

APPENDIX D

LATEST AVAILABLE BRIDGE REPORTS



BRIDGE RE-EVALUATION SURVEY REPORT

STATE STRUCTURE NO. 13000W7
COUNTY STRUCTURE NO. W7
GREEN AVENUE OVER DEBBIES CREEK
Brielle Borough
MONMOUTH COUNTY

CYCLE No. 19

MAY 09, 2023

NOTE: This Bridge Re-Evaluation Report
shall be filed immediately after the
18th Cycle Inspection Report.

Prepared By:

Michael Baker

I N T E R N A T I O N A L

300 American Metro Blvd.
Hamilton, NJ 08619

N.J.D.O.T.
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
BRIDGE RE-EVALUATION SURVEY REPORT

CYCLE NO. 19

STRUCTURAL DATA:

Bridge No.: 13000W7	Year Built: 1943	Widened/Rehab: 0000
County Structure No.: W7	Length: 000120 ft	Width: 026.2 ft
Route No.: 00000	Date of this Evaluation: 05/09/2023	
Mile Point: 0000.000	By: B01 - Baker Michael	
Municipality: 1308 - Brielle Borough	Date of Previous Evaluation: 05/13/2021	
County: 025 - MONMOUTH COUNTY	By: G11 - Gibson Assoc.	
Name: GREEN AVENUE OVER DEBBIES CREEK	FCM/ PH Inspection	Dates
	FCM By:	
Structure Type: Seven span, simply supported, timber girders with timber substructure	P/H By:	
	Date of Underwater/Fathometric Inspection: 07/06/2021	
	By: Churchill Consulting Engineers	
	Date of Special Testing:	
	Date of Elec./Mech. Inspection (Level: II):	
Special Equipment Used: Small Boat. [See Photo(s): 23]	Scour Critical: No	

WORK DONE: Posting sign has been installed at the southeast approach and updated to reference "Green Ave. Bridge"

OVERALL PHYSICAL CONDITION: The structure is in poor condition due to the condition of the substructure.

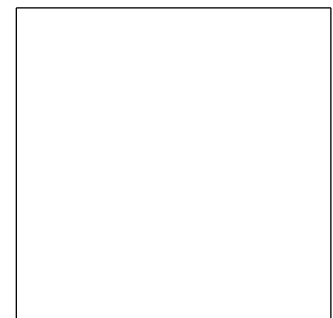
OVERALL CONDITION (ITEM 67): 4 - Meets minimum tolerable limits

Inspection Team Leader: Ian Sarault
Certifying Engineer: Kashfia Billah, P.E.
N.J. P.E. Number: 24GE03899900

Initials: _____

I certify that this report is an accurate description of the subject structure, to the extent determinable by visual inspection and testing performed.

Signature: _____
Date: _____



CONCLUSIONS AND RECOMMENDATIONS:

The overall condition of the structure is poor due to the condition of the substructure and the low inventory ratings.

The deck is in satisfactory condition due to the wide transverse cracks throughout all spans, and the loose railing posts of the pedestrian railing. See Photo(s) 15, 16

The superstructure is in satisfactory condition due to wide splits and random wide checks in a few stringers in each span. See Photo(s) 7

The substructure is in poor condition due to moderate decay with hollow sounding abutment piles, and splits with advanced decay at both abutment pile caps. The west end of both the North and South Abutment Header exhibit wide splits, advanced decay and up to 50% section loss. The wingwalls in the North Abutment exhibits advanced decay with section loss and wide checks throughout the piles. Pile 1 from the west at the North Abutment exhibits a 2 ½" wide split in the top 5' with 50% section loss in the pile. The piles at the bents exhibit decay with checks throughout (see the underwater inspection results below). The cross bracing at the bents exhibit advanced decay with widespread section loss and wide splits in Bents 1S, 2S, and 6S. See Photo(s) 8, 9, 10, 12, 13, 17, 18, 21, 22

Since the previous inspection, there has been no significant changes in the condition of the structure.

Load ratings were last performed during the 2018 inspection (Cycle 16) by MP Engineers, P.C., using LARS Bridge V8i and version 10.04.00.01. Based on our inspection, no revision to the load ratings are required at this time. The structure is posted for 3 tons gross weight.

This structure was not included in the Stage I Scour Evaluation Program. However, based on a screening by Monmouth County, the age of the structure, and the lack of scour, footing exposure, or undermining, the bridge is not considered to be scour critical and Item 113 remains coded 8.

Based upon the underwater inspection performed by Churchill Consulting Engineers on July 6, 2021, the overall condition of the underwater components of the bridge is poor due to the checking, splits, and severe decay located throughout all timber members. Pile 2W at Bent 5 (from south) now has a concrete jacket installed around it. Pile 4W of Bent 6 (from south) exhibits a void measuring 5.5" diameter x 6" deep, and all cross bracing now exhibits up to 100% section loss within the tidal zone. Overall, the bridge appears to have no scour problems at this time.

Due to the poor condition of the substructure (Item 60 = 4) and substandard deck geometry (item 68 = 2), the structure is classified as "Structurally Deficient" and "Functionally Obsolete". In order to remove it from this category, we recommend replacing the bridge:

a) Demolition : Lump sum	\$ 119,472
26.2' x 120' @ \$38.00/SF	
b) Bridge replacement	\$ 2,898,000
40' x 150' @ \$483/SF	
	\$ 3,017,472

Structure No.: <u>13000W7</u>	Route: <u>9013</u>	Cycle No.: <u>19</u>
Name: <u>GREEN AVENUE OVER DEBBIES CREEK</u>		Insp. Date: <u>05/09/2023</u>

	Say (ITEM 94)	\$ 3,018,000
Approach roadway work:		
40' x 200' @ 43.90/SF	Say (ITEM 95)	\$ 351,200
c) Traffic Maintenance: (20% of item 94 + Item 95)		\$ 673,840
	Subtotal	\$ 4,043,040
d) Preliminary Engineering : (15% of Subtotal)		\$ 606,456
	Total	\$ 4,649,496
	SAY (ITEM 96)	\$ 4,650,000

Since the bridge is load posted (SI&A Item 70 coded 0), the following structural members should be inspected on an interim basis at frequency indicated:

Superstructure member	12 Months
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We recommend that the following priority repair(s) be made to retard further deterioration, preserve the structural integrity of the bridge, improve safety and extend its useful life:

Priority 1 (Recall): Install full height structural jackets on timber piles and replace the wale and sheeting at the northeast wingwall. (PR1_2021_13949)

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

1 - STRUCTURAL DATA

IDENTIFICATION

8 Structure No.: 13000W7 M82 County Bridge No.: W7 M83 Municipal Bridge No.:
(AB) Name: GREEN AVENUE OVER DEBBIES CREEK
1 State Code: 2 Highway Agency District: DISTRICT 02 (CENTRAL)
(1A) State Code 34 - New Jersey 4 Place Code: 07750 - Brielle
(1B) Region Code 2 - Region 2 - New York/New Jersey
3 County Code: 025 - MONMOUTH COUNTY (A) Town: 1308 - Brielle Borough
5A Inventory Route (On/Under): 1: Route carried "on" the structure 9 Location: 0.03 mi. S. of Brielle Rd
5B Inventory Route Signing Prefix: 5 - CITY STREET
5C Level of Service: 0 - None 11 Mile Point: 0000.000
5D Inventory Route Number: 00000 (AA) Inventory Route: 9013 - Monmouth County
5E Directional Suffix: 0 - NOT APPLICABLE (FV) Inventory Route Milepoint:
6 Features DEBBIES CREEK (AC) Non-Inventory Feature: WW: Roadway and/or railroad over waterway
Intersected:
7 Facility GREEN AVENUE
Carried by
Structure:
16 Latitude: 400640.32 (AD) Adm. Juris. Non- 1: State
17 Longitude: -740246.32 Inv Feature:
(AE) Alternate Agency:
M84 Latitude (Degrees): 40.11120 (AF) Alternate Structure Number:
M85 Longitude (Degrees): -74.04620 98 Border Bridge Code:
(98AA) State Code:
(98AB) Region Code:
(98B) % Resp.:
99 Border Bridge Structure Number:

M142 GPS Location: Southeast Corner

CLASSIFICATION

21 Maintenance Responsibility: 02 - County Highway Agency 26 Func. Class. of Inv. Route: 19 - Urban - Local
M94 Maint. Resp.: 37 Historical Significance: 5 - Not eligible
22 Owner: 02 - County Highway Agency M91 On/Off System: 0
M93 Owner: M96 Comments
M95 Ownership Resolved: Ownership:
101 Parallel Structure Designation: N - No parallel structure (BB) Orphan Bridge:
103 Temporary Struct. Designation: (BP) Bridge Demolition:
104 Highway System of Inv. Route: 0 - Structure/Route is NOT on NHS (CP) Federal Report: _ - Highway carrying NBIS bridges included in reports to FHWA
112 NBIS Bridge Length: Yes (CR) Off-Route Bridge:
Agency Admin. Area: (FX) Federal Error Cannot be Corrected:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

STRUCTURE TYPE AND MATERIAL

43A Main Span Material: 7 - Wood or Timber

43B Main Span Design: 02 - Stringer/Multi-beam or Girder

44A Approach Span Material:

44B Approach Span Design:

45 Number of Main Spans: 007

46 Number of Approach Spans: 0

(AJ) Type of Slope Protection:

(AK) Type of Abutment: 05: Timber - Bulkhead

(AL) Type of Pier: 05: Timber Pile Bent

(AT) Special Material 1:

(AT) Special Material 2:

(AU) Additional Structure Type 1:

(AU) Additional Structure Type 2:

Fracture Critical Details: Z - None – No fracture critical details

M143 Structure Type Primary:

M144 Structure Type Secondary:

M97 Struct. Mat.

Type Desc:

107 Deck Structure Type: 8 - Wood or Timber

108A Wearing Surface: 6 - Bituminous

108B Membrane: 0 - None

108C Deck Protection: 0 - None

(AV) Widened Structure Type:

1st Widened Material:

1st Widened Design:

2nd Widened Material:

2nd Widened Design:

AGE AND SERVICE

27 Year Built: 1943

28A Lanes On Structure: 02

28B Lanes Under Structure: 00

106 Year Reconstructed: 0000

42A Type of Service On: 5 - Highway-pedestrian

42B Type of Service Under: 5 - Waterway

GEOMETRIC DATA

32 Approach Roadway Width (w/ shoulders): 024 ft

33 Bridge Median: 0 - No median

34 Skew: 00 deg

35 Structure Flared: 0 - No flare

M98 Str. is Standalone or Connected:

S: Standalone structure

M99 Length of Portion Included: ft

M101 Total Structure Opening: ft²

M145 Design Vertical Inside Opening: ft

M146 Available Vertical Inside - South or West End: ft

M147 Available Vertical Inside - North or East End: ft

48 Length of Maximum Span: 0021 ft

49 Structure Length: 000120 ft

M141 Effective CoMBIS Width: ft

50A Left Curb/Sidewalk Width: 00.5 ft

50B Right Curb/Sidewalk Width: 02.9 ft

51 Bridge Roadway Width, Curb-to-Curb: 021.7 ft

52 Deck Width, Out-to-Out: 026.2 ft

(AM) Depth of Fill over Structure: 00.0 ft

Total length: 120 ft

Deck Area: 3144 ft²

NAVIGATION DATA

38 Navigation Control: 1 - Navigation control on waterway (bridge permit required)

39 Navigation Vertical Clearance: 006 ft

40 Navigation Horizontal Clearance: 0020 ft

111 Pier/Abutment Protection: 5 - None present but re-evaluation suggested

116 Min. Nav. Vertical Clearance under Lift Bridge: ft

(AP) Fender System:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

UTILITIES AND APPURTENANCES

(HA) Bridge Noise Barrier:

Type of Material 1:

Type of Material 2:

Barrier Height 1: ft

Barrier Height 2: ft

(AO) Utilities:

Utilities 1: S: Sanitary Sewer

Utilities 2:

Utilities 3:

Utilities 4:

Sign Structures:

(GS) Overhead Sign Structure:

(GT) Cantilever Sign Structure:

(GU) Fascia Mounted Sign Structure:

RAILROAD

(BC) USRA Code:

(BE) Rail Milepost:

(BD1) Rail On:

(BD2) Rail Under:

TEMPORARY STRUCTURES

(GV) Bridge:

(GW) Shoring:

(GZ) Cond. Desc.:

(GY) Measures:

(GX) Repairs:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

2 - LOAD RATING AND POSTING

Load Rating Review Recommended: ☐

41 Posting Status: P - Posted for Load

31 Design Load: 0 - Unknown

(CG1) Posted Load Type: 9 - Gross Load Only

(CG2) Posted Load Limit: 03 tons

(AI) Speed Limit Posting: mph

Load Rating Engineer: Aakash Patel

70 Posting: 0 - More than 39.9% below legal loads

Rating Date 02/01/2018

(BK) Overstress %: 71

(CH1) Load Rating/Posting Combo: W: Working Stress Rat

(CH2) Load Rating/Posting Combo: tons

(AN) Plans Available: Yes, plans are readily available.

65 Inventory Rating Method: 2 - Allowable Stress (AS)

63 Operating Rating Method: 2 - Allowable Stress (AS)

66 Inventory Rating: 18.0 tons

64 Operating Rating: 26.0 tons

RATING (TONS)			RATING FACTOR		
Type	Inventory	Operating	Code only for LRFR		
Type	Inventory	Operating	Type	Inventory	Operating
HL93:	()	()	HL93:	(CW) 0.37	(CX) 0.49
H15/H20:	(BQ) 10	(CA) 14	H15/H20:	(BQ2) 0.74	(CA2) 0.95
HS20:	(BR) 18	(CB) 26	HS20:	(BR2) 0.55	(CB2) 0.72
3:	(BS) 14	(CC) 21	3:		(CC2) 0.86
NJ3S2:	(BT) 23	(CD) 33	NJ3S2:		(CD2) 0.86
3-3:	(BU) 28	(CE) 40	3-3:		(CE2) 1.05
Military:	(BV)	(CF)	Military:	(BV2)	(CF2)
SU4:	(BW) 13	(CS) 19	SU4:		(CS2) 0.73
SU5:	(BX) 14	(CT) 20	SU5:		(CT2) 0.69
SU6:	(BY) 15	(CU) 22	SU6:		(CU2) 0.65
SU7:	(BZ) 17	(CV) 24	SU7:		(CV2) 0.65

ALTERNATE LOAD RATINGS

Alt. Design Load:

Alt. Rating Date

Alt. Inventory Rating: tons

Alt. Operating Rating: tons

Type	Inventory	Operating	Posting	Inventory	Operating
HL93:	()	()			
H15:	()	()	Truck 1:		
HS20:	()	()	Truck 2:		
3:	()	()	Truck 3:		
NJ3S2:	()	()			
3-3:	()	()			
Military:	()	()			

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

3A - INSPECTION INFORMATION

APPRAISAL ITEMS

Structurally Deficient/Functionally Obsolete: SD Sufficiency Rating: 31.5
 67 Structural Evaluation: 4 - Meets minimum tolerable limits 70 Bridge Posting: 0 - More than 39.9% below legal loads
 68 Deck Geometry: 2 - Intolerable - high priority of replacement 71 Waterway Adequacy: 8 - Bridge Above Approaches
 69 Underclearances, Vertical & Horizontal: N - Not applicable 72 Approach Roadway Alignment: 6 - Equal to present minimum criteria

EXISTING BRIDGE CONDITION

58 Deck: 6 - Satisfactory Condition (minor deterioration) (BA) Approach Roadway Condition: 7: Good Condition - minor defects such as cracking of approach roadway, small spalls in approach roadway, minor settlements (less than 1") or minor collision damage to guide rails.
 59 Superstructure: 6 - Satisfactory Condition (minor deterioration)
 60 Substructure: 4 - Poor Condition (advanced deterioration) 61 Channel/Channel Protection: 7 - Bank protection needs minor repairs
 62 Culvert: N - Not Applicable 113 Scour Critical Bridge: 8 - Stable for scour conditions
 63 Operating Rating Method: 2 - Allowable Stress (AS) 64 Operating Rating: 26.0 tons
 65 Inventory Rating Method: 2 - Allowable Stress (AS) 66 Inventory Rating: 18.0 tons

CONDITION REMARKS

Deck Distress/Unrepaired Spalls: ft²

(BF) Deck:

1. A: Medium to wide cracks
- 2
- 3
- 4.
- 5.

(BG) Superstructure:

1. W: Weathered timber stringer
- 2 Z: Other
- 3
- 4.
- 5.

(BH) Substructure:

1. F: Pile deterioration
- 2 Z: Other
- 3
- 4.
- 5.

(BI) Channel:

- 1.
- 2

(BJ) Culvert:

- 1.
- 2

HIGHWAY SAFETY/FENCING

36A Bridge Rail: 0 - Does not meet acceptable standards/safety (AG) Type of Bridge Rail: 05: 3 Rail Steel
 36B Transition: 0 - Does not meet acceptable standards/safety (AH) Height of Bridge Rail: 2.92 ft
 36C Approach Rail: 0 - Does not meet acceptable standards/safety (AQ) Chain Link Fence Height: ft
 36D End Treatments: 1 - Meets acceptable standards (FN) Fencing Warranted: NO - Conditions DO NOT warrant chain link
 (FO) Pedestrian Traffic Fencing Status: N: Not applicable or fencing is not
 (FP) Fencing Improvement Cost: \$

SCOUR EVALUATION

*113 Scour Critical Bridge: 8 - Stable for scour conditions (FA) FHWA Scour Category: 01: Assessed (Old bridge)
 (FB) Date of Stage 1 Scour Eval.: (FF) Date of Stage 2 Scour Eval.:
 (FC) Stage 1 Scour Eval. Consultant: (FG) Stage 2 Scour Eval. Consultant: _ - Not Applicable
 (FH) Scour Critical Elements:
 (FD) Stage 1 Scour Eval. Prioritization Category:
 (FE) Stage 1 Scour Eval. Sufficiency Rating:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SCOUR COUNTERMEASURES

(FJ) Scour Countermeasures Cost: \$

(FL) Scour Monitoring Required/Type:

(FI) Recommended Scour Countermeasures:

(FK) Scour Countermeasures Installed/Type:

1. A: Rock Riprap
- 2.
- 3.

PROPOSED IMPROVEMENTS

75A Type of Work: 31 - Replacement - Load/Geometry

75B Work To Be Done By: 1 - Work to be done by contract

76 Length of Structure Improvement: 000150 ft

(BO) Owner's Maintenance Cost: \$

94 Bridge Improvement Cost: \$ 3018000

95 Roadway Improvement Cost: \$ 351200

96 Total Project Cost: \$ 4650000

97 Year of Improvement Cost Estimate: 2023

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

3B - INSPECTION INFORMATION

INSPECTION DATES

Inspection Report Author: Sarault, Ian	93A FC Inspection Date:
Primary Type of Inspection: Regular Inspection	92A FC Inspection Frequency (in months):
Previous Cycle Inspection Date: 05/13/2021	Next FC Inspection Date:
90 Inspection Date: 05/09/2023	93B UW Inspection Date: 07/06/2021
91 Inspection Frequency (in months): 24	92B UW Inspection Frequency (in months): 48
Next Inspection Date: 05/09/2025	Next UW Inspection Date: 07/06/2025
Pontis Element Inspection Date: 05/09/2023	UW Inspected By: Churchill Consulting Engineers
Pontis Element Frequency (in months): 24	93C SI Date: 05/09/2023
Next Pontis Element Inspection Due: 05/09/2025	92C SI Frequency (in months): 12
(AW) Date of Mechanical/Electrical inspection: 1/1/1901	Next SI Date: 05/09/2024
(AW1) Mechanical Insp. Type:	(AR) Special Equipment: A: Small Boat (less than 16' long)
(AW2) Electrical Insp. Type:	(AR) Special Equipment:
(AW3) Traffic Safety Insp. Type:	(AR) Special Equipment:
(AW4) Mechanical Insp. Date:	Special Inspection By:
(AW5) Electrical Insp. Date:	(AS) Special Testing Type:
(AW6) Traffic Safety Insp. Date:	
(AW7) Movable Bridge Type:	
(AX) Date of Deck Condition Survey:	(AS) Special Testing Type:
M132 Confined Space Entry: No	
M105 Description of Inspection Type:	(AS) Special Testing Type:
	(AY) Date of Special Testing:

PAINT CONDITIONS AND DATE

(GD) Fascia Beam:	(GA) Is Painting Required? No: No parts of the structure require painting
(GE) Fascia Bottom Flange:	(GB) Environment:
(GF) Interior Beam:	(GC) Date of Current Paint Inspection:
(GH) Interior Bottom Flange:	(GR) Date of Last Painting:
(GI) Beam Ends:	(GP) Remarks 1:
(GJ) Connections:	
(GK) Bracings:	
(GL) Bearings:	(GQ) Remarks 2:
(GM) Substructure:	
(GN) Above Deck Superstructure:	
(GO) Railings/Fence:	

(AZ) FATIGUE DETAIL

Location 1:	Location 3:
Location 2:	

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

IN-DEPTH FRACTURE CRITICAL/PIN-HANGER

(FY) Special FCM Insp. Required: ☐ (FS) FCM's Inspected:
(FZ) Special P/H Insp. Required: ☐ (FT) Combo In-Depth Fracture Critical/Pin-Hanger Inspection:
(FQ) Latest In-Depth FC/ Pin-Hanger Inspection Date: 1/1/1901
(FQ1) Special FCM Insp. Date:
(FQ2) Special P/H Insp. Date:
(FR1) Special FCM Insp. Consultant:
(FR2) Special P/H Insp. Consultant:

CYCLE DATA

(P1) Group Number:	13E3	(BM) Federal Job Number:	STP-NBIS(788)
(P2) Work Spec Number:	13E3_00	(BN) State Job Number:	2207612
(CI) Cycle Number:	19	(P3) NTP Date:	04/20/2023
(CJ) Inspection Type:	R: Regular Inspection	Funding Category:	Federal - STP OffSystem
(CM) Current Consultant:	B01 - Baker Michael	(P4) State Project Manager:	Jay DeCristofaro
(CO) Previous Consultant:	G11 - Gibson Assoc.	(P5) State Assistant PM:	Eric Humcke
M87 Contract State Agreement No.:	2023BI484I	County Project Manager:	Michael Ruggiero
Agreement Modification Number:	00		
Contract ID:	23-50857		
Contract Date:	04/11/2023		

STRUCTURE STATUS

Bridge Status: 3 - Active
Bridge Lifecycle Phase: 1 - Service
Data Last Updated: 05/09/2023

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

4A - ROADWAY DATA

ROADWAY IDENTIFICATION

Roadway Name: GREEN AVENUE

Bridge ID/Structure Number: 13000W7

5A Position of Route (On/Under): 1: Route carried "on" the structure

Roadway SRI:

5B Route Signing Prefix: 5 - CITY STREET

NBI Roadway?: Yes

5C Level of Service: 0 - None

5D Route Number: 00000

5E Directional Suffix: 0 - NOT APPLICABLE

HIGHWAY NETWORKS AND SERVICE CLASSIFICATION

11 Milepoint: 0000.000

100 STRAHNET Highway Designation: 0 - Not a STRAHNET route

12 Base Highway Network: Inventory Route is not on the Base Network

102 Traffic Direction: 2 - 2-way traffic

13A LRS inventory Route:

104 NHS System: 0 - Structure/Route is NOT on NHS

13B Subroute Number:

105 Federal Lands Highways:

13R Ramp Code:

0 - Not Applicable

20 Toll Facility: 3 - On free road. The structure is toll-free and carries a toll-free highway.

110 Designated Truck Highway Network: Inventory route not on network

26 Functional Classification: 19 - Urban - Local

School Bus: ☐ Transit Route: ☐ Emergency Route: ☐

TRAFFIC DATA

28 Number of Lanes: ON 02 UNDER 00

ADT Class: ADT Class 3

Number of Medians: 0

29 ADT Total: 2240

Roadway Speed Limit: 25 mph

30 Year of ADT: 2023

19 Bypass/Detour Length: 02 miles

114 Future ADT: 2733

Detour Speed: 35 mph

115 Year of Future ADT: 2043

(FM) Incidents Reported:

109 Truck ADTT (%): 01

Accident Count: Rate:

(FW) Estimated ADT: Yes

VERTICAL AND HORIZONTAL CLEARANCES

10 Vertical Clearance:	99.99 ft	32 Approach Roadway Width:	024 ft
53 Minimum Vertical Clearance over Bridge:	99.99 ft	47 Inventory Route, Total Horizontal Clearance:	21.7 ft
54A Minimum Vertical Underclearance Ref.: N - Feature not a highway or railroad		51 Bridge Roadway Width, Curb-to-Curb:	021.7 ft
54B Minimum Vertical Underclearance:	00.00 ft	55A Minimum Lateral Underclearance Ref: N - Feature not a highway or railroad	
(DJ) Minimum Vertical Underclearance (including shoulders):	00.00 ft	55B Minimum Lateral Underclearance on Right:	00.0 ft
		56 Minimum Lateral Underclearance on Left:	00.0 ft

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
31-Timber Deck	3 - Mod.	3144	sq. ft.	3144	0	0	0
510-Wearing Surfaces		3144	sq. ft.	2644	500	0	0
3220-Crack (Wearing Surface)		500		0	500	0	0
111-Timber Open Girder/Beam	3 - Mod.	2072	ft.	1752	300	20	0
1150-Check/Shake		300		0	300	0	0
1170-Split/Delamination (Timber)		20		0	0	20	0
216-Timber Abutment	3 - Mod.	56	ft.	19	25	12	0
1140-Decay/Section Loss		20		0	20	0	0
1170-Split/Delamination (Timber)		17		0	5	12	0
228-Timber Pile	3 - Mod.	56	each	11	37	8	0
1140-Decay/Section Loss		25		0	20	5	0
1150-Check/Shake		10		0	10	0	0
1170-Split/Delamination (Timber)		10		0	7	3	0
235-Timber Pier Cap	3 - Mod.	240	ft.	186	30	24	0
1140-Decay/Section Loss		24		0	0	24	0
1170-Split/Delamination (Timber)		30		0	30	0	0
330-Metal Bridge Railing	3 - Mod.	240	ft.	240	0	0	0
803-Timber Curbs/Sidewalks	3 - Mod.	233	ft.	39	0	194	0
1140-Decay/Section Loss		4		0	0	4	0
1150-Check/Shake		150		0	0	150	0
1160-Crack (Timber)		40		0	0	40	0
843-Timber Wingwall	3 - Mod.	77	ft.	22	15	40	0
1140-Decay/Section Loss		55		0	15	40	0

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

Project Information:

Group: 13E5 Agreement No.: 2015BI007B Contract ID: 15-50836 Agree/Mod No.: 01

Rating Information:

Method: LRFR: Yes LFR: No ASR: Yes Engineering Judgment: No

Other (Specify): _____

Rating Date: 02/01/2018 Computer Software Used: LARS Bridge V8i Version: 10.04.00.01

Load Testing: No Cycle Rating Performed: 16 Design Load: Unknown

Structure Information:

Plans Available? No Contract Designation: _____

Overlay? Yes Considered in Rating? Yes Type/Thickness: Bituminous /2"

Section Losses? Yes Considered in Rating? Yes Item 59/62: 5

For LRFR Use Only:

Surface Roughness Factor: 33% Condition Factor: 0.95 System Factor: 1

ADTT (one direction): 20 Resistance Factor: LARS FCM: No
calculated

Load Rating Engineer (LRE):

Name: Aakash Patel Firm: MP Engineers, P.C. Initial: _____

Load Rating Reviewer (LRR) certification as per the NBIS Title 23 CFR Section 650.309(c):

Name: Mahendra Patel, P.E. N.J.P.E. No.: 24GE04426200

Firm: MP Engineers, P.C.

I certify that this rating is an accurate representation of the subject structure, considering all deterioration and/or changes to loading conditions, to the extent determinable by research and visual inspection and testing performed. I am charged with the overall responsibility for bridge capacity evaluation for the above mentioned structure.

Sign

Date

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

Rating Comments:

Drawings are not available. Member sizes and spans are based on field measurement and noted on dead load calculations. Timber type is assumed as Douglas Fir Larch No. 1.

Span 6, Member 1 has section loss and member is analyzed with reduced b dim.

Existing bridge is posted for 3 tons gross load. The current rating also indicates that the Type 3 and Type 3S2 vehicle operating rating is less than the respective truck weights.

This load rating was performed in Cycle 16.

