



Latitude:33.87794, Longitude:-93.30596

Route:67 Section:04 Log:0.01

Arnold Road ID:50x67x3xA, Arnold Log mile:14.989

District 07, 19 - Clark County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

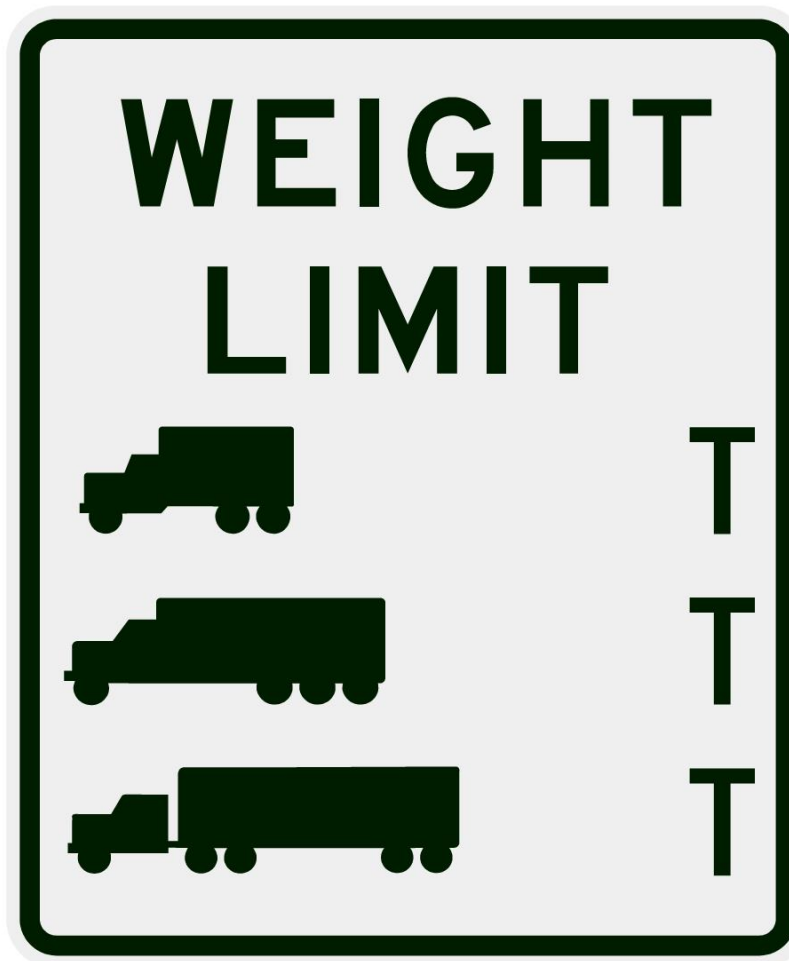
Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

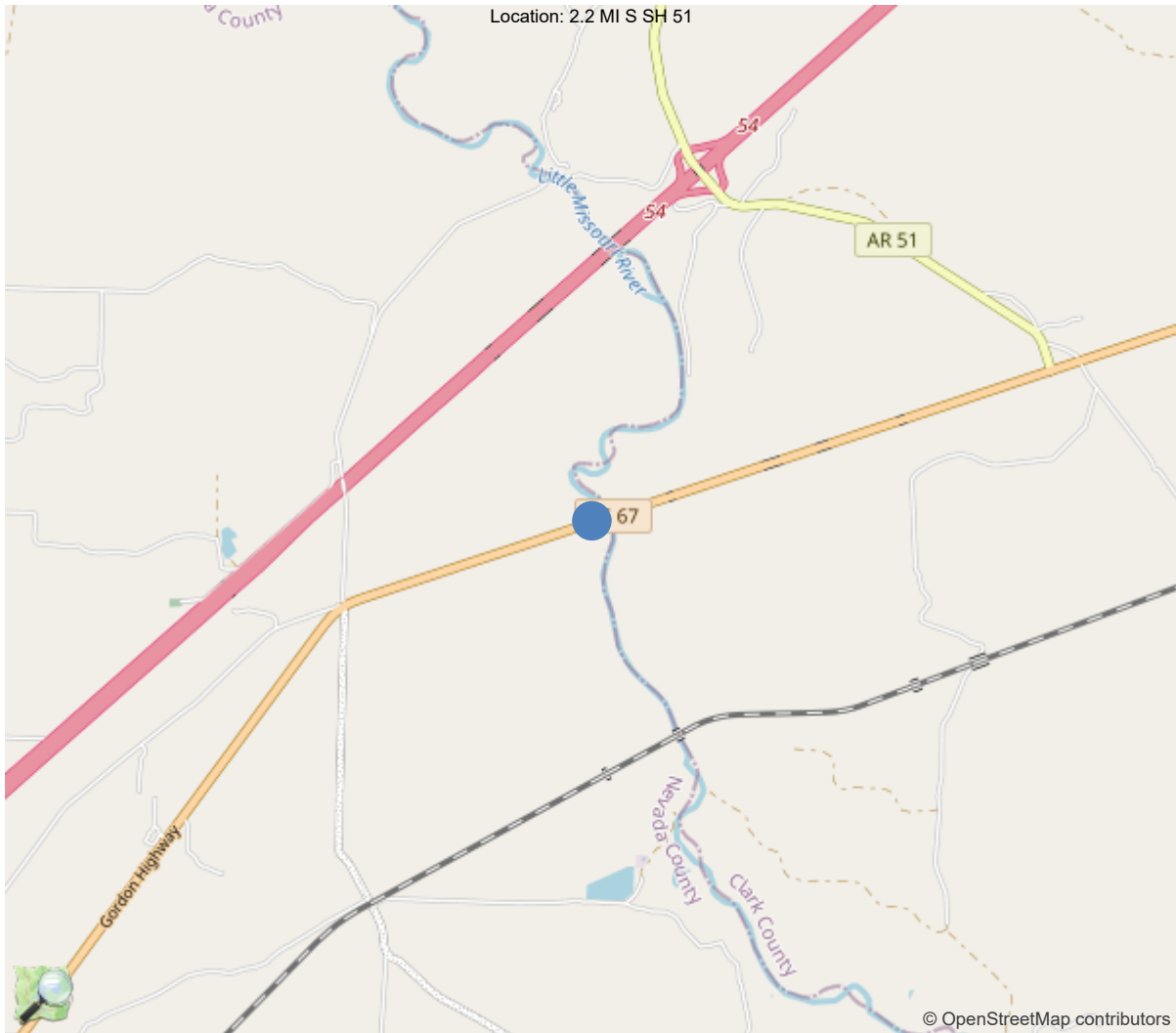
70 - Bridge Posting: 5 - Equal to or above legal loads

| Legal Load | Calculated Capacity | Beginning of Bridge Sign Current Value | End of Bridge Sign Current Value |
|------------------|---------------------|--|----------------------------------|
| Code 4 (22 Tons) | 34 | | |
| Code 9 (31 Tons) | 40 | | |
| Code 5 (40 Tons) | 42 | | |

