

## **Bridge A2673 Inspection Report**



Latitude:35.16068, Longitude:-90.16461

Route:40 Section:52 Log:278.83

Arnold Road ID:18x40x52xA, Arnold Log mile:278.833

District 01, 35 - Crittenden County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

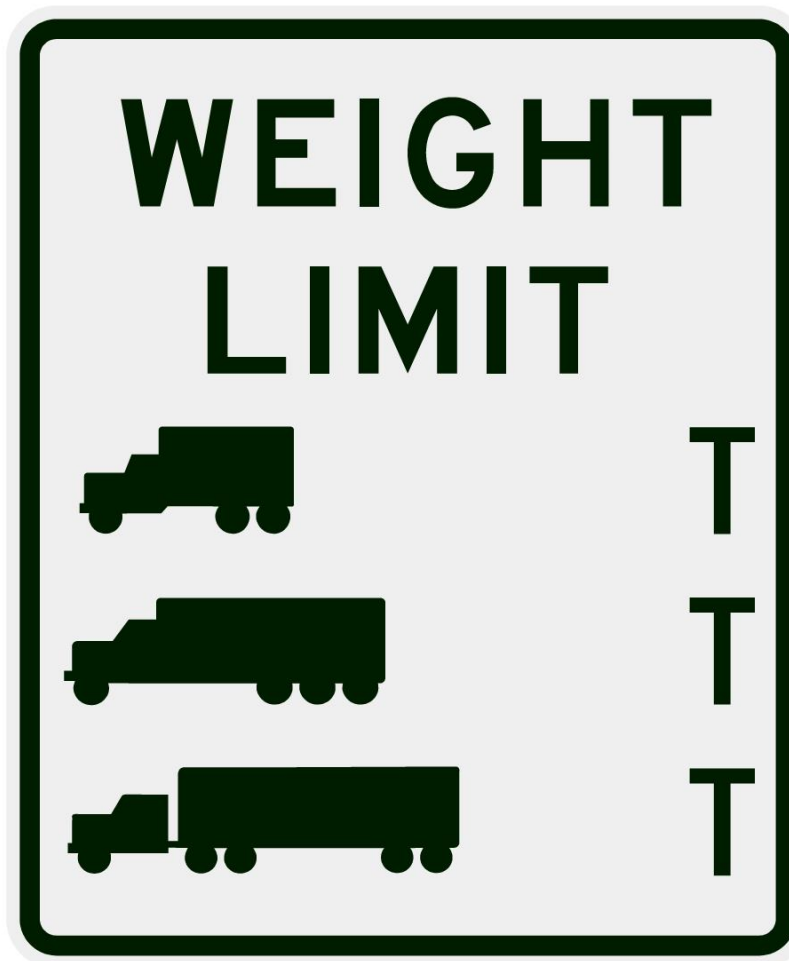
### Bridge Posting Information

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

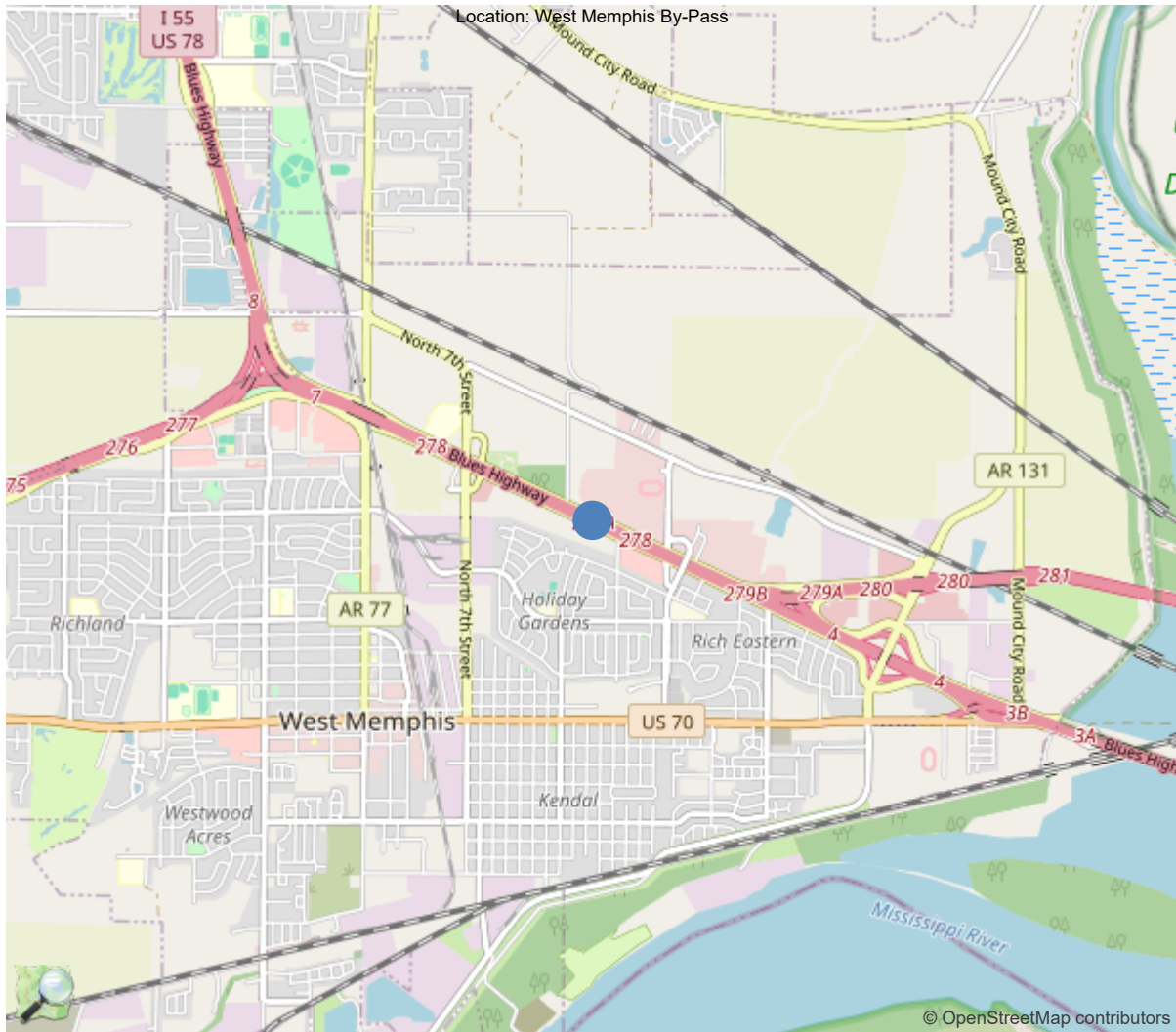
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	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



35.16068, -90.16461

## National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	A2673
(5) Inventory Route	1
(2) Highway Agency District	01 - District 01
(3) County Code	35 - Crittenden County
(4) Place Code	74540
(6) Features Intersected	Ten Mile Bayou
(7) Facility Carried	I-40EB/Se52/278.83
(9) Location	West Memphis By-Pass
(11) Mile Point	278.83 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000040520
(16) Latitude	35.16068
(17) Longitude	-90.16461
(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	1960
(106) Year Reconstructed	1993
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	4
Under	0
(29) Average Daily Traffic	56906
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	1 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	31 ft
(49) Structure Length	121 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	56.4 ft
(52) Deck Width Out to Out	59.4 ft
(32) Approach Roadway Width (W/Shoulders)	56.4 ft
(33) Bridge Median	1 - Open median
(34) Skew	30 Deg
(35) Structure Flared	1 - Yes, flared
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	56.4 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 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	1
(26) Functional Class	11 - Urban Principal Arterial
(100) Defense Highway	1 - The inventory route is on
(101) Parallel Structure	R - The right structure of par
(102) Direction of Traffic	1 - 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	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	7
(60) Substructure	6
(61) Channel & Channel Protection	7
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	6 - MS 18+Mod / HS 20+Mod
(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	3
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(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	69400
(115) Year of Future ADT	2038

INSPECTIONS *			
(90) Inspection Date			04/26/2022
(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		
<p>* 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.</p>			

Team Lead: Myron Futrell, Inspection Date: 09/21/2022

### Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	A2673
B.ID.02 Bridge Name	
B.ID.03 Previous Bridge No.	
B.W.01 Year Built	