The Load Factor/Working stress and LRFR ratings, computed in accordance with the FHWA directive dated November 1993, AASHTO Manual for Bridge Evaluation, 2011, as modified by NJDOT Highway Bridge Load Rating Manual and Section 43 of the NJDOT Design Manual, Bridges and Structures, are as follows:

<u>Allowable Stresses (Psi)</u>					
<u>Material</u>	<u>Compressive Strength f_c</u>	<u>Tensile Strength</u>	<u>Yield</u>	<u>Inventory</u>	<u>Operating</u>
Timber (Bending)				956	1,271
Timber (Shear)				95	126

<u>Rating (Tons) / Rating Factor</u>										
			Working Stress				LRFR			
<u>Member</u>	<u>Truck Type</u>		<u>As-Built</u>		<u>As-Insp.</u>		<u>As-Built</u>		<u>As-Insp.</u>	
	(Tons)		<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>
Member:	HL93	NL	---	---	---	---	0.37	0.49	0.37	0.49
Spans 6 and 7 Interior Girders 8 to 11	H15/H20	(15T)	10	14	10	14	0.74	0.95	0.74	0.95
	HS-20	(36T)	18	26	18	26	0.55	0.72	0.55	0.72
	3	(25T)	14	21	14	21	---	0.86	---	0.86
	NJ3S2	(40T)	23	33	23	33	---	0.86	---	0.86
	3-3	(40T)	28	40	28	40	---	1.05	---	1.05
Condition Rating 5	SU4	(27T)	13	19	13	19	---	0.73	---	0.73
Sect. Loss Location:	SU5	(31T)	14	20	14	20	---	0.69	---	0.69
Sect. Loss Extent:	SU6	(35T)	15	22	15	22	---	0.65	---	0.65
	SU7	(39T)	17	24	17	24	---	0.65	---	0.65
	EV2	(28.75T)								

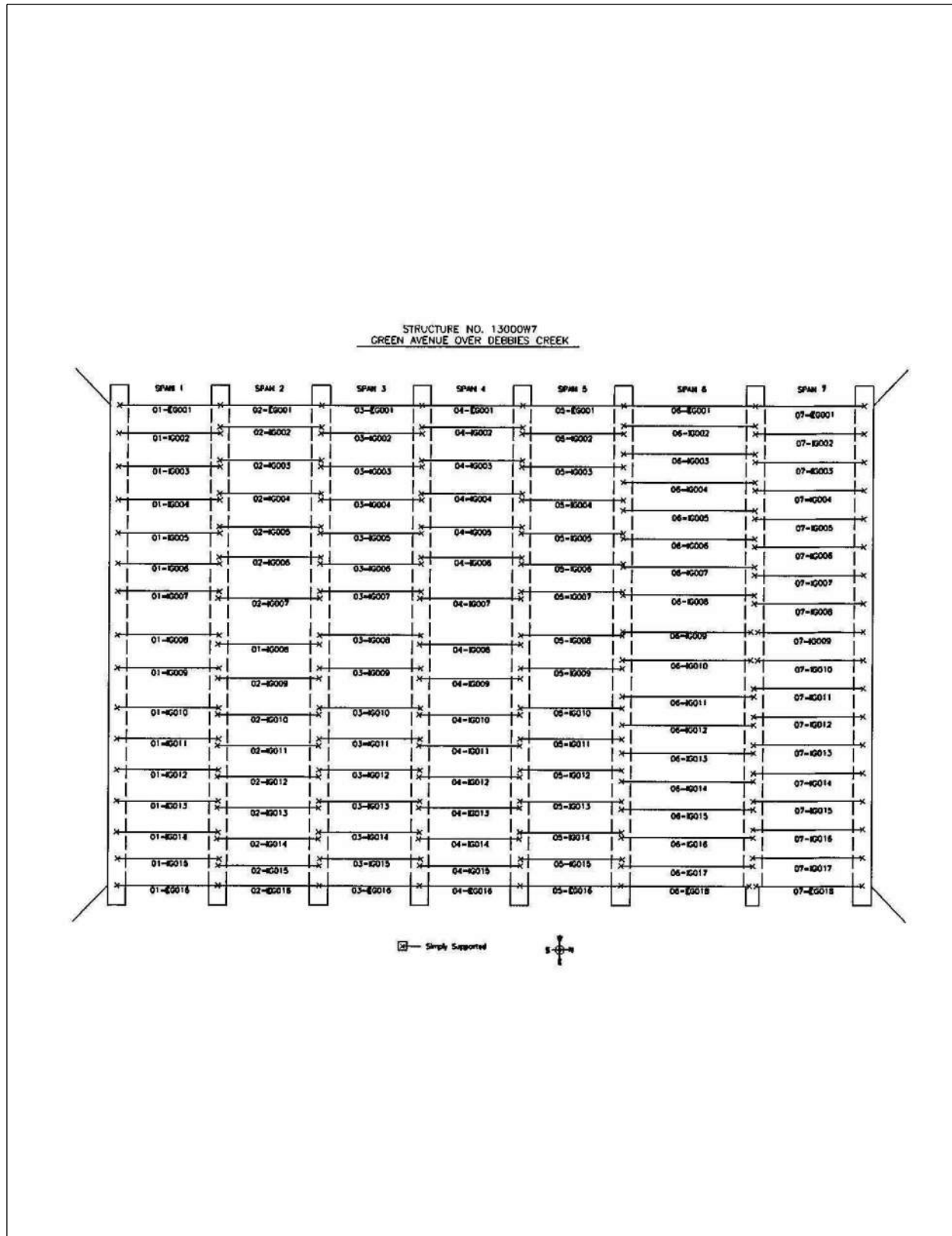
Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

EV3 (43T)

Member Identification Sketch



Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

LOAD ANALYSIS AND RATING SYSTEM -- ASD/LFD/LRFD v10.04.00.01 PAGE 1

BRIDGE / MEMBER DATA

SUMMARY REPORT

Bridge ID: 13000W7_20180201cy16_01of03
 Bridge Name: 13000W7
 Path Name: O:\1020 - Group 13E5 Cycle 2 Inspection of 52 Bridges\Load Rating\13. 13000W7\
 File Name: 13000W7_20180201cy16_01of03.BMD

Comments:

Member Descr: 01-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G01	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G01	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G01	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G01	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G01	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G01	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G01	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G01	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G01	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G01	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 01-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G02	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G02	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G02	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G02	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G02	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G02	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G02	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G02	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G02	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G02	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 01-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G03	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G03	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G03	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G03	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G03	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G03	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G03	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G03	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G03	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G03	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G04	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G04	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G04	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G04	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G04	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G04	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G04	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G04	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G04	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G04	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G05	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G05	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G05	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G05	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G05	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G05	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G05	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G05	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G05	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G05	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 01-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr Type	Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type			
G06	HL93	27	M	38	M	0		0		0.57	M	0.74		
G06	H15	15	M	21	M	0		0		1.00	M	1.29		
G06	HS20	27	M	38	M	0		0		0.75	M	0.97		
G06	3	24	M	33	M	0		0		0.94	M	1.23	1.27	M
G06	3S2	38	M	53	M	0		0		0.94	M	1.23	1.27	M
G06	3-3	47	M	65	M	0		0		1.15	M	1.49	1.54	M
G06	SU4	23	M	31	M	0		0		0.83	M	1.08	1.12	M
G06	SU5	26	M	36	M	0		0		0.83	M	1.08	1.12	M
G06	SU6	29	M	41	M	0		0		0.83	M	1.08	1.12	M
G06	SU7	33	M	45	M	0		0		0.83	M	1.08	1.12	M

Member Descr: 01-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr Type	Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type			
G07	HL93	27	M	38	M	0		0		0.57	M	0.74		
G07	H15	15	M	21	M	0		0		1.00	M	1.29		
G07	HS20	27	M	38	M	0		0		0.75	M	0.97		
G07	3	24	M	33	M	0		0		0.94	M	1.23	1.27	M
G07	3S2	38	M	53	M	0		0		0.94	M	1.23	1.27	M
G07	3-3	47	M	65	M	0		0		1.15	M	1.49	1.54	M
G07	SU4	23	M	31	M	0		0		0.83	M	1.08	1.12	M
G07	SU5	26	M	36	M	0		0		0.83	M	1.08	1.12	M
G07	SU6	29	M	41	M	0		0		0.83	M	1.08	1.12	M
G07	SU7	33	M	45	M	0		0		0.83	M	1.08	1.12	M

Member Descr: 01-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr Type	Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type			
G08	HL93	27	M	38	M	0		0		0.57	M	0.74		
G08	H15	15	M	21	M	0		0		1.00	M	1.29		
G08	HS20	27	M	38	M	0		0		0.75	M	0.97		
G08	3	24	M	33	M	0		0		0.94	M	1.23	1.27	M
G08	3S2	38	M	53	M	0		0		0.94	M	1.23	1.27	M
G08	3-3	47	M	65	M	0		0		1.15	M	1.49	1.54	M
G08	SU4	23	M	31	M	0		0		0.83	M	1.08	1.12	M
G08	SU5	26	M	36	M	0		0		0.83	M	1.08	1.12	M
G08	SU6	29	M	41	M	0		0		0.83	M	1.08	1.12	M
G08	SU7	33	M	45	M	0		0		0.83	M	1.08	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 01-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		OPR	Contr Type	LFD		OPR	Contr Type	LRFD		OPR	Contr Type	LGL	Contr Type
		INV	Contr Type			INV	Contr Type			INV	Contr Type				
G09	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G09	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G09	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G09	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G09	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G09	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G09	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G09	S05	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G09	S06	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G09	S07	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G10	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G10	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G10	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G10	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G10	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G10	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G10	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G10	S05	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G10	S06	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G10	S07	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD				LFD				LRFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G11	HL93	27	M	38	M	0		0		0.57	M		0.74	M	
G11	H15	15	M	21	M	0		0		1.00	M		1.29	M	
G11	HS20	27	M	38	M	0		0		0.75	M		0.97	M	
G11	3	24	M	33	M	0		0		0.94	M		1.23	M	1.27
G11	3S2	38	M	53	M	0		0		0.94	M		1.23	M	1.27
G11	3-3	47	M	65	M	0		0		1.15	M		1.49	M	1.54
G11	S04	23	M	31	M	0		0		0.83	M		1.08	M	1.12
G11	SU5	26	M	36	M	0		0		0.83	M		1.08	M	1.12
G11	SU6	29	M	41	M	0		0		0.83	M		1.08	M	1.12
G11	SU7	33	M	45	M	0		0		0.83	M		1.08	M	1.12

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 01-IG012

		Rating (Tons)				Rating (Tons)				Rating Factor					
Mem ID	Truck	ASD				LFD				LFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G12	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G12	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G12	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G12	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G12	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G12	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G12	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G12	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G12	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G12	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG013

		Rating (Tons)				Rating (Tons)				Rating Factor					
Mem ID	Truck	ASD				LFD				LWFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G13	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G13	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G13	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G13	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G13	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G13	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G13	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G13	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G13	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G13	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 01-IG014

		Rating (Tons)				Rating (Tons)				Rating Factor					
Mem ID	Truck	ASD				LED				LRFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G14	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G14	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G14	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G14	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G14	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G14	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G14	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G14	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G14	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G14	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 01-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G15	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G15	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G15	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G15	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G15	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G15	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G15	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G15	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G15	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G15	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 01-EG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G16	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G16	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G16	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G16	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G16	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G16	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G16	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G16	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G16	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G16	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 02-RG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G17	HL93	29	M	40	M	0		0		0.62	M	0.81	M	
G17	H15	16	M	22	M	0		0		1.09	M	1.41	M	
G17	HS20	29	M	40	M	0		0		0.81	M	1.05	M	
G17	3	26	M	35	M	0		0		1.03	M	1.34	M	1.39
G17	3S2	41	M	57	M	0		0		1.03	M	1.34	M	1.39
G17	3-3	50	M	69	M	0		0		1.25	M	1.62	M	1.68
G17	SU4	24	M	34	M	0		0		0.91	M	1.18	M	1.22
G17	SU5	28	M	39	M	0		0		0.91	M	1.18	M	1.22
G17	SU6	31	M	44	M	0		0		0.91	M	1.18	M	1.22
G17	SU7	35	M	49	M	0		0		0.91	M	1.18	M	1.22

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 02-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G18	HL93	29	M	40	M	0		0		0.62	M	0.81	M	
G18	H15	16	M	22	M	0		0		1.09	M	1.41	M	
G18	HS20	29	M	40	M	0		0		0.81	M	1.05	M	
G18	3	26	M	35	M	0		0		1.03	M	1.34	M	1.39
G18	3S2	41	M	57	M	0		0		1.03	M	1.34	M	1.39
G18	3-3	50	M	69	M	0		0		1.25	M	1.62	M	1.68
G18	SU4	24	M	34	M	0		0		0.91	M	1.18	M	1.22
G18	SU5	28	M	39	M	0		0		0.91	M	1.18	M	1.22
G18	SU6	31	M	44	M	0		0		0.91	M	1.18	M	1.22
G18	SU7	35	M	49	M	0		0		0.91	M	1.18	M	1.22

Member Descr: 02-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G19	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G19	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G19	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G19	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G19	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G19	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G19	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G19	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G19	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G19	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 02-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G20	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G20	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G20	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G20	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G20	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G20	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G20	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G20	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G20	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G20	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Structure No.: 13000W7

Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 02-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD				LFD				LRFD			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G21	HL93	27	M	38	M	0		0		0.57 M		0.74 M	
G21	H15	15	M	21	M	0		0		1.00 M		1.29 M	
G21	HS20	27	M	38	M	0		0		0.75 M		0.97 M	
G21	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M
G21	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M
G21	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M
G21	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M
G21	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M
G21	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M
G21	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M

Member Descr: 02-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD				LFD				LRFD			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G22	HL93	27	M	38	M	0		0		0.57 M		0.74 M	
G22	H15	15	M	21	M	0		0		1.00 M		1.29 M	
G22	HS20	27	M	38	M	0		0		0.75 M		0.97 M	
G22	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M
G22	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M
G22	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M
G22	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M
G22	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M
G22	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M
G22	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M

Member Descr: 02-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD				LFD				LRFD			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G23	HL93	26	M	36	M	0		0		0.54 M		0.70 M	
G23	H15	14	M	20	M	0		0		0.95 M		1.23 M	
G23	HS20	26	M	36	M	0		0		0.71 M		0.92 M	
G23	3	22	M	31	M	0		0		0.90 M		1.16 M	1.21 M
G23	3S2	36	M	50	M	0		0		0.90 M		1.16 M	1.21 M
G23	3-3	44	M	61	M	0		0		1.09 M		1.41 M	1.47 M
G23	SU4	21	M	30	M	0		0		0.79 M		1.03 M	1.07 M
G23	SU5	25	M	34	M	0		0		0.79 M		1.03 M	1.07 M
G23	SU6	28	M	39	M	0		0		0.79 M		1.03 M	1.07 M
G23	SU7	31	M	43	M	0		0		0.79 M		1.03 M	1.07 M

Structure No.: 13000W7

Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 02-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD				LFD				LRFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G24	HL93	26	M	36	M	0		0		0.54	M	0.70	M		
G24	H15	14	M	20	M	0		0		0.95	M	1.23	M		
G24	HS20	26	M	36	M	0		0		0.71	M	0.92	M		
G24	3	22	M	31	M	0		0		0.90	M	1.16	M	1.21	M
G24	3S2	36	M	50	M	0		0		0.90	M	1.16	M	1.21	M
G24	3-3	44	M	61	M	0		0		1.09	M	1.41	M	1.47	M
G24	SU4	21	M	30	M	0		0		0.79	M	1.03	M	1.07	M
G24	SU5	25	M	34	M	0		0		0.79	M	1.03	M	1.07	M
G24	SU6	28	M	39	M	0		0		0.79	M	1.03	M	1.07	M
G24	SU7	31	M	43	M	0		0		0.79	M	1.03	M	1.07	M

Member Descr: 02-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD				LFD				LRFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G25	HL93	26	M	36	M	0		0		0.54	M	0.70	M		
G25	H15	14	M	20	M	0		0		0.95	M	1.23	M		
G25	HS20	26	M	36	M	0		0		0.71	M	0.92	M		
G25	3	22	M	31	M	0		0		0.90	M	1.16	M	1.21	M
G25	3S2	36	M	50	M	0		0		0.90	M	1.16	M	1.21	M
G25	3-3	44	M	61	M	0		0		1.09	M	1.41	M	1.47	M
G25	SU4	21	M	30	M	0		0		0.79	M	1.03	M	1.07	M
G25	SU5	25	M	34	M	0		0		0.79	M	1.03	M	1.07	M
G25	SU6	28	M	39	M	0		0		0.79	M	1.03	M	1.07	M
G25	SU7	31	M	43	M	0		0		0.79	M	1.03	M	1.07	M

Member Descr: 02-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD				LFD				LRFD					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G26	HL93	26	M	36	M	0		0		0.54	M	0.70	M		
G26	H15	14	M	20	M	0		0		0.95	M	1.23	M		
G26	HS20	26	M	36	M	0		0		0.71	M	0.92	M		
G26	3	22	M	31	M	0		0		0.90	M	1.16	M	1.21	M
G26	3S2	36	M	50	M	0		0		0.90	M	1.16	M	1.21	M
G26	3-3	44	M	61	M	0		0		1.09	M	1.41	M	1.47	M
G26	SU4	21	M	30	M	0		0		0.79	M	1.03	M	1.07	M
G26	SU5	25	M	34	M	0		0		0.79	M	1.03	M	1.07	M
G26	SU6	28	M	39	M	0		0		0.79	M	1.03	M	1.07	M
G26	SU7	31	M	43	M	0		0		0.79	M	1.03	M	1.07	M

Structure No.: 13000W7

Route: 9013

Cycle No.: 19

Name: GREEN AVENUE OVER DEBBIES CREEK

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 02-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G27	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G27	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G27	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G27	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G27	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G27	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G27	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G27	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G27	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G27	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 02-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G28	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G28	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G28	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G28	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G28	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G28	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G28	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G28	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G28	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G28	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 02-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G29	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G29	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G29	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G29	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G29	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G29	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G29	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G29	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G29	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G29	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 02-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G30	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G30	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G30	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G30	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27 M
G30	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27 M
G30	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54 M
G30	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12 M
G30	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12 M
G30	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12 M
G30	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12 M

Member Descr: 02-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G31	HL93	29	M	40	M	0		0		0.62	M	0.81	M	
G31	H15	16	M	22	M	0		0		1.09	M	1.41	M	
G31	HS20	29	M	40	M	0		0		0.81	M	1.05	M	
G31	3	26	M	35	M	0		0		1.03	M	1.34	M	1.39 M
G31	3S2	41	M	57	M	0		0		1.03	M	1.34	M	1.39 M
G31	3-3	50	M	69	M	0		0		1.25	M	1.62	M	1.68 M
G31	SU4	24	M	34	M	0		0		0.91	M	1.18	M	1.22 M
G31	SU5	28	M	39	M	0		0		0.91	M	1.18	M	1.22 M
G31	SU6	31	M	44	M	0		0		0.91	M	1.18	M	1.22 M
G31	SU7	35	M	49	M	0		0		0.91	M	1.18	M	1.22 M

Member Descr: 02-EG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G32	HL93	29	M	40	M	0		0		0.62	M	0.81	M	
G32	H15	16	M	22	M	0		0		1.09	M	1.41	M	
G32	HS20	29	M	40	M	0		0		0.81	M	1.05	M	
G32	3	26	M	35	M	0		0		1.03	M	1.34	M	1.39 M
G32	3S2	41	M	57	M	0		0		1.03	M	1.34	M	1.39 M
G32	3-3	50	M	69	M	0		0		1.25	M	1.62	M	1.68 M
G32	SU4	24	M	34	M	0		0		0.91	M	1.18	M	1.22 M
G32	SU5	28	M	39	M	0		0		0.91	M	1.18	M	1.22 M
G32	SU6	31	M	44	M	0		0		0.91	M	1.18	M	1.22 M
G32	SU7	35	M	49	M	0		0		0.91	M	1.18	M	1.22 M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G33	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G33	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G33	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G33	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G33	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G33	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G33	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G33	S05	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G33	S06	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G33	S07	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 03-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G34	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G34	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G34	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G34	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G34	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G34	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G34	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G34	S05	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G34	S06	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G34	S07	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 03-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G35	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G35	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G35	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G35	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G35	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G35	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G35	S04	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G35	S05	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G35	S06	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G35	S07	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G36	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G36	H15	15	M	21	M	0		0		1.00	M	1.29	M
G36	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G36	3	24	M	33	M	0		0		0.94	M	1.23	M
G36	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G36	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G36	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G36	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G36	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G36	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 03-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G37	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G37	H15	15	M	21	M	0		0		1.00	M	1.29	M
G37	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G37	3	24	M	33	M	0		0		0.94	M	1.23	M
G37	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G37	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G37	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G37	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G37	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G37	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 03-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G38	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G38	H15	15	M	21	M	0		0		1.00	M	1.29	M
G38	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G38	3	24	M	33	M	0		0		0.94	M	1.23	M
G38	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G38	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G38	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G38	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G38	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G38	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Structure No.: 13000W7

Route: 9013

Cycle No.: 19

Name: GREEN AVENUE OVER DEBBIES CREEK

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G39	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G39	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G39	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G39	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G39	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G39	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G39	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G39	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G39	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G39	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 03-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G40	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G40	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G40	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G40	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G40	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G40	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G40	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G40	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G40	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G40	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 03-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G41	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G41	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G41	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G41	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G41	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G41	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G41	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G41	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G41	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G41	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-IG010													
Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G42	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G42	H15	15	M	21	M	0		0		1.00	M	1.29	M
G42	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G42	3	24	M	33	M	0		0		0.94	M	1.23	M
G42	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G42	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G42	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G42	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G42	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G42	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 03-IG011													
Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G43	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G43	H15	15	M	21	M	0		0		1.00	M	1.29	M
G43	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G43	3	24	M	33	M	0		0		0.94	M	1.23	M
G43	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G43	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G43	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G43	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G43	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G43	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 03-IG012													
Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G44	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G44	H15	15	M	21	M	0		0		1.00	M	1.29	M
G44	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G44	3	24	M	33	M	0		0		0.94	M	1.23	M
G44	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G44	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G44	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G44	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G44	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G44	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		Type	Type
G45	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G45	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G45	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G45	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G45	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G45	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G45	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G45	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G45	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G45	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 03-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		Type	Type
G46	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G46	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G46	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G46	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G46	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G46	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G46	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G46	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G46	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G46	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Member Descr: 03-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		Type	Type
G47	HL93	27	M	38	M	0		0		0.57	M	0.74	M	
G47	H15	15	M	21	M	0		0		1.00	M	1.29	M	
G47	HS20	27	M	38	M	0		0		0.75	M	0.97	M	
G47	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27
G47	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27
G47	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54
G47	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12
G47	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12
G47	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12
G47	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 03-EG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G48	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G48	H15	15	M	21	M	0		0		1.00	M	1.29	M
G48	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G48	3	24	M	33	M	0		0		0.94	M	1.23	M
G48	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G48	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G48	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G48	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G48	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G48	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 04-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G49	HL93	29	M	40	M	0		0		0.62	M	0.81	M
G49	H15	16	M	22	M	0		0		1.09	M	1.41	M
G49	HS20	29	M	40	M	0		0		0.81	M	1.05	M
G49	3	26	M	35	M	0		0		1.03	M	1.34	M
G49	3S2	41	M	57	M	0		0		1.03	M	1.34	M
G49	3-3	50	M	69	M	0		0		1.25	M	1.62	M
G49	SU4	24	M	34	M	0		0		0.91	M	1.18	M
G49	SU5	28	M	39	M	0		0		0.91	M	1.18	M
G49	SU6	31	M	44	M	0		0		0.91	M	1.18	M
G49	SU7	35	M	49	M	0		0		0.91	M	1.18	M

Member Descr: 04-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G50	HL93	29	M	40	M	0		0		0.62	M	0.81	M
G50	H15	16	M	22	M	0		0		1.09	M	1.41	M
G50	HS20	29	M	40	M	0		0		0.81	M	1.05	M
G50	3	26	M	35	M	0		0		1.03	M	1.34	M
G50	3S2	41	M	57	M	0		0		1.03	M	1.34	M
G50	3-3	50	M	69	M	0		0		1.25	M	1.62	M
G50	SU4	24	M	34	M	0		0		0.91	M	1.18	M
G50	SU5	28	M	39	M	0		0		0.91	M	1.18	M
G50	SU6	31	M	44	M	0		0		0.91	M	1.18	M
G50	SU7	35	M	49	M	0		0		0.91	M	1.18	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 04-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G51	HL93	27	M	38	M	0		0		0.57 M		0.74 M	
G51	H15	15	M	21	M	0		0		1.00 M		1.29 M	
G51	HS20	27	M	38	M	0		0		0.75 M		0.97 M	
G51	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M
G51	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M
G51	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M
G51	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M
G51	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M
G51	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M
G51	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M

Member Descr: 04-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G52	HL93	27	M	38	M	0		0		0.57 M		0.74 M	
G52	H15	15	M	21	M	0		0		1.00 M		1.29 M	
G52	HS20	27	M	38	M	0		0		0.75 M		0.97 M	
G52	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M
G52	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M
G52	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M
G52	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M
G52	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M
G52	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M
G52	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M

Member Descr: 04-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G53	HL93	27	M	38	M	0		0		0.57 M		0.74 M	
G53	H15	15	M	21	M	0		0		1.00 M		1.29 M	
G53	HS20	27	M	38	M	0		0		0.75 M		0.97 M	
G53	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M
G53	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M
G53	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M
G53	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M
G53	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M
G53	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M
G53	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 04-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRF		LRF		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G54	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G54	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G54	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G54	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G54	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G54	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G54	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G54	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G54	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G54	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 04-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRF		LRF		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G55	HL93	26	M	36	M	0		0		0.54	M	0.70	M		
G55	H15	14	M	20	M	0		0		0.95	M	1.23	M		
G55	HS20	26	M	36	M	0		0		0.71	M	0.92	M		
G55	3	22	M	31	M	0		0		0.90	M	1.16	M	1.21	M
G55	3S2	36	M	50	M	0		0		0.90	M	1.16	M	1.21	M
G55	3-3	44	M	61	M	0		0		1.09	M	1.41	M	1.47	M
G55	SU4	21	M	30	M	0		0		0.79	M	1.03	M	1.07	M
G55	SU5	25	M	34	M	0		0		0.79	M	1.03	M	1.07	M
G55	SU6	28	M	39	M	0		0		0.79	M	1.03	M	1.07	M
G55	SU7	31	M	43	M	0		0		0.79	M	1.03	M	1.07	M

Member Descr: 04-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRF		LRF		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G56	HL93	26	M	36	M	0		0		0.54	M	0.70	M		
G56	H15	14	M	20	M	0		0		0.95	M	1.23	M		
G56	HS20	26	M	36	M	0		0		0.71	M	0.92	M		
G56	3	22	M	31	M	0		0		0.90	M	1.16	M	1.21	M
G56	3S2	36	M	50	M	0		0		0.90	M	1.16	M	1.21	M
G56	3-3	44	M	61	M	0		0		1.09	M	1.41	M	1.47	M
G56	SU4	21	M	30	M	0		0		0.79	M	1.03	M	1.07	M
G56	SU5	25	M	34	M	0		0		0.79	M	1.03	M	1.07	M
G56	SU6	28	M	39	M	0		0		0.79	M	1.03	M	1.07	M
G56	SU7	31	M	43	M	0		0		0.79	M	1.03	M	1.07	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 04-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LRFD		LGL		LGL		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G57	HL93	26	M	36	M	0		0		0.54	M	0.70	M
G57	H15	14	M	20	M	0		0		0.95	M	1.23	M
G57	HS20	26	M	36	M	0		0		0.71	M	0.92	M
G57	3	22	M	31	M	0		0		0.90	M	1.16	M
G57	3S2	36	M	50	M	0		0		0.90	M	1.16	M
G57	3-3	44	M	61	M	0		0		1.09	M	1.41	M
G57	SU4	21	M	30	M	0		0		0.79	M	1.03	M
G57	SU5	25	M	34	M	0		0		0.79	M	1.03	M
G57	SU6	28	M	39	M	0		0		0.79	M	1.03	M
G57	SU7	31	M	43	M	0		0		0.79	M	1.03	M

Member Descr: 04-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LRFD		LGL		LGL		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G58	HL93	26	M	36	M	0		0		0.54	M	0.70	M
G58	H15	14	M	20	M	0		0		0.95	M	1.23	M
G58	HS20	26	M	36	M	0		0		0.71	M	0.92	M
G58	3	22	M	31	M	0		0		0.90	M	1.16	M
G58	3S2	36	M	50	M	0		0		0.90	M	1.16	M
G58	3-3	44	M	61	M	0		0		1.09	M	1.41	M
G58	SU4	21	M	30	M	0		0		0.79	M	1.03	M
G58	SU5	25	M	34	M	0		0		0.79	M	1.03	M
G58	SU6	28	M	39	M	0		0		0.79	M	1.03	M
G58	SU7	31	M	43	M	0		0		0.79	M	1.03	M

Member Descr: 04-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LRFD		LGL		LGL		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G59	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G59	H15	15	M	21	M	0		0		1.00	M	1.29	M
G59	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G59	3	24	M	33	M	0		0		0.94	M	1.23	M
G59	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G59	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G59	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G59	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G59	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G59	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 04-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G60	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G60	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G60	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G60	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G60	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G60	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G60	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G60	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G60	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G60	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 04-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G61	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G61	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G61	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G61	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G61	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G61	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G61	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G61	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G61	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G61	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 04-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G62	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G62	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G62	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G62	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G62	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G62	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G62	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G62	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G62	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G62	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 04-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G63	HL93	27	M	38	M	0		0		0.57 M		0.74 M		
G63	H15	15	M	21	M	0		0		1.00 M		1.29 M		
G63	HS20	27	M	38	M	0		0		0.75 M		0.97 M		
G63	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M	
G63	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M	
G63	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M	
G63	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M	
G63	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M	
G63	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M	
G63	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M	

Member Descr: 04-EG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G64	HL93	29	M	40	M	0		0		0.62 M		0.81 M		
G64	H15	16	M	22	M	0		0		1.09 M		1.41 M		
G64	HS20	29	M	40	M	0		0		0.81 M		1.05 M		
G64	3	26	M	35	M	0		0		1.03 M		1.34 M	1.39 M	
G64	3S2	41	M	57	M	0		0		1.03 M		1.34 M	1.39 M	
G64	3-3	50	M	69	M	0		0		1.25 M		1.62 M	1.68 M	
G64	SU4	24	M	34	M	0		0		0.91 M		1.18 M	1.22 M	
G64	SU5	28	M	39	M	0		0		0.91 M		1.18 M	1.22 M	
G64	SU6	31	M	44	M	0		0		0.91 M		1.18 M	1.22 M	
G64	SU7	35	M	49	M	0		0		0.91 M		1.18 M	1.22 M	

Member Descr: 05-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G65	HL93	27	M	38	M	0		0		0.57 M		0.74 M		
G65	H15	15	M	21	M	0		0		1.00 M		1.29 M		
G65	HS20	27	M	38	M	0		0		0.75 M		0.97 M		
G65	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M	
G65	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M	
G65	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M	
G65	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M	
G65	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M	
G65	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M	
G65	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M	

Structure No.: 13000W7

Route: 9013

Cycle No.: 19

Name: GREEN AVENUE OVER DEBBIES CREEK

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 05-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRF		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G66	HL93	27	M	38	M	0		0		0.57 M		0.74 M		
G66	H15	15	M	21	M	0		0		1.00 M		1.29 M		
G66	HS20	27	M	38	M	0		0		0.75 M		0.97 M		
G66	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M	
G66	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M	
G66	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M	
G66	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M	
G66	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M	
G66	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M	
G66	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M	

Member Descr: 05-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRF		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G67	HL93	27	M	38	M	0		0		0.57 M		0.74 M		
G67	H15	15	M	21	M	0		0		1.00 M		1.29 M		
G67	HS20	27	M	38	M	0		0		0.75 M		0.97 M		
G67	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M	
G67	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M	
G67	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M	
G67	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M	
G67	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M	
G67	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M	
G67	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M	

Member Descr: 05-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRF		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G68	HL93	27	M	38	M	0		0		0.57 M		0.74 M		
G68	H15	15	M	21	M	0		0		1.00 M		1.29 M		
G68	HS20	27	M	38	M	0		0		0.75 M		0.97 M		
G68	3	24	M	33	M	0		0		0.94 M		1.23 M	1.27 M	
G68	3S2	38	M	53	M	0		0		0.94 M		1.23 M	1.27 M	
G68	3-3	47	M	65	M	0		0		1.15 M		1.49 M	1.54 M	
G68	SU4	23	M	31	M	0		0		0.83 M		1.08 M	1.12 M	
G68	SU5	26	M	36	M	0		0		0.83 M		1.08 M	1.12 M	
G68	SU6	29	M	41	M	0		0		0.83 M		1.08 M	1.12 M	
G68	SU7	33	M	45	M	0		0		0.83 M		1.08 M	1.12 M	

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 05-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G69	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G69	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G69	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G69	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G69	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G69	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G69	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G69	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G69	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G69	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 05-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G70	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G70	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G70	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G70	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G70	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G70	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G70	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G70	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G70	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G70	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 05-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G71	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G71	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G71	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G71	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G71	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G71	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G71	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G71	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G71	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G71	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 05-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G72	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G72	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G72	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G72	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G72	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G72	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G72	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G72	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G72	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G72	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 05-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G73	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G73	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G73	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G73	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G73	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G73	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G73	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G73	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G73	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G73	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Member Descr: 05-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G74	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G74	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G74	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G74	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G74	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G74	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G74	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G74	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G74	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G74	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 05-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G75	HL93	35	M	48	M	0		0		0.77	M	1.00	M		
G75	H15	19	M	27	M	0		0		1.34	M	1.74	M		
G75	HS20	35	M	48	M	0		0		1.01	M	1.30	M		
G75	3	31	M	42	M	0		0		1.27	M	1.65	M	1.71	M
G75	3S2	50	M	68	M	0		0		1.27	M	1.65	M	1.71	M
G75	3-3	60	M	83	M	0		0		1.55	M	2.00	M	2.08	M
G75	SU4	29	M	40	M	0		0		1.12	M	1.46	M	1.51	M
G75	SU5	34	M	46	M	0		0		1.12	M	1.46	M	1.51	M
G75	SU6	38	M	52	M	0		0		1.12	M	1.46	M	1.51	M
G75	SU7	42	M	58	M	0		0		1.12	M	1.46	M	1.51	M

Member Descr: 05-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G76	HL93	35	M	48	M	0		0		0.77	M	1.00	M		
G76	H15	19	M	27	M	0		0		1.34	M	1.74	M		
G76	HS20	35	M	48	M	0		0		1.01	M	1.30	M		
G76	3	31	M	42	M	0		0		1.27	M	1.65	M	1.71	M
G76	3S2	50	M	68	M	0		0		1.27	M	1.65	M	1.71	M
G76	3-3	60	M	83	M	0		0		1.55	M	2.00	M	2.08	M
G76	SU4	29	M	40	M	0		0		1.12	M	1.46	M	1.51	M
G76	SU5	34	M	46	M	0		0		1.12	M	1.46	M	1.51	M
G76	SU6	38	M	52	M	0		0		1.12	M	1.46	M	1.51	M
G76	SU7	42	M	58	M	0		0		1.12	M	1.46	M	1.51	M

Member Descr: 05-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G77	HL93	27	M	38	M	0		0		0.57	M	0.74	M		
G77	H15	15	M	21	M	0		0		1.00	M	1.29	M		
G77	HS20	27	M	38	M	0		0		0.75	M	0.97	M		
G77	3	24	M	33	M	0		0		0.94	M	1.23	M	1.27	M
G77	3S2	38	M	53	M	0		0		0.94	M	1.23	M	1.27	M
G77	3-3	47	M	65	M	0		0		1.15	M	1.49	M	1.54	M
G77	SU4	23	M	31	M	0		0		0.83	M	1.08	M	1.12	M
G77	SU5	26	M	36	M	0		0		0.83	M	1.08	M	1.12	M
G77	SU6	29	M	41	M	0		0		0.83	M	1.08	M	1.12	M
G77	SU7	33	M	45	M	0		0		0.83	M	1.08	M	1.12	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 05-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LFD		LFD		LFD		LFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G78	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G78	H15	15	M	21	M	0		0		1.00	M	1.29	M
G78	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G78	3	24	M	33	M	0		0		0.94	M	1.23	M
G78	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G78	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G78	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G78	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G78	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G78	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 05-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LFD		LFD		LFD		LFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G79	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G79	H15	15	M	21	M	0		0		1.00	M	1.29	M
G79	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G79	3	24	M	33	M	0		0		0.94	M	1.23	M
G79	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G79	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G79	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G79	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G79	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G79	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Member Descr: 05-EG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		LFD		LFD		LFD		LFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G80	HL93	27	M	38	M	0		0		0.57	M	0.74	M
G80	H15	15	M	21	M	0		0		1.00	M	1.29	M
G80	HS20	27	M	38	M	0		0		0.75	M	0.97	M
G80	3	24	M	33	M	0		0		0.94	M	1.23	M
G80	3S2	38	M	53	M	0		0		0.94	M	1.23	M
G80	3-3	47	M	65	M	0		0		1.15	M	1.49	M
G80	SU4	23	M	31	M	0		0		0.83	M	1.08	M
G80	SU5	26	M	36	M	0		0		0.83	M	1.08	M
G80	SU6	29	M	41	M	0		0		0.83	M	1.08	M
G80	SU7	33	M	45	M	0		0		0.83	M	1.08	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G81	HL93	17	M	25	M	0		0		0.36	M	0.47	M	
G81	H15	10	M	14	M	0		0		0.71	M	0.92	M	
G81	HS20	17	M	25	M	0		0		0.53	M	0.69	M	
G81	3	14	M	20	M	0		0		0.62	M	0.80	M	0.83
G81	3S2	23	M	33	M	0		0		0.62	M	0.80	M	0.83
G81	3-3	28	M	40	M	0		0		0.75	M	0.97	M	1.01
G81	SU4	13	M	19	M	0		0		0.52	M	0.68	M	0.70
G81	SU5	14	M	20	M	0		0		0.49	M	0.64	M	0.66
G81	SU6	15	M	22	M	0		0		0.47	M	0.61	M	0.63
G81	SU7	17	M	24	M	0		0		0.47	M	0.61	M	0.63

