

Bridge Inventory Report

Bridge ID: 14523

MSAS 129 over RED RIVER OF THE NORTH

IDENTIFICATION										
Agency Br. No:				Insp. Agency:		City of Moorhead		Year Built: 1988		
Bridge Name:				Owner:		City Highway Agency		Date Opened: 6/1/1988		
County:		14 - Clay		Custodian:		City Highway Agency		Border Bridge Number: 0000FRG031		
City/Town:		Moorhead		Loc:		0.5 MI W OF JCT CSAH 3		Border Lead State: 27		
District:		District 4		Sect., Twp., Range:		5 139N 48W		Historical Significance: N-Not Eligible		
Maint. Area:				Lat/Long:		46.889777 , -96.774221		MPO: Fargo/Moorhead COG		
Bridge Crew:				On/Off System:		1- ON		Agreement on File: 1		
STRUCTURE GEOMETRY				CONDITION AND APPRAISAL				WORK EVENTS		
Service Carried: Highway - Pathway				BPI / LPI:				Work Completed:		
Service Under: Waterway				Bridge Condition: F - Fair				Work Upcoming:		
Number of Spans:		M: 5	A:	T: 5	Deck:		6 - SATISFACTORY		INSPECTION EVENTS	
MN Span Material:		5 - PCST			Superstructure:		6 - SATISFACTORY		Routine	
MN Span Design:		22 - Bulb Tee			Substructure:		6 - SATISFACTORY		Last Routine: 9/10/2024	
NBIS Bridge Length:		500.0			Culvert:		N - N/A		Routine Interval: 24	
Max Span Length:		100.0			Railing:		9 - INITIAL ENTRY		Projected Next Routine: 9/30/2026	
Min Span Length:					Transitions:		N - N/A		NSTM	
Width O-O/Barrel Length:		40.0			Bearings:		9 - INITIAL ENTRY		NSTM Required: N	
Bridge Width C to C:		32.0			Joints:		9 - INITIAL ENTRY		Last NSTM:	
Curved Bridge:					Channel:		5 - FAIR		NSTM Interval:	
Deck Install Year		1988			Channel Protection:		N - N/A		NSTM Condition: N	
Wear Surface Install Year:		1988			Scour:		7 - GOOD		Fatigue Details E/E: 0	
Wear Course/Fill Depth:		0.16			Approach Alignment:		G - GOOD		Underwater	
Culvert Type:					Overtopping Likelihood:		5-High		Underwater Required: Y	
Deck Area:		20,000			ROADWAY ON BRIDGE				Last Underwater: 10/7/2025	
Roadway Area:		15,995			H01		H02		Underwater Interval: 60	
Approach Rdwy Width:		32.0			Feature Name:		MSAS 129		Underwater Condition 7	
Median Type:		0			Functional Class:		5		Pinned Assembly (Special)	
Median Width:		0.0			Urban Code:		29089		Pinned Detail Required:	
Max. Bridge Height:					NHS Designation:		N		Last Pinned:	
Skew:		0			Reference Post:		000+00.000		Pinned Interval:	
Sidewalk Width: LT:		0.0		RT: 5.0	Lanes:		2		In-Depth/Complex (In-Depth)	
BRIDGE BARRIERS & TRANSITIONS				AADT:		8,133		Complex Required: N		
Rail N/W:		22 - Type J or F Barrier			Year of AADT:		2021		Last Complex:	
Rail S/E:		30 - J w/Fence or Rail			Truck Traffic:		163		Complex Interval:	
Median Barrier:					Detour:		2		WATERWAY	
Railing Crash:		3504-NCHRP 350 CL4			Speed Limit:				MN Scour Code: I - LOW RISK	
Transition Crash:		N - Not Applicable			Max Vert Clear:		99.9		MN Scour Eval Year: 2009	
LOAD CAPACITY				PAINT				POA Required: 0 - Not Required		
Status:		O-Open			Year Painted:				Waterway Opening: 3,900.00	
Design Load:		HS20			Painted Area:		sq ft		Drainage Area:	
Design Method:					Primer Type:				Navigable Waterway: N	
Rating Method:		LFR			Finish Type:				SIGNS	
Load Post:		VEH: SEMI: DBL:			Paint Prop:				Load Post: 0 - Not Required	
Inventory Rating:		0.90			Paint Spec:				Horizontal Clear: 0 - Not Required	
Operating Rating:		1.51							Vertical Clearance: N - Not Applicable	
Controlling Legal Rating:										
Rating Date:		5/5/2014								
Permit Codes:		A: 1 B: 1 C: 3								

