

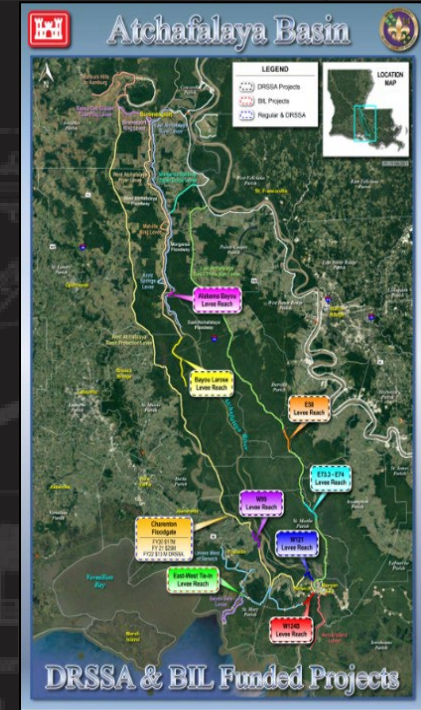
MISSISSIPPI RIVER AND TRIBUTARIES



CI Revetment – Flood Risk Management



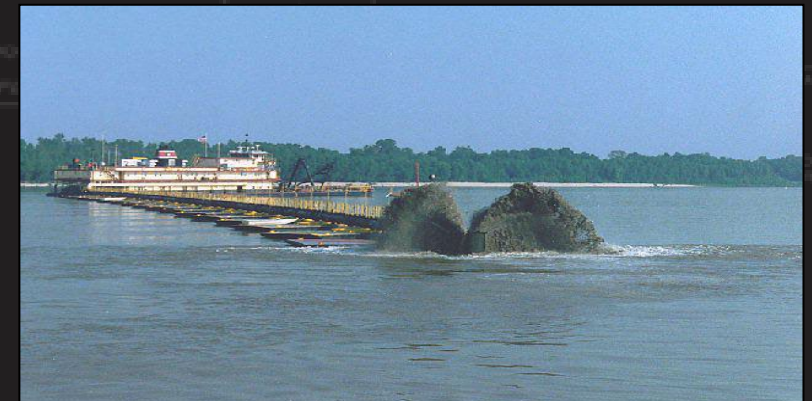
Miss River Navigation



Atchafalaya Basin



Miss River Levees – Flood Risk Management



Miss River Dredging

Zach Cook – Regional CI PM
Daniel Sumerall – Regional MRL PM
Ryan Neuman – MVN Senior PM
2024 MVD Industry Day
21 February 2024



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US Army Corps
of Engineers®





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Mississippi River and Tributaries Project

Great Flood of 1927

- 27,000 Square Miles Inundated
- 700,000 People Impacted
- 500 Deaths
- Economic Damages = \$1 Billion

Flood Control Act of 1928 & Subsequent Acts

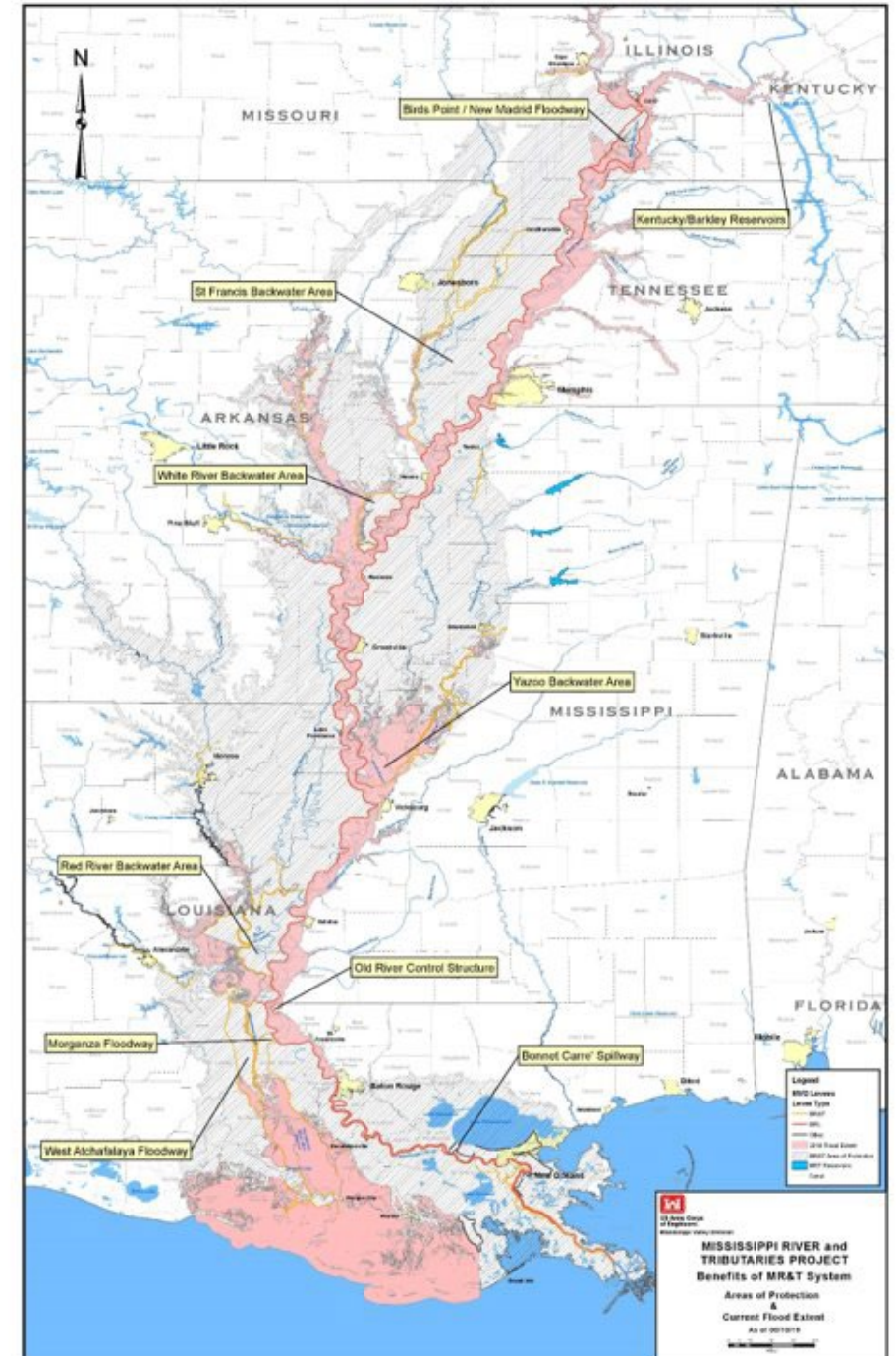
Signed on May 15, 1928

(13 Months After the First Levee Breach)

Comprehensive Navigation & Flood Control Project

- Levees and Floodwalls
- Floodways and Backwater Areas
- Channel Improvement and Stabilization Features
- Tributary Basin Improvements (Subsequent Acts)

\$21 Billion Federal Invested :
\$2.7 Trillion Flood Damages Prevented
Benefit to Cost = \$134 : \$1





