

Fargo-Moorhead Metropolitan Flood Risk Management Project

Diversion Authority

October 11, 2012



US Army Corps of Engineers
BUILDING STRONG®





Improving the Project

- ✓ Continued analysis to improve overall project by increasing value, decreasing risk, and minimizing impacts:
 - ✓ Continue to develop detailed technical information
 - ✓ Value Engineering studies
 - ✓ Examine cost saving measures identified in feasibility study
 - ✓ Project will have impacts

Preferred Alternative – September 2012

- ✓ Option A alignment with:
 - ✓ In-town levees to Stage of 35 feet
 - ✓ Gates on diversion inlet structure

- ✓ Preferred alternative will:
 - ✓ Reduce impacts to upstream area (Richland/Wilkin Counties)
 - ✓ Maintain the downstream impacts as described in the FEIS
 - ✓ Reduce impacts to farming (summer floods)
 - ✓ Minimize impacts to the environment (Connectivity and Geomorphology)
 - ✓ Reduce long-term project risk
 - ✓ Reduce long-term project operation and maintenance
 - ✓ Reduce overall project cost by \$53 million

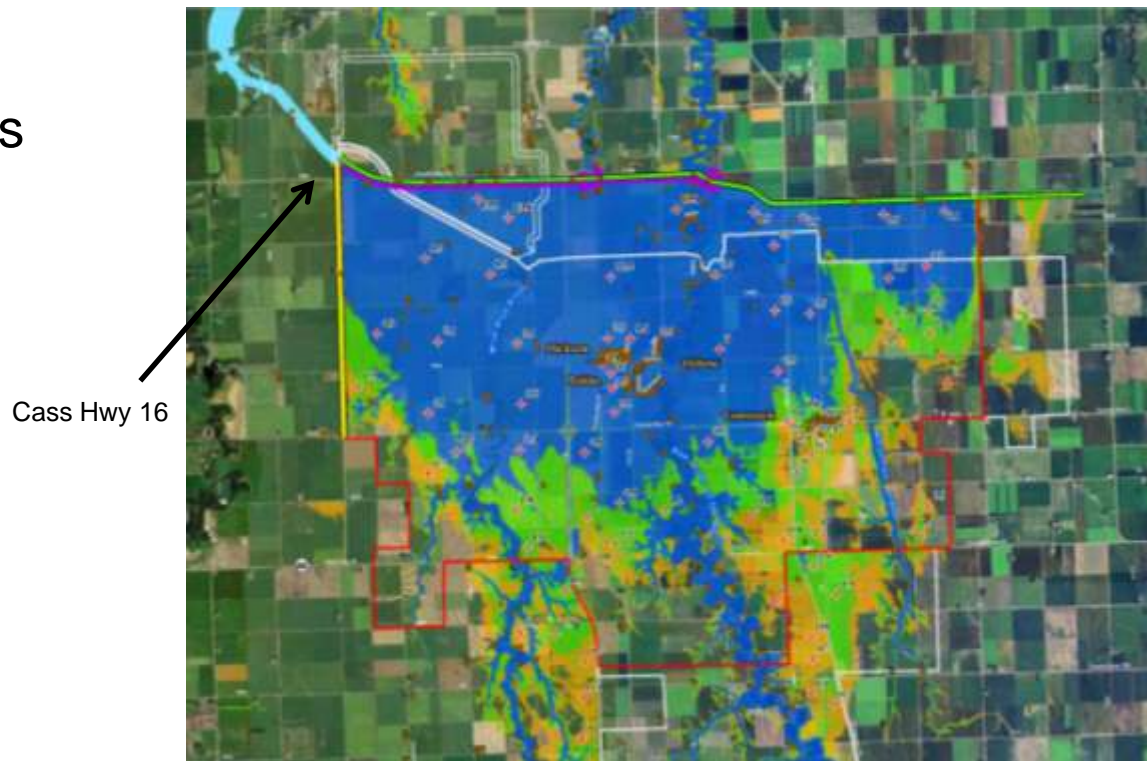


Analysis since September Meetings

- ✓ Sponsors receiving public comments
- ✓ Performing additional checks on supporting analyses

