

Partnerships in Action

52nd Avenue Road and Bridge Project Story

Bringing together multiple agencies to solve transportation infrastructure challenges.

Meet Our Presenters



**Jeremy
McLaughlin**



**Adam
Ruud**



**Wes
Keller**



**Nate
Renner**

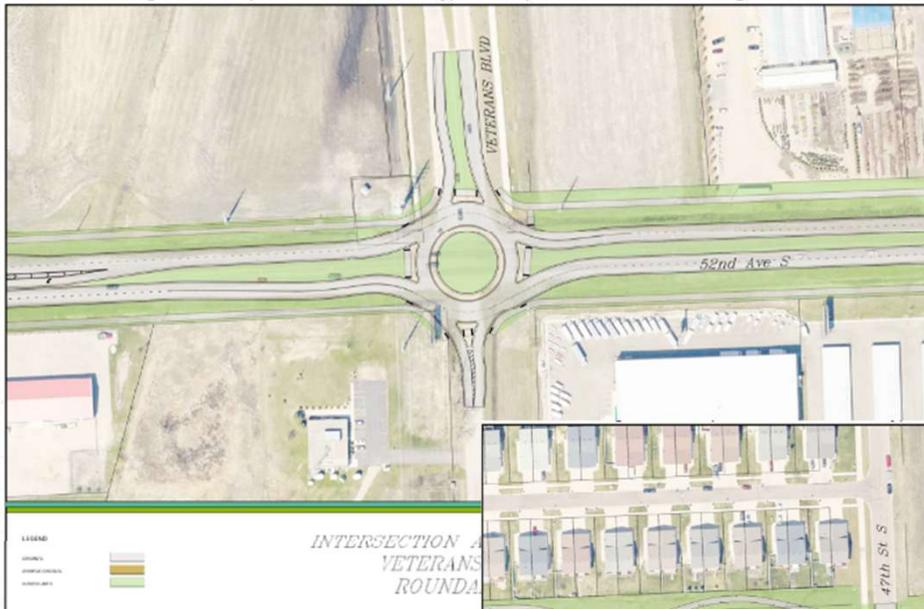
Project Background



- Project Partnerships
- Background
- Timeline
- Key Components
 - Roadway
 - Bridges
 - Construction

Roadway

Planning Study



- Intersection Alternatives:
 - Major Intersections
 - Roundabout
 - Signalized
 - Minor Intersections
 - Stop Controlled
 - $\frac{3}{4}$ Access
 - R-Cut

Recommend Alternative



- 4-Lane Urban Section
- Major Intersections
 - Signalized
- Minor Intersections
 - R-Cut
- Existing Roundabout Expansion at Sheyenne Street

