

April 23, 2025

ADDENDUM 1 – JOB 23558

TO: All prospective bidders on Projects BRP-BRJ-0034(035), Job No. 23558 scheduled for the April 25, 2025 bid opening.

The following revision(s) shall be made:

Plan Revisions:

See attached summary from Derek D. Pfeifer, P.E. dated April 23, 2025 for an explanation.

Request for Proposal Revisions:

- Remove and replace pages 5 of 7 of the Proposal pages located at the beginning of the Request for Proposal with pages revised April 23, 2025.
- Bid Item Changes are summarized in the Plan Addendum Summary and Approval.

This addendum is to be incorporated into the bidder's proposal for this project. AASHTOWare Project Bids files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> and load it into the AASHTOWare Project Bids program.



PHILLIP MURDOFF, P.E. – CONSTRUCTION SERVICES ENGINEER

80: jwj

Enclosure

PLAN ADDENDUM SUMMARY AND APPROVAL

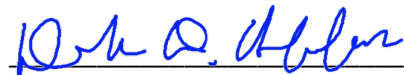
Project Information		
Project: BRP-0034(035)		PCN: 23558
Location: Pembina County		
Date: 4/23/2025		Lead Designer: Jeff Daley, PE
Bid Opening Date: 4/25/2025		JOB#: 23558 Addendum#: 1
Section	Sheet	Description of Change
Section 8, Sheet 1		- Added bid item 622 9955 Pile Repair. - Removed bid item 930 9650 Abutment Repair.
Section 170, Sheet 1		- Added bid item 622 9955 Pile Repair. - Removed bid item 930 9650 Abutment Repair. - Revised Notes.
Section 170, Sheet 3		- Modified note for miscellaneous repairs. - Added a note for alternate pile repair options. - Modified Miscellaneous Repairs Detail for Timber Pile to be Repaired.
SP 70(24)		Rotate sheets 12-25 in SP to fix formatting issue.

CHANGES MADE TO BID ITEMS FOR JOB					
Spec	Code	Description	Unit	Previous Quantity	Revised Quantity
622	9955	PILE REPAIR	EA	0	13
930	9650	ABUTMENT REPAIR	SF	195	0

APPROVAL

Should the revisions described above be processed as a plan addendum?

 X Yes No



 Derek Pfeifer – Local Government Engineer

4/23/2025

 Date

North Dakota Department of Transportation

BID ITEMS

Rev: 4/23/2025

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Estimated Quantities

Revised	4/23/2025	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	BRP-0034(035)	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT					TOTAL
103	0100	CONTRACT BOND	L SUM	1				1
616	0360	STRUCTURAL STEEL	LBS	77739				77739
622	9955	PILE REPAIR	EA	13				13
702	0100	MOBILIZATION	L SUM	1				1
704	1000	TRAFFIC CONTROL SIGNS	UNIT	776				776
704	1052	TYPE III BARRICADE	EA	32				32
930	9504	BRIDGE REPAIR	L SUM	1				1

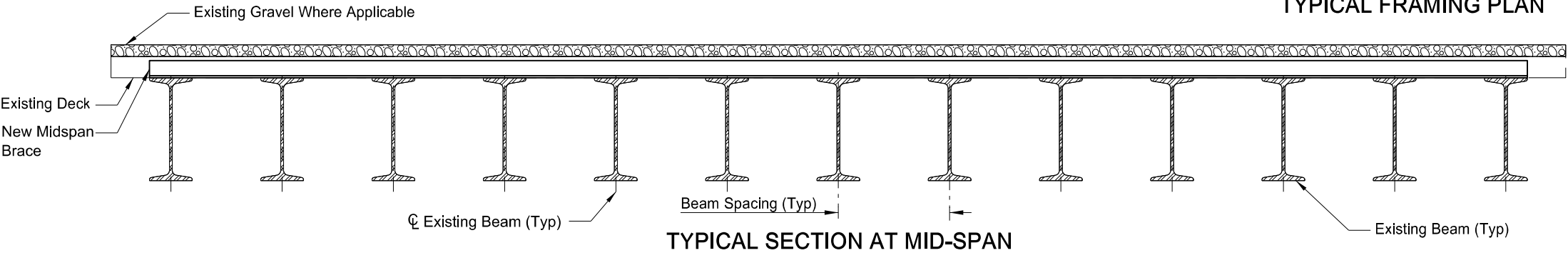
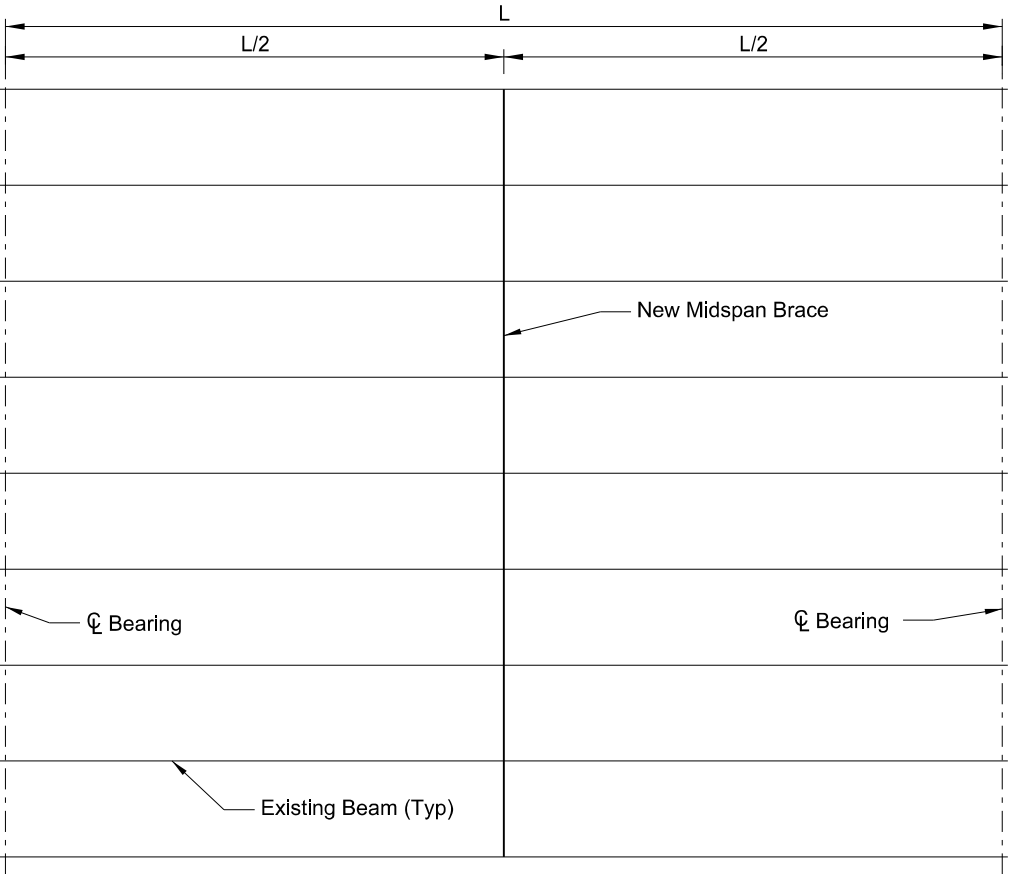
RETROFIT DETAIL SUMMARY							
BRIDGE	RETROFIT	SPAN LENGTH "L" (FT)	EXISTING NUMBER OF BEAMS (EA)	ADDITIONAL BEAMS REQUIRED (EA)	PROPOSED BEAM SPACING (IN)	MIDSPAN BRACE MEMBER SIZE	MAXIMUM GRAVEL DEPTH (IN)
34-101-05.1	Add midspan brace Replace steel pile caps	23.7'	15	N/A	22"	L2x2x1/4	5"
34-105-21.2	Add midspan brace Replace steel pile caps	28.9'	13	N/A	22"	L2x2x1/4	2"
34-105-21.3	Add midspan brace Replace steel pile caps Replace G3&G8 with new S12x31.8	21'	13	(2) S12x31.8	22"	L2x2x1/4	0"
34-105-29.0	Add midspan brace Replace G3&G12 with new W18x76 Replace steel pile caps Pile repairs	41'	13	(2) W18x76	27"	L2x2x1/4	4"
34-106-21.0	Add midspan brace Replace steel pile caps Add S12x31.8 beams Add timber curb Trim deck overhang	23'	13	(2) S12x31.8	20"	L2x2x1/4	7"
34-106-23.1	Add midspan brace Replace steel pile caps	23'	15	N/A	20"	L2x2x1/4	5"
34-108-30.0	Add midspan brace Replace steel pile caps Pile repairs Timber Pile Resistance Drilling	39'	13	N/A	22"	L2x2x1/4	4"
34-109-25.0	Add midspan brace Add S15x50 beams Replace steel pile caps Pile repairs	34.7'	13	(3) S15x50	18"	L2x2x1/4	2"
34-120-25.0	Add midspan brace Replace steel pile caps	23'	14	N/A	25"	L2x2x1/4	12"
34-121-04.0	Add midspan brace Add W12x26 beams Replace steel pile caps	25.8'	13	(4) W12x26	17"	L2x2x1/4	0"
34-123-12.0	Add midspan brace Replace steel pile caps Pile Repairs	20'	12	N/A	26"	L2x2x1/4	0"
34-125-27.0	Add midspan brace Replace steel pile caps Pile Repairs	23.2'	13	N/A	25"	L2x2x1/4	3"
34-126-07.0	Add midspan brace Replace steel pile caps	29.3'	15	N/A	23"	L2x2x1/4	0"
34-126-08.1	Add midspan brace Replace steel pile caps	30'	15	N/A	20"	L2x2x1/4	8"
34-127-05.0	Add midspan brace in Span 2 Add S12x31.8 beams in Span 2 Replace all steel pile caps	29'	13 (Span 1&3) 16 (Span 2)	(2) S12x31.8 Span 2	23" (Span 1&3) 16" (Span 2)	L2x2x1/4 (Span 2)	0"
34-128-16.0	Add midspan brace Replace steel pile caps	25'	15	N/A	20"	L2x2x1/4	0"
34-128-18.0	Add midspan brace Replace G4 with new S12x31.8 Replace steel pile caps	20.2'	13	(1) S12x31.8	23"	L2x2x1/4	0"

BRIDGE BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
616	0360	STRUCTURAL STEEL	LBS	77,739
622	9955	PILE REPAIR	EA	13
930	9504	BRIDGE REPAIR	L SUM	1

NOTES:

- Use Structural Steel meeting the requirements of AASHTO M270 Grade 50W for all new steel. Include all costs associated with furnishing & installing the new steel caps, midspan braces and additional beams in the unit price bid for "Structural Steel". Approximately 1,324 lbs will be required for the new midspan braces. Approximately 18,758 lbs will be required for new beams. Approximately 57,657 lbs will be required for the new steel pile caps.
- Use Type 3 F3125 Grade A325 7/8" dia. bolts.
- Include all costs associated with repairing and performing resistance drilling on the piles identified on 170-3 in the unit price bid for "Pile Repair". Additional pile repairs may be required as directed by the Engineer. Pay quantities will be measured in the field to determine actual quantity used.
- Include all costs associated with removing corrugated deck and furnishing and installing the curb on Bridge 34-106-21.0 in the unit price bid for "Bridge Repair".