If calculated Capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner



30"x36" AR



33.87794, -93.30596



Asset #01381(Routine, NSTM)

US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER

Location: 2.2 MI S SH 51

Team Lead: John Parks Inspection Date: 01/24/2023

| IDENTIFICATION | |
|---|--|
| (1) State Names | 5 - Arkansas |
| (8) Structure Number | 01381 |
| (5) Inventory Route | 1 |
| (2) Highway Agency District | 07 - District 07 |
| (3) County Code | 19 - Clark County |
| (4) Place Code | 0 |
| (6) Features Intersected | LITTLE MISSOURI RIVER |
| (7) Facility Carried | US67 Sec4 Lm 0.01 |
| (9) Location | 2.2 MI S SH 51 |
| (11) Mile Point | 0.01 mi |
| (12) Base Highway Network | No |
| (13) LRS Inventory Rte & Subrte | 0000000000 |
| (16) Latitude | 33.877941 |
| (17) Longitude | -93.305962 |
| (98) Border Bridge State Code | |
| (99) Border Bridge Structure No. | |
| STRUCTURE TYPE AND MATERIAL | |
| (43) Main Structure Type | 310 |
| Material | 3 - Steel |
| Type | 10 - Truss - Thru |
| (44) Approach Structure Type | 14 |
| Material | 1 - Concrete |
| Type | 4 - Tee beam |
| (45) No. of Spans in Main Unit | 3 |
| (46) No. of Approach Spans | 24 |
| (107) Deck Structure Type | 1 - Concrete Cast-in-Place |
| (108) Wearing Surface/Protective System | |
| Type of Wearing Surface | 1 - Monolithic Concrete (concurrently pl |
| Type of Membrane | 0 - None |
| Type of Deck Protection | 0 - None |
| AGE AND SERVICE | |
| (27) Year Built | 1931 |
| (106) Year Reconstructed | 0 |
| (42) Type of Service | 15 |
| On | 1 - Highway |
| Under | 5 - Waterway |
| (28) Lane | |
| On | 2 |
| Under | 0 |
| (29) Average Daily Traffic | 1492 |
| (30) Year of ADT | 2018 |
| (109) Truck ADT | 14 % |
| (19) Bypass, Detour Length | 3 mi |
| GEOMETRIC DATA | |
| (48) Length of Maximum Span | 112 ft |
| (49) Structure Length | 1161 ft |
| (50) Curb or Sidewalk Width | |
| Left | 0 ft |
| Right | 0 ft |
| (51) Bridge Roadway Width Curb to Curb | 24.3 ft |
| (52) Deck Width Out to Out | 27 ft |
| (32) Approach Roadway Width (W/Shoulders) | 40 ft |
| (33) Bridge Median | 0 - No median |
| (34) Skew | 0 Deg |
| (35) Structure Flared | 0 - No flare |
| (10) Inventory Route Min Vert Clear | 99.99 ft |
| (47) Inventory Route Total Horiz Clear | 24.3 ft |
| (53) Min Vert Clear Over Bridge Rdwy | 99.99 ft |
| (54) Min Vert Underclear | 0 ft |
| Ref: | |
| (55) Min Lat Underclear RT | 99.9 ft |
| Ref: | |
| (56) Min Lat Underclear LT | 0 ft |
| NAVIGATION DATA | |
| (38) Navigation Control | 0 - No navigation control on w |
| (111) Pier Protection | 1 - Navigation protection not |
| (39) Navigation Vertical Clearance | 0 ft |
| (116) Vert-Lift Bridge Nav Min Vert Clear | 0 ft |
| (40) Navigation Horizontal Clearance | 0 ft |

| CLASSIFICATION | |
|--|-------------------------------------|
| (112) NBIS Bridge Length | Y |
| (104) Highway System | 0 |
| (26) Functional Class | 7 - Rural Major Collector |
| (100) Defense Highway | 0 - The inventory route is not |
| (101) Parallel Structure | N - No parallel structure exists |
| (102) Direction of Traffic | 2 - way traffic |
| (103) Temporary Structure | |
| (105) Federal Lands Highways | 0 - N/A |
| (110) Designated National Network | 1 - The inventory route is par |
| (20) Toll | 3 - On free road. The structu |
| (21) Maintain | 1 - State Highway Agency |
| (22) Owner | 1 - State Highway Agency |
| (37) Historical Significance | 1 - Bridge is on the National |
| CONDITION | |
| (58) Deck | 5 |
| (59) Superstructure | 4 |
| (60) Substructure | 5 |
| (61) Channel & Channel Protection | 5 |
| (62) Culverts | N |
| LOAD RATING AND POSTING | |
| (31) Design Load | 2 - M 13.5 / H 15 |
| (63) Operating Rating Method | 2 |
| (64) Operating Rating | |
| Type | 2 - Allowable Stress(AS) |
| Rating | 41 |
| (65) Inventory Rating Method | 2 - Allowable Stress(AS) |
| (66) Inventory Rating | |
| Type | |
| Rating | 25 |
| (70) Bridge Posting | 5 - Equal to or above legal loads |
| (41) Structure Open/Posted/Closed | A - Open, no restriction |
| APPRAISAL | |
| (67) Structural Evaluation | |
| (68) Deck Geometry | 4 |
| (69) Clearances, Vertical/Horizontal | N |
| (71) Waterway Adequacy | 7 |
| (72) Approach Roadway Alignment | 7 |
| (36A) Bridge Railings | 0 - Inspected feature does not meet |
| (36B) Transitions | 0 - Inspected feature does not meet |
| (36C) Approach Guardrail | 0 - Inspected feature does not meet |
| (36D) Approach Guardrail Ends | 0 - Inspected feature does not meet |
| (113) Scour Critical Bridges | 5 - Bridge foundations determined t |
| PROPOSED IMPROVEMENTS | |
| (75) Type of Work | |
| (76) Length of Structure Improvement | 0 ft |
| (94) Bridge Improvement Cost | \$ 0 |
| (95) Roadway Improvement Cost | \$ 0 |
| (96) Total Project Cost | \$ 0 |
| (97) Year of Improvement Cost Estimate | |
| (114) Future ADT | 1207 |
| (115) Year of Future ADT | 2028 |

| INSPECTIONS * | | | |
|--|------------|-------------|------------|
| (90) Inspection Date | 01/24/2023 | | |
| (91) Frequency | 24 | | |
| (92) Critical Feature Inspection | Done | Freq. (Mon) | Date |
| A: Fracture Critical Detail | Yes | 12 | 01/24/2023 |
| B: Underwater Inspection | Yes | 60 | 03/05/2022 |
| C: Other Special Inspection | No | | |
| * The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted. | | | |

General Observation

Logged Eastbound.

58 - Deck (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

01/31/2019 JPR -- Maintenance milled the wearing surface off of the entire deck surface after the 01/05/2018 inspection, therefore will remove wearing surface from the elements.

59 - Superstructure (4 - POOR CONDITION - advanced section loss, deterioration, spalling or scour.)

