



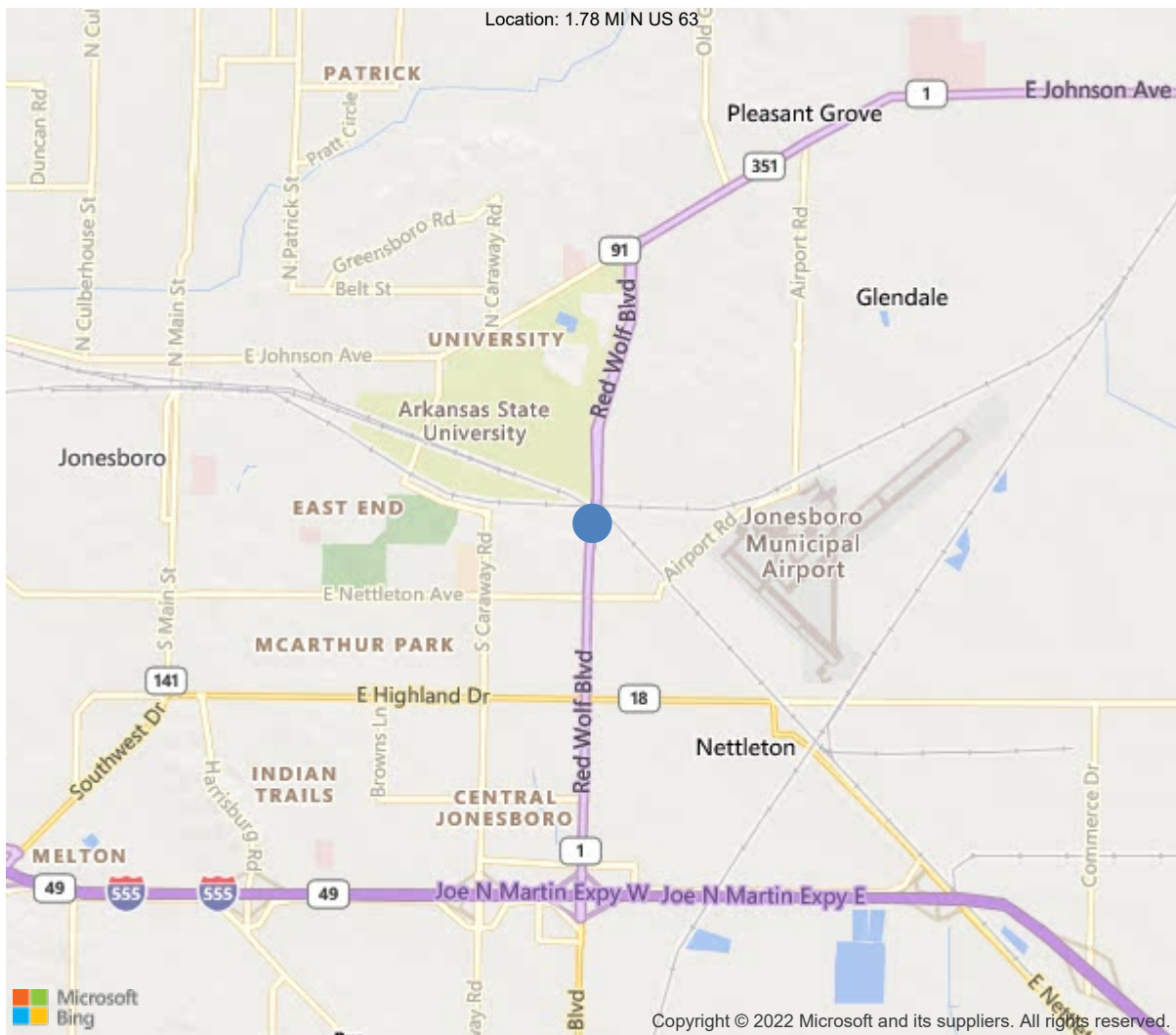
Latitude:35.83352, Longitude:-90.66822

Route:49 Section:03 Log:12.4

Arnold Road ID:16x49x3xA, Arnold Log mile:12.457

District 10, 31 - Craighead County

Owner: 1 - State Highway Agency



35.83352, -90.66822



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	05451
(5) Inventory Route	1
(2) Highway Agency District	10 - District 10
(3) County Code	31 - Craighead County
(4) Place Code	35710
(6) Features Intersected	Matthews Rd & Bx Clvt
(7) Facility Carried	US 49 sec. 3 LM 12
(9) Location	1.78 MI N US 63
(11) Mile Point	12.4 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000049030
(16) Latitude	35.83352
(17) Longitude	-90.66822
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	42
Material	4 - Steel continuous
Type	2 - Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	3
(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	1972
(106) Year Reconstructed	0
(42) Type of Service	11
On	1 - Highway
Under	1 - Highway, with or without pedestrian
(28) Lane	
On	4
Under	3
(29) Average Daily Traffic	38160
(30) Year of ADT	2018
(109) Truck ADT	2 %
(19) Bypass, Detour Length	4 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	92 ft
(49) Structure Length	225.5 ft
(50) Curb or Sidewalk Width	
Left	0.5 ft
Right	0.5 ft
(51) Bridge Roadway Width Curb to Curb	70 ft
(52) Deck Width Out to Out	73 ft
(32) Approach Roadway Width (W/Shoulders)	70.9 ft
(33) Bridge Median	0 - No median
(34) Skew	33 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	74.1 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	15.43 ft
Ref:	
(55) Min Lat Underclear RT	10.6 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(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	14 - Urban Other Principal Art
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exis
(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	5 - Bridge is not eligible for
CONDITION	
(58) Deck	5
(59) Superstructure	6
(60) Substructure	6
(61) Channel & Channel Protection	N
(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	6
(68) Deck Geometry	9
(69) Clearances, Vertical/Horizontal	6
(71) Waterway Adequacy	N
(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	N - Bridge not over waterway.
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	54300
(115) Year of Future ADT	2038

INSPECTIONS *			
