



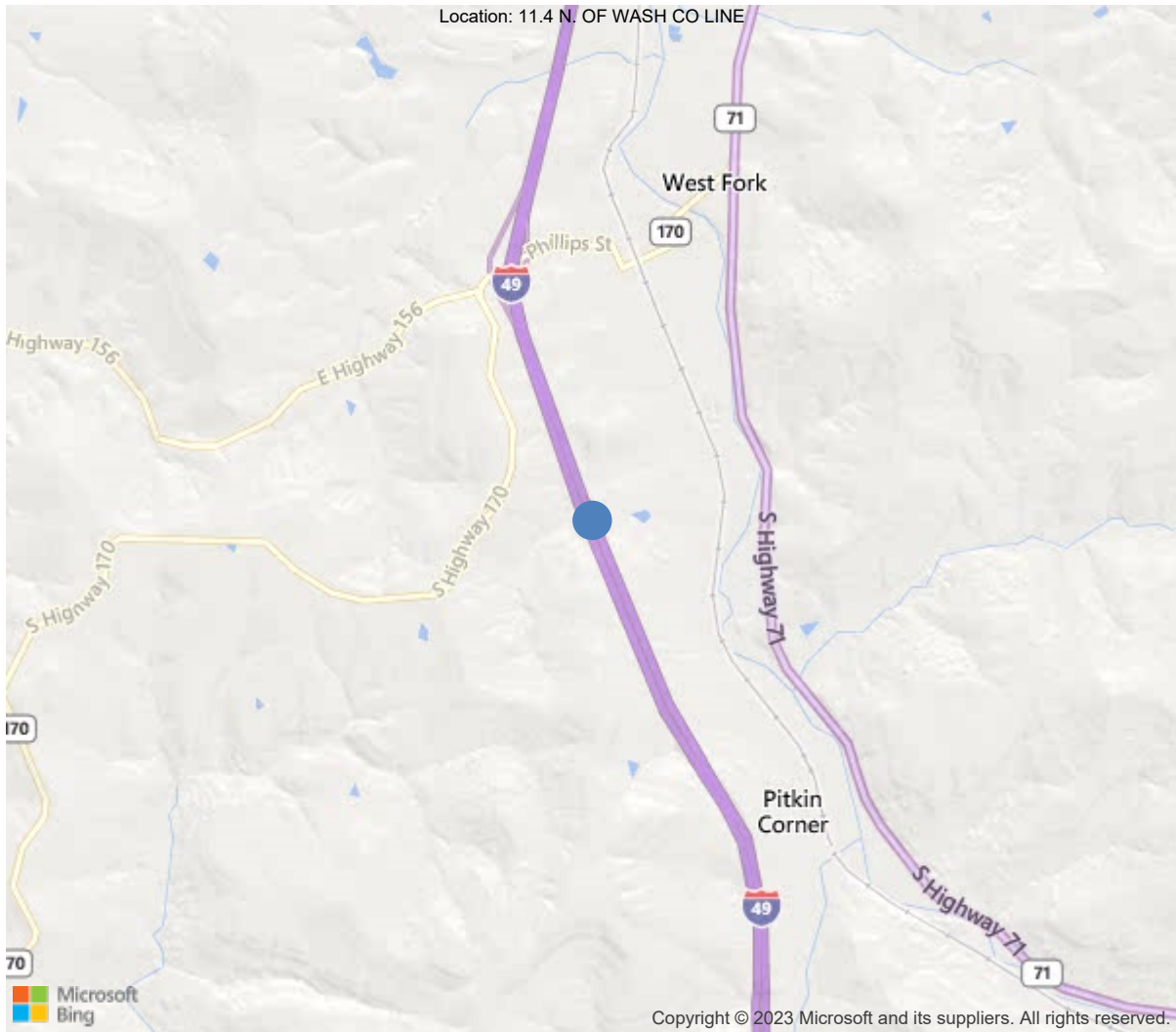
Latitude:35.90595, Longitude:-94.19231

Route:49 Section:28 Log:51.45

Arnold Road ID:72x49x28xA, Arnold Log mile:51.528

District 04, 143 - Washington County

Owner: 1 - State Highway Agency



35.90595, -94.19231





**Asset #B6237** (Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	B6237
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	143 - Washington County
(4) Place Code	0
(6) Features Intersected	Ravine-Washington Co.
(7) Facility Carried	I-49 Northbound
(9) Location	11.4 N. OF WASH CO LINE
(11) Mile Point	51.45 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000049080
(16) Latitude	35.90595
(17) Longitude	-94.19231
(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	7
(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	1 - Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	1998
(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	2399
(30) Year of ADT	2018
(109) Truck ADT	1 %
(19) Bypass, Detour Length	1 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	160 ft
(49) Structure Length	1022 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	40 ft
(52) Deck Width Out to Out	42.8 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	41 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	1
(26) Functional Class	1 - Rural 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	6
(59) Superstructure	6
(60) Substructure	6
(61) Channel & Channel Protection	8
(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	7
(68) Deck Geometry	7
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	9
(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	8 - 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	11252
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	12/12/2022		
(91) Frequency	24		
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection			
* 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