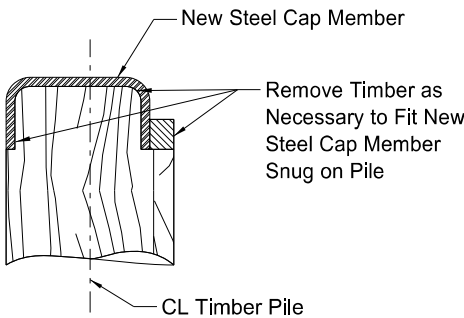
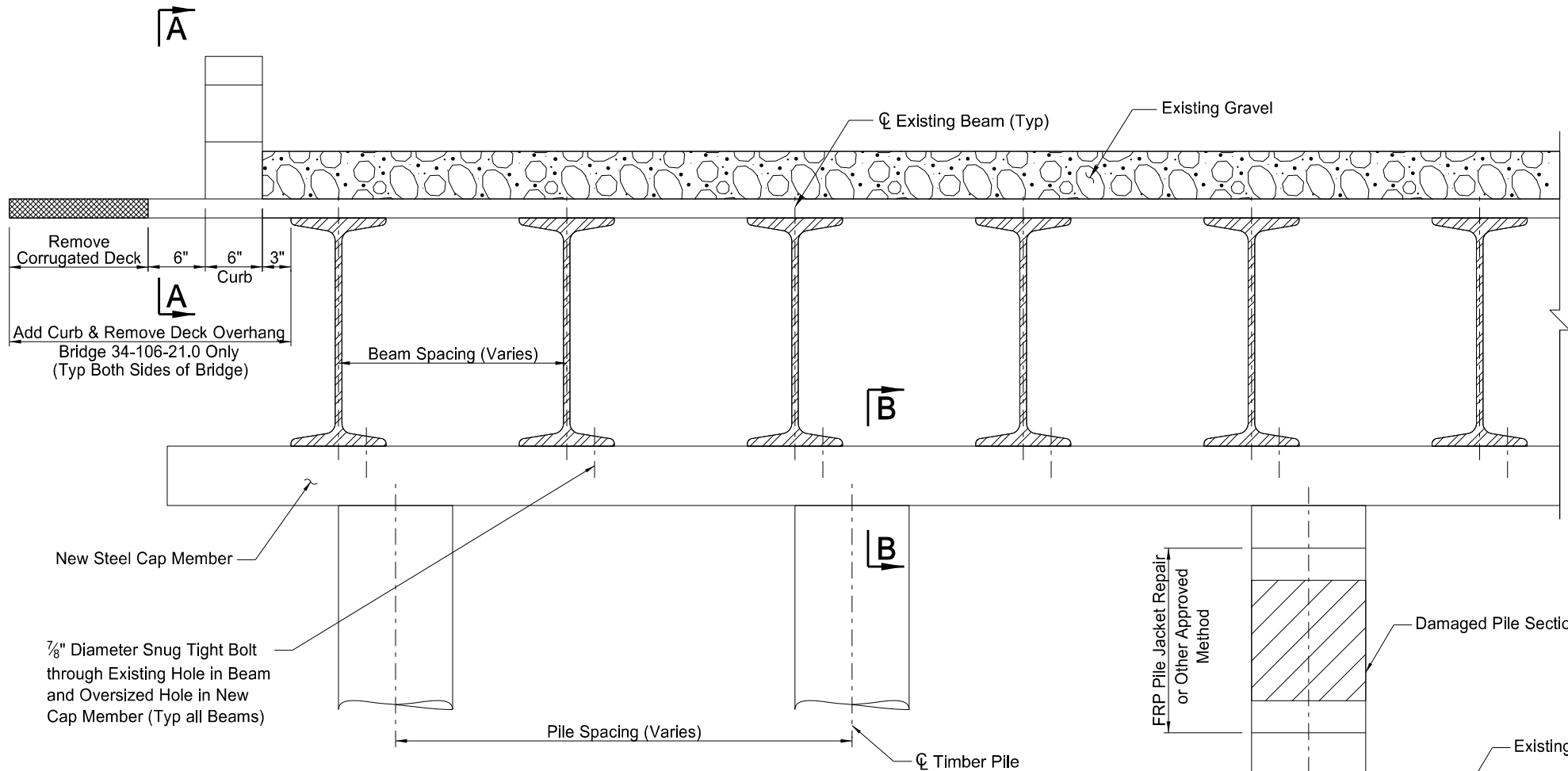


BRP-0034(035)
PEMBINA COUNTY, NORTH DAKOTA

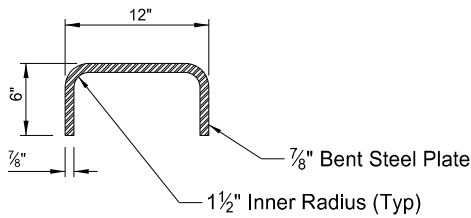
BRIDGE LAYOUT

Drawn by: BJJ
Checked by: CCA
Project No.: 2202-00406

Revised 4/23/2025	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	BRP-0034(035)	170	3



SECTION B



NEW STEEL CAP MEMBER

MISCELLANEOUS REPAIRS

NOTES:

Repair the following timber piles along with any additional piles the Engineer deems necessary for repair:

Bridge #34-105-29.0 - Abutment 1 Piles 1W & 7W
Abutment 2 Piles 1W, 4W, & 7W

Bridge #34-108-30.0 - Abutment 1 Piles 5W & 6W
All piles to be resistance drilled to determine interior soundness

Bridge #34-109-25.0 - Abutment 1 Pile 5N
Abutment 2 Pile 3N

Bridge #34-123-12.0 - Abutment 1 Pile 1W, 3W & 4W

Bridge #34-125-27.0 - Abutment 1 Pile 1N

An estimated quantity of 13 EA was used to determine quantity. Actual quantity will be measured in the field.

Repair piles using an FRP wrap filled with a high strength grout or epoxy to restore piles to greater than their original design capacity.

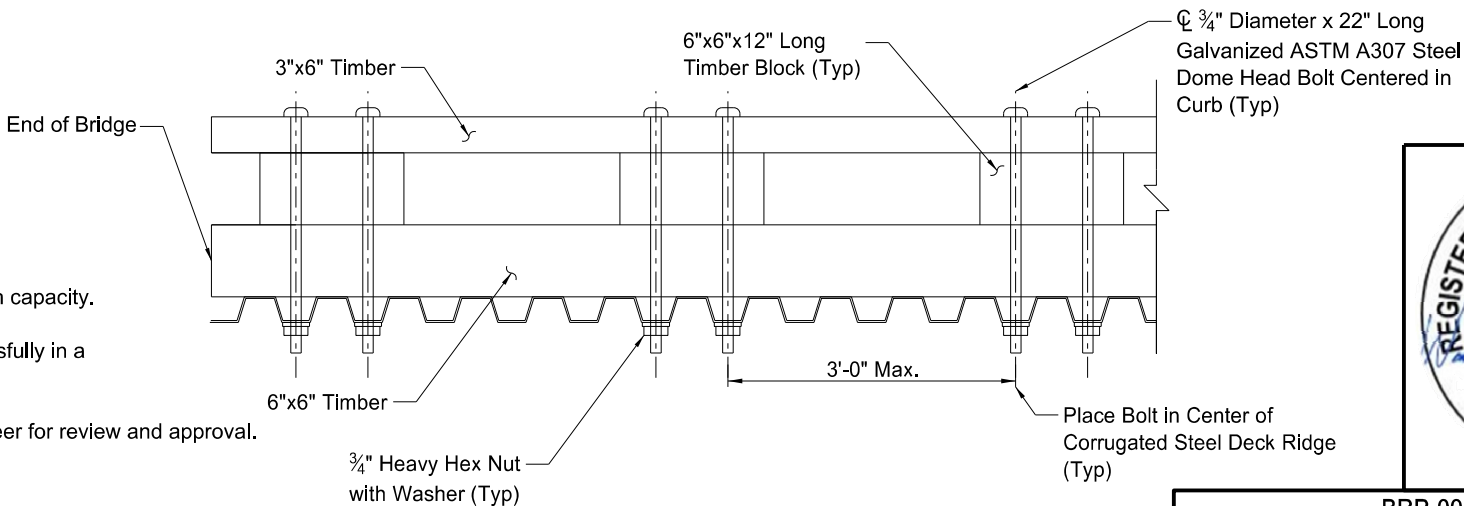
Use a repair system that can provide at least 3 example bridge projects where the system and materials were used successfully in a similar application. Follow the manufacturers material and installation guidance for the entire repair system.

Use an FRP pile jacket repair system listed below or other similar system. Submit the proposed repair system to the Engineer for review and approval.

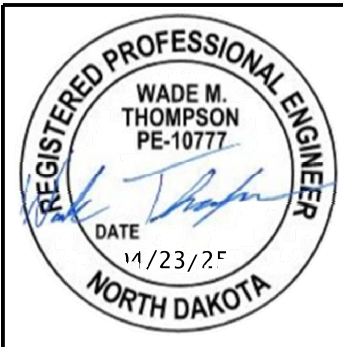
- PileMedic by Quakewrap
- PileForm by Five Star
- SeaShield Series FX-70 by Denso

In lieu of the FRP pile jacket repair system, a new pile may be driven adjacent to the deteriorated pile, or the damaged portion of the pile section can be removed and replaced with new timber pile section. Splice the connection in a manner that resists the horizontal forces of the abutment. After replacement, the pile cap must fully bear on the new pile section.

Remove and replace steel pile cap member full length at all abutments and piers on bridges noted on Section 170, Sheet No. 1. See Section 170, Sheet No. 1 for steel, bolt, and nut materials.