LOCATION	
B.L.01 State Code	5 - Arkansas
B.L.02 County Code	35 - Crittenden County
B.L.03 Place Code	74540 - West Memphis
B.L.04 Highway Agency District	01 - District 01
B.L.05 Latitude	35.16068
B.L.06 Longitude	-90.16461
B.L.07 Border Bridge Number	
B.L.08 Border Bridge State or Country Code	
B.L.09 Border Bridge Insp. Resp.	
B.L.10 Border Bridge Designated Lead State	
B.L.11 Bridge Location	
B.L.12 Metropolitan Planning Organization	

CLASSIFICATION	
B.CL.01 Owner	
B.CL.02 Maint. Responsibility	
B.CL.03 Federal or Tribal Land Access	
B.CL.04 Historic Significance	
B.CL.05 Toll	
B.CL.06 Emergency Evacuation Designation	

ROADSIDE HARDWARE	
B.RH.01A Bridge Railing Type	
B.RH.01B Bridge Railing Year (YY)	
B.RH.01C Bridge Railing Test Level	
B.RH.02A Transition Type	
B.RH.02B Transition Year (YY)	
B.RH.02C Transition Test Level	

BRIDGE GEOMETRY	
B.G.01 NBIS Bridge Length	
B.G.02 Total Bridge Length	
B.G.03 Max Span Length	
B.G.04 Min Span Length	
B.G.05 Bridge Width Out-to-Out	
B.G.06 Bridge Width Curb-to-Curb	
B.G.07 Left Curb or Sidewalk Width	
B.G.08 Right Curb or Sidewalk Width	
B.G.09 Approach Roadway Width	

B.G.10 Bridge Median	
B.G.11 Skew	
B.G.12 Curved Bridge	
B.G.13 Max Bridge Height	
B.G.14 Sidehill Bridge	
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	

LOADS AND LOAD RATING	
B.LR.01 Design Load	
B.LR.02 Design Method	
B.LR.03 Load Rating Date	
B.LR.04 Load Rating Method	
B.LR.05 Inventory Load Rating Factor	
B.LR.06 Operating Load Rating Factor	
B.LR.07 Controlling Legal Load Rating Factor	
B.LR.08 Routine Permit Loads	

INSPECTION REQUIREMENTS	
B.IR.01 NSTM Inspection Required	
B.IR.02 Fatigue Details	
B.IR.03 UW Inspection Required	
B.IR.04 Complex Feature	

COMPONENT CONDITION RATINGS	
B.C.01 Deck Condition Rating	
B.C.02 Superstructure Condition	
B.C.03 Substructure Condition	
B.C.04 Culvert Condition	
B.C.05 Bridge Railing Condition	
B.C.06 Bridge Railing Transitions Condition	
B.C.07 Bridge Bearings Cond.	
B.C.08 Bridge Joints Condition	
B.C.09 Channel Condition Rating	
B.C.10 Channel Protection Condition	
B.C.11 Scour Condition Rating	
B.C.12 Bridge Condition Classification	
B.C.13 Lowest Condition Rating	
B.C.14 NSTM Insp. Condition	
B.C.15 UW Inspection Condition	

APPRAISAL	
B.AP.01 Approach Roadway Alignment	
B.AP.02 Overtopping Likelihood	
B.AP.03 Scour Vulnerability	
B.AP.04 Scour Plan of Action	
B.AP.05 Seismic Vulnerability	



Team Lead: Myron Futrell, Inspection Date: 09/21/2022

HIGHWAY ROUTES					
Highway Parent	B.RT.01 Route Designation	B.RT.02 Route Number	B.RT.03 Route Direction	B.RT.04 Route Type	B.RT.05 Service Type

POSTING STATUS DATA	
B.PS.01 Load Posting Status	B.PS.02 Posting Status Change Date

LOAD EVALUATION AND POSTING			
B.EP.01 Legal Load Configuration	B.EP.02 Legal Load Rating Factor	B.EP.03 Posting Type	B.EP.04 Posting Value



Asset #A2673(Special)

I-40EB/Se52/278.83 over Ten Mile Bayou

Location: West Memphis By-Pass

Team Lead: Myron Futrell Inspection Date: 09/21/2022

## Inspection Notes

### General Observation

Drawing numbers: 29967, JOB R10008

Abutment #1 slope is eroded at center line with depths up to 5' extending down slope.