Fixed bearings of the trusses, the gusset plates have pack rust and active corrosion causing section loss. Truss 1, left & right side, @ L0, pack rust is separating the gusset plates & corrosion is causing section loss. Left L0, one plate has corroded away from around the pin and there is a 3/4" corrosion hole in the second plate. Truss 2, left side at L0 pin has section loss. Truss 3, right side L0 at the pin inside gusset plate has pack rust that has pushed the inside plate out 3/4 inch and has section loss around top of pin.

Lateral Bracing connections have broken bolts in the following locations. Truss 2, Floor beam 4, has broke hanger bolt that ties the cross bracing to bottom of floor beam. Truss 3, Floor beam 2 cross bracing has built up pack rust that has caused bracing to detach from bottom of floor beam and broke the hanger bolts.

Splice plates of the lower chord have corrosion with pack rust that is distorting the splice plates and minor pitting to the flanges of the chords.

Lower chord and floor beam connections have corrosion with measurable section loss in the following locations.

T1 L3 Lt., back side. 0.5" hole in top flange of lower cord, Pack rust at connection plates

T1 L3 Lt., ahead side. Pack rust at connection plates, corrosion has top flange down to knife edge of lower cord.

T1 L3 Rt., back side. Pack rust at connection plates.

T1 L4 Lt. 3/8" section loss lower flange of floor beam.

T1 L4 Rt. Inside C-channel of lower chord. Bottom flange of inside cord down to knife edge. 3/8" section loss lower flange of floor beam.

T1 L5 Lt. Gusset plate has 1/4" deep pitting, 2 rivet heads are half way corrode away. Gusset plate on backside similar.

T1 L5 Rt. 3/8" section loss lower flange of floor beam.

T2 L1 Rt. Inside C-channel of lower chord. Pitting to top flange & web 3/8" deep.

T2 L6 Lt. Inside C-channel of lower chord. Top flange 1/2" hole in the outside of the top flange.

T2 L8 Lt. Top flange of chord outside edge is corroded away. Bottom flange of floor beam has upto 3/8" pitting.

T2 L9 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T2 L10 Lt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T2 L10 Rt. Inside C-channel of lower chord. Top flange & web, pitting upto 1/4" deep.

T3, L0, RT, gusset plates have 1/8" pitting, LT IS SIMILAR.

T3 L1 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T3 L2 Rt. Pitting upto 1/4" deep, bottom flange of FB, Top flange of chord.

T3 L4 Lt., Corrosion hole in gusset plate, pitting in the bottom web of the FB upto, 3/8" deep.

60 - Substructure (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

07-27-2016 Special inspection to monitor channel elevation @ channel piers. Measured with weighted line to top of curb.

Pier 2 left 31', right 31'. Pier 3 left 39' right 38'. See pier 2 pictures @ waterline during low water conditions.

02-25-2020. RHB, Inspection was late due to high water and rainy conditions.



A-114 - Underwater Inspection General Observation

Engineer of Record: Samuel Williams, PE

Team Leader: Samuel Williams, PE

Team Members: AR, LA, CK

Total Substructure Units: 28

Substructure Units in Water: Piers 2-3

Inventory Direction: W to E

Direction of Flow: N to S

Deepest Water Depth: 8.6 ft

Water Velocity: 0.0 FPS

Attachments: Channel Profile/Contour Map, Soundings Table, Inspection Procedures, Stamped Final Report

A-115 - Underwater Inspection Channel/Channel Protection (6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly.)

Overall, the channel is in satisfactory condition. The upstream channel is well aligned with the substructure units. There is moderate to heavy timber debris at Piers 2 and 3 that does not adversely affect flow through the channel. The banks upstream and downstream of the bridge are steep with mature vegetation at the top of the slope. The banks under the bridge have light vegetation at the top of the slope with a large area of runoff erosion on the east bank.

A-116 - Underwater Inspection Substructure Condition (B.C.15) (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

Overall the substructure units are in satisfactory condition with moderate defects located throughout. These defects include a spall on Column 2-2 and scaling on all columns of Piers 2 and 3 and are quantified in the element level portion of this report.

A-117 - Underwater Scour Condition (8 - Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above top of footing (Example A) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour within the service life of the bridge4), by calculation or by installation of properly designed countermeasures (see HEC 23).)

Based on field observations and available data, there are no signs of scour at the bridge site.

| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|---|---|-------|-------|-------|------|------|-----|
| 12 | Reinforced Concrete Deck | SF | 7426 | 6542 | 732 | 152 | 0 |
| 1080 | Delamination/Spall/Patched Area | SF | 20 | 0 | 0 | 20 | 0 |
| 1090 | Exposed Rebar | SF | 152 | 0 | 20 | 132 | 0 |
| 1130 | Cracking (RC and Other) | SF | 712 | 0 | 712 | 0 | 0 |
| (12) AC OL with numerous patches, all spans including truss spans. Some potholes. Joints rough. 1/30/2017 -- Spans 1 - 10 have numerous cracks on soffit. | | | | | | | |
| 16 | Reinforced Concrete Top Flange | SF | 23355 | 13818 | 2839 | 6698 | 0 |
| 1080 | Delamination/Spall/Patched Area | SF | 2336 | 0 | 918 | 1418 | 0 |
| 1090 | Exposed Rebar | SF | 117 | 0 | 117 | 0 | 0 |
| 1120 | Efflorescence/Rust Staining | SF | 419 | 0 | 419 | 0 | 0 |
| 1130 | Cracking (RC and Other) | SF | 6665 | 0 | 1385 | 5280 | 0 |
| 110 | Reinforced Concrete Open Girder/Beam | LF | 4320 | 4158 | 118 | 44 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 70 | 0 | 64 | 6 | 0 |
| 1090 | Exposed Rebar | LF | 57 | 0 | 36 | 21 | 0 |
| 1120 | Efflorescence/Rust Staining | LF | 9 | 0 | 9 | 0 | 0 |
| 1130 | Cracking (RC and Other) | LF | 26 | 0 | 9 | 17 | 0 |
| (110) The R.C. Girders have spalls, spalls with exposed rebar, and cracks in the following locations. Span 5 @ Bent 5, Girder 1 has a small delam & crack 2' long horizontal crack that is 0.025". Span 6 @ Bent 7, spall with exposed rebar. Span 7, @ Bent 7, Girders 1, 2, 3, & 5 have spalls with exposed rebar. Span 9 @ Bent 9, Girder 1 has 2' long horizontal crack 0.025, Girder 3- 5 have small spalls with exposed rebar. Span 14, girder 4 & 5 have spalls with exposed rebar. Span 15 @ Bent 5, Girder 5, spall with exposed rebar. Span 19, Girders 1, 2, & 5 have spalls with exposed rebar. Span 24, @ Bent 24, Girders 2- 4 have spalls with exposed rebar. Span 26 & 27, @ Bent 27, Girder 5, exposed rebar. | | | | | | | |
| 120 | Steel Truss | LF | 1188 | 987 | 73 | 128 | 0 |
| 1000 | Corrosion | LF | 196 | 0 | 68 | 128 | 0 |
| 7000 | Damage | LF | 5 | 0 | 5 | 0 | 0 |
| 515 | Steel Protective Coating | SF | 22648 | 22248 | 0 | 400 | 0 |
| 3440 | Effectiveness (Steel Protective Coatings) | LF | 400 | 0 | 0 | 400 | 0 |
| (120) Truss was painted (2015) under contract. See notes in Superstructure. | | | | | | | |
| 152 | Steel Floor Beam | LF | 864 | 506 | 225 | 133 | 0 |
| 1000 | Corrosion | LF | 353 | 0 | 225 | 128 | 0 |



| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|--|---|-------|-------|------|-----|-----|-----|
| 1010 | Cracking | LF | 5 | 0 | 0 | 5 | 0 |
| 515 | Steel Protective Coating | SF | 6601 | 6241 | 0 | 360 | 0 |
| 3440 | Effectiveness (Steel Protective Coatings) | LF | 360 | 0 | 0 | 360 | 0 |
| (152) FB ends have a coped section @ junction with verticals that is prone to crack. Top flange and a small section of web are cut and the corner where the TF and W join is the crack location. Locations with cracks are Truss 2 L9 Rt, L10 Lt and Rt & Truss 3 L1 rt. Hands on examination shows red rust staining at these locations after all truss components were painted in 2015. Will continue to monitor for crack growth and further initiation. RHS 01/31/2019 JPR -- Several cracks have been repaired by drilling a hole @ the end of the crack so it will not propagate any further, we did not find any crack growth or further initiation during this inspection. | | | | | | | |
| 162 | Steel Gusset Plate | EA | 208 | 118 | 64 | 26 | 0 |
| 1000 | Corrosion | EA | 90 | 0 | 64 | 26 | 0 |
| (162) All lower chord gusset plates, all trusses @ top of gussets have heavy section loss, with some small holes. All upper gusset plates have some minor section loss. | | | | | | | |
| 205 | Reinforced Concrete Column | EA | 8 | 0 | 8 | 0 | 0 |
| 1190 | Abrasion/Wear (PSC/RC) | EA | 8 | 0 | 8 | 0 | 0 |
| 210 | Reinforced Concrete Pier Wall | LF | 72 | 36 | 36 | 0 | 0 |
| 1190 | Abrasion/Wear (PSC/RC) | LF | 36 | 0 | 36 | 0 | 0 |
| 215 | Reinforced Concrete Abutment | LF | 54 | 0 | 27 | 27 | 0 |
| 6000 | Scour | LF | 54 | 0 | 27 | 27 | 0 |
| (215) Abutment 2 overbank and slope are eroding. Still sufficient bank (40') left to protect abutment at this time. Continue to monitor. | | | | | | | |
| 227 | Reinforced Concrete Pile | EA | 110 | 104 | 5 | 1 | 0 |
| 1080 | Delamination/Spall/Patched Area | EA | 5 | 0 | 5 | 0 | 0 |
| 1130 | Cracking (RC and Other) | EA | 1 | 0 | 0 | 1 | 0 |
| (227) Bent 3, Pile 5 1 1/2" of spall with exposed steel. Bent 3, pile 2 has 1 1/2' of delamination @ top of pile. Bent 5, pile 5 has large spall & delam with exposed steel. | | | | | | | |
| 234 | Reinforced Concrete Pier Cap | LF | 677 | 657 | 2 | 18 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 5 | 0 | 0 | 5 | 0 |
| 1090 | Exposed Rebar | LF | 13 | 0 | 0 | 13 | 0 |
| 1120 | Efflorescence/Rust Staining | LF | 2 | 0 | 2 | 0 | 0 |
| 304 | Open Expansion Joint | LF | 242 | 146 | 36 | 60 | 0 |
| 2360 | Adjacent Deck or Header | LF | 96 | 0 | 36 | 60 | 0 |
| 305 | Assembly Joint without Seal | LF | 101 | 5 | 72 | 24 | 0 |
| 2360 | Adjacent Deck or Header | LF | 36 | 0 | 36 | 0 | 0 |
| 2370 | Metal Deterioration or Damage | LF | 36 | 0 | 36 | 0 | 0 |
| 7000 | Damage | LF | 24 | 0 | 0 | 24 | 0 |



Asset #01381(Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|----------|------------------------------------|-------|-------|------|-----|-----|-----|
| 311 | Movable Bearing | EA | 6 | 0 | 6 | 0 | 0 |
| 2210 | Movement | EA | 6 | 0 | 6 | 0 | 0 |
| 313 | Fixed Bearing | EA | 6 | 0 | 0 | 6 | 0 |
| 1000 | Corrosion | EA | 6 | 0 | 0 | 6 | 0 |
| 330 | Metal Bridge Railing | LF | 594 | 564 | 30 | 0 | 0 |
| 7000 | Damage | LF | 30 | 0 | 30 | 0 | 0 |
| 331 | Reinforced Concrete Bridge Railing | LF | 1728 | 1708 | 20 | 0 | 0 |
| 7000 | Damage | LF | 20 | 0 | 20 | 0 | 0 |



Elevation



Approach



Deck overview



Deck overview



Underview



Underview, Top Flange.



Truss



Downstream



Upstream



Bent 28 abutment, embankment has settled below the cap.



Span 1 transverse crack



Bent 18 cap, ahead side, spalls with exposed rebar.



Deck cracks span 13



Cracks in deck span 12



Truss 1, exposed rebar in deck.



Bullet Hole in upright



Top flange damage between U7 & U8.



Upright flange, pitting 1/4" deep.



Traffic impact.



Traffic impact.



Bent 3 joint



Bent 12, joint.



Joint bent 14



Deck cracks span 12



Crack in deck span 11



Bent 13, columns and pier wall have abrasion.



Top of caps full of debris.



Bent 11, debris built up around the bearings.

Maintenance Needs

Date Reported: 02/26/2021

Priority: B - Pressing

Type of Work: Superstructure Repair

Status: Open

Component: Superstructure

Deficiency Description

Lower chord and floor beam connections have corrosion with measurable section loss in the following locations.

T1 L3 Lt., back side. 0.5" hole in top flange of lower cord, Pack rust at connection plates

T1 L3 Lt., ahead side. Pack rust at connection plates, corrosion has top flange down to knife edge of lower cord.

T1 L3 Rt., back side. Pack rust at connection plates.

T1 L4 Lt. 3/8" section loss lower flange of floor beam.

T1 L4 Rt. Inside C-channel of lower chord. Bottom flange of inside cord down to knife edge. 3/8" section loss lower flange of floor beam.

T1 L5 Lt. Gusset plate has 1/4" deep pitting, 2 rivet heads are half way corrode away. Gusset plate on backside similar.

T1 L5 Rt. 3/8" section loss lower flange of floor beam.

T2 L1 Rt. Inside C-channel of lower chord. Pitting to top flange & web 3/8" deep.

T2 L6 Lt. Inside C-channel of lower chord. Top flange 1/2" hole in the outside of the top flange.

T2 L8 Lt. Top flange of chord outside edge is corroded away. Bottom flange of floor beam has upto 3/8" pitting.

