



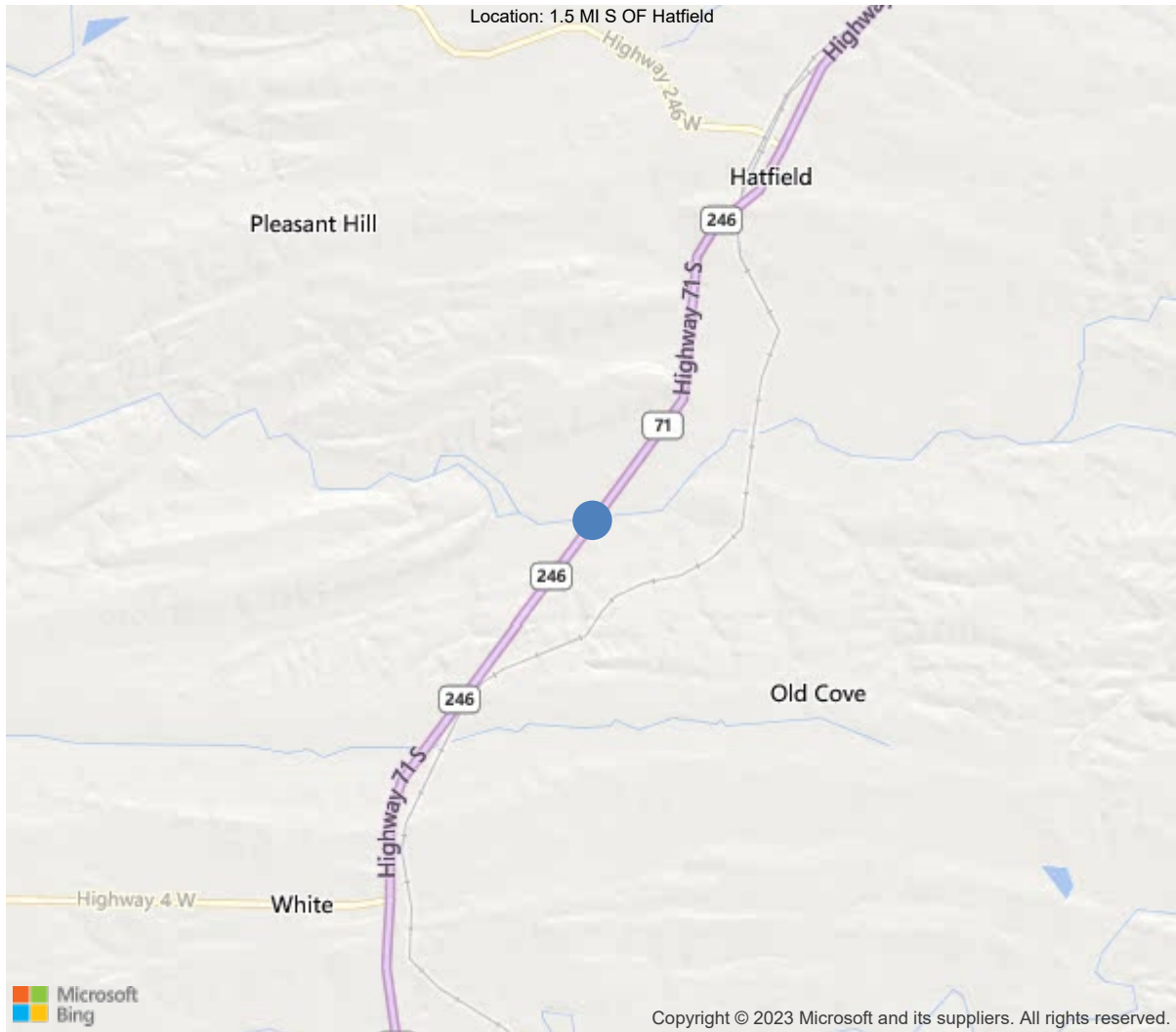
Latitude:34.45977, Longitude:-94.39370

Route:71 Section:08 Log:21.585

Arnold Road ID:57x71x8xA, Arnold Log mile:21.594

District 04, 113 - Polk County

Owner: 1 - State Highway Agency



34.45977, -94.39370



Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, Inspection Date: 08/24/2022

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	02147
(5) Inventory Route	1
(2) Highway Agency District	04 - District 04
(3) County Code	113 - Polk County
(4) Place Code	0
(6) Features Intersected	Six Mile Creek
(7) Facility Carried	US 71 - Polk Co
(9) Location	1.5 MI S OF Hatfield
(11) Mile Point	21.585 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0000071080
(16) Latitude	34.459774
(17) Longitude	-94.3937
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3 - Steel
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	0 - None
AGE AND SERVICE	
(27) Year Built	1940
(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	5100
(30) Year of ADT	2018
(109) Truck ADT	15 %
(19) Bypass, Detour Length	12 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	50 ft
(49) Structure Length	293 ft
(50) Curb or Sidewalk Width	
Left	2 ft
Right	2 ft
(51) Bridge Roadway Width Curb to Curb	26.2 ft
(52) Deck Width Out to Out	31.2 ft
(32) Approach Roadway Width (W/Shoulders)	33.1 ft
(33) Bridge Median	0 - No median
(34) Skew	45 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	30.2 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	2 - Rural Principal Arterial -
(100) Defense Highway	2 - The inventory route is on
(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	4
(60) Substructure	5
(61) Channel & Channel Protection	6
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	2 - M 13.5 / H 15
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	44
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	26
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	4
(68) Deck Geometry	3
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	6
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0 - Inspected feature does not meet
(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	31 - Replacement of bridge or
(76) Length of Structure Improvement	329 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 400
(96) Total Project Cost	\$ 1617
(97) Year of Improvement Cost Estimate	2003
(114) Future ADT	6478
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date	08/16/2021		
(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.			



