

# Ohio Bridge Inspection Summary Report

**CUY-00480-1842L (1812521)**

2: District 12 37240 - INDEPENDENCE (CUY county)  
 21: Major Maint A/B 01 - State Highway Agency /  
 225 Routine Main A/B 01 - State Highway Agency /  
 221 Inspection A/B 01 - State Highway Agency /  
 220: Inv. Location CUY

5A: Inventory Route 1 00480  
 7: Facility On IR 480 W.B.  
 6: Feature Ints CUYAHOGA RIVER-OHIO CANA  
 9: Location .17 MI. E. OF JCT. SR-21

## Condition

**58: Deck** **5 - Fair Condition**  
 58.01 Wearing Surface 6 - Satisfactory (1-10% distress)  
 58.02 Joint 5- Fair (obvious leaking, 1" offset)  
**59: Superstructure** **6 - Satisfactory Condition**  
 59.01 Paint & PCS 6 - Satisfactory (5-10% corr.)  
**60: Substructure** **6 - Satisfactory Condition**  
**61: Channel** **7**  
**61.01 Scour** **7 - Good**  
**62: Culverts** **N - Not Applicable**

**67.01 GA** **6**

## Appraisal

Sufficiency Rating 84.0 SD/FO 0 - ND  
 36: Rail, Tr, Gd, Term Std 0 1 1 1  
 72: Approach Alignment 8 - Equal to present desirable criteria  
 113: Scour Critical 9 - Foundations above flood waters  
 71: Waterway Adequacy 8 - Bridge Above Approaches

## Geometric

48: Max Span Length (ft) 300.0  
 49: Structure Length (ft) 4155.0  
 52: Deck Width, Out-To-Out (ft) 73.0  
 424: Deck Area (sf) 303315.0  
 32: Appr Roadway Width (ft) 71.0  
 51: Road Width, Curb-Curb (ft) 69.5  
 50A: Curb/SW Width: Left (ft) 0  
 50A: Curb/SW Width: Right (ft) 0  
 34: Skew (deg) 0  
 33: Bridge Median 0 - No median  
 54B: Min Vert Underclearance (ft) 99  
 336A: Min Vert Clrnce IR Cardinal (ft) 17  
 336B: Min V Clr IR Non-Cardinal (ft) 0  
 578: Culvert Length (ft) 0

## Load Posting

41: Op/Post/Closed A - Open  
 70: Posting 5 - Equal to or above legal loads  
 70.01: Date  
 70.02: Sign Type  
 734: Percent Legal (%) 150  
 704: Analysis Date 07/01/2011  
 63: Analysis Method 6 - Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.

## Structure Type

43: Bridge Type 3 - Steel  
 03 - Girder and Floorbeam System  
 N- Not Applicable  
 45: Spans Main / Approach 15 / 0  
 107: Deck Type 1 - Concrete Cast-in-Place  
 408: Composite Deck N - Non-composite Construction  
 414A Joint Type 1 1 - Metal Finger  
 414B: Joint Type 2 N - None  
 108A: Wearing Surface 2 - Integral Concrete (separate non-modified layer of concrete added to structural deck)  
 1 - Super Plasticized

422: WS Date 06/01/1989  
 423: WS Thick (in) 2.5  
 482: Protective Coating 5 - Paint System OZEU  
 483: PCS Date 10/31/2001  
 453: Bearing Type 1 2 - Rockers & Bolsters  
 455: Bearing Type 2 N - None  
 528: Foundn: Abut Fwd 1 - Steel H Piles (Other size)  
 533: Foundn: Abut Rear 1 - Steel H Piles (Other Size)  
 536: Foundn: Pier 1 1 - Steel H Piles (Other size)  
 539: Foundn: Pier 2 0 - Other

## Age and Service

27: Year Built/ 106 Rehab 1975 / 0000  
 42A: Service On 1 - Highway  
 42B: Service Under 8 - Highway - waterway - railroad  
 28A: Lanes on 04  
 28B: Lanes Under 04  
 19: Bypass Length 3  
 29: ADT 80534  
 109: % Trucks (%) 5

## Inspections

		Months	
90: Routine Insp.		12	10/01/2020
92A: FCM Insp.	Y	24	08/26/2019
92B: Dive Insp.	N	0	
92C: Special Insp.	N	0	
92D: UBIT Insp.	Y	12	08/26/2019
92E: Drone Insp.			

Inspector Hammerschmidt, Steven

Inspector: Steven Hammerschmidt

Structure Number: 1812521

Inspection Date: 10/01/2020

Facility Carried: IR 480 W.B.

**Bridge Inspection Report**

**Element Inspection**

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12 - Reinforced Concrete Deck</b>	3 - Mod.	303352	sq. ft.	281074	17191	5087	0
<p>CS2- Areas on the underside of deck with minor spalls and delaminations and minor cracks up to 1/16" wide with light efflorescence. These locations were typically adjacent to the CS3 areas and at locations of transverse cracking on the underside of deck.</p> <p>CS3- Areas on the underside of deck with spalls greater than 1" deep and exposed reinforcement with minor section loss and cracks exhibiting moderate efflorescence and rust staining. These locations were typical throughout the bridge in all spans.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
510 - Wearing Surfaces		288807	sq. ft.	278220	9118	1469	0
<p>CS2 - Areas of transverse and longitudinal cracking up to 1/16" wide and minor spalls along the joint headers. Cracking is typical in the negative moment regions.</p> <p>CS3 - Areas of spalls greater than 1" deep or with asphalt material filled in the spall. These locations are typically adjacent to the joints.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>107 - Steel Open Girder/Beam</b>	3 - Mod.	16622	ft.	14088	2489	45	0
<p>CS2 - Areas of minor surface corrosion and at locations where stress relief holes have been drilled and there are no signs of crack propagation. These areas include locations near the transverse stiffeners and adjacent to the deck joints (hinge locations).</p> <p>CS3 - Areas where section loss (up to 10%) or pack rust is present. These locations are typically under the deck joints (hinge locations) and on the exterior faces of the girders at the splices.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							

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**Element Inspection**

515 - Steel Protective Coating		601799	sq. ft.	463379	120360	15045	3015
<p>CS2 - Areas where the final coat is peeling and the final coat is appearing dull and has minor chalking. Locations include the exterior faces of Girders A and D and isolated areas on the bottom flange.</p> <p>CS3 - Areas where the final coat and primer are peeling and has loss of pigment. Locations include areas under and adjacent to the deck joints.</p> <p>CS4 - Areas where the bare metal is exposed and surface corrosion is present. Locations include areas adjacent to the drainage elements and on the exterior faces of Girders A and D at the splice plate locations.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>113 - Steel Stringer</b>	3 - Mod.	24930	ft.	23887	1043	0	0
<p>CS2 - Areas of minor surface corrosion typically adjacent to the expansion joint locations.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
515 - Steel Protective Coating		150537	sq. ft.	149754	753	30	0
<p>CS2 - Areas where the final coat is peeling and has exposed the primer. Locations are isolated throughout the bridge.</p> <p>CS3 - Areas where the final coat and primer are peeling. Locations include areas under and adjacent to the deck joints.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise</p>							
<b>152 - Steel Floor Beam</b>	3 - Mod.	11524	ft.	8731	2739	54	0
<p>CS2 - Areas with overcuts to the cope of the bottom strut and areas of minor surface corrosion. Locations are isolated throughout the bridge.</p> <p>CS3 - Areas with cracks at the cope of the bottom strut, areas of pack rust greater than 1/4" thick, and surface corrosion. Locations are isolated throughout the bridge and pack rust is between the top W-section and transverse stiffener connection.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							

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Bridge Inspection Report

Element Inspection

515 - Steel Protective Coating		51459	sq. ft.	37064	08029	5146	1220
<p>CS2 - Areas where the final coat is peeling. Locations are isolated throughout the bridge.</p> <p>CS3 - Areas where the final coat and primer are peeling. Locations include the top surface and edges of the diagonal and bottom strut member.</p> <p>CS4 - Areas where the bare metal is exposed and surface corrosion is present. Locations include the end floorbeams of the bridge and the floorbeams under the expansion joint locations.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>210 - Reinforced Concrete Pier Wall</b>	3 - Mod.	420	ft.	268	60	92	0
<p>CS2 - Areas of delaminations, shallow spalls and unsealed cracks less than 1/16" wide. Locations are primarily isolated to the center "web" portion of the pier.</p> <p>CS3 - Areas that are currently being patched with exposed reinforcement and spalls greater than 1" deep and 6" in diameter. The greatest spalls are adjacent to the drainage components and on the corners.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>215 - Reinforced Concrete Abutment</b>	3 - Mod.	146	ft.	142	4	0	0
<p>CS2 - Unsealed vertical cracks up to 1/16" wide throughout both abutments.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>234 - Reinforced Concrete Pier Cap</b>	3 - Mod.	1022	ft.	861	115	46	0
<p>CS2 - Areas of vertical cracking in the pier cap up to 1/16" wide. Locations typically under the bearings and on the cantilever portion of the cap.</p> <p>CS3 - Areas that are currently being patched with exposed reinforcement and spalls greater than 1" deep and 6" in diameter. Locations are typically on the top side of the pier cap and on the bearing pedestals.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							

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**Bridge Inspection Report**

**Element Inspection**

<b>300 - Strip Seal Expansion Joint</b>	3 - Mod.	146	ft.	6	68	72	0
<p>CS2 - Portions of the joints with minor debris and minor spalls to the joint headers.</p> <p>CS3 - Portions of the joint where the gland is bulging out and minor loss of adhesion, gouges to steel joint armor, and areas where the joint is completely filled with debris. Typically the middle 1/3 length of the joint.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>305 - Assembly Joint without Seal</b>	3 - Mod.	278	ft.	69	137	72	0
<p>CS2 - Minor gouges and surface corrosion to steel components.</p> <p>CS3 - Vertical and horizontal misalignment of the finger joints and gouges to isolated fingers. West side is typically has gouges throughout.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>311 - Movable Bearing</b>	3 - Mod.	48	each	33	14	1	0
<p>CS2 - Minor accumulation of debris surrounding the rockers and minor areas of surface corrosion. Bearings located at the abutment or under Girders E and H adjacent to the expansion joints are typically in CS2.</p> <p>CS3 - Laminate corrosion through the bearing plate and rollers at Girder A and Pier 3.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>313 - Fixed Bearing</b>	3 - Mod.	16	each	16	0	0	0
<b>321 - Reinforced Concrete Approach Slab</b>	3 - Mod.	3481	sq. ft.	3002	196	283	0
<p>CS2 - West Approach - Map cracking and isolated spalls that have been filled in with asphalt material adjacent to the joint header (258SF). East Approach - Isolated transverse cracks and minor spalls adjacent to the joint header (150SF).</p> <p>CS3 - West Approach - Spalled areas with asphalt patch material that has cracking and has settled (258SF). East Approach - Previous asphalt patches with cracks or have settled (25SF).</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							

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Element Inspection

<b>331 - Reinforced Concrete Bridge Railing</b>	3 - Mod.	8311	ft.	5462	1804	1045	0
<p>CS2 - Areas include cracks less than 1/16" wide and delaminated areas. Locations are throughout both railings.</p> <p>CS3 - Areas include spalls greater than 1" in depth and 6" in diameter, exposed reinforcement, and heavy rust staining. Locations are typically on the top 1' of the railing and adjacent to the fence post bases.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>815 - Drainage</b>	3 - Mod.	56	each	0	25	28	3
<p>CS2 - Scuppers that are partially blocked and locations where the downspout connector is misaligned.</p> <p>CS3 - Scuppers that are 75% blocked or the downspout connector is no longer connected.</p> <p>CS4 - Scuppers that are 100% blocked and no longer functioning.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise</p>							
<b>820 - Steel Seated-Hinge Assembly</b>	3 - Mod.	16	each	1	15	0	0
<p>CS2 - Minor laminar rust and accumulation of debris surrounding the rocker bearing. Typically at locations where the drainage trough is filled with debris.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							
<b>830 - Abutment Backwall</b>	3 - Mod.	146	ft.	48	40	58	0
<p>CS2 - Areas of delaminations, shallow spalls, rust staining, and unsealed cracks less than 1/16" wide.</p> <p>CS3 - Areas with spalls greater than 6" in diameter, typically on the upper half of the backwall behind the beams.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>							

ODOT District: 12

## CUY-00480-1842L\_(1812521)

Date Built: 07/01/1975

Major Maint: 01 - State Highway Agency

Facility Carried: IR 480 W.B.

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CUYAHOGA RIVER-OHIO  
CANA

Traffic Under: 8 - Highway - waterway - railroad

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 37240 - INDEPENDENCE (CUY county)

Location: CUY

.17 MI. E. OF JCT. SR-21

Insp

Inspector

Hammerschmidt, Steve  
n

Inspection Date 10/01/2020

Reviewer

Hammerschmidt, Steve  
n

Insp

Resp B:

### Inspector Comments - Deck and Approach

#### Deck

2020: The deck overall exhibits delaminations and spalls throughout the underside of the floor. The drainage system is clogged throughout, and water overflows onto the superstructure and piers at the expansion joints.

Additional comments for each element are included under the Element Inspection Tab.

#### Reinforced Concrete Deck

There are areas of map cracking, transverse and longitudinal cracks, spalls with exposed reinforcement, delaminations, and isolated areas of efflorescence throughout the underside of the deck. Subdecking is in place from the middle of Span 8 to Pier 9 to prevent concrete spalls from falling on the public near Canal Road and the Towpath Trail. The edge of slab exhibits minor transverse cracks are typically located approximately every 10 feet along the edge of slab. There is minor rust staining present along the full length of the edge of the slab due to corrosion of the railing post connections above. Minor spalls were noted near the expansion joints.

#### Wearing Surface

Transverse and longitudinal cracks are typical throughout the concrete deck with isolated cracks greater than 0.05" wide. Minor cracks and spalls were noted along of the finger joints. Patches around the expansion joints exhibit minor deterioration and cracks. Isolated raised pavement markers are missing leaving 6 inch by 6 inch by 1 inch deep divots in the deck. Traffic has been shifted to the north in order to accommodate a 17.5 foot wide contractor access lane which runs the full length on the south side of the structure. In the contractor access lane, the concrete wearing surface has been milled down 2.5 inches and a steel rail has been mounted to the deck to allow for a gantry crane to travel the length of the bridge.

#### Reinforced Concrete Railing

The parapets exhibit moderate transverse and longitudinal cracks with rust stains and spalls throughout all faces. The spalls and advanced deterioration is typical at fence posts with large spalls and exposed reinforcement. Several spalls were removed from the north toe of the north parapet during this inspection cycle. Isolated spalls on the exterior face of the parapet expose the anchor rods of the vandal protection fence post bases. The north fence exhibits impact damage throughout and exhibits multiple large spalled areas, typically near railing posts.

#### Drainage

The scuppers along the south side of the bridge in the contractor access lane are fully clogged with debris and vegetation growth. The scuppers along the north side of the bridge are typically partially clogged. The drainage troughs below the finger expansion joints are filled with debris. Several of the connections to the hoppers are misaligned, broken, or filled with debris. Several anchors are broken between the Pier 12 downspout and support brackets.

#### Strip Seal Expansion Joint

The strip seal joint at the rear abutment is missing the joint material in the southern travel lanes and has asphalt material and debris inside the joint along the full length. Within the contractor access lane, the joint is covered over with asphalt. At the Forward Abutment, the joint material is torn and missing throughout the

travel lanes, and the remaining material is slightly bulging and compressed to a width of only 1 1/8 inches at 69 degrees Fahrenheit.

### **Assembly Joint without Seal**

The finger joints at Piers 3, 6, 9, and 12 exhibit minor misalignment and light surface corrosion outside of the travel lanes. At Pier 3, the east side of Expansion Joint 1 is 1/2 inch higher than the west side. The fingers at Expansion Joints 2 and 3 are horizontally misaligned, and the north and south faces are typically in contact. There is minor horizontal misalignment at Expansion Joint 4, but the fingers were not in contact at the time of the inspection.

### **Approach**

2020: The approaches exhibit map cracking and transverse cracking typically adjacent to the abutment backwall. Both approaches have several asphalt patches that exhibit cracking and settlement.

### **Approach Wearing Surface**

The west and east approach wearing surfaces exhibit minor longitudinal and transverse cracking. The East Approach wearing surface was repaired in 2018.

### **Approach Slab**

The asphalt over the west approach slab exhibits heavy map cracking and failed patches along the expansion joint and left lane. The wheel lines in each lane are typically depressed up to 2". In the left center lane, the asphalt is spalled 4" deep over a 1' diameter area. The left lane exhibits heavy cracking with multiple patched potholes throughout. In the right two lanes, the west approach wearing surface is higher than the bridge with traffic visibly bouncing. The east approach has 2" deep spalls in the joint header.

### **Approach Guardrail**

Only the north side of the east approach has a guardrail, the guardrail on the south side of the East Approach has been removed for construction. At the north guardrail connection to the concrete parapet, there are areas with minor cracking with rust staining in the parapet. The concrete at the guardrail connection plate on the north side of the north parapet wall is spalling with exposed reinforcing. The guardrail is in good condition with minor areas of impact damage.

### **Signs**

2020: Signs have been removed as part of the current construction project.

All signs appear to be in good condition and secure.

### **Sign Supports**

2020: The interior sign supports have been removed along Girder D.

On the north side of Girder A near Pier 4, the anchor bolts on the sign support typically exhibit laminar corrosion and up to 1/2 inch diameter section loss over the bottom 6 inches. Several of the overhead signs have been removed as part of the current construction.

## **Inspector Comments - General Appraisal**

### **Superstructure**



2020: The superstructure overall exhibits holes drilled in the girders to arrest existing cracks and to prevent future cracks, isolated cracks and overcuts at the floorbeam bottom strut cope, minor section loss and pack rust on the exterior faces of Girders A and D, and areas of paint failures typically adjacent to the deck joints.

Additional comments for each element are included under the Element Inspection Tab.

### **Superstructure Alignment**

Several of the wind shear guides located at expansion roller locations near Piers 3, 6, 9, and 12 are slightly misaligned and in contact with one of the keeper plates welded to the underside of the girder bottom flange. The wind shear guide of Girder A at Expansion Joint 4 has worn a 3/16 inch deep groove into the south keeper plate.

### **Steel Open Girder/Beam**

Two arrest holes from 3/8 inch to 2 inch diameter have been drilled in the web of the girders at the majority of transverse stiffener locations. At isolated retrofit locations, a crack is present in the web which connects the two arrest holes, and at the time of the inspection, none of the cracks were noted to have propagated past the arrest holes. There are “dogbone” retrofits on either side of the lower lateral bracing connection plates at the floorbeam locations, with isolated locations having minor gouges to the girder web. The girders exhibit areas of minor painted over pitting up to 1/8 inch deep, typically in the bottom flange of the exterior girders and at the expansion joint locations. Minor to moderate surface corrosion with up to 1/2 inch thick laminate rust is typical in the web and bottom flange at splice plate locations, and in isolated locations, there is 1/4 inch thick pack rust between the web and web splice place. Isolated horizontal stiffeners are bent up to 2 inches out of plane. Minor surface corrosion is present near the expansion joints at areas of peeling paint. Transverse stiffeners typically exhibit 1/16 inch thick pack rust at the interface with the floorbeam web, with isolated locations having up to 1/8 inch thick pack rust. In Span 15, the transverse stiffener on the north face of Girder D at Floorbeam 1 exhibits lack of fusion at the weld to the web with the top 2 inches on the west side and 5 inches on the east side are not fused to the girder web. The safety points of contact for inspection are unreliable, typically near the expansion joints, with several areas of the safety line being completely severed at the expansion joint locations.

### **Steel Stringers**

Isolated stringers have minor pack rust up to 1/8 inch thick at the interface between the floorbeams top flange and stringer bottom flange.

### **Steel Floorbeams**

The lower chord of the floorbeams typically exhibit a gouge to the web at the cope for the transverse stiffener of the girder. In isolated locations, the cope exhibits a crack with no propagation noted in the last few inspection cycles. Several floorbeam lower connection plates to the girder transverse stiffener have deformations up to 1/2 inch along the top free edge. Isolated floorbeams exhibit minor paint failing with minor surface corrosion under the expansion joint locations.

### **Lateral Bracing**

Lower lateral braces are generally in satisfactory condition. Isolated locations exhibit peeling paint with minor surface corrosion. Typically near the piers, the lower lateral bracing visibly vibrates vertically under live load.

### **Movable Bearing**

The roller bearings are typically in good condition overall with isolated locations of debris and laminate rust between the rocker and bearing plate. The rollers at Piers 3 and 6 exhibit the heaviest laminate rust and are next to Expansion Joint 2 where the drainage trough is clogged. At Pier 2, there is minor debris throughout the bearings. The rocker bearings at the abutments have minor laminar rust on the masonry plates.

### **Fixed Bearing**

The fixed bearings are in good condition overall with isolated locations of minor paint failures.

## **Steel Protective Coating**

The protective coating system is typically in poor condition on the exterior faces of the fascia girders and on all faces of the girders at the expansion joint locations. At isolated locations, corrosion is present with section loss up to 1/8" deep. The top paint coat is peeling at isolated locations on the interior faces and exposing the primer coat. Several floorbeams exhibit paint failures on the diagonal members and lower chord.

## **Steel Seated-Hinge Assembly**

The rockers at the expansion joints were typically expanded with a temperature of 85 degrees Fahrenheit during the inspection. Minor to moderate debris was present surrounding the rockers and on the girder seat. Isolated rockers exhibit minor laminate rust on the rocker and keeper plates.

## **Fatigue**

The girder webs at lower lateral bracing connections previously retrofitted with "dogbones" have several overcut areas, but no new cracks were noted in the girder web at the time of the inspection. Existing cracks have not propagated beyond the crack arrest holes. The previously noted cracks in the floorbeam lower chord copes are poor quality copes with gouges. Isolated cope locations exhibit a crack at the lower floorbeam cope with no propagation noted over the last few inspection cycles.

## **Utilities**

The junction box cover plates for the light poles on the south side of the bridge are missing or broken due to the construction activity in the contractor access lane.

## **Substructure**

2020: The substructure exhibits isolated spalls, minor cracks, and isolated failing sealant. Locations of spalls are typically located on the abutment backwalls under the sliding plate expansion joints and on the pier caps and columns adjacent to drainage downspouts and deck manholes. Vertical hairline cracks were typically noted in the pier columns and in the abutment backwalls.

Additional comments for each element are included under the Element Inspection Tab.

## **Reinforced Concrete Abutment**

The Rear Abutment has isolated full height vertical and horizontal hairline cracks. There are areas of cracking and sealant failure at the Forward Abutment cap. The Forward Abutment has minor areas of cracking and locations where the concrete sealant is peeling. Rust staining of the abutment wall is common from the deck joint above.

## **Reinforced Concrete Pier Wall**

The pier walls exhibit areas of delaminations, cracks and spalls with exposed reinforcement. Piers 6 and 12 exhibit the most advanced spalls. Pier 3 exhibits rust staining behind the drainage system, and Pier 9 has widespread delaminations and isolated spalls near the base.

## **Reinforced Concrete Pier Cap**

The pier caps exhibit areas of delaminations, cracks and spalls with exposed reinforcement. Pier 6 exhibits areas of spalls and delaminations across the top of the cap. The Pier 9 cap is spalled on the underside of the south end of the cap. Pier 12 has rust staining behind the drainage system and exhibits hairline map cracking across the north half of the cap.

## **Abutment Backwall**

The Rear Abutment backwall has an isolated vertical hairline crack near Girder A and minor rust staining between Girders C and D. The Forward Abutment backwall exhibits minor spalls with exposed reinforcement. There is widespread map cracking and sealant failure with rust staining throughout.

### **Wingwalls**

There are isolated areas of minor cracks and spalls near the interface with the ground and the wingwalls. The newly constructed abutments for the center structure obscure the inspection of south wingwalls.

### **Substructure Scour**

There are minor erosion channels in the slope surrounding several of the piers where current construction activities are taking place and in the construction staging areas.

### **Culvert**

## **Inspector Comments - Waterway**

### **Waterway Adequacy**

### **Channel**

The channel is in good condition overall with no major deficiencies noted at the time of the inspection.

### **Channel Alignment**

The channel is straight.

### **Channel Protection**

The banks of the Cuyahoga River upstream and downstream are well vegetated.

### **Scour Critical**