T2 L9 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T2 L10 Lt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T2 L10 Rt. Inside C-channel of lower chord. Top flange & web, pitting upto 1/4" deep.

T3, L0, RT, gusset plates have 1/8" pitting, LT IS SIMILAR.

T3 L1 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.

T3 L2 Rt. Pitting upto 1/4" deep, bottom flange of FB, Top flange of chord.

T3 L4 Lt., Corrosion hole in gusset plate, pitting in the bottom web of the FB upto, 3/8" deep.

Remarks



T3 L4 Lt., Corrosion hole in gusset plate, pitting in the bottom web of the FB upto, 3/8" deep.



T3 L2 Rt. Pitting upto 1/4" deep, bottom flange of FB, Top flange of chord.



01/30/2023

T3 L1 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.



01/30/2023

T3, L0, RT, gusset plates have 1/8" pitting, LT IS SIMILAR.



01/30/2023

T2 L10 Rt. Inside C-channel of lower chord. Top flange & web, pitting upto 1/4" deep.



01/30/2023

T2 L10 Lt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.



01/30/2023

T2 L9 Rt. Inside C-channel of lower chord. Pitting to bottom flange & web upto 1/4" deep.



01/30/2023

T2 L8 Lt. Top flange of chord outside edge is corroded away. Bottom flange of floor beam has upto 3/8" pitting.



01/30/2023
T2 L6 Lt. Inside C-channel of lower chord. Top flange 1/2" hole in the outside of the top flange.



01/30/2023
T2 L6 Rt. Inside C-channel of lower chord. Top flange pitting upto 1/4".



01/30/2023
T2 L1 Rt. Inside C-channel of lower chord. Pitting to top flange & web 3/8" deep.



01/30/2023
T1 L5 Lt. Gusset plate has 1/4" deep pitting, 2 rivet heads are half way corrode away. Gusset plate on backside similar.



01/30/2023

T1 L5 Rt. 3/8" section loss lower flange of floor beam.



01/30/2023

T1 L4 Lt. 3/8" section loss lower flange of floor beam.



01/30/2023

T1 L4 Rt. Inside C-channel of lower chord. Bottom flange of inside cord down to knife edge.



01/30/2023

T1 L4 Rt. 3/8" section loss lower flange of floor beam.



01/30/2023

T1 L3 Rt. Pack rust at connection plates.



01/30/2023

T1 L2 Lt., back side. 0.5" hole in top flange of lower cord.



01/30/2023

T1 L3 Rt., back side. Corrosion has top flange down to knife edge of lower cord.



01/30/2023

T1 L3 Lt., ahead side. Corrosion has top flange down to knife edge of lower cord.



01/30/2023

T1 L3 Lt., ahead side. Pack rust at connection plates.



01/30/2023

T1 L3 Lt., back side. Pack rust at connection plates.



01/30/2023

T1 L3 Lt., back side. 0.5" hole in top flange of lower cord.



02/24/2021

Right side truss 1, fb 6, 3/8 in section loss, in bottom flange

Maintenance Needs

Date Reported: 01/30/2014

Priority: C - Important

Type of Work: Superstructure Repair

Status: Repair Documented

Component: Superstructure

Deficiency Description

Floor beams have small fatigue cracks that have initiated out of the coped corners of the webs.

Truss 2 @ L10 Rt. ahd, crack in web of FB

Truss 2 @ L 9 Rt. crack in web of FB

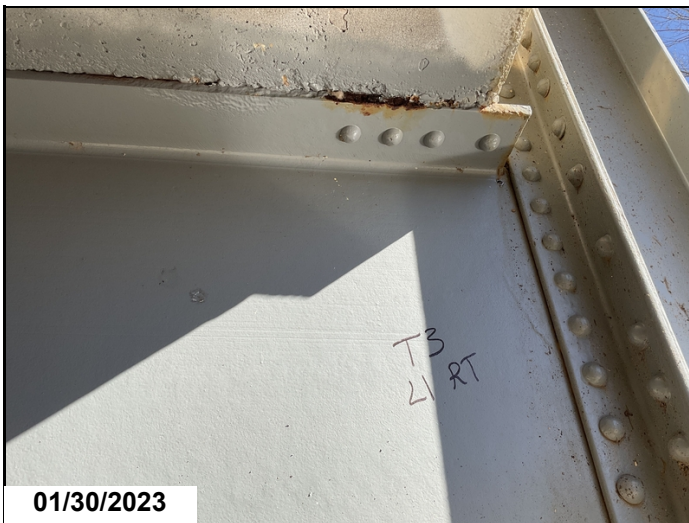
Truss 2 @ L10 Lt. crack in web of FB

Truss 3 @ L1 Rt. crack in web of FB

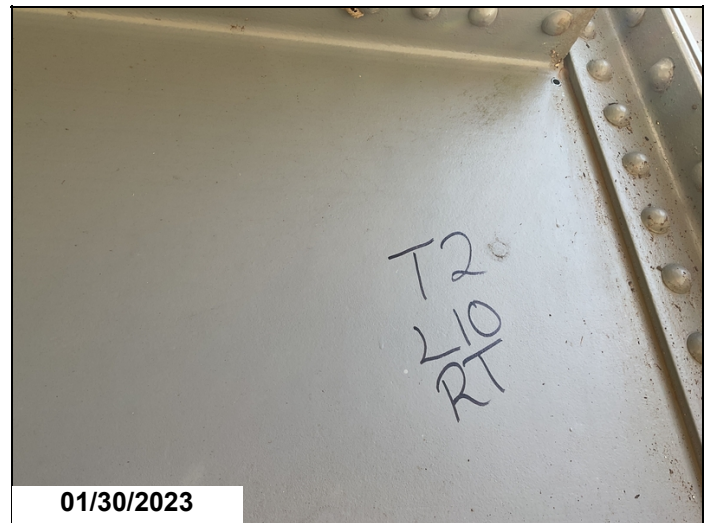
01/30/2017 JPR -- these cracks have not progressed any further at this time.

Remarks

HBM drilled 1/2" holes in the ends of the cracks and placed compression sleeves in the holes to arrest the cracks.
1/26/2023 JDP



Crack repaired, hole drilled & arrester installed.



T2 L10 Rt. Crack repaired, hole drilled & arrester installed.



T2 L10 Lt. Crack repaired, hole drilled & arrester installed.



T2 L9 Rt. Crack repaired, hole drilled & arrester installed.



T2 L8 Rt. Crack repaired, hole drilled & arrester installed.