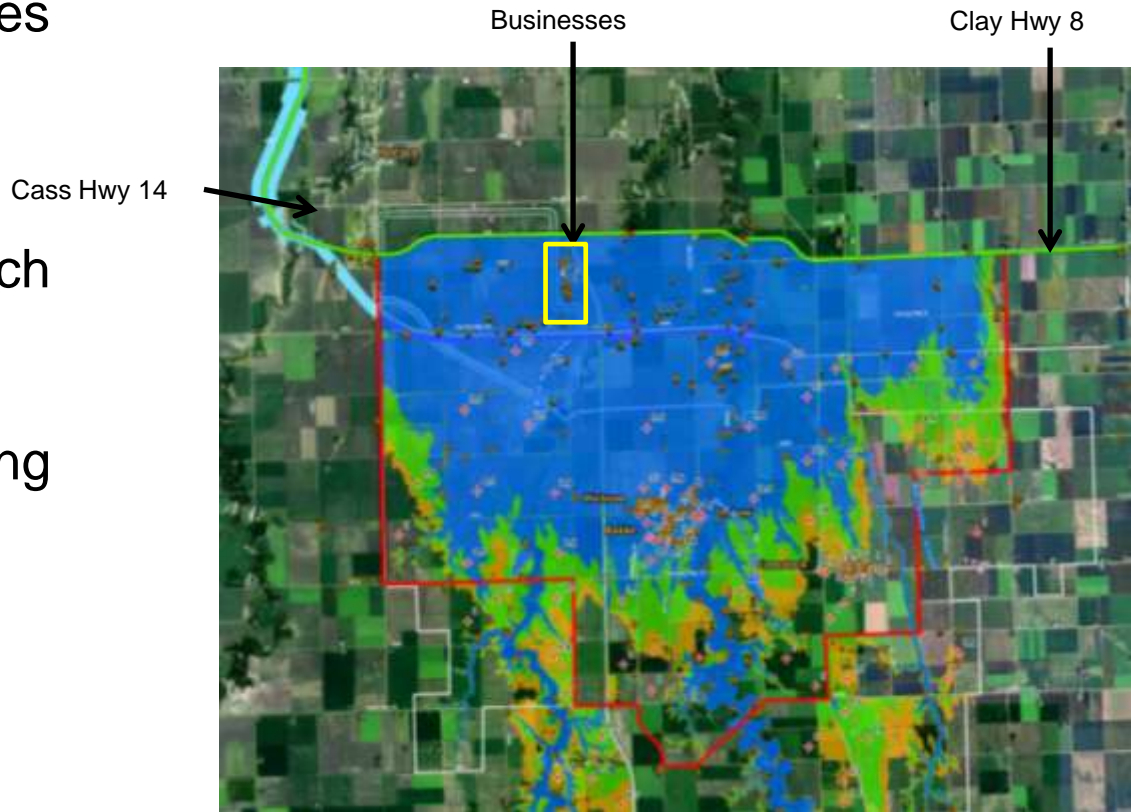
Upstream Staging Area (Option A Preferred)

- ✓ Includes Inlet Gates and In-Town Levees
- ✓ 251 residential structures affected



Upstream Staging Area (Option C)

- ✓ 305 residential structures affected
- ✓ Businesses affected
 - ✓ St. Benedicts Church
 - ✓ Sun Gold Foods
 - ✓ Westfield Distributing
 - ✓ Grain Handler Inc.



Richland and Wilkin Co. Inundation Reports

- ✓ Impacts to Counties with Alignment A:
 - ✓ Richland: 3 residential structures and 1,071 acres
 - ✓ Wilkin: 2 residential structures and 995 acres

- ✓ A vast majority of additional-depth impacts are between 0 and 1 foot

- ✓ No impacts during a 10-year event

- ✓ The additional duration of flooding approximately 2-7 days

- ✓ Estimated Flowage Easements to be acquired:
 - ✓ 788 acres in Richland Co.
 - ✓ 450 acres in Wilkin Co.



Summary

| Induced Impacts in the Staging Area (100-year event) | | | |
|--|--------|---------------------|---------------------|
| Impacts | FRP | VE-13A ¹ | VE-13C ¹ |
| Residential Structures (no ring levees) | 387 | 251 | 305 |
| Residential Structures (with ring levees) | N/A | 58 | 133 |
| Newly Impacted Residential Structures | N/A | 34 | 80 |
| Total Acres Impacted | 33,930 | 32,523 | 32,383 |
| 100 yr Staging Elevation at (Staging area) | 923.0 | 922.1 | 919.5 |
| Water elevation at Richland/Wilkin County line | 923.1 | 922.5 | 920.5 |
| Length of Embankment upstream of Sheyenne River (miles) ² | 21.0 | 23.1 | 16.6 |
| Flowage Easement Acres in Richland County | 2,513 | 788 | 150 |
| Residential Structures in Richland Co, Staging Area | 18 | 2 | 0 |
| Flowage Easement Acres in Wilkin County | 2,922 | 450 | 30 |
| Residential Structures in Wilkin Co, Staging Area | 2 | 1 | 0 |
| Cost Savings Relative to FRP (\$ in millions) | - | 59.0 | 47.0 |

Notes:

1. With In-Town Levees and Gates on the Diversion Inlet
2. Includes length of ring levee embankments.

Corps Recommendation on Southern Alignment

- ✓ Option A alignment with
 - ✓ In-town levees to Stage of 35 feet
 - ✓ Gates on diversion inlet structure

- ✓ Why Option A over Option C
 - ✓ 54 fewer residential structures in Staging Area
 - ✓ 75 fewer residential structures with levees at Comstock and Oxbow/Bakke/Hickson
 - ✓ 46 fewer newly-impacted residential structures
 - ✓ Avoids businesses
 - ✓ Provides a greater reduction in cost to the Project
 - ✓ Retains more project benefits

Ring Levee – Oxbow, Bakke and Hickson

- ✓ Explore the option with the communities of Oxbow, Bakke and Hickson
- ✓ Must be technically feasible
- ✓ Would allow partial vs. full buyout of homes





Path Forward

- ✓ **October 11, 2012: Recommendation from Diversion Authority**
- ✓ November 2012: Corps begins NEPA process – with public input
- ✓ 2013: NEPA process complete and decision is finalized