(90) Inspection Date	05/24/2022		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection			
<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>			

58 - Deck (5)

Box culvert, (old #32242), is under the front slope of this bridge. Since it didn't carry traffic it was removed from the inventory, but it will still need to be inspected when this US 49 bridge is done. Report the results of this with those of this bridge.

Underclearances checked & verified this inspection.

Approach slabs have settled in the past and are covered with asphalt.

Asphalt has open cracks & spalls.

Joint seals are torn and deteriorated with some sections missing.

Bent 1 southbound side compression seal has dropped out.

Concrete rail has several cracks.

Deck has numerous unsealed transverse cracks

Deck has several spalls and delaminated areas. A few spalls have exposed rebar.

Soffit has a few minor cracks with light efflorescence.

59 - Superstructure (6)

Ends of girders over end bents have some flaking rust, especially along bottom flange. End of webs have some streaking rust behind 1st stiffener.

Span 2 splice 1 girders 2 and 5 each have one loose splice bolt in bottom flange.

Span 2 splice 2 girders 8 and 10 each have one loose splice bolt in bottom flange.

Bent 1 bearings were shimmed in the past. Several shims have advanced section loss. Some have slid out from under bearing.

Bent 1 bearing 8 shim between masonry plate and cap has corroded away, leaving a 1 in. gap and moving under traffic.

Rocker bearings 3, 7, 8, and 9 are tilted toward backwall and have up to 2in. gap between front side of masonry plate and cap.

Bent 1 bearings 1, 6 and 9 have both anchor bolts sheared off.

Bent 1 bearings 2, 7 and 8 have 1 anchor bolt sheared off.

Bent 2 bearings 7, 8 & 10 are tilted.

Bent 4 bearings have some pack rust and minor section loss.

Bent 4 bearing 6 has 1 anchor bolt sheared off.

60 - Substructure (6)

Concrete abutments have a few cracks under bearings. Backwalls have a few cracks with efflorescence.

Bent 3 column 1 has impact damage from accident in April of 2020.

Bent 4 cap and backwall near bearing are cracked & spalled. Backwall has rotated in toward girder. Top of cap has some concrete disintegration.

Double 9ft. x 8ft. x 246ft. RC box culvert runs under slope paving under span 1.

Culvert has several cracks with some efflorescence and rust stains.

