Overall Mouse River Enhanced Flood Protection Project Scope

- Basin wide approach to flood risk reduction in North Dakota
- Initially, time critical elements were in the developed areas
Overview of Phases 1-3
Overview of Phase 1

![Map showing Phase 1 floodwalls along 4th Avenue.]
Presentation Overview

1. Project Overview
2. Aesthetic Options for Public Consideration
3. Anticipated Schedule
4. Construction Estimate/Project Funding Summary
5. Questions/Input
Project Overview

- Project Objective
  - Phase 1 of MREFPP
  - Reduce reliance on emergency measures
  - Compatibility with future MREFPP Phases to allow future Floodplain Accreditation

- Level of Protection
  - 2011 Flood Levels + 3-ft
Project Overview
Project Overview – 2,250 ft of Concrete Floodwalls

12-15’± in Height
Project Overview – NDDOT Bridge Reconstruction

Conceptual bridge visualization provided by NDDOT (Subject to change)
Project Overview – Earthen Levees Segments

14’± in Height
Project Overview – 1 Removable Closure
Project Overview – Storm Water Pump Station

250,000± gpm capacity
Project Overview – Various Utility System Modifications

- Storm Sewer
- Sanitary Sewer
- Water Distribution
- Sundre Line
- Franchise Utilities
- New Sanitary Lift Station
Aesthetic Options for Public Input

- Broadway Gateway Options

- General Floodwall Coverage Options
Broadway Gateway Options

GENERAL CONCEPT A

GENERAL CONCEPT B
General Floodwall Coverage - Concept A

FLOODWALL
CONCEPT A

Formliner Precedent
Local Architecture

Formliner Patterns

Representative Formliner Wall
General Floodwall Coverage - Concept B

**FLOODWALL**
**CONCEPT B**

*Formliner Precedent*
*City of Minot Logo*

*Formliner Patterns*

*Representative Formliner Wall*
General Floodwall Coverage - Concept C

FLOODWALL
CONCEPT C

Formliner Precedent
Confluence Bridge Design

Formliner Patterns

Representative Formliner Wall
General Floodwall Coverage - Concept D

**FLOODWALL**

**CONCEPT D**

*Formliner Precedent*

*Confluence Bridge Design*

*Formliner Patterns*

*Representative Formliner Wall*
Anticipated Schedule

- 30% Design Completed
- **Public Meeting** (General Input and Review of Aesthetic Options…) - (Tonight)
- Finalized Design (Fall 2016)
- Right-of-Way Acquisition (On-going)
- Permitting/Environmental Review (Ongoing - Winter 2016)
- Construction (2017-2019)
- Vegetation Planting and Final Restoration/Closeout (2019)
## Current Construction Estimate / Project Funding

<table>
<thead>
<tr>
<th>Cost Breakdown/Element</th>
<th>OPC Phase 1 Total</th>
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<tbody>
<tr>
<td>Mobilization/Demobilization</td>
<td>$3.01M</td>
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<tr>
<td>Infrastructure Modifications</td>
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<tr>
<td>Ecological Mitigation</td>
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<tr>
<td>Roads, Road Raises, Railroads, and Bridges</td>
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<tr>
<td>Channel Improvements and Hydraulic Structures</td>
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<td>Levees, Floodwalls, and Closures</td>
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<tr>
<td>Interior Flood Damage Reduction Systems (Pumping Station)</td>
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<td>Recreation Features</td>
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<tr>
<td>Cultural Resource Investigations and Mitigation</td>
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<tr>
<td>Hazardous Waste Mitigation</td>
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<tr>
<td><strong>Estimated Construction Cost</strong></td>
<td><strong>$63.20M</strong></td>
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</tbody>
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- NDSWC
- City of Minot Sales Tax
Questions/Input