12/12/2022 - EJW, JCJ, RSM, TJL & SPC - Routine and Underwater Type 2 Inspection conducted on this date. Channel profile not taken due to no substructure in the water. An undermined amount of additional element notes obtained during the Routine Inspection were lost during the duration of the inspection process. 10/08&12 RSM, EJW, SPC, TJL: Routine inspection conducted. See element notes for documentation. 10/23/2018 - JCJ, EJW, JPW, & TJL - Note - Special attention shall be given to Bent # 7 - Bent # 7 has had a history of rotation that took place during the construction process. The column was loaded by fill material on the North side of the bent, pushing the column to the South. During the rotation process, the superstructure pulled the Bent # 8 abutment to the South. Bent # 7 was drilled and had post tension cables added and was pulled back into alignment. Additional fill was added to the South side of the column to equalize the earth pressures on the column. Bent # 8 has additional countermeasures to provide needed alignment and stability. 10/23/2018 - JCJ, EJW, JPW, & TJL - A snooper truck was used during this inspection. 10/23/2018 - JCJ, EJW, JPW, & TJL - Type 2 Underwater Inspection - Visual observations from the snooper platform indicates that the substructure is not in the Channel with no apparent scour problems during this inspection.

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**61 - Channel/Channel Protection** (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

12/12/2022 - EJW - Underwater Type II Inspection conducted on this date. No substructure in the water, footings have cover with no apparent scour problems.

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### A-46 - Asset Files

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### A-54 - Sealable Deck Cracks (Y)

Deck -

The driving surface of the deck has sealable transverse, longitudinal, and map cracking. The North and South approach slabs have map cracking with areas that are beginning to spall. The overhang portion of the deck on the right side of Span # 6 has a failing repair with exposed reinforcing steel.

Span # 3 has areas of moderate sized spalling adjacent to bent # 4 sliding plate assembly.

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### A-56 - Joint Cleaning/Flushing Needed (Y)

Bent # 4 expansion joint trough has minor debris accumulation.

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### A-57 - Beam End and Bearing Painting Needed (Y)

Superstructure - Ends of Girders at abutments have areas of corrosion / abnormal weathering with flaking rust. The end of girder # 3 at bent # 4 has abnormal weathering and layers of flaking rust forming.

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### A-59 - Joint Repair Needed (Yes)

Expansion joints -

The expansion joints at both bridge ends have no seals allowing water, dirt and debris to leak onto the substructure and superstructure causing abnormal weathering / corrosion to the beam ends and bearing devices.

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### A-61 - Polymer Overlay Advised (Y)

Deck -

The driving surface of the deck has sealable transverse, longitudinal, and map cracking. The North and South approach slabs have map cracking with areas that are beginning to spall. The overhang portion of the deck on the right side of Span # 6 has a failing repair with exposed reinforcing steel.

Span # 3 has areas of moderate sized spalling adjacent to bent # 4 sliding plate assembly.





**Asset #B6237**(Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	43690	35762	7751	174	3
1080	Delamination/Spall/Patched Area	SF	7	0	4	0	3
1090	Exposed Rebar	SF	4	0	3	1	0
1120	Efflorescence/Rust Staining	SF	1120	0	1120	0	0
1130	Cracking (RC and Other)	SF	12438	7685	4580	173	0
1190	Abrasion/Wear (PSC/RC)	SF	2044	0	2044	0	0
<p>(12) -The driving surface of the deck has sealable transverse, longitudinal, and map cracking. Maintenance forces have sealed the majority of the cracks in the right lane with epoxy in the past. The sealant appears to be functioning as intended at this inspection.</p> <p>-The driving surface of the deck has areas with light abrasion.</p> <p>-There are numerous pop outs in the driving surface of the deck due to shale inclusion in the concrete from the construction process.</p> <p>-The deck in span # 3 has several moderate sized shallow spalls adjacent to bent # 4 sliding plate assembly.</p> <p>-The saw joint sealant has areas that are beginning to lose bond with the deck and leak.</p> <p>Deck Soffit -</p> <p>-There are transverse cracks with light efflorescence at variable spacing that are visible from the undersurface of the overhang.</p> <p>-The metal stay in place forms on the undersurface of the deck have a few isolated areas of active corrosion.</p> <p>-Span #6 Rt overhang has a failed repair from collision damage to the bridge rail. Approximately 3' cs2 repair.</p>							
107	Steel Open Girder/Beam	LF	4080	3977	60	43	0
1000	Corrosion	LF	103	0	60	43	0
515	Steel Protective Coating	SF	77368	76971	368	29	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	LF	397	0	368	29	0
<p>(107) A588 Weathering Steel - -The splice plates have been spot welded to the bottom flanges of the girders during the construction process. -Span # 2 Girder # 3 has a laminar delamination in the web adjacent to diaphragm # 5 located approximately 50' from bent #3. -Span # 3 Girder # 1 &amp; 4 has minor corrosion in the bottom flange splice plate. -Girder # 3 at Bent # 4 has thin layers of flaking rust forming at the end of the girder below the expansion joint. No measurable section loss is apparent during this inspection. -Girders at abutment # 2 have corrosion where the open joints leak water on the superstructure. -The remaining girders appear to be weathering normally and have a light rust coating with no apparent problems during this inspection. -No visible cracks in the girders.</p>							
210	Reinforced Concrete Pier Wall	LF	84	57	27	0	0
1010	Cracking	LF	24	0	24	0	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	1	0	1	0	0
1120	Efflorescence/Rust Staining	LF	1	0	1	0	0