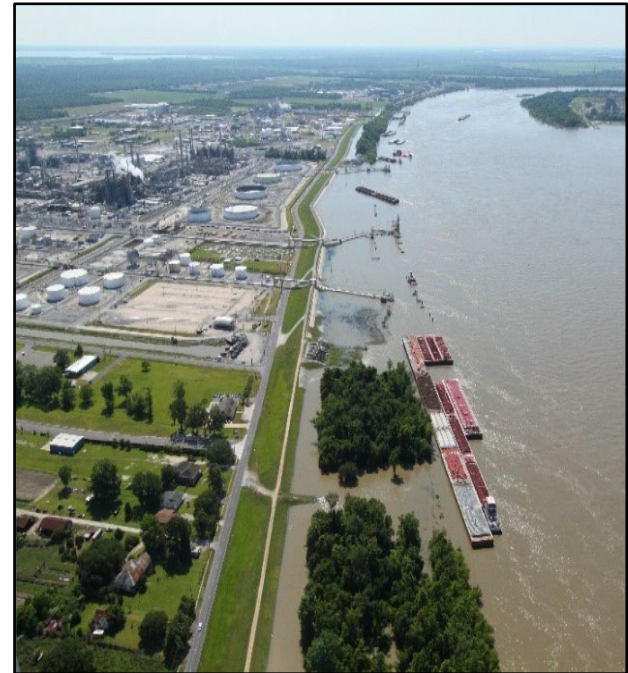
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MR&T VALUE TO THE NATION

3



- \$20.5B invested for planning, construction, O&M since 1928.
- \$2.7T flood damages prevented since 1928.
- \$222.4B flood damages prevented in 2022.
- 4.1 million people protected.
- 134 to 1 return on each dollar invested.
- 10.5 to 1 Benefit-to-Cost Ratio @ 7% OMB rate. (FRM Benefits Only)
- 659M tons of cargo moved on the MS River system each year.
- \$12.5B in transportation savings.
- MR&T Mainstem System Construction is Currently ~84% - complete.





MISSISSIPPI RIVER CHANNEL IMPROVEMENT



Dredging



Dike Construction



Clearing and Snagging (C&S)



Bank Grading Unit (BGU)



Mat Sinking Unit (MSU)

DELIVERING THE SUPPLY CHAIN DURING EXTREME DROUGHT

MISSISSIPPI RIVER LOW WATER EVENT 2023

START DATE OF EVENT: 13 JUNE 2023

When our nation's busiest commercial waterway is impacted by low water levels, USACE works with Federal, State, Local and Industry partners to keep goods moving.



VALUE TO THE NATION

MISSISSIPPI RIVER
ANNUAL TONNAGE VALUE: **~\$187 BILLION**

MISSISSIPPI RIVER
ANNUAL TONNAGE: **~660 MILLION**
SHORT TONNES OF CARGO

TOP FIVE MISSISSIPPI RIVER COMMODITIES



PETROLEUM &
PETRO-CHEM
PRODUCTS



CHEMICALS &
RELATED PRODUCTS



COAL



FOOD & FARM
PRODUCTS
(Corn & Soybean Primarily)



CRUDE
MATERIALS



CONSTANT ACTION

NUMBER OF ACTIVE DREDGES: **8 TOTAL**

DOLLARS INVESTED IN LOW WATER
DREDGING SINCE 13 JUNE 2023: **\$38.6 MILLION**

CUBIC YARDS (CYS) OF DREDGED
MATERIAL SINCE 13 JUNE 2023: **16.5 MILLION CYS**

ENOUGH TO FILL
MORE THAN **5,046**
OLYMPIC SIZE
SWIMMING POOLS



CONSISTENT INVESTMENT | USACE MISSISSIPPI RIVER INVESTMENT SINCE 2012

BIPARTISAN
INFRASTRUCTURE LAW

**\$1.4
BILLION**

To address damages to revetments
and dikes.

MISSISSIPPI RIVER &
TRIBUTARIES PROGRAM (MR&T)

**\$1.52
BILLION**

To construct over 2M revetment
squares and 14 miles of dikes.

REGULATED WORKS
PROGRAM

**\$55.2
MILLION**

To remove rock from the channel, place
revetments, and construct river
training structures.

REVELEMENTS, DIKES, AND RIVER TRAINING STRUCTURES CONCENTRATE RIVER FLOW AND FORCE IT TO SCOUR OUT A DEEPER NAVIGATION CHANNEL WHILE REDUCING BANKLINE EROSION.

(AS OF 03 NOV 2023)



BUILDING STRONG®



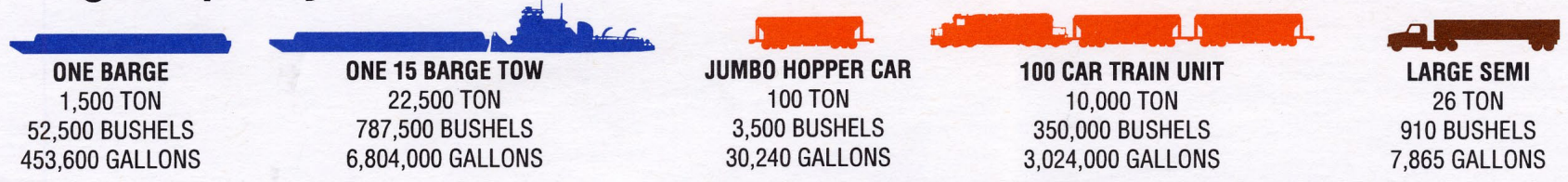


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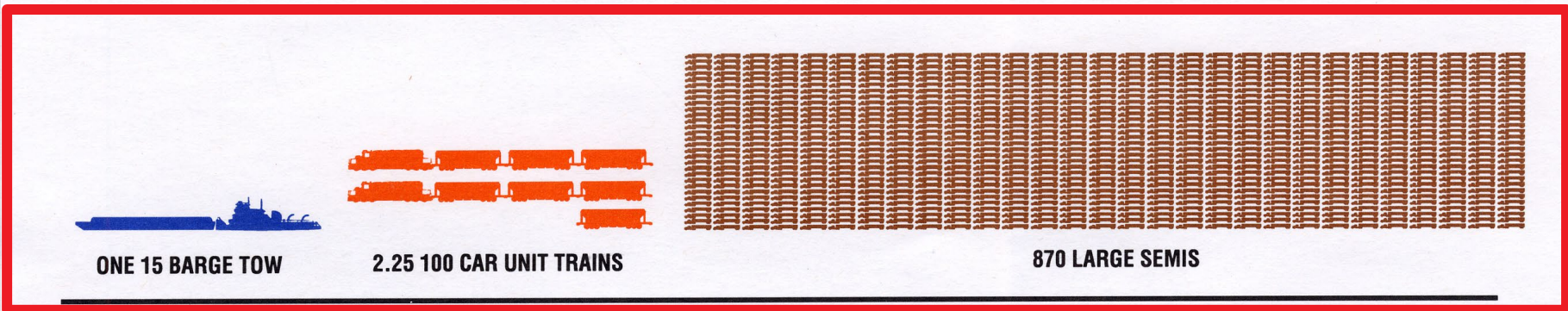
Compare...

Source: Iowa Department of Transportation - 800 Lincoln Way - Ames, IA 50010 - 515-239-1372

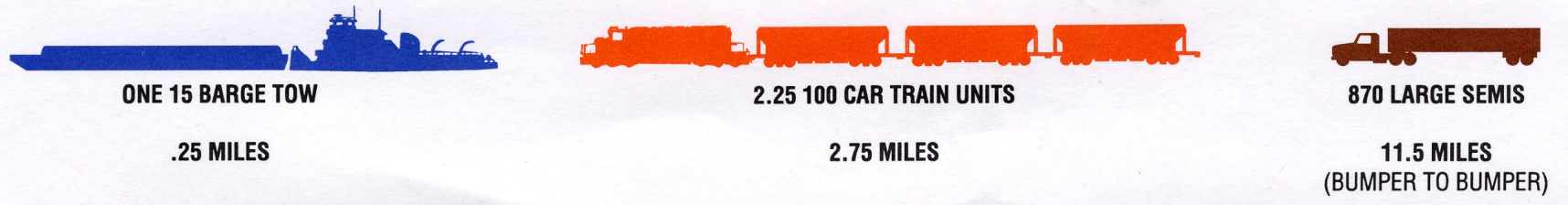
Cargo Capacity



Equivalent Units



Equivalent Lengths





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MISSISSIPPI RIVER – EFFICIENT WATERWAY