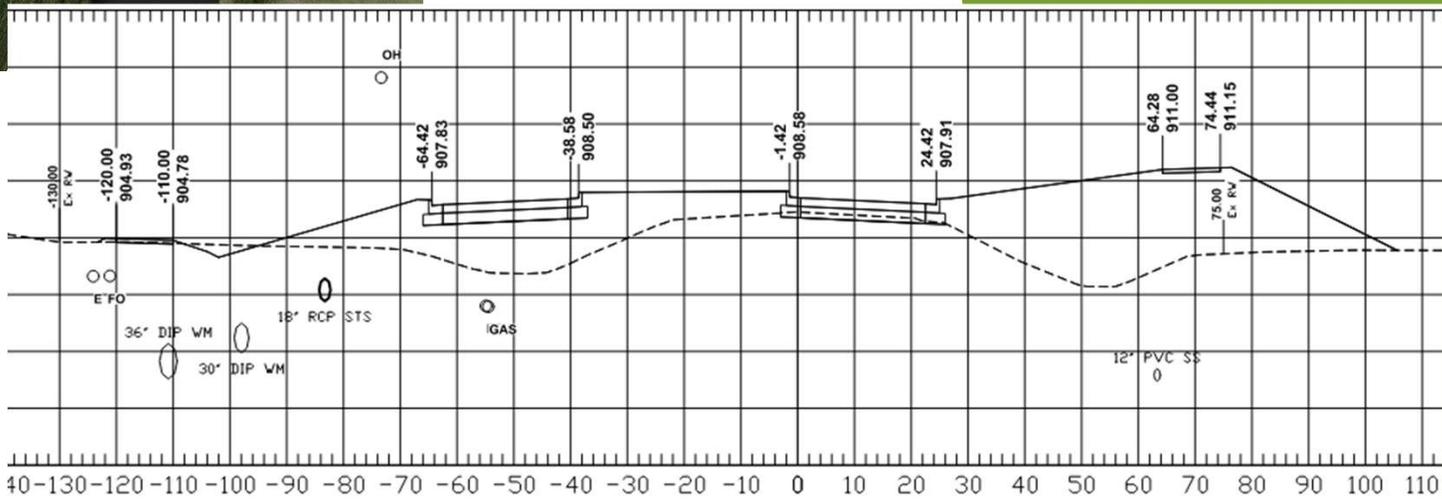
Recommend Alternative



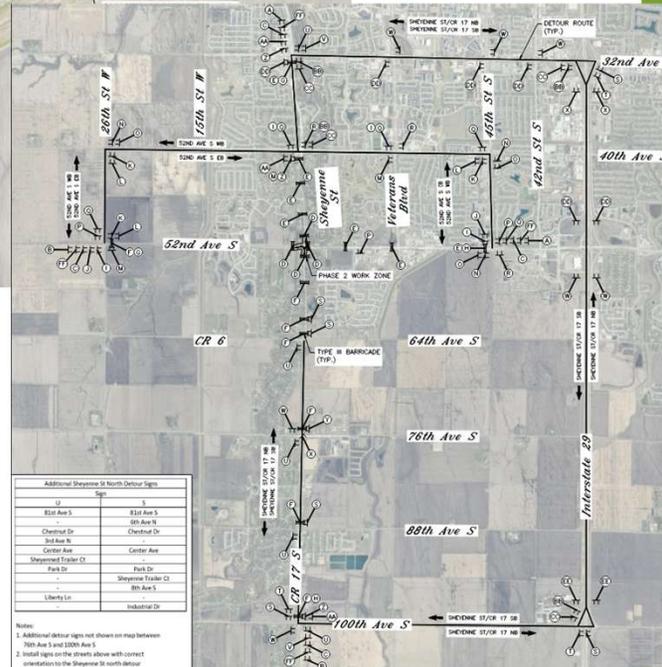
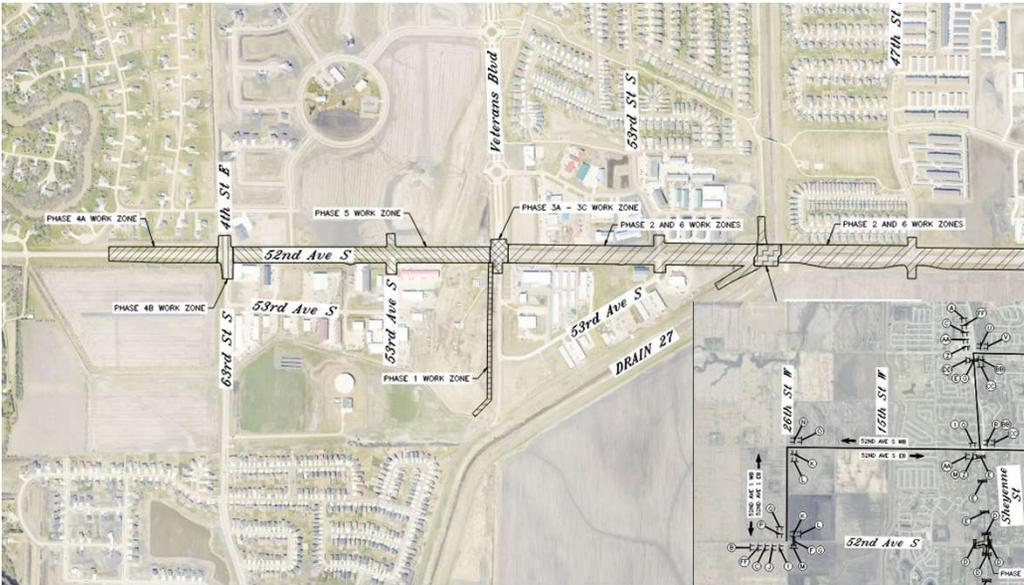
- R-Cut
 - Eliminates side road thru and left turn movement
 - FHWA: Can reduce accidents by up to **30%**