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<p>(210) Columns are wider than 10' and are documented as pier walls in accordance with the current Arkansas bridge inspection guidelines.</p> <p>-Bents # 2 &amp; 3 backface of the columns have two short duration hairline vertical cracks in the base of columns. The lower portion of bent # 3 column has short duration horizontal cracking in the left side of the ahead face.</p> <p>-Bent # 4 has 2' efflorescence at the top of the column. The ahead face of bent # 4 column has a hairline vertical crack that appears to be full height.</p> <p>-Bent # 5 has 1' efflorescence at the top of the column. The base of column has two hairline vertical cracks visible in both sides of column.</p> <p>-The lower portion of column # 6 has hairline horizontal and vertical cracking and a shallow 5" spall with exposed reinforcing steel located in the right exterior face approximately 4' from base of column.</p> <p>-The lower portion of bent # 7 has a 6" shallow spall in the Southwest corner and a vertical crack with efflorescence near centerline of bent. Bent # 7 has areas of hairline vertical cracking in random locations.</p>							
215	Reinforced Concrete Abutment	LF	198	124	61	13	0
1080	Delamination/Spall/Patched Area	LF	36	0	35	1	0
1120	Efflorescence/Rust Staining	LF	12	0	0	12	0
1130	Cracking (RC and Other)	LF	26	0	26	0	0
<p>(215) Abutment # 1 -</p> <p>-There is vertical and random cracking with efflorescence in the face of the back wall.</p> <p>-Maintenance Forces have made repairs to the top of abutment # 1 backwall in the past. Repairs are sound at this inspection.</p> <p>-There is a tear in the drainage trough.</p> <p>-Bridge deck may be making contact with abutment # 1 backwall during the hottest months of the summer. Contact points may be hidden from view by drainage trough. Areas of shallow spalling are now visible between the superstructure and the abutments.</p> <p>-There is Earth settlement under the Right wing wall.</p> <p>Abutment # 2 -</p> <p>-Maintenance forces have replaced the failed polymer concrete repair to the top of abutment # 2 where the sliding plate assembly was removed in the past and replaced the failing repair with an epoxy based product that appears to be Seal Spec 900. The repair to the top of abutment backwall is approximately 1" lower than the seal spec that replaced the sliding plate assembly creating a rough transition.</p> <p>-Transverse and map cracking in the pedestals.</p> <p>-Vertical cracks with efflorescence in the face of the back wall. The abutment has map type cracking visible in numerous areas of the abutment cap.</p> <p>-Spalling in the left end of backwall at the expansion joint visible from the undersurface of the deck. The right side of backwall has shallow spall adjacent to expansion joint assembly visible from undersurface.</p>							
234	Reinforced Concrete Pier Cap	LF	228	145	77	2	4
1080	Delamination/Spall/Patched Area	LF	7	0	3	0	4
1090	Exposed Rebar	LF	1	0	1	0	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	73	0	71	2	0





ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<p>(234) -Concrete caps have minor vertical cracking at each step and at the cantilevered portion of cap and column juncture.</p> <p>-Bent # 2 cap backface has a shallow 4" spall with no exposed reinforcing steel in the chamfered edge along top.</p> <p>-Bent # 4 cap has a vertical crack at the centerline step down that is 0.04" wide measured at the top.</p> <p>-Bent # 4 has two shallow 4" spalls with exposed reinforcing steel located in the Right end of the cap in the North face of the pedestal.</p> <p>-Bent # 5 cracking at center of cap 0.06" with light efflorescence.</p> <p>-Bent # 6 cap has a 0.50" wide vertical crack at the centerline step down.</p> <p>-Bent # 7 pedestals are delaminated from the cap and are separated along the edges. The Southeast corner of the pedestal for bearing # 1 is fractured in an area approximately 12" long x 8" wide with a portion of the fractured area that extends approximately 1-1/2" under the interior side of the masonry plate.</p> <p>-Bent # 7 cap backface has shallow spalling along the right top edge and a shallow 6" spall at base of cantilever portion of column.</p>							
304	Open Expansion Joint	LF	172	167	2	3	0
2360	Adjacent Deck or Header	LF	5	0	2	3	0
<p>(304) Abutment # 1 -</p> <p>-Maintenance forces have removed the top sliding plate and replaced it with a shortened plate as a type of repair. The expansion joint is open with no seal in place at this inspection. Maintenance forces have made repairs in the top of the abutment back wall adjacent to the expansion joint in the past. The repairs appear to be sound at this inspection.</p> <p>-There are 3 spalls in the deck with no exposed reinforcing steel adjacent to the expansion joint.</p> <p>Abutment # 2 -</p> <p>-Maintenance forces have replaced the failed polymer concrete at abutment # 2 where the sliding plate assembly was removed in the past and replaced the failing repair with an epoxy based product that appears to be Seal Spec 900 since last inspection. The repair to the top of abutment backwall is approximately 1" lower than the seal spec that replaced the sliding plate assembly creating a rough transition. The expansion joint at abutment # 2 is approximately 5.5" wide at the yellow line and 5" wide at the white line during this inspection.</p> <p>-There are 1/8" open cracks in the expansion joint dam with efflorescence visible from the undersurface of the deck, Right end of structure.</p>							
305	Assembly Joint without Seal	LF	86	42	37	7	0
2360	Adjacent Deck or Header	LF	11	0	4	7	0
2370	Metal Deterioration or Damage	LF	33	0	33	0	0
<p>(305) Bent # 4 - -The sliding plate has metal shims welded to the top cover plate to reduce movement during live load impacts. The shims have wear with some fretting. The welds that attach the shims have cracks in some locations. -The deck in span # 3 has several moderate sized shallow spalls adjacent to bent # 4 sliding plate assembly. -There is spalling with no exposed reinforcing steel visible from the undersurface of the deck in the Left overhang.</p>							
310	Elastomeric Bearing	EA	8	0	4	4	0
1000	Corrosion	EA	4	0	0	4	0
2220	Alignment	EA	1	0	1	0	0
2230	Bulging, Splitting or Tearing	EA	3	0	3	0	0
515	Steel Protective Coating	SF	200	193	1	6	0
3440	Effectiveness (Steel Protective Coatings)	EA	7	0	1	6	0



ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<p>(310) Bent # 7 has had a history of rotation that took place during the construction process. The column was loaded by fill material on the North side of the bent, pushing the column to the South. During the rotation process, the superstructure pulled the Bent # 8 abutment to the South. Bent # 7 was drilled and had post tension cables added and was pulled back into alignment. Bent # 8 has additional blocking for stability.</p> <p>-Bents # 7 &amp; 8 have elastomeric bearing pads.  -Bent # 7 concrete pedestals have large cracks with the edges turned up with up to 1" of separation between the base of the pedestal and the top of the cap. -Bent 7, bearing # 1 Southeast corner of pedestal is fractured in an area approximately 12" long x 8" wide with a portion of the fractured area that extends under the interior side of the masonry plate approximately 1-1/2".  -Bent # 7 bearing #4 has a fractured pedestal under the bearing.  -Bent # 7 bearing pads are bulging.  -Bent # 7, Girder # 3 pad is de-bonded from the sole plate and protrudes 7/8" past the edge of the Sole plate.  -Abutment # 2 bearing pads appear to be expanded with the anchor bolts leaning to the North. The Right anchor bolt nut is missing from Girder # 4.  -Abutment # 2, bearings # 2 and # 3 have corrosion with flaking rust to masonry plates.</p>							
311	Movable Bearing	EA	12	0	5	7	0
1000	Corrosion	EA	4	0	0	4	0
1020	Connection	EA	2	0	0	2	0
2220	Alignment	EA	6	0	5	1	0
515	Steel Protective Coating	SF	40	28	0	12	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	EA	12	0	0	12	0
<p>(311) -Abutment # 1 bearings are slightly in the expanded position. The ambient temperature during this inspection is approximately 48 degrees Fahrenheit.  -Bent # 4 span #4 bearings # 1 &amp; 4 have fractured anchor bolts.  -Span #3 bearing anchor bolts are in the expanded position with temperatures of approximately 48 degrees.  -Span # 3, bearing # 1 at bent # 4 appears to be fully expanded at this inspection. Ambient temperature at time of inspection is approximately 48 degrees Fahrenheit.  -The anchor bolt at abutment # 1, beam # 2 is cracked just below the anchor nut near the top of the rocker.  -Bent # 4, span # 5, girder # 4 has both anchor bolts fractured during this inspection.</p>							
313	Fixed Bearing	EA	12	11	1	0	0
1020	Connection	EA	1	0	1	0	0
515	Steel Protective Coating	SF	120	120	0	0	0
<p>(313) -The bearings are rust coated and appear to be weathering normally.  -Bent #3 bearings have anchor bolt nuts with airspace between the nut and bearings.  -Fixed bearing # 5 at bent # 5 has one bolt that attaches the girder to the bearing device that is working out.</p>							
321	Reinforced Concrete Approach Slab	SF	1680	0	463	1217	0
1080	Delamination/Spall/Patched Area	SF	15	0	7	8	0
1130	Cracking (RC and Other)	SF	1450	0	241	1209	0
1190	Abrasion/Wear (PSC/RC)	SF	215	0	215	0	0





**Asset #B6237**(Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**



**Location: 11.4 N. OF WASH CO LINE**

**Team Lead:** Eric West, **Inspection Date:** 12/12/2022

## Superstructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
107	Steel Open Girder/Beam	LF	4080	3977	60	43	0
1000	Corrosion	LF	103	0	60	43	0
515	Steel Protective Coating	SF	77368	76971	368	29	0
3430	Oxide Film Degradation Color/Texture Adherence(Steel Protective Coatings)	LF	397	0	368	29	0
<p>(107) A588 Weathering Steel - -The splice plates have been spot welded to the bottom flanges of the girders during the construction process. -Span # 2 Girder # 3 has a laminar delamination in the web adjacent to diaphragm # 5 located approximately 50' from bent #3. -Span # 3 Girder # 1 &amp; 4 has minor corrosion in the bottom flange splice plate. -Girder # 3 at Bent # 4 has thin layers of flaking rust forming at the end of the girder below the expansion joint. No measurable section loss is apparent during this inspection. -Girders at abutment # 2 have corrosion where the open joints leak water on the superstructure. -The remaining girders appear to be weathering normally and have a light rust coating with no apparent problems during this inspection. -No visible cracks in the girders.</p>							



## Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
210	Reinforced Concrete Pier Wall	LF	84	57	27	0	0
1010	Cracking	LF	24	0	24	0	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	1	0	1	0	0
1120	Efflorescence/Rust Staining	LF	1	0	1	0	0
<p>(210) Columns are wider than 10' and are documented as pier walls in accordance with the current Arkansas bridge inspection guidelines.</p> <p>-Bents # 2 &amp; 3 backface of the columns have two short duration hairline vertical cracks in the base of columns. The lower portion of bent # 3 column has short duration horizontal cracking in the left side of the ahead face.</p> <p>-Bent # 4 has 2' efflorescence at the top of the column. The ahead face of bent # 4 column has a hairline vertical crack that appears to be full height.</p> <p>-Bent # 5 has 1' efflorescence at the top of the column. The base of column has two hairline vertical cracks visible in both sides of column.</p> <p>-The lower portion of column # 6 has hairline horizontal and vertical cracking and a shallow 5" spall with exposed reinforcing steel located in the right exterior face approximately 4' from base of column.</p> <p>-The lower portion of bent # 7 has a 6" shallow spall in the Southwest corner and a vertical crack with efflorescence near centerline of bent. Bent # 7 has areas of hairline vertical cracking in random locations.</p>							
215	Reinforced Concrete Abutment	LF	198	124	61	13	0
1080	Delamination/Spall/Patched Area	LF	36	0	35	1	0
1120	Efflorescence/Rust Staining	LF	12	0	0	12	0
1130	Cracking (RC and Other)	LF	26	0	26	0	0
<p>(215) Abutment # 1 -</p> <p>-There is vertical and random cracking with efflorescence in the face of the back wall.</p> <p>-Maintenance Forces have made repairs to the top of abutment # 1 backwall in the past. Repairs are sound at this inspection.</p> <p>-There is a tear in the drainage trough.</p> <p>-Bridge deck may be making contact with abutment # 1 backwall during the hottest months of the summer. Contact points may be hidden from view by drainage trough. Areas of shallow spalling are now visible between the superstructure and the abutments.</p> <p>-There is Earth settlement under the Right wing wall.</p> <p>Abutment # 2 -</p> <p>-Maintenance forces have replaced the failed polymer concrete repair to the top of abutment # 2 where the sliding plate assembly was removed in the past and replaced the failing repair with an epoxy based product that appears to be Seal Spec 900. The repair to the top of abutment backwall is approximately 1" lower than the seal spec that replaced the sliding plate assembly creating a rough transition.</p> <p>-Transverse and map cracking in the pedestals.</p> <p>-Vertical cracks with efflorescence in the face of the back wall. The abutment has map type cracking visible in numerous areas of the abutment cap.</p> <p>-Spalling in the left end of backwall at the expansion joint visible from the undersurface of the deck. The right side of backwall has shallow spall adjacent to expansion joint assembly visible from undersurface.</p>							
234	Reinforced Concrete Pier Cap	LF	228	145	77	2	4
1080	Delamination/Spall/Patched Area	LF	7	0	3	0	4
1090	Exposed Rebar	LF	1	0	1	0	0
1120	Efflorescence/Rust Staining	LF	2	0	2	0	0
1130	Cracking (RC and Other)	LF	73	0	71	2	0



**Asset #B6237**(Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
	<p>(234) -Concrete caps have minor vertical cracking at each step and at the cantilevered portion of cap and column juncture.</p> <p>-Bent # 2 cap backface has a shallow 4" spall with no exposed reinforcing steel in the chamfered edge along top.</p> <p>-Bent # 4 cap has a vertical crack at the centerline step down that is 0.04" wide measured at the top.</p> <p>-Bent # 4 has two shallow 4" spalls with exposed reinforcing steel located in the Right end of the cap in the North face of the pedestal.</p> <p>-Bent # 5 cracking at center of cap 0.06" with light efflorescence.</p> <p>-Bent # 6 cap has a 0.50" wide vertical crack at the centerline step down.</p> <p>-Bent # 7 pedestals are delaminated from the cap and are separated along the edges. The Southeast corner of the pedestal for bearing # 1 is fractured in an area approximately 12" long x 8" wide with a portion of the fractured area that extends approximately 1-1/2" under the interior side of the masonry plate.</p> <p>-Bent # 7 cap backface has shallow spalling along the right top edge and a shallow 6" spall at base of cantilever portion of column.</p>						

**61 - Channel/Channel Protection** (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

Comment: 12/12/2022 - EJW - Underwater Type II Inspection conducted on this date. No substructure in the water, footings have cover with no apparent scour problems.



**Asset #B6237**(Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

## Culvert

ELEMENTS	DESCRIPTION	UNITS	TOTAL				
				CS1	CS2	CS3	CS4





Elevation



Roadway



Typical driving surface of the deck. Span # 1



Typical driving surface of the deck. Span # 3.