Member Descr: 06-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G82	HL93	21	M	30	M	0		0		0.42	M	0.55	M	
G82	H15	11	M	16	M	0		0		0.83	M	1.08	M	
G82	HS20	21	M	30	M	0		0		0.62	M	0.81	M	
G82	3	17	M	24	M	0		0		0.72	M	0.94	M	0.97
G82	3S2	27	M	39	M	0		0		0.72	M	0.94	M	0.97
G82	3-3	33	M	47	M	0		0		0.88	M	1.14	M	1.18
G82	SU4	15	M	22	M	0		0		0.61	M	0.80	M	0.82
G82	SU5	17	M	24	M	0		0		0.58	M	0.75	M	0.78
G82	SU6	18	M	26	M	0		0		0.55	M	0.71	M	0.74
G82	SU7	20	M	29	M	0		0		0.55	M	0.71	M	0.74

Member Descr: 06-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G83	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G83	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G83	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G83	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G83	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G83	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G83	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G83	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G83	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G83	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G84	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G84	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G84	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G84	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G84	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G84	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G84	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G84	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G84	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G84	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Member Descr: 06-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G85	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G85	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G85	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G85	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G85	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G85	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G85	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G85	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G85	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G85	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Member Descr: 06-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G86	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G86	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G86	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G86	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G86	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G86	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G86	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G86	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G86	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G86	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G87	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G87	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G87	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G87	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93 M
G87	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93 M
G87	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13 M
G87	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79 M
G87	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74 M
G87	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70 M
G87	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70 M

Member Descr: 06-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G88	HL93	18	M	26	M	0		0		0.37	M	0.49	M	
G88	H15	10	M	14	M	0		0		0.74	M	0.95	M	
G88	HS20	18	M	26	M	0		0		0.55	M	0.72	M	
G88	3	14	M	21	M	0		0		0.64	M	0.83	M	0.86 M
G88	3S2	23	M	33	M	0		0		0.64	M	0.83	M	0.86 M
G88	3-3	28	M	40	M	0		0		0.78	M	1.01	M	1.05 M
G88	SU4	13	M	19	M	0		0		0.54	M	0.70	M	0.73 M
G88	SU5	14	M	20	M	0		0		0.51	M	0.67	M	0.69 M
G88	SU6	15	M	22	M	0		0		0.49	M	0.63	M	0.65 M
G88	SU7	17	M	24	M	0		0		0.49	M	0.63	M	0.65 M

Member Descr: 06-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL		Contr Type
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	
G89	HL93	18	M	26	M	0		0		0.37	M	0.49	M	
G89	H15	10	M	14	M	0		0		0.74	M	0.95	M	
G89	HS20	18	M	26	M	0		0		0.55	M	0.72	M	
G89	3	14	M	21	M	0		0		0.64	M	0.83	M	0.86 M
G89	3S2	23	M	33	M	0		0		0.64	M	0.83	M	0.86 M
G89	3-3	28	M	40	M	0		0		0.78	M	1.01	M	1.05 M
G89	SU4	13	M	19	M	0		0		0.54	M	0.70	M	0.73 M
G89	SU5	14	M	20	M	0		0		0.51	M	0.67	M	0.69 M
G89	SU6	15	M	22	M	0		0		0.49	M	0.63	M	0.65 M
G89	SU7	17	M	24	M	0		0		0.49	M	0.63	M	0.65 M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		OPR	Contr Type
G90	HL93	18	M	26	M	0		0		0.37	M		0.49	M
G90	H15	10	M	14	M	0		0		0.74	M		0.95	M
G90	HS20	18	M	26	M	0		0		0.55	M		0.72	M
G90	3	14	M	21	M	0		0		0.64	M		0.83	M
G90	3S2	23	M	33	M	0		0		0.64	M		0.83	M
G90	3-3	28	M	40	M	0		0		0.78	M		1.01	M
G90	SU4	13	M	19	M	0		0		0.54	M		0.70	M
G90	SU5	14	M	20	M	0		0		0.51	M		0.67	M
G90	SU6	15	M	22	M	0		0		0.49	M		0.63	M
G90	SU7	17	M	24	M	0		0		0.49	M		0.63	M

Member Descr: 06-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		OPR	Contr Type
G91	HL93	18	M	26	M	0		0		0.37	M		0.49	M
G91	H15	10	M	14	M	0		0		0.74	M		0.95	M
G91	HS20	18	M	26	M	0		0		0.55	M		0.72	M
G91	3	14	M	21	M	0		0		0.64	M		0.83	M
G91	3S2	23	M	33	M	0		0		0.64	M		0.83	M
G91	3-3	28	M	40	M	0		0		0.78	M		1.01	M
G91	SU4	13	M	19	M	0		0		0.54	M		0.70	M
G91	SU5	14	M	20	M	0		0		0.51	M		0.67	M
G91	SU6	15	M	22	M	0		0		0.49	M		0.63	M
G91	SU7	17	M	24	M	0		0		0.49	M		0.63	M

Member Descr: 06-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		ASD		LFD		ASD		LFD		LRFD		LGL	Contr	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type		OPR	Contr Type
G92	HL93	20	M	28	M	0		0		0.40	M		0.52	M
G92	H15	11	M	16	M	0		0		0.79	M		1.03	M
G92	HS20	20	M	28	M	0		0		0.59	M		0.77	M
G92	3	16	M	23	M	0		0		0.69	M		0.89	M
G92	3S2	26	M	37	M	0		0		0.69	M		0.89	M
G92	3-3	31	M	45	M	0		0		0.84	M		1.09	M
G92	SU4	14	M	21	M	0		0		0.58	M		0.76	M
G92	SU5	16	M	23	M	0		0		0.55	M		0.72	M
G92	SU6	17	M	24	M	0		0		0.52	M		0.68	M
G92	SU7	19	M	27	M	0		0		0.52	M		0.68	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G93	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G93	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G93	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G93	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G93	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G93	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G93	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G93	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G93	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G93	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Member Descr: 06-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G94	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G94	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G94	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G94	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G94	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G94	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G94	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G94	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G94	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G94	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Member Descr: 06-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G95	HL93	20	M	28	M	0		0		0.40	M	0.52	M	
G95	H15	11	M	16	M	0		0		0.79	M	1.03	M	
G95	HS20	20	M	28	M	0		0		0.59	M	0.77	M	
G95	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93
G95	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93
G95	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13
G95	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79
G95	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74
G95	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70
G95	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 06-IG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G96	HL93	20	M	28	M	0		0		0.40	M	0.52	M		
G96	H15	11	M	16	M	0		0		0.79	M	1.03	M		
G96	HS20	20	M	28	M	0		0		0.59	M	0.77	M		
G96	3	16	M	23	M	0		0		0.69	M	0.89	M	0.93	M
G96	3S2	26	M	37	M	0		0		0.69	M	0.89	M	0.93	M
G96	3-3	31	M	45	M	0		0		0.84	M	1.09	M	1.13	M
G96	SU4	14	M	21	M	0		0		0.58	M	0.76	M	0.79	M
G96	SU5	16	M	23	M	0		0		0.55	M	0.72	M	0.74	M
G96	SU6	17	M	24	M	0		0		0.52	M	0.68	M	0.70	M
G96	SU7	19	M	27	M	0		0		0.52	M	0.68	M	0.70	M

Member Descr: 06-IG017

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G97	HL93	21	M	30	M	0		0		0.42	M	0.55	M		
G97	H15	11	M	16	M	0		0		0.83	M	1.08	M		
G97	HS20	21	M	30	M	0		0		0.62	M	0.81	M		
G97	3	17	M	24	M	0		0		0.72	M	0.94	M	0.97	M
G97	3S2	27	M	39	M	0		0		0.72	M	0.94	M	0.97	M
G97	3-3	33	M	47	M	0		0		0.88	M	1.14	M	1.18	M
G97	SU4	15	M	22	M	0		0		0.61	M	0.80	M	0.82	M
G97	SU5	17	M	24	M	0		0		0.58	M	0.75	M	0.78	M
G97	SU6	18	M	26	M	0		0		0.55	M	0.71	M	0.74	M
G97	SU7	20	M	29	M	0		0		0.55	M	0.71	M	0.74	M

Member Descr: 06-EG018

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G98	HL93	21	M	30	M	0		0		0.42	M	0.55	M		
G98	H15	11	M	16	M	0		0		0.83	M	1.08	M		
G98	HS20	21	M	30	M	0		0		0.62	M	0.81	M		
G98	3	17	M	24	M	0		0		0.72	M	0.94	M	0.97	M
G98	3S2	27	M	39	M	0		0		0.72	M	0.94	M	0.97	M
G98	3-3	33	M	47	M	0		0		0.88	M	1.14	M	1.18	M
G98	SU4	15	M	22	M	0		0		0.61	M	0.80	M	0.82	M
G98	SU5	17	M	24	M	0		0		0.58	M	0.75	M	0.78	M
G98	SU6	18	M	26	M	0		0		0.55	M	0.71	M	0.74	M
G98	SU7	20	M	29	M	0		0		0.55	M	0.71	M	0.74	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G01	HL93	20	M	28	M	0		0		0.38	M	0.50	M	
G01	H15	11	M	16	M	0		0		0.75	M	0.97	M	
G01	HS20	20	M	28	M	0		0		0.56	M	0.73	M	
G01	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88
G01	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88
G01	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07
G01	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75
G01	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70
G01	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67
G01	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67

Member Descr: 07-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G02	HL93	20	M	28	M	0		0		0.38	M	0.50	M	
G02	H15	11	M	16	M	0		0		0.75	M	0.97	M	
G02	HS20	20	M	28	M	0		0		0.56	M	0.73	M	
G02	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88
G02	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88
G02	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07
G02	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75
G02	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70
G02	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67
G02	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67

Member Descr: 07-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor				
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL
G03	HL93	20	M	28	M	0		0		0.38	M	0.50	M	
G03	H15	11	M	16	M	0		0		0.75	M	0.97	M	
G03	HS20	20	M	28	M	0		0		0.56	M	0.73	M	
G03	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88
G03	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88
G03	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07
G03	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75
G03	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70
G03	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67
G03	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G04	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G04	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G04	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G04	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G04	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G04	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G04	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G04	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G04	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G04	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Member Descr: 07-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G05	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G05	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G05	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G05	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G05	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G05	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G05	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G05	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G05	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G05	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Member Descr: 07-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G06	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G06	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G06	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G06	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G06	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G06	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G06	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G06	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G06	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G06	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-IG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G07	HL93	20	M	28	M	0		0		0.38	M	0.50	M
G07	H15	11	M	16	M	0		0		0.75	M	0.97	M
G07	HS20	20	M	28	M	0		0		0.56	M	0.73	M
G07	3	16	M	23	M	0		0		0.65	M	0.85	M
G07	3S2	26	M	37	M	0		0		0.65	M	0.85	M
G07	3-3	31	M	45	M	0		0		0.80	M	1.03	M
G07	SU4	14	M	21	M	0		0		0.56	M	0.72	M
G07	SU5	16	M	23	M	0		0		0.52	M	0.68	M
G07	SU6	17	M	24	M	0		0		0.50	M	0.64	M
G07	SU7	19	M	27	M	0		0		0.50	M	0.64	M

Member Descr: 07-IG008

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G08	HL93	19	M	28	M	0		0		0.37	M	0.48	M
G08	H15	10	M	15	M	0		0		0.73	M	0.95	M
G08	HS20	19	M	28	M	0		0		0.55	M	0.71	M
G08	3	15	M	22	M	0		0		0.64	M	0.82	M
G08	3S2	25	M	36	M	0		0		0.64	M	0.82	M
G08	3-3	30	M	44	M	0		0		0.77	M	1.00	M
G08	SU4	14	M	20	M	0		0		0.54	M	0.70	M
G08	SU5	15	M	22	M	0		0		0.51	M	0.66	M
G08	SU6	16	M	23	M	0		0		0.48	M	0.63	M
G08	SU7	18	M	26	M	0		0		0.48	M	0.63	M

Member Descr: 07-IG009

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor			
		ASD		LFD		ASD		LFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type
G09	HL93	19	M	28	M	0		0		0.37	M	0.48	M
G09	H15	10	M	15	M	0		0		0.73	M	0.95	M
G09	HS20	19	M	28	M	0		0		0.55	M	0.71	M
G09	3	15	M	22	M	0		0		0.64	M	0.82	M
G09	3S2	25	M	36	M	0		0		0.64	M	0.82	M
G09	3-3	30	M	44	M	0		0		0.77	M	1.00	M
G09	SU4	14	M	20	M	0		0		0.54	M	0.70	M
G09	SU5	15	M	22	M	0		0		0.51	M	0.66	M
G09	SU6	16	M	23	M	0		0		0.48	M	0.63	M
G09	SU7	18	M	26	M	0		0		0.48	M	0.63	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-IG010

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G10	HL93	19	M	28	M	0		0		0.37	M	0.48	M		
G10	H15	10	M	15	M	0		0		0.73	M	0.95	M		
G10	HS20	19	M	28	M	0		0		0.55	M	0.71	M		
G10	3	15	M	22	M	0		0		0.64	M	0.82	M	0.86	M
G10	3S2	25	M	36	M	0		0		0.64	M	0.82	M	0.86	M
G10	3-3	30	M	44	M	0		0		0.77	M	1.00	M	1.04	M
G10	SU4	14	M	20	M	0		0		0.54	M	0.70	M	0.73	M
G10	SU5	15	M	22	M	0		0		0.51	M	0.66	M	0.69	M
G10	SU6	16	M	23	M	0		0		0.48	M	0.63	M	0.65	M
G10	SU7	18	M	26	M	0		0		0.48	M	0.63	M	0.65	M

Member Descr: 07-IG011

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G11	HL93	19	M	28	M	0		0		0.37	M	0.48	M		
G11	H15	10	M	15	M	0		0		0.73	M	0.95	M		
G11	HS20	19	M	28	M	0		0		0.55	M	0.71	M		
G11	3	15	M	22	M	0		0		0.64	M	0.82	M	0.86	M
G11	3S2	25	M	36	M	0		0		0.64	M	0.82	M	0.86	M
G11	3-3	30	M	44	M	0		0		0.77	M	1.00	M	1.04	M
G11	SU4	14	M	20	M	0		0		0.54	M	0.70	M	0.73	M
G11	SU5	15	M	22	M	0		0		0.51	M	0.66	M	0.69	M
G11	SU6	16	M	23	M	0		0		0.48	M	0.63	M	0.65	M
G11	SU7	18	M	26	M	0		0		0.48	M	0.63	M	0.65	M

Member Descr: 07-IG012

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LRFD		LGL	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G12	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G12	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G12	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G12	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G12	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G12	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G12	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G12	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G12	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G12	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Structure No.: 13000W7 Route: 9013

Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19

Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-IG013

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G13	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G13	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G13	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G13	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G13	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G13	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G13	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G13	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G13	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G13	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Member Descr: 07-IG014

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G14	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G14	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G14	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G14	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G14	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G14	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G14	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G14	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G14	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G14	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Member Descr: 07-IG015

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		ASD		LFD		LRFD		LGL			
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G15	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G15	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G15	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G15	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G15	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G15	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G15	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G15	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G15	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G15	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Structure No.: 13000W7 Route: 9013
 Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
 Insp. Date: 05/09/2023

LARS Member Summary (Tabular) Report

Member Descr: 07-IG016

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G16	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G16	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G16	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G16	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G16	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G16	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G16	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G16	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G16	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G16	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

Member Descr: 07-IG017

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G17	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G17	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G17	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G17	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G17	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G17	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G17	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G17	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G17	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G17	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

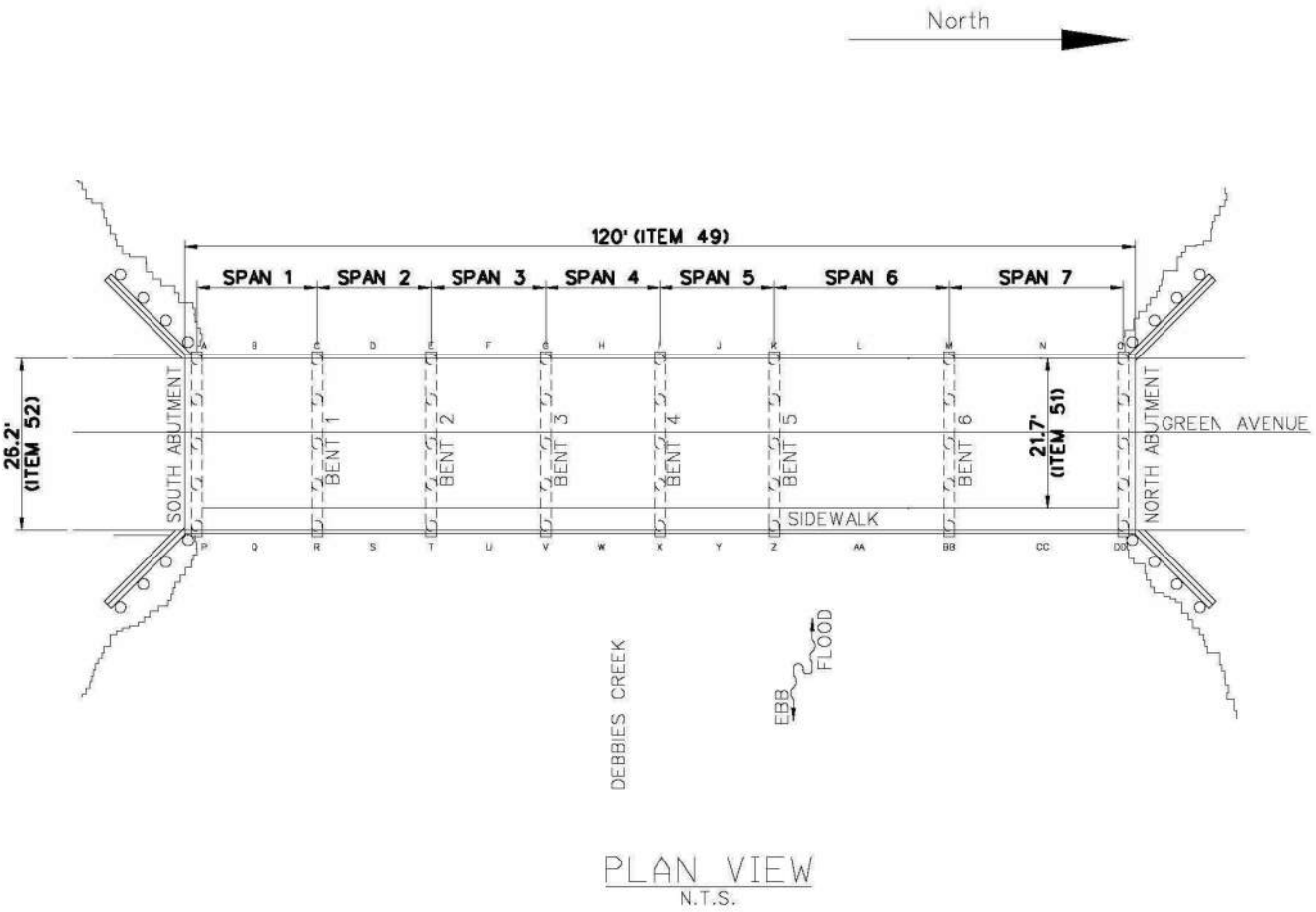
Member Descr: 07-EG018

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G18	HL93	20	M	28	M	0		0		0.38	M	0.50	M		
G18	H15	11	M	16	M	0		0		0.75	M	0.97	M		
G18	HS20	20	M	28	M	0		0		0.56	M	0.73	M		
G18	3	16	M	23	M	0		0		0.65	M	0.85	M	0.88	M
G18	3S2	26	M	37	M	0		0		0.65	M	0.85	M	0.88	M
G18	3-3	31	M	45	M	0		0		0.80	M	1.03	M	1.07	M
G18	SU4	14	M	21	M	0		0		0.56	M	0.72	M	0.75	M
G18	SU5	16	M	23	M	0		0		0.52	M	0.68	M	0.70	M
G18	SU6	17	M	24	M	0		0		0.50	M	0.64	M	0.67	M
G18	SU7	19	M	27	M	0		0		0.50	M	0.64	M	0.67	M

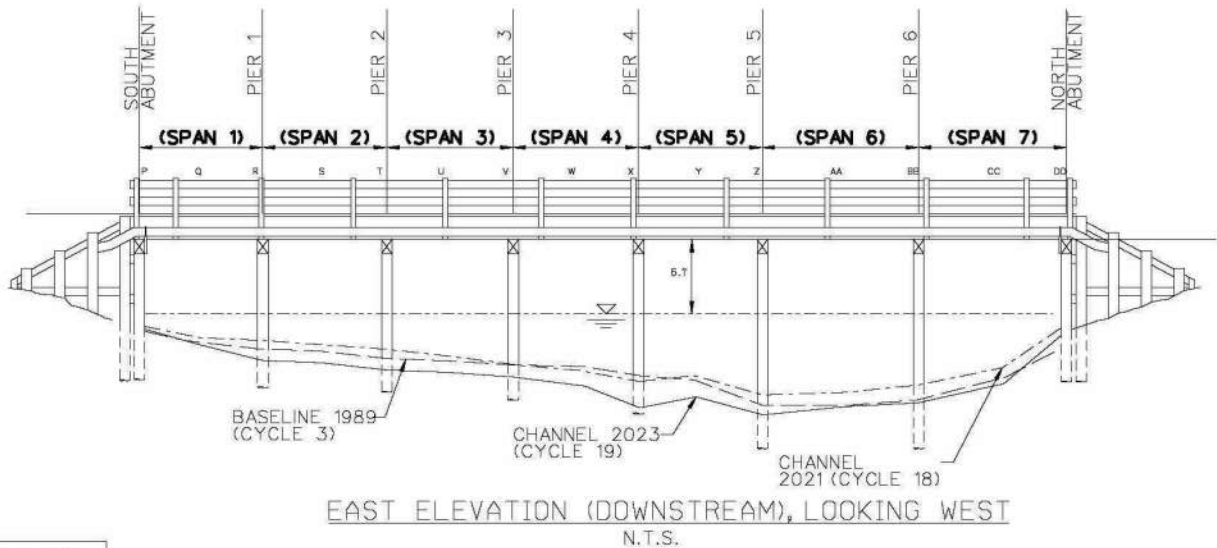
Structure No.: 13000W7 Route: 9013
Name: GREEN AVENUE OVER DEBBIES CREEK

Cycle No.: 19
Insp. Date: 05/09/2023

Plan View Sketch



Soundings Sketch

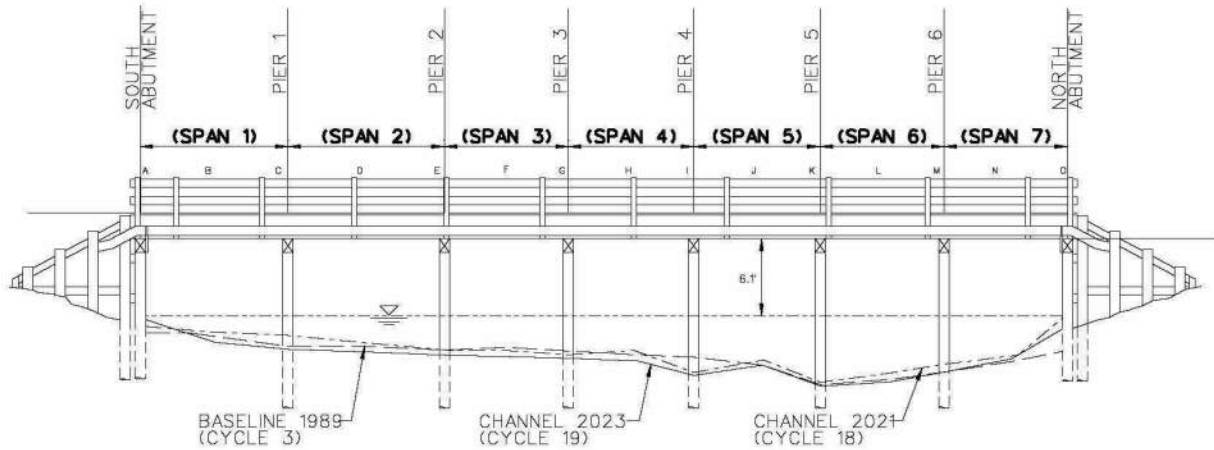


POINT	BASELINE				
	CYCLE 3		CYCLE 18		CYCLE 19
	NOV. 1989		JULY 2021		MAY 2023
	CLEAR DIMENSION	CLEAR DIMENSION	WATER DEPTH	CLEAR DIMENSION	WATER DEPTH
P	7.9'	8.0'	0.0'	7.8'	1.7'
Q	8.3'	8.2'	0.0'	8.4'	2.3'
R	8.7'	8.3'	0.0'	9.2'	3.1'
S	8.8'	8.5'	0.2'	9.5'	3.4'
T	9.2'	8.8'	0.5'	10.0'	3.9'
U	9.3'	9.2'	0.9'	10.3'	4.2'
V	9.6'	9.6'	1.3'	10.8'	4.7'
W	9.7'	9.9'	1.6'	11.2'	5.1'
X	10.3'	11.3'	3.0'	14.0'	7.9'
Y	11.1'	10.6'	2.3'	12.0'	5.9'
Z	13.6'	12.4'	4.1'	15.2'	9.1'
AA	13.4'	12.5'	4.2'	13.5'	7.4'
BB	13.3'	11.7'	3.4'	13.4'	7.3'
CC	11.4'	10.0'	1.7'	12.2'	6.1'
DD	8.9'	7.8'	0.0'	8.2'	2.1'

NOTE:
THE CLEAR DIMENSIONS GIVEN ARE REFERENCED FROM THE BOTTOM OF THE GIRDER TO THE STREAMBED.
THE WATER DEPTH DIMENSIONS ARE MEASURED FROM THE WATER SURFACE (AT THE TIME OF THE INSPECTION) TO THE STREAMBED.

LEGEND:
— — — — — BASELINE SOUNDING, 1989
- - - - - PREVIOUS SOUNDING, 2021
— — — — — UPDATED SOUNDING, 2023
- - - - - WATER SURFACE (CURRENT CYCLE)

Soundings Sketch



WEST ELEVATION (UPSTREAM), LOOKING WEST
N.T.S.

POINT	BASELINE				
	CYCLE 3		CYCLE 18		CYCLE 19
	NOV. 1989		JULY 2021		MAY 2023
	CLEAR DIMENSION	CLEAR DIMENSION	WATER DEPTH	CLEAR DIMENSION	WATER DEPTH
A	8.0'	7.7'	0.0'	7.4'	1.3'
B	8.0'	7.8'	0.0'	8.3'	2.2'
C	8.6'	8.2'	0.0'	8.7'	2.6'
D	8.6'	8.5'	0.2'	9.2'	3.1'
E	8.8'	8.8'	0.5'	9.6'	3.5'
F	8.7'	8.9'	0.6'	9.7'	3.6'
G	8.8'	9.4'	1.1'	10.2'	4.1'
H	9.2'	8.8'	0.5'	10.5'	4.4'
I	9.7'	11.9'	3.6'	12.4'	6.3'
J	11.7'	10.8'	2.5'	11.7'	5.6'
K	13.4'	13.3'	5.0'	13.5'	7.4'
L	13.3'	12.4'	4.1'	13.5'	7.4'
M	12.8'	10.9'	2.6'	12.8'	6.7'
N	11.1'	10.3'	2.0'	11.0'	4.9'
O	10.6'	7.3'	0.0'	7.9'	1.8'

NOTE:

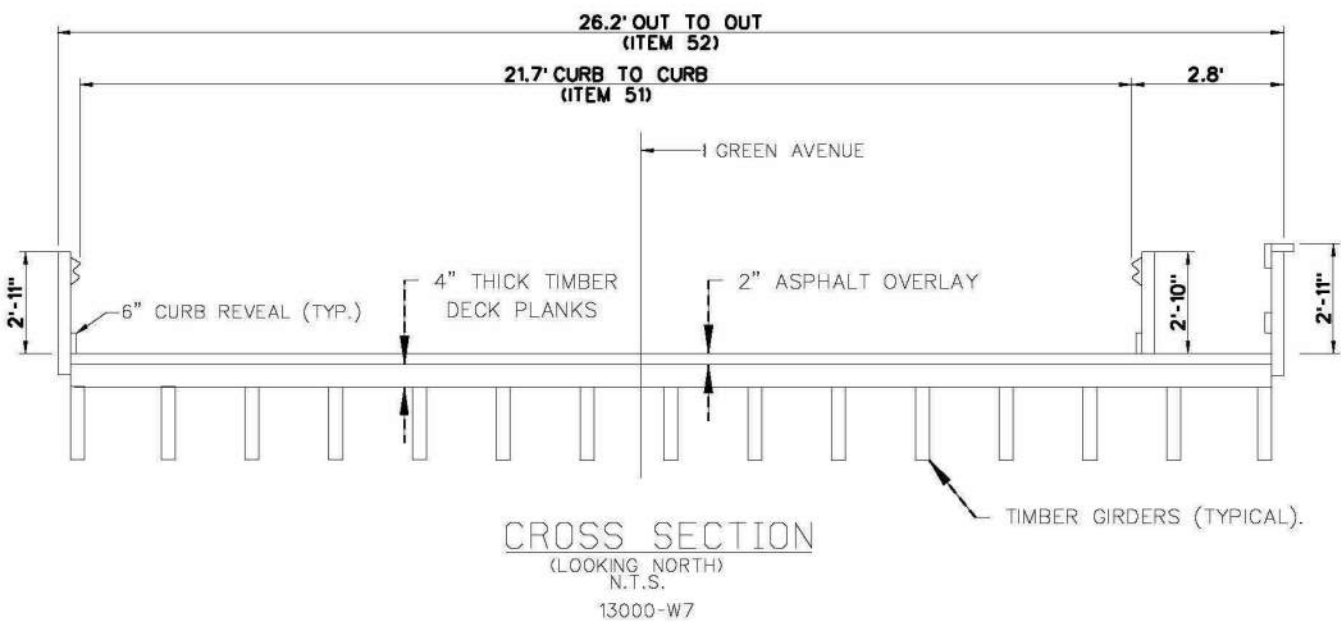
THE CLEAR DIMENSIONS GIVEN ARE REFERENCED FROM THE BOTTOM OF THE GIRDER TO THE STREAMBED.

THE WATER DEPTH DIMENSIONS ARE MEASURED FROM THE WATER SURFACE (AT THE TIME OF THE INSPECTION) TO THE STREAMBED.

LEGEND:

- BASELINE SOUNDING, 1989
- - - PREVIOUS SOUNDING, 2021
- UPDATED SOUNDING, 2023
- - - - WATER SURFACE (CURRENT CYCLE)

Deck Cross Section Sketch



Structure No.: 13000W7	Route: 9013	Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK		Insp. Date: 05/09/2023



Photo 1	Category:	00 - General View
	Description:	West elevation, looking east.



Photo 2	Category:	00 - General View
	Description:	East elevation, looking west.



Photo 3	Category:	00 - General View
	Description:	North approach, looking south.



Photo 4	Category:	00 - General View
	Description:	South approach, looking north.

Structure No.: 13000W7	Route: 9013	Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK		Insp. Date: 05/09/2023



Photo 5	Category:	00 - General View
	Description:	Upstream channel, looking west.



Photo 6	Category:	00 - General View
	Description:	Downstream channel, looking east.



Photo 7	Category:	00 - General View
	Description:	Underside of superstructure and deck, Span 6S, looking north. Note wide check in G14.



Photo 8	Category:	30 - Abutments, 60 - Priority Repair
	Description:	South abutment, Pile 4W, looking east. Priority 1: Pile is split up to 2.5" wide at the top for 5LF. (2023). Note the pile cap does not rest fully on the pile.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023



Photo 9	Category:	60 - Priority Repair , 30 - Abutments
	Description:	South abutment, Pile 2W, looking west. Priority 1: Pile is split up to 2.5" wide at the top for 3LF. (2023). Note the pile cap does not rest fully on the pile.



Photo 10	Category:	30 - Abutments, 60 - Priority Repair
	Description:	North abutment, Pile 1W, looking northwest. Priority 1: Pile is split up to 2.5" wide at the top for 5LF. (2023)



Photo 11	Category:	31 - Wingwalls/Retaining Walls/Headwalls, 60 - Priority Repair
	Description:	Northeast wingwall, looking west. Priority 1: Advanced decay to sheeting with up to 100% section loss at the bottom between Piles 1 to 4 and severely deteriorated/decayed with up to 100% section loss to bottom wale. (2023)



Photo 12	Category:	60 - Priority Repair , 35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Pier 2S, Pile 3W, looking south. Priority 1: Section loss to base of pile. (2023)



Photo 13	Category:	35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Pier 2S Cap, west end, looking east. Advanced decay with heart rot of 40% for 5'. Previous Work Done: Steel C-channel's have been bolted to both sides of timber cap and Stringer 1W replaced (all spans). (2023)



Photo 14	Category:	61 - Work Done, 10 - Signs/Posting
	Description:	Southeast approach, looking north. Work Done: Posting sign added and updated to note it is for Green Ave. Bridge. (2023)



Photo 15	Category:	01 - Deck Defects
	Description:	Top of deck, Span 7S, looking southwest. Moderate wear and medium to wide transverse and longitudinal cracks throughout (typical all spans).