Bridge Inspection Report

Bridge ID: 14523

MSAS 129 over RED RIVER OF THE NORTH

Insp. Date: 09/10/2024

Loc:	0.5 MI W OF JCT CSAH 3	BPI/LPI:		Approach Alignment:	G - GOOD
Agency Br. No:		Overall Condition:	F - Fair	Overtopping Likelihood:	5-High
Maint. Area:		Deck:	6 - SATISFACTORY	NSTM Condition:	N - N/A
Bridge Crew:		Superstructure:	6 - SATISFACTORY		
Insp. Resp:	City of Moorhead	Substructure:	6 - SATISFACTORY		
County:	14 - Clay	Culvert:	N - N/A	Underwater Cond.:	7 - GOOD
City/Town:	Moorhead	Railings:	9 - INITIAL ENTRY	Vert Clr Sign:	N - Not Applicable
MN Span Material:	5 - PCST	Transitions:	N - N/A	Horizontal Clr Sign:	0 - Not Required
MN Span Type:	22 - Bulb Tee	Bearings:	9 - INITIAL ENTRY	Load Posting Sign:	0 - Not Required
Culvert Type:		Joints:	9 - INITIAL ENTRY	Posting:	VEH: SEMI: DBL:
Length:	500.0 ft.	Channel:	5 - FAIR	Status:	O-Open
Deck Width O-O/Barrel Length:	40.0 ft.	Channel Protection:	N - N/A		
Rdwy Area:	15,995 sq. ft.	Scour:	7 - GOOD		

INSPECTIONS

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
15	Prestressed Concrete Top Flange	10/07/2025	20,000 sq. ft.	19,596	402	2	0
		09/10/2024	20,000 sq. ft.	19,596	402	2	0

2024:1-ft diameter delamination around vent at 7th beam from the north in Span 2 (1-sq. ft. in CS2). 2'x1' delamination with exposed rebar in 1st bay from the north, span 3 (2-sq. ft in CS3). 1' diameter delamination at vent 5th beam from the north, span 3 (1-sq. ft. in CS2)

2023: No change

2021: There is now significant leaching located at the beam ends in areas of previous sealing, new photo added documenting general findings. Because there is no build-up and no rust stains the quantity remains in CS#2.

2019: No change. Light leaching at exterior flange of fascia beams and poured deck joints.

2018: Beam ends were sealed in 2018, quantity remains in condition state 2 since repaired areas are now sound.

2016: New element in 2016. Top Flange is in general good condition with areas of deterioration present at the ends. Quantity in Condition State 2 is based on 100 LF of beam ends times 4-foot wide bulb tees.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
510	Wearing Surfaces	10/07/2025	20,000 sq. ft.	0	19,967	33	0
		09/10/2024	20,000 sq. ft.	0	19,967	33	0

2024: There is significant cracking at the joint repair over pier 1 (32 sq. ft. in CS3)

2021: Areas of moderate cracks adjacent to locations where the joints were repaired, new photo added documenting general condition. Quantity does not need to be changed.

2019: Minor cracking at the edge of the repaired joints and adjacent existing concrete. Leaking with minor efflorescence at exterior edge of joint.

2018: Cracks measure up to .040" in areas and are spaced roughly every 15 feet radiating from the joints with random horizontal cracking. There is a 9" x 15" x 1" pothole in the wheel path of the westbound lane, resulting in 1SF placed in CS #3. The rest of the deck is in CS #2 due to widespread minor and moderate cracking.

2016: Wearing surface has tight hairline cracking throughout

2014 - 2015: No change

2013: Quantity changed from 16,000 to 20,000 SF.

2008: Element added to replace element #22 - Low slump overlay (concrete deck with uncoated rebar). One small pothole and

some minor spalling adjacent to construction joints.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
109	Prestressed Concrete Open Girder/Beam	10/07/2025	5,000 ft.	4,891	107	2	0
		09/10/2024	5,000 ft.	4,891	107	2	0

2024: 7" high spall with exposed rebar on north beam at east abutment (1-ft in CS3). 3" high delamination at end of north beam in span 2 at pier 2 (1-ft in CS2). Spall with exposed rebar, bottom flange of north beam in span 3 at pier 2 (1-ft in SC3). Minor restraint cracking was noted in the corner between the web and top flange at all piers (no CS change warranted).

2021: In addition to previously noted defects, two new areas of delamination are occurring around the down spouts from the deck vents at Pier #1. Areas measure less than 6" and current depth is unknown. Because of this deterioration, 2 SF of quantity has been moved from CS#1 to CS#2.

2019: 2 LF of bottom flange delamination on 5th beam from the north in span #2. 2 LF of bottom flange cracking/delamination on 3rd beam from the north in span #4. 4 LF added to CS #2.