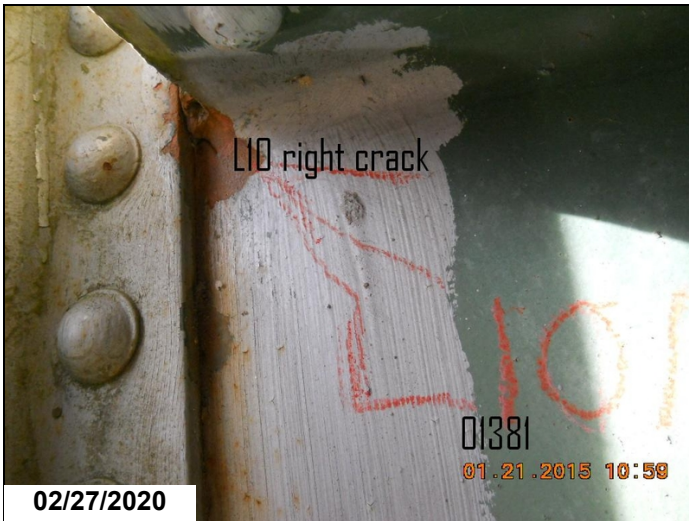
Truss 2, L9 Rt., crack in web of FB.



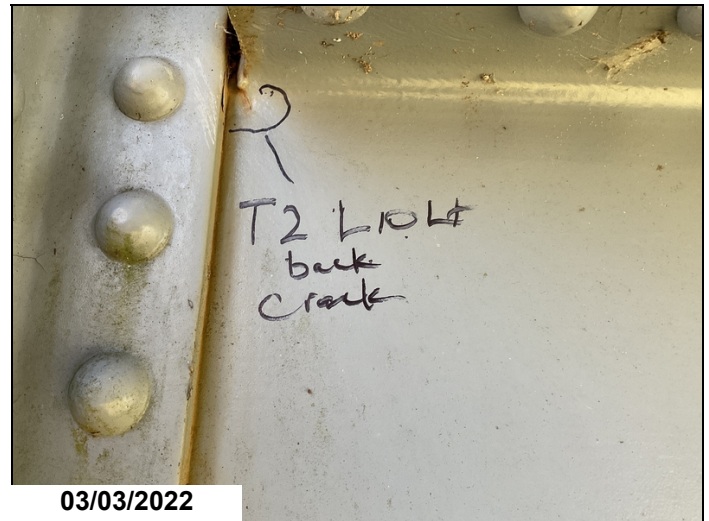
Truss 2, L10 Lt. crack in web of FB.



Truss 3, L1 Rt., crack in web of FB.



Truss 2, L10 Rt., crack in web of FB.



Truss 2 at L10 left side 1' crack in floorbeam



Truss 2 at L9 crack in FB



Truss 2 at L10 crack in FB



Truss 3 at L1 crack in FB

Maintenance Needs

Date Reported: 01/21/2015

Priority: C - Important

Type of Work: Miscellaneous

Status: Repair Documented

Component: Miscellaneous

Deficiency Description

Piles have spalls and cracks in following location.

Bent 3 pile 5 spalled @ bottom of cap with exposed steel on 2 sides of the piling. Bent 5 pile 2 cracked and delam on back side of pile and towards pile 1 about 4' long. Bent 5 pile 5 spalled with exposed steel on ahead side. 1/30/2017 JPR -- Bent 3, pile 5 has a large spall at top of pile, with exposed steel, with about 2' of cracks coming down the face of the pile below the bottom of the spall, this spall has progressed considerably from 1/22/2015 inspection. Bent 3, Pile 3 has 1 1/2' - 2' of delamination @ top of pile. Bent 5, pile 5 has 2 1/2' - 3' of spall & delam with exposed steel. Bent 5, pile 2 has 1 1/2' of spall & delam with exposed steel. Bent 7, pile 3 has a small spall with some exposed steel, approx. 8" of spall.

Remarks

Bent 3, piles 3-5 have been repaired.
Bent 5, piles 2 & 5 have been repaired.
01/25/2023 JDP



02/27/2020

Bent 5, pile 2 has 1 1/2' of spall & delam with exposed steel



02/27/2020

Bent 7, pile 3 has a small spall with some exposed steel, approx. 8" of spall.



Bent 3, pile 5 has a large spall at top of pile, with exposed steel, with about 2' of cracks coming down the face of the pile below the bottom of the spall.

Pictures

Inspector: Jimmy Reynolds
Inspection Date: 01/30/2017
Structure Number: 01381
Bridge Inspection Report
Facility Carried: US67 Sec4 Lm 0.01
Page 3



Bent 3, Pile 3 has 1 1/2' of delamination @ top of pile & bottom of cap.



Bent 5, pile 5 has 2 1/2' of spall & delam with exposed steel.



Bent 3 pile 5 has spall and delamination with exposed steel.



Bent 5 pile 1, vertical crack upto .030"



Bent 5, pile 2 has been repaired.



Bent 5, pile 5 has been repaired.

Maintenance Needs

Date Reported: 01/22/2015

Priority: C - Important

Type of Work: Substructure Repair

Status: Open

Component: Substructure

Deficiency Description

The R.C. Girders have spalls, spalls with exposed rebar, and cracks in the following locations.

Span 5 @ Bent 5, Girder 1 has a small delam & crack 2' long horizontal crack that is 0.025".

Span 6 @ Bent 7, spall with exposed rebar.

Span 7, @ Bent 7, Girders 1, 2, 3, & 5 have spalls with exposed rebar.

Span 9 @ Bent 9, Girder 1 has 2' long horizontal crack 0.025, Girder 3- 5 have small spalls with exposed rebar.

Span 14, girder 4 & 5 have spalls with exposed rebar.

Span 15 @ Bent 5, Girder 5, spall with exposed rebar.

Span 19, Girders 1, 2, & 5 have spalls with exposed rebar.

Span 24, @ Bent 24, Girders 2- 4 have spalls with exposed rebar.

Span 26 & 27, @ Bent 27, Girder 5, exposed rebar.

Remarks



Span 26 & 27, Girder 5, exposed rebar.



Span 24, @ Bent 24, Girders 2- 4 have spalls with exposed rebar.



01/30/2023

Span 19, Girders 1, 2, & 5 have spalls with exposed rebar.



01/30/2023

Span 15 @ Bent 5, Girder 5, spall with exposed rebar.



01/30/2023

Span 14, girder 4 & 5 have spalls with exposed rebar.



02/27/2020

Span 24, girder 4, spall with exposed steel to bottom of girder @ bearing area.



02/27/2020

01381 span 16 girder 2, 4' back of Bt. 17, spall on bottom of girder also has some longitudinal cracks along bottom of girder.



02/27/2020

Span 5 girder 4 @ bent 5 bearing area has 1' of spall with exposed steel.



01/30/2023

Bent 3, piles 3-5 have been repaired.



01/30/2023

Span 7, @ Bent 7, Girders 1, 2, 3, & 5 have spalls with exposed rebar.



Span 6 @ Bent 7, spall with exposed rebar.



Span 5 @ Bent 5, Girder 1 has a small delam & crack 2' long horizontal crack that is 0.025".



Span 9 @ Bent 9, Girder 1 has 2' long horizontal crack 0.025, Girder 3- 5 have small spalls with exposed rebar.