Culvert wings have some separation from barrels. Culvert has a few spalls with exposed rebar at wing connections.

Culvert has a large drift buildup on inlet (right) end.

Northwest wing wall at right end of barrel 1 has separated from box and is allowing up to 3ft. of erosion to fill above box

Embankment erosion behind barrel 2 on left end has been repaired.



Asset #05451(Routine)

District: 10, County: 31

Team Lead: James Adams, Inspection Date: 05/24/2022

62 - Culverts (N)

Double 9ft. x 8ft. x 246ft. RC box culvert runs under slope paving under span 1.

Culvert has several cracks with some efflorescence and rust stains.

Culvert has a few spalls with rebar exposed at wing connections.

Culvert wings have some separation from barrels.

Culvert has large drift buildup on inlet end.

Embankment erosion behind barrel 2 on left end reported previously has been repaired.

Right wing at barrel 1 has separated and allowed up to 3ft. of erosion to embankment.

A-46 - Asset Files

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Asset #05451 (Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	16279	6722	8806	751	0
1080	Delamination/Spall/Patched Area	SF	164	0	0	164	0
1090	Exposed Rebar	SF	20	0	20	0	0
1120	Efflorescence/Rust Staining	SF	339	0	339	0	0
1130	Cracking (RC and Other)	SF	3682	0	3095	587	0
1190	Abrasion/Wear (PSC/RC)	SF	5352	0	5352	0	0
(12) .							
107	Steel Open Girder/Beam	LF	2230	2165	65	0	0
1000	Corrosion	LF	61	0	61	0	0
1020	Connection	LF	4	0	4	0	0
515	Steel Protective Coating	SF	26615	26005	610	0	0
3440	Effectiveness (Steel Protective Coatings)	LF	610	0	610	0	0
(107) .							
205	Reinforced Concrete Column	EA	12	11	1	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
215	Reinforced Concrete Abutment	LF	255	233	0	22	0
1080	Delamination/Spall/Patched Area	LF	6	0	0	6	0
1120	Efflorescence/Rust Staining	LF	12	0	0	12	0
1130	Cracking (RC and Other)	LF	4	0	0	4	0
(215) Concrete abutments have 12 ft. of cracks with efflorescence.							
234	Reinforced Concrete Pier Cap	LF	168	161	4	3	0
1080	Delamination/Spall/Patched Area	LF	3	0	0	3	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
(234) .							
241	Reinforced Concrete Culvert	LF	492	345	0	147	0
1090	Exposed Rebar	LF	1	0	0	1	0
1120	Efflorescence/Rust Staining	LF	146	0	0	146	0
302	Compression Joint Seal	LF	175	0	132	0	43
2320	Seal Adhesion	LF	43	0	0	0	43
2340	Seal Cracking	LF	132	0	132	0	0

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, **Inspection Date:** 05/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(302) .							
311	Movable Bearing	EA	30	0	10	16	4
1000	Corrosion	EA	20	0	10	9	1
2220	Alignment	EA	10	0	0	7	3
(311) .							
313	Fixed Bearing	EA	10	0	10	0	0
1000	Corrosion	EA	7	0	7	0	0
2220	Alignment	EA	3	0	3	0	0
(313) .							
321	Reinforced Concrete Approach Slab	SF	2205	2169	0	36	0
1130	Cracking (RC and Other)	SF	36	0	0	36	0
510	Wearing Surfaces	SF	2205	1983	0	222	0
3210	Delam/Spall/Patched Area/Pothole	SF	6	0	0	6	0
3220	Crack (Wearing Surface)	SF	216	0	0	216	0
(321) .							
330	Metal Bridge Railing	LF	446	446	0	0	0
331	Reinforced Concrete Bridge Railing	LF	446	303	143	0	0
1130	Cracking (RC and Other)	LF	143	0	143	0	0
(331) .							



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

Deck

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	16279	6722	8806	751	0
1080	Delamination/Spall/Patched Area	SF	164	0	0	164	0
1090	Exposed Rebar	SF	20	0	20	0	0
1120	Efflorescence/Rust Staining	SF	339	0	339	0	0
1130	Cracking (RC and Other)	SF	3682	0	3095	587	0
1190	Abrasion/Wear (PSC/RC)	SF	5352	0	5352	0	0
(12) .							