2018: Beam ends were sealed and repaired in 2018, quantity is moved to condition state 2 since repaired areas are now sound. In addition to previously noted defects the bottom of the flange on the 3rd beam in span #4 has progressed from a 24" horizontal crack to a delaminating area 24" long by 3" wide.

2016: Element added in 2016 to rate vertical portion of bulb tees, replacing old element 374 P/S Concrete Tee. Webs are in generally in good condition except at the beam ends.

2015: Severe deterioration at the beam end of pier 4. Condition State for 100 LF of beams lowered from 2 to 3 as a result of ongoing deterioration. Bottom flange of the 3rd beam of Span 4 has a 24" horizontal crack. 12" x 3" x 2" spall on the top outside of the web extension on span 1, south fascia.

[2014] Beam ends are deteriorating at the piers beneath the poured deck joints due to water entering the joints. Otherwise no change from 2013.

[2013] No structural cracking in tees was visible at time of inspection. Approximately 2 feet of the bottom flange of the southernmost exterior beam in span 2 has delaminated (below the air vent).

[2008] Element added to replace #109 Prestressed concrete girder which was deleted. Apparent temperature/shrinkage cracking noted in E 1/3 of Span 1 with efflorescence. Cracks were observed in N eight beams, mostly in tees, but some cracks extended into the webbing. Cracking and efflorescence was also observed along longitudinal joints between the tees.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
210	Reinforced Concrete Pier Wall	10/07/2025	78 ft.	76	2	0	0
		09/10/2024	78 ft.	78	0	0	0

2025: Underwater Inspection: Pier 3, west face exhibited minor vertical cracks with efflorescence at the upstream 1/4 point and midpoint, extending from the channel bottom to the bottom of cap (2LF CS2).

2024: No Change

2023: Pier walls are in good working conditions with no noted defects.

2021: Underwater Inspection: Overall, the concrete was typically smooth and sound below the waterline (CS1).

2013 - 2021: No change

2008: Quantity changed from 148 to 78 feet. Pier walls are in good condition.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
215	Reinforced Concrete Abutment	10/07/2025	80 ft.	76	4	0	0
		09/10/2024	80 ft.	76	4	0	0

2021 - 2024: No Change

2019: Crack at middle of east abutment with efflorescence. 1 LF added to CS #2.

2015-2018: Crack on the top of the Southwest wingwall. Spall in Northeast wingwall measures 30"x 12" x 8".

2014: Spall in NE wingwall measures 30" x 12" x 4". Put 3' of abutment in CS #2 for spalling.

2008 - 2013: Element added. Minor cracking or spalling observed in NE and SW wingwalls. Quantity changed from 79 to 80 feet. Rating is based on 2006 report. Due to flooding, unable to inspect in 2008.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
225	Steel Pile	10/07/2025	20 each	0	20	0	0
		09/10/2024	20 each	0	20	0	0
2024: Additional surface corrosion observed at pier #1.							
2023: Additional surface rust/corrosion noted at Pier #4 with no noted section loss.							
2021: No change, there was no further deterioration or new section loss documented.							
2019: Surface corrosion on piles at Pier #4.							
2016 - 2018: Minor paint failure present at top of all piles, no visible corrosion or section loss.							
2013 - 2015: Element added to account for the pile bents at piers 1 and 4. Minor paint failure present at the top of all piles.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
515	Steel Protective Coating	10/07/2025	200 sq. ft.	145	20	0	35
		09/10/2024	200 sq. ft.	145	20	0	35
2024: Approximately 1-2 ft. of paint failure on each pile at pier #1 with no noted section loss (15 sq. ft in CS 4)							
2021 - 2023: No change, paint failure area has not grown since 2019 and no new areas were documented.							
2019: Approximately 1-foot high section of paint failure with exposed steel on each pile at Pier #4. Moved 20 SF from CS #2 to CS #4.							
2016 - 2018: Quantity is estimated based on 10 12-inch wide x 5-foot high exposed piles at Piers 1 & 4, two exposed faces per pile, and top 1 foot with paint failure.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
234	Reinforced Concrete Pier Cap	10/07/2025	160 ft.	160	0	0	0
		09/10/2024	160 ft.	160	0	0	0
2024: No Change							
2023: A visible horizontal crack noted generally throughout, cracks are minor so does not warrant a condition state change.							
2016 - 2021: Tight minor hairline cracking present in various locations							
2013 - 2015: All caps undergoing staining due to leaking deck joints at the piers							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
300	Strip Seal Expansion Joint	10/07/2025	80 ft.	80	0	0	0
		09/10/2024	80 ft.	80	0	0	0
2024: Joints completely filled with debris. West joint = 2" and east joint = 1.5" @ 77 deg. F.							
2023: Joints are in good condition and need to be cleaned annually.							
2021: Joints appear to be in good working condition with no holes or rips but are again filled with debris and sand. Intend to have them cleaned and maintain a cleaning schedule in the future.							
2019: Joints appear to be in good condition, but are full of sand and debris. West joint = 2.25" and east joint = 2" @ 70 deg. F.							
2018: East and West expansion joints at the approach slabs were replaced in 2018 and appear to be functioning properly, East and West joint = 2.25" @ 50 deg. F. The quantity has been moved to condition state #1 since both expansion joints are brand new and functioning as intended.							

