

Inspector: Gerstenslager,Michael

Inspection Date: 06/15/2023

Structure Number: 1814907

Facility Carried: USR 422

### Ohio Bridge Inspection Summary Report

**CUY-00422-1627L (1814907)**

2: District 72928 - SOLON (CUY county)  
ict  
12

5A: Inventory Route 1 00422

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 DISTRICT 12

7: Facility On USR 422  
6: Feature Ints CR-18 (HARPER RD)  
9: Location 3.1 MI E I-27  
Lat, Lon 41.406407 , -81.466988

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

43: Bridge Type 4 - Steel continuous  
02 - Stringer/Multi-beam or Girder  
N- Not Applicable  
45: Spans Main / Approach 4 / 0  
107: Deck Type 1 - Concrete Cast-in-Place  
408: Composite Deck N - Non-composite Construction  
414A Joint Type 1 2 - Sliding Metal Plate Angle  
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

**67.01 GA** **6**

Appraisal
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Sufficiency Rating 97.0 SD/FO 0 - ND  
36: Rail, Tr, Gd, Term Std 1 1 1 1  
72: Approach Alignment 8 - Equal to present desirable criteria  
113: Scour Critical N - Not over waterway  
71: Waterway Adequacy N - Not Applicable

422: WS Date  
423: WS Thick (in) 1.8  
482: Protective Coating 5 - Paint System OZEU  
483: PCS Date 11/07/2009  
453: Bearing Type 1 2 - Rockers & Bolsters  
455: Bearing Type 2 N - None  
528: Foundn: Abut Fwd 2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)  
533: Foundn: Abut Rear 2 - Cast-in-Place reinforced Concrete Piles (Other diameter)  
536: Foundn: Pier 1 2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)  
539: Foundn: Pier 2 0 - Other

Geometric
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48: Max Span Length (ft) 76.0  
49: Structure Length (ft) 256.0  
52: Deck Width, Out-To-Out (ft) 72.5  
424: Deck Area (sf) 18560  
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) 40  
33: Bridge Median 0 - No median  
54B: Min Vert Underclearance (ft) 15.92  
336A: Min Vert Clrnce IR Cardinal (ft) 99  
336B: Min V Clr IR Non-Cardinal (ft) 0  
578: Culvert Length (ft) 0

Age and Service
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27: Year Built/ 106 Rehab 1975 / 0000  
42A: Service On 1 - Highway  
42B: Service Under 1 - Highway, with or w/out pedestrian  
28A: Lanes on 03  
28B: Lanes Under 04  
19: Bypass Length 0  
29: ADT 24975  
109: % Trucks (%) 6

Load Posting
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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 07/01/1976  
63: Analysis Method 7 - Allowable Stress (AS) rating reported

Inspections
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90: Routine Insp. 12 Months 06/15/2023  
92A: FCM Insp. N 0  
92B: Dive Insp. N 0  
92C: Special Insp. N 0  
92D: UBIT Insp. N 0  
92E: Drone Insp. N 0

Inspector Gerstenslager,Michael

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<b>Inspection Date:</b>	06/15/2023	<b>Facility Carried:</b>	USR 422
	by rating factor (RF) method using MS18 loading.		

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12-Reinforced Concrete Deck</b>	3 - Mod.	18560	sq. ft.	15751	1856	928	25
	CS 2 - Transverse cracks, some leaching. CS 3 - Spalls. 5 sf spall with 360 degree rebar exposure in bay 4 over SB lane 2. A few delams, a few mottled areas with stalactites. CS 4 - 4+ rebar exposed in some spalled areas.						
<b>510-Wearing Surfaces</b>		17792	sq. ft.	16444	1250	50	48
	CS 2 - A few cracks, concrete patches. CS 3 - Various potholes/shallow spalls throughout and delaminated area in lane 2 near rear expansion joint. Some wide cracks. CS 4 - Asphalt patches.						
<b>107-Steel Open Girder/Beam</b>	3 - Mod.	2304	ft.	2036	23	245	0
	CS 2 - Isolated rust. CS 3 - Areas of section loss near beam ends.						
<b>515-Steel Protective Coating</b>		26598	sq. ft.	26330	265	3	0
	CS 2 - A few areas of chalking on outside of fascia beams. CS 3 - A few spots of rust						
<b>205-Reinforced Concrete Column</b>	3 - Mod.	21	each	18	3	0	0
	Note: P1 & P3 columns fiber wrapped. CS 2 - P2C1- 4 SF delam P2C2- 2 SF delam P2C7- 2 SF delam						
<b>521-Concrete Protective Coating</b>		2770	sq. ft.	2750	0	0	20
	CS 4 - Coating not effective.						
<b>215-Reinforced Concrete Abutment</b>	3 - Mod.	190	ft.	163	18	9	0
	CS 2 - Cracks. A few rust stains. Some concrete deterioration to abutment seats. CS 3 - Small spalls in bay 2 at both abutments.						
<b>521-Concrete Protective Coating</b>		760	sq. ft.	684	0	0	76
	CS 4 - Coating not effective.						
<b>234-Reinforced Concrete Pier Cap</b>	3 - Mod.	284	ft.	279	2	3	0
	CS 2 - Cracks. CS 3 - Minor spalls and delams.						
<b>521-Concrete Protective Coating</b>		3910	sq. ft.	3871	0	0	39
	CS 4 - Coating not effective.						
<b>305-Assembly Joint without Seal</b>	3 - Mod.	145	ft.	37	60	48	0
	CS 2 - Dirt and debris in joints. A few gouges to armor. CS 3 - Spalls and wide cracks to headers. Evidence of moderate leaking down both backwalls.						