Recommended Alternative

- Shared Use Paths
 - Drain 27 Separated Crossing
 - Elevated Path



Project Sequencing



Additional Shepstone St North Detour Signs	
Signs	
17	5
82nd Ave S	82nd Ave S
80th Ave S	80th Ave S
Chesnut Dr	Chesnut Dr
Ball Park	Ball Park
Center Ave	Center Ave
Shepstone Tractor Ct	Shepstone Tractor Ct
Park Dr	Park Dr
Liberty Ln	Liberty Ln
	Industrial Dr

Notes:
 1. Additional detour signs not shown on map between 76th Ave S and 100th Ave S
 2. Install signs on the streets above with correct orientation to the Shepstone St north detour

- Two Separate Projects
- Traffic Maintenance

Coordination



Stakeholders

- City of Fargo
- City of West Fargo
- City of Horace
- Cass County
- NDDOT
- MetroCOG
- Southeast Cass Water Resource District



Agencies

- USACE: 404 Permit
- NDDWR: Sovereign Lands, Construction Permit
- Local Floodplain: Floodplain Permit



Utilities

- Gas
- Fiber Optic
- Electric
- Telephone
- City Water
- City Sanitary Sewer

Bridges

Drain 27 Bridge Highlights



- Separate WB & EB Bridges
 - 3-span
 - 170' L x 45' W
 - 2 lanes & 10' Shared-use Path (each bridge)
 - Pedestrian Facility Under West Span
- Coordination:
 - Establishing Channel Bottom Elevation
 - 1 Construction Season
 - Utility Coordination

Sheyenne Bridge Highlights



- Single Bridge
 - 3-Span
 - 130' L x 99' W
 - 2 lanes & 10' Shared-use Path Each Direction
 - 15' raised median
- Hydraulic Control Structure
 - Integral to Bridge Substructure
 - 2- 24' x 5'-9" Steel Slide Gates
 - Gate Column
 - Weir Walls
 - Fish Passage Ramps