Memphis 2011 - Flood



Memphis 2012 - Drought

Memphis Gage	
Event	Stage
2011 Flood	48.03
2012 Drought	-9.79*
Elevation Difference	57.82 ft

*New Record Low Set at Memphis Gage
17 October 2023*

2011 Flood	48.03 ft
2023 Drought	-12.04 ft
Elevation difference	60.07 ft

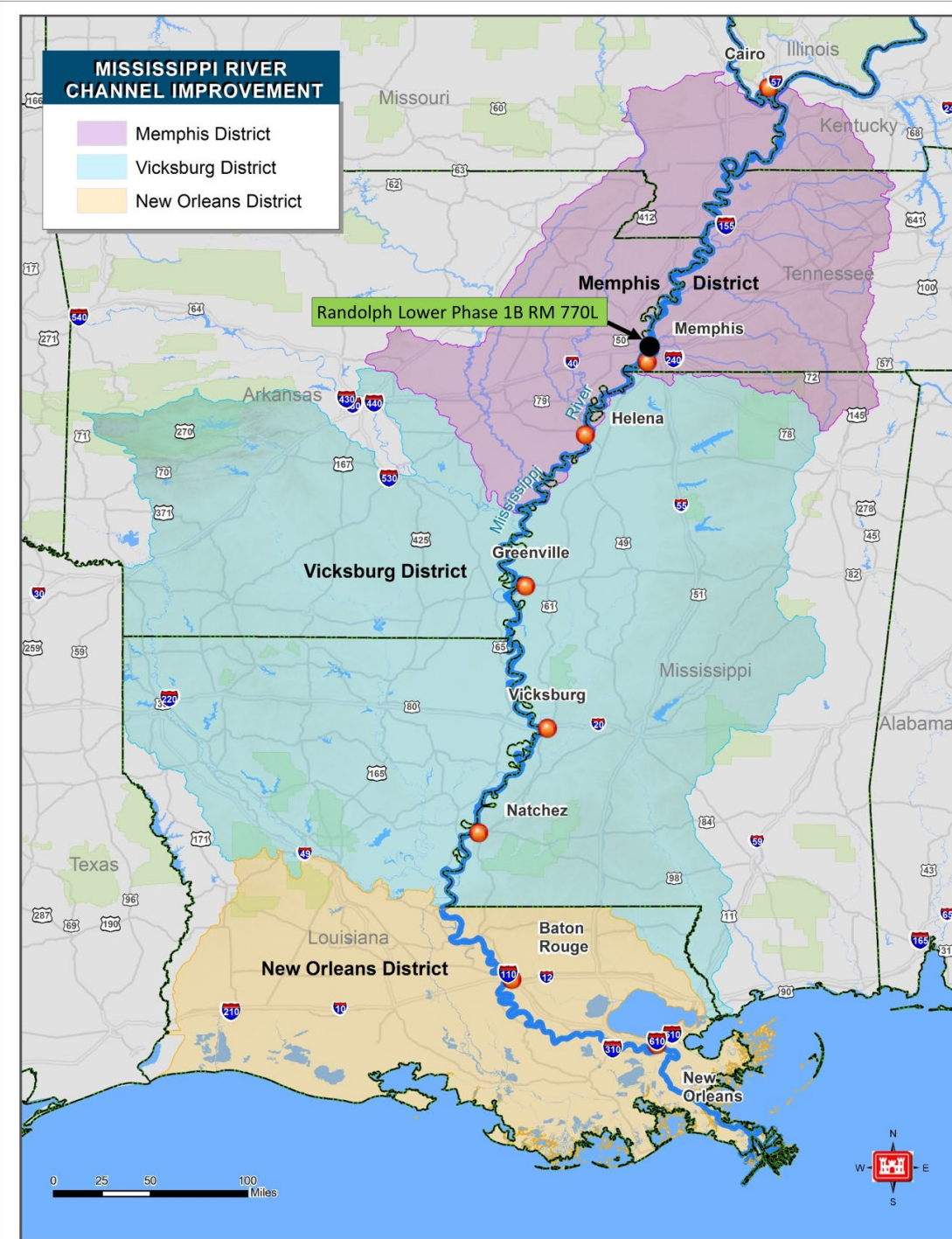


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CHANNEL IMPROVEMENT –

INFRASTRUCTURE ON THE LOWER MS

- 3 USACE Districts encompassing portions of 7 states
- Confluence of the Ohio & Mississippi River to Head of Passes (approx. 1,000 river miles)
- “Channel Improvement” Infrastructure provides Navigation, Flood Risk Management, and fosters Environmental Protection & Enhancements
 - Infrastructure:
 - Dike Length: 341 miles
 - Revetment: 1058 miles





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LMR LOW WATER DREDGING

Mississippi River

- USACE Owned Dredge Hurley, Dredge Jadwin, Dredge Potter, Contract Dredge Wallace McGeorge

2022-2023 Statistics

- Dredged at 43 crossings from Cairo Illinois to Baton Rouge
- Dredged more than 35 MCYDS of material last two years



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Lower Mississippi River Low Water Comparison

2022-2023 Statistics

Location Name	MM	MM	Groundings	Closures	Hours Closed
New Madrid	850	889	4	3	90.7
Canuthersville	786	850	7	3	39
Osceola	736	786	6	5	242.4
Memphis	663	736	9	6	417.3
Helena	589	663	8	7	71.7
Rosedale	537	589	2	2	21.3
Greenville	487	537	10	7	333.7
Lake Providence	437	487	2	2	12.8
Vicksburg	364	437	0	0	0
Natchez	303	364	1	0	0
Total			49	35	1249.1

*Running Total Since Extreme Low Water Began OOA 02SEP22

Estimated Impact

Vessel Voyages	1,032
Barges	14,669

*Dredging data was removed from this data set to reflect data collected for the 2023-2024 low water season.

VS

2023-2024 Statistics

Location Name	MM	MM	Groundings	Closures	Hours Closed
New Madrid	850	889	0	0	0
Canuthersville	786	850	3	2	46.1
Osceola	739	786	4	3	43.6
Memphis	663	739	3	3	50.3
Helena	589	663	2	1	13.5
Rosedale	537	589	1	1	10
Greenville	487	537	5	0	0
Lake Providence	456	487	3	1	9.6
Vicksburg	364	456	13	10	186.3
Natchez	303	364	7	1	4.5
Total			43	22	363.9

*Running Total Since Extreme Low Water Began September 2023

Estimated Impact

Vessel Voyages	395
Barges	6,553

Statistical Comparison

Total Groundings Decreased by	12.24%
Total Closures Decreased by	37.14%
Total Hours Closed Decreased by	70.87%
Total Vessel Voyages Impacted Decreased by	61.72%
Total Barges Impacted Decreased by	55.33%





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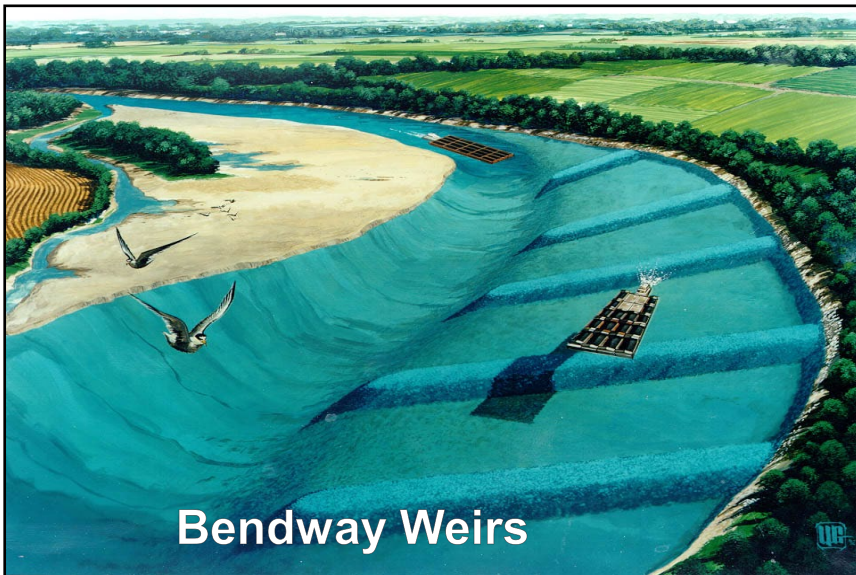
RIVER ENGINEERING TOOLS