Photo 16	Category:	06 - Parapets/Balustrades/Median/Railings
	Description:	Pedestrian railing, east side, looking north. Posts move due to decay at stringer connection. (Typical)



Photo 17	Category:	30 - Abutments
	Description:	North abutment, looking northeast. Deteriorated sheeting. Note the steel channel bolted to the timber pile cap.



Photo 18	Category:	30 - Abutments
	Description:	North abutment, west end of cap, looking north. Wide split and advanced decay with up to 30% section loss with bolted steel channel. Note wide split to the wale.

Structure No.: 13000W7

Route: 9013

Cycle No.: 19

Name: GREEN AVENUE OVER DEBBIES CREEK

Insp. Date: 05/09/2023



Photo 19	Category:	31 - Wingwalls/Retaining Walls/Headwalls
	Description:	Northwest wingwall, looking west. Advanced decay to top of sheeting.



Photo 20	Category:	31 - Wingwalls/Retaining Walls/Headwalls
	Description:	Southeast wingwall, Pile P4 from bridge, looking southwest. Advanced decay and heart rot (42" dp.) at the top and corrosion to tie rod plate.

Structure No.: 13000W7 Route: 9013

Cycle No.: 19

Name: GREEN AVENUE OVER DEBBIES CREEK

Insp. Date: 05/09/2023



Photo 21	Category:	35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Pier 6S, cross bracing connection at Pile 5W, looking north. Advanced decay with 80% section loss and detached from pile.



Photo 22	Category:	35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Pier 2S, cross bracing, looking southwest. Missing cross bracing and fine to medium checks in piles.



Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

NEW JERSEY DEPARTMENT OF TRANSPORTATION
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
FIELD NOTES
County Highway Agency

Inspectors: Brandon Panetta
Name: GREEN AVENUE OVER DEBBIES CREEK
Crew Chief: Sarault, Ian Weather: Sunny
Temperature: 67 °F Special Equipment Used: Small Boat.
[See Photo(s): 23]

RATINGS:

- N Not applicable.
- 9 Excellent Condition.
- 8 Very Good Condition - no problems noted.
- 7 Good Condition - some minor problems.
- 6 Satisfactory Condition - some minor deterioration of structural elements.
- 5 Fair Condition - minor section loss to primary structural elements.
- 4 Poor Condition - advanced section loss to primary structural elements.
- 3 Serious Condition - seriously deteriorated primary structural elements.
- 2 Critical Condition - facility should be closed until repairs are made.
- 1 Imminent Failure Condition - facility closed. Study of repairs is feasible.
- 0 Failed Condition - facility is closed and beyond repair.

GPS COORDINATES		
@ Southeast Corner		
Lat.	N	40.11120
Long.	W	-74.04620

GENERAL

Type of Bridge: Seven span, simply supported, timber girders with timber substructure

Year Built: 1943 Year of Widening/Major Repairs: 0000
No. of Lanes: On 02 Under 00
Vertical Clearances: Over Deck: 99.99 ft
Minimum Under: 00.00 ft
Maximum Under (Item 10): 99.99 ft
Horizontal Underclearance: Total Horizontal Clearance: 21.7 ft Curb to curb
Right 00.0 ft
Left 00.0 ft

Overall Physical Condition of Structure: The structure is in poor condition due to the condition of the substructure.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 1 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (85 LF). Mainly in the Southbound Lane. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 2 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (75 LF) mainly in the Southbound Lane. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 3 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (80 LF) mainly at the north end of the Southbound Lane. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 4 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (80 LF) mainly at the ends. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 5 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (80 LF) mainly at the north end. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 6 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous. ¼" wide transverse cracks throughout (80 LF) mostly full width. More at midspan. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 7 from South

RATING	COMPONENT	REMARKS
6	Wearing Surface	Bituminous: ¼" wide transverse cracks and diagonal cracks throughout (80 LF) mainly at midspan. [See Photo(s): 15]
7	Underside of Deck	No significant defects.
N	Median	None.
7	Curbs	Timber with 6" reveal. No significant defects.
7	Sidewalks	Bituminous. East only. Fine transverse cracks throughout.
N	Parapets	None.
7	Railings	W-Beam with timber posts. No significant defects.
N	Deck Joints/Filler Material	Paved over.
N	Drains and Scuppers	None.
N	Light Stands	None.
7	Utilities	12" diameter utility pipe runs along the East Fascia. Light corrosion. No significant defects.
6	Pedestrian Railing	Timber pedestrian railing on the east side. A few pedestrian railing posts exhibit movement due to decayed stringers. [See Photo(s): 16]

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

APPROACHES

SI&A Item BA Rating: 7
 SI&A Item 72 Rating: 6

SOUTH APPROACH

RATING	COMPONENT	REMARKS
7	Pavement	Bituminous. No significant defects.
N	Approach Shoulder	None.
	Approach Roadway Vertical & Horizontal Alignment	Vertical: Slight upgrade toward bridge. Horizontal: Tangent for 50' then slight curve toward southwest.
7	Guide Rail Condition	Steel w-beam. No significant defects.
N	Sidewalks	None.
N	Curbs	None.
N	Utilities	None
7	Approach Roadway Embankment	Asphalt slope protection at the top with medium to large rip rap at the base of both approach corners at the bridge. No significant defects.

Additional Remarks:

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

APPROACHES

SI&A Item BA Rating: 7
 SI&A Item 72 Rating: 6

NORTH APPROACH

RATING	COMPONENT	REMARKS
7	Pavement	Bituminous. Pavement seam along the abutment with minor settlement in the repaved portion.
N	Approach Shoulder	None.
	Approach Roadway Vertical & Horizontal Alignment	Vertical: Upgrade toward bridge. Horizontal: Tangent with T-junction about 100' from bridge.
7	Guide Rail Condition	No significant defects.
N	Sidewalks	None.
7	Curbs	Timber retainer.
N	Utilities	None.
7	Approach Roadway Embankment	West: Stabilized with asphalt and timber retaining wall. East: Medium to large stone riprap at base with asphalt slope at top. Retained at bridge by flared timber wall. No significant defects.

Additional Remarks:

Missing bolt at weight limit posting sign at northwest approach.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 1 from South

RATING	COMPONENT	REMARKS
6	Girders	16 timber girders numbered west to east. G14W: Wide split top east side north end 2.5' long. [See Photo(s): 7]
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

Fine checks at vertical face at localized locations.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 2 from South

RATING	COMPONENT	REMARKS
6	Girders	16 timber girders numbered west to east. Random checking in a few girders. [See Photo(s): 7]
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 3 from South

RATING	COMPONENT	REMARKS
6	Girders	16 timber girders numbered west to east. 3/16" wide check (2 LF) on girder 14W near Bent 2S.
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 4 from South

RATING	COMPONENT	REMARKS
7	Girders	16 timber girders numbered west to east. Minor checking in girders.
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 5 from South

RATING	COMPONENT	REMARKS
7	Girders	16 timber girders numbered west to east. Minor checking in girders.
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 6 from South

RATING	COMPONENT	REMARKS
6	Girders	16 timber girders numbered west to east. Girder 14W: 15' long wide checks at the bottom and 6' long surface split on the East Face. Minor checking in other girders.
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 6

SPAN # 7 from South

RATING	COMPONENT	REMARKS
7	Girders	16 timber girders numbered west to east. Minor checking in girders.
N	Diaphragms	None.
N	Bearings	Girders seating directly on pile cap.
	Deflection and Vibration	Minor vibration under vehicle loading.

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	None

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

SOUTH ABUTMENT

RATING	COMPONENT	REMARKS
7	Sheeting	Timber. No significant defects.
5	Piles	5 timber piles numbered from the west. All piles exhibit minor checking and minor decay. Medium checks on top of Pile 5W. Moderate decay and hollow sounding surface in most piles, with up to 10% section loss and ¾" penetration within the tidal zone. Fine checks and algae growth along the waterline. Pile 2W: Priority 1: The pile cap does not rest fully on top of the pile. The pile cap is offset ~5 1/2" to the south from the front face of the pile and the top of the pile is split up to 2 1/2" wide for ~3'. Pile 4W: Priority 1: The pile cap is offset 6" (to the south) from the front face of the pile. The pile is split up to 3" for 5' at the top. [See Photo(s): 8, 9]
5	Pile Cap	Timber. Moderate to wide split at the west end and advanced decay at the east end up to 1' deep. Pile 2W: The pile cap does not rest fully on top of the pile. The pile cap is offset ~5 1/2" to the south from the front face of the pile. Pile 4W: The pile cap is offset 6" (to the south) from the front face of the pile. [See Photo(s): 18]
5	Wales	Timber. Wide split and decay of bottom wale at Piles 1W, 2W, and 4W (4 LF). Medium-width split throughout with (1 LF) split at the east end of both wales. Fine checks and algae growth at the bottom wale. [See Photo(s): 18]
5	Header	Timber. Wide splits and moderate decay throughout. [See Photo(s): 18]
7	SW Wingwall Sheeting	Timber. No significant defects.
5	Piles	Timber piles numbered from the abutment. Moderate decay with hollow-sounding areas. Medium splits and algae growth along the waterline. P4 exhibits heart rot 1.5' deep x 2" diameter. Tie rod plate at P4 exhibits severe corrosion with up to 100% section loss. [See Photo(s): 20]

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

7	Wales	Timber. No significant defects.
7	SE Wingwall Sheeting	Timber. No significant defects.
5	Piles	Timber. Hollow-sounding surface in all piles. Medium to wide split and heart rot (1/2' deep) in top of Pile 4 (from west) with 100% section loss and fully exposed tie rod (loose). Medium to wide splits in all piles. [See Photo(s): 20]
7	Wales	Timber. No significant defects.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

NORTH ABUTMENT

RATING	COMPONENT	REMARKS
5	Sheeting	Timber. Fine cracks throughout with horizontal planks slightly bowed out and deteriorated. Concrete poured behind horizontal planks. [See Photo(s): 17]
4	Piles	Timber. Priority 1: 2.5" wide split in the top 5' of Pile 1W, which extends completely through pile with up to 50% section loss in Pile 1W. Moderate decay and up to 10% section loss in all 5 bottoms below the walers. 25% loss of section with heavy rusting on the U-bolts at bottom of all piles. Medium splits and algae growth throughout at the waterline. [See Photo(s): 10]
5	Pile Cap	Timber. Wide split at both ends and 30% heart rot. Depth at east end 3' deep. Steel channel bolted between P1W and P2W. [See Photo(s): 18]
5	Wales	Timber. Wide splits at the west end up to 2" for 2.5' of the top wale. Wide splits and algae growth between Piles 1W, 2W, 4W and 5W. Up to 50% section loss near P1W; P4W 30%. [See Photo(s): 18]
5	Header	Timber. Wide split and advanced decay with up to 50% section loss at the west end. [See Photo(s): 18]
5	NW Wingwall Sheeting	Timber. Advanced decay at the top of all sheets at a few planks at the west end (4 SF). Minor erosion at the behind the wingwall. [See Photo(s): 19]
5	Piles	4 timber piles (from west to east). Moderate decay in most piles with up to 10% section loss at Pile 1 (west). Medium to wide checks and algae growth along the waterline. P4 severe decay at bottom 2.5' with 50% section loss. No tie rods at P2, and the bottom of P1 and P3. [See Photo(s): 11]
5	Wales	Timber. Top waler exhibits no significant defects, and the bottom exhibits advanced rot with 100% section loss between P3 and P4; concrete poured at bottom. [See Photo(s): 11]

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

5	NE Wingwall Sheeting	Timber. Priority 1: Advanced decay in a few planks (20 SF) between Piles 3 and 4 (from the west) with up to 100% section loss and decay on the bottom between P1 and P4. [See Photo(s): 11]
5	Piles	4 timber piles (from west to east). Wide checks and algae growth at the waterline. P2 top 2.5' heart rot with 100% section loss. [See Photo(s): 11, 20]
4	Wales	Timber. Priority 1: Severely deteriorated (up to 100% section loss) with algae growth on the bottom wale. Medium to wide splits throughout at the top wale. Deterioration and crushing at Pile 1 (from the south). Bottom wale is severely decayed throughout the wingwall. [See Photo(s): 11]

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 1 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
5	Cap	Timber. Advanced decay: east end 2' deep; west end: 30% heart rot up to 15" deep. Steel channels bolted to each side of cap from Pile 1W to Pile 3W. [See Photo(s): 13]
4	Piles	5 timber piles numbered from the west. Medium to wide checks throughout all piles. Advanced decay and 10% section loss at the base of Piles 1W, 3W, 4W, and 5W. [See Photo(s): 12]
N	Foundation	None.
4	Cross Bracing	Timber. No bracing at Piles 1W-3W. Bracing between Piles 4W and 5W exhibit 50% section loss at the connection at the base of Pile 5W. [See Photo(s): 21, 22]
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 2 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
4	Cap	Timber. West end: Heart rot and advanced decay 5' deep x 7" wide x 8" high and ~40% section loss. Medium to wide checks in the underside of the cap. East end: Heart rot and 15% section loss 3' deep x 4" x 4" and 2' deep x 6" x 2". Steel channels bolted on each side of the cap along its entire length. [See Photo(s): 13]
4	Piles	5 timber piles numbered from the west. Fine to medium checks in all piles and wide splits in Pile 1W. Advanced decay in Pile 3W at the waterline, with 15% section loss (Priority 1). Advanced decay and 10% section loss at the base of Piles 1W, 2W, 4W, and 5W. [See Photo(s): 12]
N	Foundation	None.
4	Cross Bracing	Timber. 1 piece of brace is only attached to Pile 4W (not to any other piles). There is no other bracing. [See Photo(s): 22]
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 3 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
5	Cap	Timber. Medium to wide checks at both ends of the cap. Heart rot and 70% section loss at the west end 2.5' deep x 4" high x 10" wide. Steel channels bolted on both sides of the cap from Pile 1W to Pile 3W. [See Photo(s): 13]
5	Piles	5 timber piles numbered from the west. Medium to wide checks throughout all piles (up to ¼" wide). Piles 2W, 3W and 5W exhibit up to 10% section loss. Piles 1W and 4W are encased in a concrete-filled fiberglass form. Pile 1W is encased up to 6' off of the mudline, and Pile 4W is encased up to 6.5' off of the mudline. [See Photo(s): 12, 22]
N	Foundation	None.
8	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 4 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
5	Cap	Timber. 3/8" wide checks throughout with heart rot at the west end with up to 65% section loss. 2' deep x 10" high x 10" wide. Steel channels bolted on both sides of the cap between Piles 1W and 3W. [See Photo(s): 13]
5	Piles	½" wide split (6 LF) in Pile 1W. Pile 4W exhibits up to 10% section loss at the waterline. Medium checks throughout all piles. Piles 1W, 2W, 3W, and 5W are encased in concrete-filled fiberglass jackets, which go up to 8.0'-8.5' above the mudline. [See Photo(s): 12, 22]
N	Foundation	None.
8	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 5 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
5	Cap	Timber. Medium to wide checks throughout with a wide split on the bottom of the east end (up to ½" wide). Heart rot at the west end and up to 1.5' deep x 6" x 4" (20% section loss). 6" x 12" cap under the sidewalk and 1' heart rot with 50% section loss. Steel channels bolted on each side of the cap between Piles 1W and 3W. [See Photo(s): 13]
5	Piles	5 timber piles numbered from the west. Fine to medium checks throughout all piles. Pile 4W exhibits up to 10% section loss at the waterline. Heavy marine growth. Concrete-filled fiberglass jackets installed on Piles 1W, 2W, 3W, and 5W. [See Photo(s): 12, 22]
N	Foundation	None.
8	Cross Bracing	Newer timber cross bracing.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT # 6 from South

RATING	COMPONENT	REMARKS
N	Bent	N/A.
5	Cap	Timber. ½" wide split in underside between center Pile 3W and Pile 4W with moderate decay at the east end. Split at the west end. Steel channels were bolted to both sides of the cap from Piles 1W through 3W. [See Photo(s): 13]
4	Piles	Timber. Wide splits in Piles 1W and 4W. All piles exhibit up to 10% section loss in tidal zone. Priority 1: Area of advanced decay (void) to Pile 4W on the north side of the pile, 5" diameter and up to 6" deep. [See Photo(s): 12, 22]
N	Foundation	None.
4	Cross Bracing	The bracing at the east end exhibits advanced decay throughout with up to 80% section loss and are unattached at the waterline. No bracing at the west end. [See Photo(s): 21, 22]
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

See 2021 Underwater Inspection Report

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Abutment South

RATING	COMPONENT	REMARKS
--------	-----------	---------

COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected. The sheeting is not undermined.
	Changes Since Prior Inspection	None.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Abutment North

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	Riprap along the base of the abutment.
7	Condition	Functioning as intended.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected. The sheeting is not undermined.
	Changes Since Prior Inspection	None.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 1 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 2 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 3 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 4 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 5 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Pier 6 (From
South)

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	None.

PROBING/SCOUR

7	Findings	No footing exposure or undermining detected.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

WATERWAY/CHANNEL

SI&A Item No. 61: 7
 SI&A Item No. 71: 8
 Prioritization Category:
 Scour Sufficiency Rating:

WATERWAY # 1

RATING	COMPONENT	REMARKS
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FLOW CONDITIONS

	Direction	Flow from west to east at the time of the inspection (tidal).
	Magnitude	Creek wider than bridge opening.
	Velocity	Slow.

EMBANKMENTS

7	Upstream	Well vegetated and stable.
7	Downstream	Well vegetated and stable.
N	Channel Countermeasures	None.

CHANNEL MOVEMENT AND CHANGES

	Horizontal Location	Bridge located on a lagoon.
	Cross Section	See sounding sketches.
	Alignment	Upstream and downstream: Ponds forming at low tide.
	Changes Since Previous Inspection	None.
	Navigation Clearances	Not navigable.
	Waterway Opening	Adequate for present flow.
N	Debris in Channel	None.

Repair Quantities:

None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

HIGHWAY SAFETY

Coding of SI&A Item 36: 0 0 0 1

RATING		COMPONENT	REMARKS
0		Bridge Railing	2'-10" high steel single w-beam guide rail with timber posts. No spacer blocks and 12'-5" post spacing.
0	0	Transition to Bridge Railing	Northwest: 1 space at 4'-5" then 3 spaces at 1'-7" then 3'-1" post spacing. Steel spacers and nested w-beam. Northeast: No transition - Blunt ends of bridge rail. Southeast: No transition - Blunt ends of bridge rail. Southwest: 1 space at 3.5', then one space at 3'. Nested w-beam with steel spacers.
	0	Curb & Sidewalk Terminations	Curb: Timber curb end abruptly at bridge corners. Sidewalk: Timber deck sidewalk only on at east end of bridge.
0		Approach Guide Rails	Single w-beam steel guide railing with proper post spacing and over 60' long on each side, metal spacer blocks.
1		Approach Guide Rail End Terminals	Continuous at all corners.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

DECK GEOMETRY

SI&A Item 68 Rating: 2

COMPONENT	REMARKS
Bridge Cross Section	Approach roadway is wider than bridge roadway at north approach and fairly consistent at south approach.
Adequacy of Lane/Shoulder Widths	Two lanes, two-way traffic Curb-to-Curb = 23' ADT = 2,240 (2023) Item 68 = 2 (Table 2A).
Vertical Clearance over Deck	Unlimited

Posting for Load/Speed/Clearance Restrictions

- | | |
|--|---|
| ☐ None | Posting at northwest cross street (Fisk Avenue) "Green Avenue Bridge- 3 Tons" |
| ☒ Posting for Load | Posting at southeast corner ~100' south of bridge "Green Avenue Bridge- 3 Tons" |
| ☐ Posting for Speed | Posted south of Crescent Drive (for northbound traffic) "Green Avenue Bridge- 3 Tons" |
| ☐ Posting for Clearance | Posted at end of Crescent Drive "Green Avenue Bridge all vehicles over 3 tons" (left turn). |
| ☒ Posting for Others | [See Photo(s): 14] |

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
 Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

FENCING

Coding of SI&A Item FN: N
 Coding of SI&A Item FO: N
 Coding of SI&A Item FP:

Warranted (Per Design Manual Section 23):		Yes	
If Yes: ()	Description:	Existing railing or parapet conditions are substandard with regard to pedestrian safety.	
Current Status of Fence & Sidewalk:			
		LEFT SIDE	RIGHT SIDE
a. Fence:		No	No
b. Sidewalk Width:		0.0 FT	2.83 FT
c. Total height of fence above curb/sidewalk:		0.0 FT	0.0 FT
d. Type of Fence (per Design Manual Section 23):		N/A	N/A
Action Recommended: None			
Estimated Cost: \$			
NOTES:			

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

WORK DONE HISTORICAL DATA

CYCLE NO.	YEAR	WORK DONE SUMMARY
19	2023	Posting sign has been installed at the southeast approach and updated to reference "Green Ave. Bridge"
CYCLE NO.	YEAR	WORK DONE SUMMARY
18	2021	1. The bottom timber pedestrian railing in Span 6 that was disconnected was reconnected. 2. New timber curbs, guiderail, and timber guiderail posts were installed on all spans of the bridge. 3. The approaches were repaved up to 45' from the bridge. 4. The North Approach Timber Curbs were replaced. 5. Stringer 1 was replaced in all spans. 6. New timber sheeting was added overtop of the old sheeting on the South Abutment, Southwest Wingwall, and Southeast Wingwall, and the tie back anchors were replaced. Wales on the wingwalls were also replaced. 7. Steel channels were bolted to each side of the pile cap from Pile 1 to Pile 3 on Bents 1, 3, 4, 5, and 6, along the entire length of the cap on Bent 2. A channel was also bolted between P1 and P2 on the North Abutment. 8. Piles 1 and 4 in Bent 3 were encased in a concrete-filled fiberglass form, up to 6' off the mudline (Pile 1) and 6.5' off the mudline (Pile 4). Piles 1, 2, 3, and 5 in Bents 4 and 5 were also encased, up to 8.0'-8.5' off the mudline. 9. The cross bracing in Bents 3, 4, and 5 was replaced.
CYCLE NO.	YEAR	WORK DONE SUMMARY
17	2019	A few new pieces of timber were added to the East Pedestrian Rail. New posting signs at both approaches. New 8.5' long x 12' wide steel plate at the South Approach.
CYCLE NO.	YEAR	WORK DONE SUMMARY
16	2017	None.
CYCLE NO.	YEAR	WORK DONE SUMMARY
15	2015	None.
CYCLE NO.	YEAR	WORK DONE SUMMARY
14	2013	None.

Structure No.: 13000W7 Route: 9013 Cycle No.: 19
Name: GREEN AVENUE OVER DEBBIES CREEK Insp. Date: 05/09/2023

WORK DONE HISTORICAL DATA

CYCLE NO.	YEAR	WORK DONE SUMMARY
13	2011	None.

Structure No.: 13000W7 Route: 9013 Milepost: _____
Name: GREEN AVENUE OVER DEBBIES CREEK

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2021_13949 Maintenance Recommendation Type: PR - Priority Repair 1
Current Work Spec.: 13E3_00 Maintenance Recommendation Category: Substructure
Original Work Spec. Identified In: Maintenance Recommendation Activity: Repair pile
Date Originally Entered: 07/11/2021 Originally Reported By: Churchill Consulting Engineers
Date Closed: Closed By:

Inspector

Describe Deficiency: BAKER UPDATE (6/22/2023): During a follow up visit on 6/16/2023 no work has been done to all previously reported locations and the condition remains the same. The following locations have been added (See 2023 Photos):
- Pile 2W at the South Abutment: Pile is split up to 2.5" wide at the top for 3LF.
- Northeast wingwall: Advanced decay to sheeting with up to 100% section loss at the bottom between Piles 1 to 4 and severely deterioration/decay with up to 100% section loss to bottom wale.

Please see the attached Priority 1 repair letter from Churchill Consulting Engineers.

Description of Proposed Work: BAKER UPDATE (6/22/2023): In addition to previously noted pile repairs it is recommended to replace the wale and sheeting at the northeast wingwall.

Please see the attached Priority 1 repair letter from Churchill Consulting Engineers.

Is Interim Work Needed: No

Description of Interim Work
Required to Maintain Structure
Until Proposed Work can be
Accomplished:

Date Email Sent: 06/22/2023 Email Sent By: Sarault, Ian

Email Sent To:
isarault@mbakercorp.com;Michael.
Ruggiero@co.monmouth.nj.us;
Denis.Walsh@co.monmouth.nj.us;
Joseph.Ettore@co.monmouth.nj.us;
MaheshK.Patel@dot.nj.gov;james.
decrisofaro@dot.nj.gov;meriam.
michael@dot.nj.gov;shenouda.
zaki@dot.nj.gov;
Kbillah@mbakerintl.com;Brandon.
Panetta@mbakerintl.com;
ISarault@mbakerintl.com

Estimated Quantity/Costs

Structure No.: 13000W7 Route: 9013 Milepost: _____
Name: GREEN AVENUE OVER DEBBIES CREEK

CoMBIS Priority Repair Form

Quantity: _____ Unit: _____
Unit Cost: _____ Man Hours: _____
Total Cost: _____

Bridge Owner - Engineering Section

Date Completed: _____ Work Order # (NJDOT) Only): _____
Final Work Description:
Interim Work
Description:
Date Email Sent: _____ Email Sent By: _____ Email Sent To: _____
Comments:

Date Final Work Verified as Completed:

Structure No.: 13000W7 Route: 9013 Milepost:
Name: GREEN AVENUE OVER DEBBIES CREEK

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done/Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:



Photo 1	Category:	30 - Abutments, 60 - Priority Repair
	Description:	South abutment, Pile 4W, looking east. Priority 1: Pile is split up to 2.5" wide at the top for 5LF. (2023). Note the pile cap does not rest fully on the pile.

Structure No.: 13000W7 Route: 9013 Milepost:
Name: GREEN AVENUE OVER DEBBIES CREEK

CoMBIS Priority Repair Form



Photo 2	Category:	30 - Abutments, 60 - Priority Repair
	Description:	South abutment, Pile 2W, looking west. Priority 1: Pile is split up to 2.5" wide at the top for 3LF. (2023). Note the pile cap does not rest fully on the pile.



Photo 3	Category:	60 - Priority Repair , 30 - Abutments
	Description:	North abutment, Pile 1W, looking northwest. Priority 1: Pile is split up to 2.5" wide at the top for 5LF. (2023)

Structure No.: 13000W7 Route: 9013 Milepost: _____
Name: GREEN AVENUE OVER DEBBIES CREEK

CoMBIS Priority Repair Form



Photo 4	Category:	31 - Wingwalls/Retaining Walls/Headwalls, 60 - Priority Repair
	Description:	Northeast wingwall, looking west. Priority 1: Advanced decay to sheeting with up to 100% section loss at the bottom between Piles 1 to 4 and severely deteriorated/decayed with up to 100% section loss to bottom wale. (2023)



Photo 5	Category:	35 - Pile Bent/Cap/Bracing/Foundation, 60 - Priority Repair
	Description:	Pier 2S, Pile 3W, looking south. Priority 1: Section loss to base of pile. (2023)

NJDOT Fracture Critical Member (FCM) Checklist

Structure Number: Date of Inspection:
Name of Structure: Cycle Number:
Type of Bridge:

NOTE: For Definition of 'Fracture Critical Bridge', Refer to the 2012 BIRM and Section X.E from NJDOT Explanation of SOW.

Is the Structure Fracture Critical?:

FC Member Type - 1: FC Member Type - 2: FC Member Type - 3:

Plans/Sketches showing FCM members provided for Fracture Critical Bridge?

Fracture Critical Member Identification Information:

Hand On Inspection Performed for FC Member: Photo/s attached for Special Equipment used for Hands On Inspection?:

Access Information for FC Member Hands On Inspection:

Fracture Critical Inspection Frequency Item (92A): Fracture Critical Inspection Date Item (93A):

NOTE: Special Testing & Special Testing Date is Applicable to Welded FC Member and Pin & Hanger FC Members only.

Special Equipment - 1: Special Testing Type - 1: Date of Special Testing:

Special Equipment - 2: Special Testing Type - 2:

Special Equipment - 3: Special Testing Type - 3:

Reason for Fracture Critical classified in the C&R Section?: Comments on Condition Rating of FC Member:

Additional Structure Type - 1: Additional Structure Type - 2:

Additional Structure Type Remarks:

Fatigue Detail - 1: Fatigue Detail - 2: Fatigue Detail - 3:

Fatigue Location - 1: Fatigue Location - 2: Fatigue Location - 3:

Comments on Load induced Fatigue Details:

1. Pin & Hanger FCM Member: Additional Structure Type must be coded as 1, 2, or 3.

2. Welded FCM Member: Additional Structure Type must be coded as 4.

3. Riveted/Bolted FCM Member: Additional Structure Type must be coded as F.

Fatigue Detail/Location Remark:

(FQ) Latest In-Depth FC/Pin-Hanger Inspection Date: FC Members Inspected:

Special FCM Insp. Required: Special FCM Insp. Date: Special FCM Insp. Consultant:

Special P/H Insp. Required: Special P/H Insp. Date: Special P/H Insp. Consultant:



State of New Jersey
NEW JERSEY DEPARTMENT OF TRANSPORTATION
1035 PARKWAY AVENUE
P.O. Box 600
TRENTON, NEW JERSEY 08625-0600

UNDERWATER BRIDGE EVALUATION SURVEY REPORT

STRUCTURE NO. 1300-0W7
GREEN AVENUE over DEBBIES CREEK
BRIELLE BOROUGH TOWNSHIP
MONMOUTH COUNTY

July 6, 2021

Prepared By

 **CHURCHILL**
Consulting Engineers
344 N. Route 73, Suite A
Berlin, New Jersey 08009

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N.J.D.O.T. - STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT UNDERWATER BRIDGE EVALUATION SURVEY REPORT

STRUCTURAL DATA:

Bridge No.:	1300-0W7	Year Built:	1943	Widened/ Rehab:	N/A
Route No.:	9013	Length:	120.6"	Width:	26.2'
Mile Point:	0.00	Date of this Evaluation:	7/6/2021		
Name:	Green Avenue over Debbies Creek				
Structure Type:	Seven-span, simply supported timber stringers on timber abutments and pile bents	By:	Churchill Consulting Engineers		
		Date of Previous Evaluation:	5/19/2017		
		By:	Churchill Consulting Engineers		

WORK DONE: Fiberglass jackets installed at several piles at bents 3, 4, and 5 ([Photo No: UW-17](#)).
New timber sheeting and wales installed at south abutment and wingwalls ([Photo Nos: UW-14 – UW-16](#)).

OVERALL PHYSICAL CONDITION: Poor due to substructure.

OVERALL CONDITION (ITEM 67): Poor due to substructure.

SUMMARY:

Number of Substructure Units in Water:	Abutments: 2	Piers: 6
Type of Underwater Inspection:	NJDOT Type-2	
Underwater Inspection Equipment Used:	SCUBA, wetsuit, various hand tools, underwater light, sounding rod and digital camera.	
Substructure Elements Cleaned:	10% of underwater portions of the abutments and piers at various locations	
Water Flow Velocity: Slow (<1 fps)	Soil Type:	Silt, sand, mud, and gravel
Diving Mode: SCUBA	Dive Team Members:	3
Diving Hazard Analysis / Assessment:	NH – (No Assessed Hazard)	
Reference Information:	The previous Underwater Inspection report was not available for review. Marine growth was light consisting of algae up to 1" thick. Visibility was poor, up to 1'. Waterway was near mean low water level during time of inspection.	