SECTION A
(Bridge 34-106-21.0 Only ~ Typ Full Bridge Length)



BRP-0034(035) PEMBINA COUNTY, NORTH DAKOTA		
DETAILS		
DRAWN BY BJJ	CHECKED BY CCA	PROJECT NO. 2202-00406

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION (SP)

PERMITS AND ENVIRONMENTAL CONSIDERATIONS

BRP-0034(035) - 23558

This Special Provision incorporates the Floodplain Development Permit obtained by Pembina County into the Bidders Proposal.

The Contractor shall be responsible for obtaining permits/authorizations for impacts not authorized by the permit listed here.

The Contractor shall be responsible for complying with all the terms and conditions as contained in the permit/authorization attached hereto. Bidders shall become familiar with all standard conditions and special conditions of the permit/authorization and submit their bid for the construction of this project based on the following:

Floodplain Development Permits

The Floodplain Development Permit authorizes work within the mapped 100-year floodplain. The Floodplain Development Permit and flood insurance rate maps are attached.

The Contractor is responsible for impacts not authorized by the attached permit obtained by Pembina County.

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION NON-BUILDING SITUATION

GENERAL INFORMATION

PERMIT APPLICATION # 2023-0003 DATE: 3/29/2023

Applicant/Contact: Devin Johnson Telephone # 701-265-4208

Address: 301 Dakota Street #13
Cavalier, ND 58220

Brief project description - location of proposed development - legal description: **See Attached.**

Contractor: TBD

Telephone #

Address:

Contract Not Awarded

Estimated Cost of project: TBD

FLOODPLAIN DETERMINATION :

(Complete the appropriate information)

Project is located: 100-year floodplain? (Flood Fringe): **YES**
Regulatory Floodway: **NO**

Map information: FIRM Date: **See Attached.**
FIRM Zone: **See Attached.**
BFE at Development Site: **See Attached.**
Development will be elevated to: **See Attached.**

DEVELOPMENT ACTIVITIES: (check all that apply and explain the activity)

- ☐ Fill placement (fill brought in from outside the floodplain)
- ☐ Excavation (where subgrade fill is removed from the floodplain)
- ☐ Landscaping (cut and fill, fill borrow and placement)
- ☐ Construction or maintenance of a dike/levee/floodwall
- ☐ Removal of fill, embankment, or dikes
- ☐ Watercourse alterations (river, stream, lake - channel modifications, rip-rap)
- ☒ Road, street or bridge construction (new, repair or replacement, realignment)
- ☐ Drainage improvements (including culvert work)

- ____ Mining (removal of gravel, rock, fill or other natural materials)
____ Installation of utilities (water, sewer, pipeline, gas, electric, communications)
____ Well drilling (water, oil, natural gas etc.)
____ Subdivision (new or expansion)
____ Other (please specify and describe)

ADDITIONAL INFORMATION REQUIRED (attach additional information):

- Comments or further explanation of work:
- Copies of project description, plans, blueprints, etc.: **See Attached.**
- Wetlands - will the activity impact identified wetlands? **NO**
- Will the development aggravate flooding elsewhere? **NO, the proposed improvements will not change the ground elevation or restrict water flow through the structures.**

OTHER NOTIFICATION OR PERMITS NECESSARY:

U.S. Army Corps of Engineers? **NO**
ND Department of Water Resources? **NO**

ELEVATION INFORMATION:

Attach information about the completed project elevations(s) with registered professional engineer or registered land surveyor certifications if part of the project: **N/A for this project.**

ACTION / APPROVAL:

The proposed development is in conformance with applicable community floodplain standards subject to the following conditions with this approval.

PERMIT APPLICATION IS APPROVED

(Conditioned on the description provided. As-built information/certification will be available at the NDDOT District Office upon completion of construction.)

Signature (Floodplain Administrator): *Samantha Diemert*

Date: 03/30/2023

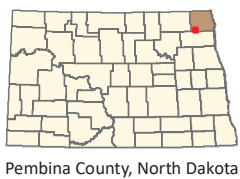
Structure Number	Legal Land Description	FIRM Date	FIRM Zone	BFE at Development Site	Development will be elevated to	FIRM Panel Number
34-108-30.0	Sections 19 & 20, T159N, R55W	May 3, 2011	A	N/A	N/A	38067C0775E
34-109-25.0	Sections 29 & 32, T160N, R55W	May 3, 2011	A	N/A	N/A	38067C0575E
34-120-25.0	Sections 29 & 30, T160N, R53W	May 3, 2011	A	N/A	N/A	38067C0625E
34-121-04.0	Sections 9 & 10, T163N, R53W	May 3, 2011	A	N/A	N/A	38067C0300E
34-123-12.0	Sections 23 & 24, T162N, R53W	May 3, 2011	A	N/A	N/A	38067C0475E
34-126-07.0	Sections 28 & 29, T163N, R52W	May 3, 2011	A	N/A	N/A	38067C0300E
34-126-08.1	Sections 32 & 33, T163N, R52W	May 3, 2011	A	N/A	N/A	38067C0300E
34-127-05.0	Sections 16 & 21, T163N, R52W	May 3, 2011	A	N/A	N/A	38067C0300E

Comments of other explanation of work:

The purpose of the project is to provide for the safe and efficient movement of people and goods while meeting current Pembina County, North Dakota Department of Transportation (NDDOT), and American Association of State Highway and Transportation Officials (AASHTO) standards. Specifically, the purpose of the project is to maintain system linkage by repairing multiple existing structures that are structurally deficient. Construction is anticipated to occur during the 2023 construction season.

The proposed project will repair 17 structurally deficient structures, 8 of which are in the floodplain. The proposed repairs include installing mid-span diaphragms (steel C-channels) between the girders under the bridge deck at each structure to improve the load capacity and structural integrity. The C-channels would be approximately 8 to 13 inches in height. Between 12 to 15 C-channels would be added to each structure with each new C-channel segment being between 18 to 27 inches in length. Additionally, steel pile caps and flange cover plates will be added, as necessary, to improve the load capacity of the structures. This work is being done to the structures so that they will not be required to have load postings.

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Orthophoto Source: USDA-FSA - Aerial
Photography Field Office, 2021
Data Source: KLI, NDGIS, & NDDOT

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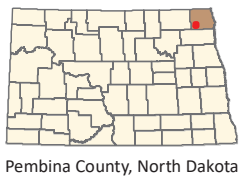
- Structure
- Structure Buffer (1000')
- County Road
- == State Route
- - - Section Line
- Townships

Exhibit 1 - Project Location

Drawn By: JDP	Date: 9/21/2022	Pembina County Structure Rehabs
Page: 9 of 11		Project No: BRP-0034(035) PCN 23558

NDDOT
North Dakota
Department of Transportation

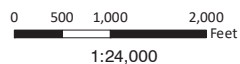
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Pembina County, North Dakota



Orthophoto Source: USDA-FSA - Aerial
Photography Field Office, 2021
Data Source: KLI, NDGIS, & NDDOT



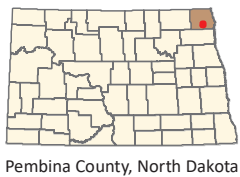
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Page: 7 of 11		Project No: BRP-0034(035) PCN 23558



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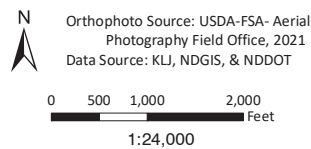
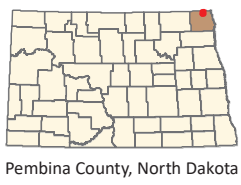
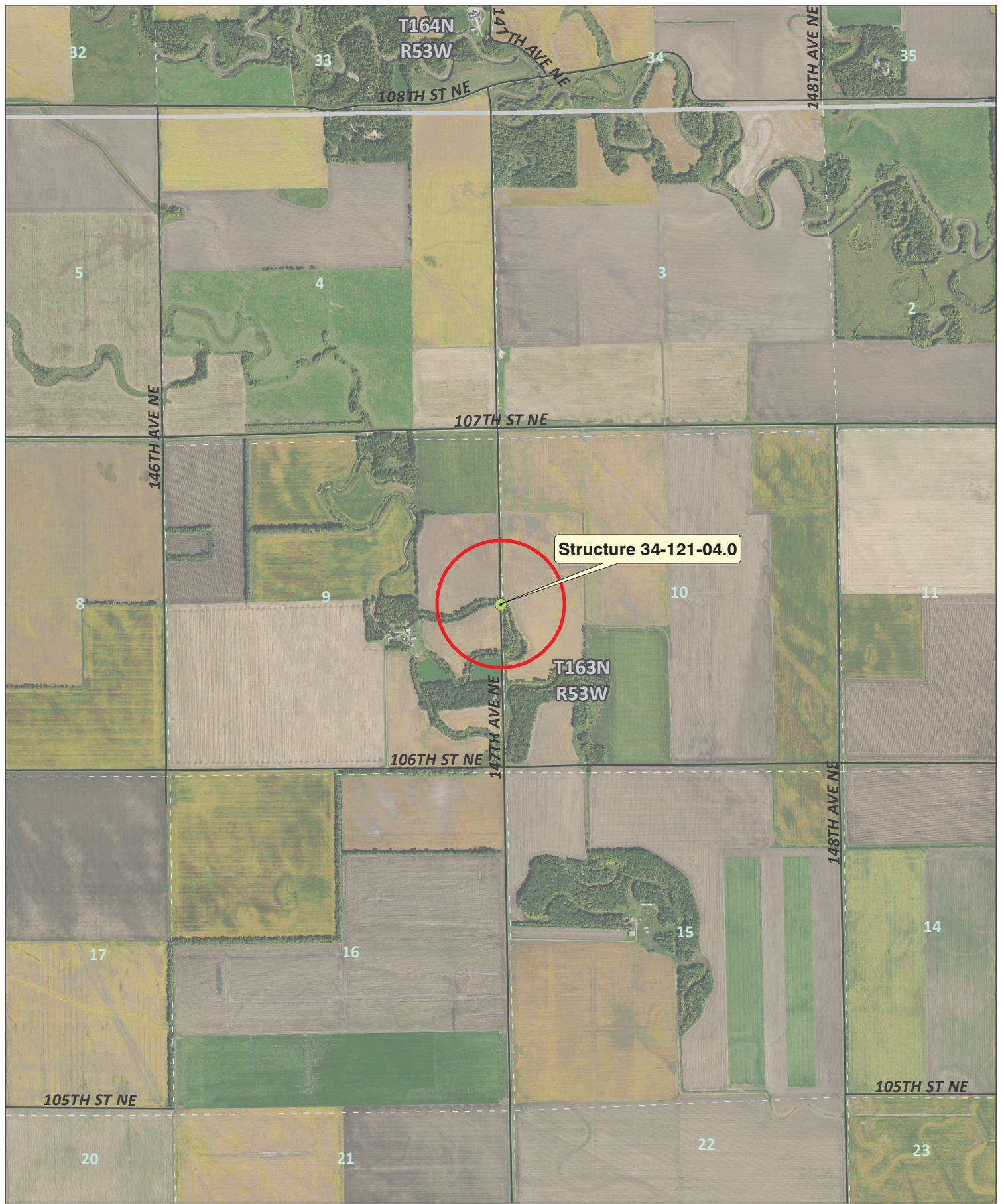
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Exhibit 1 - Project Location

