

U.S. ARMY CORPS OF ENGINEERS OMAHA DISTRICT

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08 JULY 2019



"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



**US Army Corps
of Engineers®**



USACE MISSION AND VISION



Organization:

The United States Army Corps of Engineers is a branch in the Army.

Vision:

Engineering solutions for the Nation's toughest challenges in order to be the federal engineer of choice

Mission:

The Omaha District delivers quality engineering solutions in a timely and cost-effective manner, through collaboration with our partners, to secure our Nation, energize our economy, reduce disaster risk, protect our environment and manage our water resources



US Army Corps
of Engineers®





LTG Todd Semonite
Commanding General and
Chief of Engineers

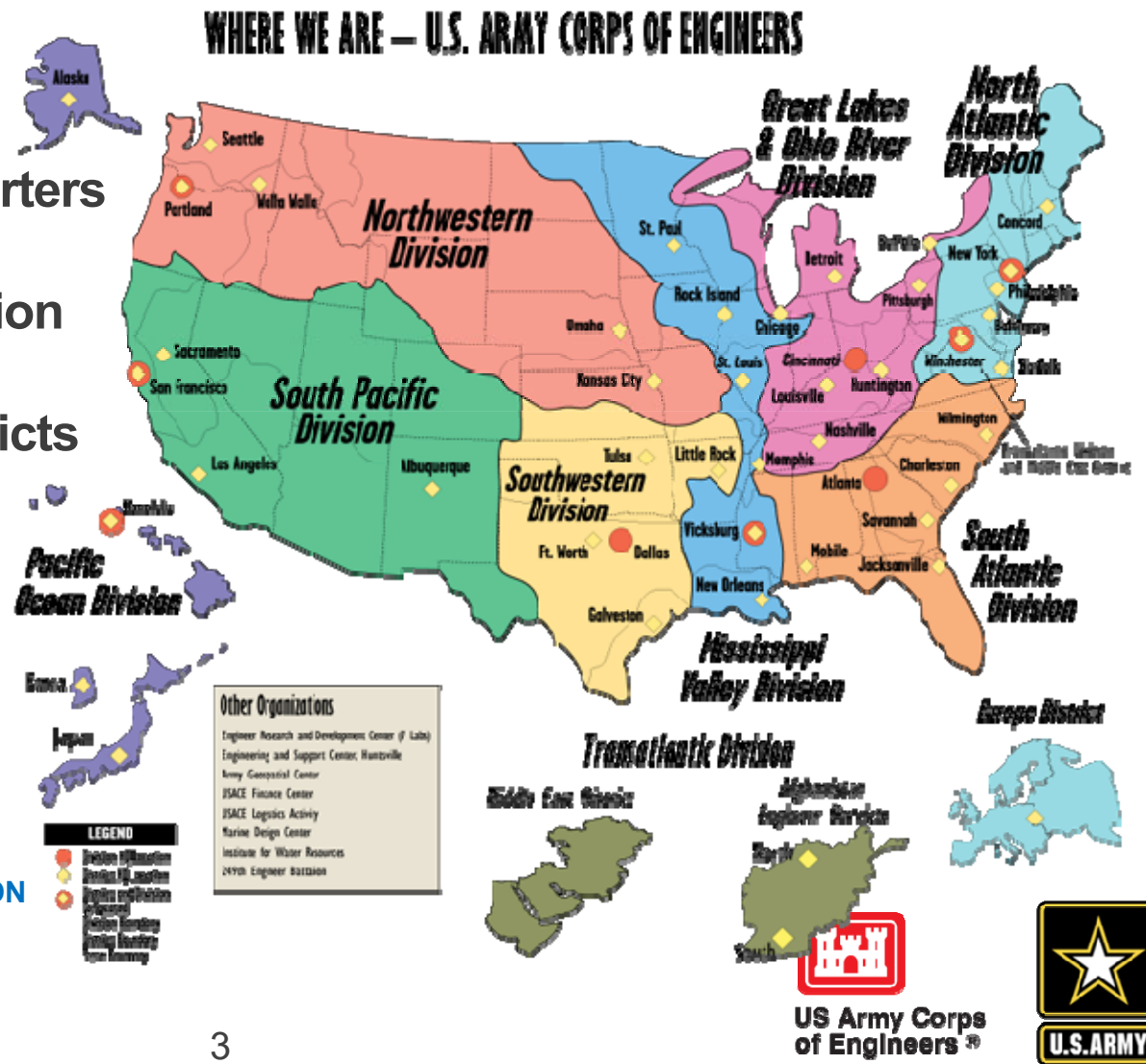
Check out the Chief's 'On the Road' videos at:

<https://www.youtube.com/user/CORPSCONNECTION>

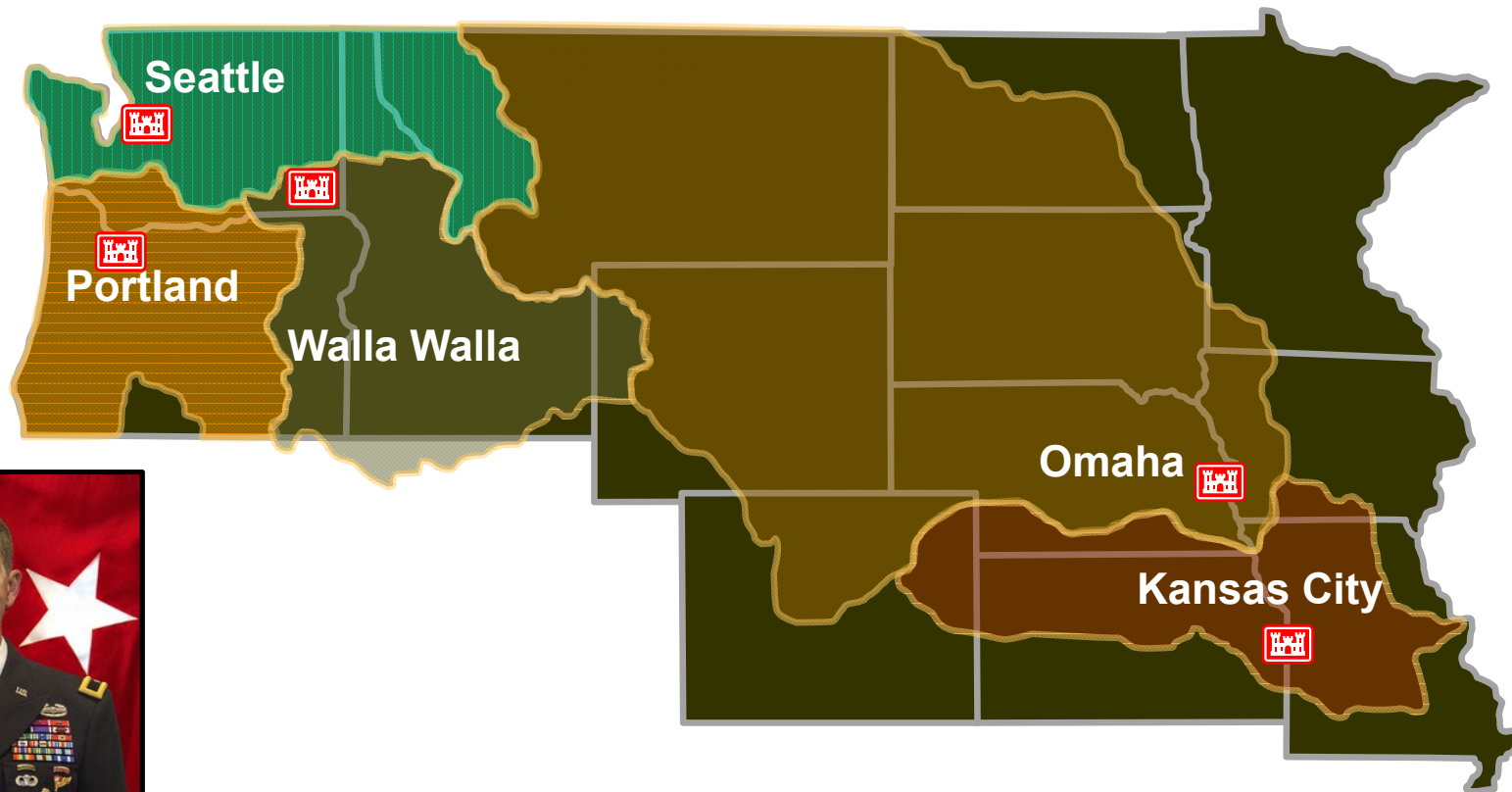
Headquarters

9 Division

41 Districts



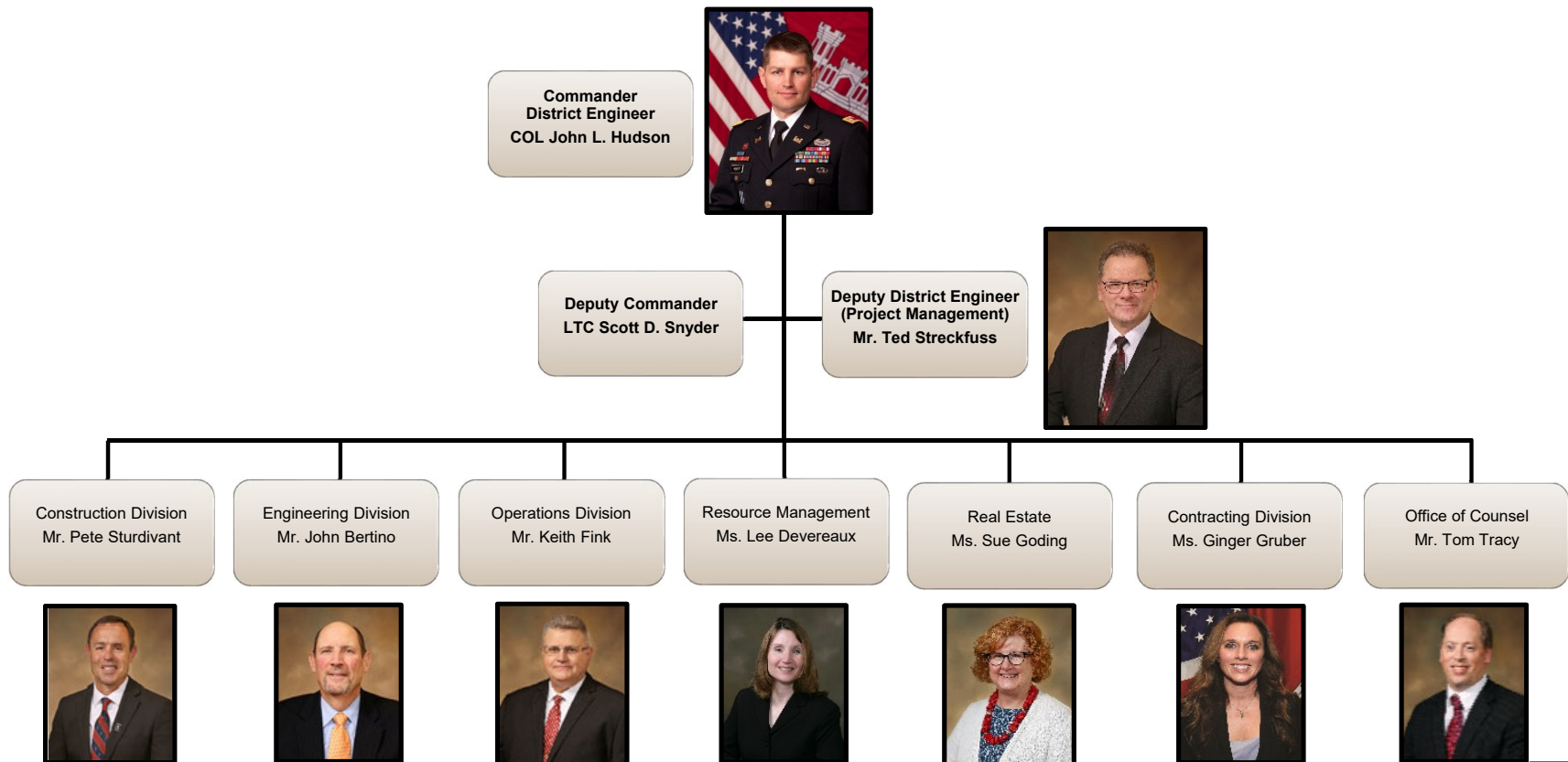
NORTHWESTERN DIVISION



BG Peter Helmlinger
NWD Commander



OMAHA DISTRICT CORPORATE BOARD



Omaha Specific Characteristics

- Regulatory Program in 6 states
- Real Estate Services in 10 states
- **AOR in all or part of 9 states**
- **700,000 square miles**
- Nearly 60 locations
- **27 Dams (6 mainstem dams)**
- 247 miles River Navigation
- 284 Recreation Areas
- 99 miles Missouri National Recreation River
- 6,627 miles of Shoreline
- 5,000+ Regulatory Permit Applications annually
- 53 Federally-recognized Tribal Nations (29 - Missouri River System)
- Protected Cultural Sites
- 2,300+ projects annually
- **658 miles of levees**
- 37 Public Water Systems w/Intakes (700+ 'straws')*