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

COMPONENT / MATERIAL	GENERAL REMARKS
ABUTMENTS (Timber)	<u>South Abutment:</u> New timber sheeting has been installed at abutment (Photo No: UW-14). All piles exhibit minor checking and minor decay with up to 10% section loss with ¾" penetration located within the tidal zone. The hardware exhibits severe corrosion with up to 100% section loss. The lower connection hardware is missing at piles W1, W3, W4, and W5. Pile W4 is split up to 2.5" wide at the top for 5 LF high (Photo No: UW-05) (See Priority 1 Repair). <u>Southwest Wingwall:</u> New timber sheeting and wales have been installed at wingwall (Photo No: UW-16). All piles exhibit moderate checking, moderate splits, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Typical Photo No: UW-11). <u>Southeast Wingwall:</u> New timber sheeting and wales have been installed at wingwall (Photo No: UW-15). All piles exhibit moderate checking, severe splits, and moderate decay with up to 25% section loss with ¾" penetration located within the tidal zone (Typical Photo No: UW-11). <u>North Abutment:</u> The horizontal timber formwork exhibits severe decay with up to 100% section loss located within the tidal zone. The concrete fill behind the formwork is partially exposed throughout. The exposed concrete is soft and exhibits severe scaling measuring 1" to 2" deep with exposed aggregate (Photo No: UW-10). All piles exhibit moderate checking, moderate splits, and moderate decay with up to 30% section loss with ¾" penetration located within the tidal zone. The hardware exhibits moderate corrosion with up to 25% section loss. The lower connection hardware is missing at piles W1 and W5. Pile W1 has a full height split (up to 2" section loss) (original 10") (Photo No: UW-06) (See Priority 1 Repair). Pile W2 is hollow full height (2" section loss at tidal zone) with ¼" penetration (original 10"). Pile W3 exhibits 2" of section loss at tidal zone (original 12"). Pile W4 exhibits 2" section loss at tidal zone (original 10"). Pile W5 has severe section loss in tidal zone with approximately 4" diameter remaining (original 12") (Photo No: UW-07) (See Priority 1 Repair). The lower wale exhibits moderate checking, moderate splits, and severe decay with up to 30% section loss throughout (Photo No: UW-10). There are severe splits located between piles W1, W2, W4, and W5. <u>Northwest Wingwall:</u> The horizontal timber formwork in front of the concrete fill is rotten away and exhibits 100% section loss throughout (Photo No: UW-12). The exposed concrete is soft and exhibits severe scaling measuring up to 2" deep with exposed aggregate. All piles exhibit moderate to severe checking and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Photo No: UW-11). The lower connection hardware is missing at all piles.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

	<u>Northeast wingwall:</u> The timber sheeting exhibits moderate checking and moderate decay located within the tidal zone. There is severe decay with up to 100% section loss located between piles 1 - 2 and piles 3 - 4 (Photo No: UW-12). All piles exhibit moderate checking, severe splits, and moderate decay with up to 25% section loss with ¾" penetration located within the tidal zone (Photo No: UW-12). The hardware exhibits severe corrosion with up to 100% section loss. The lower connection hardware is missing at piles 2, 3, and 4. The lower wale exhibits severe checking severe decay with 100% section loss throughout (Photo No: UW-12). The lower wale exhibits crushing located at pile 1 and a severe split located between piles 1 and 2.
PIERS (Timber Pile Bents)	<u>Bent 1 (From South):</u> All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone. All lower connection hardware is detached from the cross bracing. All cross bracing exhibits severe decay with up to 50% section loss located within the tidal zone (Photo No: UW-13). All lower connection hardware is detached from the piles. <u>Bent 2 (From South):</u> All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the cross bracing. All cross bracing exhibits severe decay with up to 50% section loss located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the piles. <u>Bent 3 (From South):</u> All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Typical Photo No: UW-13). Concrete jacket installed and pile W1 and W4 (Typical Photo No: UW-17). New cross bracing installed (Photo No: UW-17). <u>Bent 4 (From South):</u> Concrete jacket installed at piles W1, W2, W3, and W5 (Typical Photo No: UW-17). Pile W4 exhibit up to 1" section loss in tidal zone. <u>Bent 5 (From South):</u> Concrete jacket installed at piles W1, W2, W3, and W5 (Typical Photo No: UW-17). Pile W4 exhibit up to 1.5" section loss in tidal zone. <u>Bent 6 (From South):</u> All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the cross bracing. Pile W4 exhibits a void measuring 5.5" diameter x 6" deep. Cross bracing is missing between piles W1 – W3 (Photo No: UW-09) (See Priority 1 Repair). Severe decay with up to 85% section loss located at south cross brace, at pile W5, within the tidal zone.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

PROBING/SCOUR	<u>South Abutment:</u> The channel bottom consists of silt, sand, mud, and gravel. No observed scour. The sheeting is not undermined. <u>North Abutment:</u> The channel bottom consists of silt, sand, mud, and gravel. No observed scour. The sheeting is not undermined. <u>Bents 1-6 (From South):</u> The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
COUNTERMEASURES	Riprap located along the breastwall is intact and stable at the north abutment.
FENDERS/ BULKHEADS	None.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		

CONCLUSIONS & RECOMMENDATIONS:

The overall condition of the underwater components of the bridge is poor due to the checking, splits, and severe decay located throughout all timber members.

Based upon our probing of the channel bottom material adjacent to the substructure and our review of prior reports and plans, the bridge appears to have no scour problems at this time.

Based on the Scour Evaluation Program results, dated May 2007, the structure is not considered to be scour critical and SI&A Item 113 is coded '8'.

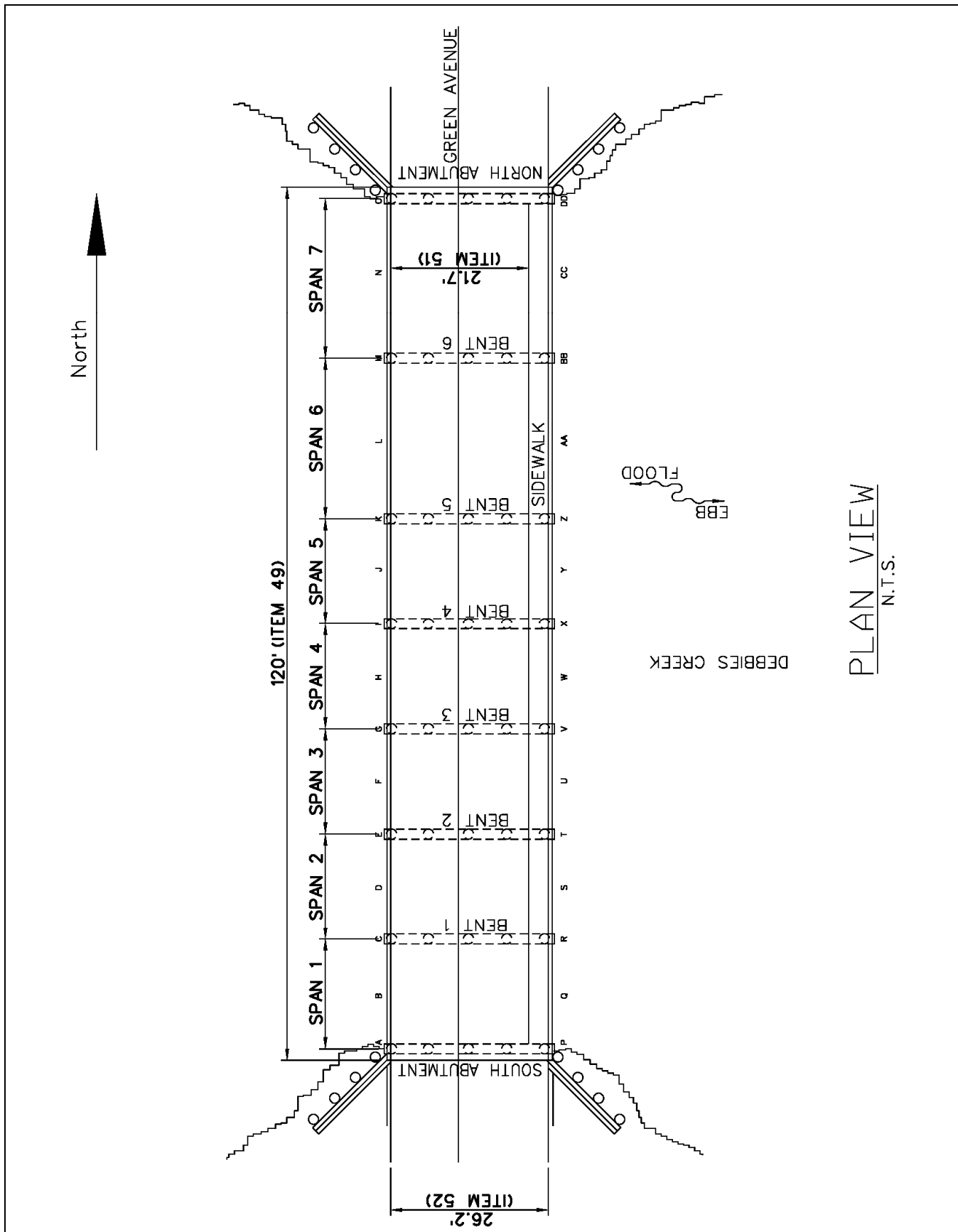
Since the previous inspection the following significant changes have occurred:

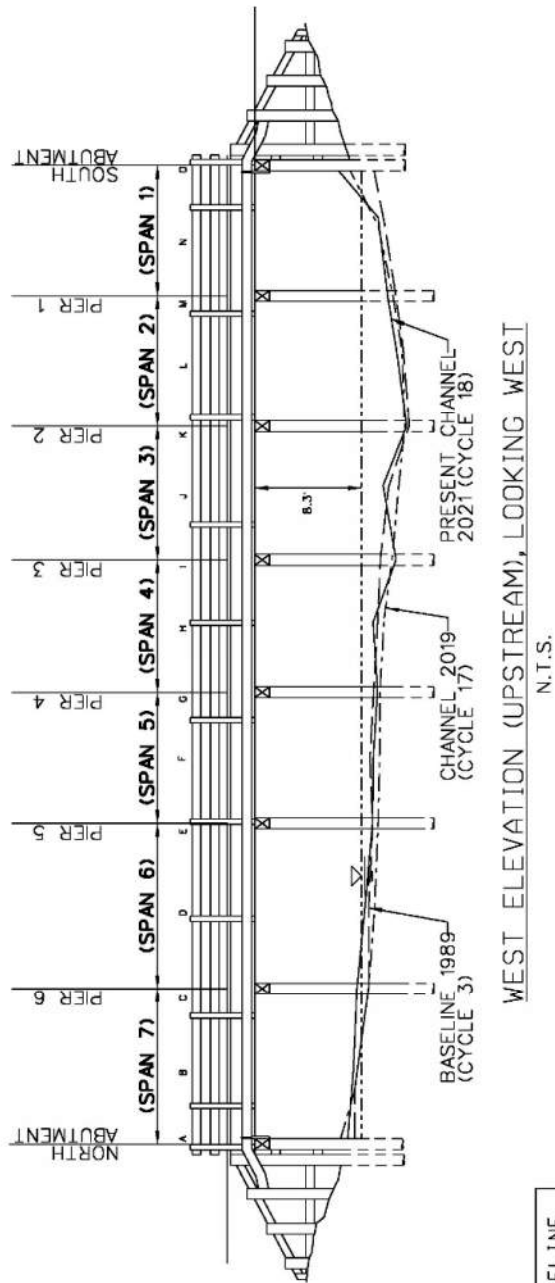
1. Fiberglass jackets installed at several piles at bents 3, 4, and 5 ([Photo No: UW-17](#)).
2. New timber sheeting and wales installed at south abutment and wingwalls ([Photo Nos: UW-14 – UW-16](#)).

Due to the conditions observed during our underwater inspection, we recommend the following Priority 1 Repairs be made to retard further deterioration, preserve the structural integrity of the bridge, improve safety, and extend its useful life:

1. Install full height structural jackets on several piles. ([See Priority 1 Repair](#)) 11 Units
 South abutment: Pile W4, Bent 2: Pile W3; Bent 6: Piles W1, W3, W4, and W5;
 North abutment: Piles W1 through W5.

In addition, we recommend a Type-2 Underwater Inspection of the bridge be performed on a 4-year interval.

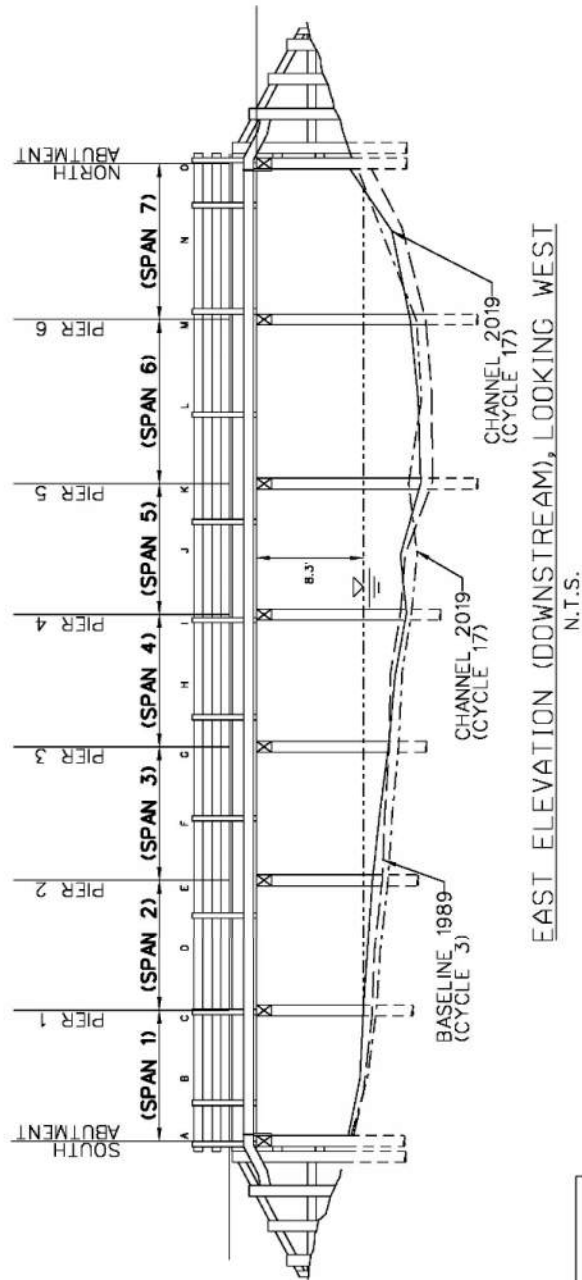




NOTE:
THE CLEAR DIMENSIONS GIVEN ARE REFERENCED FROM THE BOTTOM OF THE ORDER TO THE STREAMBED.
THE WATER DEPTH DIMENSIONS ARE MEASURED FROM THE WATER SURFACE (AT THE TIME OF THE INSPECTION) TO THE STREAMBED.

LEGEND:
— BASELINE SOUNDING, 1989
- - - PREVIOUS SOUNDING, 2019
— UPDATED SOUNDING, 2021
- - - - - WATER SURFACE (CURRENT CYCLE)

POINT	BASELINE		CYCLE 17		CYCLE 18	
	CYCLE 3	NOV. 1989	CLEAR DIMENSION	WATER DEPTH	CLEAR DIMENSION	WATER DEPTH
A	8.0'	7.4'	0.0'	0.0'	7.7'	0.0'
B	8.0'	8.0'	0.2'	0.0'	7.8'	0.0'
C	8.6'	8.6'	0.8'	0.0'	8.2'	0.0'
D	8.6'	9.0'	1.2'	0.2'	8.5'	0.2'
E	8.8'	9.5'	1.8'	0.5'	8.8'	0.5'
F	8.7'	9.6'	1.8'	0.6'	8.9'	0.6'
G	8.8'	9.5'	1.6'	1.1'	9.4'	1.1'
H	9.2'	9.9'	2.0'	0.5'	8.8'	0.5'
I	9.7'	11.3'	3.5'	3.6'	11.9'	3.6'
J	11.7'	11.8'	4.1'	2.5'	10.8'	2.5'
K	13.4'	13.2'	5.8'	5.0'	13.3'	5.0'
L	13.3'	13.2'	5.8'	4.1'	12.4'	4.1'
M	12.8'	12.5'	5.0'	2.6'	10.9'	2.6'
N	11.1'	10.1'	2.8'	2.0'	10.3'	2.0'
O	10.6'	7.8'	0.4'	0.0'	7.3'	0.0'



POINT	BASELINE		CYCLE 17		CYCLE 18	
	CYCLE 3	NOV. 1989	CYCLE 17	MAY 2019	CYCLE 18	JULY 2021
A	7.9'	7.9'	7.8'	0.0'	8.0'	0.0'
B	8.3'	8.3'	8.5'	0.5'	8.2'	0.0'
C	8.7'	8.7'	9.1'	1.1'	8.3'	0.0'
D	8.8'	8.8'	9.4'	1.4'	8.5'	0.2'
E	9.2'	9.2'	9.8'	1.8'	8.8'	0.5'
F	9.3'	9.3'	10.0'	2.0'	9.2'	0.9'
G	9.6'	9.6'	10.6'	2.6'	9.6'	1.3'
H	9.7'	9.7'	10.8'	2.8'	9.9'	1.6'
I	10.3'	10.3'	11.7'	3.6'	11.3'	3.0'
J	11.1'	11.1'	11.9'	3.8'	10.6'	2.3'
K	13.6'	13.6'	11.6'	4.6'	12.4'	4.1'
L	13.4'	13.4'	12.6'	5.6'	12.5'	4.2'
M	13.3'	13.3'	12.6'	5.6'	11.7'	3.4'
N	11.4'	11.4'	9.9'	3.9'	10.0'	1.7'
O	8.9'	8.9'	8.2'	0.4'	7.8'	0.0'

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-01

Location:	West elevation, looking east.
Description:	General view.



Photo No: UW-02

Location:	East elevation, looking west.
Description:	General view.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-03

Location:	Upstream channel, looking west.
Description:	General view.



Photo No: UW-04

Location:	Downstream channel, looking east.
Description:	General view.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		

		Photo No: UW-05
Location:	South abutment, Pile W4, looking southeast.	
Description:	Pile is split up to 2.5" wide at the top for 5 LF high. (See Priority 1 Repair)	
		Photo No: UW-06
Location:	North abutment, Pile W1, looking northwest.	
Description:	Pile is split up to 2.5" wide at the top for 5 LF high. (See Priority 1 Repair)	

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-07

Location:	North abutment, Pile W5, looking north.
Description:	Severe section loss in tidal zone with approximately 4" diameter remaining. (See Priority 1 Repair)



Photo No: UW-08

Location:	Bent 6, Pile W1, looking south.
Description:	Section loss through tidal zone up to 3" deep full circumference. (See Priority 1 Repair)

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-09

Location:	Bent 6, Piles W3, W4, and W5, looking southeast.
Description:	Section loss through tidal zone up to 3" deep full circumference. (See Priority 1 Repair) Note severe decay and section loss to cross bracing.



Photo No: UW-10

Location:	North abutment, looking northeast.
Description:	Typical condition of the timber members. Note the checking, splits, and decay throughout the timber members. Also the exposed concrete fill behind the horizontal formwork is soft and exhibits severe scaling measuring 1" to 2" deep with exposed aggregate.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-11

Location:	Northwest wingwall, looking east.
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Description:	Timber sheeting exhibits advanced decay with holes along lower water. Note moderate checks and decay in piles.
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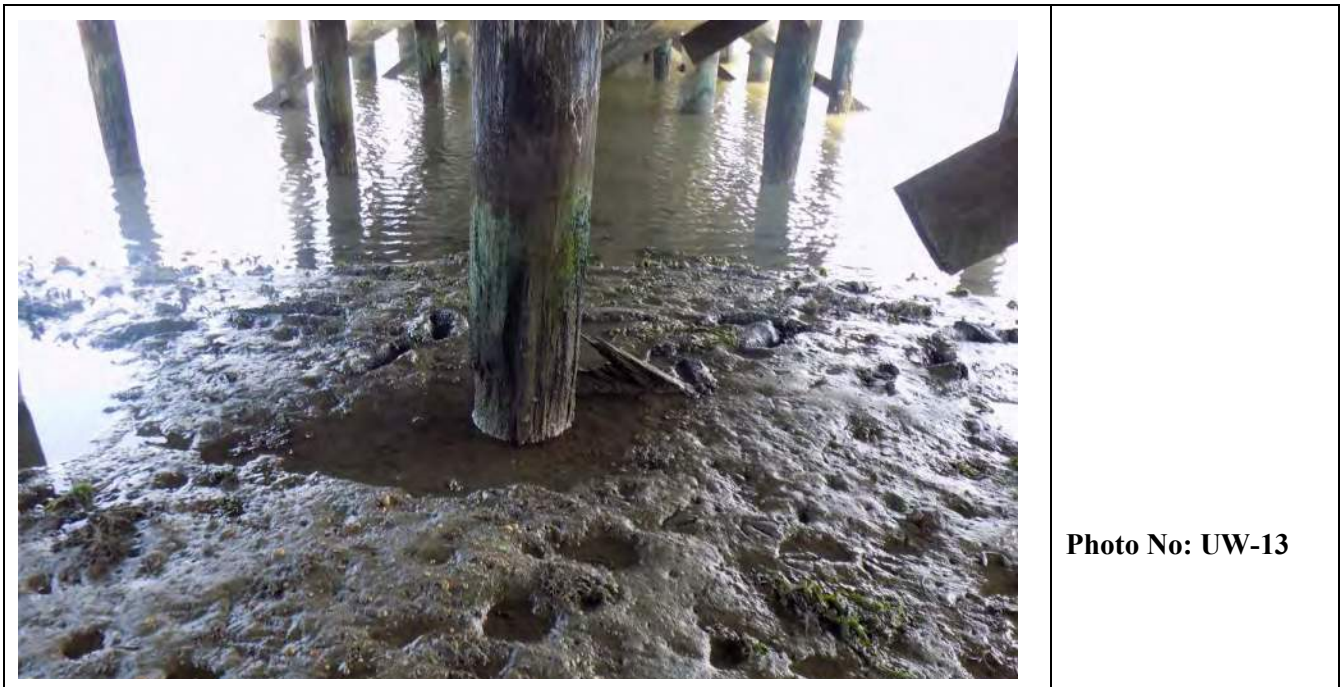


Photo No: UW-12

Location:	Northeast wingwall, looking north.
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Description:	Severe decay to the water with up to 100% section loss located between piles 3 and 4. Note moderate decay to sheeting and piles.
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Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Location:	Pier 1 (from south), pile W3, looking north.
Description:	Typical condition of the timber piles and cross bracing. Note the checking and decay throughout the timber members. Also note the detached lower connection hardware.



Location:	South abutment, looking southeast.
Description:	Work Done: New timber sheathing and wales installed at abutment.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-15

Location:	Southeast wingwall, looking south.
Description:	Work Done: New timber sheeting and wales installed at wingwall. Note moderate checks and splits in the piles.



Photo No: UW-16

Location:	Southwest wingwall, looking south.
Description:	Work Done: New timber sheeting and wales installed at wingwall. Note moderate checks and splits in the piles.

Structure No.:	<u>1300-0W7</u>	Route:	<u>9013</u>	Cycle No.:	<u>18</u>
Name:	<u>Green Avenue over Debbies Creek</u>	Insp. Date:	<u>7/6/2021</u>		



Photo No: UW-17

Location:	Bent 3, Pile W4, looking north.
Description:	Work Done: New cross bracing and jacket installed.



Photo No: UW-18

Location:	Bent 3, looking north.
Description:	Diver in action.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

**NEW JERSEY DEPARTMENT OF TRANSPORTATION
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
FIELD NOTES**

NJDOT (Owner's name)

Name: Green Avenue over Debbies Creek
Diver: Paul Stubee, P.E.
Company: Churchill Consulting Engineers
Team leader: Rebecca Collins, P.E.
Company: Churchill Consulting Engineers
Temperature: 70°F Weather: Sunny
Equipment Used: SCUBA, wetsuit, various hands tools, underwater light, sounding rod and digital camera.

RATINGS:

- N Not applicable.
- 9 Excellent Condition.
- 8 Very Good Condition – no problems noted.
- 7 Good Condition – some minor problems.
- 6 Satisfactory Condition – some minor deterioration of structural elements.
- 5 Fair Condition – minor section loss to primary structural elements.
- 4 Poor Condition – advanced section loss to primary structural elements.**
- 3 Serious Condition – seriously deteriorated primary structural elements.
- 2 Critical Condition – facility should be closed until repairs are made.
- 1 Imminent Failure Condition – facility closed. Study of repairs is feasible.
- 0 Failed Condition – facility is closed and beyond repair.

GENERAL

Type of Bridge: Seven-span, simply supported timber stringers on timber substructure

Type of Substructure: Timber abutments and bents

No. of Lanes: On 2 Under 0 (waterway)

Number of substructure units in water: Abutments: 2 Piers: 6

Overall condition of substructure: Poor

WATERWAY:

Type: Tidal Creek Velocity: Slow (<1 fps)

Streambed material: Silt, sand, mud, and gravel

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

TIMBER ABUTMENT South

RATING	COMPONENT	REMARKS
7	Sheeting (Timber)	Work Done: New timber sheeting installed at abutment (Photo No: UW-14).
5	Piles (5) (Timber) (Numbered West to East)	All piles exhibit minor checking and minor decay with up to 10% section loss with ¾" penetration located within the tidal zone. The hardware exhibits severe corrosion with up to 100% section loss. Note that the lower connection hardware is missing at piles W1, W3, W4, and W5 Pile W4 is split up to 2.5" wide at the top for 5 LF high (Photo No: UW-05) (See Priority 1 Repair).
N	Pile Cap	Located out of water, not included as part of underwater inspection.
7	Wales (Timber)	Work Done: New timber wales installed at abutment (Photo No: UW-14).
N	Header	Located out of water, not included as part of underwater inspection.
7	SW Wingwall Sheeting (Timber)	Work Done: New timber sheeting installed at wingwall (Photo No: UW-16).
5	SW Wingwall Piles (4) (Timber) (Numbered From Abutment Corner)	All piles exhibit moderate checking, moderate splits, and moderate decay with up to 20% section loss with ¾" penetration located within the tidal zone (Photo No: UW-16).
7	SW Wingwall Wales (Timber)	Work Done: New timber wales installed at wingwall (Photo No: UW-16).
7	SE Wingwall Sheeting (Timber)	Work Done: New timber sheeting installed at wingwall (Photo No: UW-15).

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

5	SE Wingwall Piles (4) (Timber) (Numbered From Abutment Corner)	All piles exhibit moderate checking, severe splits, and moderate decay with up to 25% section loss with $\frac{3}{4}$ " penetration located within the tidal zone (Photo No: UW-15).
7	SE Wingwall Wales (Timber)	Work Done: New timber wales installed at wingwall (Photo No: UW-16).
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

TIMBER ABUTMENT North

RATING	COMPONENT	REMARKS
5	Sheeting (Timber & Concrete)	The horizontal timber formwork exhibits severe decay with up to 100% section loss located within the tidal zone. Note that the concrete fill behind the formwork is partially exposed throughout. The exposed concrete is soft and exhibits severe scaling measuring 1" to 2" deep with exposed aggregate (Photo No: UW-10).
5	Piles (5) (Timber) (Numbered West to East)	All piles exhibit moderate checking, moderate splits, and moderate decay with up to 30% section loss with 3/4" penetration located within the tidal zone. The hardware exhibits moderate corrosion with up to 25% section loss. Note that the lower connection hardware is missing at piles W1 and W5. Pile W1 – Full height split (up to 2" section loss) (original 10") (Photo No: UW-06) (See Priority 1 Repair). Pile W2 – Hollow full height (2" section loss at tidal zone) 1/4" penetration (original 10"). Pile W3 – 2" section loss at tidal zone (original 12"). Pile W4 – 2" section loss at tidal zone (original 10"). Pile W5 – Severe section loss in tidal zone with approximately 4" diameter remaining (original 12") (Photo No: UW-07) (See Priority 1 Repair).
N	Pile Cap	Located out of water, not included as part of underwater inspection.
5	Wales (Timber)	The lower wale exhibits moderate checking, moderate splits, and severe decay with up to 30% section loss throughout (Photo No: UW-10). Severe splits located between piles W1, W2, W4, and W5.
N	Header	Located out of water, not included as part of underwater inspection.
5	NW Wingwall Sheeting (Timber & Concrete)	Advanced decay with holes along the lower water. (Photo No: UW-11). The exposed concrete is soft and exhibits severe scaling measuring up to 2" deep with exposed aggregate.
5	NW Wingwall Piles (4) (Timber) (Numbered From Abutment Corner)	All piles exhibit moderate to severe checking and moderate decay with up to 20% section loss with 3/4" penetration located within the tidal zone (Photo No: UW-11). The lower connection hardware is missing at all piles.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

4	NW Wingwall Wales (Timber)	Located out of water, not included as part of underwater inspection. The lower wale exhibits severe checking severe decay with 100% section loss throughout (Photo No: UW-12).
4	NE Wingwall Sheeting (Timber)	The timber sheeting exhibits moderate checking and moderate decay located within the tidal zone. Severe decay with up to 100% section loss located between piles 1 and 2. Severe decay with up to 100% section loss located between piles 3 and 4 (Photo No: UW-12).
5	NE Wingwall Piles (4) (Timber) (Numbered From Abutment Corner)	All piles exhibit moderate checking, severe splits, and moderate decay with up to 25% section loss with ¾" penetration located within the tidal zone (Photo No: UW-12). The hardware exhibits severe corrosion with up to 100% section loss. Note the lower connection hardware is missing at piles 2, 3, and 4.
4	NE Wingwall Wales (Timber)	The lower wale exhibits severe checking severe decay with 100% section loss throughout (Photo No: UW-12). The lower wale exhibits crushing located at pile 1. Severe split located between piles 1 and 2.
N	Others	None.

**Additional
Remarks:**

1. Install full length structural jacket at piles W1 thru W5
(Priority 1 Repair)

5 Units

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 1 (From South)

RATING	COMPONENT	REMARKS
4	Bent	The bent is in overall poor condition (Photo No: UW-13).
N	Cap	Located out of water, not included as part of underwater inspection.
5	Piles (5) (Concrete) (Numbered West to East)	All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with 3/4" penetration located within the tidal zone. All lower connection hardware is detached from the cross bracing. Pile W1 – Up to 1/2" section loss. Pile W2 – No section loss. Pile W3 – Up to 1.5" section loss (Photo No: UW-13). Pile W4 – Up to 1" section loss. Pile W5 – Up to 1" section loss.
N	Foundation	None.
4	Cross Bracing	All cross bracing exhibits severe decay with up to 50% section loss located within the tidal zone (Photo No: UW-13). All lower connection hardware is detached from the piles. Severe decay with up to 75% section loss located at the north cross brace, at pile W1, within the tidal zone. Severe decay with up to 75% section loss located at the south cross brace, at pile W3, within the tidal zone. Severe decay with up to 100% section loss located at the north cross brace, at pile W3, within the tidal zone (Typical Photo No: UW-09).
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

Additional Remarks:

1. Replace all connection hardware
2. Replace the severely decayed cross bracing with 3" x 10" CCA timber

8 Units
64 LF

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 2 (From South)

RATING	COMPONENT	REMARKS
4	Bent	The bent is in overall poor condition (Typical Photo No: UW-13).
N	Cap	Located out of water, not included as part of underwater inspection.
4	Piles (5) (Concrete) (Numbered West to East)	All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with $\frac{3}{4}$ " penetration located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the cross bracing. Pile W1 – Exhibits severe splits with up to 1" section loss. Pile W2 – Area of section loss (5" W x 12" H x 1.5" D). Pile W3 – Section loss up to 3". (Priority 1 repair) (Typical Photo UW-08) Pile W4 – Wide checks ($\frac{3}{4}$ " W x $\frac{1}{2}$ " D) at north face with section loss up to $\frac{1}{2}$ ". Pile W5 – Section loss up to $\frac{1}{2}$ ".
N	Foundation	None.
4	Cross Bracing	All cross bracing exhibits severe decay with up to 50% section loss located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the piles. Severe decay with up to 75% section loss located at the north cross brace, at pile W1, within the tidal zone. Severe decay with up to 75% section loss located at the south cross brace, at pile W3, within the tidal zone. Severe decay with up to 100% section loss located at the north cross brace at pile W3, within the tidal zone.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

Additional Remarks:

- | | |
|--|---------|
| 1. Replace all connection hardware | 8 Units |
| 2. Replace the severely decayed cross bracing with 3" x 10" CCA timber | 64 LF |
| 3. Install full height structural jacket at pile W3 | 1 Unit |

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 3 (From South)

RATING	COMPONENT	REMARKS
4	Bent	The bent is in overall poor condition (Typical Photo No: UW-13).
N	Cap	Located out of water, not included as part of underwater inspection.
5	Piles (5) (Concrete) (Numbered West to East)	All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with $\frac{3}{4}$ " penetration located within the tidal zone (Typical Photo No: UW-13). Pile W1 – Work Done: Concrete jacket installed (Typical Photo No: UW-17). Pile W2 – Up to $\frac{1}{2}$ " section loss. Pile W3 – Up to 1.5" section loss and 1" deep split up to 1.5' long. Pile W4 – Work Done: Concrete jacket installed (Photo No: UW-17). Pile W5 – Exhibits moderate decay with 1" section loss located at the waterline.
N	Foundation	None.
7	Cross Bracing	Work Done: New cross bracing installed (Photo No: UW-17).
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 4 (From South)

RATING	COMPONENT	REMARKS
7	Bent	The bent is in overall good condition.
N	Cap	Located out of water, not included as part of underwater inspection.
7	Piles (5) (Concrete) (Numbered West to East)	Piles W1, W2, W3, and W5 – Work Done: Concrete jacket installed (Typical Photo No: UW-17). Pile 4 – Up to 1” section loss.
N	Foundation	None.
7	Cross Bracing	Work Done: New cross bracing installed (Typical Photo No: UW-17).
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 5 (From South)

RATING	COMPONENT	REMARKS
4	Bent	The bent is in overall good condition (Typical Photo No: UW-13).
N	Cap	Located out of water, not included as part of underwater inspection.
7	Piles (5) (Concrete) (Numbered West to East)	Piles W1, W2, W3, and W5 – Work Done: Concrete jacket installed (Typical Photo No: UW-17). Pile W4 – Up to 1.5” section loss at tidal zone.
N	Foundation	None.
7	Cross Bracing	Work Done: New cross bracing installed (Typical Photo No: UW-17).
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

BENT 6 (From South)

RATING	COMPONENT	REMARKS
4	Bent	The bent is in overall poor condition (Typical Photo No: UW-13).
N	Cap	Located out of water, not included as part of underwater inspection.
4	Piles (5) (Concrete) (Numbered West to East)	All piles exhibit moderate to severe checking, and moderate decay with up to 20% section loss with $\frac{3}{4}$ " penetration located within the tidal zone (Typical Photo No: UW-13). All lower connection hardware is detached from the cross bracing. Pile W1 – Up to 3" section loss. Pile W2 – Up to 1" section loss. Pile W3 – Up to 2.5" section loss. Pile W4 – Exhibits a void measuring 5.5" diameter x 6" deep. Pile W5 – Up to 3" section loss. (Photo No: UW-09) (See Priority 1 Repair)
N	Foundation	None.
4	Cross Bracing	Cross bracing is missing between piles W1 – W3 (Photo No: UW-09) (See Priority 1 Repair). Severe decay with up to 85% section loss located at south cross brace, at pile W5, within the tidal zone.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

Additional Remarks:

1. Replace all connection hardware.
2. Install a structural repair jacket around pile Piles W1, W3, W4, and W5. (See priority 1 repair)
3. Replace the severely decayed cross bracing.

