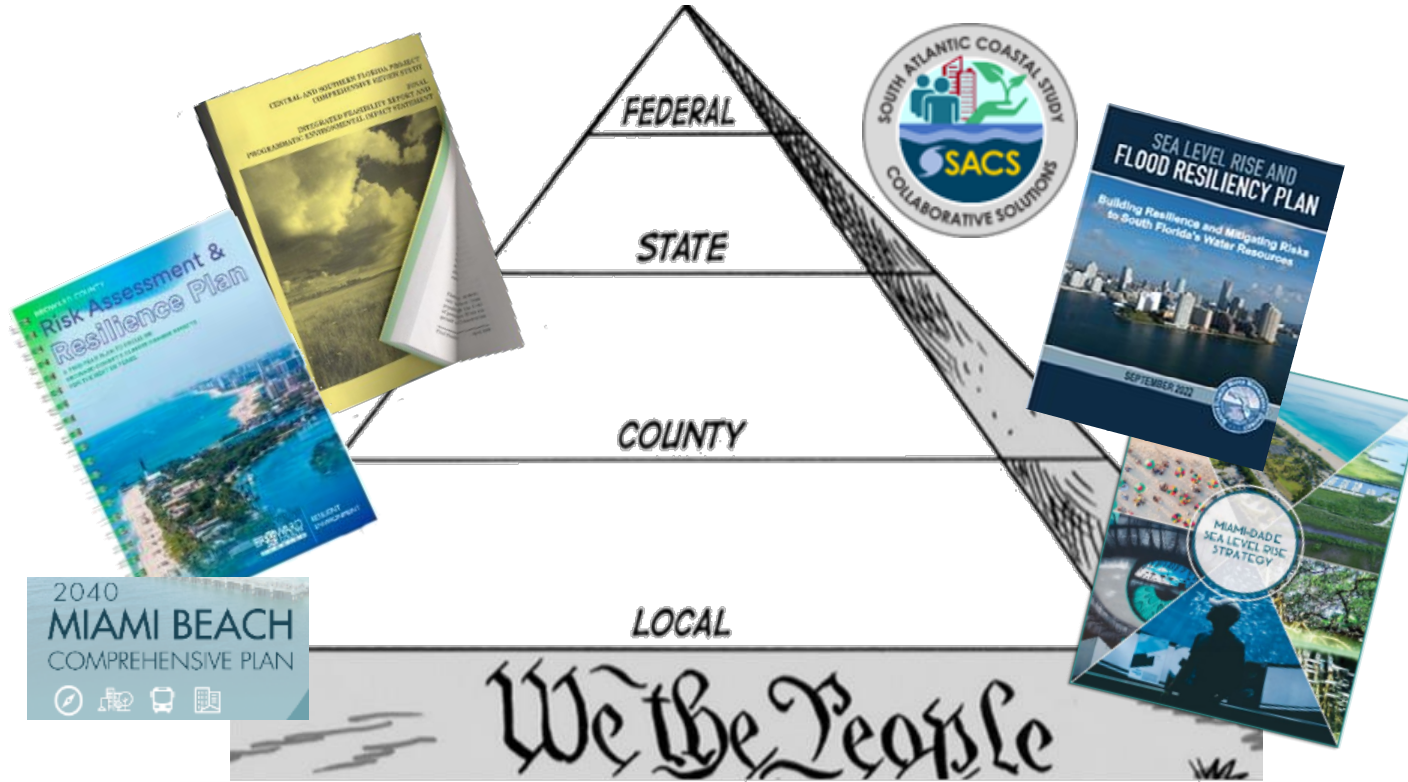


BUILDING COMMUNITY RESILIENCE

A COMPREHENSIVE AND COLLABORATIVE APPROACH



US Army Corps
of Engineers®
Jacksonville District



Water Resource Infrastructure is the Connector

Central and Southern Florida (C&SF) Flood Resiliency (Section 216) Study – Miami River and Nearby Basins