Abutment 2 left side has erosion up to 2' deep.

Abutment #2 right side bridge rail as a three foot spall with exposed rebar on back side.

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**58 - Deck** (7 - GOOD CONDITION - some minor problems.)

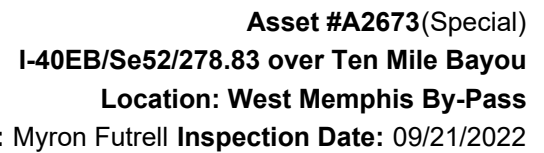
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**60 - Substructure** (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

04/27/2020 lowered substructure from 7 to 6 due to erosion.

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ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
38	RC Slab	SF	8085	7375	2	677	31
1080	Delamination/Spall/Patched Area	SF	7	0	0	7	0
1090	Exposed Rebar	SF	2	0	2	0	0
1120	Efflorescence/Rust Staining	SF	186	0	0	186	0
1130	Cracking (RC and Other)	SF	515	0	0	484	31
(38) 9/21/2022-Four inch gap between left and right slabs in span #1at abutment #1 has been patched with concrete with steel plates underneath. The two inch gap between slab sections in span #2, tapering to closed at bent #3, still remains. Span #1 right lane has two, one foot spalls at joint. Span #4 right side of middle lane corner is broken at bent #4. Span #2 middle and right of middle lane corners broken at bents #2,3. Span #1 left side corner spalled with exposed rebar at abutment #1 Spans #1,2,3 have open longitudinal cracks with areas of heavy efflorescence. Deck has open transverse and longitudinal cracks. Span #2 deck at bent #2 right lane has one foot patched area with asphalt.  4-26-2022-Put 31' of slab in CS4 due to slabs separating and 31' in CS3 cracking.							
215	Reinforced Concrete Abutment	LF	130	95	34	1	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	7	0	6	1	0
6000	Scour	LF	26	0	26	0	0
(215) Abutment #1 cap is undermined 1' deep for 10' length at center line. Abutment #1 cap cracked at centerline with moderate efflorescence. Abutment #1 cap left end undermined up to six inches for one foot. Abutment #2 cap has 1 1/2" wide vertical crack 6' right of left end of cap. Abutment #2 cap undermined for fifteen feet at center line up to one foot exposing two piles.							
227	Reinforced Concrete Pile	EA	38	37	0	1	0
1130	Cracking (RC and Other)	EA	1	0	0	1	0
(227) Bent #2 pile #12 has 1/4" wide horizontal crack approximately 4" below cap.							
234	Reinforced Concrete Pier Cap	LF	385	357	15	13	0
1080	Delamination/Spall/Patched Area	LF	15	0	2	13	0
1090	Exposed Rebar	LF	1	0	1	0	0
1120	Efflorescence/Rust Staining	LF	12	0	12	0	0
(234) Bent #2 cap back face above pile #1 has a two foot delaminated area. Bent #2 cap back face above pile #11 has two, six inch delaminated areas. Bent #2 cap ahead face between pile #5,6 has a one foot delaminated area. Bent #3 cap back face above pile #7 has four foot delaminated area. Bent #3 cap back face between pile #10,11 has a two foot delaminated area. Bent #3 cap between piles 9,10 has a spall with exposed rebar on ahead face. Bent #4 cap ahead face has a one foot delaminated area between piles #5,6 and a two foot delaminated area above pile #3.							

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## Inspection Photos and Notes



04/26/2022

Side view / elevation

### Maintenance Needs

**Date Reported:** 04/29/2022

**Priority:** A - Safety deficiency; requires prompt action

**Status:** Forward State

**Type of Work:** Repair (General)

**Component:** Element

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### Deficiency Description

Slabs have up to four inch+ gap between left and right slabs in span #1 at abutment #1 and up to two inches in span #2, tapering to closed at bent #3. Right half of slab has rotated to the south at abutment #1 to bent #3.

### Remarks

Maintenance conferring with HBM on corrective action (4/28/22).