8 Units
4 Unit
64 LF

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

ABUTMENT South

RATING	COMPONENT	REMARKS
COUNTERMEASURES		
	Description	None.
N	Condition	N/A

PROBING/SCOUR		
7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour. The sheeting is not undermined.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None

Repair Quantities: None

ABUTMENT North

RATING	COMPONENT	REMARKS
COUNTERMEASURES		
	Description	Riprap located along the breastwall.
7	Condition	Intact and stable.

PROBING/SCOUR		
7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour. The sheeting is not undermined.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None

Repair Quantities: None.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Bent 1 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Bent 2 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Bent 3 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Bent 4 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 4

Bent 5 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Bent 6 (From South)

RATING	COMPONENT	REMARKS
COUNTERMEASURES		

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists of silt, sand, mud, and gravel. No observed scour.
	Changes Since Prior Inspection	Minor fluctuations in the channel bottom.
	Debris	None.

Repair Quantities: None.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
 Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

WATERWAY/CHANNEL

SI&A Item No. 61: 7

SI&A Item No. 71: 8

WATERWAY Debbies Creek

Prioritization Category: N/A

SPAN(S) Seven (7)

Scour Sufficiency Rating: N/A

RATING	COMPONENT	REMARKS
FLOW CONDITIONS		
	Direction	Tidal. EBB = East. Flood = West.
	Magnitude	Creek is wider than the bridge opening.
	Velocity	Slow (<1 fps).
EMBANKMENTS		
7	Upstream	Well vegetated and stable. Riprap in place along the northeast embankment. Riprap is intact and stable.
7	Downstream	Well vegetated and stable. Riprap in place along the southeast embankment. Riprap is intact and stable.
7	Channel Countermeasures	Riprap in place along the northeast and southeast embankments. Riprap is intact and stable.
CHANNEL MOVEMENT AND CHANGES		
	Horizontal Location	Stream flows throughout all spans.
	Cross Section	(Refer to the sounding data and cross sections sheets 18-6 to 18-8).
	Alignment	Flow is straight beneath the substructure. Ponds form during low tide at upstream (east) and downstream (west) channel.
	Changes Since Previous Inspection	Minor fluctuations in the channel bottom.
	Navigation Clearances	Horizontal: 20' ±. Vertical: 7.0' (Navigable Creek).
	Waterway Opening	Appears adequate for present flow.
N	Other/Debris in Channel	None.

Repair Quantities: None.

Structure No.: 1300-0W7 Route: 9013 Cycle No.: 18
Name: Green Avenue over Debbies Creek Insp. Date: 7/6/2021

UNDERWATER DIVING INSPECTION

The following reports, files and memos are associated with this document:

PRIORITY REPAIRS:

The following Priority Letter(s) have been included for this structure:

Each Priority Letter has been submitted as a separate PDF file.

PDF Filename(s):

[13000W7_20200706cy18_PR1.pdf](#)



BRIDGE RE-EVALUATION SURVEY REPORT

STATE STRUCTURE NO. 13000W8

COUNTY STRUCTURE NO. 13000W8

Fisk Avenue over The Glimmer Glass

Brielle Borough

MONMOUTH COUNTY

CYCLE No. 02

NOVEMBER 18, 2022

NOTE: This Bridge Re-Evaluation Report
shall be filed immediately after the
1st Cycle Inspection Report.

Prepared By:



ENGINEERS, P.C.
3700 Route 27, Suite 101
Princeton, NJ 08540

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N.J.D.O.T.
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
BRIDGE RE-EVALUATION SURVEY REPORT

CYCLE NO. 02

STRUCTURAL DATA:

Bridge No.:	13000W8	Year Built:	1940	Widened/Rehab:	0000
County Structure No.:	13000W8	Length:	000007 ft	Width:	048.8 ft
Route No.:	00000	Date of this Evaluation:	11/18/2022		
Mile Point:	0000.480	By:	M08 - MP Engineering P.C.		
Municipality:	1308 - Brielle Borough	Date of Previous Evaluation:	08/19/2014		
County:	025 - MONMOUTH COUNTY	By:	J07 - Johnson, Mirm & Thom		
Name:	Fisk Avenue over The Glimmer Glass	FCM/ PH Inspection	Dates		
		FCM By:			
Structure Type:	Single span reinforced concrete arch	P/H By:			
		Date of Underwater/Fathometric Inspection:			
		By:			
		Date of Special Testing:			
		Date of Elec./Mech. Inspection (Level: II):			
Special Equipment Used:	None	Scour Critical:	No		

WORK DONE: Previously noted deteriorated bituminous surface has been patched with bituminous concrete at west side walk.

OVERALL PHYSICAL CONDITION: The structure is in poor condition due to the condition of the substructure.

OVERALL CONDITION (ITEM 67): 4 - Meets minimum tolerable limits

Inspection Team Leader: Patel, Deepkumar

Initials: DP

Certifying Engineer: Mahendra Patel, P.E.

N.J. P.E. Number: 24GE04426200

I certify that this report is an accurate description of the subject structure, to the extent determinable by visual inspection and testing performed.

Signature: 

Date: 11/4/2023

CONCLUSIONS AND RECOMMENDATIONS:

The overall condition of the structure is poor due to the condition of the substructure.

The roadway condition rating is satisfactory due to wide transverse crack with vegetation growth above the arch and settled bituminous patches at the west and east side of the roadway. See Photo(s) 9, 16

The superstructure condition rating is fair due to deteriorated concrete along the intrados of the arch, including large spall with 100% loss of concrete with exposed corroded cage at the west segment, spalls with exposed corroded rebars with section loss at several joint locations and arch segments, and wide cracks with rust bleeds. See Photo(s) 12, 13, 14, 15

The substructure condition rating is poor due to the severely corroded steel sheet pile wingwalls. The west side is bulged outwards +/- 6". See Photo(s) 1, 2

Since the previous cycle inspection, the condition of structure generally remains same.

This structure does not contain any fracture critical members.

This bridge is not posted for a restricted load limit. Based on current field observations and the load ratings computed using engineering judgement in Cycle 01, the operating ratings are higher than the legal loads, therefore load posting is not warranted.

This bridge is not listed on the bridge scour evaluation program revised database provided by NJDOT (August 2007). This inspection revealed no scour and no exposed footing. Therefore, SI&A item 113 remains coded 8.

The minor bridge is Structurally Deficient due to the poor condition of the substructure (Item 60=4). Therefore,

we recommend the following remedial action: Minor Bridge Replacement:

1. Demolition (Lump Sum)	= \$100,000
2. Proposed reinforced concrete pipe culvert (10.0' long x 50.0' wide) 10' x 50' = ± 500 SF @ \$321/SF (2022)	= \$160,500
3. Approach roadway work (including drainage) 50 LF x 2 approaches: 100 LF @ \$1200/ LF	= \$120,000
	Subtotal = \$380,500
4 . MPT (±20% of 1 + 2 + 3)	= \$ 76,100
	Subtotal = \$456,600
5. Preliminary Engineering ±15% of Subtotal	= \$ 68,490
	Total = \$525,090

Costs are from the NJDOT "Cost Guide for Bridge Repairs 2003" and increased 3% per year.

We recommend that the following priority repair(s) be made to retard further deterioration, preserve the structural integrity of the bridge, improve safety and extend its useful life:

Rebuild the footings for the exposed guide rail posts; Fill the eroded embankment with suitable fill material; Provide a bituminous concrete or stone swale for surface water run-off at west end. (Refer to Priority Repair Letter 2 2022 16941) See Photo(s) 8

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

1 - STRUCTURAL DATA

IDENTIFICATION

8 Structure No.: 13000W8 M82 County Bridge No.: 13000W8 M83 Municipal Bridge No.:
 (AB) Name: Fisk Avenue over The Glimmer Glass
 1 State Code: 342 - New Jersey 2 Highway Agency District: DISTRICT 02 (CENTRAL)
 (1A) State Code 34 - New Jersey 4 Place Code: 07750 - Brielle
 (1B) Region Code 2 - Region 2 - New York/New Jersey
 3 County Code: 025 - MONMOUTH COUNTY (A) Town: 1308 - Brielle Borough
 5A Inventory Route (On/Under): 1: Route carried "on" the structure 9 Location: 0.48 mi east of Union Ave
 5B Inventory Route Signing Prefix: 5 - CITY STREET
 5C Level of Service: 1 - MAINLINE 11 Mile Point: 0000.480
 5D Inventory Route Number: 00000 (AA) Inventory Route: 9013 - Monmouth County
 5E Directional Suffix: 0 - NOT APPLICABLE (FV) Inventory Route Milepoint:
 6 Features The Glimmer Glass (AC) Non-Inventory Feature: WW: Roadway and/or railroad over waterway
 Intersected:
 7 Facility Fisk Avenue (AD) Adm. Juris. Non- 1: State
 Carried by Inv Feature:
 Structure: (AE) Alternate Agency:
 16 Latitude: 400643.45 (AF) Alternate Structure Number:
 17 Longitude: -740247.62 98 Border Bridge Code:
 M84 Latitude (Degrees): 40.11207 (98AA) State Code:
 M85 Longitude (Degrees): -74.04656 (98AB) Region Code:
 (98B) % Resp.:
 99 Border Bridge Structure Number:

M142 GPS Location: Southwest Corner

CLASSIFICATION

21 Maintenance Responsibility: 02 - County Highway Agency 26 Func. Class. of Inv. Route: 17 - Urban - Collector
 M94 Maint. Resp.: Monmouth County 37 Historical Significance: 5 - Not eligible
 22 Owner: 02 - County Highway Agency M91 On/Off System: 1
 M93 Owner: Monmouth County M96 Comments
 M95 Ownership Resolved: E: Established Ownership:
 101 Parallel Structure Designation: N - No parallel structure (BB) Orphan Bridge:
 103 Temporary Struct. Designation: (BP) Bridge Demolition:
 104 Highway System of Inv. Route: 0 - Structure/Route is NOT on NHS (CP) Federal Report: L - Highway carrying bridges less than 20' in length but at least 5'
 112 NBIS Bridge Length: No (CR) Off-Route Bridge:
 Agency Admin. Area: (FX) Federal Error Cannot be Corrected:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

STRUCTURE TYPE AND MATERIAL

43A Main Span Material: 1 - Concrete
 43B Main Span Design: 11 - Arch - Deck
 44A Approach Span Material:
 44B Approach Span Design:
 45 Number of Main Spans: 001
 46 Number of Approach Spans: 0
 (AJ) Type of Slope Protection:

(AK) Type of Abutment:

(AL) Type of Pier:

(AT) Special Material 1:

(AT) Special Material 2:

(AU) Additional Structure Type 1:

(AU) Additional Structure Type 2:

Fracture Critical Details: Z - None - No fracture critical details

M143 Structure Type Primary: 11 - Arch - Deck

M144 Structure Type Secondary: 99 - Not Applicable

M97 Struct. Mat.: Reinforced concrete arch
 Type Desc:

107 Deck Structure Type: N - Not Applicable

108A Wearing Surface: N - NA

108B Membrane: N - NA

108C Deck Protection: N - NA

(AV) Widened Structure Type:

1st Widened Material:

1st Widened Design:

2nd Widened Material:

2nd Widened Design:

AGE AND SERVICE

27 Year Built: 1940

28A Lanes On Structure: 02

28B Lanes Under Structure: 00

106 Year Reconstructed: 0000

42A Type of Service On: 5 - Highway-pedestrian

42B Type of Service Under: 5 - Waterway

GEOMETRIC DATA

32 Approach Roadway Width (w/ shoulders): 035 ft

33 Bridge Median: 0 - No median

34 Skew: 0 deg

35 Structure Flared: 0 - No flare

M98 Str. is Standalone or Connected:

S: Standalone structure

M99 Length of Portion Included: 048.8 ft

M101 Total Structure Opening: 30 ft²

M145 Design Vertical Inside
 Opening: 6.00 ft

M146 Available Vertical Inside -
 South or West End: 6.00 ft

M147 Available Vertical Inside -
 North or East End: 5.83 ft

48 Length of Maximum Span: 0007 ft

49 Structure Length: 000007 ft

M141 Effective CoMBIS Width: 6.67 ft

50A Left Curb/Sidewalk Width: 06.8 ft

50B Right Curb/Sidewalk Width: 00.0 ft

51 Bridge Roadway Width, Curb-to-Curb: 034.5 ft

52 Deck Width, Out-to-Out: 048.8 ft

(AM) Depth of Fill over Structure: 01.5 ft

Total length: 6.67 ft

Deck Area: 325.5 ft²

NAVIGATION DATA

38 Navigation Control: 0 - No navigation control on waterway (bridge permit not required)

39 Navigation Vertical Clearance: 000 ft

40 Navigation Horizontal Clearance: 0000 ft

111 Pier/Abutment Protection: 1 - Navigation protection not required

116 Min. Nav. Vertical Clearance under Lift Bridge: 000 ft

(AP) Fender System:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

UTILITIES AND APPURTENANCES

(HA) Bridge Noise Barrier:

Type of Material 1:

Type of Material 2:

Barrier Height 1: ft

Barrier Height 2: ft

(AO) Utilities:

Utilities 1:

Utilities 2:

Utilities 3:

Utilities 4:

Sign Structures:

(GS) Overhead Sign Structure:

(GT) Cantilever Sign Structure:

(GU) Fascia Mounted Sign Structure:

RAILROAD

(BC) USRA Code:

(BE) Rail Milepost:

(BD1) Rail On:

(BD2) Rail Under:

TEMPORARY STRUCTURES

(GV) Bridge:

(GW) Shoring:

(GZ) Cond. Desc.:

(GY) Measures:

(GX) Repairs:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

2 - LOAD RATING AND POSTING

Load Rating Review Recommended: ☐

41 Posting Status: A - Open

31 Design Load: 0 - Unknown

(CG1) Posted Load Type:

(CG2) Posted Load Limit: **tons**

(AI) Speed Limit Posting: **mph**

Load Rating Engineer: You Gao, EIT

70 Posting: 5 - Equal to or above legal loads

Rating Date 11/24/2014

(BK) Overstress %:

(CH1) Load Rating/Posting Combo:

(CH2) Load Rating/Posting Combo: **tons**

(AN) Plans Available: No, plans are not available.

65 Inventory Rating Method: 0 - Field evaluation and documented engineering judgment

63 Operating Rating Method: 0 - Field evaluation and documented engineering judgment

66 Inventory Rating: 27.0 **tons**

64 Operating Rating: 46.0 **tons**

RATING (TONS)			RATING FACTOR		
Type	Inventory	Operating	Type	Inventory	Operating
HL93:	()	()	HL93:	(CW)	(CX)
H15/H20:	(BQ) 15	(CA) 26	H15/H20:	(BQ2)	(CA2)
HS20:	(BR) 27	(CB) 46	HS20:	(BR2)	(CB2)
3:	(BS) 34	(CC) 60	3:		(CC2)
NJ3S2:	(BT) 54	(CD) 95	NJ3S2:		(CD2)
3-3:	(BU) 59	(CE) 102	3-3:		(CE2)
Military:	(BV)	(CF)	Military:	(BV2)	(CF2)
SU4:	(BW)	(CS)	SU4:		(CS2)
SU5:	(BX)	(CT)	SU5:		(CT2)
SU6:	(BY)	(CU)	SU6:		(CU2)
SU7:	(BZ)	(CV)	SU7:		(CV2)

ALTERNATE LOAD RATINGS

Alt. Design Load:

Alt. Rating Date

Alt. Inventory Rating: **tons**

Alt. Operating Rating: **tons**

Type	Inventory	Operating	Posting	Inventory	Operating
HL93:	()	()			
H15:	()	()	Truck 1:		
HS20:	()	()	Truck 2:		
3:	()	()	Truck 3:		
NJ3S2:	()	()			
3-3:	()	()			
Military:	()	()			

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

3A - INSPECTION INFORMATION

APPRAISAL ITEMS

Structurally Deficient/Functionally Obsolete: SD Sufficiency Rating: 63.6
 67 Structural Evaluation: 4 - Meets minimum tolerable limits 70 Bridge Posting: 5 - Equal to or above legal loads
 68 Deck Geometry: 6 - Equal to present minimum criteria 71 Waterway Adequacy: 6 - Occasional Overtopping of Approaches -
 69 Underclearances, Vertical & Horizontal: N - Not applicable 72 Approach Roadway Alignment: 8 - Equal to present desirable criteria

EXISTING BRIDGE CONDITION

58 Deck: N - Not Applicable (BA) Approach Roadway Condition: 6: Satisfactory Condition - more significant defects such as large spalls, severe settlements (1" to 2") or major collision damage to guide rails. Moderate amounts of slope embankment erosion.
 59 Superstructure: 5 - Fair Condition (minor section loss)
 60 Substructure: 4 - Poor Condition (advanced deterioration) 61 Channel/Channel Protection: 7 - Bank protection needs minor repairs
 62 Culvert: N - Not Applicable 113 Scour Critical Bridge: 8 - Stable for scour conditions
 63 Operating Rating Method: 0 - Field evaluation and documented 64 Operating Rating: 46.0 tons
 65 Inventory Rating Method: 0 - Field evaluation and documented 66 Inventory Rating: 27.0 tons

CONDITION REMARKS

Deck Distress/Unrepaired Spalls: ft²
 (BF) Deck: (BG) Superstructure: (BH) Substructure:
 1. 1. C: Loss of section 1. Z: Other
 2. 2. E: Heavy spalling 2. N: Movement of substructure
 3. 3. Z: Other 3.
 4. 4. 4.
 5. 5. 5.
 (BI) Channel: (BJ) Culvert:
 1. 1.
 2. 2.

HIGHWAY SAFETY/FENCING

36A Bridge Rail: 0 - Does not meet acceptable standards/safety (AG) Type of Bridge Rail: 18: None of the types above
 36B Transition: 0 - Does not meet acceptable standards/safety (AH) Height of Bridge Rail: 2.42 ft
 36C Approach Rail: 0 - Does not meet acceptable standards/safety (AQ) Chain Link Fence Height: ft
 36D End Treatments: 1 - Meets acceptable standards (FN) Fencing Warranted: NO - Conditions DO NOT warrant chain link
 (FO) Pedestrian Traffic Fencing Status: N: Not applicable or fencing is not
 (FP) Fencing Improvement Cost: \$

SCOUR EVALUATION

*113 Scour Critical Bridge: 8 - Stable for scour conditions (FA) FHWA Scour Category: 01: Assessed (Old bridge)
 (FB) Date of Stage 1 Scour Eval.: (FF) Date of Stage 2 Scour Eval.:
 (FC) Stage 1 Scour Eval. Consultant: (FG) Stage 2 Scour Eval. Consultant:
 (FD) Stage 1 Scour Eval. Prioritization Category: (FH) Scour Critical Elements:
 (FE) Stage 1 Scour Eval. Sufficiency Rating:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

SCOUR COUNTERMEASURES

(FJ) Scour Countermeasures Cost: **\$**

(FL) Scour Monitoring Required/Type:

(FI) Recommended Scour Countermeasures:

(FK) Scour Countermeasures Installed/Type:

1. G: Steel Sheet Piling
- 2.
- 3.

PROPOSED IMPROVEMENTS

75A Type of Work: 31 - Replacement - Load/Geometry

75B Work To Be Done By: 1 - Work to be done by contract

76 Length of Structure Improvement: 000010 ft

(BO) Owner's Maintenance Cost: **\$**

94 Bridge Improvement Cost: **\$ 160500**

95 Roadway Improvement Cost: **\$ 120000**

96 Total Project Cost: **\$ 525090**

97 Year of Improvement Cost Estimate: 2022

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

3B - INSPECTION INFORMATION

INSPECTION DATES

Inspection Report Author: Patel, Deepkumar
Primary Type of Inspection: Regular Inspection
Previous Cycle Inspection Date: 08/19/2014
90 Inspection Date: 11/18/2022
91 Inspection Frequency (in months): 60
Next Inspection Date: 11/18/2027
Pontis Element Inspection Date: 11/18/2022
Pontis Element Frequency (in months): 60
Next Pontis Element Inspection Due: 11/18/2027
(AW) Date of Mechanical/Electrical inspection:
(AW1) Mechanical Insp. Type: -
(AW2) Electrical Insp. Type: -
(AW3) Traffic Safety Insp. Type: -
(AW4) Mechanical Insp. Date:
(AW5) Electrical Insp. Date:
(AW6) Traffic Safety Insp. Date:
(AW7) Movable Bridge Type:
(AX) Date of Deck Condition Survey:
M132 Confined Space Entry: No
M105 Description of Complete (Regular) inspection
Inspection Type:

93A FC Inspection Date:
92A FC Inspection Frequency (in months):
Next FC Inspection Date:
93B UW Inspection Date:
92B UW Inspection Frequency (in months):
Next UW Inspection Date:
UW Inspected By:
93C SI Date:
92C SI Frequency (in months):
Next SI Date:
(AR) Special Equipment:
(AR) Special Equipment:
(AR) Special Equipment:
Special Inspection By:
(AS) Special Testing Type:

(AS) Special Testing Type:

(AS) Special Testing Type:

(AY) Date of Special Testing:

PAINT CONDITIONS AND DATE

(GD) Fascia Beam:
(GE) Fascia Bottom Flange:
(GF) Interior Beam:
(GH) Interior Bottom Flange:
(GI) Beam Ends:
(GJ) Connections:
(GK) Bracings:
(GL) Bearings:
(GM) Substructure:
(GN) Above Deck Superstructure:
(GO) Railings/Fence:

(GA) Is Painting Required? No: No parts of the structure require painting
(GB) Environment:
(GC) Date of Current Paint Inspection:
(GR) Date of Last Painting:
(GP) Remarks 1:

(GQ) Remarks 2:

(AZ) FATIGUE DETAIL

Location 1:

Location 3:

Location 2:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

IN-DEPTH FRACTURE CRITICAL/PIN-HANGER

(FY) Special FCM Insp. Required: ☐ (FS) FCM's Inspected:
(FZ) Special P/H Insp. Required: ☐ (FT) Combo In-Depth Fracture Critical/Pin-Hanger Inspection:
(FQ) Latest In-Depth FC/ Pin-Hanger Inspection Date:
(FQ1) Special FCM Insp. Date:
(FQ2) Special P/H Insp. Date:
(FR1) Special FCM Insp. Consultant:
(FR2) Special P/H Insp. Consultant:

CYCLE DATA

(P1) Group Number: 13P2 (BM) Federal Job Number:
(P2) Work Spec Number: 13P2_00 (BN) State Job Number: 2207094
(C1) Cycle Number: 02 (P3) NTP Date:
(CJ) Inspection Type: R: Regular Inspection Funding Category: State (Primary Job Number)
(CM) Current Consultant: M08 - MP Engineering P.C. (P4) State Project Manager: Douglas Tittle
(CO) Previous Consultant: J07 - Johnson, Mirm & Thom (P5) State Assistant PM:
M87 Contract State Agreement No.: 2022B1440E County Project Manager:
Agreement Modification Number: 00
Contract ID: 22-50843
Contract Date:

STRUCTURE STATUS

Bridge Status: 3 - Active
Bridge Lifecycle Phase: 1 - Service
Data Last Updated: 11/18/2022

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

4A - ROADWAY DATA

ROADWAY IDENTIFICATION

Roadway Name: Fisk Avenue

Bridge ID/Structure Number: 13000W8

Roadway SRI: 13081097

NBI Roadway?: No

5A Position of Route (On/Under): 1: Route carried "on" the structure

5B Route Signing Prefix: 5 - CITY STREET

5C Level of Service: 1 - MAINLINE

5D Route Number: 00000

5E Directional Suffix: 0 - NOT APPLICABLE

HIGHWAY NETWORKS AND SERVICE CLASSIFICATION

11 Milepoint: 0000.480

12 Base Highway Network: Inventory Route is not on the Base Network

13A LRS inventory Route: 13081097

13B Subroute Number:

13R Ramp Code:

20 Toll Facility: 3 - On free road. The structure is toll-free and carries a toll-free highway.

26 Functional Classification: 17 - Urban - Collector

100 STRAHNET Highway Designation: 0 - Not a STRAHNET route

102 Traffic Direction: 2 - 2-way traffic

104 NHS System: 0 - Structure/Route is NOT on NHS

105 Federal Lands Highways:

0 - Not Applicable

110 Designated Truck Highway Network: Inventory route not on network

School Bus: ☐ Transit Route: ☐ Emergency Route: ☐

TRAFFIC DATA

28 Number of Lanes: ON 02 UNDER 00

Number of Medians: 0

Roadway Speed Limit: 25 mph

19 Bypass/Detour Length: 01 miles

Detour Speed: 25 mph

(FM) Incidents Reported:

Accident Count: Rate:

ADT Class: ADT Class 2

29 ADT Total: 1083

30 Year of ADT: 2022

114 Future ADT: 1321

115 Year of Future ADT: 2042

109 Truck ADTT (%): 03

(FW) Estimated ADT: Yes

VERTICAL AND HORIZONTAL CLEARANCES

10 Vertical Clearance: 99.99 ft

53 Minimum Vertical Clearance over Bridge: 99.99 ft

54A Minimum Vertical Underclearance Ref.: N - Feature not a highway or railroad

54B Minimum Vertical Underclearance: 00.00 ft

(DJ) Minimum Vertical Underclearance (including shoulders): 00.00 ft

32 Approach Roadway Width: 035 ft

47 Inventory Route, Total Horizontal Clearance: 34.5 ft

51 Bridge Roadway Width, Curb-to-Curb: 034.5 ft

55A Minimum Lateral Underclearance Ref.: N - Feature not a highway or railroad

55B Minimum Lateral Underclearance on Right: 00.0 ft

56 Minimum Lateral Underclearance on Left: 00.0 ft

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
144-Reinforced Concrete Arch	4 - Sev.	49	ft.	27	6	16	0
1080-Delamination/Spall/Patched Area		8		0	0	8	0
1090-Exposed Rebar		8		0	0	8	0
1130-Cracking (RC and Other)		6		0	6	0	0
215-Reinforced Concrete Abutment	4 - Sev.	98	ft.	98	0	0	0
330-Metal Bridge Railing	4 - Sev.	14	ft.	14	0	0	0
515-Steel Protective Coating		48	sq. ft.	48	0	0	0
803-Timber Curbs/Sidewalks	4 - Sev.	7	ft.	0	7	0	0
1150-Check/Shake		7		0	7	0	0
804-Other Curbs/Sidewalks	4 - Sev.	7	ft.	0	0	7	0
1220-Deterioration (Other)		7		0	0	7	0
845-Other Wingwall	4 - Sev.	120	ft.	0	0	120	0
1000-Corrosion		90		0	0	90	0
1900-Distortion		30		0	0	30	0

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

Project Information:

Group: 13P3 Agreement No.: 2013BI908E Contract ID: 13-50829 Agree/Mod No.: 01

Rating Information:

Method: LRFR: No LFR: No ASR: No Engineering Judgment: Yes

Other (Specify): NA

Rating Date: 11/24/2014 Computer Software Used: NA Version: NA

Load Testing: No Cycle Rating Performed: 01 Design Load: Unknown

Structure Information:

Plans Available? No Contract Designation: _____

Overlay? Yes Considered in Rating? Yes Type/Thickness: Asphalt/Unknown

Section Losses? Yes Considered in Rating? Yes Item 59/62: 5

For LRFR Use Only:

Surface Roughness Factor: _____ Condition Factor: _____ System Factor: _____

ADTT (one direction): _____ Resistance Factor: _____ FCM: _____

Load Rating Engineer (LRE):

Name: You Gao, EIT Firm: Johnson, Mirmiran & Thompson, Inc. Initial: _____

Load Rating Reviewer (LRR) certification as per the NBIS Title 23 CFR Section 650.309(c):

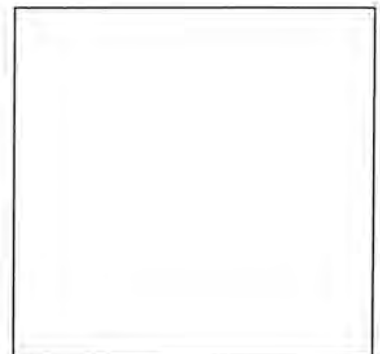
Name: James C. Lane, PE N.J.P.E. No.: 24 GE 02859100

Firm: Johnson, Mirmiran & Thompson, Inc.

I certify that this rating is an accurate representation of the subject structure, considering all deterioration and/or changes to loading conditions, to the extent determinable by research and visual inspection and testing performed. I am charged with the overall responsibility for bridge capacity evaluation for the above mentioned structure.

Sign

Date



Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

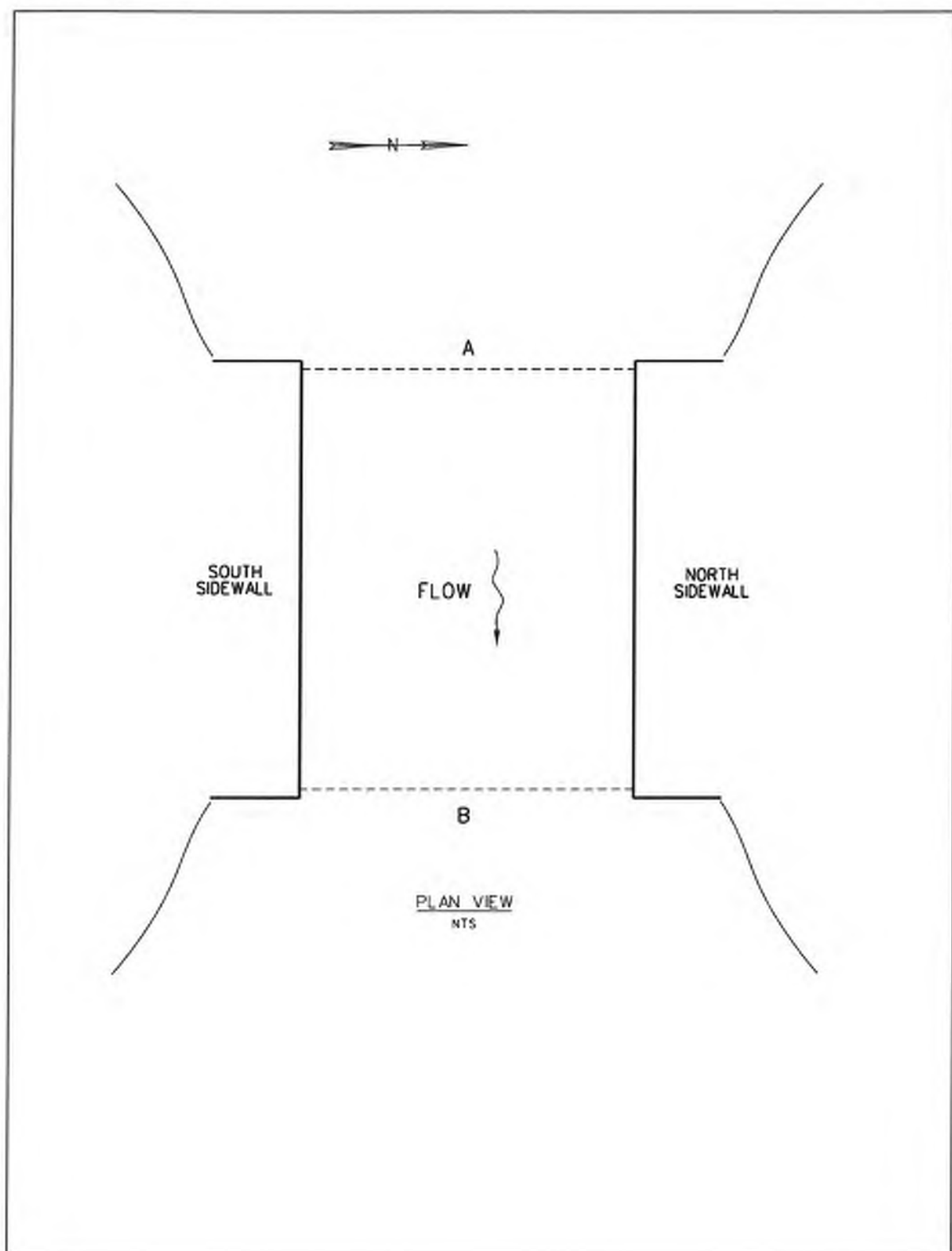
Rating Comments:

H20 is used as the design truck for engineering judgment. Assume 15% of load capacity loss due to defects in the arch (DL=40%; LL=60%)

As per the agreement, load rating analysis was not included for this CoMBIS structure. The ratings shown below are based on engineering judgment.