2016: With migration to new SIMS system, allowable condition states was expanded from 3 to 4. Joints were assigned to CS #3 on the basis that the gaskets at both joints are torn.

2015: East and West expansion joints at the approach slabs are 4.5" wide and filled with sand and debris, gasket appears to be torn in spots. East expansion joint on the South side at the approach slab has warped/bent off of bolt.

2013-2014: East joint = 2.75" @ 75 deg. F. West joint = 4.75" @ 75 deg. F. Cover plate is loose on south rail of East joint. East joint steel extrusion has been bent. Both glands are torn, pulled loose, and filled with debris.

2008: Element added. Expansion joints are approx 4 inches wide @ 50°F, both glands are torn and are plugged with debris.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
301	Pourable Joint Seal	10/07/2025	160 ft.	0	0	160	0
		09/10/2024	160 ft.	0	0	160	0
2024: The sealant at the joints over all the piers is deteriorated over a majority of the length of each joint on the roadway portion of the bridge (160-ft moved to CS3)							
2021 - 2023: Little or no deterioration noted, quantity remains in CS#1.							
2018 - 2019: Joints were replaced and repaired in 2018, they have been moved to condition state #1 since they are brand new and are functioning as intended.							
2016: With migration to new SIMS system, allowable condition states was expanded from 3 to 4. Joints previously rated CS #3 were moved to CS #4 on the basis that due to spalling adjacent to the joint, reconstruction is required. Joints previously rated CS #2 were moved to CS #4 on the basis that all the joints are leaking, and the leaking is significant.							
2013 - 2015: quantity changed from 120 to 160 LF in 2013. Various locations have spalled concrete adjacent to the joints. All joints are leaking. Joints appear to have been constructed using a backer rod and a thin bead of sealant instead of the preformed elastomeric joint called for in the plans.							
2008: Element added. Minor spalling and deterioration adjacent to joints.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
310	Elastomeric Bearing	10/07/2025	20 each	16	2	2	0
		09/10/2024	20 each	16	2	2	0
2024: The laminates on the north bearing at the east abutment are beginning to bulge (1 in CS2). The signs of walking at the east abutment noted in 2021 were not observed.							
2023: No Change							
2021: In addition to previously noted defects, the northernmost bearing at the west abutment appears to show no further signs of walking out from the steel bearing plate. The bearing pads on the east abutment on the 2nd beam from the north, shows signs of walking and measures approximately 1/4" beyond the edge of the plate. A quantity of 1 is moved to CS#2 to accommodate this finding.							
2019: Northernmost bearing at the west abutment continues to 'walk' out from under the steel bearing plate and is approximately 1/4" beyond the north edge of the plate (remains in CS 2). The northernmost bearing and fourth bearing from the south at the east abutment have cracked/torn and staining indicates that the internal plates have started to corrode (moved from CS #1 to CS #3).							
2014 - 2018: No change							
2013: Changed element from 311 Expansion Bearing (which had been added in 2008) to 310 Elastomeric Expansion Bearing and changed one bearing to condition state 2. Elastomeric bearing pad on northernmost bearing at the west abutment appears to be 'walking' out from under steel bearing plate (elastomeric pad is approximately 0.5 inches from the back of the steel plate). This bearing is placed in CS #2.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
313	Fixed Bearing	10/07/2025	80 each	74	5	1	0
		09/10/2024	80 each	74	5	1	0

2024: Bulging in the corner of the elastomer has occurred in the 1st and 3rd bearing from the north in span 4 at pier 3 (2 in CS2)

2021 - 2023: No Change

2019: Corroded plate on northwestern exterior bearing on Pier #2 moved from CS #2 to CS #3.

2013-2018: Elastomeric pads are misaligned at Pier #1: 5th bearing from south on west side, Pier #1: 5th bearing from north on east side, Pier #2: 3rd bearing from south on east side. The plate added to compensate for elastomer elevation is severely corroded on the northwestern exterior bearing on Pier #2. These 4 bearings are placed in CS #2.

