



Latitude:34.79948, Longitude:-91.89003

Route:31 Section:03 Log:1.33

Arnold Road ID:43x31x3xA, Arnold Log mile:1.331

District 06, 85 - Lonoke County

Owner: 1 - State Highway Agency

Inspection Direction: 2 - S to N

Bridge Posting Information

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

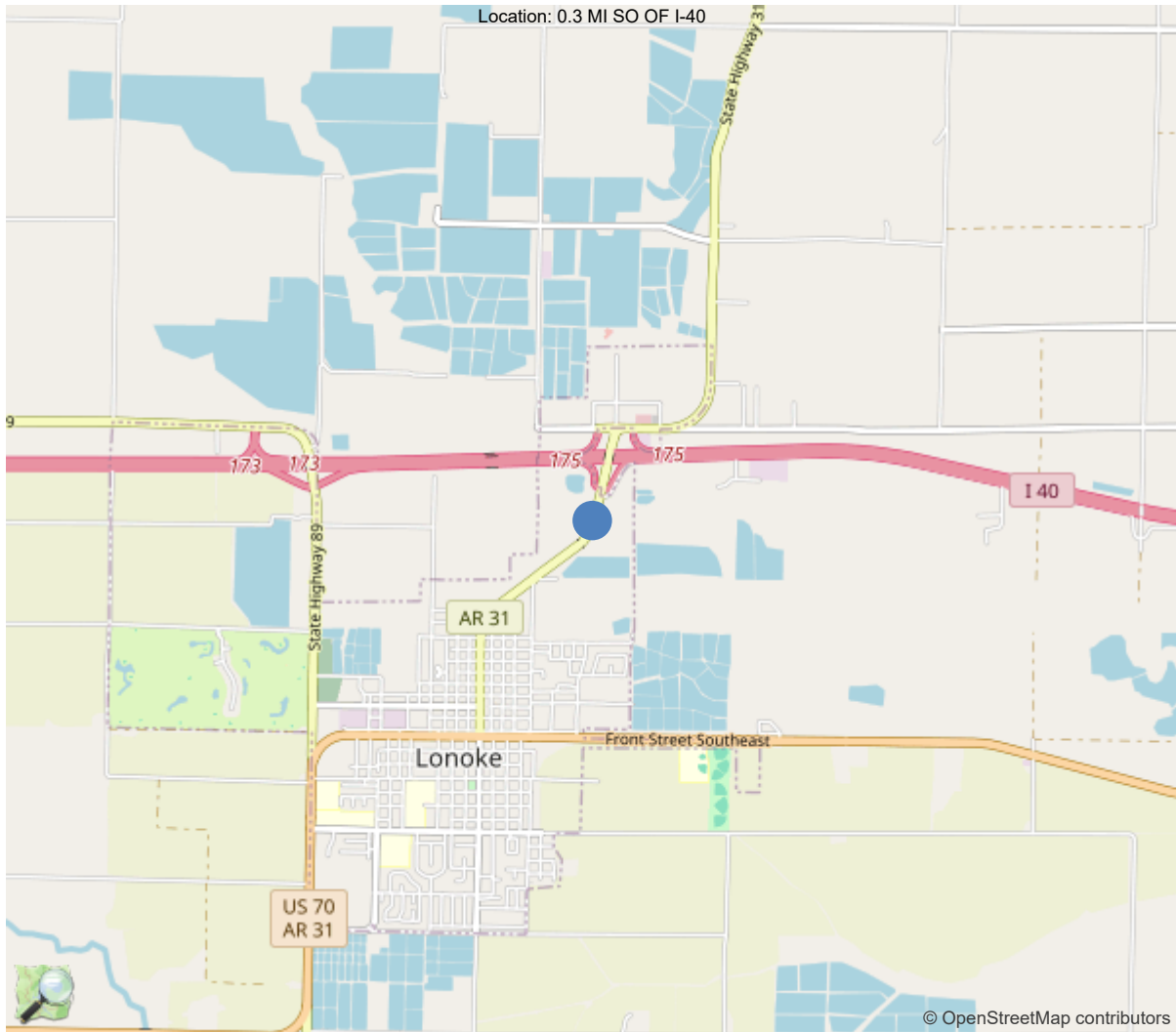
70 - Bridge Posting: 5 - Equal to or above legal loads

| Legal Load | Calculated Capacity | Beginning of Bridge Sign Current Value | End of Bridge Sign Current Value |
|------------------|---------------------|--|----------------------------------|
| Code 4 (22 Tons) | 40 | | |
| Code 9 (31 Tons) | 50 | | |
| Code 5 (40 Tons) | 60 | | |