<u>Material</u>	<u>Compressive Strength f_c</u>	<u>Tensile Strength</u>	<u>Allowable Stresses (Psi)</u>		
			<u>Yield</u>	<u>Inventory</u>	<u>Operating</u>
Concrete (Beam)	2,500			1,000	1,375
Reinforced Steel			33,000	18,000	25,000

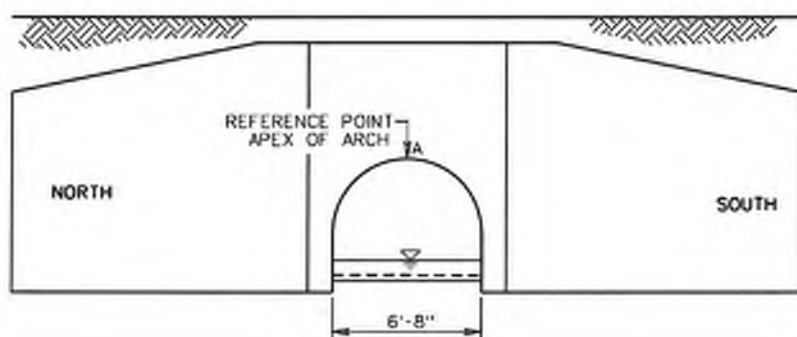
<u>Member</u>	<u>Truck Type</u> (Tons)	<u>Rating (Tons) / Rating Factor</u>							
		<u>Engineering Judgement</u>							
		<u>As-Built</u>		<u>As-Insp.</u>		<u>As-Built</u>		<u>As-Insp.</u>	
		<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>
Member:	HL93 NL								
Reinforced Concrete Arch	H15/H20 (15T)	20	33	15	26				
	HS-20 (36T)	36	59	27	46				
	3 (25T)	46	76	34	60				
	NJ3S2 (40T)	73	120	54	95				
	3-3 (40T)	79	130	59	102				
Condition Rating 5	SU4 (27T)								
Sect. Loss Location:	SU5 (31T)								
At Several Joints									
Sect. Loss Extent:	SU6 (35T)								
15% load reduction	SU7 (39T)								
	EV2 (28.75T)								
	EV3 (43T)								

Plan View

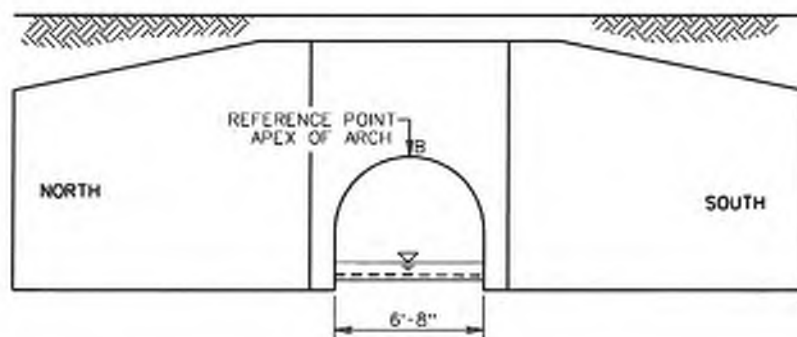
Soundings Sketch

SOUNDING DATA				
LOCATION	DATE: 08/19/14 (CYCLE 01)		DATE: 11/18/2022 (CYCLE NO. 2)	
	CLEAR DIMENSION	WATER DEPTH	CLEAR DIMENSION	WATER DEPTH
A	6'-0"	1'-6"	6'-2"	1'-8"
B	5'-10"	1'-4"	6'-0"	1'-6"

WEST ELEVATION (TIDAL) LOOKING EAST (NTS)



EAST ELEVATION (TIDAL) LOOKING EAST (NTS)

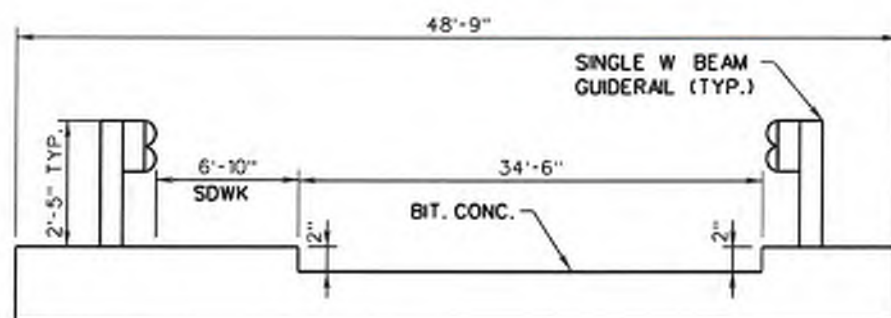


--- CYCLE 01
 — CYCLE 02
 ▽ WATER SURFACE (CYCLE 02)

NOTES:

THE CLEAR DIMENSIONS GIVEN ARE REFERENCED FROM THE APEX OF THE PIPE TO THE STREAMBED.

THE WATER DEPTH DIMENSIONS ARE MEASURED FROM THE WATER SURFACE (AT THE TIME OF THE INSPECTION) TO THE STREAMBED.

Deck Cross Section Sketch**DECK CROSS SECTION**

(LOOKING NORTH)
NTS



Photo 1	Category:	00 - General View
	Description:	West elevation, looking east.



Photo 2	Category:	00 - General View
	Description:	East elevation, looking west.

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

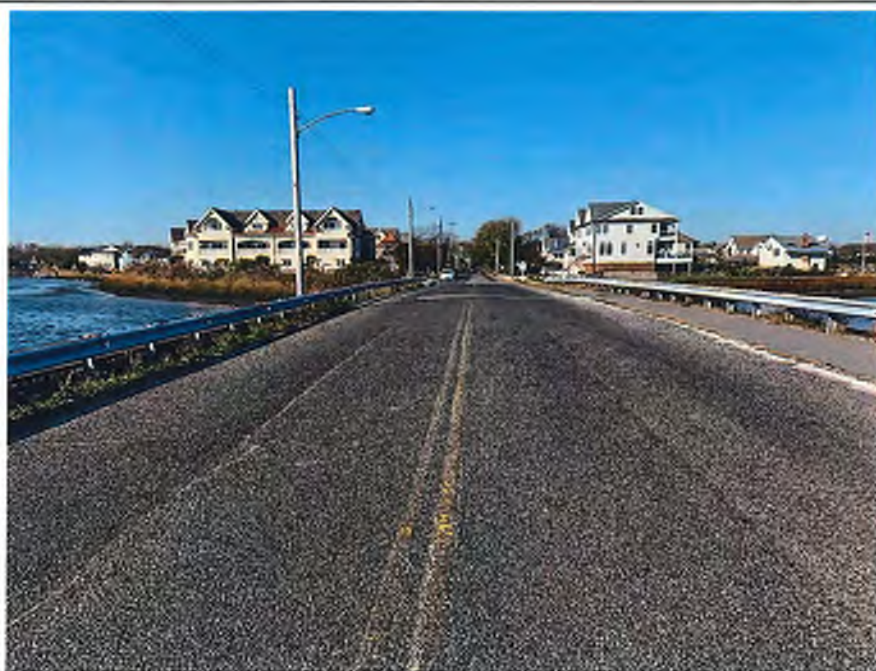


Photo 3

Category: 00 - General View

Description: North approach roadway, looking south.

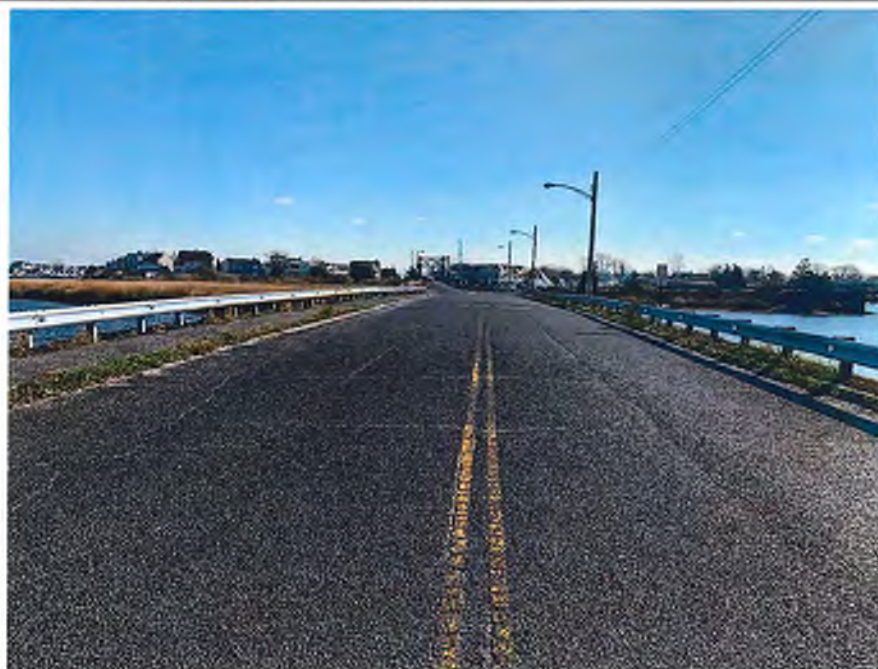


Photo 4

Category: 00 - General View

Description: South approach roadway, looking north.

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022



Photo 5

Category: 00 - General View

Description: Thalweg, looking west. General view of tidal waterway.



Photo 6

Category: 00 - General View

Description: Thalweg, looking east. General view of tidal waterway.

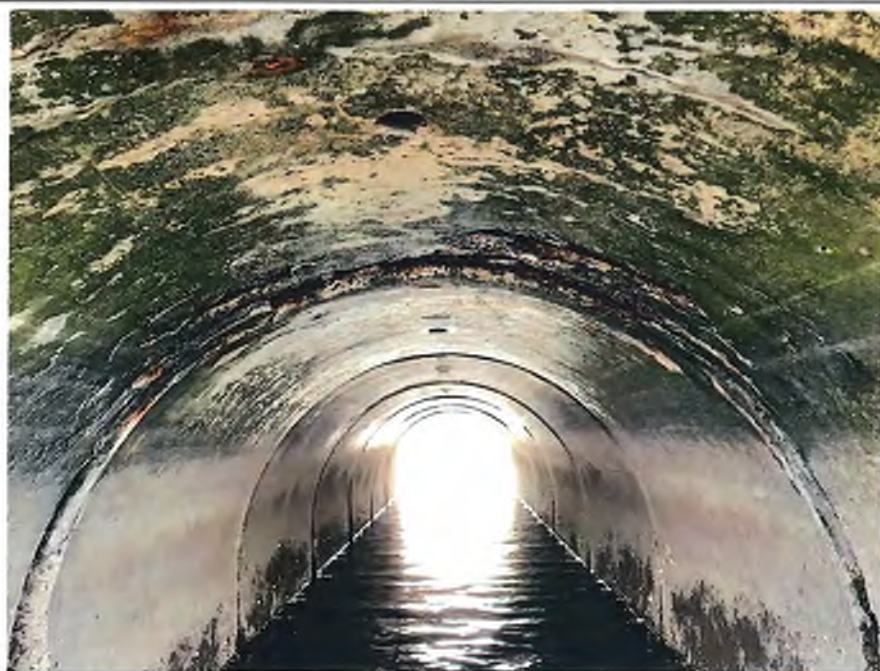


Photo 7	Category:	00 - General View
	Description:	Underside, looking east.



Photo 8	Category:	60 - Priority Repair , 50 - Culverts/Frames/Arches, 51 - Erosion
	Description:	West end of culvert, looking south. Note: Heavy erosion has been noted above west end of pipe. (Refer to Priority Repair Letter 2_2022_16941)



Photo 9

Category: 03 - Roadway

Description: Roadway looking west. Note Wide transverse crack with vegetation growth above the arch.



Photo 10

Category: 05 - Sidewalks/Safetywalks/Curbs

Description: Roadway looking southeast.
Note: The deteriorated east timber curb with checks.



Photo 11	Category:	50 - Culverts/Frames/Arches
	Description:	West end of arch, looking northeast. Note 100% loss of concrete with exposed corroded cage from mud line up to 4' high.

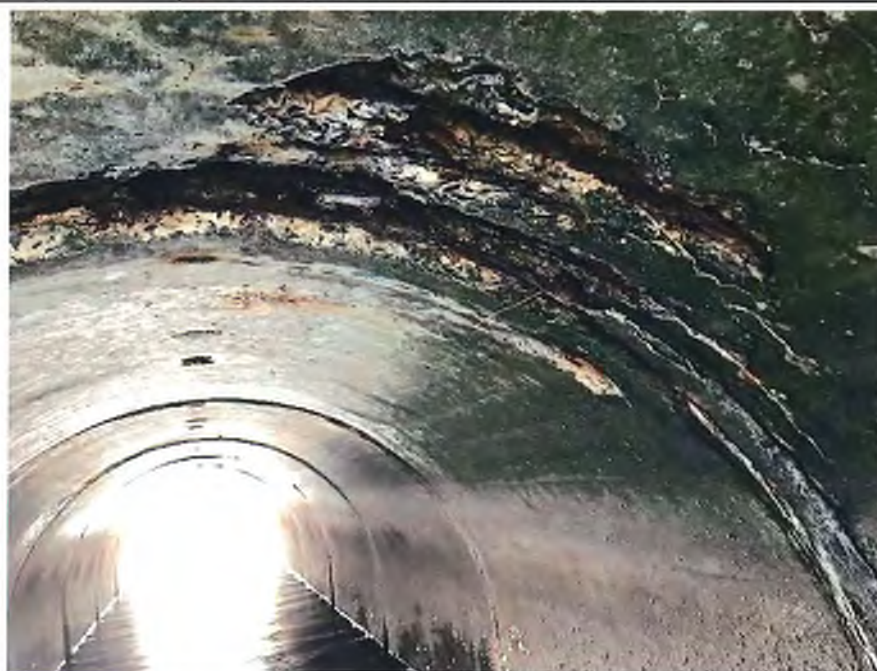


Photo 12	Category:	50 - Culverts/Frames/Arches
	Description:	Joint 1 from west, looking southeast. Note 8 SF spall with exposed corroded rebar that exhibits heavy section loss.



Photo 13	Category:	50 - Culverts/Frames/Arches
	Description:	Segment 4, joint 4 looking north. 4 SF spall with exposed corroded rebar that exhibits heavy section loss



Photo 14	Category:	50 - Culverts/Frames/Arches
	Description:	Joint 5 from west, looking southeast. Note 6 SF spall with exposed corroded rebar that exhibits heavy section loss.



Photo 15

Category: 50 - Culverts/Frames/Arches

Description: Joint 7 from west, looking southeast. Note radial spall with exposed, corroded rebar.



Photo 16

Category: 05 - Sidewalks/Safetywalks/Curbs, 61 - Work Done

Description: West sidewalk, looking west.

Work Done: Previously noted deteriorated bituminous surface has been patched with bituminous concrete. New broken section has been found near railing at west sidewalk.

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

NEW JERSEY DEPARTMENT OF TRANSPORTATION
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
FIELD NOTES
County Highway Agency

Inspectors: Patel, Shashank
Name: Fisk Avenue over The Glimmer Glass
Crew Chief: Patel, Deepkumar Weather: Clear
Temperature: 45 °F Special Equipment Used: None

RATINGS:

- N Not applicable.
9 Excellent Condition.
8 Very Good Condition - no problems noted.
7 Good Condition - some minor problems.
6 Satisfactory Condition - some minor deterioration of structural elements.
5 Fair Condition - minor section loss to primary structural elements.
4 **Poor Condition - advanced section loss to primary structural elements.**
3 Serious Condition - seriously deteriorated primary structural elements.
2 Critical Condition - facility should be closed until repairs are made.
1 Imminent Failure Condition - facility closed. Study of repairs is feasible.
0 Failed Condition - facility is closed and beyond repair.

GPS COORDINATES		
@ Southwest Corner		
Lat.	N	40.11207
Long.	W	-74.04656

GENERAL

Type of Bridge: Single span reinforced concrete arch

Year Built: 1940 Year of Widening/Major Repairs: 0000
No. of Lanes: On 02 Under 00
Vertical Clearances: Over Deck: 99.99 ft
Minimum Under: 00.00 ft
Maximum Under (Item 10): 99.99 ft
Horizontal Underclearance: Total Horizontal Clearance: 34.5 ft Guidrail to guidrail
Right 00.0 ft
Left 00.0 ft

Overall Physical Condition of Structure: The structure is in poor condition due to the condition of the substructure.

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

ROADWAY

SI&A Item BA Rating: 6

SI&A Item 72 Rating: 8

RATING	COMPONENT	REMARKS
6	Top of Roadway	(Bituminous concrete) Wide transverse crack with vegetation growth above the arch. Settled 4 SF asphalt patch at west side. Settled 10 SF patch at east side. [See Photo(s): 9]
5	Curbs	East: deteriorated timber curb with wide checks West: heavily deteriorated and settled bituminous curbs
5	Sidewalks	West sidewalk: Work Done: Previously noted deteriorated bituminous surface has been patched with bituminous concrete. New broken section has been found near railing at west sidewalk. [See Photo(s): 16]
N	Median	
N	Parapets	
N	Railings	
7	Guide Rail Condition	No significant defects
	Approach Roadway Vertical & Horizontal Alignment	Vertical: Level Horizontal: Tangent No speed reduction required
6	Approach Roadway Embankment	Heavy erosion has been noted above west end of pipe. (Refer to Priority Repair Letter 2_2022_16941) [See Photo(s): 8]
7	Utilities	Overhead wires and light stands at all utility poles along the east side. No significant defects.

Additional Remarks:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 5

(ARCH)

SPAN # 1

RATING	COMPONENT	REMARKS
5	Intrados of Arch (Soffit) Arch Ribs	(Reinforced concrete arch) Eight (8) arch segments (numbered from west): Segment 1 (west segment): at 3' from west end, segment exhibits 100% loss of concrete with exposed corroded cage from mud line up to 4' high. 1st Joint (from west): 8 SF spall with exposed corroded rebar that exhibits heavy section loss (3 LF). 2nd Joint: 3 SF spall with exposed corroded rebar that exhibits heavy section loss (1 LF). 3rd Joint: 5 SF spall with exposed corroded rebar that exhibits heavy section loss (2 LF). 4th Joint: 4 SF spall with exposed corroded rebar that exhibits heavy section loss (1 LF). 5th Joint: 7 SF spall with exposed corroded rebar that exhibits heavy section loss (2 LF). 6th Joint: 3 SF deep spall with exposed rebar (1 LF) and wide radial crack with efflorescence and rust bleed (1 LF). 7th Segment: 3 SF spall at crown of arch, cracked with rust bleed 7th Joint: 3 SF spall with exposed corroded rebar that exhibits heavy section loss (1 LF). Segment 8 (east fascia): 5 SF spalls with exposed rebar and wide cracks with rust bleed. [See Photo(s): 12, 13, 14, 15]
N	Spandrel Columns/Extrados	
N	Spandrel Walls	

Additional Remarks:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

(Arch/Frame)

SOUTH ABUTMENT

RATING	COMPONENT	REMARKS
7	Footings	Not visible. No significant defects.
4	Wingwalls & Retaining Walls	Steel sheet pile wingwalls exhibit severe corrosion throughout with holes. Missing cap at west side and bowing outward +/- 6". Channel wale visible at east side is useless. [See Photo(s): 1]

Additional Remarks:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 4

(Arch/Frame)

NORTH ABUTMENT

RATING	COMPONENT	REMARKS
7	Footings	Not visible. No significant defects.
4	Wingwalls & Retaining Walls	Steel sheet pile wingwalls exhibit severe corrosion throughout with holes. Missing cap at west side and bowing outward +/- 6". Channel wale visible at east side is useless. [See Photo(s): 1, 2]

Additional Remarks:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: **4**

Abutment **South**

RATING	COMPONENT	REMARKS
--------	-----------	---------

COUNTERMEASURES

	Description	None
N	Condition	

PROBING/SCOUR

7	Findings	Probing during inspection revealed no exposed footing or no undermining noted.
	Changes Since Prior Inspection	None.
	Debris	None

Repair Quantities:

Structure No.: 13000W8 Route: 9013 Cycle No.: 02
 Name: Fisk Avenue over The Glimmer Glass Insp. Date: 11/18/2022

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: **4**

Abutment **North**

RATING	COMPONENT	REMARKS
--------	-----------	---------

COUNTERMEASURES

	Description	None
N	Condition	

PROBING/SCOUR

7	Findings	Probing during inspection revealed no exposed footing or no undermining noted.
	Changes Since Prior Inspection	None
	Debris	None

Repair Quantities:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

WATERWAY/CHANNEL

SI&A Item No. 61: 7

SI&A Item No. 71: 6

Prioritization Category:

Scour Sufficiency Rating:

WATERWAY # 1

RATING	COMPONENT	REMARKS
--------	-----------	---------

FLOW CONDITIONS

	Direction	Tidal. Ebb at west
	Magnitude	100% of opening x 17" average water depth.
	Velocity	Moderate (approximately 2ft/sec)

EMBANKMENTS

7	Upstream	Marshland. Stable.
7	Downstream	Marshland. Stable.
N	Channel Countermeasures	

CHANNEL MOVEMENT AND CHANGES

	Horizontal Location	Meandering channel enters full width of entire opening
	Cross Section	Thalweg at midspan. Sand and stone streambed.
	Alignment	Aligned with substructure units.
	Changes Since Previous Inspection	None
	Navigation Clearances	N/A
	Waterway Opening	Opening appears adequate for present flow. However, likely inadequate during high storm water events due to damage to steel sheeting.
8	Debris in Channel	None

Repair Quantities:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

HIGHWAY SAFETY

Coding of SI&A Item 36: 0 0 0 1

RATING		COMPONENT	REMARKS
0		Bridge Railing	2.42 ft high single steel w-beam guide rail with steel spacer blocks at both sides of the roadway. W-beam carried from approaches
0	0	Transition to Bridge Railing	Single steel w-beam guide rail and steel posts with steel spacer blocks, unstiffened, continuous from approaches
	1	Sidewalk Terminations	Continuous
0		Approach Guide Rails	Adequate length steel w-beam guide rail with steel spacer blocks.
1		Approach Guide Rail End Terminals	Continuous at all corners

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

DECK GEOMETRY

SI&A Item 68 Rating: 6

COMPONENT	REMARKS
Bridge Cross Section	Consistent with the roadway and provides continuity.
Adequacy of Lane/Shoulder Widths	2 lanes, 2 way traffic Curb to curb = 34.50' 2022 Estimated ADT = 1083 Per SI&A and Table 2A: Curb to curb (Item 51) = 34.50' > 30', Item 68 = 6
Vertical Clearance over Deck	Unlimited

Posting for Load/Speed/Clearance Restrictions

- ☒ None
- ☐ Posting for Load
- ☐ Posting for Speed
- ☐ Posting for Clearance
- ☐ Posting for Others

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

FENCING

Coding of SI&A Item FN: N

Coding of SI&A Item FO: N

Coding of SI&A Item FP:

Warranted (Per Design Manual Section 23): No

If Yes: () Description:

Current Status of Fence & Sidewalk:

LEFT SIDE

RIGHT SIDE

a. Fence:

No

No

b. Sidewalk Width:

6.83

FT

0.00

FT

c. Total height of fence above curb/sidewalk:

0.00

FT

0.00

FT

d. Type of Fence (per Design Manual Section 23):

Action Recommended: None

Estimated Cost: \$ 0

NOTES:

Structure No.: 13000W8

Route: 9013

Cycle No.: 02

Name: Fisk Avenue over The Glimmer Glass

Insp. Date: 11/18/2022

WORK DONE HISTORICAL DATA

CYCLE NO.	YEAR	WORK DONE SUMMARY
02	2022	Previously noted deteriorated bituminous surface has been patched with bituminous concrete at west side walk.
CYCLE NO.	YEAR	WORK DONE SUMMARY
01	2014	Not applicable

Structure No.: 13000W8 Route: 9013 Milepost: _____
Name: Fisk Avenue over The Glimmer Glass

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2022_16941 Maintenance Recommendation Type: PR - Priority Repair 2 (Medium)
Current Work Spec.: 13P2_00 Maintenance Recommendation Category: Approach
Original Work Spec. Identified In: Maintenance Recommendation Activity:
Date Originally Entered: 11/28/2022 Originally Reported By: M.P.ENGINEERS
Date Closed: Closed By:

Inspector

Describe Deficiency: During our inspection on November 18, 2022, we found the following defects:

Heavy erosion has been noted above west end of the culvert.

Description of Proposed Work: We recommend that the following Priority repair be made:

Rebuild the footings for the exposed guide rail posts; Fill the eroded embankment with suitable fill material; Provide a bituminous concrete or stone swale for surface water run-off at west end.

Is Interim Work Needed: No

Description of Interim Work Required to Maintain Structure Until Proposed Work can be Accomplished: No

Date Email Sent: 11/28/2022 Email Sent By: Patel, P.E., Rajesh

Email Sent To:
rcpatel@mpengs.com;Michael.
Ruggiero@co.monmouth.nj.us;
DeCristofaro@dot.nj.gov;Meriam.
Michael@dot.nj.gov;Shenouda.
Zaki@dot.nj.gov;dpatel@mpengs.
com;Nmaroof@mpengs.com;
JBhatt@mpengs.com;
pppatel@mpengs.com;
sppatel@mpengs.com

Estimated Quantity/Costs

Quantity: Unit:

Unit Cost: Man Hours:

Total Cost:

Bridge Owner - Engineering Section

Structure No.: 13000W8 Route: 9013 Milepost: _____
Name: Fisk Avenue over The Glimmer Glass

CoMBIS Priority Repair Form

Date Completed:

Work Order # (NJDOT) Only:

Final Work Description:

Interim Work

Description:

Date Email Sent:

Email Sent By:

Email Sent To:

Comments:

Date Final Work Verified as Completed:

Structure No.: 13000W8 Route: 9013 Milepost: _____
Name: Fisk Avenue over The Glimmer Glass

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done/Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:



Photo 1	Category:	60 - Priority Repair , 12 - Roadway/Approach Embankment
	Description:	West end of culvert, looking south. Note: Heavy erosion has been noted above west end of pipe.

NJDOT Fracture Critical Member (FCM) Checklist

Structure Number: Date of Inspection:
 Name of Structure: Cycle Number:
 Type of Bridge:

NOTE: For Definition of 'Fracture Critical Bridge', Refer to the 2012 BIRM and Section X.E from NJDOT Explanation of SOW.

Is the Structure Fracture Critical?:

FC Member Type - 1: FC Member Type - 2: FC Member Type - 3:

Plans/Sketches showing FCM members provided for Fracture Critical Bridge?

Fracture Critical Member Identification Information:

Hand On Inspection Performed for FC Member: Photo/s attached for Special Equipment used for Hands On Inspection?:

Access Information for FC Member Hands On Inspection:

Fracture Critical Inspection Frequency Item (92A): Fracture Critical Inspection Date Item (93A):

NOTE: Special Testing & Special Testing Date is Applicable to Welded FC Member and Pin & Hanger FC Members only.

Special Equipment - 1: Special Testing Type - 1: Date of Special Testing:

Special Equipment - 2: Special Testing Type - 2:

Special Equipment - 3: Special Testing Type - 3:

Reason for Fracture Critical classified in the C&R Section?: Comments on Condition Rating of FC Member:

Additional Structure Type - 1: Additional Structure Type - 2:

Additional Structure Type Remarks:

Fatigue Detail - 1: Fatigue Detail - 2: Fatigue Detail - 3:

Fatigue Location - 1: Fatigue Location - 2: Fatigue Location - 3:

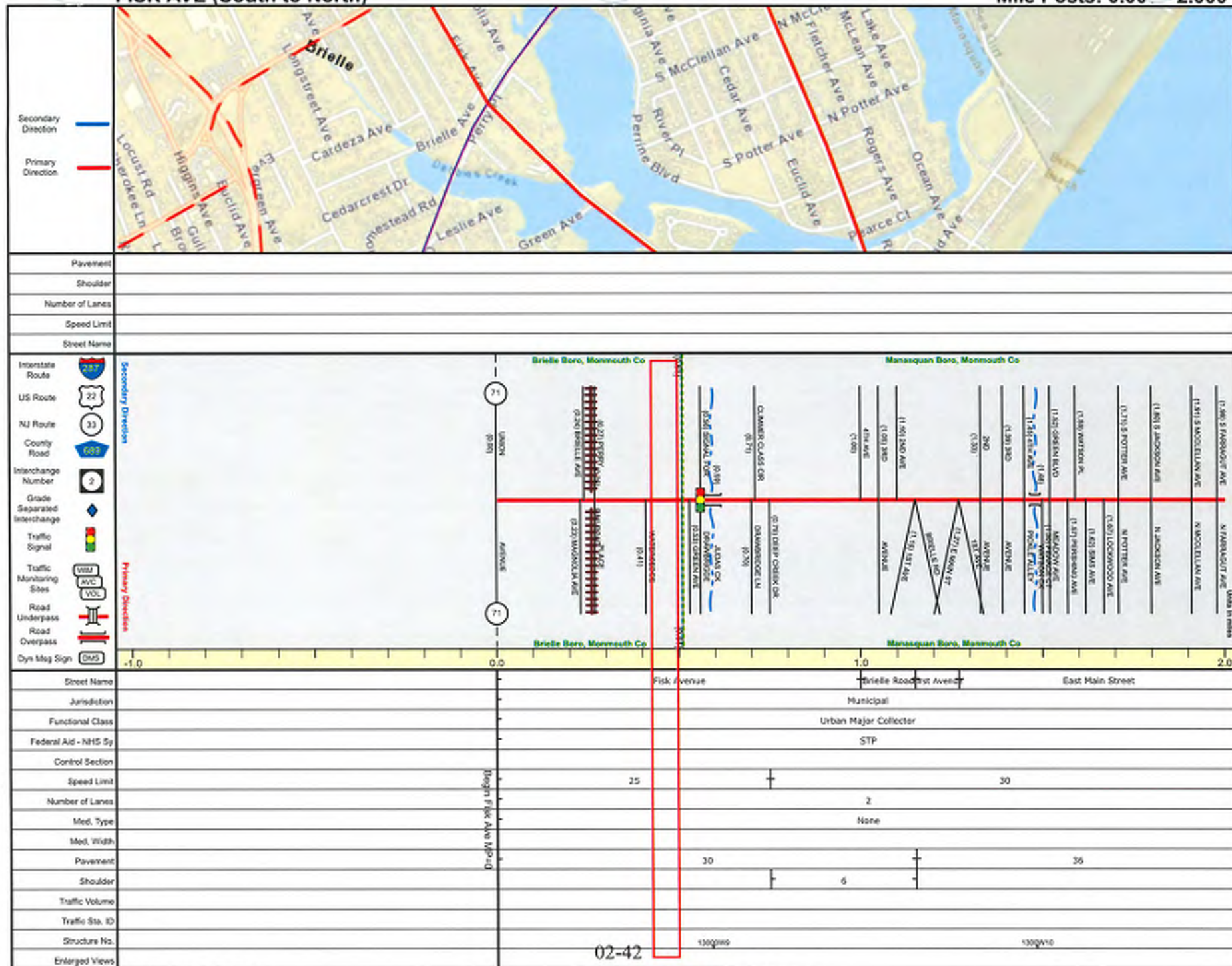
Comments on Load Induced Fatigue Details:
 1. Pin & Hanger FCM Member: Additional Structure Type must be coded as 1, 2, or 3.
 2. Welded FCM Member: Additional Structure Type must be coded as 4.
 3. Riveted/Bolted FCM Member: Additional Structure Type must be coded as F.

Fatigue Detail/Location Remark:

(FQ) Latest In-Depth FC/Pin-Hanger Inspection Date: FC Members Inspected:

Special FCM Insp. Required: Special FCM Insp. Date: Special FCM Insp. Consultant:

Special P/H Insp. Required: Special P/H Insp. Date: Special P/H Insp. Consultant:



SRI = 13081097

Date last inventoried: July 2016



BRIDGE RE-EVALUATION SURVEY REPORT

STATE STRUCTURE NO. 13000W9
COUNTY STRUCTURE NO.
BRIELLE ROAD OVER GLIMMER GLASS
Manasquan Borough
MONMOUTH COUNTY

CYCLE No. 20

JUNE 27, 2023

NOTE: This Bridge Re-Evaluation Report
shall be filed immediately after the
19th Cycle Inspection Report.