2008: Element added

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
321	Reinforced Concrete Approach Slab	10/07/2025	1,280 sq. ft.	0	1,279	0	1
		09/10/2024	1,280 sq. ft.	0	1,279	0	1

2024: 6" x 4" spall with exposed rebar in eastbound lane of west approach panel (1-sq. ft. in CS4)

2021 - 2023: No Change

2008 - 2019: Some minor cracking and settlement is occurring. Placed in CS #2 for slight settlement.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
330	Metal Bridge Railing	10/07/2025	1,500 ft.	1,433	20	20	27
		09/10/2024	1,500 ft.	1,433	20	20	27

2024: Tree branches are growing into the 5th and 6th fence panel from the east. There is a broken fence tie on the bottom pipe rail on the 9th panel from the east (10 ft in CS3). Panel 12 from the east is severely bent outwards to the extent that a greater than 6" gap exists between panels (assume this condition state was rated in 2019). Fence panel 20 from the east is missing the innermost anchors connecting the fence to the deck (10 ft in CS4).

2023: 6th panel from the west is very loose and appears to be missing bolts, this should be replaced.

2021: No Change

2019: Approximately 10 LF of north railing has sustained impact damage and is significantly bent and moved from CS #1 to CS #3. 17 anchorages were noted as damaged or missing anchors - 17 LF moved from CS #1 to CS #4. The chain link fence is misaligned at several locations along its length (20 LF kept in CS #2).

2016-2018: This element and element #331 are added to replace old element #333 (Combination Railing) and element #409 Chain Link Fence. The reinforced concrete bridge railings (north side of bridge and between the sidewalk and the driving lanes) have removable galvanized metal hand railings mounted on top, and there is a removable chain link fence along the south side of the bridge. The railing and fencing are removed any time the river exceeds a 28-foot flood stage (approximately a 10-year event). Approximately 20 feet of fencing is warped/misaligned and is placed in CS #2.

2015: The railing is loose in spots and the bolts have not been properly secured.

2014: Loose railing at west end of bridge has been repaired since the 2008 report. It appears that the repairs were made by removing the railing and resetting it with the base plates in different locations from the original installation. Some bolts holding the railing in place are loose or missing, and the J-barrier is chipped where the old plates were removed. As a result of the repairs, the 30 LF in condition state 2 is moved back into condition state 1.

2013: Various base plate anchors are either loose or missing. Several base plate anchors are installed into the concrete rail deflection joints.

2008: Element added to replace element 331 - Concrete Railing. Several minor cracks and spalls in concrete J-railing, galvanized line pipe railing is loose at W end of bridge.

Chain Link Fence Notes:

2015: Fence is 4" misaligned and is still bend in either an inward or outward direction.

2014: No change

2013: Fence is bent inward or outward at two locations causing a possible snagging hazard for peds or cyclists. One base plate near the west abutment is missing an anchor bolt.

2008: Element added

Elem Nbr	Element Name	Insp Date	Total Qty		CS1	CS2	CS3	CS4
515	Steel Protective Coating	10/07/2025	3,500	sq. ft.	3,500	0	0	0
		09/10/2024	3,500	sq. ft.	3,500	0	0	0

2019 - 2024: No change.

2018: Quantity is modified to to 3,500 SF. This is based on the galvanized chain link fence being 5-ft high by 500-ft long (2,500 SF), and the two galvanized railings having 1 SF of surface area per foot of length (500 SF each). All coating is in good condition, so changed 20 SF from CS #2 to CS #1.

2016: The quantity is assumed at present, and will be verified with a future inspection. The metal portion of the railing is galvanized steel. Steel protective coating of the metal railing is generally in good condition with some areas of wear. SIMS migration placed 20 feet in CS #2 based on Metal Bridge Railing condition.

Elem Nbr	Element Name	Insp Date	Total Qty		CS1	CS2	CS3	CS4
331	Reinforced Concrete Bridge Railing	10/07/2025	1,000	ft.	0	985	14	1
		09/10/2024	1,000	ft.	0	985	14	1

2024: 3-ft long spall @ back face of barrier/curb transition on the southeast corner at end of east approach panel. (3-ft in CS3). Complete 9" x 10" top corner delamination ~20-ft west of pier 4 (1-ft in CS3). In the northwest corner of the bridge there is a 10" spall with exposed rebar adjacent to expansion joint 1 (1-ft in CS4).

2023: No Change

2021: Areas of repair during the joint replacement project now show signs of minor cracking and deterioration. Does not warrant a condition state change.