Drawn By: JDP	Date: 9/21/2022	Pembina County Structure Rehab Project No: BRP-0034(035) PCN 23558
Page: 10 of 11		



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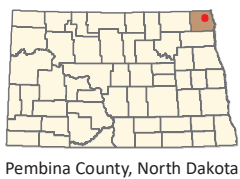
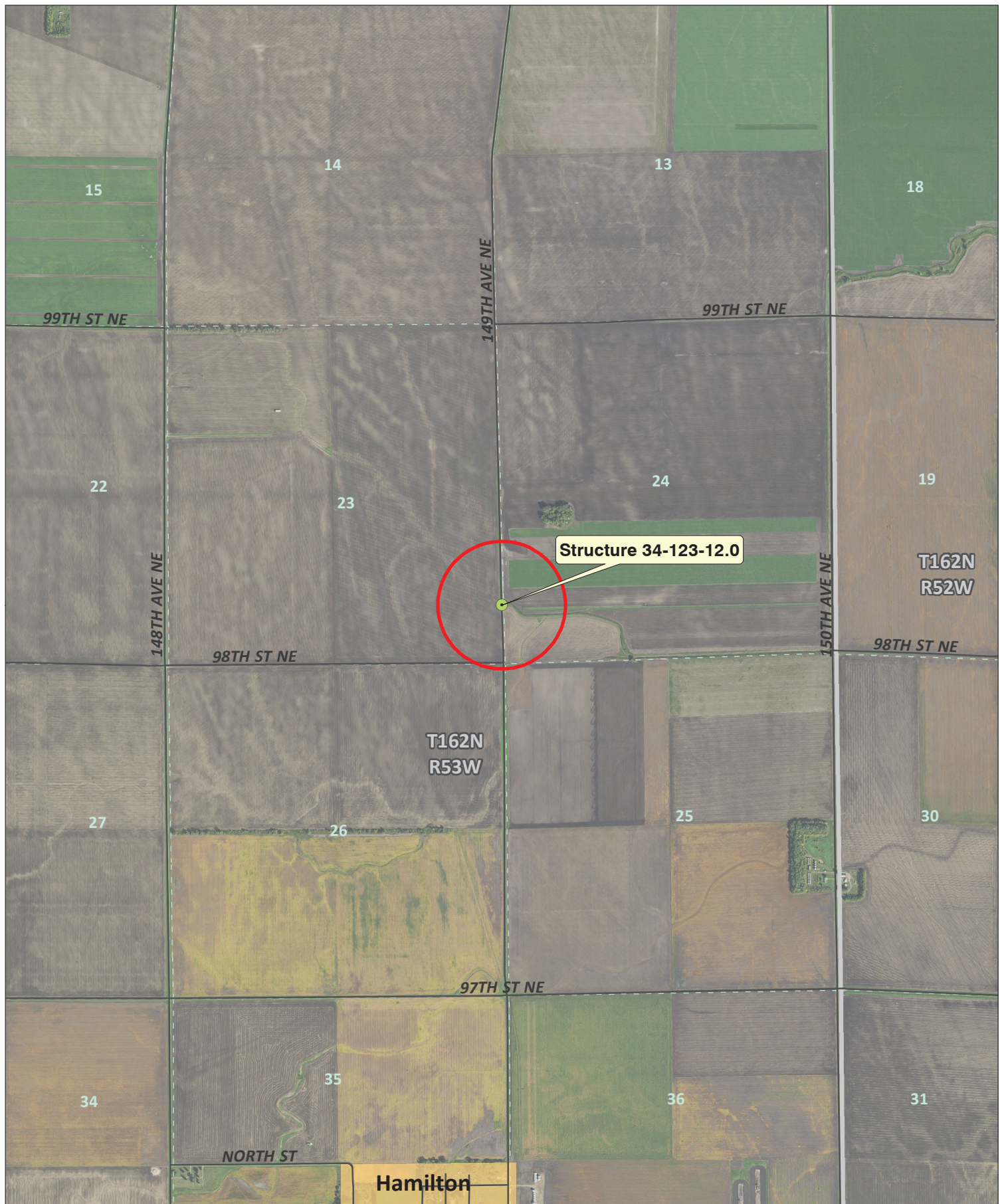
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Exhibit 1 - Project Location

Drawn By: JDP	Date: 9/21/2022	Pemina County Structure Rehab
Page: 2 of 11		Project No: BRP-0034(035)
		PCN 23558



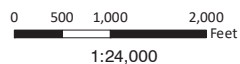
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Pembina County, North Dakota



Orthophoto Source: USDA-FSA - Aerial
Photography Field Office, 2021
Data Source: KLI, NDGIS, & NDDOT

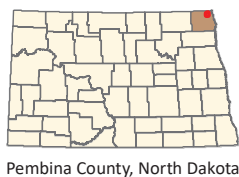


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Page: 4 of 11		Project No: BRP-0034(035) PCN 23558

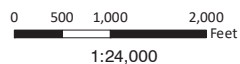




Pembina County, North Dakota



Orthophoto Source: USDA-FSA - Aerial
Photography Field Office, 2021
Data Source: KLI, NDGIS, & NDDOT



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Exhibit 1 - Project Location

Drawn By: JDP	Date: 9/21/2022	Pembina County Structure Rehabs
Page: 3 of 11		Project No: BRP-0034(035) PCN 23558



National Flood Hazard Layer FIRMMette



97°46'50"W 48°34'52"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/6/2022 at 3:16 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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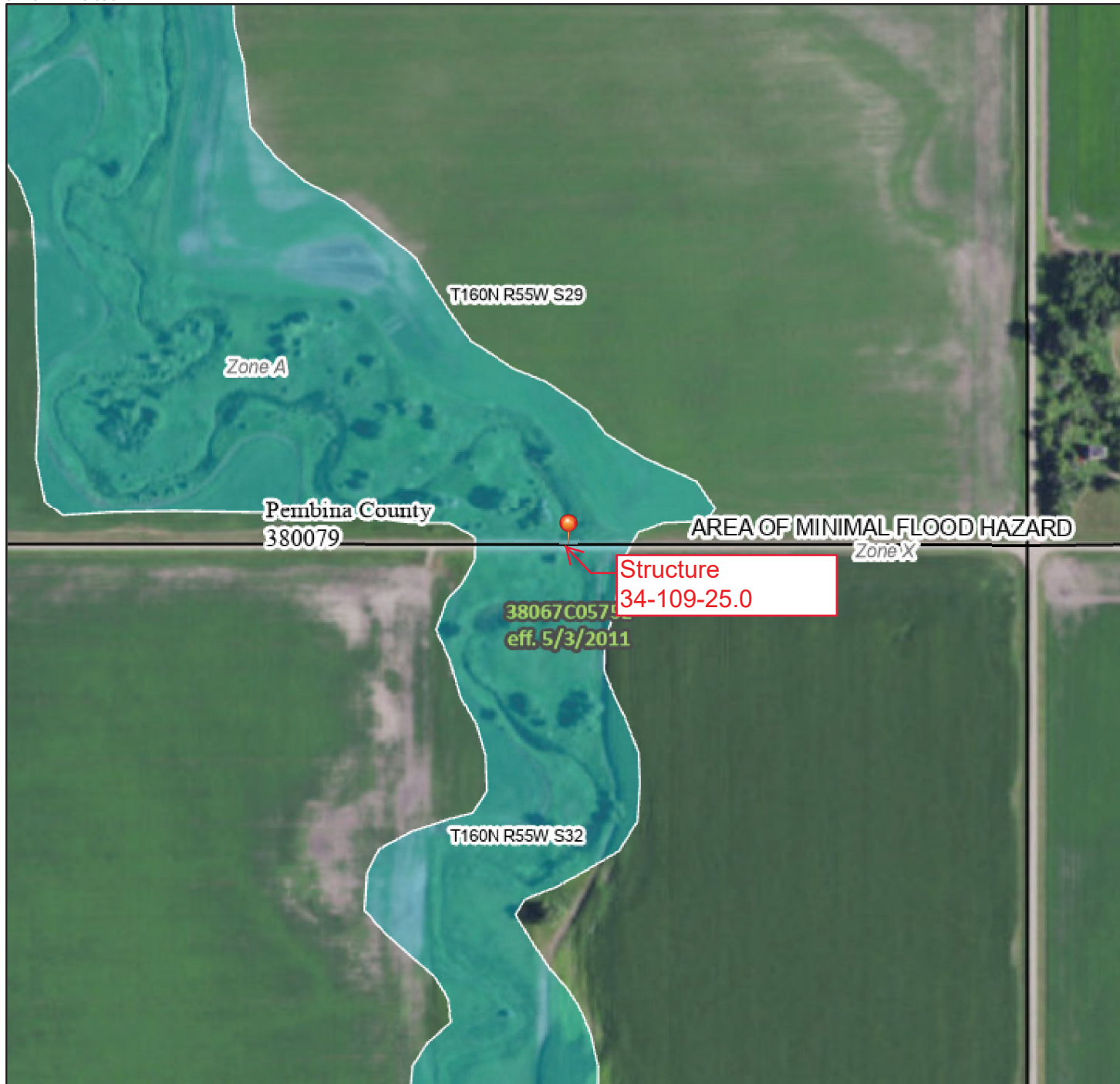
97°46'13"W 48°34'29"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

National Flood Hazard Layer FIRMMette



97°45'47"W 48°38'52"N



0 250 500 1,000 1,500 2,000 Feet

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97°45'10"W 48°38'28"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/6/2022 at 3:20 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



97°31'5"W 48°39'19"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/6/2022 at 3:26 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

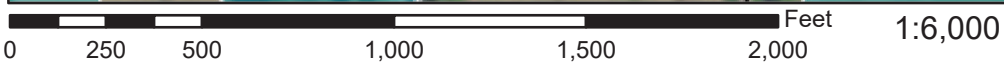
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