58 - Deck (5)

Comment: Box culvert, (old #32242), is under the front slope of this bridge. Since it didn't carry traffic it was removed from the inventory, but it will still need to be inspected when this US 49 bridge is done. Report the results of this with those of this bridge.

Underclearances checked & verified this inspection.

Approach slabs have settled in the past and are covered with asphalt.

Asphalt has open cracks & spalls.

Joint seals are torn and deteriorated with some sections missing.

Bent 1 southbound side compression seal has dropped out.

Concrete rail has several cracks.

Deck has numerous unsealed transverse cracks

Deck has several spalls and delaminated areas. A few spalls have exposed rebar.

Soffit has a few minor cracks with light efflorescence.



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

Superstructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
107	Steel Open Girder/Beam	LF	2230	2165	65	0	0
1000	Corrosion	LF	61	0	61	0	0
1020	Connection	LF	4	0	4	0	0
515	Steel Protective Coating	SF	26615	26005	610	0	0
3440	Effectiveness (Steel Protective Coatings)	LF	610	0	610	0	0
(107) .							

59 - Superstructure (6)

Comment: Ends of girders over end bents have some flaking rust, especially along bottom flange. End of webs have some streaking rust behind 1st stiffener.

Span 2 splice 1 girders 2 and 5 each have one loose splice bolt in bottom flange.

Span 2 splice 2 girders 8 and 10 each have one loose splice bolt in bottom flange.

Bent 1 bearings were shimmed in the past. Several shims have advanced section loss. Some have slid out from under bearing.

Bent 1 bearing 8 shim between masonry plate and cap has corroded away, leaving a 1 in. gap and moving under traffic.

Rocker bearings 3, 7, 8, and 9 are tilted toward backwall and have up to 2in. gap between front side of masonry plate and cap.

Bent 1 bearings 1, 6 and 9 have both anchor bolts sheared off.

Bent 1 bearings 2, 7 and 8 have 1 anchor bolt sheared off.

Bent 2 bearings 7,8 & 10 are tilted.

Bent 4 bearings have some pack rust and minor section loss.

Bent 4 bearing 6 has 1 anchor bolt sheared off.



Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	EA	12	11	1	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
215	Reinforced Concrete Abutment	LF	255	233	0	22	0
1080	Delamination/Spall/Patched Area	LF	6	0	0	6	0
1120	Efflorescence/Rust Staining	LF	12	0	0	12	0
1130	Cracking (RC and Other)	LF	4	0	0	4	0
(215) Concrete abutments have 12 ft. of cracks with efflorescence.							
234	Reinforced Concrete Pier Cap	LF	168	161	4	3	0
1080	Delamination/Spall/Patched Area	LF	3	0	0	3	0
1130	Cracking (RC and Other)	LF	4	0	4	0	0
(234) .							

60 - Substructure (6)

Comment: Concrete abutments have a few cracks under bearings. Backwalls have a few cracks with efflorescence. Bent 3 column 1 has impact damage from accident in April of 2020. Bent 4 cap and backwall near bearing are cracked & spalled. Backwall has rotated in toward girder. Top of cap has some concrete disintegration.

Double 9ft. x 8ft. x 246ft. RC box culvert runs under slope paving under span 1. Culvert has several cracks with some efflorescence and rust stains. Culvert wings have some separation from barrels. Culvert has a few spalls with exposed rebar at wing connections. Culvert has a large drift buildup on inlet (right) end. Northwest wing wall at right end of barrel 1 has separated from box and is allowing up to 3ft. of erosion to fill above box. Embankment erosion behind barrel 2 on left end has been repaired.



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

Culvert

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
241	Reinforced Concrete Culvert	LF	492	345	0	147	0
1090	Exposed Rebar	LF	1	0	0	1	0
1120	Efflorescence/Rust Staining	LF	146	0	0	146	0

62 - Culverts (N)

Comment: Double 9ft. x 8ft. x 246ft. RC box culvert runs under slope paving under span 1.

Culvert has several cracks with some efflorescence and rust stains.

Culvert has a few spalls with rebar exposed at wing connections.