Stone Dikes



Revetments



Bendway Weirs



Dredging



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MISSISSIPPI RIVER LEVEES

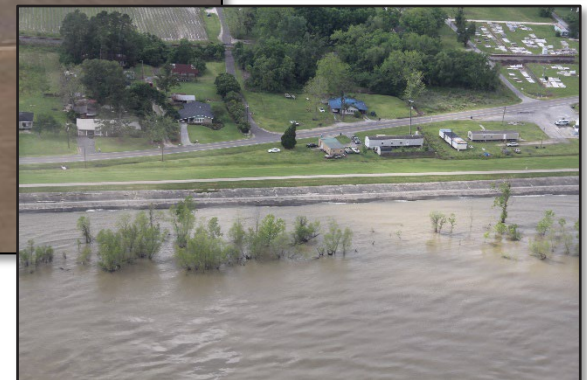
11



The Mainline Mississippi River Levee System (MRL) extends from Cape Girardeau, MO to Head of Passes, LA and is approximately 1,610 miles in length.

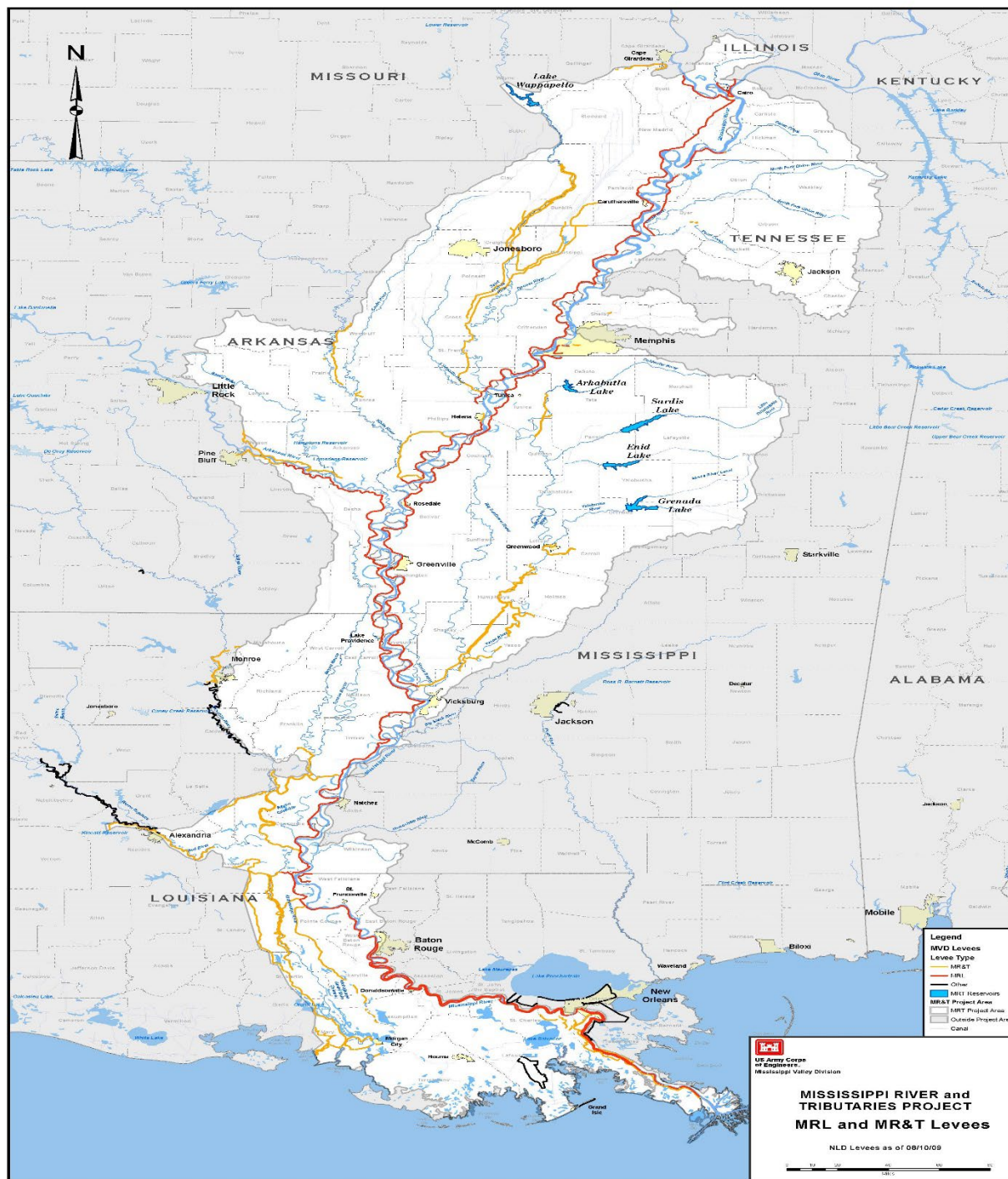
The MRL lies within the Memphis, Vicksburg, and New Orleans Districts.

Construction of the MRL is approximately 85% complete.





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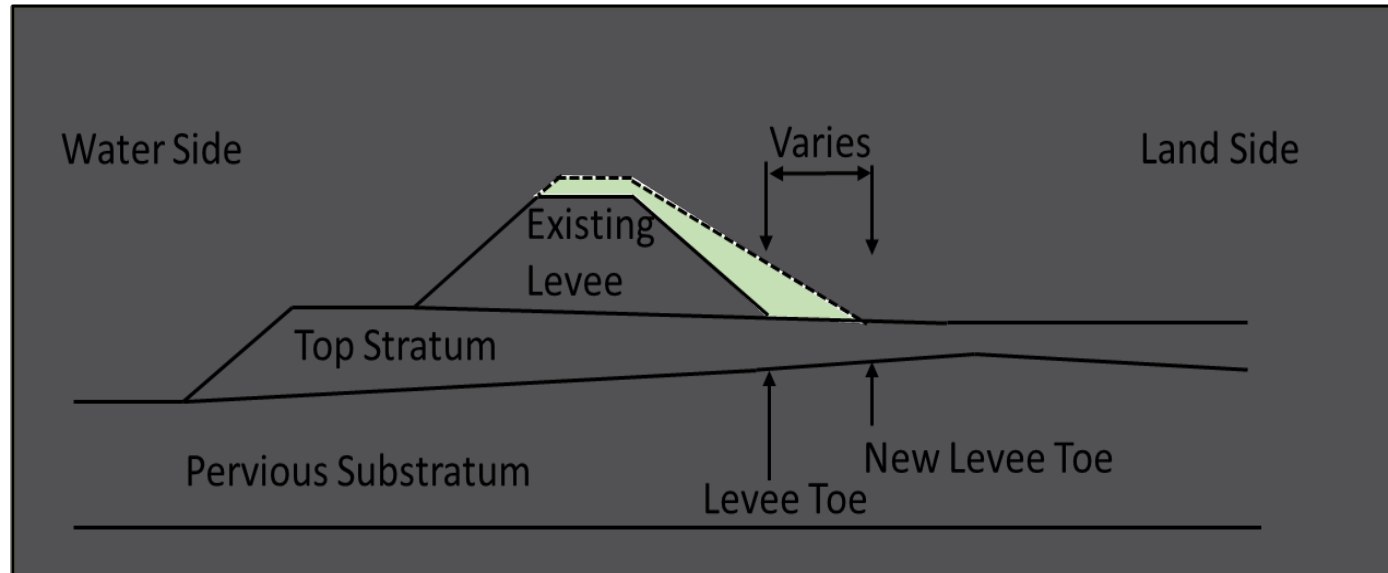
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LEVEE ENLARGEMENT

13



Levee enlargements are conducted in locations where the existing levee is not at the authorized grade. Depending on the location of the project, these raises may occur on the landside, riverside, or straddle the existing levee section.