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



34.79948, -91.89003



Asset #05508(Routine)
SH 31Log 1.33 over BAYOU TWO PRAIRIE
Location: 0.3 MI SO OF I-40

Team Lead: Bryan Saunders Inspection Date: 10/25/2023

| IDENTIFICATION | |
|---|--|
| (1) State Names | 5 - Arkansas |
| (8) Structure Number | 05508 |
| (5) Inventory Route | 1 |
| (2) Highway Agency District | 06 - District 06 |
| (3) County Code | 85 - Lonoke County |
| (4) Place Code | 41420 |
| (6) Features Intersected | BAYOU TWO PRAIRIE |
| (7) Facility Carried | SH 31Log 1.33 |
| (9) Location | 0.3 MI SO OF I-40 |
| (11) Mile Point | 1.33 mi |
| (12) Base Highway Network | Yes |
| (13) LRS Inventory Rte & Subrte | 0000031030 |
| (16) Latitude | 34.79948 |
| (17) Longitude | -91.89003 |
| (98) Border Bridge State Code | |
| (99) Border Bridge Structure No. | |
| STRUCTURE TYPE AND MATERIAL | |
| (43) Main Structure Type | 11 |
| Material | 1 - Concrete |
| Type | 1 - Slab |
| (44) Approach Structure Type | 00 |
| Material | 0 - Other |
| Type | 0 - Other |
| (45) No. of Spans in Main Unit | 4 |
| (46) No. of Approach Spans | 0 |
| (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 | 1974 |
| (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 | 9100 |
| (30) Year of ADT | 2018 |
| (109) Truck ADT | 2 % |
| (19) Bypass, Detour Length | 14 mi |
| GEOMETRIC DATA | |
| (48) Length of Maximum Span | 35 ft |
| (49) Structure Length | 140 ft |
| (50) Curb or Sidewalk Width | |
| Left | 0 ft |
| Right | 0 ft |
| (51) Bridge Roadway Width Curb to Curb | 32.2 ft |
| (52) Deck Width Out to Out | 34.7 ft |
| (32) Approach Roadway Width (W/Shoulders) | 40 ft |
| (33) Bridge Median | 0 - No median |
| (34) Skew | 20 Deg |
| (35) Structure Flared | 0 - No flare |
| (10) Inventory Route Min Vert Clear | 99.99 ft |
| (47) Inventory Route Total Horiz Clear | 33.5 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 | 6 - Rural Minor Arterial |
| (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 | 0 - The inventory route is not |
| (20) Toll | 3 - On free road. The structure |
| (21) Maintain | 1 - State Highway Agency |
| (22) Owner | 1 - State Highway Agency |
| (37) Historical Significance | 5 - Bridge is not eligible for |
| CONDITION | |
| (58) Deck | 7 |
| (59) Superstructure | 7 |
| (60) Substructure | 6 |
| (61) Channel & Channel Protection | 6 |
| (62) Culverts | N |
| LOAD RATING AND POSTING | |
| (31) Design Load | 5 - MS 18 / HS 20 |
| (63) Operating Rating Method | 1 |
| (64) Operating Rating | |
| Type | 1 - Load Factor(LF) |
| Rating | 60 |
| (65) Inventory Rating Method | 1 - Load Factor(LF) |
| (66) Inventory Rating | |
| Type | |
| Rating | 36 |
| (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 | 8 |
| (72) Approach Roadway Alignment | 8 |
| (36A) Bridge Railings | 1 - Inspected feature meets current |
| (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 | 12153 |
| (115) Year of Future ADT | 2028 |

| INSPECTIONS * | | | |
|--|------------|-------------|------|
| (90) Inspection Date | 10/25/2023 | | |
| (91) Frequency | 24 | | |
| (92) Critical Feature Inspection | Done | Freq. (Mon) | Date |
| A: Fracture Critical Detail | No | | |
| B: Underwater Inspection | No | | |
| 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. | | | |



