

# *Alternative Financing and Delivery*

## Corps Program and the Fargo-Moorhead Diversion

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US Army Corps of Engineers  
**BUILDING STRONG**



# Challenges and Opportunities

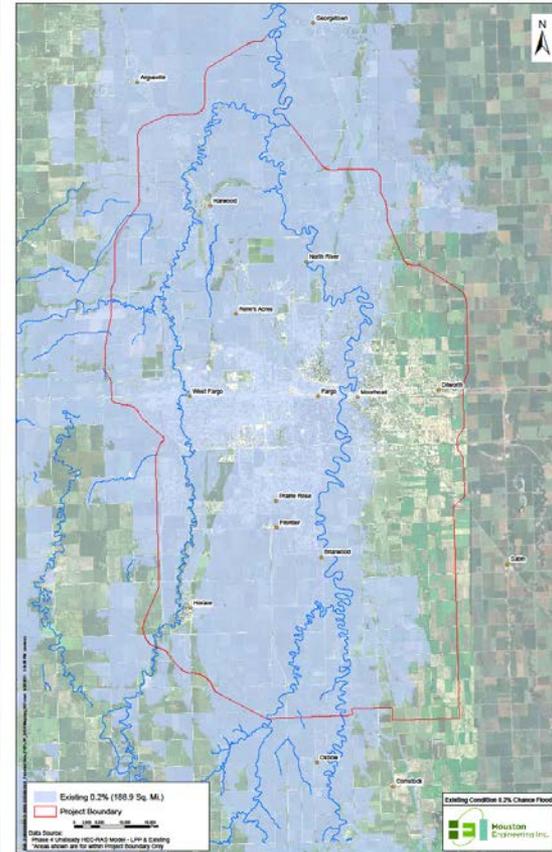
- **Corps Civil Works Portfolio: 3,000+ Operational Projects, with Replacement Value of Approx \$268B**
- **Corps Civil Works Asset Classes are Diverse**
  - Flood & Coastal Storm Damage
  - Coastal and Inland Harbors
  - Inland Waterways
  - Hydropower
  - Dam & Levee Safety Programs
  - Water Storage
  - Aquatic Ecosystems
  - Water-Based Recreation
- **Demands for CW Infrastructure Maintenance, Operations, and Capital Investment are Expanding**
  - Civil Works New Construction Backlog → \$ 60B
  - ASCE: Dams, Levees, IWW's = "D" → \$140B
- **CW Infrastructure Systems Aging, Experiencing Negative Performance Trends Across Portfolio (Serviced by ~\$4.6B Annual Budget Nationally....)**



# Fargo-Moorhead Diversion

## Without Project

- Metro area will continue to be subject to flooding and rely on emergency responses
- Failure of emergency levees would be catastrophic
- Expected average annual flood damages greater than **\$194.8 million** and will continue to increase
- **\$10 billion** estimated damages from a 500-year flood



Existing 500-year inundation



# Estimated Flood Damages

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## Flood Damages:

- 100-year flood event - ~\$6 Billion
- 500-year flood event - ~\$10 Billion

## Loss of Life:

- ~200 for 100-year flood event
- ~600 for 500-year flood event



Emergency Levee – 2<sup>nd</sup> Street looking south



# Fargo-Moorhead Metro – Value to the Nation

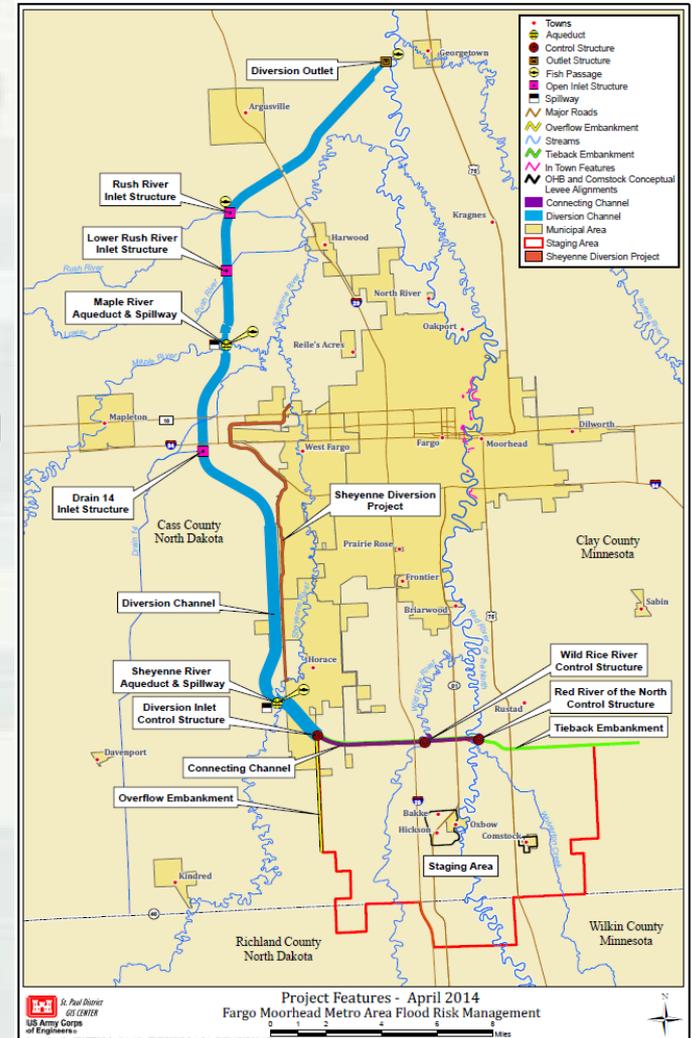
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- **Flood stage has been exceeded in 50 of the last 112 years or 20 or the last 22 years**
- **8 of the 16 “major” floods on record have occurred since 2000**
- **230,000 people live and work in the Fargo-Moorhead Metro**
- **Fargo-Moorhead is a major health, educational, cultural and commercial center which generates:**
  - \$5.48 billion in annual non-farming wages
  - over \$3.51 billion in annual taxable sales
  - \$19 billion in property value
- **North Dakota is the second in national oil production at over 1,000,000 barrels/day**
- **Roughly half the oil travels through Fargo-Moorhead on the DOD’s Strategic Rail Corridor Network (STRACNET)**



# Why the Diversion?

- What are the benefits
  - Provides 100-year level of risk reduction
  - Ability to flood fight up to a 500-year event
  - Provides benefits to more than 70 square miles of existing infrastructure
  - The diversion plan is the **safest, most reliable, and most resilient plan** for existing infrastructure and population centers
- Plan Components
  - 30 mile, 20,000 cfs diversion channel
  - 2 aqueduct structures (Sheyenne and Maple)
  - 2 control structures (Red and Wild Rice)
  - 1 Diversion inlet control structure
  - Southern embankment



# Strong Local Sponsor Team

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- Local Sponsors: Cities of Fargo and Moorhead and Diversion Authority



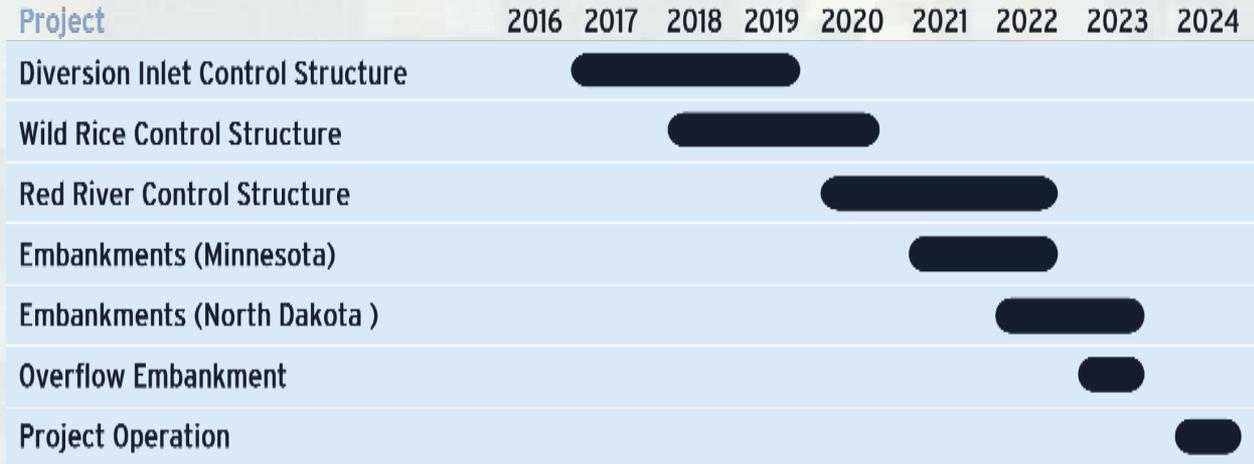
- Local Partners:
  - ▶ Cass County ND and Clay County, MN
  - ▶ Cass County Jt. Water Resource District
- Have secured local share through local sales taxes, state funding, and special assessment district