9/21/2022-Four inch gap between left and right slabs in span #1 at abutment #1 has been patched with concrete with steel plates underneath. The two inch gap between slab sections in span #2, tapering to closed at bent #3, still remains.

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Span #1 soffit / underside of deck at slab separation repair



Span #1 slab repair.



Span #2 soffit between slabs approximately 2" gap at bent #2



Span #2 soffit / underside of deck



Slabs have up to four inch+ gap between left and right slabs in span #1 and up to two inches in span #2.



Bent #3 joint



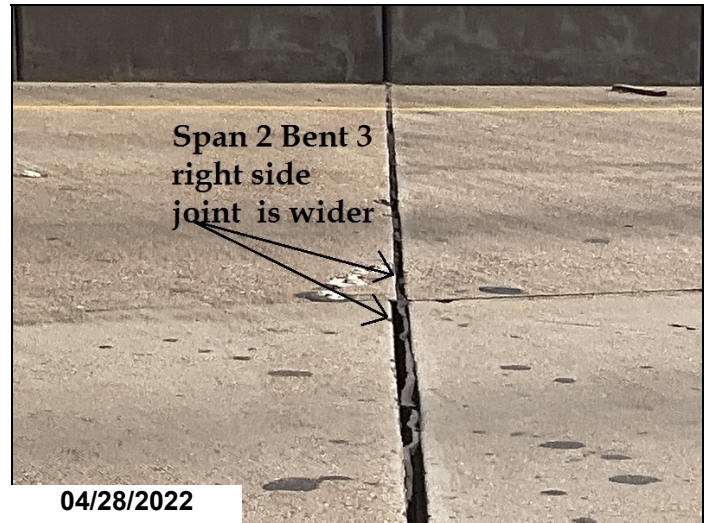
Bent #3 joint



Span #1 deck right lane at abutment #1



Abutment #1 right white line offset due to right half of slab rotating to the south.



Difference between joint widths bent #3, spans #2 and 3, right side.



Bent #3 joint from right side.



Length of gap between spans



Joint between right and left slabs at abutment #1



Span #2 under side of deck at joint between right and left slabs.



Width of gap between right and left slabs near abutment #1.



### Maintenance Needs

Date Reported: 04/24/2014

Priority: C - Important

Type of Work: Repair (General)

Status: Monitor

Component: Element

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### Deficiency Description

Abutment #2 cap has 1 ½" wide vertical crack 6' right of left end of cap.

### Remarks

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Abutment 2 left end crack.

### Maintenance Needs

Date Reported: 09/22/2022

Priority: C - Important

Type of Work: Repair (General)

Status: Open

Component: Element

### Deficiency Description

Bent #2 pile #12 has 1/4" horizontal crack approximately 4" below cap.

### Remarks



1/4" crack in bent #2 pile #12



1/4" crack in bent #2 pile #12



1/4" crack in bent #2 pile #12

### Maintenance Needs

**Date Reported:** 04/28/2020

**Priority:** D- Routine

**Type of Work:** Replace (General)

**Status:** Monitor

**Component:** Element

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### Deficiency Description

Joint material is weathered and cracked with areas of loss of adhesion.

### Remarks

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Typical joint

### Maintenance Needs

Date Reported: 04/28/2020

Priority: D- Routine

Type of Work: Repair (General)

Status: Monitor

Component: Deck

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### Deficiency Description

Span #2 deck at bent #2 right lane has one foot patched area with asphalt.

Span #1 right lane has two, one foot spalls at joint.

Span #4 right side of middle lane corner is broken at bent #4.

Span #2 middle and right of middle lane corners broken at bents #2,3.

Span #1 left side corner spalled with exposed rebar at abutment #1

4-26-2022-Added several spalls to maintenance needs.

### Remarks

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Span #4 bent #4 at center line has two foot patched area



Bent #3 span #2 at center line has two foot cracked / delaminated area.



Bent #2 span #2 at center line has two foot cracked / delaminated area, span #3 has patched area

### Maintenance Needs

**Date Reported:** 04/25/2016

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Channel

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### Deficiency Description

Abutment 2 left side has erosion up to 2' deep.

### Remarks

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Abutment 2 left side has erosion up to 2' deep.