Asset #05508(Routine)

SH 31Log 1.33 over BAYOU TWO PRAIRIE

Location: 0.3 MI SO OF I-40

Team Lead: Bryan Saunders **Inspection Date:** 10/25/2023

General Observation

AHTD Job 6952, drawing 18062

Logged Northbound.

Channel Profile added 10/26/2021



| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|--|------------------------------------|-------|-------|------|------|-----|-----|
| 38 | RC Slab | SF | 4853 | 1478 | 3139 | 236 | 0 |
| 1120 | Efflorescence/Rust Staining | SF | 12 | 0 | 12 | 0 | 0 |
| 1130 | Cracking (RC and Other) | SF | 1064 | 0 | 828 | 236 | 0 |
| 1190 | Abrasion/Wear (PSC/RC) | SF | 2299 | 0 | 2299 | 0 | 0 |
| (38) Longitudinal hairline cracks are visible on the soffit of all the spans near the sono voids. Span 4 soffit has small cracks with rust stains. Diagonal cracks are present in the deck surface near the joint and longitudinal and areas of map cracks are present in all spans. 0.030 inch avg. width. Both travel lanes have light abrasion | | | | | | | |
| 215 | Reinforced Concrete Abutment | LF | 84 | 78 | 6 | 0 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 6 | 0 | 6 | 0 | 0 |
| (215) Bent 1: erosion action has undermined abutment exposing pile. State forces have placed top rap in this location. | | | | | | | |
| 227 | Reinforced Concrete Pile | EA | 18 | 0 | 18 | 0 | 0 |
| 1190 | Abrasion/Wear (PSC/RC) | EA | 18 | 0 | 18 | 0 | 0 |
| (227) All pile have surface abrasion. Bent 1 rip rap has been placed to arrest the erosion Bent 1: erosion action has undermined abutment exposing pile | | | | | | | |
| 234 | Reinforced Concrete Pier Cap | LF | 114 | 99 | 1 | 14 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 11 | 0 | 1 | 10 | 0 |
| 1090 | Exposed Rebar | LF | 4 | 0 | 0 | 4 | 0 |
| (234) Bent 2 ahead face, spall above pile 1, spall with exposed rebar above pile 2. Bent 2 ahead side above pile 4 has a 1'x2'x7" deep spall with rebar exposed Bent 3 ahead face, spall with exposed rebar between pile 2&3 1'x2'x4" Bent 3 ahead above pile 6 has a 6"x6" spall Bent 4 has a spall with exposed rebar on the bottom near pile 3 and a small delam on the left end. | | | | | | | |
| 301 | Pourable Joint Seal | LF | 104 | 0 | 0 | 104 | 0 |
| 2350 | Debris Impaction | LF | 64 | 0 | 0 | 64 | 0 |
| 2360 | Adjacent Deck or Header | LF | 40 | 0 | 0 | 40 | 0 |
| (301) All of the joints have opened and have debris and small spalls along the joints. Bent 4 is the worst case this bridge. | | | | | | | |
| 331 | Reinforced Concrete Bridge Railing | LF | 280 | 239 | 41 | 0 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 1 | 0 | 1 | 0 | 0 |
| 1090 | Exposed Rebar | LF | 40 | 0 | 40 | 0 | 0 |



Bents 2,3 and 4 abrasion



Upstream



Downstream



Bent 3 ahead face, spall with exposed rebar between pile
2&3 1'x2'x4"



Cracks in the soffit with rust staining



Joint at bent 2



Deck washing needed



Sealable deck cracks



Deck view



Approach looking north



Bent 2 ahead side above pile 4 has a 1'x2'x7" deep spall with rebar exposed



10/25/2023

Bent 2 ahead side above pile 4 has a 1'x2'x7" deep spall with rebar exposed



10/25/2023

Soffit view span 2



10/25/2023

Abrasion to piles at bents 2,3 and 4



10/25/2023

Rip rap placed at bent 1



Elevation

Maintenance Needs

Date Reported: 10/01/2015

Priority: C - Important

Type of Work: (Inactive) (Inactive) 9 - None

Status: Monitor

Component:

Deficiency Description

Due to the joint seals failing, incompressible material has impacted the joints causing the bridge to lengthen approximately 2 inches based on field measurements compared to the design plans.