Maintenance Needs

Date Reported: 01/30/2019

Priority: C - Important

Type of Work: Deck Repair

Status: Monitor

Component: Deck

Deficiency Description

Joint between T3 & approach span 14, the gap is 4" & there is about a 2" drop from approach span to T3. Road iron on T3 Lt. from C/L Lt. The road iron is missing on truss 3 EB lane and there is a bump of asphalt remaining on the approach span thus making it look as if the truss span is lower than the approach span. Joint between T2 & T3 Lt. side looking from Rt. to Lt., gap is 3 1/2" wide between road iron, sliding plate is missing thus making the joint rough to traffic.

Remarks



Joint between T2 & T3 Lt. side looking from Rt. to Lt., gap is 3 1/2" wide between road irons.



Truss #1 deck, joint is rough.



Joint between T3 & approach span, the gap is 4" & there is about a 2" drop from approach span to T3. Road iron on T3 Lt. from C/L Lt.

Maintenance Needs

Date Reported: 02/26/2021

Priority: C - Important

Type of Work: Channel Work/Drift Removal

Status: Open

Component: Channel

Deficiency Description

Span 13, scour action is eroding the embankment towards Bent 14.

Remarks



Erosion below span 13



Span 13, Erosion of embankment towards Bent 14.



Bank erosion under truss 3



Bank erosion span 13



Asset #01381(Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

Maintenance Needs

Date Reported: 02/26/2021

Priority: C - Important

Type of Work: Miscellaneous

Status: Monitor

Component: Miscellaneous

Deficiency Description

Truss 2, left side at L0 pin has section loss.

Remarks

I combined this Maintenance need with another with the same deficiency. JDP 1/25/2023

Maintenance Needs

Date Reported: 02/26/2021

Priority: C - Important

Type of Work: Superstructure Repair

Status: Open

Component: Superstructure

Deficiency Description

Fixed bearings of the trusses, the gusset plates have pack rust and active corrosion causing section loss.

Truss 1, left & right side, @ L0, pack rust is separating the gusset plates & corrosion is causing section loss. Left L0, one plate has corroded away from around the pin and there is a 3/4" corrosion hole in the second plate.

Truss 2, left side at L0 pin has section loss.

Truss 3, right side L0 at the pin inside gusset plate has pack rust that has pushed the inside plate out 3/4 inch and has section loss around top of pin.

Remarks



T2, L0, Left, pack rust at gusset plates.



T3, LO, Rt, gusset connection has pack rust.



01/30/2023

Truss 1 @ L0, left bearing, pack rust between gusset plates, lower cord, & diagonal.



01/30/2023

Truss 1 @ L0, left bearing, pack rust between gusset plates, lower cord, & diagonal.
Left L0, one plate has corroded away from around the pin and there is a 3/4" corrosion hole in the second plate.



01/30/2023

Truss 1 @ L0, right bearing, pack rust between gusset plates, lower cord, & diagonal.



01/30/2023

Truss 1 @ L0, right bearing, pack rust between gusset plates, lower cord, & diagonal.



Left side truss 2, L0 pin has section loss



Truss 3 right side, RL0 at pin connection plate with section loss

Maintenance Needs

Date Reported: 02/26/2021

Priority: C - Important

Type of Work: Superstructure Repair

Status: Monitor

Component: Superstructure

Deficiency Description

Lateral Bracing connections have broken bolts in the following locations.

Truss 2, Floor beam 4, has broke hanger bolt that ties the cross bracing to bottom of floor beam.

Truss 3, Floor beam 2 cross bracing has built up pack rust that has caused bracing to detach from bottom of floor beam and broke the hanger bolts.

Remarks



Truss 2, fb 4, cross bracing hanger bolt broke



T3, FB 2, lateral brace, bolt missing in connection.



Truss 3 fb 2, cross bracing connection bolts missing

Maintenance Needs

Date Reported: 01/26/2023

Priority: C - Important

Type of Work: Superstructure Repair

Status: Open

Component: Superstructure

Deficiency Description

Splice plates of the lower chord have corrosion with pack rust that is distorting the splice plates and minor pitting to the flanges of the chords.

Remarks



T1 Lower chord, splice 3. All splice plates have pack rust.



Truss 1, right, splice just ahead of L3. Pack rust at connection plates & bottom flange has section loss upto 1/8" deep.

Maintenance Needs

Date Reported: 01/24/2013

Priority: D- Routine

Type of Work: Superstructure Repair

Status: Monitor

Component: Superstructure

Deficiency Description

Floor beams have section loss in the lower web due to corrosion.
Truss 1, FB 1, corrosion along the flanges.
Truss 3 -- small holes in floor beam 3' left of L0 Rt.

Remarks



T2 FB 3. Flanges have pitting up to 1/4" deep.



Truss 1, FB 1, corrosion along the flanges.



T3, FB1, 3" hole in web.



Truss 3, hole in FB.

Maintenance Needs

Date Reported: 01/30/2019

Priority: D- Routine

Type of Work: Deck Repair

Status: Monitor

Component: Deck

Deficiency Description

Joint @ bent 3 looking from Lt. to Rt. Concrete on Rt. side from curb back Lt. Both sides of joint has spalled out for about 5' & approx. 2" deep. Bent 9 looking from Rt. to Lt. @ joint. Concrete on Lt. Side of the bridge, both sides of the joint have spalled out for about 2' & approx. 1 1/2". Bent 9 Rt. Side of bridge deck @ joint has spalled out about 3' away from curb into travel lane approx. 2" deep. T3 @ midspan from L3 - L5 Lt. in the gutter line is spalled approx. 1" deep.

Remarks



Joint @ bent 3 looking from Lt. to Rt. Concrete on Rt. side from curb back Lt. Both sides of joint has spalled out for about 5' & approx. 2" deep.



Bent 9 looking from Rt. to Lt. @ joint. Concrete on Lt. Side of the bridge, both sides of the joint have spalled out for about 2' & approx. 1 1/2" deep.



Bent 9 Rt. Side of bridge deck @ joint has spalled out about 3' away from curb into travel lane approx. 2" deep.



T3 @ midspan from L3 - L5 Lt. in the gutter line is spalled approx. 1" deep.

Maintenance Needs

Date Reported: 01/30/2023

Priority: D- Routine

Type of Work: Miscellaneous

Status: Open

Component: Miscellaneous

Deficiency Description

There is a small beaver dam being built under Span 25.

Remarks



Span 25, beaver dam.

Maintenance Needs

Date Reported: 01/30/2023

Priority: D- Routine

Type of Work: Miscellaneous

Status: Open

Component: Miscellaneous

Deficiency Description

Spans 14 - 22, vines are growing on the bridge and trees are growing against the bridge.

Remarks



Span 14 - 22, vines & vegetation

Routine Maintenance

Check Box Maintenance Items

| Type of Maintenance | Is recommended? |
|---|-----------------|
| A-54 - Sealable Deck Cracks | Yes |
| A-55 - Deck Washing Needed | |
| A-56 - Joint Cleaning/Flushing Needed | |
| A-57 - Beam End and Bearing Paint Needed | |
| A-58 - Cap Cleaning/Flushing Needed | Yes |
| A-59 - Joint Repair Needed | Yes |
| A-60 - Full Beam Painting Needed | |
| A-61 - Polymer Overlay Advised | |
| A-62 - Hydro and LMC Advised | |
| A-63 - Missing/Incorrect Log Mile Signage | |
| A-64 - Vegetation Removal Requested | |

A-54 - Sealable Deck Cracks (Yes)



Deck cracks span 12



Crack in deck span 11

A-55 - Deck Washing Needed

A-56 - Joint Cleaning/Flushing Needed

A-57 - Girder End and Bearing Painting Needed

A-58 - Cap Cleaning/Flushing Needed (Yes)



Top of caps full of debris.