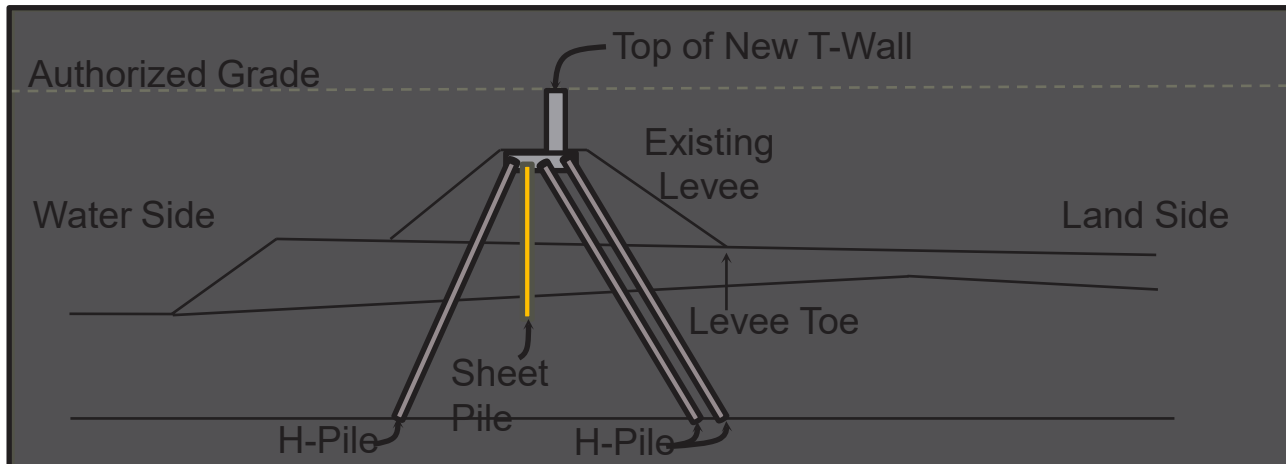
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FLOODWALL DEFICIENCIES

14



Urban areas typically require floodwalls rather than levees to reduce impacts to residences and businesses. These floodwalls can have stability concerns or height deficiencies that must be addressed.

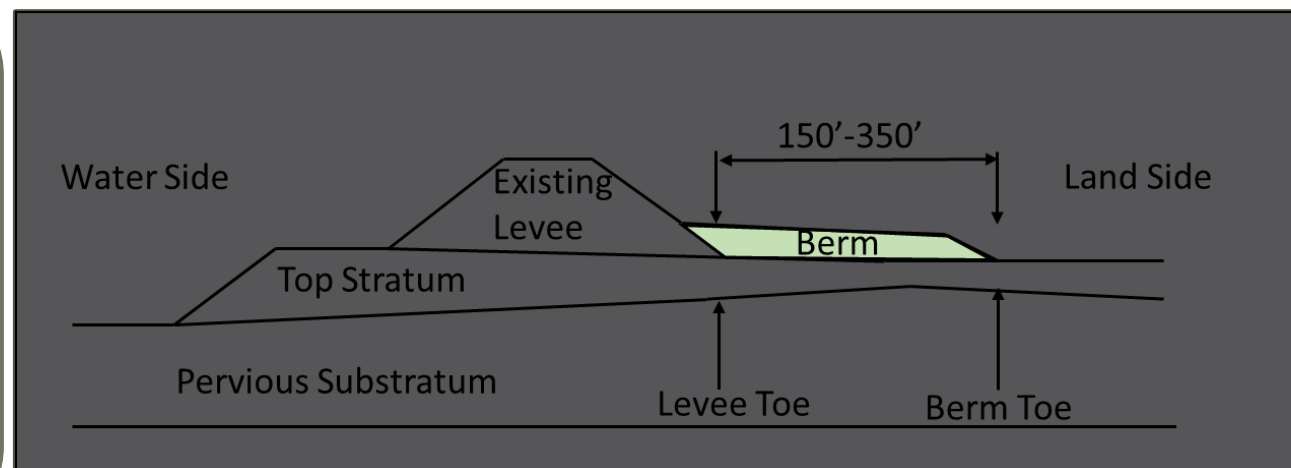




SEEPAGE BERMES



Seepage berms are constructed on the landside of the levee using impervious soils to reinforce existing top stratum and to reduce underseepage pressure near the toe of the levee. Upon construction, berms are turfed and mowed to prevent erosion or encroachment of undesired vegetation.





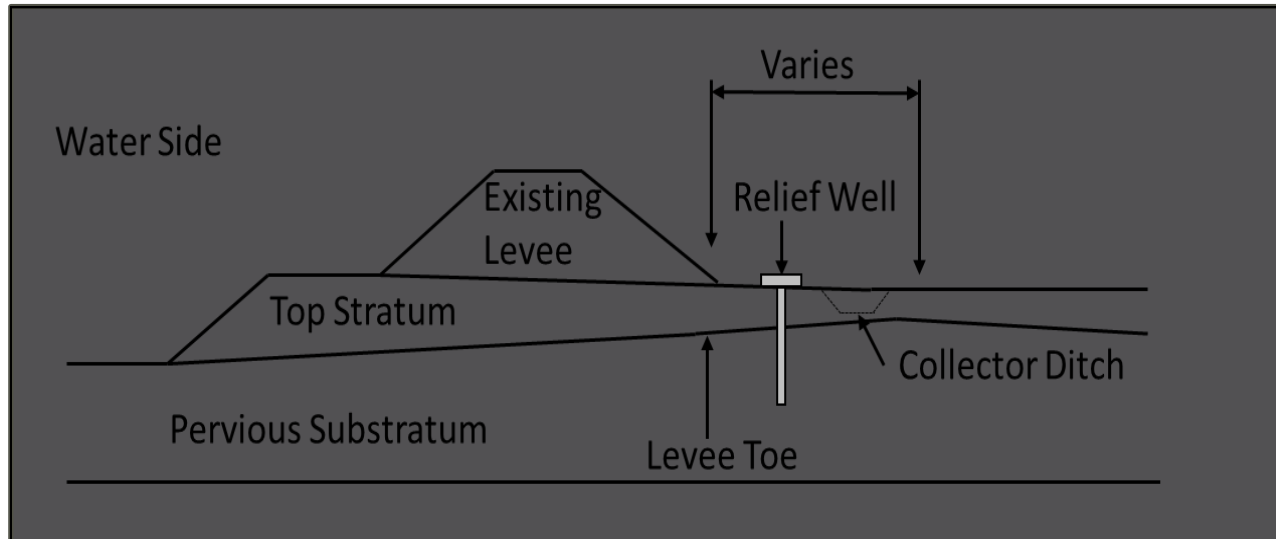
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RELIEF WELLS

16



Relief wells are vertically installed wells consisting of a well screen surrounded by a filter material designed to prevent in-wash of foundation materials into the well. Relief wells intercept underseepage and provide a controlled outlet for the water while minimizing material transport underneath the levee.





