

Inspector: Gerstenslager,Michael
 Inspection Date: 09/01/2022

Structure Number: 4302915
 Facility Carried: SR 84

Bridge Inspection Report

Ohio Bridge Inspection Summary Report

LAK-00084-0633 (4302915)

2: District 85484 - WILLOUGHBY (LAK county)
 District 12

5A: Inventory Route 1 00084

21: Major Maint A/B 01 - State Highway Agency /
 225 Routine Main A/B 04 - City or Municipal Highway /
 Agency
 221 Inspection A/B 01 - State Highway Agency /
 220: Inv. Location DISTRICT 12

7: Facility On SR 84
 6: Feature Ints CHAGRIN R. 1.81 MI W 306
 9: Location 0.5 MI E SR174
 Lat, Lon 41.630103 , -81.400317

Condition

58: Deck **5 - Fair Condition**
 58.01 Wearing Surface 5 - Fair (10-15%, 2% asphalt patch)
 58.02 Joint 5- Fair (obvious leaking, 1" offset)
59: Superstructure **5 - Fair Condition**
 59.01 Paint & PCS N - Not Applicable
60: Substructure **6 - Satisfactory Condition**
61: Channel **6**
61.01 Scour **6 - Satisfactory**
62: Culverts **N - Not Applicable**
67.01 GA **5**

Structure Type

43: Bridge Type 6 - Prestressed concrete continuous
 05 - Box Beam or Girders - Multiple
 N- Not Applicable
 45: Spans Main / Approach 3 / 0
 107: Deck Type 1 - Concrete Cast-in-Place
 408: Composite Deck N - Non-composite Construction
 414A Joint Type 1 3 - Compression Seal
 414B: Joint Type 2 N - None
 108A: Wearing Surface 6 - Bituminous
 N- Not Applicable

Appraisal

Sufficiency Rating 79.7 SD/FO 0 - ND
 36: Rail, Tr, Gd, Term Std 1 N 1 1
 72: Approach Alignment 6 - Equal to present minimum criteria
 113: Scour Critical 5 - Scour within limits of footing or piles
 71: Waterway Adequacy 6 - Occasional Overtopping of Approaches

Age and Service

422: WS Date 01/01/1984
 423: WS Thick (in) 3.1
 482: Protective Coating N - None or Not Applicable
 483: PCS Date
 453: Bearing Type 1 4 - Elastomeric (Plain)
 455: Bearing Type 2 N - None
 528: Foundn: Abut Fwd 4 - Spread Footing (on soil)
 533: Foundn: Abut Rear 4 - Spread Footing (on Soil)
 536: Foundn: Pier 1 4 - Spread Footing (on soil)
 539: Foundn: Pier 2 0 - Other

Geometric

48: Max Span Length (ft) 64.0
 49: Structure Length (ft) 194.0
 52: Deck Width, Out-To-Out (ft) 40.0
 424: Deck Area (sf) 7760
 32: Appr Roadway Width (ft) 40.0
 51: Road Width, Curb-Curb (ft) 34.0
 50A: Curb/SW Width: Left (ft) 6
 50A: Curb/SW Width: Right (ft) 0
 34: Skew (deg) 10
 33: Bridge Median 0 - No median
 54B: Min Vert Underclearance (ft) 0
 336A: Min Vert Clrnce IR Cardinal (ft) 99
 336B: Min V Clr IR Non-Cardinal (ft) 0
 578: Culvert Length (ft) 0

Inspections

27: Year Built/ 106 Rehab 1931 / 1984
 42A: Service On 1 - Highway
 42B: Service Under 5 - Waterway
 28A: Lanes on 02
 28B: Lanes Under 00
 19: Bypass Length 2
 29: ADT 7042
 109: % Trucks (%) 2

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 07/01/1995
 63: Analysis Method 6 - Load Factor (LF) rating reported by
 rating factor (RF) method using MS18

Inspections

90: Routine Insp. 12 Months 09/01/2022
 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

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
15-Prestressed Concrete Top Flange	3 - Mod.	7761	sq. ft.	7284	0	477	0
See EL #104.							
510-Wearing Surfaces		6494	sq. ft.	0	5394	1100	0
CS2 - Many cracks. Asphalt wearing surface over 5 years old. CS3 - Asphalt spalling off right edge over drip strip. Areas of asphalt break up thru out. Wide cracks over box beam joints. Asphalt patches, potholes.							
104-Prestressed Concrete Closed Web/Box Girder	3 - Mod.	1910	ft.	1133	300	477	0
CS2 - Lightly mottled areas. CS3 - Leaking joints with efflorescence & rust stains in all spans. Numerous wet, mottled areas thru out. Spall/delam locations on box beams: span 1 = beam 3 and beam 10 near P1, span 2= beam 6, span 3 = beam 3 near mid-span (with one broken exposed strand), beam 4 rust stained delamination, beam 6 at P2, beam 7 two locations near mid-span. Fascia beams 1 and 10 spalled at grout plug over P1. Delams & spalls (with rebar/stirrup exposure) along top edge of right fascia box beam.							
210-Reinforced Concrete Pier Wall	3 - Mod.	76	ft.	56	12	8	0
CS2 - Cracks. Scaling, heavier at waterline. Concrete patches. Rust stains, efflorescence and moisture. CS3 - Minor spalls & delams. A few wide vertical cracks to both.							
215-Reinforced Concrete Abutment	3 - Mod.	80	ft.	32	36	12	0
CS2 - Leaching cracks. Rust stains, efflorescence and moisture. Concrete patches. Honeycombed areas. CS3 - Rust stained cracks. Minor delams. Spall to forward-right near top. Void with exposed 360° rebar in rear abutment below right beam.							
234-Reinforced Concrete Pier Cap	3 - Mod.	80	ft.	62	18	0	0
CS2 - Cracks.							
302-Compression Joint Seal	3 - Mod.	80	ft.	20	30	10	20
CS2 - Cracks to ExJt headers. Areas of surface rust and shallow section loss. Few light gouges. Minor shallow spalls. CS3 - Areas of pushed up & torn seals to both. CS4 - Joint leaks to most of rear and minor spots to forward.							
310-Elastomeric Bearing	3 - Mod.	120	each	119	1	0	0
CS2 - Bearing pad has shifted under left fascia box beam at forward abutment.							
321-Reinforced Concrete Approach Slab	3 - Mod.	1700	sq. ft.	1700	0	0	0
Paved over. New in 2021.							

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
330-Metal Bridge Railing	3 - Mod.	382	ft.	0	257	45	80
<p>CS2 - Bolts missing on right rail posts 12-14 and left rail post 7 (holes in railing do not line up with holes in posts). Collision damage thru out. Galvanization has lost effectiveness throughout.</p> <p>CS3 - A few spalls at right rail post anchors, some with section loss to rail anchor bolts.</p> <p>CS4 - Many rusting thru holes in right rail.</p>							
815-Drainage	3 - Mod.	2	each	1	0	1	0
<p>Water leaking thru box beam joints.</p> <p>CS3 - Areas of bent or loose drip strips. Several sections of drip strips missing from right edge.</p>							

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ODOT District: District 12

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Date Built: 07/01/1931
Rehab Date: 01/01/1984

Major Maint: 01 - State Highway Agency

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Traffic On: 1 - Highway

Routine Maint: 04 - City or Municipal Highway Agency

Feature Inters: CHAGRIN R. 1.81 MI W 306

Traffic Under: 5 - Waterway

FIPS Code: 85484 - WILLOUGHBY (LAK county)

Location: DISTRICT 12

0.5 MI E SR174

Insp. Resp A: 01 - State Highway Agency
Insp Resp B:

Inspector

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Reviewer Seif,Youssef

Inspector Comments - Deck and Approach

Deck

Curbs/Sidewalk

Transverse cracks, some leaching and rust stained. Many shallow spalls, some with exposed rebar. Some delams.

Approach

Approach Wearing Surface

Approach Embankment

Cantilevered portion of forward-right wingwall is undermined as deep as 36". Both left approach walks have been ramped with asphalt.

Approach Guardrail

Minor collision damage thru out with several missing spacers at rear right and one at rear left. Some post rot throughout. Rusted thru holes at rear right. Galvanization losing effectiveness.

Signs

No bridge end markers.

Inspector Comments - General Appraisal

Superstructure

Substructure

Wingwalls

Many leaching cracks, rust stains, 10 sf of spalls with exposed rebar at forward-right. Both forward wingwalls are thru cracked.

Substructure Scour

3' deep scour holes at both piers. Pier 1 footing is exposed on East side most length with up to 6" of vertical face exposed with no undermining. Up to 10" of East side of pier 2 footing vertical face is exposed with no undermining. Rear

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abutment footing exposed along entire length. Areas of loose sediment around piers. Note: All substructure units on rock.

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel Hydraulic Opening

A few logs hung up on upstream nose of P1. Large tree and logs hung up on upstream nose of P2 block 5% in span 3.

Channel

Channel Alignment

Flow is mostly through spans 1 & 2 with debris and silting up in span 3.

Channel Protection

Some stone has washed away.

Scour Critical

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Pictures