2019: Approximately 10 LF of large spalls (greater than 1" deep and/or greater than 6" diameter) were noted along both barriers. East approach barrier has a large spall with exposed, corroded reinforcement.

2018: In addition to previously noted defects there are additional areas of spalls and pop-outs in the reinforced concrete bridge railing at Span #4 on the south side. Minor snowplow damage along full length.

2016: This element and element #331 are added to replace old element #333 (Combination Railing). The railings are generally in good condition, with various popouts / chips along the top of the rail from the metal railing having been removed and replaced during multiple flood events.

2015: The railing is loose in spots and the bolts have not been properly secured.

2014: Loose railing at west end of bridge has been repaired since the 2008 report. It appears that the repairs were made by removing the railing and resetting it with the base plates in different locations from the original installation. Some bolts holding the railing in place are loose or missing, and the J-barrier is chipped where the old plates were removed. As a result of the repairs, the 30 LF in condition state 2 is moved back into condition state 1.

2013: Various base plate anchors are either loose or missing. Several base plate anchors are installed into the concrete rail deflection joints.

2008: Element added to replace element 331 - Concrete Railing. Several minor cracks and spalls in concrete J-railing, galvanized line pipe railing is loose at W end of bridge.

Elem Nbr	Element Name	Insp Date	Total Qty		CS1	CS2	CS3	CS4
800	Critical Deficiencies or Safety Hazards	10/07/2025	1	each	1	0	0	0
		09/10/2024	1	each	1	0	0	0

2015 - 2024: No critical findings noted

Elem Nbr	Element Name	Insp Date	Total Qty		CS1	CS2	CS3	CS4
810	Concrete Decks - Cracking & Sealing	10/07/2025	1,067	ft.	0	1,003	64	0

810	Concrete Decks - Cracking & Sealing	09/10/2024	1,067 ft.	0	1,003	64	0
2024" 64-ft of wide cracking present between the original wearing surface and the repaired joint at pier 1 (64-ft in CS3)							
2021 - 2023: No Change							
2019: Element re-added. Quantity assumed based on 15' typical crack spacing, 500' bridge length, and 32' roadway width. Cracks are unsealed and measure up to 0.04" wide (CS #2).							
2015: There is a 12" Pothole forming at the joint where the tollbooth used to be.							
2013 - 2014: No change							
2008: Element added. One small pothole and some minor spalling adjacent to construction joints.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
855	Secondary Members (Superstructure)	10/07/2025	1 each	0	1	0	0
		09/10/2024	1 each	0	1	0	0

2023-2024: No Change

2021: Diaphragms appear to have not further deteriorated, the deck drains appear to be arresting the diaphragm deterioration but are not working properly due to being filled with debris.

2019: Quantity changed from 135 EA (90 CS #1/45 CS #2) to 1 EA. Condition state based on the most deteriorated member (CS #2).

2018 - 2018: Diaphragms have not deteriorated further. The deck drains/air vents were extended in 2018 as part of the bridge rehab project to redirect deck drainage away from all diaphragms.

2008 - 2016: Element added: 90 Concrete Diaphragms and 45 Steel Diaphragms. Deck drains/air vents are directly over steel diaphragms and are causing corrosion and minor section loss.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
883	Concrete Shear Cracking	10/07/2025	1 each	1	0	0	0
		09/10/2024	1 each	1	0	0	0

2021 - 2024: No shear cracking noted.

2019: Element added to track shear cracking for prestressed beams designed prior to 2007.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
892	Slopes & Slope Protection	10/07/2025	1 each	0	0	1	0
		09/10/2024	1 each	0	0	1	0

2024: The sitting water noted in 2023 and the erosion with exposed abutment footing noted in 2021 remains, but does not appear to be causing issues with the bridge.

2023: Areas of sitting water noted between the abutment and Pier #4 under Span #5. This seems to be a continued issue with annual flooding. Does not appear to be causing issues and should be monitored at next inspection.

2021: In addition to previously noted defects, the slope protection on the west side of the bridge appears to have settled/washed away more. Quantity remains in CS#3.

2019: Significant erosion along the southern half of the east abutment. At the lowest point, the bottom of the footing appears to be exposed with slight undermining. Quantity moved from CS #2 to CS #3.

2018: No Change from 2014 with the exception of additional debris is present.

2014: Sediment aggradation/deposition and erosion under the spans east of the river have resulted in pockets of standing water under the bridge. Parking lot drainage at NW wingwall has been corrected. A tree on the east bank north of the bridge is leaning/falling toward the bridge. Otherwise, no change.