Remarks



Bent 4, looking left. The joint has opened and begun to fill with non-compressible material.



Bent 4: joint seal has lost bond and is full of non compressible material



Bent 4, looking left. The joint has opened and begun to fill with non-compressible material.

Maintenance Needs

Date Reported: 10/01/2015

Priority: C - Important

Type of Work: Repair (General)

Status: Assigned

Component:

Deficiency Description

The embankment under span 1 has a scour hole beginning to develop, causing the embankment to slide. Common span 4.

Remarks

Assigned Lonoke Co 06431 11-2-15



Scour hole at bent 2



The embankment under span 1 has a scour hole beginning to develop, causing the embankment to slide.



Under Span 1, there is a scour hole beginning to develop, causing the embankment to slide downward.



The embankment under span 1 has a scour hole beginning to develop, causing the embankment to slide.

Maintenance Needs

Date Reported: 10/01/2015

Priority: C - Important

Type of Work: (Inactive) (Inactive) 9 - None

Status: Repair Documented

Component:

Deficiency Description

Erosion at bent 1 has begun to undermine the abutment.

Remarks

Assigned Lonoke Co 06431 11-2-15
State forces have placed rip rap.



Bent 1, looking back at the right side. Erosion has begun to undermine the abutment.



Bent 1: erosion action has undermined abutment exposing pile



State forces have placed rip rap at bent 1.

Maintenance Needs

Date Reported: 10/26/2021

Priority: C - Important

Type of Work: Repair (General)

Status: Forward State

Component:

Deficiency Description

Approach roadway on south end of bridge has settled and has pot holes.
Common on north end.

Remarks



Potholes at bent 6



Approach roadway on south end of bridge has settled and has pot holes.



Maintenance Needs

Date Reported: 10/01/2015

Priority: D- Routine

Type of Work: (Inactive) (Inactive) 9 - None

Status: Repair Documented

Component:

Deficiency Description

The stream bank under span 4 is being scoured.

Remarks

Assigned Lonoke Co 06431 11-2-15

2 maintenance items for same thing



Near and under span 4 the stream bank is beginning to scour.

Routine Maintenance

Check Box Maintenance Items

| Type of Maintenance | Is recommended? |
|---|-----------------|
| A-54 - Sealable Deck Cracks | Yes |
| A-55 - Deck Washing Needed | Yes |
| A-56 - Joint Cleaning/Flushing Needed | |
| A-57 - Beam End and Bearing Paint Needed | |
| A-58 - Cap Cleaning/Flushing Needed | |
| A-59 - Joint Repair Needed | |
| 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)



Sealable deck cracks

A-55 - Deck Washing Needed (Yes)



Deck washing needed

A-56 - Joint Cleaning/Flushing Needed

A-57 - Girder End and Bearing Painting Needed

A-58 - Cap Cleaning/Flushing Needed

A-59 - Joint Repair Needed

A-60 - Full Girder Painting Needed

A-61 - Polymer Overlay Advised



Asset #05508(Routine)

