RECOVERY, REPAIR, AND RESILIENCY
HARVEY SUPPLEMENTAL PROGRAM –
STATUS AND WAY AHEAD
2019 S.A.M.E WATER SUMMIT

Jon Loxley
Harvey Supplemental Program Manager
Southwestern Division, Programs Directorate
16 September 2019
OUTLINE

• USACE 101
• Recap 2017 Hurricane Events
• Bipartisan Budget Act of 2018 Highlights
• USACE Response-Actions
• Southwestern Division Harvey Supplemental Program
• Galveston District Harvey Supplemental Portfolio
USACE Vision
Engineering solutions for the Nation’s toughest challenges.

USACE Mission
Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce risk from disaster.

Southwestern Division – Civil Works Boundaries

SWD is a HIGH PERFORMING ORGANIZATION that reliably delivers QUALITY engineering products and services.
SOUTHWESTERN DIVISION CIVIL WORKS MISSION AREAS

- Flood Risk Management
- Inland Navigation
- Hydropower
- Water Supply
- Navigation (Ports and Channels)
- Recreation
- Environmental Stewardship
RECAP 2017 HURRICANE EVENTS

• 2017 Landfalls
• Harvey, Irma, Maria Overview
• National Impact
2019 S.A.M.E Water Summit –
2017 Severe Weather Recap

U.S. HURRICANE LANDFALLS 2017

- **HARVEY (CAT. 4)**
  - Location: Rockport, Texas
  - Date: Aug. 25
- **NATE (CAT. 1)**
  - Location: LA/MS
  - Date: Oct. 7-8
- **IRMA (CAT. 4)**
  - Location: South Florida
  - Date: Sep. 10
- **MARIA (CAT. 4)**
  - Location: Puerto Rico
  - Date: Sep. 20
2017 HURRICANES OVERVIEW

- SEPT 20
- CAT 4 STORM
- 2,975 DEATHS
- $94B IN DAMAGE
- IMPACTED 3.4M PEOPLE/ ENTIRE POPULATION OF PUERTO RICO
- LOSS OF ALL ELECTRICITY ON PR
- $780M LOSS IN AGRICULTURE YIELDS
Three big hurricanes of 2017 – Harvey, Irma, Maria – now 3 of the 5 costliest hurricanes in US history

2017 the costliest hurricane season in U.S. history, even topping the disastrous 2005 season, which included Rita and Wilma in addition to Katrina.

September 2017 was the single-most powerful month ever recorded in the Atlantic in terms of hurricane intensity.

(Source: National Oceanic and Atmospheric Administration (NOAA); 2018)
HURRICANE RESPONSE

- National Overview
- Bipartisan Budget Act 2018 Timeline
- Southwestern Division Program
- Galveston District Portfolios
2019 S.A.M.E Water Summit –
BBA 2018 National Perspective

BBA 2018 Quick Facts –
• Enacted 9 FEB 2018
• $16.5 Billion Dollars
• 58 construction projects ($15.1B)
• 38 study projects ($135M)
• 170 Short-term projects ($1.4B)

Investigations National Portfolio

38 Study Activities
• Projects Cleared July 2018
• 31 New Study Activities
• 1 Comprehensive Study (New)
• 5 Ongoing Studies

As of 9 Jul 2019

Construction National Portfolio

58 Construction Projects (minus 7 CAP & 2 MR87 programmatic projects)
• Projects Cleared July 2018
• 33 Ongoing CN (PPA Amendments)
• 25 Not Ongoing CN (PPA Negotiations)
• Surveys/Design Underway
• Sponsors → ROW and Relocations

As of 9 Jul 2019
2019 S.A.M.E Water Summit – Harvey Response Summary

BBA2018 SWD ACTION TIMELINE

Fiscal Year Summary:
- 8 ENG Design Starts
- 10 Contract Awards
2019 S.A.M.E Water Summit –
Southwestern Division Harvey Supplemental Program –
Execution Timeline

SWD Harvey Supplemental Construction Workload FY Outlook
Bipartisan Budget Act of 2018 (Public Law 115-123) Construction, Investigation, O&M, and FCCE Accounts