# Construction

## ●●● FEDERAL CONSTRUCTION SCHEDULE ●●●

### SOUTHERN EMBANKMENT



- **Federal Construction**
  - **Traditional delivery (design bid build)**
    - 3 large control structure contracts
    - 8 small to medium embankment contracts

- Federal schedule assumes capability funding stream



# What are we Demonstrating

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- **Viability and Value of Alternative Delivery**
  - Accelerating Project Delivery
    - Reducing Cost to Taxpayers
    - Realizing NED Benefits Earlier
    - Achieving Reduced Risk Exposure of Population and Infrastructure Sooner
  - Transfer of Contracting and Construction Risk to Private Sector
  - Approach to Reduce USACE Project Backlog
  - Local Sponsor led P3 Contracts and Larger Role in Delivery
- **Viability and Value of Alternative Financing**
  - Revenue Generation Model for Large FRM Projects
  - Market Interest and Responsiveness to Larger Scale Civil Works Projects
  - Transfer of Financial Risk to Private Sector
  - Implements Tenets of President's Build America Initiative



# What are we Demonstrating

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- **Corps and sponsors responsibilities for P3**
  - **National Environmental Policy Act (NEPA)**
    - Corps generally responsible for NEPA documentation (ROD complete)
    - Sponsors supply information for any needed changes
    - Developed detailed process including timeframes
  - **Technical requirements**
    - Corps and sponsors to agree on requirements
    - Sponsors control and Corps advisor, as needed
    - Changes to technical requirements (Corps involvement):
      - Subject to breach that potentially results in loss of life
      - Change to any fundamental aspect of the technical requirements
        - i.e How much flow the diversion must handle.
      - All others by sponsors.



# Innovation

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- **Innovative approach to project implementation**
  - **Split delivery**
    - Sponsor lead diversion
    - Corps lead southern embankment (Dam)
- **Innovative approach to coordination for P3**
  - Corps and sponsors agreement on:
    - Technical and NEPA process
    - Corps level of involvement
- **Innovation in delivery**
  - Private sectors turn
    - Corps completed large amount of design ~10 miles
    - Aqueduct structures, inlets, bridges, etc.
    - 55 million cubic yards of material to move
    - Corps and sponsors agreement on performance based outputs



# Important Milestones

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- On 9 February 2016 the project was allocated \$5M as a construction new start.
- On 31 March 2016 the courts ruled in favor of the Corps and all counts against the Corps have been dismissed with prejudice.
- On 16 May 2016 the MNDNR released its final EIS which reconfirmed the Federal findings and analysis.
- 7 June 2016 – Joint Industry Day – [www.fmdiversion.com/industryday](http://www.fmdiversion.com/industryday)
- July 2016 – Anticipated execution of the Project Partnership Agreement between the Corps and Sponsors
- July 2016 – P3 RFQ Issued, Corps Diversion Inlet solicitation issued
- November 2016 – P3 RFP Issued, Federal construction begins



# Summary

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- The diversion plan is the only feasible way to provide 100-year flood risk management to the Fargo-Moorhead metro area.
- The Project was authorized for construction by Congress in June 2014.
- The Project was funded for construction in February 2016.
- FMM is the first Demonstration Project for alternative financing.
- Split delivery is an innovative approach for FMM and national problem
- Federal construction anticipated to begin in the fall of 2016.