Asset #02147(Other Special Recurring)

District: 04, County: 113 - Polk County

Team Lead: Jeff Jones, Inspection Date: 08/24/2022

General Observation (False)

08/24/2022 - JCJ & TJL - Special Recurring Inspection conducted this date. See notes in Item # 59, Superstructure and Form III associated with this inspection.

59 - Superstructure (4)

08/24/2022 - JCJ & TJL - Special Recurring Inspection conducted on this date for the superstructure. The beams have numerous areas of active corrosion, documented section loss, and numerous areas with holes rusted through the beams.

Element 107 Inspection notes are applicable.

Continued deterioration with no apparent repairs and no visible cracks in the beams apparent during this inspection. See Form III associated with this inspection for additional documentation of section loss.

A-15 - Late Reason (N/A)

08/24/2022 - JCJ & TJL - Special Recurring Inspection conducted late due to heavy work load.

A-46 - Asset Files

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ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	8048	3526	4115	407	0
1080	Delamination/Spall/Patched Area	SF	120	0	89	31	0
1090	Exposed Rebar	SF	25	0	2	23	0
1130	Cracking (RC and Other)	SF	1566	0	1213	353	0
1190	Abrasion/Wear (PSC/RC)	SF	2811	0	2811	0	0
<p>(12) -The deck has moderate width sealable transverse cracks at variable spacing with isolated areas of mapcracking. The driving surface of the deck has light abrasion with isolated areas of medium scale adjacent to the deck drains.</p> <p>-Minor shallow spalling / delaminated areas along the expansion joint sliding plates that do not expose reinforcing steel. There are no significant changes apparent since the last inspection.</p> <p>-There are shallow baseball sized shallow spalls with exposed reinforcing steel in the face of curbs.</p> <p>-The exterior sides of the deck has concrete spalls with exposed reinforcing steel adjacent to the top flanges of the exterior beams visible from the undersurface. The exposed reinforcing steel has active corrosion with initial section loss.</p> <p>Approach roadway:</p> <p>-The asphalt driving surface of the South approach roadway has mapcracking with potholes forming.</p>							
107	Steel Open Girder/Beam	LF	1450	0	844	550	56
1000	Corrosion	LF	1450	0	844	550	56
515	Steel Protective Coating	SF	11116	2447	2445	4891	1333
3440	Effectiveness (Steel Protective Coatings)	LF	8669	0	2445	4891	1333
<p>(107) -The superstructure continues to deteriorate with an increase in section loss to webs and bottom flanges since last inspection. The beams have areas with active corrosion, layers of flaking rust, and significant section loss to webs and top and bottom flanges with holes rusted through the webs of the beams in locations. The upper portion of the webs have heavy corrosion with section loss and holes rusted through adjacent to the the expansion dams in several locations. The majority of the corrosion / section loss to the beams is in close proximity of the expansion joints and deck drains where water discharges on the superstructure. No apparent recent repairs by maintenance forces. No visible cracks are apparent in the areas with section loss. See Form III linked in "Other File" and element notes for documentation.</p> <p>Monitoring of the superstructure indicates the following:</p> <p>Span #1 exterior beams have corrosion, section loss, and flaking rust to the top flanges adjacent to the deck drains.</p> <p>Span #1 beams over bent #2 have corrosion at web expansion dams.</p> <p>Span #2, Bent #2-</p> <p>-Span #2, Beam #1 @ Bent #2 has up to 1/2" hole at expansion joint haunch.</p> <p>-Span #2, Beam #2 @ Bent #2 has hole 4" long x 1/2" wide in top of web at expansion joint haunch.</p> <p>-Span #2, Beam #3 @ Bent #2 has an area of section loss 30" long to bottom flange with section loss up to 5/16". The top of web has a hole 4" long x 1" wide at the expansion joint haunch.</p> <p>-Span #2, Beam #4 @ Bent #2 has two dime size holes adjacent to the deck haunch and the bottom flange has an area of 1/8" section loss 12" long.</p> <p>-Span #2, Beam #5 @ Bent #2 has 3/8" section loss to the bottom flange 2' long and has a up to 3/8" section loss at the base of the web and 3/8" section loss to the top of web adjacent to the expansion joint haunch.</p> <p>Span #2, Bent #3-</p> <p>-Span #2, Beam #1 @ Bent #3 up to 1/2" section loss to top of web adjacent to expansion joint haunch. The bottom flange has a 12" long area with up to 7/16" section loss. There is a 2"x1" area of holes rusted through the web.</p>							