Abutment #2 cap undermined for fifteen feet at center line up to one foot exposing two piles.

### Maintenance Needs

**Date Reported:** 04/25/2016

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Deck

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### Deficiency Description

Deck has open transverse and longitudinal cracks.

### Remarks

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Typical deck crack.

### Maintenance Needs

**Date Reported:** 04/24/2014

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Approach

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### Deficiency Description

Abutment #2 right side bridge rail as a three foot spall with exposed rebar on back side.

### Remarks

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Abutment 2 right side bridge rail.

### Maintenance Needs

**Date Reported:** 04/24/2014

**Priority:** D- Routine

**Type of Work:** Repair (General)

**Status:** Monitor

**Component:** Channel

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### Deficiency Description

Abutment #1 cap is undermined 1' deep for 10' length at center line.

Abutment #1 cap left end undermined up to six inches for one foot.

Abutment #2 cap undermined for fifteen feet at center line up to one foot exposing two piles.

4-26-2022-Added erosion at abutment #2 cap.

### Remarks

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Abutment 1 cap undermined.



Abutment #1 cap left end undermined up to six inches for one foot.

### Maintenance Needs

Date Reported: 04/24/2014

Priority: D- Routine

Type of Work: Repair (General)

Status: Monitor

Component: Channel

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### Deficiency Description

Abutment #1 slope is eroded at center line with depths up to 5' extending down slope.

### Remarks

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Span 1 slope in center.



Abutment #1 slope erosion between piles #6 and 7.



Abutment #2 cap left side cracked and slope eroded.

### Maintenance Needs

**Date Reported:** 04/29/2022

**Priority:** D- Routine

**Type of Work:** (Inactive) (Inactive) 1 - Clean

**Status:** Forward State

**Component:** Channel

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### Deficiency Description

Vegetation growing beside, under and onto bridge.

### Remarks

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04/26/2022

Vegetation growing beside, under and onto bridge, right side.

### Maintenance Needs

Date Reported: 04/29/2022

Priority: D- Routine

Status: Forward State

Type of Work: Repair (General)

Component: Element

### Deficiency Description

Bent #2 cap back face above pile #1 has a two-foot delaminated area.  
Bent #2 cap back face above pile #11 has two, six-inch delaminated areas.  
Bent #2 cap ahead face between pile #5 and #6 has a one-foot delaminated area.  
Bent #3 cap back face above pile #7 has a four-foot delaminated area.  
Bent #3 cap back face between pile #10 and #11 has a two-foot delaminated area.  
Bent #3 cap between piles #9 and #10 has a spall with exposed rebar on ahead face.  
Bent #4 cap ahead face has a one-foot delaminated area between piles #5 and #6 and a two-foot delaminated area above pile #3.  
Bent #4 has a one-foot spall at key way on ahead face above pile #8 with no exposed rebar.  
Bent #4 cap ahead face between piles #9 and 10 has vertical crack at joint.  
Bent #4 cap ahead face between piles #1 and #3 has a one-foot delaminated area.  
Caps have vertical cracks some with light efflorescence.

### Remarks



Bent #3 cap between piles 9,10 has a spall with exposed rebar on ahead face and one foot shallow spall with no exposed rebar.



Bent #3 ahead face



Bent #4 ahead face



Abutment #2



Bent #2 cap ahead face



Bent #3 back face

### Maintenance Needs

**Date Reported:** 04/29/2022

**Priority:** (Inactive) (Inactive) G - General/  
Preventive maintenance

**Status:** Monitor

**Type of Work:** Replace (General)

**Component:** Approach

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### Deficiency Description

Log mile sign should be 278.83.