97°30'28"W 48°38'55"N

National Flood Hazard Layer FIRMMette



97°29'47"W 48°57'33"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

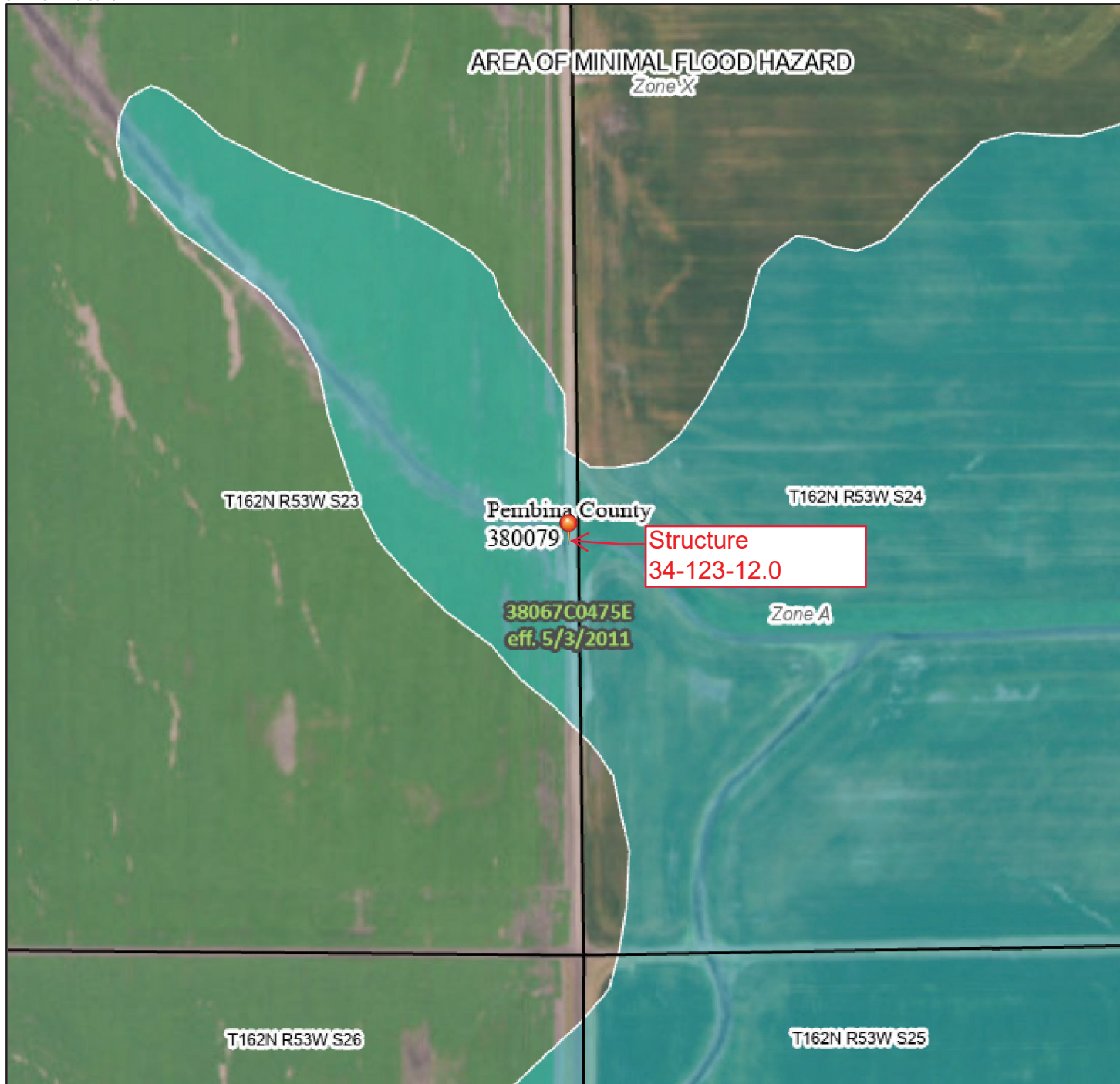
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/7/2022 at 11:21 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



97°27'8"W 48°50'20"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
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		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/7/2022 at 11:25 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



97°23'7"W 48°54'54"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
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		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/7/2022 at 11:30 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



97°23'8"W 48°54'26"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

97°22'31"W 48°54'2"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
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		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
MAP PANELS		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/7/2022 at 11:31 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMMette



97°23'9"W 48°56'15"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

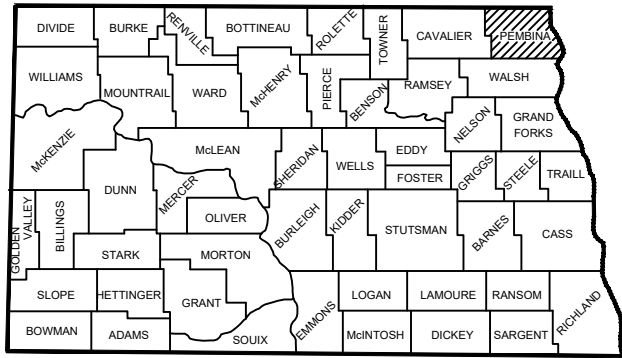
SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
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OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/7/2022 at 11:32 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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STATE OF NORTH DAKOTA
SHOWING COUNTIES

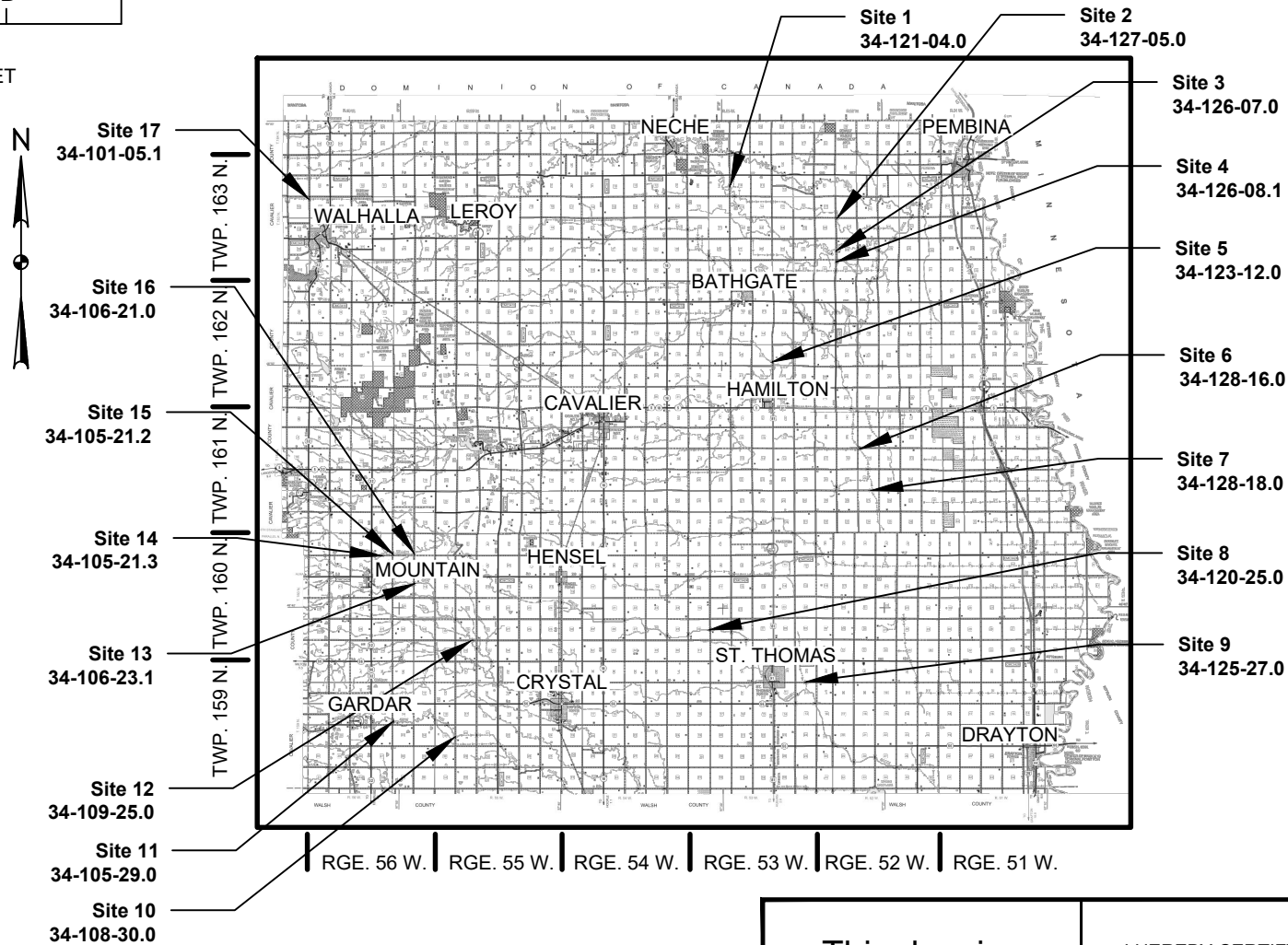
PEMBINA COUNTY, NORTH DAKOTA
PLANS FOR BRP-0034(035)
STRUCTURE REHABILITATION
& INCIDENTALS

Project consists of seventeen Structure Rehabilitations & Incidentals.

DESIGN DATA

TRAFFIC		AVERAGE DAILY			EST. 30th MAX. HR.
		PASSENGER	TRUCKS	TOTAL	
CURRENT TRAFFIC	2022	LESS THAN 100 VPD			
TRAFFIC FORECAST	2042				

DESIGN SPEED 55 MPH
MINIMUM SIGHT DISTANCE (STOPPING) 495 FEET
DESIGN LOADS FOR STRUCTURE: HL-93



	STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
	ND	BRP-0034(035)	23558	1	1

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2024
Supplemental Specifications	NONE

PROJECT LENGTH

PROJECT	GROSS MILES	NET MILES
34-121-04.0	0.0047	0.0047
34-127-05.0	0.0110	0.0110
34-126-07.0	0.0058	0.0058
34-126-08.1	0.0058	0.0058
34-123-12.0	0.0042	0.0042
34-128-16.0	0.0051	0.0051
34-128-18.0	0.0044	0.0044
34-120-25.0	0.0049	0.0049
34-125-27.0	0.0046	0.0046
34-108-30.0	0.0076	0.0076
34-105-29.0	0.0081	0.0081
34-109-25.0	0.0068	0.0068
34-106-23.1	0.0047	0.0047
34-105-21.3	0.0043	0.0043
34-105-21.2	0.0057	0.0057
34-106-21.0	0.0046	0.0046
34-101-05.1	0.0045	0.0045
TOTAL	0.0968	0.0968

PS&E Corrections Made _____
Surveyed & Designed Date August 2022 - March 2023

DESIGNER	Wade Thompson, PE
DESIGNER	Jeff Daley, PE
DESIGNER	Zach Vlaminc
DESIGNER	-
DESIGNER	-

This drawing
is preliminary
and not for
relying or
implementation
purposes.

CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY
ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A
DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF NORTH DAKOTA.

KLJ ENGINEERING LLC
DATE _____ REGISTRATION NUMBER _____

864 WEST 12TH ST
GRAFTON, ND 58237-2120
(701) 352-1555, FAX (855) 288-8055
© KLJ 2023

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	BRP-0034(035)	4	1

● SITE 1
● STRUCTURE REHABILITATION & INCIDENTALS

SITE 2

SITE 3

SITE 4

SITE 5



NECHE

PEMBINA

BATHGATE

HAMILTON

PEMBINA COUNTY HWY 55

PEMBINA COUNTY HWY 2

NORTH DAKOTA HWY 18

PEMBINA COUNTY HWY 1

PEMBINA COUNTY HWY 12

NORTH DAKOTA HWY 5

NORTH DAKOTA HWY 32

RGE. 56 W.

RGE. 55 W.

RGE. 54 W.

RGE. 53 W.

RGE. 52 W.

RGE. 51 W.

This drawing
is preliminary
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purposes.

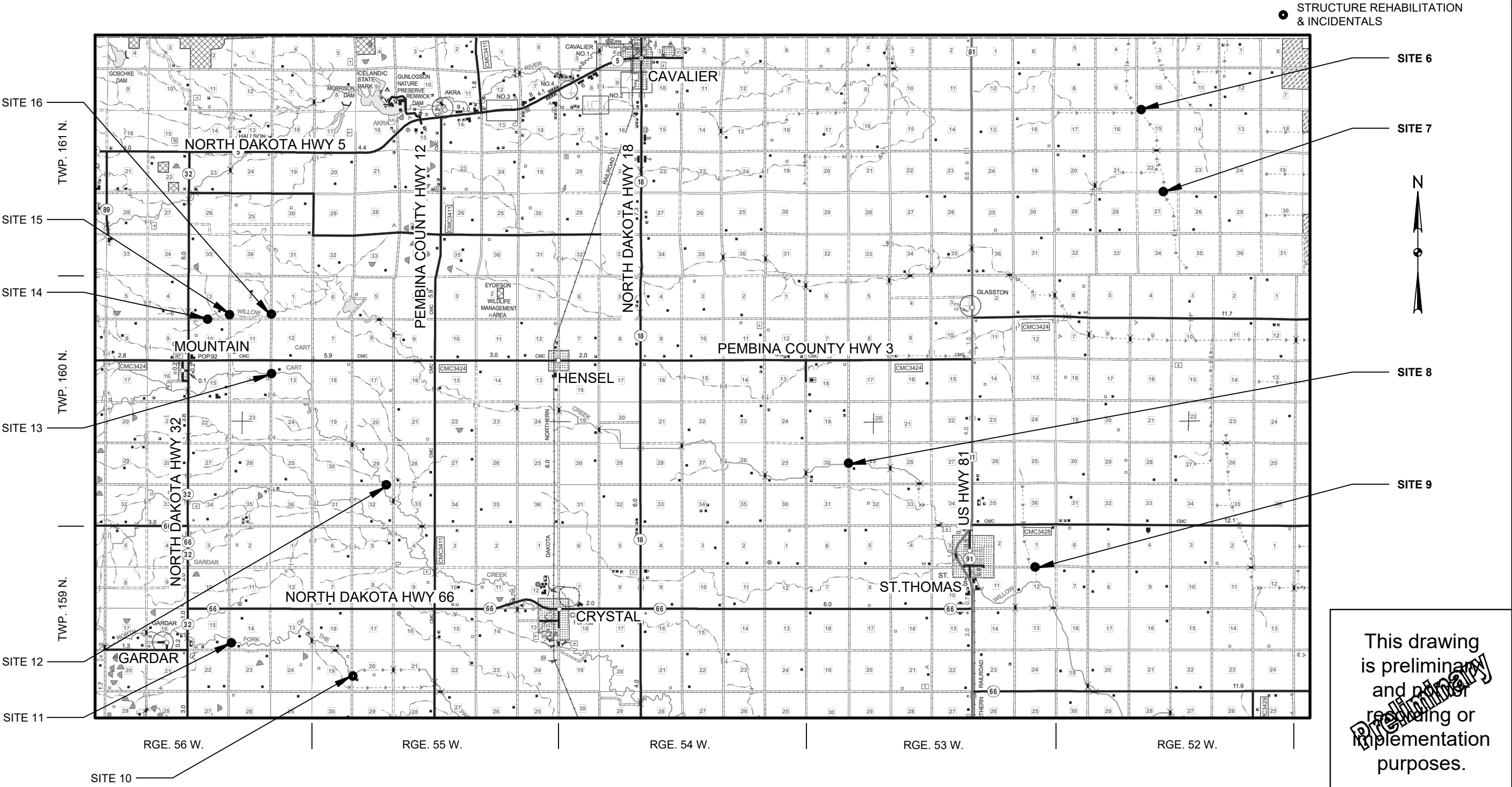
BRP-0034(035)
PEMBINA COUNTY, NORTH DAKOTA



SCOPE OF WORK

DRWN BY CT
CHKD BY JD
PROJECT NO. 2202-00406

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	BRP-0034(035)	4	2



BRP-0034(035)
PEMBINA COUNTY, NORTH DAKOTA



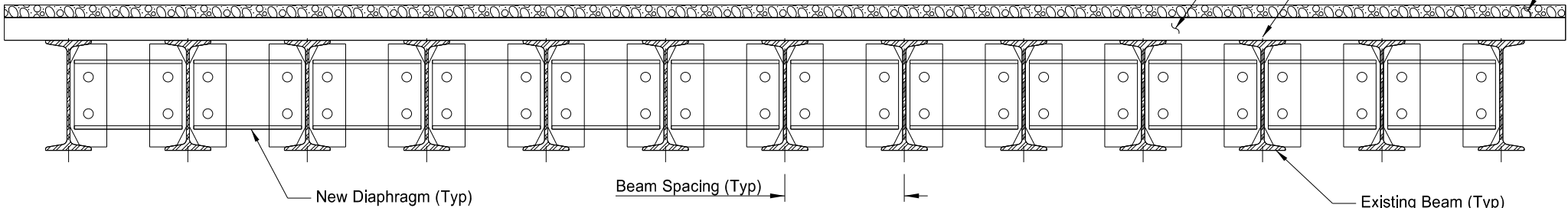
SCOPE OF WORK

DRWN BY CT	CHKD BY JD	PROJECT NO. 2202-00406
---------------	---------------	---------------------------

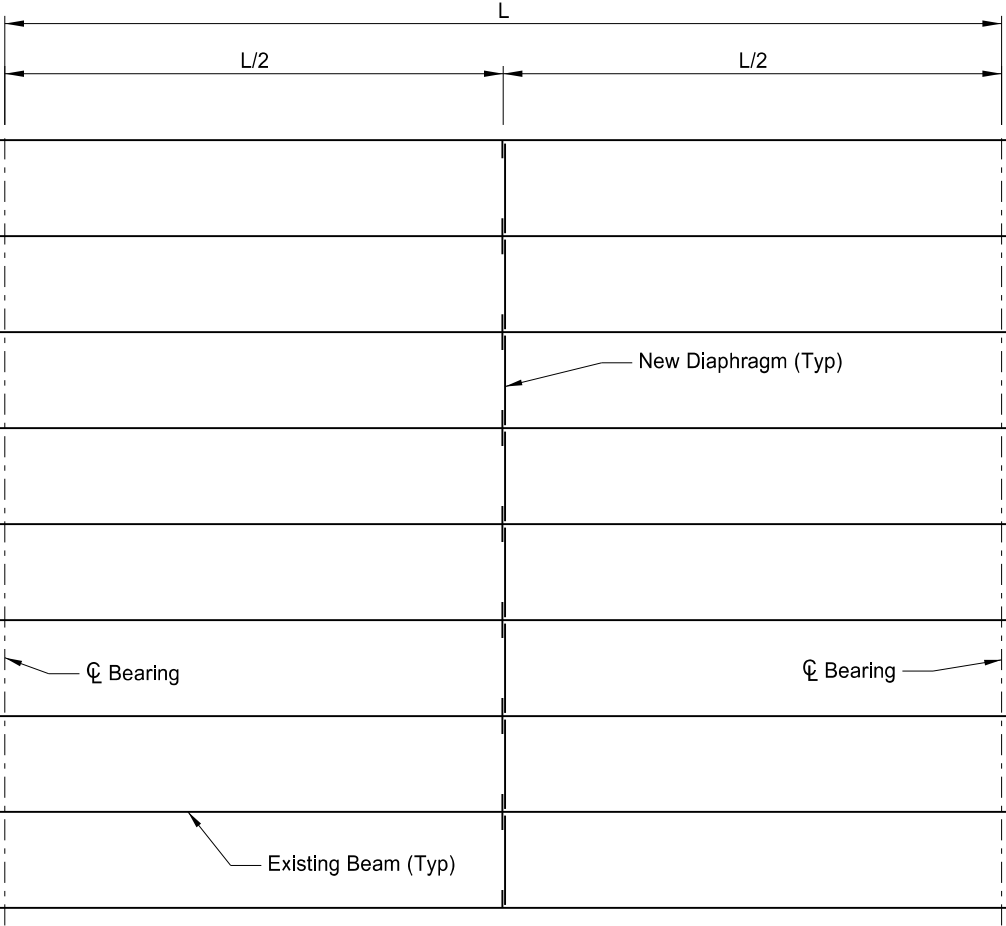
RETROFIT DETAIL SUMMARY									
BRIDGE	RETROFIT	SPAN LENGTH "L" (FT)	NUMBER OF DIAPHRAGMS (EA)	AVERAGE BEAM SPACING (IN)	DIAPHRAGM MEMBER	WELD SIZE "X" (IN)**	DIMENSION "Y" (IN)**	COVER PLATE SIZE	REQUIRED COVER PLATE LOCATIONS
34-101-05.1	Add midspan diaphragms Replace steel pile caps	23.667	14	24.0	C10x25	1/4	6	NA	NA
34-105-21.2	Add midspan diaphragms Replace steel pile caps	28.86	12	23.5	C10x25	1/4	6	NA	NA
34-105-21.3	Add midspan diaphragms Replace steel pile caps	21	12	23.5	C8X18.75	5/16	4	NA	NA
34-105-29.0	Add midspan diaphragms Replace steel pile caps Add flange cover plates Remove 1" of gravel Pile repairs	41	12	27.3	MC13X40	1/4	8.125	9" x 0.375"	Top and bottom flanges of G3 & G12
34-106-21.0	Add midspan diaphragms Replace steel pile caps Add flange cover plates Add timber curb Remove deck overhang	23	12	22.5*	C8X18.75	1/4	4	8" x 1"	Bottom flange of all interior beams
34-106-23.1	Add midspan diaphragms Replace steel pile caps Remove 1" of gravel	23	14	20.0	C8X18.75	1/4	4	NA	NA
34-108-30.0	Add midspan diaphragms Replace steel pile caps Pile repairs	39	12	23.3	MC13X40	1/4	8.125	NA	NA
34-109-25.0	Add midspan diaphragms Replace steel pile caps Add flange cover plates Remove 2" of gravel Pile repairs	34.7	12	23.5	C10x25	1/4	7.75	10" x 0.875"	Bottom flange of all interior beams
34-120-25.0	Add midspan diaphragms Replace steel pile caps	23	13	24.0	C8X18.75	1/4	4	NA	NA
34-121-04.0	Add midspan diaphragms Replace steel pile caps Add flange cover plates	25.75	12	23.2	C8X18.75	1/4	4	9" x 0.375"	Top and bottom flange of all interior beams
34-123-12.0	Add midspan diaphragms Replace steel pile caps	20	11	26.0	C9X20	1/4	5.5	NA	NA
34-125-27.0	Add midspan diaphragms Replace steel pile caps	23.2	12	25.0	C8X18.75	1/4	4	NA	NA
34-126-07.0	Add midspan diaphragms Replace steel pile caps	29.33	14	24.1	C8X18.75	5/16	4	NA	NA
34-126-08.1	Add midspan diaphragms Replace steel pile caps Remove 1" of gravel	30	14	19.6	C10x25	1/4	6	NA	NA
34-127-05.0	Add midspan diaphragms (center span only) Replace steel pile caps Add flange cover plates	29	15	18.4	C8X18.75	5/16	4	8" x 1"	Bottom flange of all interior beams in center span
34-128-16.0	Add midspan diaphragms Replace steel pile caps	25	14	20.0	C8X18.75	1/4	4	NA	NA
34-128-18.0	Add midspan diaphragms	20.2	12	23.5	C8X18.75	1/4	4	NA	NA