- Long Term Disaster Resiliency Investment Plan (LDRIP) Investigations (I) Account
  - $20,604,000

- Construction (C) Account
  - $4,854,172,000

- Operations and Maintenance (O&M) Account
  - $153,555,000

- Flood Control and Coastal Emergencies (FCCE) Account
  - $51,889,000

Harvey Supplemental Program = $5.082B
### Quick Facts

- **SWD Harvey Supplemental Program**
  - Total: $5,080,230,000
  - Forty (40) Projects
  - Allocated: $195,078,222
  - Obligated: $104,494,403

- **Investigations Portfolio**
  - Six (6) Projects
  - Five (5) FEAS Studies
  - One (1) Watershed Assessment
  - CWE Total: $5,080,220,000

- **Construction Portfolio**
  - Twelve (12) Projects
  - CWE Total: $4,854,172,000

### Short-term Portfolio Overview

<table>
<thead>
<tr>
<th>Map Key</th>
<th>District</th>
<th>Operations &amp; Maintenance Portfolio (O)</th>
<th>CWE ($1,000)</th>
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</thead>
<tbody>
<tr>
<td>O-01</td>
<td>SWG</td>
<td>Buffalo Bayou and Tributaries, TX (3 elements)</td>
<td>$10,545</td>
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<tr>
<td>O-02</td>
<td>SWG</td>
<td>Cedar Bayou, TX</td>
<td>$3,500</td>
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<td>O-03</td>
<td>SWG</td>
<td>Channel to Port Mansfield, TX (2 elements)</td>
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<td>O-04</td>
<td>SWL</td>
<td>Clearwater Lake, MO</td>
<td>$2,700</td>
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<td>O-05</td>
<td>SWG</td>
<td>Corpus Christi Ship Channel, TX (2 elements)</td>
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<td>O-06</td>
<td>SWT</td>
<td>Fort Gibson Lake, OK</td>
<td>$900</td>
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<td>O-07</td>
<td>SWG</td>
<td>Galveston Harbor and Channel, TX</td>
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<td>O-08</td>
<td>SWG</td>
<td>GIWW, Channel to Victoria, TX</td>
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<td>O-09</td>
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<td>Gulf Intracoastal Waterway, TX (2 elements)</td>
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<td>O-10</td>
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<td>Houston Ship Channel, TX (4 elements)</td>
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<td>O-11</td>
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<td>Mouth of the Colorado, TX</td>
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<td>O-12</td>
<td>SWG</td>
<td>Sabine–Neches Waterway, TX</td>
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<td>O-13</td>
<td>SWG</td>
<td>Wallisville Lake, TX (2 elements)</td>
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<td>O-14</td>
<td>SWL</td>
<td>McClellan–Kerr Arkansas River Nav Sys (MKARNS) AR</td>
<td>$3,235</td>
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### Long-term Portfolio Overview