Span # 2 typical undersurface of the deck.



Abutment # 1 typical.



Bent # 2 typical.



Bent # 3 typical.





Bent # 4 typical.



Bent # 5 typical.



Bent # 6 typical.



Bent # 7 typical.





Abutment # 2 typical.



Abutment # 2.



Footing has cover.



Span # 3 repair with honeycomb and exposed reinforcing steel.





Span # 2 splice #1 bay# 2 active corrosion in the stay in place.



Grouted repairs adjacent to the north abutment.



Span # 7 sealable cracking in the deck.



Abutment # 1 girder #2 active corrosion with pack rust over the bearing.





Bent # 7 repair appears to still be holding.



Abutment # 1 cracking typical.



Abutment # 1 cap vertical and horizontal moderate width cracking.



Bent # 5 vertical cracking at the centerline. 0.060" wide crack.





Span # 2 beam #3 laminar delamination in the web adjacent to diaphragm # 5 from bent #3.



Span #3 girder #1 loose bolt in the splice.



Span # 3 beam #4 tack weld on the splice spacer plate of the bottom flange.



Span # 3 beam #4 pack rust between the splice plates.





Abutment # 1 top of the backwall typical.



Bent #2 typical cracking.



Bent # 4 Rt cap spalling with exposed reinforcing steel in the step of the cap.



Abutment # 1 open expansion joint typical.





Abutment 2 open expansion joint.



Abutment # 2 with a 5" wide open expansion joint measured at the white line.



Abutment #1 trough tear adjacent to girder #2.



Bent # 4 sliding plate expansion joint typical.





Bent # 4 expansion joint active corrosion with pack rust.



Bent # 4 minor debris accumulation in the trough.



Abutment # 2 girders # 2 & 3 active corrosion with pack rust and section loss.



Abutment # 2 girder #4 missing anchor bolt nut.





Bent # 7 bearing #4 fractured pedestal under the bearing.



Bent # 7 bearing #4 fractured pedestal under the bearing.



Bent # 7 bearing #3 elastomeric pad delaminated from the external load plate.



Bent # 7 beam #1 pedestal delaminated from the cap.





Abutment # 1 bearing #2 active corrosion with pack rust.



Bent # 4 Span #4 bearing #4 fractured anchor bolts.



Bent # 4 bearings in the expanded position.



The south approach slab is breaking apart adjacent to the abutment # 1 backwall.





South approach slab. Typical.



North approach slab. Sealable map cracking.



Span # 7 Rt exposed reinforcing steel in the base of the bridge rail.



Span # 3 Rt bridge rail honeycomb with exposed reinforcing steel with active corrosion and pack rust.





Left parapet. Typical.



Heavy map cracking in the right parapet. Span 4.



Epoxy and sand repair to a spall in span 5. Right.



Concrete repairs. Span 7. Right.





Maintenance forces have reattached the sliding plate to the right parapet at abutment 2 since the last inspection. The repair seems to be holding during this inspection.

### Maintenance Needs

**Date Reported:** 10/23/2018

**Priority:** C - Important

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

**Status:** Monitor

**Component:** Superstructure

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### Deficiency Description

Bearings and pedestals -

Elastomeric bearing pad for Girder # 3 at bent # 7 has adhesion failure. The bearing pad has worked out from under the sole plate approximately 7/8" during this inspection.

The elastomeric bearing pads at Bent # 7 have minor bulging along the edges at the rubber / external loading plate juncture.

Concrete pedestals have random cracking with up to 1" separation from the cap along the edges. Southeast corner of the concrete pedestal for bearing # 1 at bent # 7 is fractured in an area approximately 12" long x 8" wide with a portion of the fractured area that extends under the interior side of the masonry plate approximately 1-1/4". Bent # 7 bearing #4 fractured pedestal under the bearing.

Fixed bearing # 5 at bent # 5 has one bolt that attaches the girder to the bearing device that is working out.

### Remarks

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Bent # 7 bearing #4 fractured pedestal under the bearing.



Fixed bearing # 5 at bent # 5 has one bolt that attaches the girder to the bearing device that is working out.



Southeast corner of the concrete pedestal for bearing # 1 is fractured in an area approximately 12" long x 8" wide with a portion of the fractured area that extends under the interior side of the masonry plate approximately 1-1/4".



Bent # 7, Girder # 3 pad is de-bonded from the sole plate and protrudes 7/8" past the edge of the Sole plate.



**Maintenance Needs**

**Date Reported:** 10/31/2012

**Priority:** C - Important

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

**Status:** Monitor

**Component:** Element

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**Deficiency Description**

Bent # 4 Sliding Plate Assembly -

The steel shims at bent # 4 sliding plate assembly that are welded between the sliding plate anchorage and the sliding plate have cracked welds and section loss from wear caused by thermal expansion, the sliding plate is noisy when impacted by traffic.

**Remarks**

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The sliding plate has metal shims welded to the top cover plate to reduce movement during live load impacts. The shims have wear with some fretting. The welds that attach the shims have cracks in some locations.



Sliding plate over Bent 4. Cracked welds in the shims.