Bridge Design Constraints



Before



After

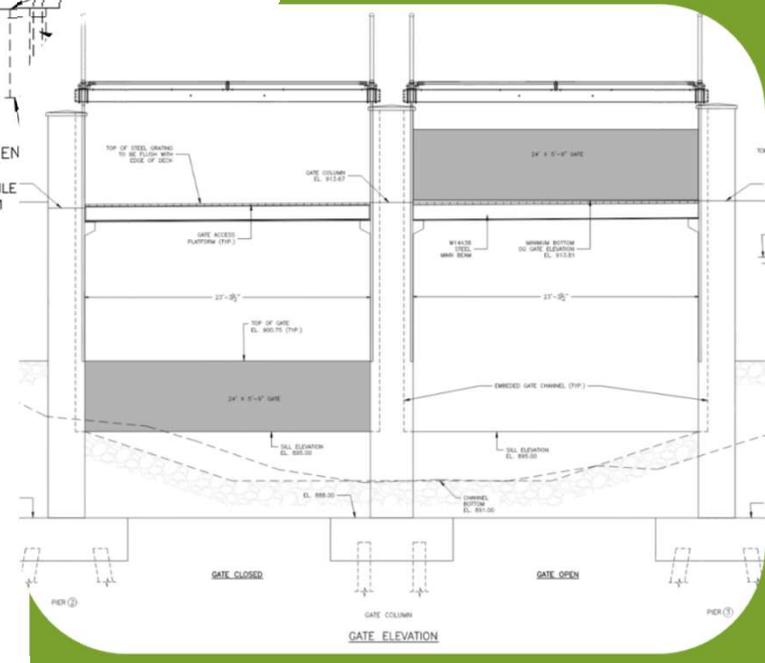
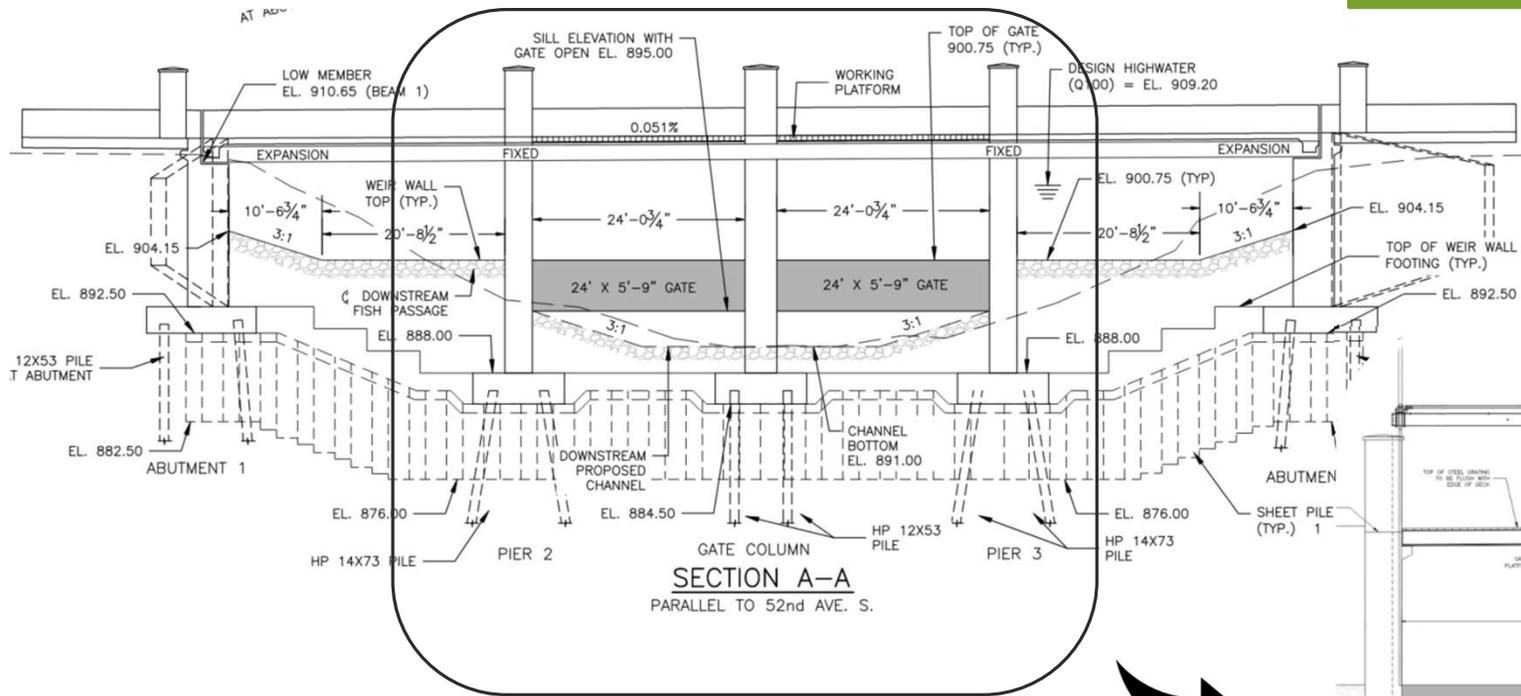
Legend

-  Roundabout
-  City of Fargo Intake Structure
-  Fish Barrier
-  Hydraulic Control Structure
-  Slope Stability