Culvert wings have some separation from barrels.

Culvert has large drift buildup on inlet end.

Embankment erosion behind barrel 2 on left end reported previously has been repaired.

Right wing at barrel 1 has separated and allowed up to 3ft. of erosion to embankment.



Elevation 5-25-2022



Span 3



Span 1 bent 1 bearing 8



Span 2



Span 1



Roadway 5-24-2022



culvert efflorescence

Maintenance Needs

Date Reported: 04/26/2012
Priority: B - Pressing
Type of Work: Repair (General)
Status: Monitor
Component: Deck

Deficiency Description

Deck has numerous unsealed transverse cracks
Deck has several spalls and delaminated areas. A few spalls have rebar exposed.

Remarks



Deck patches/holes



Deck patches/holes



Deck patches/holes



typ spalls

Date Reported: 04/26/2012
Priority: C - Important
Type of Work: Replace (General)
Status: Monitor
Component: Element

Deficiency Description

Joint seals are torn and deteriorated with some sections missing.

Remarks



Bent 1



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, **Inspection Date:** 05/24/2022

Date Reported: 04/26/2012
Priority: C - Important
Type of Work: Repair (General)
Status: Monitor
Component: Superstructure

Deficiency Description

Span 2 splice 1 girders 2 and 5 each have one loose splice bolt in bottom flange.
Span 2 splice 2 girders 8 and 10 each have one loose splice bolt in bottom flange.

Remarks

Date Reported: 04/26/2012
Priority: B - Pressing

Type of Work: Repair (General)

Status: Assigned

Component: Element

Deficiency Description

Bent 1 bearings were shimmed in the past. Several shims have advanced section loss. Some have slid out from under bearing.

Rocker bearings 3, 7, 8, and 9 are tilted toward backwall and have up to 2in. gap between front side of masonry plate and cap.

Remarks

to Dist Bridge Crew for repair as priorities allow KAW 6/24/2020



Span 1 bent 1 bearing 7



Span 1 bent 1 bearing 8



Span 1 bent 1 bearing 8 - 2" gap on front side



Span 1 bent 1 bearing 9



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, **Inspection Date:** 05/24/2022

Date Reported: 04/26/2012
Priority: C - Important
Type of Work: Repair (General)
Status: Monitor
Component: Substructure

Deficiency Description

Bent 4 cap and backwall near bearing are cracked/spalled. Backwall has rotated in toward girder. Top of cap has some concrete disintegration.

Remarks



Bent 4 right



Bent 4 Rt



Bent 4 Rt

Date Reported: 04/21/2016
Priority: C - Important
Type of Work: Repair (General)
Status: Monitor
Component: Culverts

Deficiency Description

Double 9' x 8' x 246" RC box culvert runs under slope paving under span 1.
Culvert wings have some separation from barrels. Culvert has a few spalls with rebar exposed at wing connections.

Remarks



Inlet behind wing erosion



culvert wings

Date Reported: 06/12/2020
Priority: D- Routine
Type of Work: (Inactive) (Inactive) 1 - Clean
Status: Monitor
Component: Culverts

Deficiency Description

Culvert has drift buildup on inlet end.

Remarks



Right end inlet



drift

Date Reported: 06/12/2020
Priority: (Inactive) (Inactive) G - General/ Preventive maintenance
Type of Work: (Inactive) (Inactive) 1 - Clean
Status: RepairDocumented
Component: Culverts

Deficiency Description

Embankment has erosion behind barrel 2 on Lt end.

Remarks

Observed repaired 5-24-2022. JFA/CWS



Erosion repaired barrel 2



Barrel 2 Lt



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, **Inspection Date:** 05/24/2022

Date Reported: 04/26/2012

Priority: D- Routine

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

Status: Monitor

Component:

Deficiency Description

Fixed bearings

Fixed bearings are rusted with light pitting.

Remarks



Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, **Inspection Date:** 05/24/2022

Date Reported: 04/13/2016

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

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

Status: Monitor

Component:

Deficiency Description

Concrete approach slabs are asphalt covered with 36 ft. of moderate width cracking.

