Alternative Financing and Delivery

Corps Program and the Fargo-Moorhead Diversion

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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....)
Alternative Financing & Delivery

- The Corps has been Trying to Think Differently About Its Approach to Project Financing and Delivery
  - Meet Administration Intent While Protecting Tax Payer and Federal Equities
  - Working Portfolio of P3 Demonstration Projects, w/in Existing Authority

- Two National Problems Corps is Trying to Address Through AF/P3
  - For Existing Infrastructure, Sustain Performance, Extend Service Life, and/or Buy Down Risk for the Nation
  - Accelerate Delivery of New Infrastructure to Reduce Life Cycle Costs and Achieve Earlier Accrual of Project Benefits to the Nation

- April 2015 Treasury Report → “...years of underinvestment in our public infrastructure have imposed massive costs on our economy.”
Alternative Financing & Delivery

- Looking for innovative ways to achieve goals of:
  - Accelerating Project Delivery
  - Reducing cost to taxpayers
  - Reducing risk to population and infrastructure sooner
  - Reducing scheduling and funding risks
  - Demonstrate a viable strategy to reduce USACE backlog of projects
Corps Demonstration Program

- Ongoing Demonstration Program (Existing Auth/Policy)
  - Most Mature: Fargo-Moorhead Metro (FRM Construction)
  - Most Sophisticated: Illinois Waterway (Inland Navigation O&M)
    - Aimed at the operations and maintenance of Federal assets
    - Possible bundling of many sites
    - Questions on revenue source, along with legal policy issues.
  - Most straight forward: Grand Prairie (Water supply)
    - RFI – responses due July 25th
    - June 22nd Industry day
  - Feasibility: Ala Wai
    - Still in feasibility study phase
    - Looking to bundle Corps Flood Risk Project with locally desired water quality, ecosystem, and recreation features.
  - Other considerations – hydropower and recreation
    - Corps has a large number of hydro and recreational facilities
    - Work with Power Marketing Administration (PMA) on hydro – policy/legal issues
    - Need to identify recreation opportunities.
Alternative Financing Challenges

- **Payment Mechanisms, Availability Payments**
  - Inability to Make Commitments on Future Appropriations

- **Budget Scoring**
  - Scores Full Federal Project Cost Up Front in First Year

- **Revenue Generation and Ring-Fencing**
  - Ability to Collect, Retain and Reinvest Fees/Charges

- **Budgetability**
  - Prioritization of Projects Within Current Budget Policy (Benefit-Cost Ratio)
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

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
Fargo-Moorhead Metro – Value to the Nation

- 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
Split Delivery Plan

- Entire project is Federal project
- Diversion Channel - non-Federal Sponsors
- Southern Embankment (dry dam) and mitigation - USACE
- Innovative approach
- Reduces Federal share by $400 million
- Accelerates project delivery
  - 11 contracts vs. 28
  - Diversion/embankment constructed simultaneously
  - Mitigates appropriations risk
- Optimal delivery schedule – 6.5 years construction
- Plan works well in current market environment
- Implementable within Existing Authority, No Additional Authority Required
Split Delivery Plan

- **Diversion Channel - non-Federal Sponsors**
- Design, Build, Finance, Operate, and Maintain Contract
- 30 year period of O&M, with remaining life turn over requirements.
- Milestone payments during construction
- Availability payments during O&M (annual)
- Transfers design and construction risks to contractor.
- RFQ available with responses due by 4:00 PM Central time on 7 September 2016.

Split Delivery Plan

- **Southern Embankment - Federal**
- Design-bid-build contracts
- 6.5 years of construction
- 11 contracts (3 large and 8 small to medium)
- Appropriations driven schedule
- Corps maintains design, construction and appropriations risk.
- Diversion Inlet first Federal construction
- Concurrent design of control structures and embankment reaches
- Diversion Inlet RFP - [https://www.fbo.gov/index?s=opportunity&mode=form&id=9c7ebe844c1bedb18f0665c72f973186&tab=core&_cview=1](https://www.fbo.gov/index?s=opportunity&mode=form&id=9c7ebe844c1bedb18f0665c72f973186&tab=core&_cview=1)
Financial Plan Overview

- Key features:
  - Multiple financing tools, including a mix of public and private financing to achieve a robust and cost-effective financial profile and risk transfer
    - P3 financing to enhance project delivery
  - Long-term extension of existing sales taxes at current rates (subject to voter approval in November 2016)
    - Sales Tax Revenues will be used towards long-term public debt, PAYGO during construction, and Availability Payments to the P3 Developer
  - Availability of special assessment mechanism through an Improvement District is a key credit enhancement
    - No special assessments are anticipated to be required under the current plan of finance
Financial Plan Includes Diversion Authority and Fargo Flood Projects Totaling $2.2B