2013:Pile cap of the northeast corner of the east abutment has been exposed for approximately 10 feet.

2008: Element added. Parking lot on NW end of bridge drains over NW wingwall causing erosion.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
893	Guardrail	10/07/2025	1 each	0	1	0	0
		09/10/2024	1 each	0	1	0	0
2024: Minor impact damage exists throughout the length of the guardrail. Element remains in CS2.							
2023: There is new damage to the guardrail on the NE end of the approach roadway. Quantity remains in CS#2.							
2021: Guardrail was repaired and re-damaged from last inspection, remains in CS#2 due to damage.							
2019: Guardrail has minor collision damage, moved to CS #2							
2016 - 2018: Guardrail with previous collision damage has been repaired and is in good condition							
2015: The Northeast guardrail with collision damage has been replaced/repaired since last inspection.							
2013 - 2014: Northeast guardrail has significant impact damage.							
2008: Element added. Minor collision damage.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
894	Deck & Approach Drainage	10/07/2025	1 each	0	0	1	0
		09/10/2024	1 each	0	0	1	0
2024: Broken vent pipe in span 3, northernmost bay and 6th bay from the north. Missing vent pipe in span 1, 3rd bay from the south. Several deck vents and drains remain clogged.							
2023: No Change							
2021: 3rd deck vent from north on Span #2 is missing and almost every vent extension is blocked with debris. Quantity remains in CS#3 until they are repaired and cleaned.							
2019: Air vent extension is missing near the west abutment. Several deck drains and sidewalk air vents are clogged with debris. Moved quantity from CS #1 to CS #3.							
2018: Deck drains/air vents have been cleaned and extended and deck joints were replaced to move water flow away from the diaphragms, and beam ends. Work done in 2018. Deck and approach drainage changed back to CS #1.							
2016: Deck drains are showing signs of deterioration around the holes. The deck drains are draining the deck flow water directly onto the beams and diaphragms causing deterioration.							
2015: Deck drains are showing signs of deterioration around the holes. The deck drains are draining the deck flow water directly onto the beams and diaphragms causing deterioration.							
2014: No change							
[2013] Air vents allow water to drain directly onto beams and diaphragms							
[2008] Element added. Deck drains directly onto steel diaphragms and are causing corrosion.							

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
895	Sidewalk, Curb, & Median	10/07/2025	1 each	0	0	1	0
		09/10/2024	1 each	0	0	1	0
2021 - 2024: No Change							
2019: East approach has settled approximately 1.5" average. Moved quantity to CS #3 for moderate settlement.							
2015 - 2018: 1-2" of settlement has occurred in the North and South curbs on the West approach. The sidewalk on the South side of the East approach has been undermined.							
2014: Southeast walk has been undermined and south curb has settled about 1" at west abutment							

2013: Southeast walk has been undermined

2008: Element added.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
899	Miscellaneous Items	10/07/2025	1 each	1	0	0	0
		09/10/2024	1 each	1	0	0	0

2024: The conduit feeding the 3rd light from the west has come loose from the barrier.

2023: All conduit that needs to be removed has been removed. The old stairs on the SE corner of the approach appear to be overgrown or buried.

2021: Conduit is still abandoned under the bridge and needs to be removed. The old stairs on the SE corner of the bridge approach should be removed and covered with fill.

2015 - 2019: There is an abandoned conduit under the bridge that used to feed the toll booth and should be removed. Item changed back to CS #1. It is not known why it was in CS #2 previously.

2008: Element added. There are five street lights, one per span, near midpoint in S combination railing. City removed debris from river channel in 2008.

Elem Nbr	Element Name	Insp Date	Total Qty	CS1	CS2	CS3	CS4
900	Protected Species	10/07/2025	1 each	0	1	0	0
		09/10/2024	1 each	0	1	0	0

2016 - 2024: No protected species observed so this is CS#2.

Bridge Condition Notes

Bridge ID: 14523

MSAS 129 over RED RIVER OF THE NORTH

General Notes:

10/07/2025 - Underwater Inspection by Collins Engineers, Inc

9/10/2024 - Inspected by Jamison Beisswenger (SRF), Randy Aamondt (MnDOT), and Josh Thiemann (MnDOT) using MnDOT's Aspen Aerials A-62 underbridge inspection vehicle. 75 degrees and Sunny.

9/13/2023 - Inspected by Levi Hockett and Mike Aamodt. 74 degrees and mostly sunny.

6/28/2021 - Underwater Inspection by Collins Engineers, Inc.

9/14/2021 - Inspected by Tom Trowbridge and Levi Hockett, 74 degrees and partly cloudy.