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US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, Inspection Date: 08/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<p>-Span #2, Beam #2 @ Bent #3 has 1/4" section loss to the web at the deck haunch.</p> <p>-Span #2, Beam #3 @ Bent #3 top of web has up to 1/4" section loss adjacent to the expansion joint haunch.</p> <p>-Span #2, Beam #4 @ Bent #3 has a 4" x 1/2" hole in top of web at expansion joint haunch.</p> <p>-Span #2, Beam #5 @ Bent #3 has up to 7/16" section loss to the top of the web at the expansion joint haunch and the base of the web has a 3' long area with 1/16" section loss.</p> <p>Span #3, Bent #4-</p> <p>-Span #3, Beam #1 @ Bent #4 bottom flange has a two foot area of section loss up to 1/4" and base of web has 1/8" section loss.</p> <p>-Span #3, Beam #2 @ Bent #4 has 1/4" section loss to the bottom flange at diaphragm connection located 69" from bent # 4 bearing device.</p> <p>-Span #3, Beam #5 @ Bent #4 has knife edge section loss to top flange and is reduced in width by 3/4". The bottom flange at bent # 4 has an area of section loss 18" long with up to 5/16" section loss. The base of web has approximately 1/8" section loss.</p> <p>Span #4, Bent #4-</p> <p>-Span #4, Beam #1 @ Bent #4 bottom flange has 3/16" section loss in an area 3' and a 10" high x 4' long area with up to 1/4" section loss at the base of the web and up to knife edge on the interior of the top flange in area 2' long.</p> <p>-Span #4, Beam #5 @ Bent #4 has a 10" x 5' area with up to 3/8" section loss at the base of the web. Bottom flange has up to 7/16" section loss adjacent to the bottom cover plate.</p> <p>Span #4, Bent #5-</p> <p>-Span #4, Beam #1 @ Bent #5 The base of web over bent # 5 has 3' long x 7" area with section loss up to 1/8". The bottom flange has approximately 5/16" section loss adjacent to the splice plates on the bottom surface of the flange.</p> <p>-Span #4, Beam #5 @ Bent #5 has a 6" high x 5' long area where the base of web is reduced to 1/16" with a 25" long x average 3" high hole rusted through the base of web. The web and the bottom flange are reduced to 1/8" in thickness with areas of knife edge section loss along the interior edge of flange for approximately 2' adjacent to Bent 5. There are 2 dime sized holes in base of web located 42" from bent #5 bearing device. The interior edge of the bottom flange has a 1/4" hole located approximately 50" from the bearing.</p> <p>Span #5, Bent #5-</p> <p>-Span #5, Beam #1 @ Bent #5 has an area 2' long with section loss up to 1/2".</p> <p>-Span #5, Beam #5 @ Bent #5 has a 3" X 2' X 3/8" deep area of active corrosion in the base of web and bottom flange.</p> <p>Span #6, Bent #6-</p> <p>-Span #6, Beam #1 @ Bent #6 has approximately 7/16" section loss in the web at the expansion dam.</p> <p>-Span #6, Beam #2 @ Bent #6 has a 13" long x 1/2" wide hole at the expansion joint haunch.</p> <p>-Span #6, Beam #3 @ Bent #6 has a up to 3/8" section loss in the web adjacent to the expansion dam.</p> <p>-Span #6, Beam #5 @ Bent #6 has a 6" X 21" area where the base of web has heavy pitting with a 2" high x 6" long hole rusted through the web and the bottom flange has an area 16" long with up to 1/2" of section loss.</p> <p>Span #6, Bent #7-</p> <p>-Span #6, Beam #1 @ Bent #7 has an area 32" long with up to 1/8" section loss to bottom flange.</p> <p>-Span #6, Beam #4 @ Bent #7 has a 1" long x 1/2" hole at the expansion dam.</p>							
205	Reinforced Concrete Column	EA	18	5	7	6	0
1080	Delamination/Spall/Patched Area	EA	2	0	1	1	0
1090	Exposed Rebar	EA	2	0	0	2	0
1190	Abrasion/Wear (PSC/RC)	EA	9	0	6	3	0



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Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, Inspection Date: 08/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(205) -The bases of the columns have medium abrasion. -Bent #2, column #1 backface has an 8" spall with exposed reinforcing steel. -Bent #3, column #1 aheadface has a 4" spall with exposed reinforcing steel. -Bent #4, column #3 aheadface has a small spall. -No apparent noteworthy changes since last inspection.							
210	Reinforced Concrete Pier Wall	LF	210	111	97	2	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	2	0	0	2	0
1130	Cracking (RC and Other)	LF	33	0	33	0	0
1190	Abrasion/Wear (PSC/RC)	LF	63	0	63	0	0
(210) -The web walls of the intermediate bents have full height vertical / diagonal cracks near center of wall in each bay between columns. The cracks propagate into the caps in some locations.							
215	Reinforced Concrete Abutment	LF	204	137	67	0	0
1080	Delamination/Spall/Patched Area	LF	24	0	24	0	0
1130	Cracking (RC and Other)	LF	17	0	17	0	0
1190	Abrasion/Wear (PSC/RC)	LF	26	0	26	0	0
(215) -Abutment stem walls have stains where water leaks through the sliding plate expansion joints onto the substructure. -There are a few isolated vertical hairline cracks in the stems of the abutments. The cracks are visible as transverse cracks across the driving surface of the back walls. The abutment backwalls have shallow spalling along the top at the approach roadway interface. -The substructure has shallow 1" spalls (at approximately 24" centers) around the ends of the tie wire used during the construction process typical in this type of structure.							
220	Reinforced Concrete Pile Cap/Footing	LF	25	0	25	0	0
6000	Scour	LF	25	0	25	0	0
(220) -Drift accumulation at Bents # 3, 4 & 5. -Scour has exposed the top of the footings at Bent #5, Columns 1 & 2 and Bent # 6, Column # 3.							
234	Reinforced Concrete Pier Cap	LF	240	223	13	4	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	3	0	0	3	0
1120	Efflorescence/Rust Staining	LF	4	0	3	1	0
1130	Cracking (RC and Other)	LF	9	0	9	0	0