**Maintenance Needs**

**Date Reported:** 10/31/2012

**Priority:** C - Important

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

**Status:** Monitor

**Component:** Approach

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**Deficiency Description**

South Abutment -

The slope on the right side of the South abutment has an area of erosion adjacent to the approach railing that has caused a loss of cover to the approach railing posts.

The erosion is beginning to undermine the approach gutter.

**Remarks**

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Abutment #1 Rt erosion.



The slope on the right side of the South abutment has an area of erosion adjacent to the approach railing that has caused a loss of cover to the approach railing posts.





Right embankment at the south abutment has erosion with loss of cover to the approach railing and is beginning to undermine the approach gutter.



**Maintenance Needs**

**Date Reported:** 10/31/2012

**Priority:** C - Important

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

**Status:** Repair Documented

**Component:** Element

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**Deficiency Description**

Deck -

The driving surface of the deck has sealable transverse, longitudinal, and map cracking. The North and South approach slabs have map cracking with areas that are beginning to spall. The overhang portion of the deck on the right side of Span # 6 has a failing repair with exposed reinforcing steel.

Span # 3 has areas of moderate sized spalling adjacent to bent # 4 sliding plate assembly.

**Remarks**

12/12/2022 - EJW - This deficiency is now being documented under Routine Maintenance tabs A-54 & A-61.

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South approach slab, left lane-Spalling.



Span # 3 has areas of moderate sized spalling adjacent to bent # 4 sliding plate assembly.



Span 3, left lane-Transverse crack.



Transverse deck cracking.





Sealable transverse cracking. Driving surface of the deck.



Sealable map cracking in the south approach slab.





Wide diagonal cracks in the north approach slab.

### Maintenance Needs

**Date Reported:** 10/20/2020

**Priority:** C - Important

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

**Status:** Repair Documented

**Component:** Element

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### Deficiency Description

Abutment # 2 -

The portion of the steel sliding plate assembly on the right parapet at abutment # 2 is broken loose from the parapet leaving a spalled area in the parapet and the blunt end of the transition parapet exposed. The portion of the sliding plate was removed from the structure at time of inspection as a safety precaution.

### Remarks

12/12/2022 - EJW - Maintenance forces have reattached the sliding plate to the right parapet at abutment 2 since the last inspection. The repair seems to be holding during this inspection.

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The portion of the steel sliding plate assembly on the right parapet at abutment # 2 is broken loose from the parapet leaving a spalled area in the parapet and the blunt end of the transition parapet exposed. The portion of the sliding plate was removed from the structure at time of inspection as a safety precaution.



Maintenance forces have reattached the sliding plate to the right parapet at abutment 2 since the last inspection. The repair seems to be holding during this inspection.



**Maintenance Needs**

**Date Reported:** 10/31/2012

**Priority:** D- Routine

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

**Status:** Monitor

**Component:** Superstructure

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**Deficiency Description**

Bearings -

The bearings at abutment # 1 and bents # 4 appear to be fully expanded at approximately 68 degrees Fahrenheit. Abutment # 2, bearing # 4 has a missing anchor bolt nut.

**Remarks**

12/12/2022 - EJW- The temperature was approximately 48 degrees at the time of the inspection, bearings were in the expanded position.

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Bent # 4 bearings in the expanded position.



Abutment # 2, bearing # 4 has a missing anchor bolt nut.



Abutment 1, bearing 3-Corrosion.



Span # 3, bearing 1 at bent # 4 appears to be fully expanded at this inspection. Ambient temperature at time of inspection is approximately 68 degrees Fahrenheit.



**Maintenance Needs**

**Date Reported:** 10/31/2012

**Priority:** D- Routine

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

**Status:** Repair Documented

**Component:** Element

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**Deficiency Description**

Superstructure -

Ends of Girders at abutments have areas of corrosion / abnormal weathering with flaking rust.

The end of girder # 3 at bent # 4 has abnormal weathering and layers of flaking rust forming.

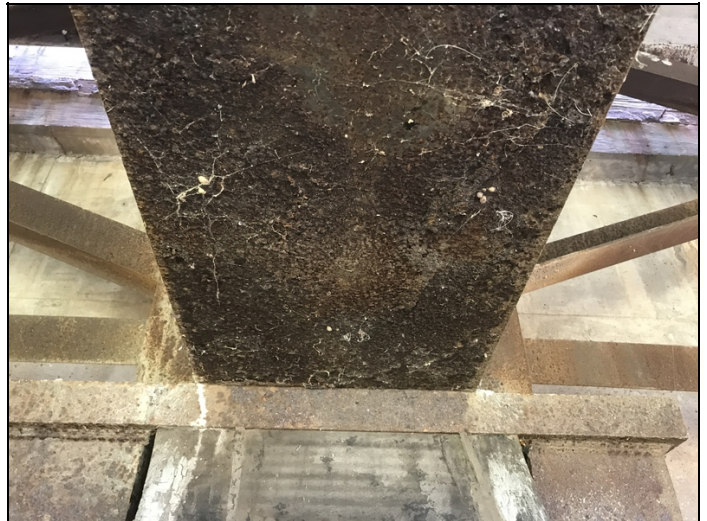
**Remarks**

12/12/2022 - EJW - This deficiency is now being documented under Routine Maintenance tab A-57.

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Abutment # 1 girder #2 active corrosion with pack rust over the bearing.