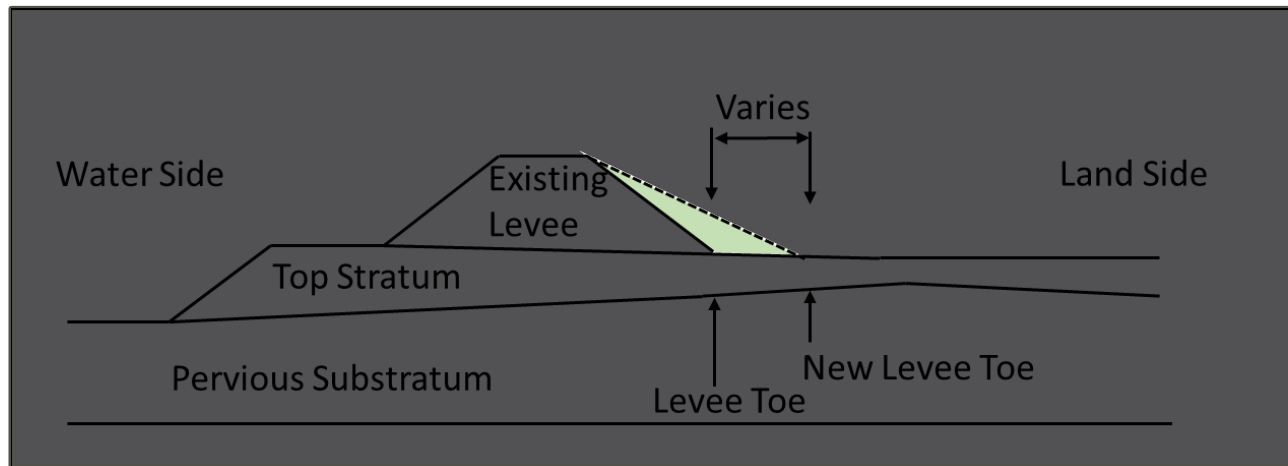
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SLOPE FLATTENING

17



Areas with recurring levee slides require measures beyond ordinary operations and maintenance repairs. In these locations, the slopes of the levee will be flattened to reduce the chances of slide recurrence.





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NEW ORLEANS DISTRICT OVERVIEW AGENDA

18



Mississippi Rivers & Tributaries

- Atchafalaya Basin
 - Disaster Relief Supplemental Appropriations Act 2022 (DRSAA)
 - Infrastructure Investment and Jobs Act (IIJA) / Bipartisan Infrastructure Law (BIL)
- Mississippi River Levee
 - Annual Program
 - BBA18 Long Term Supplemental Phase II (BBA18 LTS)
 - Disaster Relief Supplemental Appropriations Act 2022 (DRSAA)
- Morganza to the Gulf
 - Annual Program
 - Infrastructure Investment and Jobs Act(IIJA) / Bipartisan Infrastructure Law (BIL)

Questions



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ATCHAFALAYA BASIN

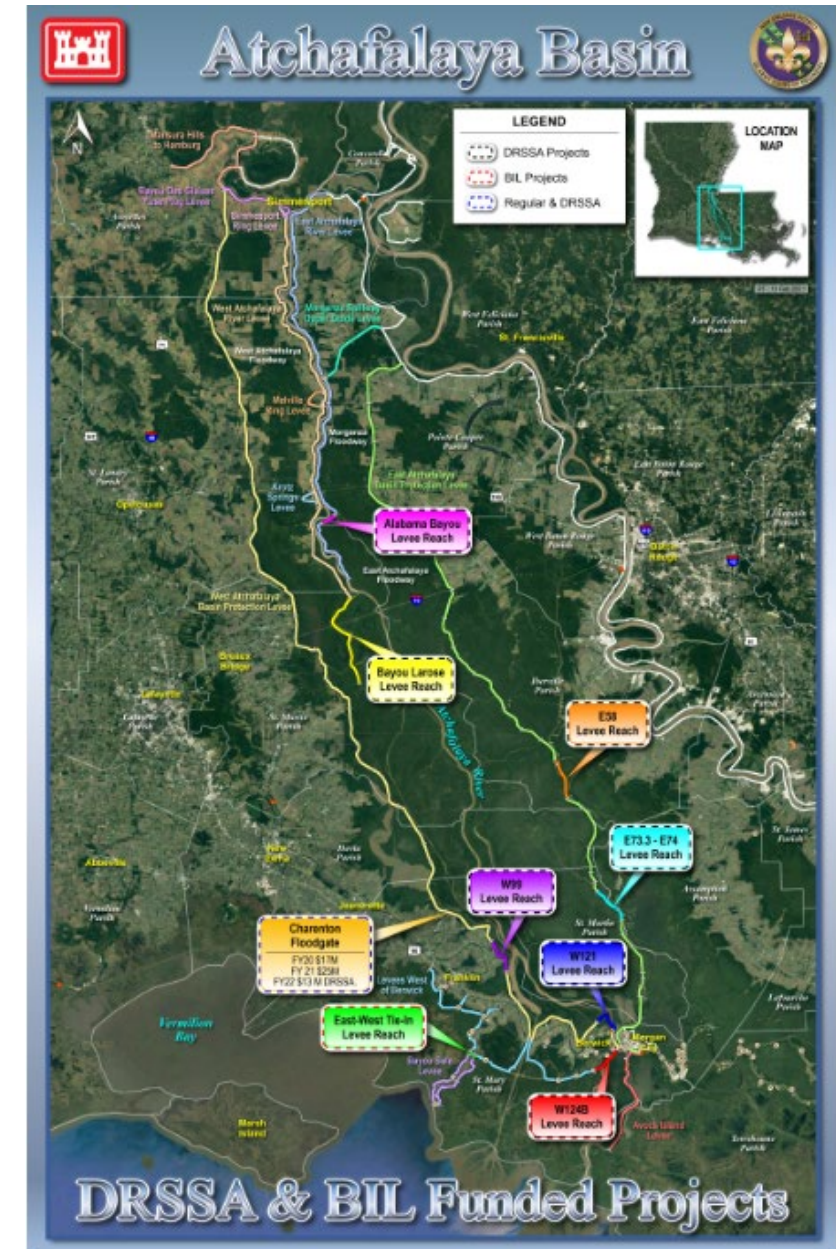
Project Overview

20



Project Description/Scope:

- DRSA, IIJA, & BIL authorized funding for design and construction to address flood risk management concerns:
 - Alabama Bayou Levee Lift
 - Bayou La Rose Levee Lift
 - E73.3 – E74 Levee Lift
 - W99 Levee Lift
 - W121 Levee Lift
 - W124B Levee Lift
 - Bayou Sale – East West Tie In
- Proposed work includes levee lifts and floodwalls
- Solicitations between ~Q1 FY26 through ~Q4 FY28
- Award range \$500k - \$20M





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ATCHAFALAYA BASIN

PROJECT DELIVERY SCHEDULE

21



Project Name	Project Location	Type of Work	Solicitation*
Alabama Bayou Levee Reach	Krotz Springs, LA Pointe Coupee Parish	Levee Lift	Q1 2026
Bayou La Rose Levee Reach	East of Henderson, LA St Martin Parish	Levee Lift	Q1 2026
E73.3 through E74 Levee Reaches	Belle River, LA St Martin Parish	Levee Lift	Q1 2027
W99 Levee Reach	Franklin, LA St Mary Parish	Levee Lift	Q4 2028
W121 Levee Reach	Berwick, LA St Mary Parish	Levee Lift	Q2 2026
W124B Levee Reach	Berwick, LA St Mary Parish	Levee Lift	Q1 2025
Bayou Sale – East West Tie In Reach	Bayou Sale, LA St Mary Parish	Levee Lift/Floodwall	Q1 2025

*NOTE: Solicitation dates are based on Fiscal Year Calendar, and are subject to change as designs are refined



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MISSISSIPPI RIVER LEVEE (MRL)