<table>
<thead>
<tr>
<th>Map Key</th>
<th>District</th>
<th>Investigations Portfolio (I)</th>
<th>CWE ($1,000)</th>
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<tbody>
<tr>
<td>I-01</td>
<td>SWG</td>
<td>Brazos River, Fort Bend County, TX</td>
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<td>I-02</td>
<td>SWG</td>
<td>Buffalo Bayou and Tributaries Resiliency Study, TX</td>
<td>$6,000</td>
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<td>I-03</td>
<td>SWG</td>
<td>Coastal Texas Protection and Restoration Study, TX</td>
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<td>I-04</td>
<td>SWG</td>
<td>Houston Regional Watershed Assessment, TX</td>
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<td>I-05</td>
<td>SWF</td>
<td>Guadalupe and San Antonio River Basins, TX</td>
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<td>I-06</td>
<td>SWT</td>
<td>Tulsa West Tulsa Levees, OK</td>
<td>$3,000</td>
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<thead>
<tr>
<th>Map Key</th>
<th>District</th>
<th>Construction Portfolio (C)</th>
<th>CWE ($1,000)</th>
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<td>C-01</td>
<td>SWG</td>
<td>Brays Bayou, TX (14 Elements)</td>
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<td>C-02</td>
<td>SWG</td>
<td>Buffalo Bayou and Tributaries, TX ($141,549)</td>
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<td>C-03</td>
<td>SWG</td>
<td>Clear Creek, TX (4 Elements)</td>
<td>$187,174</td>
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<td>C-04</td>
<td>SWF</td>
<td>Dallas Floodway Extension, TX (2 Elements)</td>
<td>$135,250</td>
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<td>C-05</td>
<td>SWF</td>
<td>Dallas Floodway, TX (8 Elements)</td>
<td>$222,911</td>
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<tr>
<td>C-06</td>
<td>SWG</td>
<td>Hunting Bayou, TX (4 Elements)</td>
<td>$65,000</td>
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<td>C-07</td>
<td>SWF</td>
<td>Lewishville Dam, TX (3 Elements)</td>
<td>$91,959</td>
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<td>C-08</td>
<td>SWG</td>
<td>Lower Colorado River Phase 1 (Wharton), TX (3 Elements)</td>
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<td>C-09A</td>
<td>SWG</td>
<td>Sabine Pass to Galveston Bay, TX (Orange)</td>
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<td>C-09B</td>
<td>SWG</td>
<td>Sabine Pass to Galveston Bay, TX (Freeport)</td>
<td>$711,733</td>
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<td>C-09C</td>
<td>SWG</td>
<td>Sabine Pass to Galveston Bay, TX (Port Arthur)</td>
<td>$881,177</td>
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<tr>
<td>C-10</td>
<td>SWG</td>
<td>White Oak Bayou, TX (4 Elements)</td>
<td>$45,000</td>
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</table>

### Schedule

- 100% FEAS studies complete NLT 2021
- 7 CON projects complete NLT 2024
- 5 CON projects complete beyond 2024

### Operations & Maintenance Portfolio

- Fourteen (14) Projects
- CWE Total: $153,555,000

### Flood Control and Coastal Emergencies Portfolio

- Eight (8) Projects
- CWE Total: $51,889,000

### Map Key Legend

- PL 115-123 SWD Proj
- I-01 SWG Brazos River, Fort Bend County, TX
- I-02 SWG Buffalo Bayou and Tributaries Resiliency Study, TX
- I-03 SWG Coastal Texas Protection and Restoration Study, TX
- I-04 SWG Houston Regional Watershed Assessment, TX
- I-05 SWF Guadalupe and San Antonio River Basins, TX
- I-06 SWT Tulsa West Tulsa Levees, OK
- O-01 SWG Buffalo Bayou and Tributaries, TX (3 elements)
- O-02 SWG Cedar Bayou, TX
- O-03 SWG Channel to Port Mansfield, TX (2 elements)
- O-04 SWL Clearwater Lake, MO
- O-05 SWG Corpus Christi Ship Channel, TX (2 elements)
- O-06 SWT Fort Gibson Lake, OK
- O-07 SWG Galveston Harbor and Channel, TX
- O-08 SWG GIWW, Channel to Victoria, TX
- O-09 SWG Gulf Intracoastal Waterway, TX (2 elements)
- O-10 SWG Houston Ship Channel, TX (4 elements)
- O-11 SWG Mouth of the Colorado, TX
- O-12 SWG Sabine–Neches Waterway, TX
- O-13 SWG Wallisville Lake, TX (2 elements)
- O-14 SWL McClellan–Kerr Arkansas River Nav Sys (MKARNS) AR

### Map Key Legend

- PL 115-123 SWD Proj
- F-01 SWG Brays Bayou, TX
- F-02 SWG Buffalo Bayou and Tributaries, TX (not eligible)
- F-03 SWG Freeport Hurricane Protection Levees, TX
- F-04 SWG Galveston Island Harbor, Galveston, TX (not eligible)
- F-05 SWG High Island Bayou, TX (not eligible)
- F-06 SWG Port Arthur & Vicinity, TX
- F-07 SWG Sims Bayou, Houston, TX
- F-08 SWG Texas City Hurricane Flood Protection Levee, TX (A/B)
- F-09 SWG Vince Bayou, TX
- F-10 SWG White Oak Bayou, TX
Southwestern Division Harvey Supplemental Program –
Long-term Portfolio Overview