Abutment 2, girder 3-Abnormal weathering in bottom flange undersurface.



Span 1, girder # 3 at abutment # 1-Corrosion.



Span 1, girder # 2 at abutment # 1-Corrosion.



**Maintenance Needs**

**Date Reported:** 10/15/2020

**Priority:** D- Routine

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

**Status:** Repair Documented

**Component:** Element

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**Deficiency Description**

Expansion joints -

The expansion joints at both bridge ends have no seals allowing water, dirt and debris to leak onto the substructure and superstructure causing abnormal weathering / corrosion to the beam ends and bearing devices.

**Remarks**

12/12/2022 - EJW - This deficiency is now being documented under Routine Maintenance tab A-59

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Abutment 1.



Abutment 2.



Missing expansion joint material at bent 1.



Open expansion joint at abutment 2.



**Maintenance Needs**

**Date Reported:** 12/12/2022

**Priority:** D- Routine

**Type of Work:** Approach Leveling/Maintenance

**Status:** Open

**Component:** Approach

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**Deficiency Description**

R.C. Approach Slab-

The south approach slab has a 5'X3' area that is breaking apart adjacent to the bent 1 backwall.

**Remarks**



-The south approach slab has a 5'X3' area that is breaking apart adjacent to the bent 1 backwall.



**Asset #B6237**(Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

## **Routine Maintenance**

Check Box Maintenance Items

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



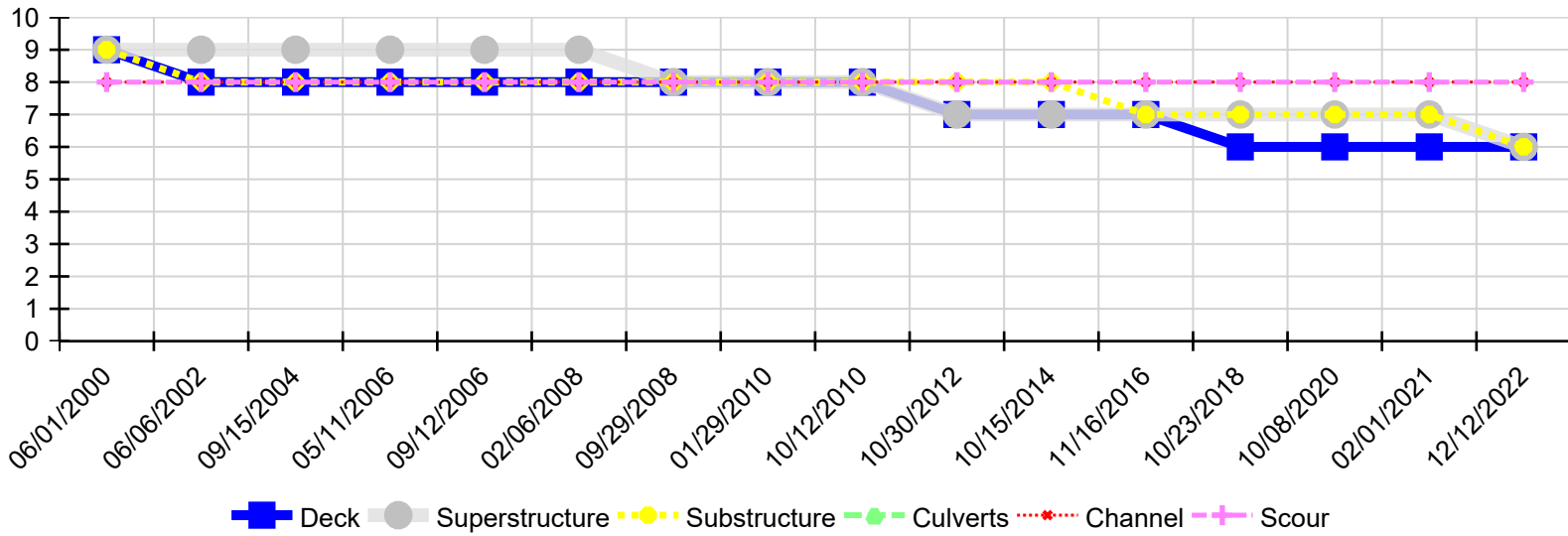


**Asset #B6237** (Routine, Underwater type 2)  
**I-49 Northbound over Ravine-Washington Co.**

**Location: 11.4 N. OF WASH CO LINE**

**Team Lead: Eric West, Inspection Date: 12/12/2022**

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
12/12/2022	6	6	6	N	8	8
02/01/2021	6	7	7	N	8	8
10/08/2020	6	7	7	N	8	8
10/23/2018	6	7	7	N	8	8
11/16/2016	7	7	7	N	8	8
10/15/2014	7	7	8	N	8	8
10/30/2012	7	7	8	N	8	8
10/12/2010	8	8	8	N	8	8
01/29/2010	8	8	8	N	8	8
09/29/2008	8	8	8	N	8	8
02/06/2008	8	9	8	N	8	8
09/12/2006	8	9	8	N	8	8
05/11/2006	8	9	8	N	8	8
09/15/2004	8	9	8	N	8	8
06/06/2002	8	9	8	N	8	8
06/01/2000	9	9	9	N	8	8