*Closer spacing under the wheel track

**See Section No. 170, Sheet No. 2.



TYPICAL SECTION AT MID-SPAN



TYPICAL FRAMING PLAN

This document is preliminary and not for construction or implementation purposes.

BRP-0034(035)
PEMBINA COUNTY, NORTH DAKOTA



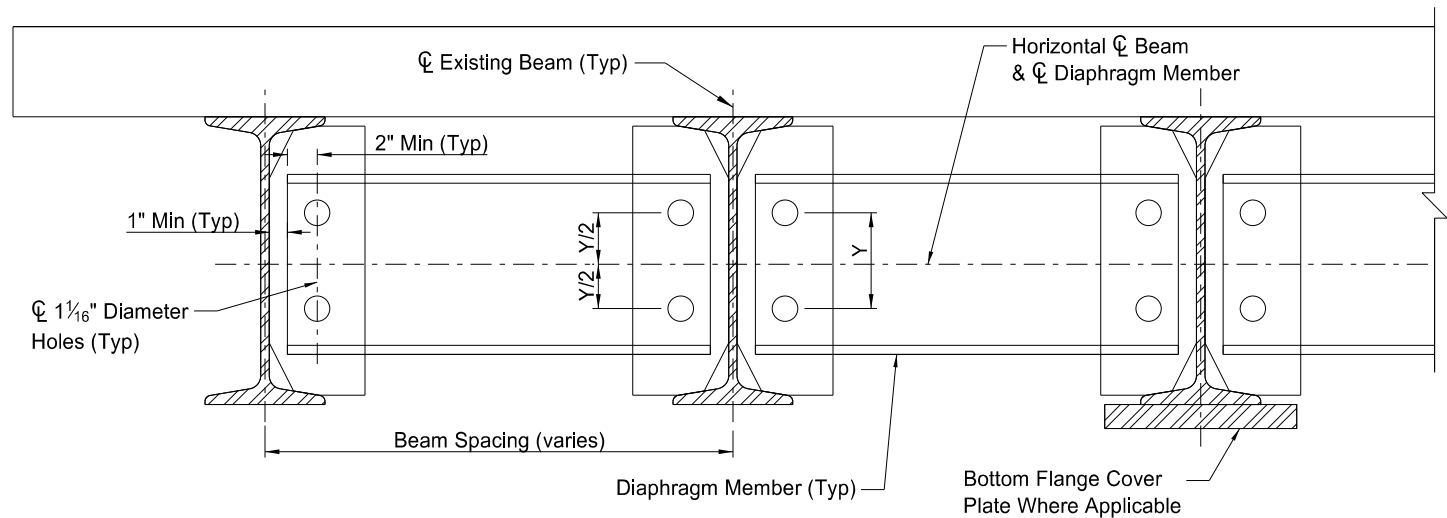
BRIDGE LAYOUT

DRWN BY
BJJ

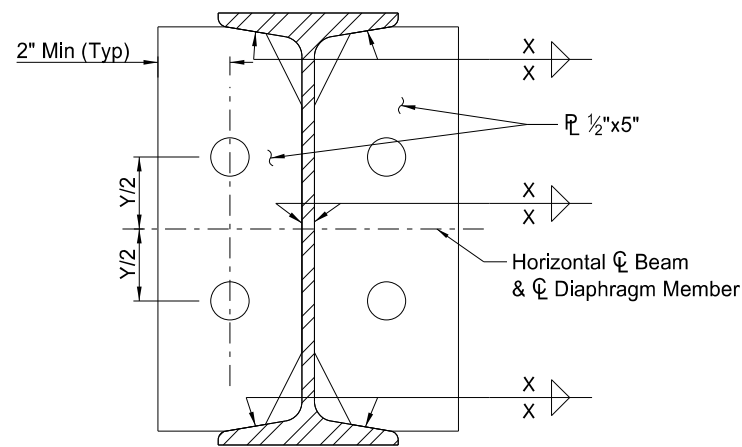
CHKD BY
CCA

PROJECT NO.
2202-00406

STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
ND	BRP-0034(035)	170	2



NEW DIAPHRAGMS & COVER PLATES



NOTE: Girders with diaphragms on only one side do not need stiffener on opposite face of diaphragm

NOTE: If dimension "Y" exceeds 7", include an additional bolt at $\varnothing$ of diaphragm member on each side of beam.

DIAPHRAGM CONNECTION STIFFENER

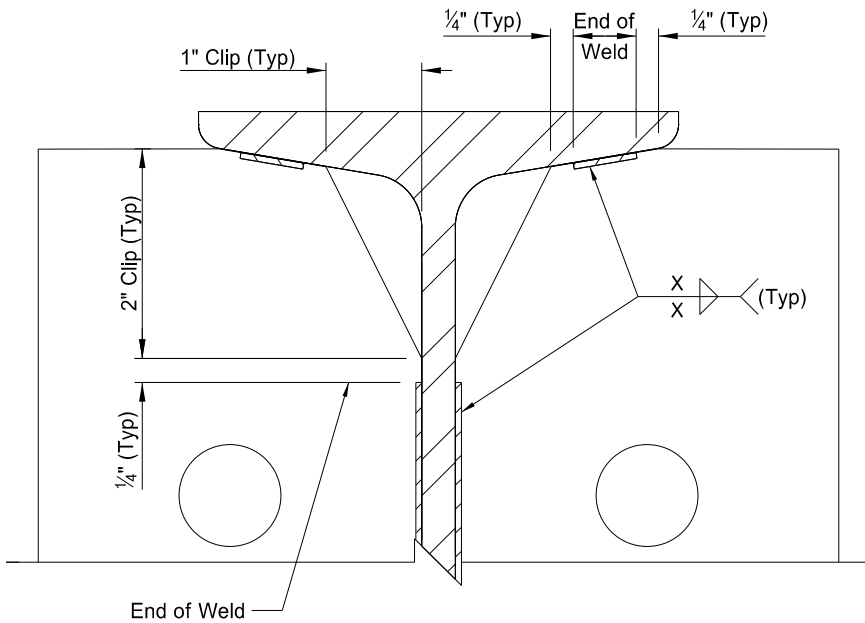
NOTES:
Use structural steel meeting the requirements of AASHTO M270 Grade 50 for all new steel.

Use 7/8" dia. high strength bolts. Exclude bolt threads from shear plane.

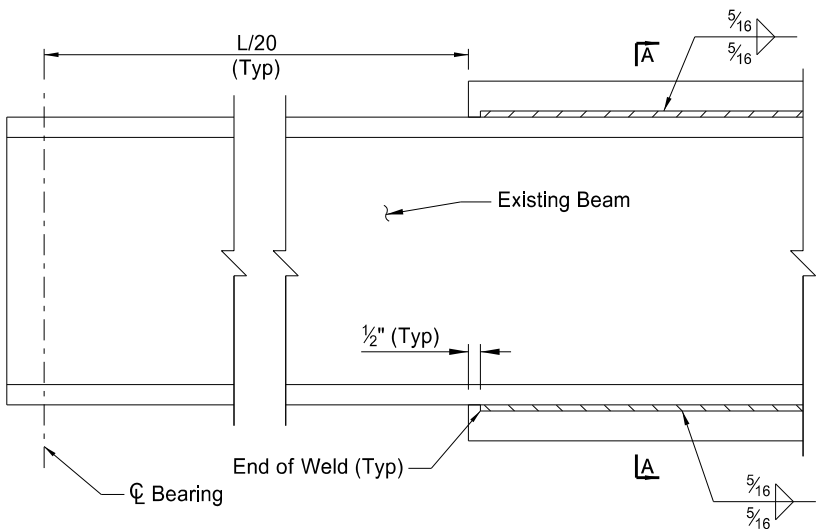
Use slip-critical connections. Provide an unpainted clean mill scale surface to meet Class A surface conditions. Use Direct Tension Indicators or Turn of Nut method per the current version of AASHTO LRFD Bridge Construction Specifications.