Investigations Portfolio Summary

**Quick Stats:**
- Projects: 6
- 6 Studies complete NLT 2021

**TOTAL BUDGET**
- $20M

<table>
<thead>
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<th>Study Area</th>
<th>Budget (M)</th>
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<tr>
<td>Tulsa West Tulsa Levees</td>
<td>$3M</td>
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<td>Buf Bayou &amp; Tribs</td>
<td>$3M</td>
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<tr>
<td>Buffalo Bayou &amp; Tributaries</td>
<td>$3M</td>
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<td>Houston Regional Watershed</td>
<td>$1.8M</td>
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<td>Coastal TX Prot &amp; Restoration</td>
<td>$6M</td>
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<tr>
<td>Guadalupe &amp; San Antonio River Basins</td>
<td>$2M</td>
</tr>
<tr>
<td>Brazos River, Fort Bend Co.</td>
<td>$3M</td>
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</tbody>
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Schedule – Signed Chief’s Report (CW270)

- **Brazos River, Fort Bend County, TX**  OCT-21
- **Buffalo Bayou and Tributaries Resiliency Study, TX**  OCT-21
- **Coastal Texas Protection and Restoration Study, TX**  JUL-21
- **Houston Regional Watershed Assessment, TX**  JUN-21
- **Guadalupe and San Antonio River Basins, TX**  NOV-20
- **Tulsa West Tulsa Levees, OK**  SEP-20

Construction Portfolio Summary

**Quick Stats:**
- Projects: 12 (57 individual elements)
- 7 projects complete NLT 2024
- 5 projects complete beyond 2024

**TOTAL BUDGET**
- $4.8B

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Budget (M)</th>
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<td>White Oak Bayou, TX</td>
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<tr>
<td>Wharton, TX</td>
<td>$135M</td>
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<tr>
<td>Dallas Floodway Extension, TX</td>
<td>$2.3B</td>
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<tr>
<td>Dallas Floodway, TX</td>
<td>$863M</td>
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<td>Sabine Pass to Galveston Bay, TX</td>
<td>$570M</td>
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<tr>
<td>Sabine Pass to Galveston Bay, TX</td>
<td>$545M</td>
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<tr>
<td>Sabine Pass to Galveston Bay, TX</td>
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<tr>
<td>Sabine Pass to Galveston Bay, TX</td>
<td>$570M</td>
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**Portfolio Schedule – Physically Complete (CW450)**

- **White Oak Bayou, TX**  JAN-22
- **Brays Bayou, TX**  JAN-22
- **Hunting Bayou, TX**  FEB-22
- **Wharton, TX**  SEP-22
- **Dallas Floodway Extension, TX**  JUN-23
- **Dallas Floodway, TX**  SEP-23
- **Clear Creek, TX**  MAR-23
- **Sabine Pass to Galveston Bay, TX (Orange)**  OCT-25
- **Sabine Pass to Galveston Bay, TX (Port Arthur)**  SEP-26
- **Sabine Pass to Galveston Bay, TX (Freeport)**  JAN-27
- **Lewisville Dam, TX**  MAR-27

Quick Stats:
- Projects: 12 (57 individual elements)
- 7 projects complete NLT 2024
- 5 projects complete beyond 2024

Current Schedule:
- **Buffalo Bayou & Tribs – Completion APR-20 (CW450)**
Southwestern Division Harvey Supplemental Program – Fort Worth District Project Portfolio

Three (3) Construction Projects

$450M worth of storm risk reduction investment

2015 Texas Flooding Maximum Extents
Southwestern Division Harvey Supplemental Program – Galveston District Project Portfolio

- Five (5) Feasibility Studies
- Nine (9) Construction Projects
- Eight (8) FCCE Projects
- Eleven (11) O&M Projects

$4.7B worth of storm risk reduction investment
CLOSING