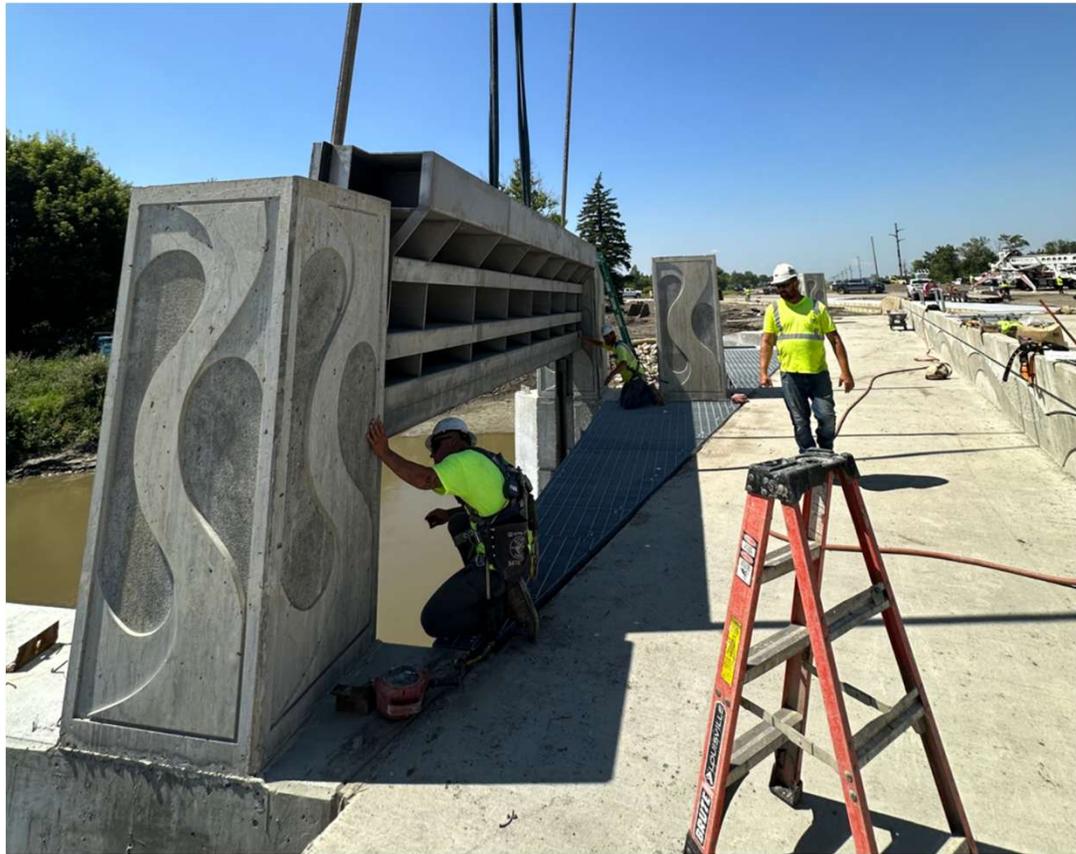
Hydraulic Control Structure



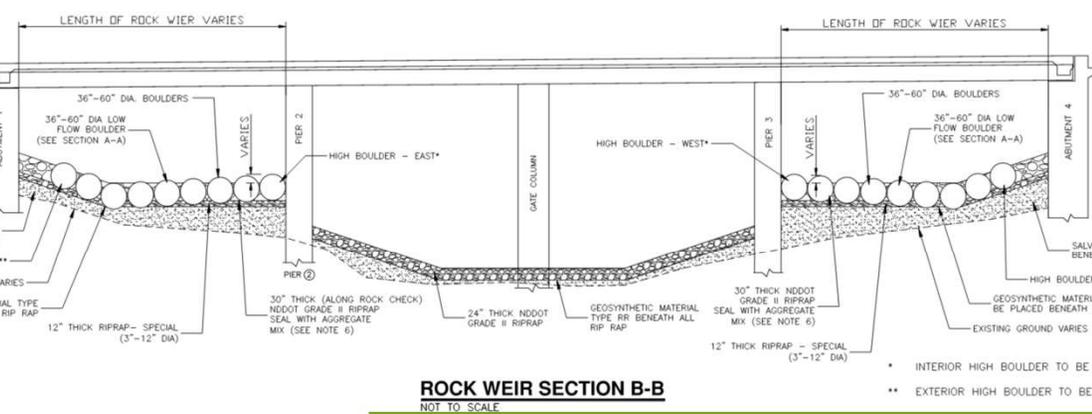
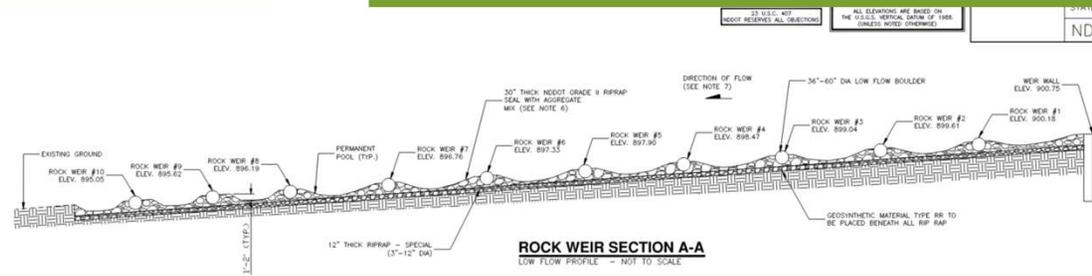
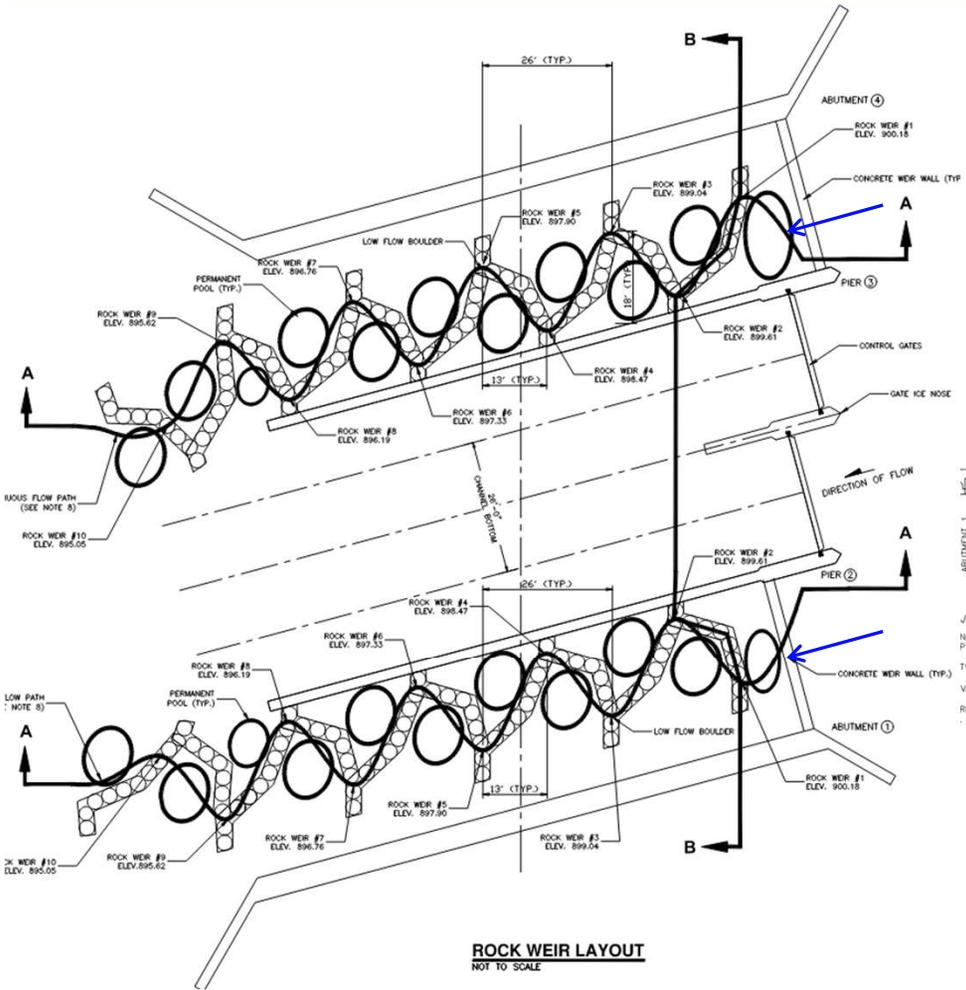
Hydraulic Control Structure