Bent 11, debris built up around the bearings.

A-59 - Joint Repair Needed (Yes)



Bent 3 joint



Bent 12, joint.



Joint bent 14

A-60 - Full Girder Painting Needed

A-61 - Polymer Overlay Advised

A-62 - Hydro and LMC Advised

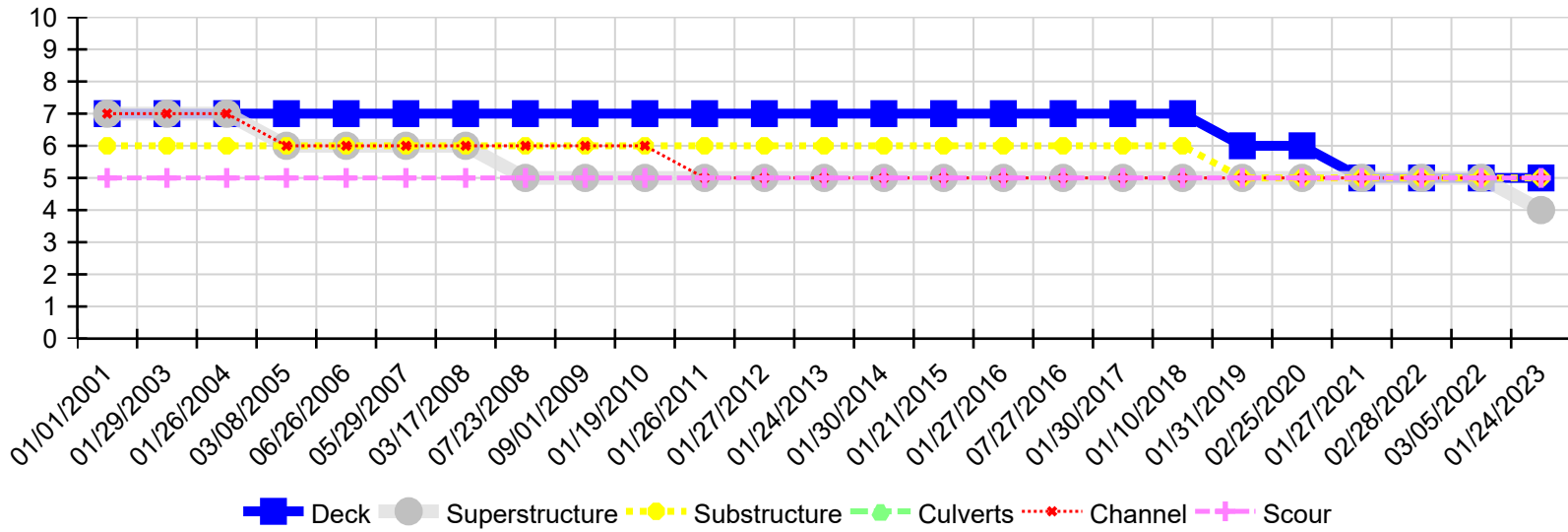


Asset #01381(Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

A-63 - Missing/Incorrect Log Mile Signage

A-64 - Vegetation Removal Requested

Condition History



| Inspection Date | Deck | Superstructure | Substructure | Culverts | Channel | Scour |
|-----------------|------|----------------|--------------|----------|---------|-------|
| 01/24/2023 | 5 | 4 | 5 | N | 5 | 5 |
| 03/05/2022 | 5 | 5 | 5 | N | 5 | 5 |
| 02/28/2022 | 5 | 5 | 5 | N | 5 | 5 |
| 01/27/2021 | 5 | 5 | 5 | N | 5 | 5 |
| 02/25/2020 | 6 | 5 | 5 | N | 5 | 5 |
| 01/31/2019 | 6 | 5 | 5 | N | 5 | 5 |
| 01/10/2018 | 7 | 5 | 6 | N | 5 | 5 |
| 01/30/2017 | 7 | 5 | 6 | N | 5 | 5 |
| 07/27/2016 | 7 | 5 | 6 | N | 5 | 5 |
| 01/27/2016 | 7 | 5 | 6 | N | 5 | 5 |
| 01/21/2015 | 7 | 5 | 6 | N | 5 | 5 |
| 01/30/2014 | 7 | 5 | 6 | N | 5 | 5 |
| 01/24/2013 | 7 | 5 | 6 | N | 5 | 5 |
| 01/27/2012 | 7 | 5 | 6 | N | 5 | 5 |
| 01/26/2011 | 7 | 5 | 6 | N | 5 | 5 |
| 01/19/2010 | 7 | 5 | 6 | N | 6 | 5 |
| 09/01/2009 | 7 | 5 | 6 | N | 6 | 5 |
| 07/23/2008 | 7 | 5 | 6 | N | 6 | 5 |
| 03/17/2008 | 7 | 6 | 6 | N | 6 | 5 |
| 05/29/2007 | 7 | 6 | 6 | N | 6 | 5 |
| 06/26/2006 | 7 | 6 | 6 | N | 6 | 5 |
| 03/08/2005 | 7 | 6 | 6 | N | 6 | 5 |
| 01/26/2004 | 7 | 7 | 6 | N | 7 | 5 |
| 01/29/2003 | 7 | 7 | 6 | N | 7 | 5 |
| 01/01/2001 | 7 | 7 | 6 | N | 7 | 5 |



Asset #01381(Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

NSTM Inspection Report and Procedure
Bridge No. 01381 2.2 MI S SH 51

A-128 - Description of Structure

A-129 - Range Of Dates, Personnel and Responsibilities

A-130 - Access Equipment

B.IR.02 - Fatigue Prone Details

B.C.14 - NSTM Inspection Condition

B.IR.04 - Complex Feature



Asset #01381(Routine, NSTM)

US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER

Location: 2.2 MI S SH 51

Team Lead: John Parks Inspection Date: 01/24/2023

Reference Photos:



Asset #01381 (Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

| Bridge #01381 NSTM Member Inspection Log | | | |
|--|------------------|------------------|-------------------------|
| Member or Element (NSTM) | Access Equipment | Condition Rating | General Condition Notes |

NSTM specific defect notes

| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|----------|-------------|-------|-------|-----|-----|-----|-----|



Asset #01381(Routine, NSTM)
US67 Sec4 Lm 0.01 over LITTLE MISSOURI RIVER
Location: 2.2 MI S SH 51
Team Lead: John Parks Inspection Date: 01/24/2023

Signatures

Signature

Printed Name

Date

Jermy Purifoy

Jermy Purifoy

01/31/2023

John D. Parks

(Team Lead) John Parks

01/31/2023