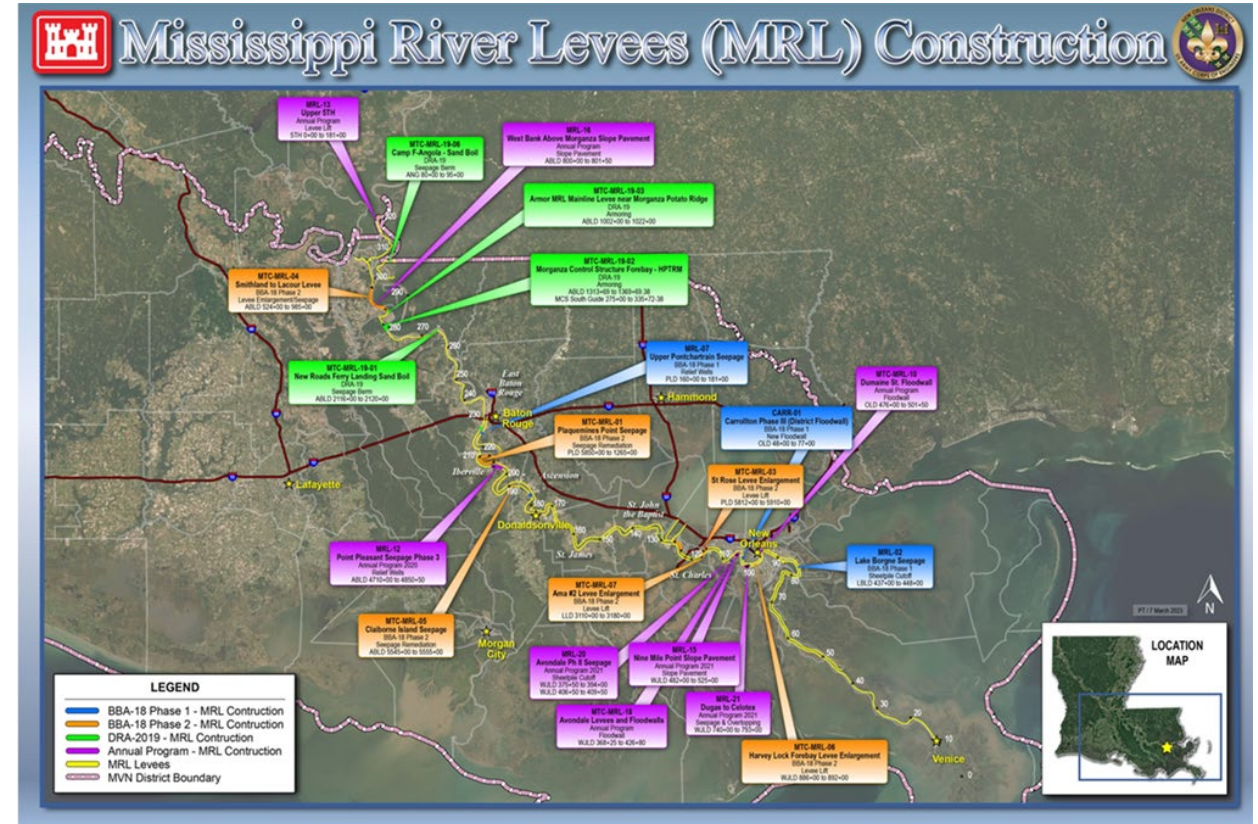
Project Overview

22



Project Description/Scope:

- Annual Program, BBA18LTS, & DRSAAs authorized funding for design and construction to address flood risk management concerns:
 - Dugas to Celotex
 - Avondale Levee and Floodwall
 - Harvey Lock Forebay - Levee
 - IHNC Lock Forebay - Levee
 - Port Allen Levee Enlargement/ Floodwall
 - Thomas Point/Smithfield Levee Enlargement
 - Plaquemines/ Reveille Levee Enlargement
 - Bayou Goula to Alhambra Levee Enlargement
 - Marchand/Carville/Ben Hur Rd Levee Enlargement
 - Smoke Bend Levee Enlargement
 - Welham Plantation Levee Enlargement
 - Belmont/ Romeville-College Point/ Romeville Levee Enlargement
 - Waggaman Levee Enlargement/ Floodwall
- Proposed work includes levee enlargements, floodwalls, and seepage remediation
- Solicitations between ~Q3 FY24 through ~Q1 FY26
- Award range >\$1M - <\$25M





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MISSISSIPPI RIVER LEVEE (MRL) PROJECT DELIVERY SCHEDULE

23



Project Name	Project Location	Type of Work	Solicitation*
Dugas to Celotex	Jefferson Parish, LA	Seepage Remediation/ Sheetpile Cutoff	Q2 2024
Avondale Levee and Floodwall	Jefferson Parish, LA	Overtopping	Q1 2025
Harvey Lock Forebay – Levee	Jefferson Parish, LA	Overtopping/ Floodwall	Q3 2025
IHNC Lock Forebay – Levee	Orleans Parish, LA	Levee Enlargement/ Floodwall	Q1 2027
Port Allen	West Baton Rouge Parish, LA	Levee Enlargement/ Floodwall	Q1 2026
Thomas Point/Smithfield	West Baton Rouge Parish, LA	Levee Enlargement	Q3 2025
Plaquemines/ Reveille	Iberville Parish, LA	Levee Enlargement	Q3 2025
Bayou Goula to Alhambra	Iberville Parish, LA	Levee Enlargement	Q3 2025
Marchand/Carville/Ben Hur Rd	Iberville, Ascension, & Baton Rouge Parish, LA	Levee Enlargement	Q1 2027
Smoke Bend	Ascension Parish, LA	Levee Enlargement	Q4 2025
Welham Plantation	St. James Parish, LA	Levee Enlargement	Q4 2025
Belmont/Romeville-College/ Romeville	St. James & Ascension Parish, LA	Levee Enlargement	Q4 2025
Waggaman	Jefferson Parish, LA	Levee Enlargement	Q4 2025

*NOTE: Solicitation dates are based on Fiscal Year Calendar, and are subject to change as designs are refined



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MORGANZA TO THE GULF PROJECT OVERVIEW

24



Project Description/Scope:

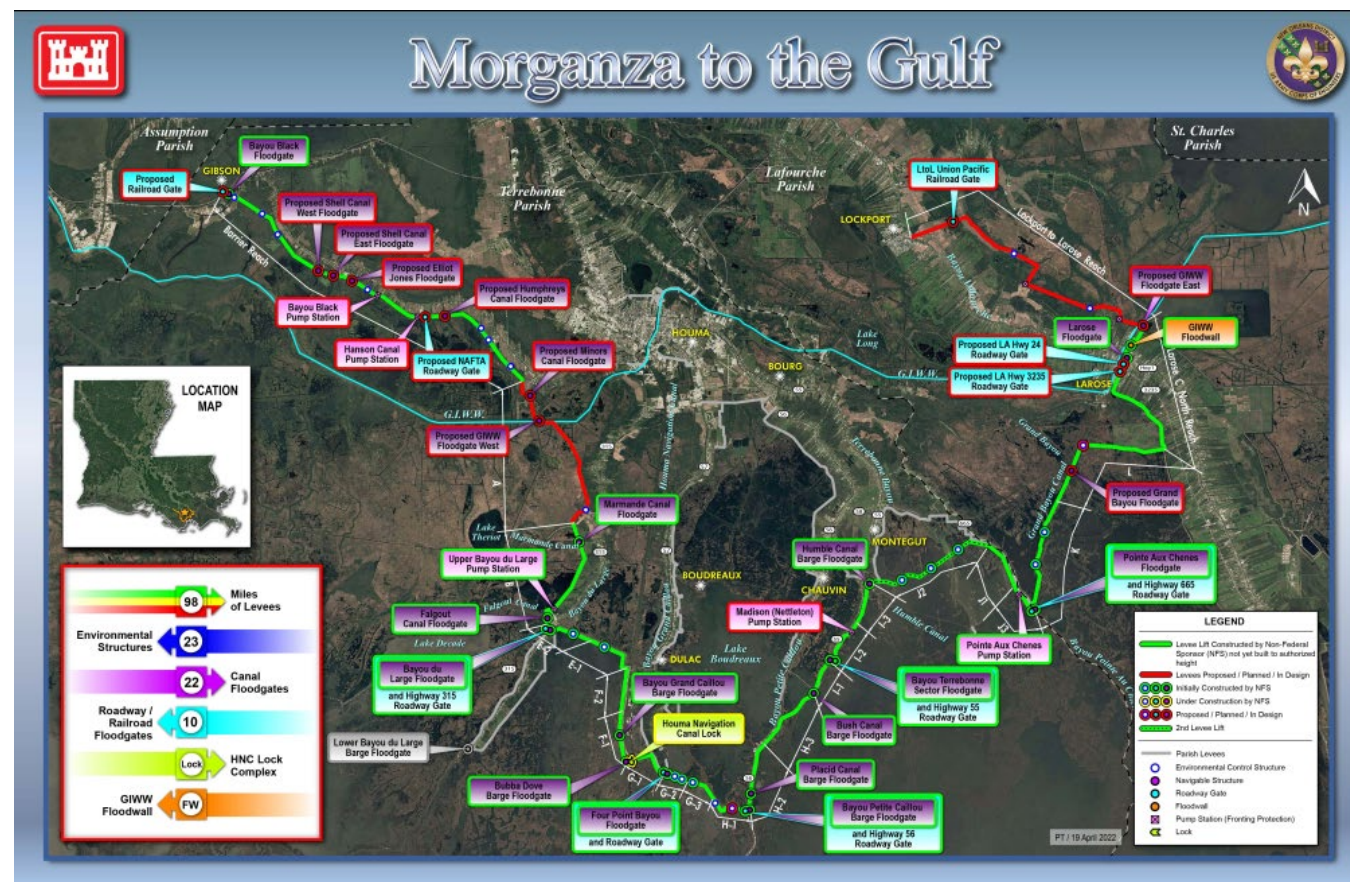
- DRSAA, IIJA, & BIL authorized funding for design and/or construction to address flood risk management concerns:

- Features funded for design and construction:

- Reach A Levee (portion)
- Lockport to Larose (portion)
- Minors Canal Floodgate
- GIWW West Floodgate
- GIWW East Floodgate
- Humble Canal Floodgate

- Features funded for design include:

- Reach F Levee
- Reach J-2 Levee
- Reach L Levee
- Reach K Levee
- Bayou Terrebonne Floodgate
- Shell Floodgate



- Proposed work includes levee enlargements, floodwalls, water control structures and seepage remediation
- Solicitations between ~Q3 FY24 through ~Q4 FY26
- Award range \$10M - \$250M



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Morganza to the Gulf

PROJECT DELIVERY SCHEDULE

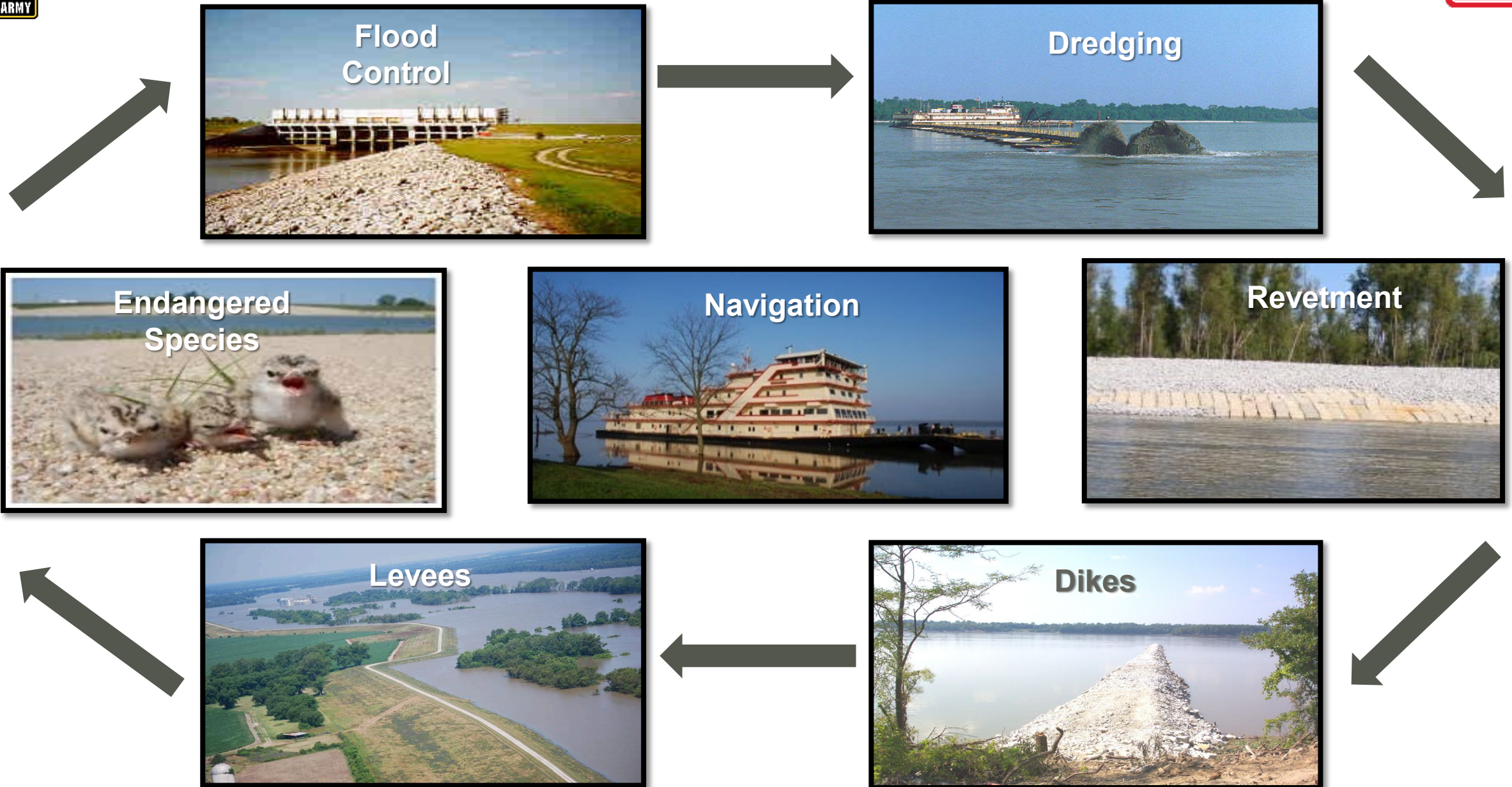
25



Project Name	Project Location	Type of Work	Solicitation*
Reach A Levee (portion)	Terrebonne Parish, LA	Levee Construction	Q3 2024
Lockport to LaRose (portion)	Lafourche Parish, LA	Levee Construction	TBD
Minors Canal Floodgate	Terrebonne Parish, LA	Floodgate	TBD
GIWW West Floodgate	Terrebonne Parish, LA	Floodgate	TBD
GIWW East Floodgate	Lafourche Parish, LA	Floodgate	TBD
Humble Canal Floodgate	Terrebonne Parish, LA	Floodgate	2027
Reach F Levee	Lafourche Parish, LA	Levee Lift	Q4 2025 (Pending funding)
Reach J-2 Levee	Terrebonne Parish, LA	Levee Lift and Structure Replacement	2026 (Pending Funding)
Reach L Levee	Lafourche Parish, LA	Levee Lift	Pending Funding
Reach K Levee	Lafourche Parish, LA	Levee Lift and Structure Replacement	Pending Funding
Bayou Terrebonne Floodgate	Lafourche Parish, LA	Floodgate	Pending Funding
Shell Floodgate	Terrebonne Parish, LA	Floodgate	Pending Funding

*NOTE: Solicitation dates are based on Fiscal Year Calendar, and are subject to change as designs are refined

PRESENT: AN INTEGRATED SYSTEM





QUESTIONS