Control Structure Gates



Bridge – Fish Passage



- * INTERIOR HIGH BOULDER TO BE 6'
- ** EXTERIOR HIGH BOULDER TO BE 12'

ALL ELEVATIONS ARE BASED ON THE U.S. SEA LEVEL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

Bridge – Aesthetics



Construction

Construction Highlights

- 365 Day Construction Window
- Substructure Began August 2023
- Roadway / Underground Began April 2024
- 45 Day Construction Window for the Roundabout
- Open to Traffic August 2024

Construction Highlights



- 2 Phase Cofferdam
- \$2.4 Million Bid Item
- Winter has more consistent river levels
- Had to maintain:
 - Upstream water elevation / flow rate
- The contractor pursued sending some flow through the Sheyenne Diversion

Construction Highlights



- Fish Passage / Rock Weirs were installed on the outside spans.

Construction Highlights



- Fish Passage / Rock Weirs were installed on the outside spans.

Construction Highlights



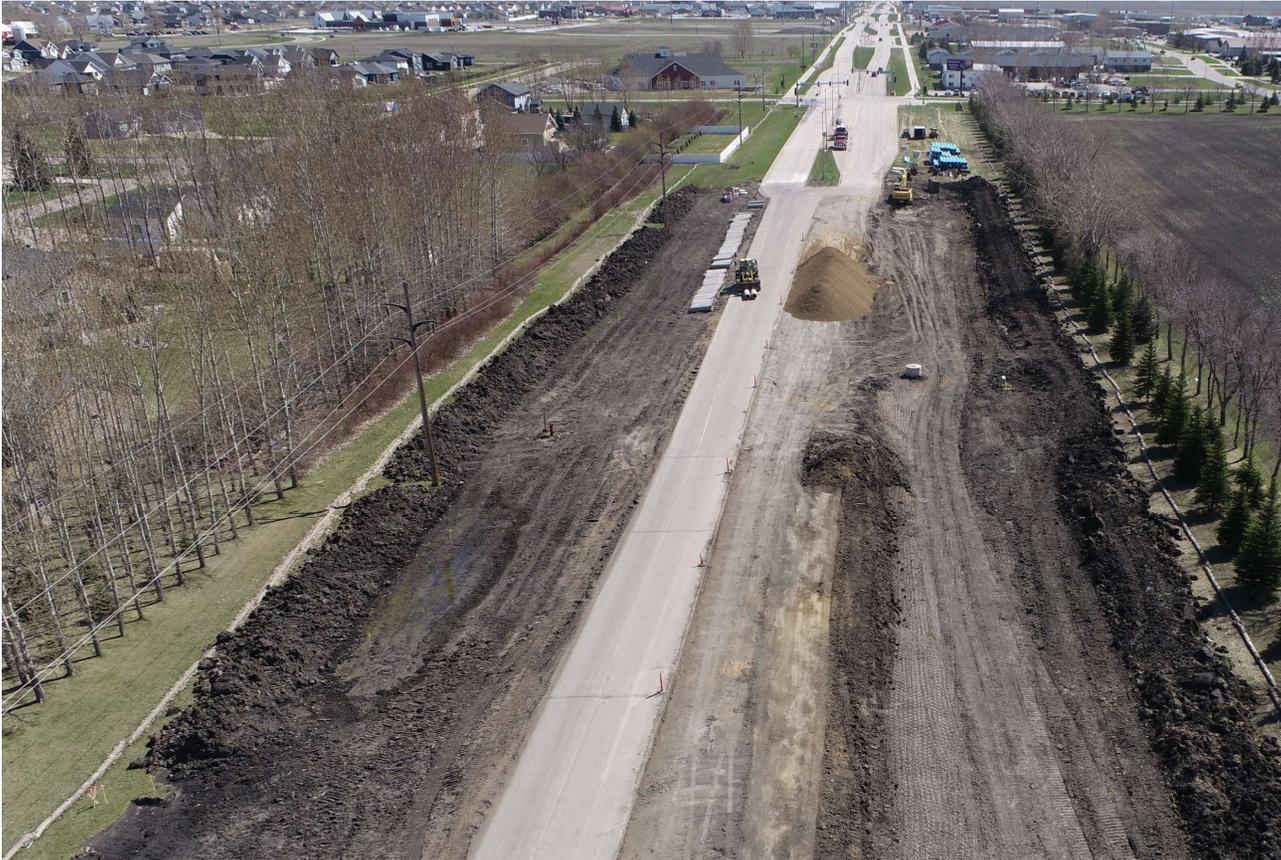
- Cellular Concrete used as abutment backfill
- 29lb / Cubic Foot