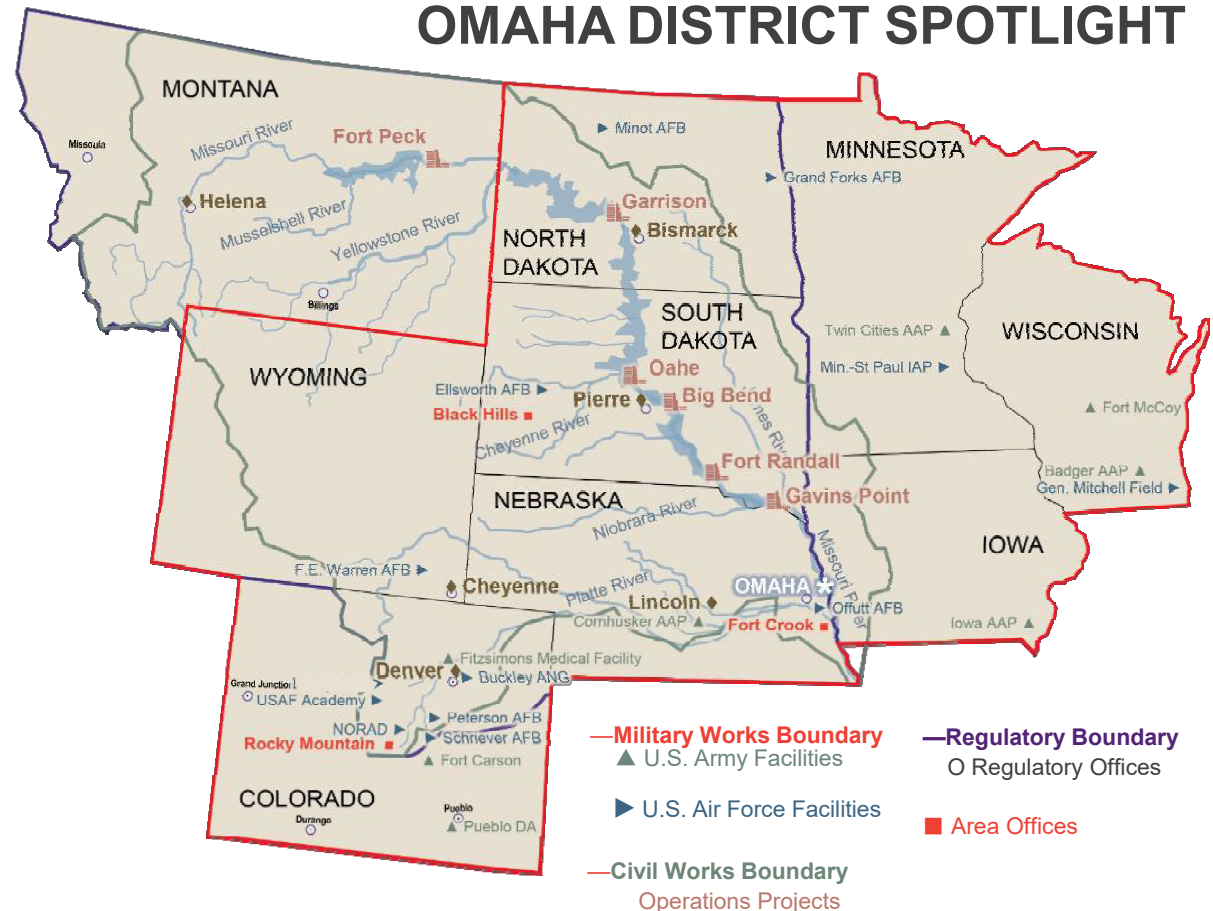
Centers of Expertise

- Protective Design MCX
- Transportation MCX
- Fuels Systems MCX
- Rapid Response CX
- Interior Design CX
- Military Munitions Restoration Program Design Center
- Dam Safety Production Center