### Remarks

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Abutment #1 log mile sign



Asset #A2673(Special)

I-40EB/Se52/278.83 over Ten Mile Bayou

Location: West Memphis By-Pass

Team Lead: Myron Futrell Inspection Date: 09/21/2022

## Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is Recommended?
A-54 - Sealable Deck Cracks	
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	
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-65 - Clogged deck drains?	
A-66 - Approach minor pothole/leveling needed	

**A-54 - Sealable Deck Cracks**

**A-55 - Deck Washing Needed**

**A-56 - Joint Cleaning/Flushing Needed**



**Asset #A2673(Special)**

**I-40EB/Se52/278.83 over Ten Mile Bayou**

**Location: West Memphis By-Pass**

**Team Lead: Myron Futrell Inspection Date: 09/21/2022**

**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**

**A-62 - Hydro and LMC Advised**

**A-63 - Missing/Incorrect Log Mile Signage**

**A-64 - Vegetation Removal Requested**

**A-65 - Clogged deck drains?**



**Asset #A2673**(Special)

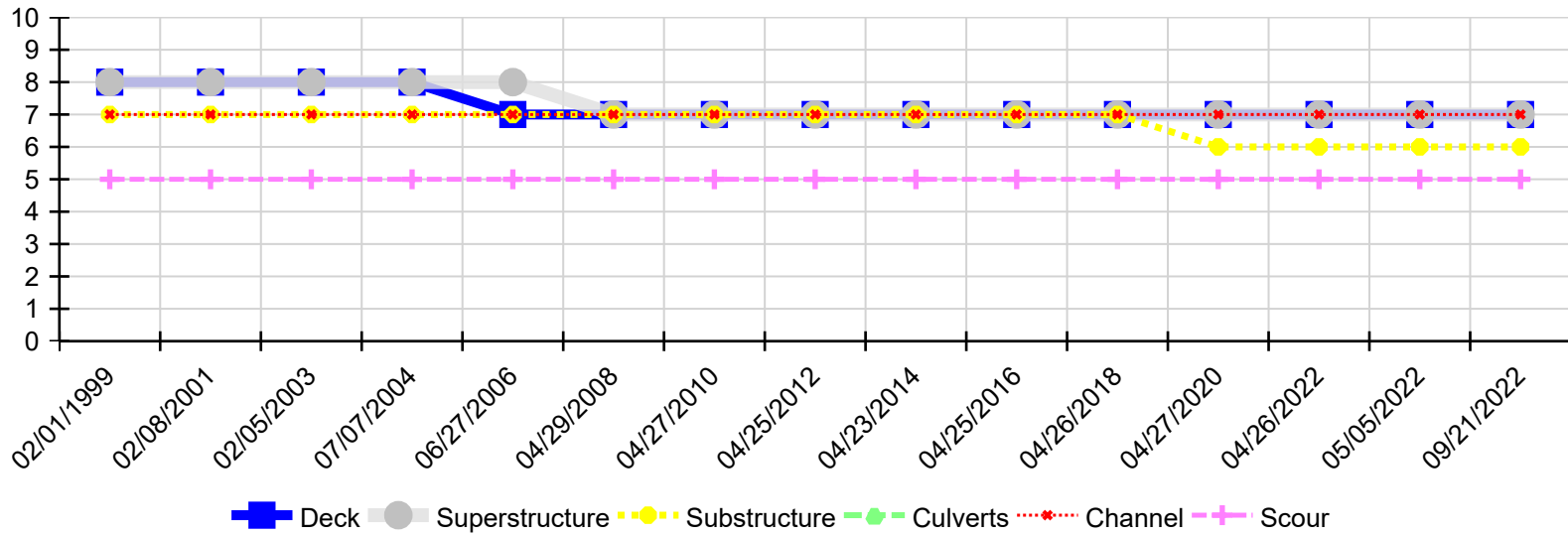
**I-40EB/Se52/278.83 over Ten Mile Bayou**

**Location: West Memphis By-Pass**

**Team Lead: Myron Futrell Inspection Date: 09/21/2022**

**A-66 - Approach minor pothole/leveling needed**

### Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
09/21/2022	7	7	6	N	7	5
05/05/2022	7	7	6	N	7	5
04/26/2022	7	7	6	N	7	5
04/27/2020	7	7	6	N	7	5
04/26/2018	7	7	7	N	7	5
04/25/2016	7	7	7	N	7	5
04/23/2014	7	7	7	N	7	5
04/25/2012	7	7	7	N	7	5
04/27/2010	7	7	7	N	7	5
04/29/2008	7	7	7	N	7	5
06/27/2006	7	8	7	N	7	5
07/07/2004	8	8	7	N	7	5
02/05/2003	8	8	7	N	7	5
02/08/2001	8	8	7	N	7	5
02/01/1999	8	8	7	N	7	5