Resiliency Initiatives Coordination

Integrating Inland and Coastal Flood Mitigation Strategies



US Army Corps
of Engineers®
Jacksonville District

Counties Studies/
Projects

Water Control
Districts and
Municipalities
Projects

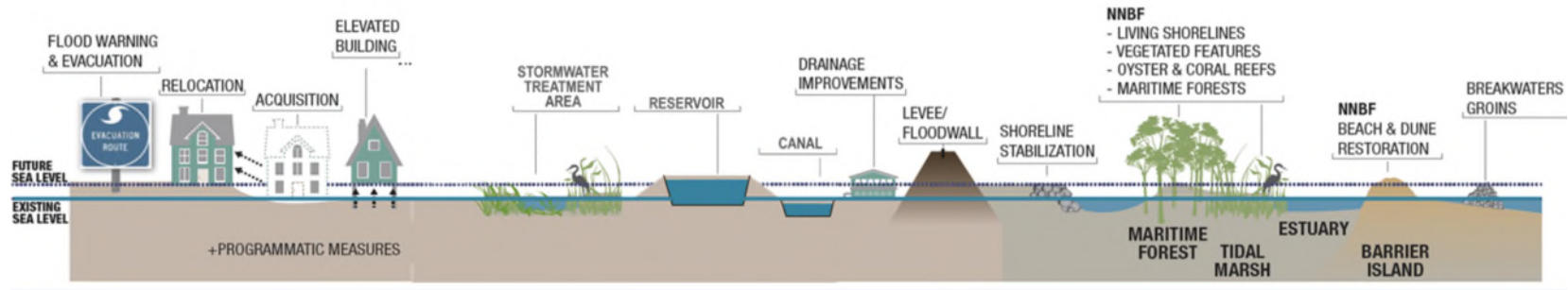
USACE Studies/
Projects

Regional Climate
Compacts

Other Partners

POTENTIAL MEASURES TO IMPROVE RESILIENCE AND SUSTAINABILITY

Graphic modified from https://ewn.el.erdc.dren.mil/nmbf/other/5_ERDC-NNBF_Brochure.pdf





RESILIENCY THROUGH PROJECT INTEGRATION

USACE Projects within SFWMD Boundaries



US Army Corps
of Engineers®
Jacksonville District

 **C&SF Flood Resiliency Studies**

 **Authorized CSRM* Projects**

 **New CSRM* Studies (+ Back Bay)**

 **Authorized Navigation Projects
(DEEP DRAFT)**

SOUTH FLORIDA ECOSYSTEM RESTORATION (SFER) PROJECTS, STUDIES, AND REGULATION SCHEDULES

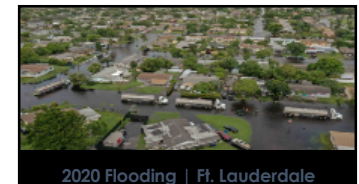
- 4)C-111 South Dade
- 5)Kissimmee River Restoration (KRR)
- 6)Herbert Hoover Dike (HHD)
- 7)Lake Okeechobee System Operating Manual (LOSOM)
- 8) Shingle Creek & Kissimmee River Study
- 10)Picayune Strand Restoration Project (PSRP)
- 11)Indian River Lagoon – South (IRL-S) C-44 Reservoir and STA
- 12)C-111 Spreader Canal Western Project
- 13)Biscayne Bay Coastal Wetlands (BBCW) – Phase 1
- 14)Caloosahatchee River C-43 Reservoir
- 15)Broward County Water Preserve Areas (BCWPA)
- 17)Central Everglades Planning Project (CEPP)
- 18)Loxahatchee River Watershed Restoration Project (LOWRP)
- 19)Lake Okeechobee Watershed Restoration Project (LOWRP)
- 20)Western Everglades Restoration Project (WERP)
- 21)Southern Everglades Restoration Project



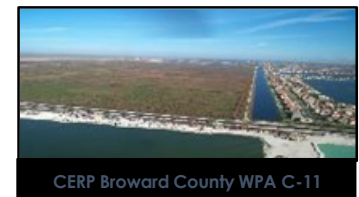
Jupiter/Carlin Beach CSRM



C&SF Water Management |
LOSOM Operations



2020 Flooding | Ft. Lauderdale



CERP Broward County WPA C-11

SF Flood Resiliency (Section 216) Study – Miami River and Nearby Basins



**US Army Corps
of Engineers®**
Jacksonville District

8. Closing Remarks

Presenter: Jennifer Smith



Questions



**US Army Corps
of Engineers®**
Jacksonville District



Email: CSFFRSComments@usace.army.mil