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Team Lead: Jeff Jones, Inspection Date: 08/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
(234) Caps: -The substructure has shallow 1" spalls (at approximately 24" centers) around the ends of the tie wire used during the construction process typical in this type of structure. -Bent #2 cap has a vertical hairline crack under bay # 2 and beams #4 and #5. The crack under beam # 5 has efflorescence buildup. -Bent #2 cap has a 10" spall with exposed reinforcing steel in the span #2 side of bent #2 web wall located below beam #4. -Bent #3 cap has vertical cracks. Bent #3 cap aheadface has a baseball sized spall with exposed reinforcing steel in the right side of cap. -Bent #4 has a 10" spall with exposed reinforcing steel in the left side of the cap haunch. Bent #4 cap and web wall has a vertical hairline crack under beam #4. -Bent #5 cap has a vertical hairline crack under beam #4. -Bent #6 cap has a 6" spall with exposed reinforcing steel and a 12" delaminated area under beam #2. There is a vertical hairline crack under beam #5. -Bent #7 has a 4" spall with exposed reinforcing steel in the left end of cap.							
301	Pourable Joint Seal	LF	76	0	0	0	76
2330	Seal Damage	LF	76	0	0	0	76
(301) -The pourable joint seals are missing over Bents # 4 & 5.							
305	Assembly Joint without Seal	LF	180	92	88	0	0
2360	Adjacent Deck or Header	LF	88	0	88	0	0
(305) -There are minor concrete spalls / delaminated areas with no exposed reinforcing steel adjacent to the sliding plates. The joints leak water on the ends of the beams, bearings and substructure caps. No apparent noteworthy changes since last inspection.							
311	Movable Bearing	EA	35	0	9	26	0
1000	Corrosion	EA	12	0	0	12	0
1020	Connection	EA	9	0	9	0	0
2210	Movement	EA	14	0	0	14	0
515	Steel Protective Coating	SF	140	0	42	42	56
3440	Effectiveness (Steel Protective Coatings)	EA	140	0	42	42	56
(311) -Bearings have up to 3/4" of pack rust with numerous anchor bolts and nuts that have section loss that ranges from approximately 25% up to bolts that have completely rusted off the structure. Fretting is visible in numerous locations. -Bearings of note are bent # 7, spans # 6 & 7, beam # 4 and bent # 3. -Span # 3, Beam # 4 has movement when structure is impacted by traffic. No apparent repairs since last inspection.							
313	Fixed Bearing	EA	25	4	15	6	0
1000	Corrosion	EA	14	0	8	6	0
1020	Connection	EA	7	0	7	0	0
515	Steel Protective Coating	SF	100	0	35	35	30
3440	Effectiveness (Steel Protective Coatings)	EA	100	0	35	35	30
(313) -Bearings have numerous anchor bolts and nuts that have section loss that ranges from approximately 25% up to bolts that have completely rusted off the structure. -Fretting is visible at the masonry plate of bent #7, span #6, beam # 2 at this inspection.							
331	Reinforced Concrete Bridge Railing	LF	586	548	34	4	0

Deck

[illegible]



Superstructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
107	Steel Open Girder/Beam	LF	1450	0	844	550	56
1000	Corrosion	LF	1450	0	844	550	56
515	Steel Protective Coating	SF	11116	2447	2445	4891	1333
3440	Effectiveness (Steel Protective Coatings)	LF	8669	0	2445	4891	1333

(107) -The superstructure continues to deteriorate with an increase in section loss to webs and bottom flanges since last inspection. The beams have areas with active corrosion, layers of flaking rust, and significant section loss to webs and top and bottom flanges with holes rusted through the webs of the beams in locations. The upper portion of the webs have heavy corrosion with section loss and holes rusted through adjacent to the the expansion dams in several locations. The majority of the corrosion / section loss to the beams is in close proximity of the expansion joints and deck drains where water discharges on the superstructure. No apparent recent repairs by maintenance forces. No visible cracks are apparent in the areas with section loss. See Form III linked in "Other File" and element notes for documentation.

Monitoring of the superstructure indicates the following:

Span #1 exterior beams have corrosion, section loss, and flaking rust to the top flanges adjacent to the deck drains.

Span #1 beams over bent #2 have corrosion at web expansion dams.

Span #2, Bent #2-

- Span #2, Beam #1 @ Bent #2 has up to 1/2" hole at expansion joint haunch.
- Span #2, Beam #2 @ Bent #2 has hole 4" long x 1/2" wide in top of web at expansion joint haunch.
- Span #2, Beam #3 @ Bent #2 has an area of section loss 30" long to bottom flange with section loss up to 5/16". The top of web has a hole 4" long x 1" wide at the expansion joint haunch.
- Span #2, Beam #4 @ Bent #2 has two dime size holes adjacent to the deck haunch and the bottom flange has an area of 1/8" section loss 12" long.
- Span #2, Beam #5 @ Bent #2 has 3/8" section loss to the bottom flange 2' long and has a up to 3/8" section loss at the base of the web and 3/8" section loss to the top of web adjacent to the expansion joint haunch.

Span #2, Bent #3-

- Span #2, Beam #1 @ Bent #3 up to 1/2" section loss to top of web adjacent to expansion joint haunch. The bottom flange has a 12" long area with up to 7/16" section loss. There is a 2"x1" area of holes rusted through the web.
- Span #2, Beam #2 @ Bent #3 has 1/4" section loss to the web at the deck haunch.
- Span #2, Beam #3 @ Bent #3 top of web has up to 1/4" section loss adjacent to the expansion joint haunch.
- Span #2, Beam #4 @ Bent #3 has a 4" x 1/2" hole in top of web at expansion joint haunch.
- Span #2, Beam #5 @ Bent #3 has up to 7/16" section loss to the top of the web at the expansion joint haunch and the base of the web has a 3' long area with 1/16" section loss.

Span #3, Bent #4-

- Span #3, Beam #1 @ Bent #4 bottom flange has a two foot area of section loss up to 1/4" and base of web has 1/8" section loss.
- Span #3, Beam #2 @ Bent #4 has 1/4" section loss to the bottom flange at diaphragm connection located 69" from bent # 4 bearing device.
- Span #3, Beam #5 @ Bent #4 has knife edge section loss to top flange and is reduced in width by 3/4". The bottom flange at bent # 4 has an area of section loss 18" long with up to 5/16" section loss. The base of web has approximately 1/8" section loss.