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<b>311-Movable Bearing</b>	3 - Mod.	36	each	18	18	0	0
CS 2 - Areas of surface rust. Arrested section loss. Neoprene pad under forward bearing #5 starting to slide out.							
<b>313-Fixed Bearing</b>	3 - Mod.	9	each	9	0	0	0
<b>321-Reinforced Concrete Approach Slab</b>	3 - Mod.	3550	sq. ft.	2275	950	195	130
CS 2 - Cracks. CS 3 - Some cracks as wide as 1/8". CS 4 - Asphalt patches and broken up concrete areas in lanes 1 and 3 at rear and lanes 1 and 2 at forward .							
<b>331-Reinforced Concrete Bridge Railing</b>	3 - Mod.	512	ft.	114	384	10	4
CS 2 - Horizontal cracks. Scaling. CS 3 - Minor delams. Rust stained cracks. CS 4 - Collision damage, 4' of top 6" of railing missing from left side near west end.							
<b>521-Concrete Protective Coating</b>		3246	sq. ft.	2406	0	0	840
CS 4 - Coating not effective.							
<b>815-Drainage</b>	3 - Mod.	13	each	0	4	0	9
Note: Two scuppers at forward intentionally plugged. CS 2 - Partially plugged scuppers. Dirt & debris in low speed berm. CS 4 - Fully plugged scupper.							
<b>830-Abutment Backwall</b>	3 - Mod.	190	ft.	170	10	10	0
CS 2 - Cracks. Construction joints open as wide as 1" in bays 2, 5 & 7 at both abutments filled with Great Stuff. CS 3 - Construction joint repair in bay 2 at rear failed and fill beginning to leak through onto abutment. Spall at construction joint in rear bays 2 (thru to exit armor) . A few other spalls. Small void (3" x 12") at top of forward bay 3.							

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ODOT District: District 12

**CUY-00422-1627L\_(1814907)**

Date Built: 07/01/1975

Major Maint: 01 - State Highway Agency

Facility Carried: USR 422

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CR-18 (HARPER RD)

Traffic Under: 1 - Highway, with or w/out pedestrian

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 72928 - SOLON (CUY county)

Location: DISTRICT 12

3.1 MI E I-27

Insp Resp B:

Inspector

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Reviewer Seif,Youssef

**Inspector Comments - Deck and Approach**

**Deck**

**Floor/Slab (SF)**

SOT- SB lane #1 Bay 7, 5, 4

NB lane #1 Bay 5 and 6

NB lane #2- Bays 4 and 6

**Approach**

**Approach Wearing Surface (EA)**

Cracks. Asphalt break up with small asphalt and epoxy patches along both slabs.

**Approach Embankment (EA)**

Erosion at rear-right as deep as 16".

**Approach Guardrail (EA)**

Collision damage with missing spacers to forward-left guardrail. Minor collision damage at forward right.

**Inspector Comments - General Appraisal**

**Superstructure**

**Diaphragm/X-Frames (EA)**

Areas of section loss with some rusted thru holes & rust severed endframes. A few damaged xframes over nb traffic.

**Fatigue (LF)**

Welded moment plates at piers.

**Substructure**

**Slope Protection (EA)**

Cracks. Uneven settlement with areas of undermining at forward. Gap at rear abutment as wide as 3.5". Gap at forward abutment as wide as 14". Tufa deposit below weep hole at rear-left.

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**Culvert**

**Inspector Comments - Waterway**

**Waterway Adequacy**

**Channel**

**Scour Critical**

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**Pictures**