- Diversion Authority Projects: $763
- Diversion Channel P3 (DCAI): $433
- Fargo Flood Projects: $104
- U.S. Army Corps Construction (SEAI): [VALUE]

(2015 $ Million)
Sources of Funding and Financing

- Federal Funding
  - $450 million (2015$) to fund USACE portion of the Project, escalating to year-of-expenditure per PPA

- State Funding
  - $450 million from North Dakota for DA projects (committed)
  - $120 million from North Dakota for In-Town Projects (committed)
  - $43 million from Minnesota (to be requested)

- Sales Tax Revenues
  - 1¾ cent sales taxes allocated to FM Metro Flood Protection
  - Covers all PAYGO and debt service requirements

- Improvement District
  - Authorization of up to $725 million in Improvement District assessments in the event of revenue shortfall
  - Secures Improvement Bonds and Availability Payments
### Financial Plan Uses Existing City of Fargo and Cass County Sales Taxes

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*Accounts for other County-wide flood projects*
Revenue and Equity

- Project financed from sales and use taxes, grants, donations, and any other funds from Member Entities ("Pledged Revenues")
- If Pledged Revenues insufficient: propose sales and use tax increase to voters (Fargo/Cass County) and/or use Improvement District (CCJWRD)

- Anticipate 90/10 debt/equity ratios
- Consideration given to PAB’s and TIFIA – in touch with Build America Transportation Investment Center (BATIC)
Diversion Inlet Structure

- Project Information
  - Gated control structure
  - Pile foundation
  - 3-4 year construction
  - $25 to 100 Million construction cost
  - RFP: Low Price/Technically Acceptable
  - 3 Tainter gates
  - Approx. 1,050 feet of diversion and connecting channel
  - Approx. 410,000 CY Excavation
Diversion Inlet Structure - Isometric

- Overall Inlet Structure: 
  257’ long, 190’ wide, 61’ tall
- Tie-walls and Access Bridge: 
  299’ long/each side
- (3) 50-foot wide and 26-foot high tainter gates
- Approx. 15,500 CY concrete 
  (12,000 CY mass concrete)
FEDERAL CONSTRUCTION SCHEDULE
SOUTHERN EMBANKMENT

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- Federal schedule assumes capability funding stream
Policy and Budgeting Considerations

Traditional Delivery vs. Split Delivery

**Federal Input**

- One time $450M Investment

**National Output**

- $175M Annual Benefits

- **Split Delivery provides a significant return on investment**
  - Federal Investment of $450M will result in $175M in annual NED benefits.
  - Annualized Federal Investment is $21M with annual NED returns of $175M
  - Federal Return on Investment of 705% - (Benefits-Federal Costs)/Federal Costs
  - Reduces the Federal share (45% to 30%)

- **$450M investment**
  - Safeguards 225,000 people
  - Prevents $6B in damages from 100-year event
  - Prevents $10B in damage from a 500-year event
  - Prevents loss of life 200 people for 100-year and 600 people for 500-year
  - Provides domestic energy security
  - Reduces Federal disaster assistance
Strong Local Sponsor Team

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

- Local Partners:
  - Cass County ND and Clay County, MN
  - Buffalo-Red River Watershed District and Cass County Jt. Water Resource Board

- Have secured local share through local sales taxes, state funding, and special assessment district
Alternative Financing & Delivery

- Fargo-Moorhead will Demonstrate Proof of Concept for both Alternative Delivery and P3, While Also Mitigating Critical Life/Safety Risks and Economic Impacts in ND/MN
- Project was 1 of only 6 new construction starts for the entire Corps of Engineers
- Corps and sponsors agreed to pursue a “Split Delivery” Plan
- Diversion is a high priority project with visibility at all levels within the Corps.
- Outputs will be replicable to other:
  - Sponsor led P3 projects
  - Split delivery approaches
What are we Demonstrating

- **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 Design 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

- 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

- **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

- 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.


- 29 June 2016 – MNDNR determination of “adequacy” on final EIS

- 5 July 2016 – ASA(CW) determination “likely to resolve any outstanding regulatory issues”
Important Milestones

- 8 July 2016 – NDSWC Permit for Diversion Inlet provided
- 11 July 2016 – Project Partnership Agreement between the Corps and Sponsors was executed
- 11 July 2016 – Memorandum of Understanding and Roles and Responsibilities documents executed.
- 11 July RFP for Corps diversion inlet contract released, available at https://www.fbo.gov/
- 14 July 2016 – Sponsors released P3 RFQ
- November 2016 – P3 RFP Issued, Federal construction begins
Summary

- 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 to begin in the fall of 2016.
Questions?

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