Span #4, Bent #4-

- Span #4, Beam #1 @ Bent #4 bottom flange has 3/16" section loss in an area 3' and a 10" high x 4' long area with up to 1/4" section loss at the base of the web and up to knife edge on the interior of the top flange in area 2' long.
- Span #4, Beam #5 @ Bent #4 has a 10" x 5' area with up to 3/8" section loss at the base of the web. Bottom flange has up to 7/16" section loss adjacent to the bottom cover plate.

Span #4, Bent #5-

- Span #4, Beam #1 @ Bent #5 The base of web over bent # 5 has 3' long x 7" area with section loss up to 1/8". The bottom flange



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Team Lead: Jeff Jones, Inspection Date: 08/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
	<p>has approximately 5/16" section loss adjacent to the splice plates on the bottom surface of the flange.</p> <p>-Span #4, Beam #5 @ Bent #5 has a 6" high x 5' long area where the base of web is reduced to 1/16" with a 25" long x average 3" high hole rusted through the base of web. The web and the bottom flange are reduced to 1/8" in thickness with areas of knife edge section loss along the interior edge of flange for approximately 2' adjacent to Bent 5. There are 2 dime sized holes in base of web located 42" from bent #5 bearing device. The interior edge of the bottom flange has a 1/4" hole located approximately 50" from the bearing.</p> <p>Span #5, Bent #5-</p> <p>-Span #5, Beam #1 @ Bent #5 has an area 2' long with section loss up to 1/2".</p> <p>-Span #5, Beam #5 @ Bent #5 has a 3" X 2' X 3/8" deep area of active corrosion in the base of web and bottom flange.</p> <p>Span #6, Bent #6-</p> <p>-Span #6, Beam #1 @ Bent #6 has approximately 7/16" section loss in the web at the expansion dam.</p> <p>-Span #6, Beam #2 @ Bent #6 has a 13" long x 1/2" wide hole at the expansion joint haunch.</p> <p>-Span #6, Beam #3 @ Bent #6 has a up to 3/8" section loss in the web adjacent to the expansion dam.</p> <p>-Span #6, Beam #5 @ Bent #6 has a 6" X 21" area where the base of web has heavy pitting with a 2" high x 6" long hole rusted through the web and the bottom flange has an area 16" long with up to 1/2" of section loss.</p> <p>Span #6, Bent #7-</p> <p>-Span #6, Beam #1 @ Bent #7 has an area 32" long with up to 1/8" section loss to bottom flange.</p> <p>-Span #6, Beam #4 @ Bent #7 has a 1" long x 1/2" hole at the expansion dam.</p>						

59 - Superstructure (4)

Comment: 08/24/2022 - JCJ & TJL - Special Recurring Inspection conducted on this date for the superstructure. The beams have numerous areas of active corrosion, documented section loss, and numerous areas with holes rusted through the beams.

Element 107 Inspection notes are applicable.

Continued deterioration with no apparent repairs and no visible cracks in the beams apparent during this inspection. See Form III associated with this inspection for additional documentation of section loss.

Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	EA	18	5	7	6	0
1080	Delamination/Spall/Patched Area	EA	2	0	1	1	0
1090	Exposed Rebar	EA	2	0	0	2	0
1190	Abrasion/Wear (PSC/RC)	EA	9	0	6	3	0
(205) -The bases of the columns have medium abrasion. -Bent #2, column #1 backface has an 8" spall with exposed reinforcing steel. -Bent #3, column #1 aheadface has a 4" spall with exposed reinforcing steel. -Bent #4, column #3 aheadface has a small spall. -No apparent noteworthy changes since last inspection.							
210	Reinforced Concrete Pier Wall	LF	210	111	97	2	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	2	0	0	2	0
1130	Cracking (RC and Other)	LF	33	0	33	0	0
1190	Abrasion/Wear (PSC/RC)	LF	63	0	63	0	0
(210) -The web walls of the intermediate bents have full height vertical / diagonal cracks near center of wall in each bay between columns. The cracks propagate into the caps in some locations.							
215	Reinforced Concrete Abutment	LF	204	137	67	0	0
1080	Delamination/Spall/Patched Area	LF	24	0	24	0	0
1130	Cracking (RC and Other)	LF	17	0	17	0	0
1190	Abrasion/Wear (PSC/RC)	LF	26	0	26	0	0
(215) -Abutment stem walls have stains where water leaks through the sliding plate expansion joints onto the substructure. -There are a few isolated vertical hairline cracks in the stems of the abutments. The cracks are visible as transverse cracks across the driving surface of the back walls. The abutment backwalls have shallow spalling along the top at the approach roadway interface. -The substructure has shallow 1" spalls (at approximately 24" centers) around the ends of the tie wire used during the construction process typical in this type of structure.							
220	Reinforced Concrete Pile Cap/Footing	LF	25	0	25	0	0
6000	Scour	LF	25	0	25	0	0
(220) -Drift accumulation at Bents # 3, 4 & 5. -Scour has exposed the top of the footings at Bent #5, Columns 1 & 2 and Bent # 6, Column # 3.							
234	Reinforced Concrete Pier Cap	LF	240	223	13	4	0
1080	Delamination/Spall/Patched Area	LF	1	0	1	0	0
1090	Exposed Rebar	LF	3	0	0	3	0
1120	Efflorescence/Rust Staining	LF	4	0	3	1	0
1130	Cracking (RC and Other)	LF	9	0	9	0	0
(234) Caps: -The substructure has shallow 1" spalls (at approximately 24" centers) around the ends of the tie wire used during the construction							



Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, **Inspection Date:** 08/24/2022

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
	process typical in this type of structure. -Bent #2 cap has a vertical hairline crack under bay # 2 and beams #4 and #5. The crack under beam # 5 has efflorescence buildup. -Bent #2 cap has a 10" spall with exposed reinforcing steel in the span #2 side of bent #2 web wall located below beam #4. -Bent #3 cap has vertical cracks. Bent #3 cap aheadface has a baseball sized spall with exposed reinforcing steel in the right side of cap. -Bent #4 has a 10" spall with exposed reinforcing steel in the left side of the cap haunch. Bent #4 cap and web wall has a vertical hairline crack under beam #4. -Bent #5 cap has a vertical hairline crack under beam #4. -Bent #6 cap has a 6" spall with exposed reinforcing steel and a 12" delaminated area under beam #2. There is a vertical hairline crack under beam #5. -Bent #7 has a 4" spall with exposed reinforcing steel in the left end of cap.						



Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

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Team Lead: Jeff Jones, Inspection Date: 08/24/2022

Culvert

ELEMENTS	DESCRIPTION	UNITS	TOTAL				
				CS1	CS2	CS3	CS4



Elevation.



Elevation.



Approach roadway facing South.



Span # 1 deck soffit. Typical.



Deck. Typical.



Span # 1 superstructure. Typical.



Beam ends at Bent # 1. Typical.



Span 2 over Bent 2. A 5" long hole in the web of beam at the expansion dam juncture.



Span 2, Bent 3. Beam 1. Holes in the base of the web.



Span 3, Bent 4. Beam 5 - Top flange of Beam has knife edge section loss and reduced in width by 1".



Span 3, Bent 4. Beam 5 - Bottom flange is reduced to 5/16" adjacent to the lower cover plate.



JCJ. Span 3. Bent 4. Beam 5.



Span 4. Bent 5. Beam 5. Holes rusted through the base of web and bottom flange.



Superstructure has active corrosion with numerous areas of section loss to the webs and flanges of the beams and diaphragms. Section loss ranges from initial up to numerous holes and perforations in the web and bottom flanges.

Photo of Bent 5, Span 5. Beam 1. Interior side of the beam.



Span 6, Bent 6. Beam 5. Active corrosion with holes rusted through the base of web adjacent to the diaphragm.



Bearing - Span 6, Bent 6. Beam 5. Active corrosion with pack rust.



TJL - Bent 6. Span 6 superstructure.



Span 6, Bent 6, Beam 2 - A 13" long X 1/2" tall area rusted through the web of the beam adjacent to the expansion dam.



Span 7. Superstructure. Typical.



Moderate width sealable deck cracking.



Span # 1 Lt spalling with exposed reinforcing steel on the deck undersurface in the overhang.



Spans # 2 & 3 Rt spalling with exposed reinforcing steel.



Span # 2, Bent # 2 beam # 1 with a 1/2" hole through the web.



Span # 2, Bent # 2 beam # 1 with a 4" long x 1/2" wide hole through the web at the expansion dam.



Span # 2, Bent # 2 beam # 2 & 3 with a 4" long hole through the web at the expansion dam.



Span # 2, Bent # 3 beam # 1 with a 2" area of holes through the base of the web at the diaphragm connection.



Span # 2, Bent # 3 beam # 5 with up to 7/16" section loss to the web at the expansion dam.



Span #3, Bent # 4 Beam #5 active corrosion with layers of flaking rust, knife edge section loss with a 3/4" reduction in flange width and a hole through the diaphragm.



Span #3, Bent # 4 Beam #5 active corrosion with layers of flaking rust and up to 3/8" section loss adjacent to the splice plate.



Span # 4, Beam # 1 adjacent to bent # 5 with active corrosion and up to 5/16" section loss.



Span # 4, bay # 1 active corrosion and a hole through the web of the diaphragm adjacent to beam # 1.



Span # 4, Bent #4 beam #5 with up to 1/2" section loss to the bottom flange.



Span # 4, Bent # 5, beam #5 active corrosion with layers of flaking rust and large holes in the base of the web.



Bent # 5 bay # 4 hole in the diaphragm.



Span #6, Bent #6 beam #2 active corrosion with large hole in the web around the expansion dam.



Span # 4, Bent # 5, beam #5 active corrosion with layers of flaking rust and large holes in the base of the web.



Typical failing paint system.



Bent # 2 Column # 1 spalling with exposed reinforcing steel.



Span # 2 Bent # 2 vertical crack and spalling with exposed reinforcing steel.



Abutment # 2 typical



Bent # 3 cap cracking near the centerline.



Bent # 4 cap haunch spalling with exposed reinforcing steel.



Bent # 5 missing joint sealant.



Bent # 4 missing joint sealant.



Bearings have active corrosion and layers of flaking rust.



Bent # 6 with missing anchor bolts.



Abutment # 1 bearings with active corrosion and layers of flaking rust.

Maintenance Needs

Date Reported: 04/24/2015
Priority: C - Important
Type of Work: Repair (General)
Status: Monitor
Component: Element

Deficiency Description

Superstructure-

Superstructure has active corrosion, flaking rust, and significant section loss.

See Form III associated with this inspection for detailed locations and documented section loss.

Remarks

08/24/2022 - JCJ & TJL - Reduced the detailed locations in this maintenance Need Report to document the active corrosion in the Superstructure. See Form III associated with this inspection for detailed locations.

08/23/2021 - EJW - Updated deficiency description on this date.



Span 2, Beam 5 at Bent 2.