Construction Highlights



- 2 Phase Deck Pour

Construction Highlights



- Roadway / Underground Began April 2024
- Existing 2 Lane
- Proposed 4 Lane
- Maintain Temporary Access for Residents
- Wet conditions early summer

Construction Highlights



- 45 Day Construction Window on Roundabout
- Added 2nd lane on 3 sides
- Removed and replaced additional concrete panels

Construction Highlights



- Clarity is key with multiple agencies
- Which specification governs?
- Be clear about what is important in the plan notes and SP's
- Go through these items at the Precon Meeting

In Closing...

- No such thing as a perfect project
- Communicate. Communicate. Communicate
- Art of the long view



Questions?

Construction Highlights



HJO

- See comment on this slide by Heidi.
- Keep text minimal.
- Avoid treating slides as your script.
- Focus on key takeaways, unique challenges/elements, and other highlights.

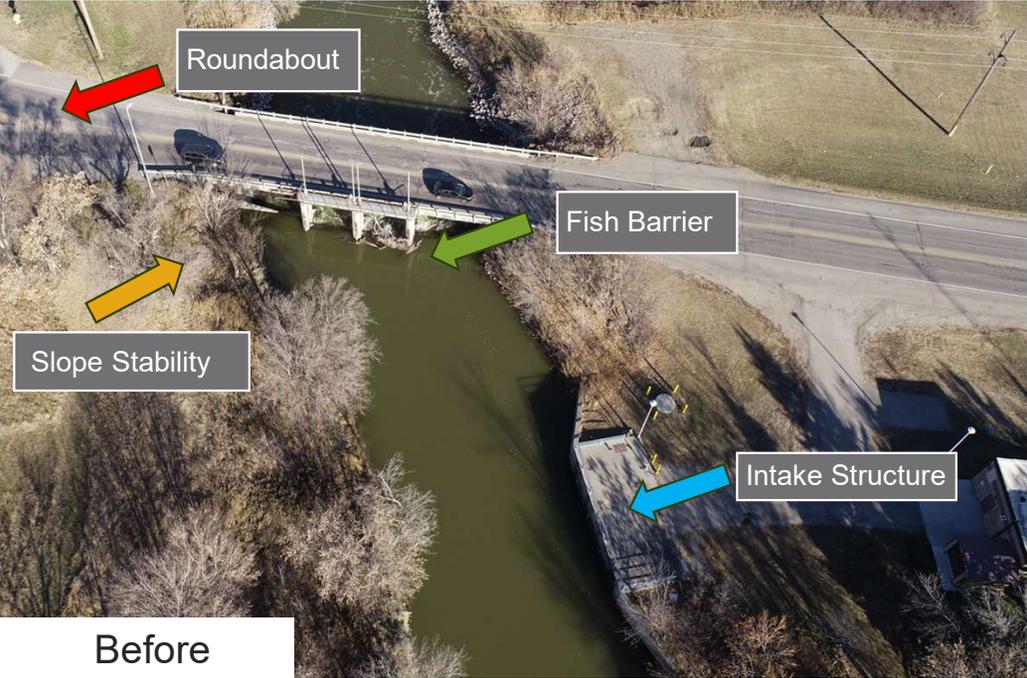
Slide 32

HJO

Note: I have this set to start playing automatically when this slide appears. We can have it loop or have it set to start when you click on the slide. Let me know if you need assistance with any of those setting adjustments.

Heidi Joarnt, 2024-12-11T18:14:54.279

Bridge Design Constraints



Before



After

Bridge Highlights