Centers of Standardization

- Religious Facilities COS
- Access Control Points COS

OMAHA DISTRICT SPOTLIGHT



**US Army Corps
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OMAHA DISTRICT BUSINESS LINES

CIVIL WORKS

MILITARY CONSTRUCTION

ENVIRONMENTAL REMEDIATION

INTERNATIONAL INTERAGENCY SERVICES (IIS)



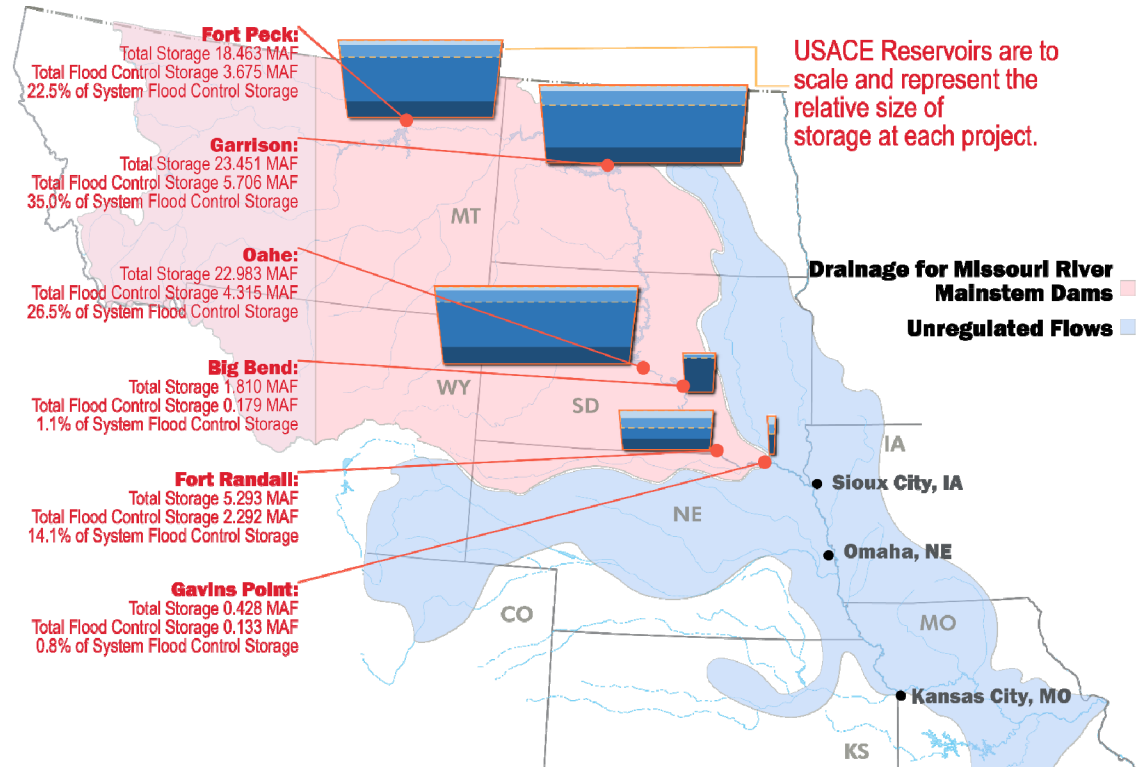
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MISSOURI RIVER MAIN STEM DAMS

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Flood Control

Total System Storage Space:

22% of System Storage - 16.3 MAF

ONLY purpose requiring empty reservoir space

Empty space required at start of each runoff season

Amount has not changed since 1967 when System filled

Exclusive Flood Control:

6% of System Storage - 4.67 MAF

Generally empty - Reserved exclusively for largest of floods

Annual Flood Control & Multiple Use:

16% of System Storage - 11.63 MAF

Empty at start of each runoff season

Catches annual runoff - Releases support authorized purposes

Releases ensure zone is empty by start of the next runoff season



REGULATE MISSOURI RIVER MAINSTEM SYSTEM TO SUPPORT CONGRESSIONALLY AUTHORIZED PURPOSES

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–Runoff driven system

–Authorized Purposes



Flood Control



Navigation



Hydropower



Water Supply



Fish & Wildlife
including Threatened &
Endangered Species



Irrigation



Water Quality
Control



Recreation



SMALL FLOOD RISK MANAGEMENT

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Authority:	Section 205 , Flood Control Act of 1948, as amended
Purpose:	Construct projects (structural or nonstructural) to reduce damages caused by flooding. Focuses on solving local flood problems in urban areas, towns and villages.
Cost Share:	Feasibility – 100% Federal up to \$100K then 50% Federal / 50% Non-Federal Design & Construction – 65% Federal / 35% Non-Federal
Federal Limit:	\$10 million



GENERAL INVESTIGATIONS (GI)



- Traditional and most common way for the Corps to assist a community in addressing large-scale, complex water resource problems including flood risk management and ecosystem restoration.

- Involve detailed feasibility-level planning to define problems and evaluate potential alternatives.
 - Feasibility studies are cost shared (50% Federal / 50% Non-Federal)
 - Projects that receive authorization and appropriation for construction are cost shared (65% Federal / 35% Non-Federal)



PL 84-99 – THE USACE EMERGENCY MANAGEMENT AUTHORITY

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- Legislation
 - Public Law 84-99
 - Discretionary authority given to the Corps by Congress to act and react to emergencies caused by floods, contaminated water sources, and drought



Program Authority

- Public Law 84-99 provides an emergency fund to be expended for:
 - Preparation for emergency responses to any natural disaster
 - Flood fighting
 - Repair & restoration of flood control works and hurricane shore protection (coastal storm damage projects)
- Executed through the Flood Control and Coastal Emergencies (FCCE) appropriation

Program Activities:

- Preparedness
- Response
 - ▶ Advance Measures
 - ▶ Emergency Operations
 - ▶ Water Assistance
- Rehabilitation
- Hazard Mitigation



PL 84-99 – THE USACE EMERGENCY MANAGEMENT AUTHORITY

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Rehabilitation

- Only “Active” flood risk management projects eligible for repair
- Repair any Federally constructed coastal storm damage reduction projects
- Non-Federal Projects repaired at 80% Federal and 20% Non-Federal cost
- Sponsor can provide their cost-share in Cash, Work in Kind, or Combination of Both
- Federal Projects repaired at 100% Federal cost
- Repair to the level of protection provided by the structure prior to the flood.
- No granting or reimbursement authority under PL 84-99



Damages must be flood related and exceed \$15k in estimated cost to repair.



PL 84-99 LEVEE REHABILITATION

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L611-614 03 July 2019



L575_B 20 June 2019



L575_A 24 June 2019



USACE AND LEVEE REHABILITATION

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Post 2011 Flood Event Repairs

- Engineering concerns with the levee foundation along the original alignment of the levee. This was due to underseepage that occurred during the long duration of flooding in 2011.
- Setback levee was constructed both upstream and downstream of Hwy 2.
- Current setback levee curves riverward to meet the existing Hwy 2 embankment at the designed levee top elevation to eliminate the need for a closure structure across Hwy2.



Yellow Line – Pre-2011 Levee Alignment
Red Line – Current Levee Alignment



2019 FLOOD EVENT

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March 16, 2019

Riverward

Landward



March 17, 2019





HIGHWAY 2 AT THE MISSOURI RIVER

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BENEFITS OF THE OVERFLOW BRIDGE

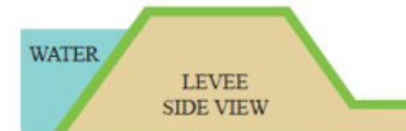
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Decrease in water levels upstream of Hwy 2 and reduces flow velocities.

Increase in Levee Resilience

- Decreases likelihood of levee overtopping
- Decreases levee loading for flood events less than the top of the levee.



Decrease in Risk

- A decrease in likelihood of overtopping and loading results in less risk of failure due to overtopping and to breach prior to overtopping.
- It does not eliminate the risk due to there being risk anytime a levee is loaded and for flood events that exceed the top of levee.

Having the bridge in place prior to next flood season allows:

- Capture the benefits prior to the next flood event.

Overflow Bridge at Hwy 2

- Compliments the work completed by USACE post 2011 flood event.

QUESTIONS?