Holes rusted through upper portion of web adjacent to the deck haunch.



Bent 4, Beam 5.



Sp #4, beam #5 at bent #5- Holes rusted through web and section loss to bottom flange.



Section loss to beam web.



Beam 5 over Bent 5.



Beam 5 over Bent 5



Beam 1, Span 2, Bent 3.



Sp #6, Beam #5 at bent #6-Hole rusted through web.



Superstructure has active corrosion with numerous areas of section loss to the webs and flanges of the beams and diaphragms. Section loss ranges from initial up to numerous holes and perforations in the web and bottom flanges.

Photo of Bent 5, Span 5. Beam 1. Interior side of the beam.



Bearing - Span 6, Bent 6. Beam 5. Active corrosion with pack rust.

Date Reported: 04/23/2015
Priority: C - Important
Type of Work: Repair (General)
Status: Monitor
Component: Superstructure

Deficiency Description

Bearings -

Bearings have up to 3/4 inch of pack rust with numerous anchor bolts and nuts that have section loss that ranges from approximately 25% up to bolts that have completely rusted off the structure. Fretting is visible in numerous locations. Bearings of note are Bent # 7 Beam 4, Span # 6, Beam # 4 and Bent # 3, Span # 3, Beam # 4 which have movement when structure is impacted by traffic.

Remarks



Missing anchor bolt.



Pack rust in bearing device restricting movement.



Air space in bearing.



Bearings at Bent 3. Left side (Beam 1).



Pack rust in bearing device restricting movement.



Pack rust in bearing device restricting movement.



Bent 7, Beam 2.



Span 1, Bent 2, Beam 2.



Bent 3, Beam 4 bearing corrosion.



Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, **Inspection Date:** 08/24/2022

Date Reported: 04/23/2015
Priority: D- Routine
Type of Work: Repair (General)
Status: Monitor
Component: Element

Deficiency Description

Deck
The deck has open joints that leak water on the superstructure.

Remarks

03/23/2021 - EJW - changed priority code on this date.



Unsealed joint.



Expansion joint over Bent 7



Unsealed joint.



Sliding plate. Typical.

Date Reported: 04/23/2015
Priority: D- Routine
Type of Work: Repair (General)
Status: Monitor
Component: Element

Deficiency Description

Deck -

The deck has sealable transverse cracks at random spacing that are perpendicular to the centerline of substructure. Light abrasion on the driving surface of the deck. Isolated areas of medium scale adjacent to the deck drains. There is an 8' spall visible at the Right side of deck adjacent to Bent # 4 with exposed reinforcing steel. There is a 6' spall with exposed reinforcing steel in the Left side of Span # 1 adjacent to the deck drain that is visible from the undersurface of the edge of deck. Concrete spalls with exposed reinforcing steel visible from the undersurface of the deck adjacent to the top flanges of the exterior beams that expose active corrosion and pack rust in the top flanges. Exposed reinforcing steel has initial section loss.

Remarks





Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, **Inspection Date:** 08/24/2022



Transverse sealable cracks. Span # 4.



Transverse joint over Bent # 5.

Date Reported: 07/24/2019
Priority: D- Routine
Type of Work: Repair (General)
Status: Monitor
Component: Approach

Deficiency Description

Approach Roadway -

The asphalt driving surface of the North and South approach roadway has mapcracking with potholes forming.

Remarks

08/23/2021 - EJW - updated deficiency description to add the north approach roadway.



South approach roadway - Pothole forming.



South approach roadway - Pothole forming.



North approach roadway breaking apart at the abutment.



South approach roadway deterioration with potholes.



South approach roadway. Patched pot holes.



Date Reported: 07/31/2020
Priority: B - Pressing
Type of Work: Repair (General)
Status: Assigned
Component: Superstructure

Deficiency Description**Superstructure-**

- Span #4, Beam #5 @ Bent #5 has a 6" high x 5' long area where the base of web is paper thin with a 25" long x average 3" high hole rusted through the base of web. The web and the bottom flange is reduced to 1/8" in thickness with areas of knife edge section loss along the interior edge of flange for approximately 2' adjacent to Bent 5. There are 2 dime sized holes in base of web located 42" from bent #5 bearing device. The interior edge of the bottom flange has a 1' paper thin area with perforations located approximately 50" from the bearing.
- Span #6, Beam #5 @ Bent #6 has a 6" X 21" area where the base of web has heavy pitting with a 2" high x 6" long hole rusted through the web and the bottom flange has a 16" area with up to 1/2" of section loss. The interior edge of the bottom flange is reduced to 1/4" thickness.
- Span #2, Beam #3 @ Bent #2 has an area of section loss 30" long to bottom flange with section loss up to 5/16". The top of web has a hole 5" long x 1" wide at the expansion joint haunch.
- Span #2, Beam #5 @ Bent #2 has 3/8" section loss to the bottom flange 2' long and has a up to 3/8" section loss at the base of the web and 3/8" section loss to the top of web adjacent to the expansion joint haunch.
- Span #2, Beam #1 @ Bent #3 up to 1/2" section loss to top of web adjacent to expansion joint haunch. The bottom flange has a 12" long area with up to 7/16" section loss. There is a 2"x1" area of holes rusted through the web.
- Span #3, Beam #1 @ Bent #4 bottom flange has a two foot area of section loss up to 1/4" and base of web has 1/8" section loss.
- Span #3, Beam #2 @ Bent #4 has 1/4" section loss to the bottom flange at diaphragm connection located 69" from bent # 4 bearing device.
- Span #3, Beam #5 @ Bent #4 has knife edge section loss to top flange and is reduced in width by 1" on the interior edge. The bottom flange at bent # 4 has an 18" long area with 5/16" section loss and is reduced down to 5/16" thickness adjacent to the cover plate. The base of web has approximately 1/8" section loss.
- Span #4, Beam #1 @ Bent #4 bottom flange has 3/16" section loss in a 3' area and a 10" high x 4' long area with up to 1/4" section loss at the base of the web and up to knife edge on the interior of the top flange in area 2' which is reduced in width by 1/4".
- Span #4, Beam #5 @ Bent #4 has a 10" x 5' area with up to 3/8" section loss at the base of the web. Bottom flange is reduced down to approximately 1/4" adjacent to the bottom cover plate.
- Span #4, Beam #1 @ Bent #5 The base of web over bent # 5 has 3' long x 7" area with section loss up to 1/8". The bottom flange has approximately 5/16" section loss adjacent to the splice plates on the bottom surface of the flange.
- Span #5, Beam #5 @ Bent #5 has a 3" X 2' X 3/8" deep area of active corrosion in the base of web and bottom flange.
- Span #6, Beam #1 @ Bent #7 has an area 32" long with up to 1/8" section loss to bottom flange.

Remarks

08/24/2022 - JCJ & TJL - Updated deficiency description on this date.
08/23/2021 - EJW - Updated deficiency description on this date.



Bent #6, Span #6 Beam #5 with holes through the web. No visible cracks.



Bent #5, Span #4 Beam #5 with a 4' long section with holes in the base of the webs.



Span 4. Bent 5. Beam 5. Holes rusted through the base of web and bottom flange.

Date Reported: 08/25/2022
Priority: C - Important
Type of Work: (Inactive) (Inactive) 1 - Clean
Status: Open
Component: Channel

Deficiency Description

There is drift accumulation at the inlet end of structure.

Remarks



There is drift accumulation at the inlet end of structure.



Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, **Inspection Date:** 08/24/2022

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	



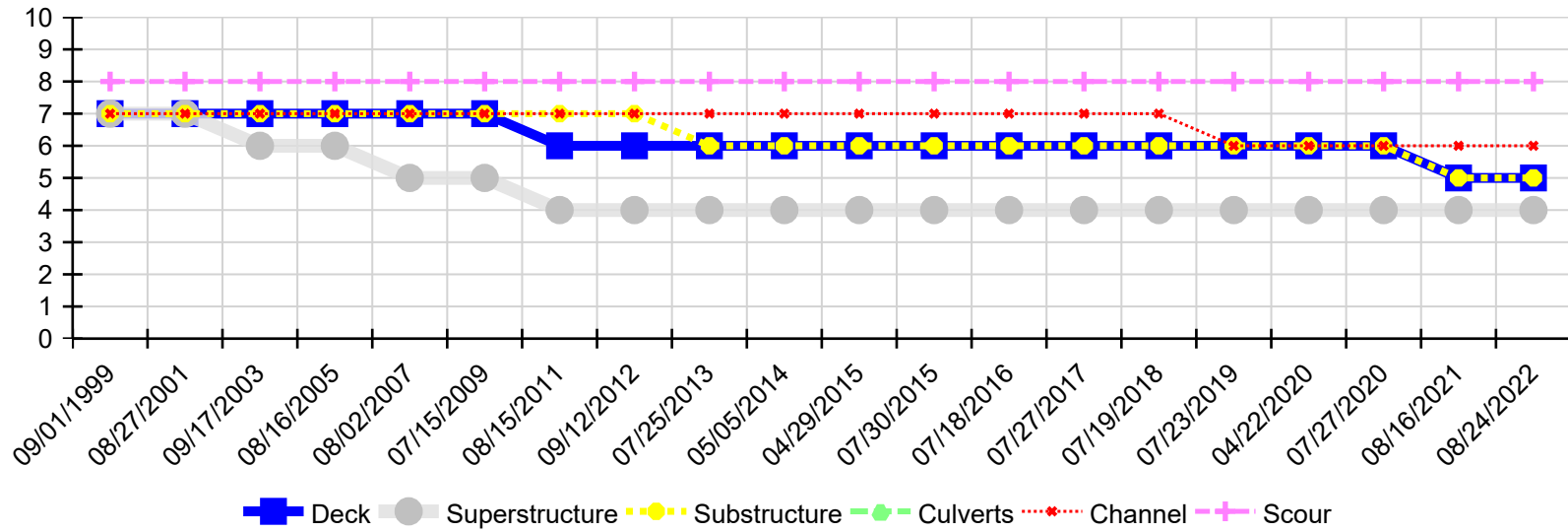
Asset #02147(Other Special Recurring)

US 71 - Polk Co over Six Mile Creek

Location: 1.5 MI S OF Hatfield

Team Lead: Jeff Jones, Inspection Date: 08/24/2022

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
08/24/2022	5	4	5	N	6	8
08/16/2021	5	4	5	N	6	8
07/27/2020	6	4	6	N	6	8
04/22/2020	6	4	6	N	6	8
07/23/2019	6	4	6	N	6	8
07/19/2018	6	4	6	N	7	8
07/27/2017	6	4	6	N	7	8
07/18/2016	6	4	6	N	7	8
07/30/2015	6	4	6	N	7	8
04/29/2015	6	4	6	N	7	8
05/05/2014	6	4	6	N	7	8
07/25/2013	6	4	6	N	7	8
09/12/2012	6	4	7	N	7	8
08/15/2011	6	4	7	N	7	8
07/15/2009	7	5	7	N	7	8
08/02/2007	7	5	7	N	7	8
08/16/2005	7	6	7	N	7	8
09/17/2003	7	6	7	N	7	8
08/27/2001	7	7	7	N	7	8
09/01/1999	7	7	7	N	7	8