10/10/2019 - Inspected by Rick Snyder. 70 degrees and partly cloudy.

10/10/2018 - Inspected by Tom Trowbridge and Levi Hockett, 59 degrees and cloudy/rainy.

10/10/2016 - Inspected by Tom Trowbridge. 70 degrees, sunny and clear.

2015: No critical findings noted. Significant and minor deficiencies were discovered and noted in their respective elements. Sidewalk on the Southeast approach should be repaired and the electric conduit from the tollbooth should also be removed. Miscellaneous tree trimming and slope grading should addressed.

Inspection dated 10-13-2011 by North Dakota was entered by MnDOT Bridge Office.

Contact:

Bridge Company

Suite 510

403 Cedar Avenue

Moorhead, MN 56560

Phone: 218 233 3386 ELEMENTS ADDED BY TDD ON 4-1-2003 TO CORRECT A PROBLEM IN PONTIS.

ADD/SUBTRACT/UPDATE ELEMENTS AS NECESSARY.

2006 DEBRIS LODGED IN UNDERSIDE OF ALL SPANS

EFFLORESCENCE AT EAST ABUTMENT

SOME EFFLORESCENCE ON UNDERSIDE OF DECK

SOME RUSTING OF STEEL DIAPHRAMS

INSPECTED BY WAYNE LARSON

[2008] Insp by TT and BB

Deck:

2024: There is significant cracking at the joint repair over pier 1. There are isolated areas of delamination on the underside of the prestressed beam top flange (which serves as the deck). Condition rating lowered to 6.

2015 - 2023: The deck of the 5-Span pre-stressed concrete bulb tee beam bridge is in good condition with only minor defects noted.

Superstructure:

2024: There are isolated areas of spalling and delamination at the ends of several north exterior beams. One beam in spans 2 and 3 has bottom flange delamination at midspan. Condition rating lowered to 6.

2023: No Change

Beam ends were sealed in August of 2018.

[2016] Superstructure is in good working condition with only minor defects noted.

Substructure:

2025: Underwater Inspection: Substructure Condition Rating of 6 reviewed and confirmed with the underwater portion of the bridge inspected.

2024: Piers 1 and 4 have areas of paint failure at the waterline with minor surface corrosion in the piles. Condition rating lowered to 6.

2023: No Change

2021: Underwater Inspection: NBI Rating of 7 reviewed and confirmed with the underwater portion of

	bridge inspected.
	2019 - 2021: No change.
	2016: Substructure is in good working condition with only minor defects noted.
Culvert:	N/A
Railing:	
Bridge Railing Description:	[2019] No Change_x000D_ _x000D_ [2015] No Change
Railing Transitions:	
Bridge Transitions Descption:	36B-C Notes: [2019] There is a guardrail for the westbound approach to the bridge. However, the roadway has barrier-style curb and gutter and a speed limit of 30 MPH, so the guardrail is not required. [2015] No Change
Bridge Bearing:	
Bridge Joints:	
Channel:	2025: Underwater Inspection: Channel Condition Rating of 5, heavy timber debris at Piers 2 and 3, minor sloughing of shorelines. 2024: Debris is restricting flow between pier 2 and the west bank of the river and should be removed (rating reduced to 5) 2021: Underwater Inspection: NBI Rating of 6 reviewed and confirmed with the underwater portion of bridge inspected. 2016: The channel and channel protection are in good condition with only minor defects noted.
Channel Protection:	
Scour:	2025: Underwater Inspection: Scour Condition Rating of 7, minor scour near the embankments and east face of Pier 2. Scour condition notes moved from the previous element 885 Scour. The previous Scour Condition Rating was 1 EA in CS 1. 2024: Flood debris is restricting the channel between pier 2 and the west bank of the river which could increase the susceptibility of this pier to scour. 2023: No change noted during above ground visual inspection. 2021: Underwater Inspection: No scour was observed at the submerged portions of substructure units or within the channel.
Approach Alignment:	2024: No Change. 2019 - 2023: Appraisal is changed to 7 because there is no speed reduction required. The streets on the Fargo side have a 25 MPH speed limit and the Minnesota side is a 30 MPH speed limit. 2016: Approach roadway alignment is in fair condition and meets minimum tolerable limits to be left in place as is.
Overtopping Likelihood:	2025: Underwater Inspection: Rated at 5 to match description from notes below. 2019 - 2024:No change 2018 - 2023: Waterway adequacy is based on functional classification as minor arterial roadway with occasional (every 3 to 10 years) overtopping of both the deck and approaches. Detour route is about 3 miles to Center Ave and Main Ave bridges.

NSTM Inspection:

Underwater: