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Bridge No: 1640 011

Date of Inspection: 05/28/2024

Load Rating Date: 09/05/2013

Print Date:

Report Uploaded

19-Jul-24

Sufficiency Rating: 83.1 SD/FO: ND

IDENTIFICATION

Bridge ID: 1640 011

5) Inventory Route

A) On/Under: Route On Structure

D) Route No: 00002

6) Feature Intersected: CENTERVILLE RD.

7) Facility Carried: KIRKWOOD HWY/SR2

9) Location: PRICES CORNER

16) Latitude: 39° 44' 15"

98) Border Bridge Code: Not Applicable (P)

STRUCTURE TYPE AND MATERIALS

43 A & B) Main Span Mtrl/Design: 3 Steel

02 Stringer/Girder

44 A & B) Appr Span Mtrl/Design:

45) Main Spans: 1

108A) Wearing Surface: 1 Monolithic Concrete

Deck Sealing: Epoxy

Pier 1: NA

Pier 2: NA

Abut 1: 2

Abut 2: NA

NAVIGATION DATA

38) Navigation Control: NA-no waterway

111) Pier Protection: Not Applicable (P)

AGE AND SERVICE

19) Detour Length: 2.2 mi

28) No. of Lanes

29) ADT: 42676

42) Type of Service

106) Year Reconst.: NA

CLASSIFICATION

12) Base Hwy Network: 1

20) Toll Facility: 3 On free road

26) Functional Class: 14 Urban Other Princ

101) Parallel Str.: No || bridge exists

104) Hwy System: 1 On the NHS

112) NBIS Length: Long Enough

LOAD RATING AND POSTING

31) Design Load: 5 MS 18 (HS 20)

63) Oper. Rating Method: 8 LRFR (HL93)

65) Inventory Rating Method: 8 LRFR (HL93)

Reason of Posting: _

S220: NA

T330:

SU4 :

SU7 :

PROPOSED IMPROVEMENTS

75) Type of Work: 38 Other Structural

94) Bridge Cost: \$100000.00

96) Total Cost: \$150000.00

114) Future ADT: 61,727

CONTRACT INFORMATION

Contract 1: 6902002

Contract 4: NA

2) District: North District

B) Highway Type: 3 State Hwy

E) Direction: 0 N/A (NBI)

17) Longitude: 075° 37' 22"

99) Border Br. Str. No.: Unknown

46) Approach Spans: 0

108B) Membrane: 0 None

Deck Sealing Date: 01/01/1901

Pier Ftg.1: NA

Abut Ftg.1: E

39) Vert. Clearance: 0.0 ft

116) Lift Bridge Vert. Clearance:

27) Year Built: 1975

A) On Bridge: 6

30) Year of ADT: 2023

A) On Bridge: 5 Highway-pedestri

109) % Truck ADT: 8

13A) LRS Inv. Rte: 0000000011

21) Maintenance: State Highway Agency

37) Historical: 5 Not eligible for NRHP

102) Direction: 2 2-way traffic

41) Posting status: A Open, no restrict

64) Operating Rating: 1.47 rf

Date of Resolution: NA

S335:

T435:

SU5:

EV2:

76) Length of Imp.: 94.0 ft

95) Rdwy Cost: \$10000.00

97) Yr of Cost Est: 2009

115) Yr of Fut. ADT: 2042

Contract 2: NA

Contract 5: NA

Type of Inspection(s) PerformedUW
☐NBI
☒Other
☐FC
☐Element
☒

3) County: 03 New Castle

4) Place Code: Elsmere

C) Service Lvl: 1 Mainline

11) Mile Pnt: 11.303 mi

107) Deck Type: 1 Concrete-Cast-in-Place

108C) Deck Prot: None

Pier Ftg.2: NA

Abut Ftg.2: NA

40) Hor. Clr: 0.0 ft

0.0 ft

B) Under Br.: 7

B) Under Br.: 1 Highway

13B) LRS SubRte No: 00

22) Owner: 1

38) Defense Hwy: 0 Not a STRAHNET hwy

103) Temp. Str.: [blank] Not temporary

70) Br Posting: 5 At/Above Legal Loads

66) Inv. Rating: 1.13 rf

Rating Date: 09/05/2013

S437:

T540:

SU6:

EV3:

Contract 3: NA

Contract 6: NA

INSPECTION

90) Inspection Date: 5/28/2024

92A) FC Frequency:

92B) UW Frequency:

92C) SI Frequency:

Element Frequency: 24 months

UBIV Required: N

UBIV Freq: -1

Boat: N

LC Insp Req: N

91) Frequency: 24 months

93A) FC Insp. Date: NA

93B) UW Insp. Date: NA

SI Date 93C: NA

Elem. Insp. Date: 5/28/2024

UBIV Days: -1

UBIV Insp Date: 01/01/1901

Tidal: N

LC Insp Date: 01/01/1901

Next Insp.: 5/29/2026

Next FC Insp: NA

Next UW Insp.: NA

Next SI: NA

Next El. Insp.: 5/29/2026

Inspection Zone: 03

GPS: Y

CONDITION

58) Deck: 7 Good

61) Channel: N N/A (NBI)

62) Culvert: N N/A (NBI)

59) Superstructure: 6 Satisfactory 60) Sub Str: 6 Satisfactory

APPRAISAL

36) Traffic Safety Features

A) Bridge Rail: N N/A or not required

B) Transition: N N/A or not required C) Appr. Rail: N N/A or not required

D) Approach Rail Ends: N N/A or not required

67) Str. Evaluation: 6 Equal Min Criteria

68) Deck Geometry: 9 Above Desirable Crit 69) Under Clr: 3 Intolerable - Correct

71) Waterway Adequacy: N Not applicable

72) Approach Alignment: 8 Equal Desirable Crit

113) Scour Critical: N Not Over Waterway

GEOMETRIC DATA

32) Appr. Rdwy Width (w/ Shldrs): 113.00 ft

33) Median: 3 Closed Med
w/Barriers

34) Skew: 08°

35) Structure Flared: 0 No flare

48) Length Max Span: 90.00 ft

49) Structure Length: 94.00 ft

50) Curb or Sidewalk

A) Left: 5.00 ft

B) Right: 5.00 ft

51) Width Curb to Curb : 109.00 ft

52) Width Out to Out: 121.00 ft

53) Minimum Vertical Clearance Over Bridge: 99.99 ft

54) Vertical Underclearance

A) Reference: H Hwy beneath struct

B) Minimum: 14.50 ft

55) Lateral Underclearance

A) Reference: H Hwy beneath struct

B) Minimum: 0.00

56) Minimum Lateral Underclearance - Minimum Left: 0.00 ft

Bridge No: 1640 011
Date of Inspection: 05/28/2024
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Print Date:
Report Uploaded 19-Jul-24

ELEMENT CONDITION STATE DATA

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4
12/2	Re Concrete Deck	sq.ft	10,890.00	10,428.00	424.00	38.00	0.00
107/2	Steel Opn Girder/Beam	ft	1,348.00	0.00	1,330.00	18.00	0.00
515/2	Steel Protective Coating	sq.ft	11,458.00	0.00	0.00	11,305.00	153.00
215/2	Re Conc Abutment	ft	246.00	139.00	91.00	16.00	0.00
302/2	Compressn Joint Seal	ft	242.00	151.00	0.00	0.00	91.00
311/2	Moveable Bearing	each	15.00	6.00	7.00	2.00	0.00
515/2	Steel Protective Coating	sq.ft	90.00	78.00	0.00	0.00	12.00
313/2	Fixed Bearing	each	15.00	13.00	1.00	1.00	0.00
515/2	Steel Protective Coating	sq.ft	90.00	84.00	0.00	0.00	6.00
321/2	Re Conc Approach Slab	sq.ft	2,239.00	2,237.00	2.00	0.00	0.00
811/2	Asphaltic Conc. Wearing Surface	sq.ft	2,239.00	2,007.00	202.00	30.00	0.00
330/2	Metal Bridge Railing	ft	308.00	306.00	0.00	2.00	0.00
331/2	Re Conc Bridge Railing	ft	308.00	299.00	9.00	0.00	0.00
825/2	R/C Abutment Backwall	ft	246.00	229.00	0.00	17.00	0.00
839/2	Soffit Smart Flag	(EA)	1.00	1.00	0.00	0.00	0.00
856/2	R/C Sidewalk	(LF)	192.00	175.00	17.00	0.00	0.00
862/2	RC Median	(LF)	96.00	93.00	3.00	0.00	0.00
881/2	Steel Diap	(EA)	78.00	0.00	63.00	15.00	0.00
515/2	Steel Protective Coating	sq.ft	2,808.00	0.00	0.00	2,268.00	540.00
890/2	RC Wingwalls	(LF)	131.00	130.00	1.00	0.00	0.00

INSPECTION

Inspection Date: 05/28/2024 7/24/24 Type: 1 Regular NBI
Inspector: JOSEPH MASTEN BrM User:
Scope: NBI: ☒ Other: ☐ Element: ☒
Underwater: ☐ Fracture Critical ☐

INSPECTION NOTES

INSPECTED BY: J.MASTEN (TL,I,P) / J.RIDLEY (U,R)

-HANDS ON INSPECTION WAS PERFORMED BY FOOT AND w/THE USE OF OUR BUCKET TRUCK. THE INTERIOR PORTIONS OF THE GIRDERS AND DIAPHRAMS OVER THE TRAVEL LANES WERE VISUALLY INSPECTED FROM THE GROUND.

-NBI SUBSTRUCTURE RATING RAISED FROM 5 TO 6 BASED ON GUIDANCE IN THE BEIM.

MAXIMO MAINTENANCE:

-B022-S1D: REPAIR SPALLS IN THE NORTHWEST ASPHALT APPROACH SLAB...WO#1346157

-B025-P1A: REPAIR SPALLS IN THE CONCRETE DECK IN BOTH LANES...WO#1346159

-B060-A1C: SEALS CRACKS IN ALL ASPHALT APPROACH SLABS...WO# 1346161

STRUCTURE NOTES

Year Bridge Painted: NA Comments:
Date of Deck Sealing: 01/01/1901 Comments:
Date of Non Structural Deck Overlay: 01/01/1901 Comments:

Date of Structural Deck Resurfacing: 01/01/1901

Comments:

Date of Current Bridge Joints: 01/01/1975

Comments:

NBI DONE BY: JASON BAUER

**NOTE: FATIGUE PRONE DETAIL--COVER PLATES AT BOTTOM OF FLANGE.

....NOTE: SCALE FACTORS ENTERED BY GRD ON 01/30/07, DO NOT CHANGE OR ERASE....

ELEMENT CONDITION STATE DATA FOR UNIT0

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4	Notes
12/2	Re Concrete Deck	sq.ft	10,890.00	10,428.00	424.00	38.00	0.00	DECK: EXP BAR: CS-3=2 SF: EXPOSED BAR w/LOSS OF SECTION IN WESTBOUND TRAVEL LANE. (PHOTO 21) SPALL / DELAM: CS-3=35 SF: DEEP SPALLS AND ASPHALT PATCHES IN BOTH EASTBOUND (15 SF) AND WESTBOUND (20 SF) LANES. (PHOTO 21) CS-2=424 SF: AS PER THE DECK EVALUATION THERE IS DELAM AT RANDOM. SEE ATTACHED SHEET. SOFFIT: EXP BAR: CS-3=1 SF: EXPOSED BAR w/LOSS OF SECTION IN BAY 7 OVER THE WEST SIDEWALK. (PHOTO 13) EFFLO / RUST: CS-1=3 SF: SUPERFICIAL CRACKS WITH RUST STAINING IN BAY 7 OVER THE WEST SHOULDER (2020 PHOTO 14) NOTE: - THE DECK IS COVERED w/HIGH FRICTION EPOXY OVERLAY. AS PER BIE ELEMENT #810 THIN OVERLAY IS NOT TO BE USED.
1080/2	Delamination/Spall/Patched Area	sq.ft	459.00	0.00	424.00	35.00	0.00	
1090/2	Exposed Rebar	sq.ft	3.00	0.00	0.00	3.00	0.00	-
107/2	Steel Opn Girder/Beam	ft	1,348.00	0.00	1,330.00	18.00	0.00	CORROSION: CS-3=18 LF: CORROSION WITH LOSS OF SECTION TO BOTH ENDS OF GIRDER 1 AND GIRDER 15. (PHOTO 9) CORROSION w/LOSS OF SECTION TO GIRDER 5 AND GIRDER 9 OVER THE EAST ABUTMENT. CORROSION w/LOSS OF SECTION TO GIRDERS 2,3,4,5 OVER THE WEST ABUTMENT. CS-2=1330 LF: LIGHT CORROSION AND FRECKLE RUST BLISTERS TYPICAL.
515/2	Steel Protective Coating	sq.ft	11,458.00	0.00	0.00	11,305.00	153.00	CS-4=153 SF: NO PROTECTION CS-3=11305 SF: LIMITED EFFECTIVENESS
1000/2	Corrosion	ft	1,348.00	0.00	1,330.00	18.00	0.00	-

ELEMENT CONDITION STATE DATA FOR UNIT0

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4	Notes
215/2	Re Conc Abutment	ft	246.00	139.00	91.00	16.00	0.00	EAST ABUTMENT: CRACKING: CS-3=8 LF: 1/2-INCH WIDE HORIZONTAL CRACK NEAR THE TOP OF THE BREASTWALL UNDER BAY 14. (PHOTO 7) CS-2=6 LF: 1/4-INCH WIDE HORIZONTAL CRACK NEAR THE TOP OF THE BREASTWALL UNDER BAY 10 AND GIRDERS 14,15. CS-1= SUPERFICIAL CRACKS SOME w/EFFLO AND RUST. SPALL / DELAM: CS-3=1 LF: DEEP SPALL UNDER BAY 14. (PHOTO 11) CS-2=1 LF: SHALLOW SPALL AT THE NORTH END. CS-2=25 LF: AREAS OF DELAM UNDER BAYS 1, 5 AND GIRDER 13. WEST ABUTMENT: CRACKING: CS-3=4 LF: 1/2-INCH WIDE HORIZONTAL CRACK NEAR THE TOP OF THE BREASTWALL UNDER BAY 14. CS-2=11 LF: 1/4-INCH WIDE HORIZONTAL CRACK AND DELAM NEAR THE TOP OF THE BREASTWALL UNDER BAYS10-13. CS-1= SUPERFICIAL CRACKS SOME w/EFFLO AND RUST. EXP BAR: CS-3=3 LF: EXP BAR w/LOSS OF SECTON UNDER BAY 10. (PHOTO 14) SPALL / DELAM:: CS-2=48 LF: AREAS OF DELAM UNDER
1080/2	Delamination/Spall/Patched Area	ft	75.00	0.00	74.00	1.00	0.00	-
1090/2	Exposed Rebar	ft	3.00	0.00	0.00	3.00	0.00	-
1130/2	Cracking (RC and Other)	ft	29.00	0.00	17.00	12.00	0.00	
302/2	Compressn Joint Seal	ft	242.00	151.00	0.00	0.00	91.00	WEST JOINT: SEAL ADHESION: CS-4=19 LF: FULLY DEBONDED IN THE EASTBOUND (13 LF) AND WESTBOUND (6 LF) LANES AT RANDOM. (PHOTO 17) SEAL DAMAGE: CS-4=35 LF: MISSING JOINT MATERIAL IN THE EASTBOUND (15 LF) AND WESTBOUND (20 LF) TRAVEL LANES. (PHOTO 18) EAST JOINT: SEAL ADHESION: CS-4=37 LF: FULLY DEBONDED IN THE EASTBOUND (20 LF) AND WESTBOUND (17 LF) LANES AT RANDOM.
2320/2	Seal Adhesion	ft	56.00	0.00	0.00	0.00	56.00	
2330/2	Seal Damage	ft	35.00	0.00	0.00	0.00	35.00	-

ELEMENT CONDITION STATE DATA FOR UNIT0

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4	Notes
311/2	Moveable Bearing	each	15.00	6.00	7.00	2.00	0.00	WEST ABUTMENT BEARINGS: CONNECTION: CS-3=1 EA: MISSING ANCHOR BOLT ON BEARING 1 ALONG w/CORROSION TO THE MASONRY PLATE. (PHOTO 12) CS-2=1 EA: BENT ANCHOR BOLT AT BEARING 8 BUT FUNCTIONING AS INTENDED. CORROSION: CS-3=1 EA: ACTIVE CORROSION WITH LOS TO BOTH PLATES ON BEARING 15 (PHOTO 15) ALIGNMENT: CS-2=6 EA: 1/2-INCH OF LATERAL MOVEMENT TOWARDS THE NORTH ON BEARINGS #2-7 (NC-24)
515/2	Steel Protective Coating	sq.ft	90.00	78.00	0.00	0.00	12.00	CS-4=12 SF: NO PROTECTION
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00	
1020/2	Connection	each	2.00	0.00	1.00	1.00	0.00	-
2220/2	Alignment	each	6.00	0.00	6.00	0.00	0.00	-
313/2	Fixed Bearing	each	15.00	13.00	1.00	1.00	0.00	EAST ABUTMENT BEARINGS: CORROSION: CS-3=1 EA: CORROSION w/LOSS OF SECTION TO THE MASONRY PLATE OF BEARING 15 (PHOTO 10) CONNECTION: CS-2=1 EA: BENT ANCHOR BOLT AT BEARING 8 BUT FUNCTIONING AS INTENDED.
515/2	Steel Protective Coating	sq.ft	90.00	84.00	0.00	0.00	6.00	CS-4=6 SF: NO PROTECTION (NC-24)
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00	
1020/2	Connection	each	1.00	0.00	1.00	0.00	0.00	
321/2	Re Conc Approach Slab	sq.ft	2,239.00	2,237.00	2.00	0.00	0.00	DELAM / SPALL: CS-2=2 SF: AREAS OF DELAM ON THE EXPOSED PORTIONS OF THE NORTHEAST AND NORTHWEST APPROACH SLABS ADJACENT TO THE NORTH SIDEWALK. (NC-24)
811/2	Asphaltic Conc. Wearing Surface	sq.ft	2,239.00	2,007.00	202.00	30.00	0.00	NORTHWEST SLAB: SPALL / DELAM / PATCH: CS-3=30 SF: DEEP SPALLS AND DELAMINATED CRACKED ASPHALT IN THE WESTBOUND LANES. (PHOTO 19) CRACKING: CS-2=50 SF: MINOR CRACKS AT RANDOM. SOUTHWEST SLAB: SPALL / DELAM / PATCH: CS-2=2 SF: SHALLOW SPALLS IN THE WESTBOUND LANE ADJACENT TO WHITE LINE. CRACKING: CS-2=50 SF: MINOR CRACKS AT RANDOM. NORTHEAST SLAB: CRACKING: CS-2=50 SF: MINOR CRACKS AT RANDOM. NORTHWEST SLAB: CRACKING: CS-2=50 SF: MINOR CRACKS AT RANDOM.
3210/2	Del/Spall/Patch/Pot(Wear Surf)	sq.ft	32.00	0.00	2.00	30.00	0.00	-
3220/2	Crack (Wearing Surface)	sq.ft	200.00	0.00	200.00	0.00	0.00	
1080/2	Delamination/Spall/Patched Area	sq.ft	2.00	0.00	2.00	0.00	0.00	-

ELEMENT CONDITION STATE DATA FOR UNIT0

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4	Notes
330/2	Metal Bridge Railing	ft	308.00	306.00	0.00	2.00	0.00	NORTH FENCE: DISTORTION: CS-3=1 LF: HOLE IN THE FENCE MATERIAL OVER THE EAST WINGWALL. (PHOTO 20) SOUTH FENCE: CONNECTION: CS-3=1 LF: MISSING BASEPLATE FASTENERS AT THE EAST END. (PHOTO 22) (NC-24)
1020/2	Connection	ft	1.00	0.00	0.00	1.00	0.00	
1900/2	Distortion	ft	1.00	0.00	0.00	1.00	0.00	-
7000/2	Damage	ft	1.00	0.00	0.00	1.00	0.00	-
331/2	Re Conc Bridge Railing	ft	308.00	299.00	9.00	0.00	0.00	NORTH RAIL: CRACKING: CS-1= SUPERFICIAL CRACKING SOME w/EFFLO. SOUTH RAIL: DELAM / SPALL: CS-2=9 LF: SHALLOW SPALLS IN THE INTERIOR FACE AT RANDOM LOCATIONS. CRACKING: CS-1= SUPERFICIAL CRACKING SOME w/EFFLO. (NC-24)
1080/2	Delamination/Spall/Patched Area	ft	9.00	0.00	9.00	0.00	0.00	
825/2	R/C Abutment Backwall	ft	246.00	229.00	0.00	17.00	0.00	WEST BACKWALL: SPALL / DELAM: CS-3=17 LF: THE TOP SIDE IN THE EASTBOUND LANE HAS AREAS OF DEEP SPALLS AND ASPHALT PATCHES. (PHOTO 16) CRACKING: CS-1= SUPERFICIAL CRACKS SOME w/EFFLO. EAST BACKWALL: CRACKING: CS-1= SUPERFICIAL CRACKS SOME w/EFFLO AND RUST.
839/2	Soffit Smart Flag	(EA)	1.00	1.00	0.00	0.00	0.00	CS-1=1 EA: DISTRESSED AREA IS LESS THAN 2 PERCENT OF THE TOTAL UNDERSIDE. SEE ELEMENT 12 FOR DETAILS. (NC-24)
856/2	R/C Sidewalk	(LF)	192.00	175.00	17.00	0.00	0.00	NORTH SIDEWALK: SPALL / DELAM: CS-2=10 LF: DELAM OVER EAST ABUTMENT (3 LF), IN CURB FACE MID SPAN (2 LF) AND AT WEST END (5 LF). CRACKING: CS-1= SUPERFICIAL CRACKS SOME w/EFFLO AND RUST. SOUTH SIDEWALK: SPALL / DELAM: CS-2=7 LF: AREAS OF DELAM IN THE CURB AND TOP FACE AT THE EAST (3 LF) AND WEST (4 LF) ENDS ADJACENT TO THE JOINTS.
1080/2	Delamination/Spall/Patched Area	(LF)	17.00	0.00	17.00	0.00	0.00	-
862/2	RC Median	(LF)	96.00	93.00	3.00	0.00	0.00	SPALL / DELAM: CS-2=3 LF: SHALLOW SPALLS ALONG THE NORTH EDGE NEAR THE EAST END. CRACKING: CS-1= SUPERFICIAL CRACKS SOME w/EFFLO AND RUST.
1080/2	Delamination/Spall/Patched Area	(LF)	3.00	0.00	3.00	0.00	0.00	-

ELEMENT CONDITION STATE DATA FOR UNIT0

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4	Notes
881/2	Steel Diap	(EA)	78.00	0.00	63.00	15.00	0.00	CORROSION: CS-3=15 LEA: CORROSION w/LOSS OF SECTION DIAPHRAGMS 1,4,6,8,13,14 OVER THE EAST ABUTMENT (PHOTO 8) AND DIAPHRAGMS 1,2,3,4,6,8,13,14,15 OVER THE WEST ABUTMENT. CS-2=63 EA: ALL DIAPHRAGMS HAVE LIGHT CORROSION AND OR FRECKLE RUST.
515/2	Steel Protective Coating	sq.ft	2,808.00	0.00	0.00	2,268.00	540.00	CS-2=540 SF: NO PROTECTION CS-3=2268 SF: LIMITED EFFECTIVENESS
1000/2	Corrosion	(EA)	78.00	0.00	63.00	15.00	0.00	-
890/2	RC Wingwalls	(LF)	131.00	130.00	1.00	0.00	0.00	SOUTHWEST WINGWALL: SPALL / DELAM: CS-2=1 LF: SHALLOW SPALL NEAR THE ABUTMENT INTERFACE. CRACKING: CS-1= DENSE MAP CRACKING TYPICAL THROUGHOUT ALL WINGWALLS WITH POSSIBLE SIGNS OF A.S.R. (NC-24)
1080/2	Delamination/Spall/Patched Area	(LF)	1.00	0.00	1.00	0.00	0.00	
1080/2	Delamination/Spall/Patched Area	sq.ft	17.00	0.00	0.00	17.00	0.00	

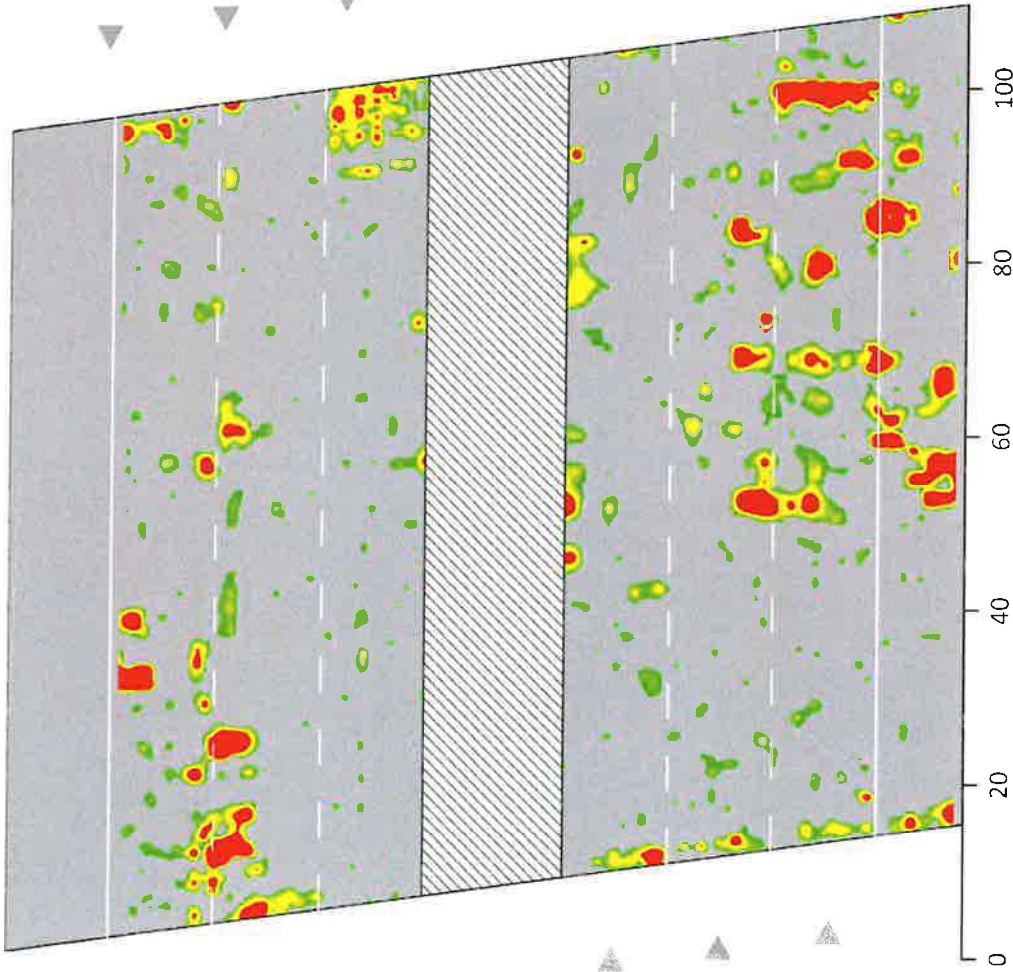
ELEMENT CONDITION STATE DATA SUMMARY

Elm/Env	Description	Unit	Total Qty	Qty. St. 1	Qty. St. 2	Qty. St. 3	Qty. St. 4
12/2	Re Concrete Deck	sq.ft	10,890.00	10,428.00	424.00	38.00	0.00
1080/2	Delamination/Spall/Patched Area	sq.ft	459.00	0.00	424.00	35.00	0.00
1080/2	Delamination/Spall/Patched Area	sq.ft	459.00	0.00	424.00	35.00	0.00
1090/2	Exposed Rebar	sq.ft	3.00	0.00	0.00	3.00	0.00
1090/2	Exposed Rebar	sq.ft	3.00	0.00	0.00	3.00	0.00
107/2	Steel Opn Girder/Beam	ft	1,348.00	0.00	1,330.00	18.00	0.00
515/2	Steel Protective Coating	sq.ft	11,458.00	0.00	0.00	11,305.00	153.00
515/2	Steel Protective Coating	sq.ft	11,458.00	0.00	0.00	11,305.00	153.00
1000/2	Corrosion	ft	1,348.00	0.00	1,330.00	18.00	0.00
1000/2	Corrosion	ft	1,348.00	0.00	1,330.00	18.00	0.00
215/2	Re Conc Abutment	ft	246.00	139.00	91.00	16.00	0.00
1080/2	Delamination/Spall/Patched Area	ft	75.00	0.00	74.00	1.00	0.00
1080/2	Delamination/Spall/Patched Area	ft	75.00	0.00	74.00	1.00	0.00
1090/2	Exposed Rebar	ft	3.00	0.00	0.00	3.00	0.00
1090/2	Exposed Rebar	ft	3.00	0.00	0.00	3.00	0.00
1130/2	Cracking (RC and Other)	ft	29.00	0.00	17.00	12.00	0.00
1130/2	Cracking (RC and Other)	ft	29.00	0.00	17.00	12.00	0.00
302/2	Compressn Joint Seal	ft	242.00	151.00	0.00	0.00	91.00
2320/2	Seal Adhesion	ft	56.00	0.00	0.00	0.00	56.00
2320/2	Seal Adhesion	ft	56.00	0.00	0.00	0.00	56.00
2330/2	Seal Damage	ft	35.00	0.00	0.00	0.00	35.00
2330/2	Seal Damage	ft	35.00	0.00	0.00	0.00	35.00
311/2	Moveable Bearing	each	15.00	6.00	7.00	2.00	0.00
515/2	Steel Protective Coating	sq.ft	90.00	78.00	0.00	0.00	12.00
515/2	Steel Protective Coating	sq.ft	90.00	78.00	0.00	0.00	12.00
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00
1020/2	Connection	each	2.00	0.00	1.00	1.00	0.00
1020/2	Connection	each	2.00	0.00	1.00	1.00	0.00
2220/2	Alignment	each	6.00	0.00	6.00	0.00	0.00
2220/2	Alignment	each	6.00	0.00	6.00	0.00	0.00
313/2	Fixed Bearing	each	15.00	13.00	1.00	1.00	0.00
515/2	Steel Protective Coating	sq.ft	90.00	84.00	0.00	0.00	6.00
515/2	Steel Protective Coating	sq.ft	90.00	84.00	0.00	0.00	6.00
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00
1000/2	Corrosion	each	1.00	0.00	0.00	1.00	0.00
1020/2	Connection	each	1.00	0.00	1.00	0.00	0.00
1020/2	Connection	each	1.00	0.00	1.00	0.00	0.00
321/2	Re Conc Approach Slab	sq.ft	2,239.00	2,237.00	2.00	0.00	0.00
811/2	Asphaltic Conc. Wearing Surface	sq.ft	2,239.00	2,007.00	202.00	30.00	0.00
811/2	Asphaltic Conc. Wearing Surface	sq.ft	2,239.00	2,007.00	202.00	30.00	0.00
1080/2	Delamination/Spall/Patched Area	sq.ft	2.00	0.00	2.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	sq.ft	2.00	0.00	2.00	0.00	0.00
330/2	Metal Bridge Railing	ft	308.00	306.00	0.00	2.00	0.00
1020/2	Connection	ft	1.00	0.00	0.00	1.00	0.00
1020/2	Connection	ft	1.00	0.00	0.00	1.00	0.00
1900/2	Distortion	ft	1.00	0.00	0.00	1.00	0.00
1900/2	Distortion	ft	1.00	0.00	0.00	1.00	0.00
7000/2	Damage	ft	1.00	0.00	0.00	1.00	0.00
7000/2	Damage	ft	1.00	0.00	0.00	1.00	0.00
331/2	Re Conc Bridge Railing	ft	308.00	299.00	9.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	ft	9.00	0.00	9.00	0.00	0.00

1080/2	Delamination/Spall/Patched Area	ft	9.00	0.00	9.00	0.00	0.00
825/2	R/C Abutment Backwall	ft	246.00	229.00	0.00	17.00	0.00
839/2	Soffit Smart Flag	(EA)	1.00	1.00	0.00	0.00	0.00
856/2	R/C Sidewalk	(LF)	192.00	175.00	17.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	17.00	0.00	17.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	17.00	0.00	17.00	0.00	0.00
862/2	RC Median	(LF)	96.00	93.00	3.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	3.00	0.00	3.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	3.00	0.00	3.00	0.00	0.00
881/2	Steel Diap	(EA)	78.00	0.00	63.00	15.00	0.00
515/2	Steel Protective Coating	sq.ft	2,808.00	0.00	0.00	2,268.00	540.00
515/2	Steel Protective Coating	sq.ft	2,808.00	0.00	0.00	2,268.00	540.00
1000/2	Corrosion	(EA)	78.00	0.00	63.00	15.00	0.00
1000/2	Corrosion	(EA)	78.00	0.00	63.00	15.00	0.00
890/2	RC Wingwalls	(LF)	131.00	130.00	1.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	1.00	0.00	1.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	(LF)	1.00	0.00	1.00	0.00	0.00
1080/2	Delamination/Spall/Patched Area	ft	17.00	0.00	0.00	17.00	0.00
1080/2	Delamination/Spall/Patched Area	ft	17.00	0.00	0.00	17.00	0.00

Abutment No. 1

Abutment No. 2



Distance along Bridge (ft)

Concrete Condition Legend		Orientation		Quantity Summary			General Information		
POOR	FAIR	GOOD	INTACT			Concrete Condition		Bridge ID: 1640 011 KIRKWOOD HWY / SR2 Tested on 8/15/2022	
						Intact	s.f.		%
						Good	5476.6		72.9
						Fair	1615.3		21.5
						Poor	189.7		2.5
Quantity Summary				234.0	3.1	Analyzed by: MAL Reviewed by: JAC Completed: 11/11/2022			
Quantity Summary				7516.6 sq. ft.		Sheet 1 of 1			





DELAWARE
DEPARTMENT OF TRANSPORTATION

JOINT MEASUREMENT SHEET

BRIDGE:

1-640-011

Date:	6/20/16	6/22/18	6/23/10	06/08/2022	5/28/24		
Inspectors:	Rm/ND/JO	JM/JP			JM/JR		
Location:	WEST	WEST	WEST	WEST ABUTMENT	WEST ABUT		
Temp (°F):		70	81	81°F	750		
Left Gap ("):	5/8"	1 1/4"	1 1/4"	1 1/4"	1 1/4"		
Right Gap ("):	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"		
Comments:							
Location:	EAST	EAST	EAST	EAST ABUTMENT	EAST ABUT		
Temp (°F):			81	81° FAHRENHEIT	750		
Left Gap ("):	1 1/8"	1"	1 1/8"	NORTH WHITE LINE	1 1/4"		
Right Gap ("):	1 1/8"	1 1/4"	1 1/4"	SOUTH WHITE LINE	1 3/8"		
Comments:							
Location:							
Temp (°F):							
Left Gap ("):							
Right Gap ("):							
Comments:							
Location:							
Temp (°F):							
Left Gap ("):							
Right Gap ("):							
Comments:							
Location:							
Temp (°F):							
Left Gap ("):							
Right Gap ("):							
Comments:							

Note: Joints are measured at solid lines unless a comment states otherwise. Left and right is determined by looking from span 1 and towards increasing roadway stationing.

**UNDER RECORD
For****Bridge No: 1640 011****One Route Under****IDENTIFICATION**

Bridge ID: 1640 011 2) District: North District 3) County: 03 New Castle
5) Inventory Route 4) Place Code: 24540
A) On/Under: One Route Under B) Highway Type: 3 State Hwy C) Service Lvl: 1 Mainline
D) Route No: 00002
6A) Feature Intersected: CENTERVILLE RD. 6B) Critical:
Road/Route Name: CENTERVILLE RD. 333
16) Latitude: 39° 44' 15" 17) Longitude: 075° 37' 22" 11) Mile Pnt: 0.920 mi

AGE AND SERVICE

19) Detour Length: 2.20 27) Year Built: 1975
28) No. of Lanes A) On Bridge: 6 B) Under Br. : 7
29) ADT: 9311 30) Year of ADT: 2023 109) % Truck ADT: 8

CLASSIFICATION

20) Toll Facility: 3 On free road
26) Functional Class: 14 Urban Other Pr 37) Historical: 5 Not eligible for NRHP 38) Defense Hwy: 0 Not a STRAHNET hwy
102) Direction: 2 2-way traffic 103) Temp. Str.: [blank] Not temporary 104) Hwy System: 1 On the NHS
110) National Network: 0

GEOMETRIC DATA

10) Clearances - Vertical: 14.5
42) Type of Service A) On Bridge: 5 Highway-pedestrian B) Under Bridge: 1 Highway
43 A & B) Main Span Mtrl/Design: 3 Steel 02 Stringer/Girder
47) Inv. Route - Horiz. Clearance: 47.0
48) Maximum Span: 90.0 49) Structure Length: 94.0

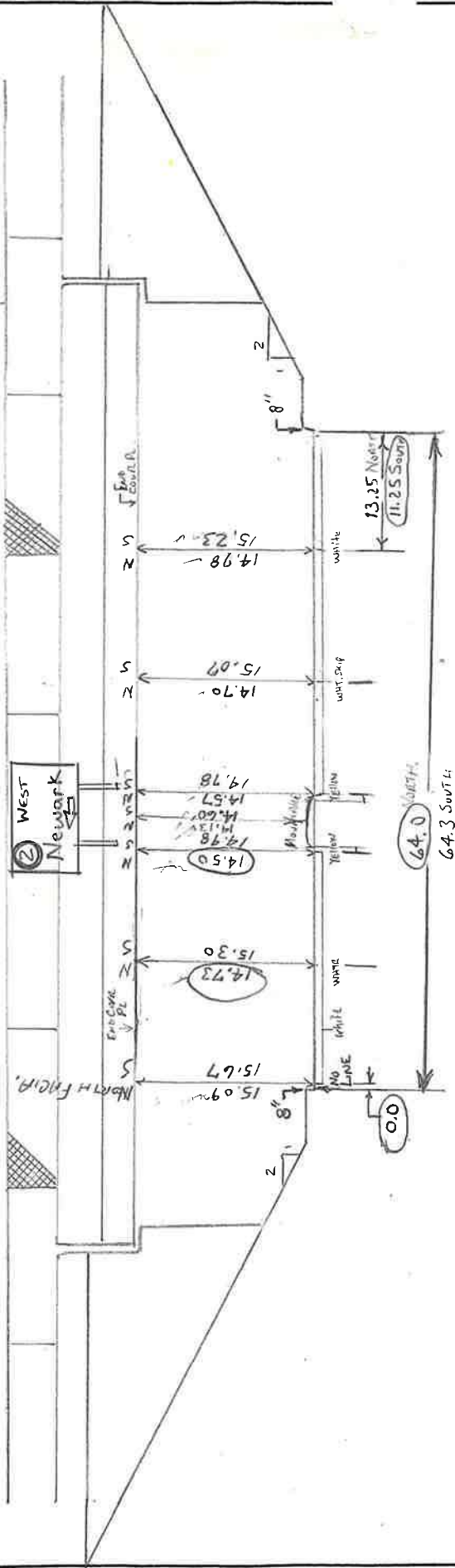
Under Record Sketch Sheet

Bridge: 1-640-011

Inspected By: JR, JM

Date: 5-28-24

(NC-24)



SOUTH ELEVATION



1 WEST APPROACH



2 SOUTH ELEVATION



3 GENERAL VIEW LOOKING EAST



4 UNDERRECORD SOUTH



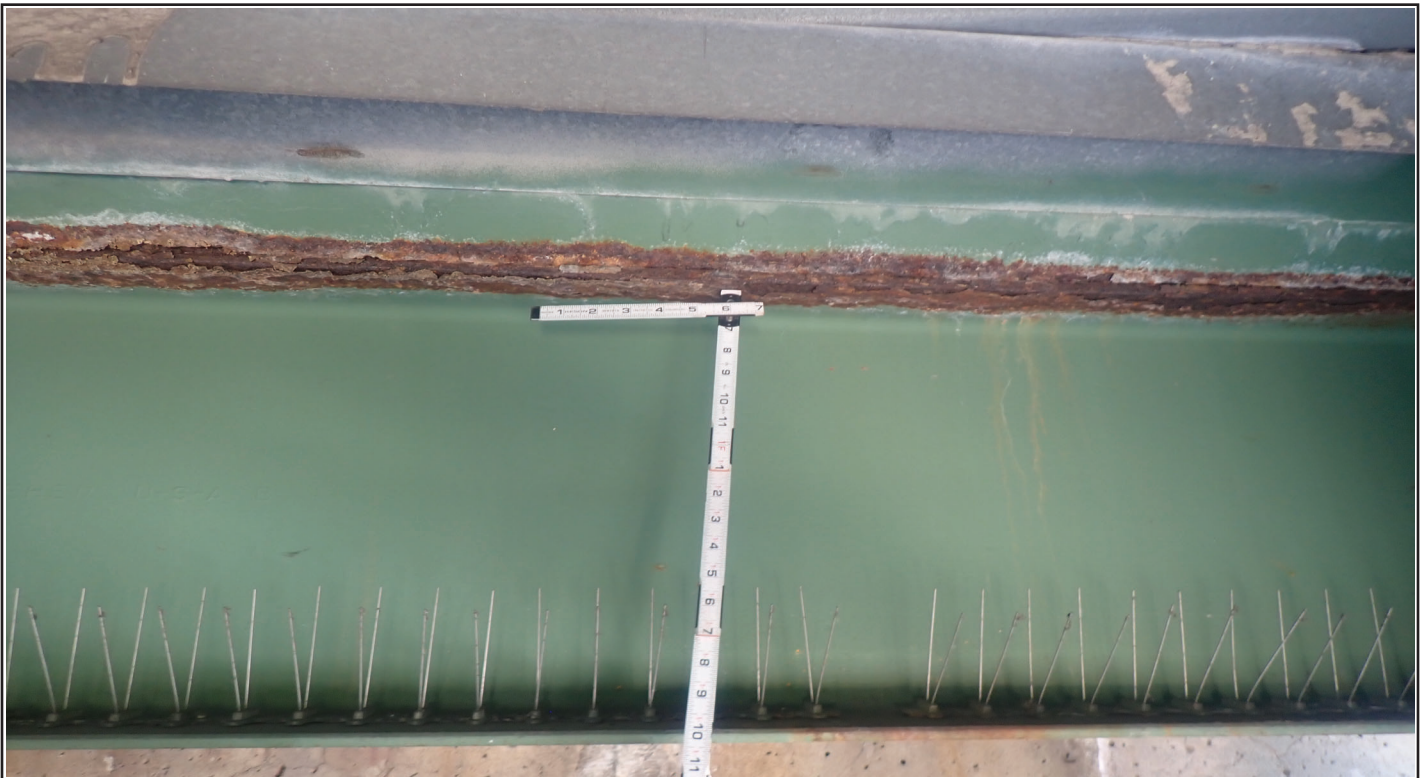
5 UNDERRECORD NORTH



6 WEARING SURFACE LOOKING EAST IN THE EASTBOUND LANES



7 EAST ABUTMENT WIDE HORIZONTAL CRACK UNDER BAY 14



8 EAST ABUTMENT BAY 14 DIAPHRAGM CORROSION W/LOSS OF SECTION



9 GIRDER 15 CORROSION w/LOSS OF SECTION TO TOP FLANGE OVER EAST ABUTMENT



10 EAST ABUTMENT FIXED BEARING 15 CORROSION w/LOSS OF SECTION



11 EAST ABUTMENT BREASTWALL DEEP SPALL UNDER GIRDER 14



12 WEST ABUTMENT MOVEABLE BEARING 1 MISSING CONNECTION



13 SOFFIT EXP BAR w/LOSS OF SECTION IN BAY 7 OVER WEST SIDEWALK



14 WEST ABUTMENT EXP BAR w/LOSS OF SECTION UNDER BAY 10



15 WEST ABUTMENT MOVEABLE BEARING 15 CORROSION w/LOSS OF SECTION



16 WEST ABUTMENT BACKWALL TOP SIDE DEEP SPALLS AND ASPHALT PATCHES IN EASTBOUND LANE



17 WEST COMPRESSION JOINT FULLY DEBONDED IN THE EASTBOUND LANES



18 WEST COMPRESSION JOINT MISSING IN THE WESTBOUND LANE



19 NORTHWEST ASPHALT APPROACH SLAB DEEP SPALLS w/DETERIORATING ASPHALT



20 NORTH METAL RAIL FENCE HOLE OVER THE EAST ABUTMENT



21 DECK EXP BAR w/ASPHALT PATCH IN WESTBOUND LANE



22 SOUTH METAL RAIL FENCE MISSING PARAPET CONNECTION AT THE EAST END

Bridge Maximo Maintenance History

WO Number	Reported Date	District	Area	Reported By	Changed By	Employee Name	Status	Wo Description	Priority	Function Code	FC Description	Unit of Measure	QA	Total Cost
230837	05/02/2008	NORTH	48	Masten,Joseph G	113013	Morrison,Dawn T	CLOSE	Bridge: 1-640-011 / WORK: B055-V1A	3	11105.5	Bridge - B055-V1A - Vegetation/ Debris (Removal)	Cube Yd	1	\$678.38
364464	05/11/2010	NORTH	48	Moore,Ricky Lee	109768	Trent,Jeffrey R.	CAN	BR- 1-640-011 / WORK: B022-S1D	2	11102.2	Bridge - B022-S1D - Bituminous Deck Wearing Surface (Repair/ Replace)	Sq Yd		\$0.00
498063	06/01/2012	NORTH	15	Masten,Joseph G	113013	Morrison,Dawn T	CLOSE	BR: 1-640-011 / WORK: B055-V1A	3	11105.5	Bridge - B055-V1A - Vegetation/ Debris (Removal)	Cube Yd	4	\$2,558.62
498068	06/01/2012	NORTH	15	Masten,Joseph G	113013	Morrison,Dawn T	CLOSE	BR: 1-640-011 / WORK: B007-S1H	3	11100.7	Bridge - B007-S1H - Reseal Deck Joints (Liquid Only)	Feet	50	\$321.20
498070	06/01/2012	NORTH	15	Masten,Joseph G	M12339	VERMA, SUPREET	CLOSE	BR: 1-640-011 / WORK: B022-S1D	2	11102.2	Bridge - B022-S1D - Bituminous Deck Wearing Surface (Repair/ Replace)	Sq Yd	0	\$0.00
498092	06/01/2012	NORTH	15	Masten,Joseph G	113013	Morrison,Dawn T	CLOSE	BR: 1-640-011	2	12110.2	Building - Electrical Systems - Maintenance & Repair	Hours	22.5	\$828.38
552285	04/30/2013	NORTH	15	Trent,Jeffrey R.	142311	Miller,Jamie Lynn	CLOSE	Installing Bird deterrent strips		11107.1	Bridge - Maintenance and Repair	Cube Yd	20	\$3,011.45
584624	10/07/2013	NORTH	15	Trent,Jeffrey R.	142311	Miller,Jamie Lynn	CLOSE	Installing birds spikes		11107.1	Bridge - Maintenance and Repair	Cube Yd	0	\$1,165.60
586087	10/14/2013	NORTH	15	Trent,Jeffrey R.	142311	Miller,Jamie Lynn	CLOSE	Installing bird spikes		11107.1	Bridge - Maintenance and Repair	Cube Yd	10	\$1,583.25
587579	10/23/2013	NORTH	15	Trent,Jeffrey R.	126972	Cattie,Sarah Putnam	CLOSE	Installing bird spikes		11107.1	Bridge - Maintenance and Repair	Cube Yd	10	\$1,809.38
637670	06/19/2014	NORTH	15	Miller,Glen A	090198	Rash,James D	CLOSE	BR: 1-640-011 / WORK: B007-S1H	3	11100.7	Bridge - B007-S1H - Reseal Deck Joints (Liquid Only)	Feet	1	\$397.50
643629	07/18/2014			Miller,Glen A	090198	Rash,James D	CLOSE		3				0	\$0.00
776805	06/21/2016	NORTH	11	Kulhanek,Jacob William	159442	Kavelak,Jamie L	CLOSE	YARD BRIDGE CHECK CENTERVILLE RD/ KIRKWOOD HWY		11200.1	High Priority Road Condition	Hours	3	\$361.20
920354	06/22/2018	NORTH	11	Masten,Joseph G	185682	Norwood,Devon	CLOSE	BR:	3	11105.5	Bridge -	Cube Yd	0	\$0.00

Bridge Maximo Maintenance History

WO Number	Reported Date	District	Area	Reported By	Changed By	Employee Name	Status	Wo Description	Priority	Function Code	FC Description	Unit of Measure	QA	Total Cost
								1-640-011 / WORK: B055-V1A			B055-V1A - Vegetation/ Debris (Removal)			
1070890	06/26/2020	NORTH	10	Moore,Jonathan T	193479	Ridley,Joanna	CLOSE	BR: 1-640-011 / WORK: B055-V1A	3	11105.5	Bridge - B055-V1A - Vegetation/ Debris (Removal)	Cube Yd	0	\$0.00
1212238	06/14/2022	NORTH	48	Ridley,Joanna	032963	Masten,Joseph G	CLOSE	BR: 1-640-011 / WORK: B055-V1A	3	11105.5	Bridge - B055-V1A - Vegetation/ Debris (Removal)	Cube Yd	0	\$0.00
1326213	02/14/2024	NORTH	11	Hyett,Christopher Sampson	159442	Kavelak,Jamie L	INPRG	OVERTIME - BRIDGE DECK - KIRKWOOD HWY/ CENTERVILLE RD		11200.1	High Priority Road Condition	Hours	18.5	\$1,599.51
1346157	05/30/2024	NORTH	15	Masten,Joseph G	096413	Redfield,April L.	WAPPR	BR: 1-640-011 / WORK: B022-S1D:	2	11102.2	Bridge - B022-S1D - Bituminous Deck Wearing Surface (Repair/ Replace)	Sq Yd		\$0.00
1346159	05/30/2024	NORTH	15	Masten,Joseph G	096413	Redfield,April L.	WAPPR	BR: 1-640-011 / WORK: B025-P1A:	2	11102.5	Bridge - B025-P1A - Concrete Deck (Repair)	Sq Yd		\$0.00
1346161	05/30/2024	NORTH	15	Masten,Joseph G	096413	Redfield,April L.	WAPPR	BR: 1-640-011 / WORK: B060-A1C:	1	11106.0	Bridge - B060-A1C - Apply Protective Coating Deck/ Parapet/ Sidewalk	Sq Yd		\$0.00