Install diaphragm stiffeners perpendicular to top flange of girder.

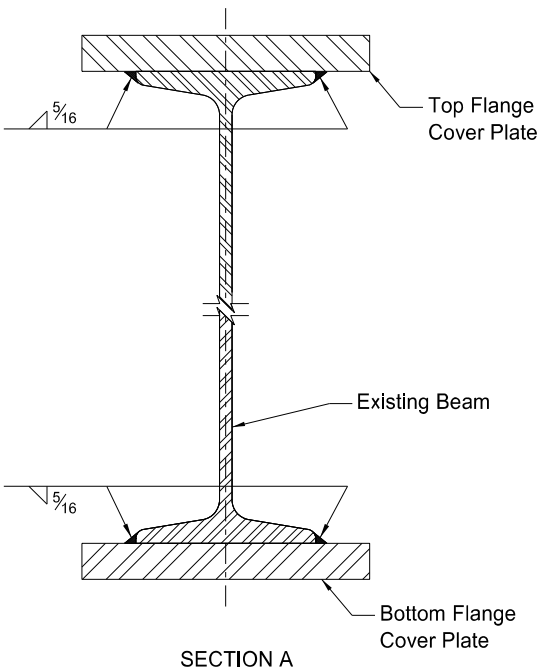
Include all costs associated with diaphragm and beam retrofits in the unit bid prices for Structural Steel - Diaphragm and Structural Steel - Cover Plate, respectively.



STIFFENER WELD AND COPE DETAIL



COVER PLATE DETAIL
(TYPICAL BOTH BRIDGE ENDS)



SECTION A

This document is preliminary and not for construction or implementation purposes.

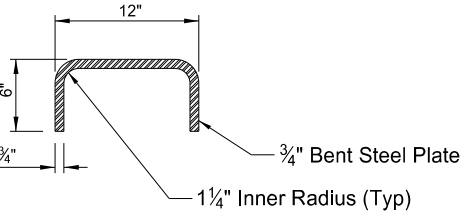
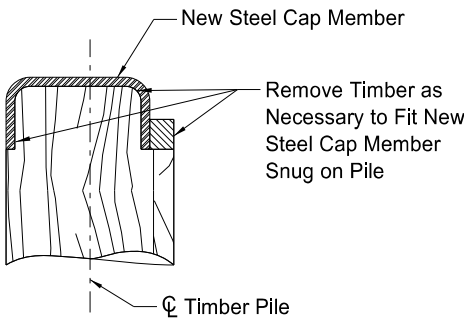
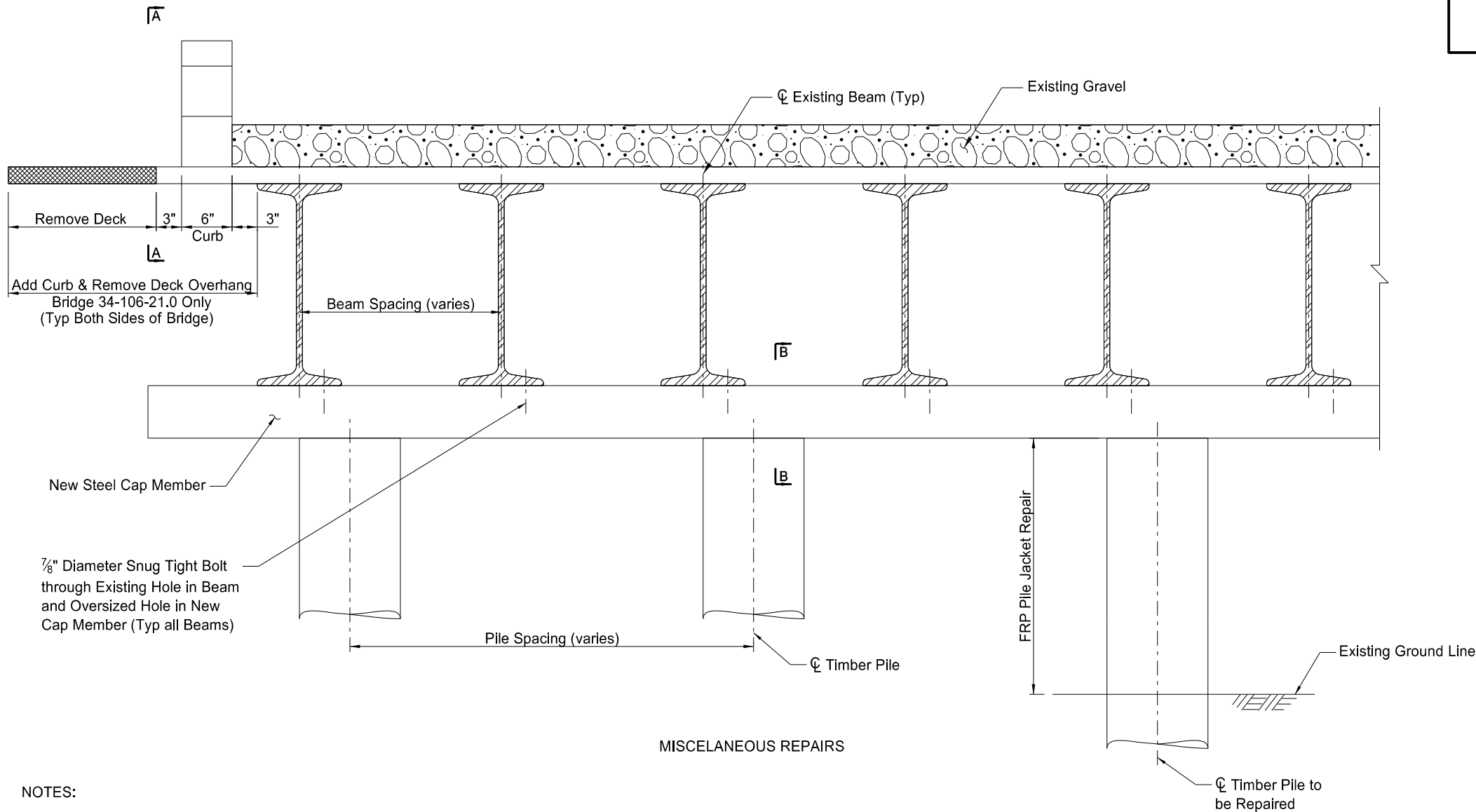
BRP-0034(035)
PEMBINA COUNTY, NORTH DAKOTA



DETAILS

DRAWN BY: BJJ
CHECKED BY: CCA
PROJECT NO.: 2202-00406

	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	BRP-0034(035)	170	3



MISCELANEOUS REPAIRS

NOTES:

Repair the following timber piles along with any additional piles the Engineer deems necessary for repair:

Bridge #34-105-29.0 - Abutment 1 Piles 1W & 7W
Abutment 2 Piles 1W, 4W, & 7W

Bridge #34-108-30.0 - Abutment 1 Piles 5W

Bridge #34-109-25.0 - Abutment 1 Pile 5N
Abutment 2 Pile 3N

Repair piles using an FRP wrap filled with a high strength grout or epoxy to restore piles to greater than their original design capacity.

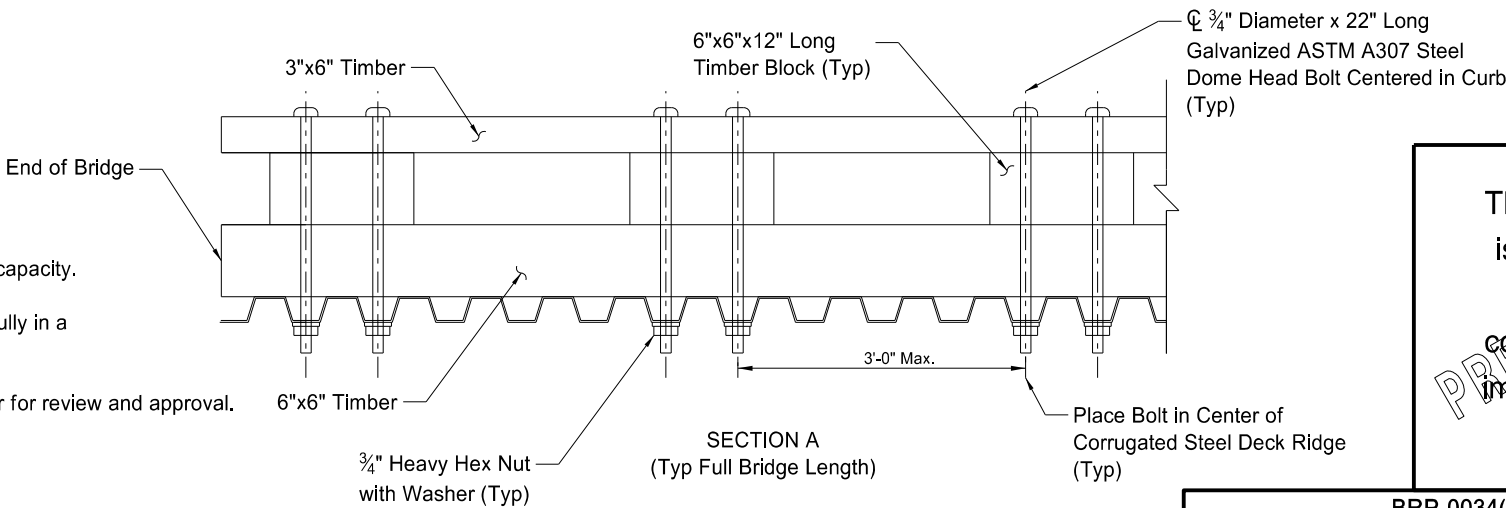
Use a repair system that can provide at least 3 example bridge projects where the system and materials were used successfully in a similar application. Follow the manufacturers material and installation guidance for the entire repair system.

Use an FRP pile jacket repair system listed below or other similar system. Submit the proposed repair system to the Engineer for review and approval.

- PileMedic by Quakewrap
- PileForm by Five Star
- SeaShield Series FX-70 by Denso

Remove and replace steel pile cap member full length at all abutments and piers on bridges noted on Section 170, Sheet No. 1. See Section 170, Sheet No. 2 for steel, bolt, and nut materials.

Include all costs associated with pile repairs in the lump sum bid price for Pile Repair. Include all costs associated with curb addition and deck removal in the lump sum bid price for Bridge Repair. Include all costs associated with pile cap replacement in the unit bid price for Structural Steel - Pile Cap.



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