SH 31Log 1.33 over **BAYOU TWO PRAIRIE**

Location: 0.3 MI SO OF I-40

Team Lead: Bryan Saunders **Inspection Date:** 10/25/2023

A-62 - Hydro and LMC Advised

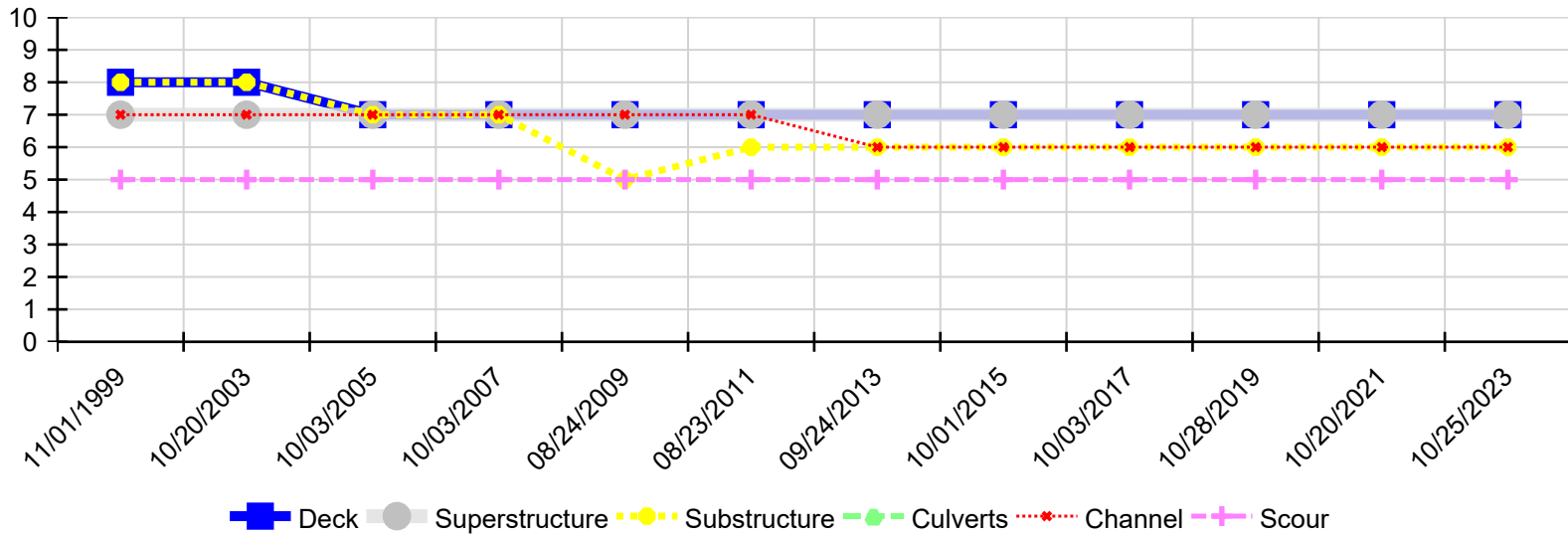
A-63 - Missing/Incorrect Log Mile Signage

A-64 - Vegetation Removal Requested



Asset #05508(Routine)
SH 31Log 1.33 over BAYOU TWO PRAIRIE
Location: 0.3 MI SO OF I-40
Team Lead: Bryan Saunders **Inspection Date:** 10/25/2023

Condition History



| Inspection Date | Deck | Superstructure | Substructure | Culverts | Channel | Scour |
|-----------------|------|----------------|--------------|----------|---------|-------|
| 10/25/2023 | 7 | 7 | 6 | N | 6 | 5 |
| 10/20/2021 | 7 | 7 | 6 | N | 6 | 5 |
| 10/28/2019 | 7 | 7 | 6 | N | 6 | 5 |
| 10/03/2017 | 7 | 7 | 6 | N | 6 | 5 |
| 10/01/2015 | 7 | 7 | 6 | N | 6 | 5 |
| 09/24/2013 | 7 | 7 | 6 | N | 6 | 5 |
| 08/23/2011 | 7 | 7 | 6 | N | 7 | 5 |
| 08/24/2009 | 7 | 7 | 5 | N | 7 | 5 |
| 10/03/2007 | 7 | 7 | 7 | N | 7 | 5 |
| 10/03/2005 | 7 | 7 | 7 | N | 7 | 5 |
| 10/20/2003 | 8 | 7 | 8 | N | 7 | 5 |
| 11/01/1999 | 8 | 7 | 8 | N | 7 | 5 |