Remarks

Date Reported: 05/25/2022
Priority: B - Pressing
Type of Work: Repair (General)
Status: Open
Component: Superstructure

Deficiency Description

Bent 1 bearing 8 shim between masonry plate and cap has corroded away, leaving a 1 in. gap and moving under traffic.

Remarks





Asset #05451(Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

Routine Maintenance

Check Box Maintenance Items

Data Field	Value
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 - Hydo and LMC Advised	



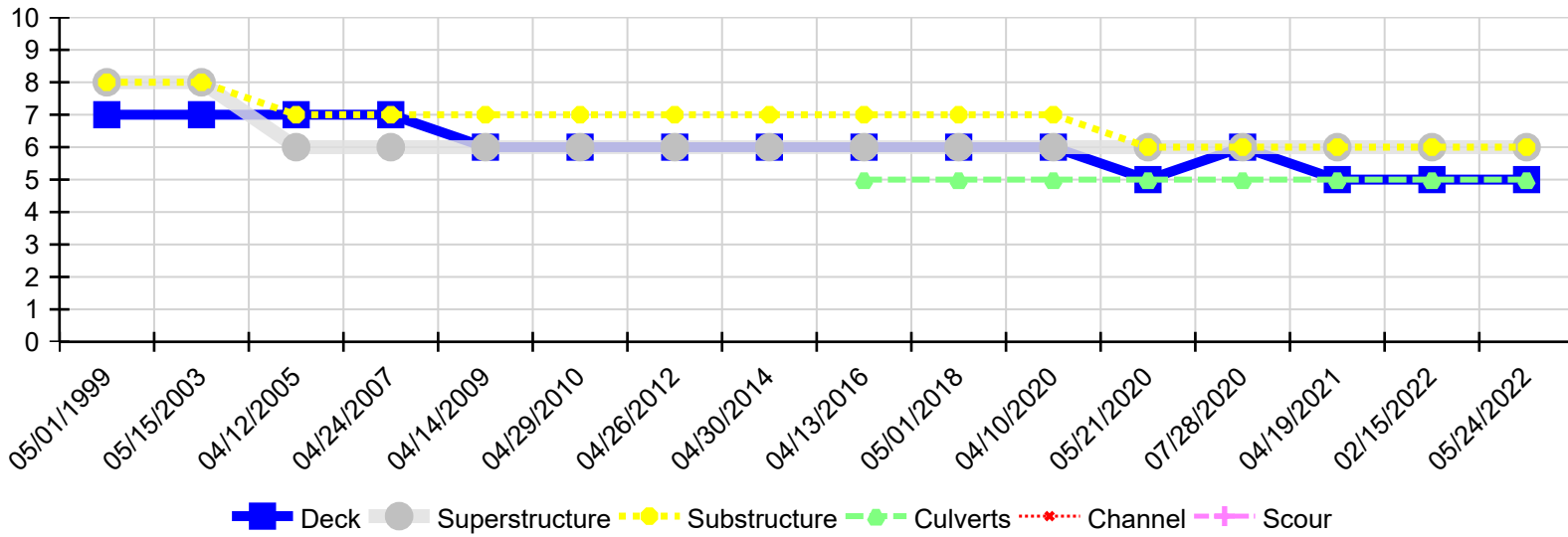
Asset #05451 (Routine)

US 49 sec. 3 LM 12 over Matthews Rd & Bx Clvt

Location: 1.78 MI N US 63

Team Lead: James Adams, Inspection Date: 05/24/2022

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
05/24/2022	5	6	6	5	N	N
02/15/2022	5	6	6	5	N	N
04/19/2021	5	6	6	5	N	N
07/28/2020	6	6	6	5	N	N
05/21/2020	5	6	6	5	N	N
04/10/2020	6	6	7	5	N	N
05/01/2018	6	6	7	5	N	N
04/13/2016	6	6	7	5	N	N
04/30/2014	6	6	7	N	N	N
04/26/2012	6	6	7	N	N	N
04/29/2010	6	6	7	N	N	N
04/14/2009	6	6	7	N	N	N
04/24/2007	7	6	7	N	N	N
04/12/2005	7	6	7	N	N	N
05/15/2003	7	8	8	N	N	N
05/01/1999	7	8	8	N	N	N