Prepared By:

TRANSYSTEMS

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N.J.D.O.T.
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
BRIDGE RE-EVALUATION SURVEY REPORT

CYCLE NO. 20

STRUCTURAL DATA:

Bridge No.:	13000W9	Year Built:	1938	Widened/Rehab:	0000
County Structure No.:		Length:	279 ft	Width:	30.0 ft
Route No.:	00000	Date of this Evaluation:	06/27/2023		
Mile Point:	0.560	By:	T18 - TranSystems		
Municipality:	1327 - Manasquan Borough	Date of Previous Evaluation:	07/07/2021		
County:	025 - MONMOUTH COUNTY	By:	A22 - Arora & Assoc.		
Name:	BRIELLE ROAD OVER GLIMMER GLASS	FCM/ PH Inspection	Dates		
		FCM By:			
		P/H By:			
Structure Type:	Single leaf bascule steel deck girder main span with 16 nail laminated timber deck approach spans on timber trestles	Date of Underwater/Fathometric Inspection:	09/13/2023		
		By:	Churchill Consulting Engineers		
		Date of Special Testing:	8/15/2005		
		Date of Elec./Mech. Inspection (Level: II):	11/28/2023		
Special Equipment Used:	Small Boat (See Photo 43)	Scour Critical:	No		

WORK DONE: The navigational light on the north fascia at the midspan of Span 6 has been replaced. Repairs were made to address the safety interlock deficiencies.

OVERALL PHYSICAL CONDITION: The structure is in poor condition due to the condition of the superstructure.

OVERALL CONDITION (ITEM 67): 2 - Intolerable - high priority of replacement

Inspection Team Leader: Bradley Degnan, P.E.

Initials: BHD

Certifying Engineer: Cory Amato, P.E.

N.J. P.E. Number: GE02707300

I certify that this report is an accurate description of the subject structure, to the extent determinable by visual inspection and testing performed.

Signature: Cory Amato

Date: 2/2/24

CONCLUSIONS AND RECOMMENDATIONS:

The overall condition of the structure is critical due to low inventory ratings. The overall physical condition of the structure is poor due to the condition of the superstructure.

The nail laminated timber deck panel superstructure for the approach spans is in satisfactory condition due to the minor misalignment in timber planks, a few small random broken sections of plank, medium to wide checks and splits, a few wide splits in the transverse tie beams, fire damage in Spans 7 through 11, and some loose hardware. See Photo(s) 17, 18, 19, 20, 37.

The overall condition of the superstructure is poor due to the main bascule span girders, floorbeams and lateral bracing, which exhibit heavy pitting, knife edging, and areas of corrosion and section loss throughout. See Photo(s) 22, 23, 24, 25, 26.

The substructure is in fair condition. The abutments exhibit deteriorated timber and steel sheeting and hardware, and gaps at previous bearing areas between piles and cap beams. Bents 7, 8, and 9 are charred from previous fire damage. The steel cap beam at Bent 6E exhibits severe section loss and has been previously supplemented with an additional timber support beam. The support piles for all timber bents have grout jackets below the high water mark. See Photo(s) 30, 33, 34, 35, 36, 37, 38.

Since the previous inspection, the overall condition of the structure has not changed. The approach roadway condition has been downgraded from good to satisfactory due to large holes in the sidewalks, wide cracks and fractures in the curbs, moderate to heavy vegetation at the curbs, and small corrosion holes in the steel bulkhead. See Photo(s) 11, 14, 15, 16.

The structure is Fracture Critical due to the non-redundant two girder framing system in the bascule span. The fascia girders are rolled beams in poor condition exhibits localized section loss, heavy pitting, knife edging, and areas of corrosion throughout. There is a corrosion hole at the bottom of the north girder web near the east bearing. Category D fatigue details include coped flanges and riveted gusset plate connections. Fracture Critical members were accessed by boat. No special testing was performed as the girders are rolled shapes and connections are riveted. See Photo(s) 21, 22.

The bridge is load posted for 3 tons. The vertical clearance is posted for 10'-0" on both approach roadways. The load ratings were last updated in 2016 and reflect the current condition of the structure.

Based on the information given in the bridge scour evaluation program revised database provided by NJDOT (August 2007), a Preliminary Stage I Scour Evaluation was performed on this structure. As a result, this bridge was found to be not scour critical and Stage II In-Depth Scour Evaluation is not required. Therefore, SI&A Item 113 remains coded 8.

Churchill Consulting Engineers performed the Underwater Inspection on September 13, 2023, to assess the recently completed work. The report indicates that the physical condition of the underwater components is satisfactory. Minor channel bottom fluctuations were observed. Churchill's probing of the channel bottom material adjacent to the substructure and their review of prior reports and plans, the bridge appears to have no potential scour problems at this time. We recommend a Type-2 Underwater inspection of the bridge be performed on a four year interval and after any major storm events.

The bridge is structurally deficient due to the poor condition of the superstructure. Moreover, the bridge is functionally obsolete due to substandard deck geometry. Therefore, we recommend that the bridge be

replaced. Being a unique type of Bascule Bridge, the structure is listed in the National Register of Historic Places (SI&A Item 37 coded 1). Therefore, any options for replacement will require extensive SHPO coordination, and incorporation of their requirements. As such, the cost will be much higher than a typical bridge replacement cost.

BRIDGE REPLACEMENT COST

a. Demolition Cost (Lump Sum)	\$ 3,000,000
b. Bascule Span @ 80' + 2 tower spans @ 20' ea. = 120 LF	
120' x 40' = 4800 SF @ \$3200/SF	\$ 15,360,000
Approach Spans @ 160 LF total	
160' x 40' = 6400SF @ \$450/SF	\$ 2,880,000
Subtotal	\$ 21,240,000
c. Approach Roadway Work (10%)	\$ 2,124,000
d. Traffic Maintenance (10%)	\$ 2,124,000
e. Preliminary Engineering (15%)	\$ 3,186,000
Total	\$27,795,150
	Say \$28,674,000

A Type I Electrical Inspection was performed by TranSystems on November 28 and 29, 2023. The bridge electrical system is in overall fair condition. The inspection revealed that with the manually operated span locks disengaged, the operator could open the west barrier gate from the control console. During the inspection, the genset would not start. Conduits are in fair condition, with areas of poor insulation and damage. Traffic safety on the bridge is in good condition. Navigation lights are in satisfactory condition and the placement of the fender lights does not comply with U.S. Coast Guard requirements. The span drive system is in satisfactory condition.

A Type I Mechanical Inspection was performed by TranSystems on November 28 and 29, 2023. The bridge mechanical system is in overall fair condition. The auxiliary generator did not turn on during the inspection. Multiple machinery components are corroded due to paint failure. There is section loss to the span drive gearmotor enclosure panel cotter pins, and inadequate lubrication at the operating drum grooves and the counterweight ropes. Counterweight ropes have moderate wear. There are numerous failed curved tread fasteners.

We recommend that the following priority repair(s) be made to retard further deterioration, preserve the structural integrity of the bridge, improve safety and extend its useful life:

1. Modify the existing relay logic to prohibit the west barrier gate from opening when the manually operated span locks are not engaged (High Priority 1 Repair "2022_15505", Refer to 2023 Electrical Inspection Report).
2. Replace the genset and verify the block heater has adequate output to warm the generator (High Priority 1 Repair "2023_19227", Refer to 2023 Electrical Inspection Report).

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

1 - STRUCTURAL DATA

IDENTIFICATION

8 Structure No.: 13000W9 M82 County Bridge No.: M83 Municipal Bridge No.:
 (AB) Name: BRIELLE ROAD OVER GLIMMER GLASS
 1 State Code: 2 Highway Agency District: DISTRICT 02 (CENTRAL)
 (1A) State Code 34 - New Jersey 4 Place Code: 43050 - Manasquan
 (1B) Region Code 2 - Region 2 - New York/New Jersey
 3 County Code: 025 - MONMOUTH COUNTY (A) Town: 1327 - Manasquan Borough
 5A Inventory Route (On/Under): 1: Route carried "on" the structure 9 Location: 0.1MI EAST OF GREEN AVE.
 5B Inventory Route Signing Prefix: 5 - CITY STREET
 5C Level of Service: 0 - None 11 Mile Point: 0.560
 5D Inventory Route Number: 00000 (AA) Inventory Route: 9013 - Monmouth County
 5E Directional Suffix: 0 - NOT APPLICABLE (FV) Inventory Route Milepoint:
 6 Features GLIMMER GLASS (AC) Non-Inventory Feature: WW: Roadway and/or railroad over waterway
 Intersected:
 7 Facility BRIELLE ROAD
 Carried by
 Structure:
 (AD) Adm. Juris. Non- 1: State
 Inv Feature:
 (AE) Alternate Agency: 9013 - Monmouth County
 Same owner as Item AA
 16 Latitude: 400642.62 (AF) Alternate Structure Number:
 17 Longitude: -740241.86 98 Border Bridge Code:
 M84 Latitude (Degrees): 40.11184 (98AA) State Code:
 M85 Longitude (Degrees): -74.04496 (98AB) Region Code:
 (98B) % Resp.:
 99 Border Bridge Structure Number:

M142 GPS Location: Southwest Corner

CLASSIFICATION

21 Maintenance Responsibility: 02 - County Highway Agency 26 Func. Class. of Inv. Route: 17 - Urban - Collector
 M94 Maint. Resp.: Monmouth County 37 Historical Significance: 1 - On National Register
 22 Owner: 02 - County Highway Agency M91 On/Off System: 1
 M93 Owner: Monmouth County M96 Comments
 M95 Ownership Resolved: E: Established Ownership:
 101 Parallel Structure Designation: N - No parallel structure (BB) Orphan Bridge:
 103 Temporary Struct. Designation: (BP) Bridge Demolition:
 104 Highway System of Inv. Route: 0 - Structure/Route is NOT on NHS (CP) Federal Report: - Highway carrying NBIS bridges included in reports to FHWA
 112 NBIS Bridge Length: Yes (CR) Off-Route Bridge:
 Agency Admin. Area: (FX) Federal Error Cannot be Corrected:

Structure No.: 13000W9 Route: 9013
Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
Insp. Date: 06/27/2023

STRUCTURE TYPE AND MATERIAL

43A Main Span Material: 3 - Steel
43B Main Span Design: 16 - Movable - Bascule
44A Approach Span Material: 7 - Wood or Timber
44B Approach Span Design: 01 - Slab
45 Number of Main Spans: 001
46 Number of Approach Spans: 16
(AJ) Type of Slope Protection:
(AK) Type of Abutment: 05: Timber - Bulkhead
(AL) Type of Pier: 05: Timber Pile Bent
(AT) Special Material 1: G: Glulam Timber
(AT) Special Material 2:
(AU) Additional Structure Type 1: 4: *Non-redundant Construction
(AU) Additional Structure Type 2:
Fracture Critical Details: A - 1 or 2 steel girder system

M143 Structure Type Primary:

M144 Structure Type Secondary:

M97 Struct. Mat.
Type Desc:

107 Deck Structure Type: 8 - Wood or Timber
108A Wearing Surface: 6 - Bituminous

108B Membrane: 0 - None
108C Deck Protection: 0 - None

(AV) Widened Structure Type:

1st Widened Material:
1st Widened Design:
2nd Widened Material:
2nd Widened Design:

AGE AND SERVICE

27 Year Built: 1938
28A Lanes On Structure: 02
28B Lanes Under Structure: 00

106 Year Reconstructed: 0000
42A Type of Service On: 5 - Highway-pedestrian
42B Type of Service Under: 5 - Waterway

GEOMETRIC DATA

32 Approach Roadway Width (w/ shoulders): 28 ft
33 Bridge Median: 0 - No median
34 Skew: 0 deg
35 Structure Flared: 0 - No flare
M98 Str. is Standalone or Connected:

M99 Length of Portion Included: ft
M101 Total Structure Opening: ft²
M145 Design Vertical Inside
Opening: ft
M146 Available Vertical Inside -
South or West End: ft
M147 Available Vertical Inside -
North or East End: ft

48 Length of Maximum Span: 34 ft
49 Structure Length: 279 ft
M141 Effective CoMBIS Width: ft
50A Left Curb/Sidewalk Width: 6.5 ft
50B Right Curb/Sidewalk Width: 0.0 ft
51 Bridge Roadway Width, Curb-to-Curb: 20.0 ft
52 Deck Width, Out-to-Out: 30.0 ft
(AM) Depth of Fill over Structure: 0.0 ft
Total length: 278.90 ft
Deck Area: 8367 ft²

NAVIGATION DATA

38 Navigation Control: 1 - Navigation control on waterway (bridge permit required)
39 Navigation Vertical Clearance: 7 ft
40 Navigation Horizontal Clearance: 31 ft

111 Pier/Abutment Protection: 3 - In place but in a deteriorated condition
116 Min. Nav. Vertical Clearance under Lift Bridge: ft
(AP) Fender System: 1: Timber Bents

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

UTILITIES AND APPURTENANCES

(HA) Bridge Noise Barrier:

Type of Material 1:
Type of Material 2:
Barrier Height 1: ft
Barrier Height 2: ft

(AO) Utilities:

Utilities 1: E: Electrical Conduit
Utilities 2: W: Water Main
Utilities 3:
Utilities 4:

Sign Structures:

(GS) Overhead Sign Structure:
(GT) Cantilever Sign Structure:

(GU) Fascia Mounted Sign Structure:

RAILROAD

(BC) USRA Code:
(BE) Rail Milepost:

(BD1) Rail On:
(BD2) Rail Under:

TEMPORARY STRUCTURES

(GV) Bridge:
(GW) Shoring:
(GZ) Cond. Desc.:

(GY) Measures:
(GX) Repairs:

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

2 - LOAD RATING AND POSTING

Load Rating Review Recommended: ☐
 41 Posting Status: P - Posted for Load
 31 Design Load: 0 - Unknown
 (CG1) Posted Load Type: 9 - Gross Load Only
 (CG2) Posted Load Limit: 3 tons
 (AI) Speed Limit Posting: mph
 Load Rating Engineer: Christopher Dorman / Baker
 70 Posting: 0 - More than 39.9% below legal loads
 Rating Date: 02/28/2016
 (BK) Overstress %: 99
 (CH1) Load Rating/Posting Combo: L: Load Factor Rating
 (CH2) Load Rating/Posting Combo: tons
 (AN) Plans Available: Yes, plans are readily available.

65 Inventory Rating Method: 1 - Load Factor (LF) 63 Operating Rating Method: 1 - Load Factor (LF)

66 Inventory Rating: 5.0 tons 64 Operating Rating: 9.0 tons

RATING (TONS)			RATING FACTOR		
Type	Inventory	Operating	Type	Inventory	Operating
HL93:	()	()	HL93:	(CW) 0.09	(CX) 0.12
H15/H20:	(BQ) 3	(CA) 6	H15/H20:	(BQ2) 0.19	(CA2) 0.25
HS20:	(BR) 5	(CB) 9	HS20:	(BR2) 0.12	(CB2) 0.16
3:	(BS) 5	(CC) 8	3:		(CC2) 0.17
NJ3S2:	(BT) 7	(CD) 12	NJ3S2:		(CD2) 0.15
3-3:	(BU) 10	(CE) 16	3-3:		(CE2) 0.21
Military:	(BV)	(CF)	Military:	(BV2)	(CF2)
SU4:	(BW) 4	(CS) 7	SU4:		(CS2) 0.14
SU5:	(BX) 5	(CT) 8	SU5:		(CT2) 0.13
SU6:	(BY) 5	(CU) 8	SU6:		(CU2) 0.12
SU7:	(BZ) 5	(CV) 9	SU7:		(CV2) 0.11

ALTERNATE LOAD RATINGS

Alt. Design Load: Alt. Inventory Rating: tons
 Alt. Rating Date: Alt. Operating Rating: tons

Type	Inventory	Operating	Posting	Inventory	Operating
HL93:	()	()	Truck 1:		
H15:	()	()	Truck 2:		
HS20:	()	()	Truck 3:		
3:	()	()			
NJ3S2:	()	()			
3-3:	()	()			
Military:	()	()			

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

3A - INSPECTION INFORMATION

APPRAISAL ITEMS

Structurally Deficient/Functionally Obsolete: SD Sufficiency Rating: 9.1
 67 Structural Evaluation: 2 - Intolerable - high priority of replacement 70 Bridge Posting: 0 - More than 39.9% below legal loads
 68 Deck Geometry: 2 - Intolerable - high priority of replacement 71 Waterway Adequacy: 8 - Bridge Above Approaches
 69 Underclearances, Vertical & Horizontal: N - Not applicable 72 Approach Roadway Alignment: 8 - Equal to present desirable criteria

EXISTING BRIDGE CONDITION

58 Deck: 6 - Satisfactory Condition (minor deterioration) (BA) Approach Roadway Condition: 6: Satisfactory Condition - more significant defects such as large spalls, severe settlements (1" to 2") or major collision damage to guide rails. Moderate amounts of slope embankment erosion.
 59 Superstructure: 4 - Poor Condition (advanced deterioration)
 60 Substructure: 5 - Fair Condition (minor section loss)
 62 Culvert: N - Not Applicable
 61 Channel/Channel Protection: 8 - Banks are protected
 63 Operating Rating Method: 1 - Load Factor (LF) 113 Scour Critical Bridge: 8 - Stable for scour conditions
 64 Operating Rating: 9.0 tons
 65 Inventory Rating Method: 1 - Load Factor (LF) 66 Inventory Rating: 5.0 tons

CONDITION REMARKS

Deck Distress/Unrepaired Spalls: 0 ft²
 (BF) Deck: (BG) Superstructure: (BH) Substructure:
 1. G: Det. timber planks 1. C: Loss of section 1. F: Pile deterioration
 2. K: Det. railings 2. A: Mod/severe rusting 2. L: Fender damage
 3. Z: Other defects 3. Z: Other 3. Z: Other
 4. 4. 4.
 5. 5. 5.
 (BI) Channel: (BJ) Culvert:
 1. 1.
 2. 2.

HIGHWAY SAFETY/FENCING

36A Bridge Rail: 0 - Does not meet acceptable standards/safety (AG) Type of Bridge Rail: 16: More than one type of Railing
 36B Transition: 0 - Does not meet acceptable standards/safety (AH) Height of Bridge Rail: 2.67 ft
 36C Approach Rail: 0 - Does not meet acceptable standards/safety (AQ) Chain Link Fence Height: 0.00 ft
 36D End Treatments: 0 - Does not meet acceptable standards/safety (FN) Fencing Warranted: NO - Conditions DO NOT warrant chain link
 (FO) Pedestrian Traffic Fencing Status: N: Not applicable or fencing is not
 (FP) Fencing Improvement Cost: \$ 0

SCOUR EVALUATION

*113 Scour Critical Bridge: 8 - Stable for scour conditions (FA) FHWA Scour Category: 02: Screened (Low risk)
 (FB) Date of Stage 1 Scour Eval.: 10/1/1992 (FF) Date of Stage 2 Scour Eval.:
 (FC) Stage 1 Scour Eval. Consultant: S37 - Stone & Webster (FG) Stage 2 Scour Eval. Consultant: - Not Applicable
 (FD) Stage 1 Scour Eval. Prioritization Category: 3 - Relatively low potential for scour damage (FH) Scour Critical Elements:
 (FE) Stage 1 Scour Eval. Sufficiency Rating: 58.8

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SCOUR COUNTERMEASURES

(FJ) Scour Countermeasures Cost: \$

(FK) Scour Countermeasures Installed/Type:

(FL) Scour Monitoring Required/Type:

- 1.
- 2.
- 3.

(FI) Recommended Scour Countermeasures:

PROPOSED IMPROVEMENTS

75A Type of Work: 31 - Replacement - Load/Geometry

75B Work To Be Done By: 1 - Work to be done by contract

76 Length of Structure Improvement: 279 ft

(BO) Owner's Maintenance Cost: \$ 0

94 Bridge Improvement Cost: \$ 21240000

95 Roadway Improvement Cost: \$ 2124000

96 Total Project Cost: \$ 28674000

97 Year of Improvement Cost Estimate: 2023

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

3B - INSPECTION INFORMATION

INSPECTION DATES

Inspection Report Author: Degnan, Bradley	93A FC Inspection Date: 06/27/2023
Primary Type of Inspection: Regular Inspection	92A FC Inspection Frequency (in months): 24
Previous Cycle Inspection Date: 07/07/2021	Next FC Inspection Date: 06/27/2025
90 Inspection Date: 06/27/2023	93B UW Inspection Date: 09/13/2023
91 Inspection Frequency (in months): 24	92B UW Inspection Frequency (in months): 48
Next Inspection Date: 06/27/2025	Next UW Inspection Date: 09/13/2027
Pontis Element Inspection Date: 06/27/2023	UW Inspected By: Churchill Consulting Engineers
Pontis Element Frequency (in months): 24	93C SI Date: 06/27/2023
Next Pontis Element Inspection Due: 06/27/2025	92C SI Frequency (in months): 12
(AW) Date of Mechanical/Electrical inspection: 9/30/2013	Next SI Date: 06/27/2024
(AW1) Mechanical Insp. Type: 1 - Type I	(AR) Special Equipment: A: Small Boat (less than 16' long)
(AW2) Electrical Insp. Type: 1 - Type I	(AR) Special Equipment:
(AW3) Traffic Safety Insp. Type: 1 - Type I	(AR) Special Equipment:
(AW4) Mechanical Insp. Date: 11/28/2023	Special Inspection By:
(AW5) Electrical Insp. Date: 11/28/2023	(AS) Special Testing Type:
(AW6) Traffic Safety Insp. Date: 11/28/2023	O: Other Testing
(AW7) Movable Bridge Type: 1 - Bascule Spans	
(AX) Date of Deck Condition Survey:	(AS) Special Testing Type:
M132 Confined Space Entry: No	
M105 Description of Inspection Type:	(AS) Special Testing Type:
	(AY) Date of Special Testing:
	8/15/2005

PAINT CONDITIONS AND DATE

(GD) Fascia Beam: 04: 10 - 16% Rust	(GA) Is Painting Required? Yes; Parts of the structure require painting
(GE) Fascia Bottom Flange: 04: 10 - 16% Rust	(GB) Environment: 3B; Marine, Severe Exposure
(GF) Interior Beam: 04: 10 - 16% Rust	(GC) Date of Current Paint Inspection: 06/27/2023
(GH) Interior Bottom Flange: 02: 33 - 50% Rust	(GR) Date of Last Painting:
(GI) Beam Ends: 05: 3 - 10% Rust	(GP) Remarks 1: RATINGS APPLY TO SPAN 6 (BASCULE SPAN).
(GJ) Connections: 04: 10 - 16% Rust	
(GK) Bracings: 03: 16 - 33% Rust	
(GL) Bearings: 03: 16 - 33% Rust	
(GM) Substructure: 01: 50 - 100% Rust	(GQ) Remarks 2: CAP BEAM AT BENT 6E SEVERELY RUSTED WITH LOCALIZED SECTION LOSS.
(GN) Above Deck Superstructure:	
(GO) Railings/Fence: 06: 1 - 3% Rust	

(AZ) FATIGUE DETAIL

Location 1: 04 - D detail	Location 3:
23 - FC I-Girder	
Location 2: 12 - Coped flange	
02 - Floorbeam	

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

IN-DEPTH FRACTURE CRITICAL/PIN-HANGER

(FY) Special FCM Insp. Required: ☐ (FS) FCM's Inspected: Steel deck girders in Span 6
(FZ) Special P/H Insp. Required: ☐ (FT) Combo In-Depth Fracture Critical/Pin-Hanger Inspection:
(FQ) Latest In-Depth FC/ Pin-Hanger Inspection Date: 1/1/1901
(FQ1) Special FCM Insp. Date:
(FQ2) Special P/H Insp. Date:
(FR1) Special FCM Insp. Consultant:
(FR2) Special P/H Insp. Consultant:

CYCLE DATA

(P1) Group Number: 13H3 (BM) Federal Job Number: STP-NBIS(789)
(P2) Work Spec Number: 13H3_00 (BN) State Job Number: 2207613
(C1) Cycle Number: 20 (P3) NTP Date:
(CJ) Inspection Type: R: Regular Inspection Funding Category: Federal - STP OnSystem
(CM) Current Consultant: T18 - TranSystems (P4) State Project Manager: Jay DeCristofaro
(CO) Previous Consultant: A22 - Arora & Assoc. (P5) State Assistant PM:
M87 Contract State Agreement No.: 2023B1486A County Project Manager:
Agreement Modification Number: 00
Contract ID: 23-50876
Contract Date:

STRUCTURE STATUS

Bridge Status: 3 - Active
Bridge Lifecycle Phase: 1 - Service
Data Last Updated: 06/27/2023

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

4A - ROADWAY DATA

ROADWAY IDENTIFICATION

Roadway Name: BRIELLE ROAD
 Bridge ID/Structure Number: 13000W9 5A Position of Route (On/Under): 1: Route carried "on" the structure
 Roadway SRI: 13081097__ 5B Route Signing Prefix: 5 - CITY STREET
 NBI Roadway?: Yes 5C Level of Service: 0 - None
 5D Route Number: 00000
 5E Directional Suffix: 0 - NOT APPLICABLE

HIGHWAY NETWORKS AND SERVICE CLASSIFICATION

11 Milepoint: 0.560 100 STRAHNET Highway Designation: 0 - Not a STRAHNET route
 12 Base Highway Network: Inventory Route is not on the Base Network 102 Traffic Direction: 2 - 2-way traffic
 13A LRS inventory Route: 104 NHS System: 0 - Structure/Route is NOT on NHS
 13B Subroute Number: 105 Federal Lands Highways:
 13R Ramp Code: 0 - Not Applicable
 20 Toll Facility: 3 - On free road. The structure is toll-free and carries a toll-free highway. 110 Designated Truck Highway Network: Inventory route not on network
 26 Functional Classification: 17 - Urban - Collector School Bus: ☒ Transit Route: ☐ Emergency Route: ☒

TRAFFIC DATA

28 Number of Lanes: ON 02 UNDER 00 ADT Class: ADT Class 3
 Number of Medians: 0 29 ADT Total: 7555
 Roadway Speed Limit: 25 mph 30 Year of ADT: 2023
 19 Bypass/Detour Length: 02 miles 114 Future ADT: 9220
 Detour Speed: 25 mph 115 Year of Future ADT: 2043
 (FM) Incidents Reported: 109 Truck ADTT (%): 01
 Accident Count: Rate: (FW) Estimated ADT: Yes

VERTICAL AND HORIZONTAL CLEARANCES

10 Vertical Clearance: 14.00 ft 32 Approach Roadway Width: 28 ft
 53 Minimum Vertical Clearance over Bridge: 14.00 ft 47 Inventory Route, Total Horizontal Clearance: 20.0 ft
 54A Minimum Vertical Underclearance Ref.: N - Feature not a highway or railroad 51 Bridge Roadway Width, Curb-to-Curb: 20.0 ft
 54B Minimum Vertical Underclearance: 00.00 ft 55A Minimum Lateral Underclearance Ref.: N - Feature not a highway or railroad
 (DJ) Minimum Vertical Underclearance (including shoulders): 0.00 ft 55B Minimum Lateral Underclearance on Right: 00.0 ft
 56 Minimum Lateral Underclearance on Left: 00.0 ft

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
28-Steel Deck with Open Grid	4 - Sev.	930	sq. ft.	925	5	0	0
1000-Corrosion		5		0	5	0	0
54-Timber Slab	4 - Sev.	7440	sq. ft.	7433	7	0	0
7000-Damage		7		0	7	0	0
510-Wearing Surfaces		7440	sq. ft.	7440	0	0	0
107-Steel Open Girder/Beam	4 - Sev.	72	ft.	0	0	71	1
1000-Corrosion		72		0	0	71	1
515-Steel Protective Coating		385	sq. ft.	305	0	40	40
3440-Effectiveness (Steel Protective Coatings)		80		0	0	40	40
113-Steel Stringer	4 - Sev.	330	ft.	330	0	0	0
515-Steel Protective Coating		900	sq. ft.	900	0	0	0
152-Steel Floor Beam	4 - Sev.	120	ft.	0	0	0	120
1000-Corrosion		120		0	0	0	120
515-Steel Protective Coating		600	sq. ft.	120	360	0	120
3440-Effectiveness (Steel Protective Coatings)		480		0	360	0	120
206-Timber Column	4 - Sev.	179	each	157	5	4	13
1140-Decay/Section Loss		17		0	3	1	13
1150-Check/Shake		5		0	2	3	0
219-Steel Abutment	4 - Sev.	62	ft.	0	0	60	2
1000-Corrosion		62		0	0	60	2
231-Steel Pier Cap	4 - Sev.	50	ft.	23	19	6	2
1000-Corrosion		27		0	19	6	2
515-Steel Protective Coating		200	sq. ft.	175	0	0	25
235-Timber Pier Cap	4 - Sev.	450	ft.	128	247	75	0
1020-Connection		19		0	4	15	0
1150-Check/Shake		303		0	243	60	0
304-Open Expansion Joint	4 - Sev.	60	ft.	60	0	0	0
313-Fixed Bearing	3 - Mod.	2	each	0	2	0	0
1000-Corrosion		2		0	2	0	0
316-Other Bearing	3 - Mod.	2	each	2	0	0	0
330-Metal Bridge Railing	4 - Sev.	558	ft.	558	0	0	0
801-Steel Curbs/Sidewalks	4 - Sev.	62	ft.	62	0	0	0
803-Timber Curbs/Sidewalks	4 - Sev.	496	ft.	495	1	0	0
1150-Check/Shake		1		0	1	0	0
845-Other Wingwall	4 - Sev.	300	ft.	0	100	150	50
1000-Corrosion		300		0	100	150	50
849-Fender System	3 - Mod.	160	ft.	158	0	2	0
1140-Decay/Section Loss		2		0	0	2	0

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

Project Information:

Group: 13H5 Agreement No.: 2015BI005A Contract ID: 15-50832 Agree/Mod No.: 00

Rating Information:

Method: LRFR: Yes LFR: Yes ASR: Yes Engineering Judgment: No

Other (Specify): _____

Rating Date: 02/28/2016 Computer Software Used: LARS Bridge V8i Version: 6.00.01.08

Load Testing: No Cycle Rating Performed: 16 Design Load: Unknown

Structure Information:

Plans Available? Yes Contract Designation: Unknown

Overlay? Yes Considered in Rating? Yes Type/Thickness: 2" Overlay

Section Losses? Yes Considered in Rating? Yes Item 59/62: 5

For LRFR Use Only:

Surface Roughness Factor: 1.00 Condition Factor: 0.95 System Factor: Varies

ADTT (one direction): 35 Resistance Factor: LARS FCM: No
Calculated

Load Rating Engineer (LRE):

Name: Christopher Dorman Firm: Michael Baker International, Inc. Initial: _____

Load Rating Reviewer (LRR) certification as per the NBIS Title 23 CFR Section 650.309(c):

Name: Kashfia Billah, P.E. N.J.P.E. No.: _____

Firm: Michael Baker International, Inc.

I certify that this rating is an accurate representation of the subject structure, considering all deterioration and/or changes to loading conditions, to the extent determinable by research and visual inspection and testing performed. I am charged with the overall responsibility for bridge capacity evaluation for the above mentioned structure.

Sign

Date

LOAD RATING SUMMARY SHEET (LRSS)

(Form NJ-BI-101 Created 1/14/2010)

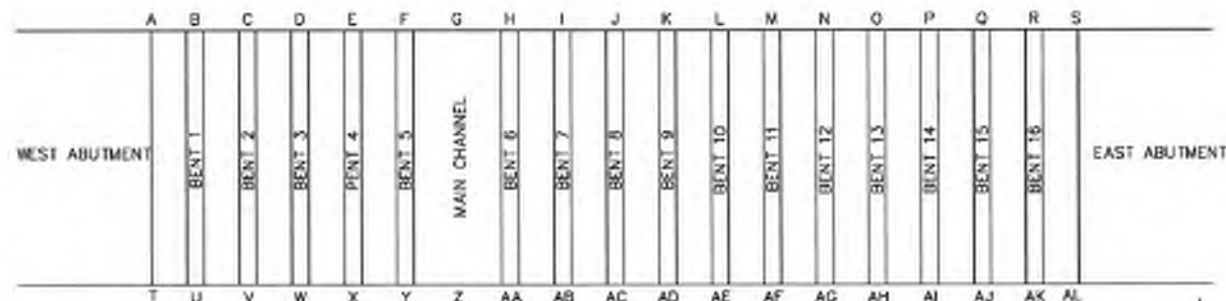
Rating Comments:

1. Assumptions: None
2. Posting Requirements: The current posting of 3 ton is adequate.
3. Reason for Rating: The Bridge was scheduled to be re-rated in LFR and LRFR during this 16th inspection cycle using LARS. Timber spans are rated by ASD.
4. Load Path: Main span: Steel grid deck to stringers to floorbeams to girders. Approach spans: Directly to timber deck. Note: LARS Tabular output displays Rating Factor for LRFD ratings for ALL Trucks.

The Load Factor/Working stress and LRFR ratings, computed in accordance with the FHWA directive dated November 1993, AASHTO Manual for Bridge Evaluation, 2011, as modified by NJDOT Highway Bridge Load Rating Manual and Section 43 of the NJDOT Design Manual, Bridges and Structures, are as follows:

<u>Material</u>	<u>Compressive Strength f_c</u>	<u>Allowable Stresses (Psi)</u>			
		<u>Tensile Strength</u>	<u>Yield</u>	<u>Inventory</u>	<u>Operating</u>
Structural Steel			36,000	20,000	27,000
Structural Steel			30,000	16,500	22,500
Timber (Bending)				1,800	2,250
Timber (Shear)				175	218

<u>Member</u>	<u>Truck Type</u> (Tons)	<u>Rating (Tons) / Rating Factor</u>							
		<u>Load Factor</u>				<u>LRFR</u>			
		<u>As-Built</u>		<u>As-Insp.</u>		<u>As-Built</u>		<u>As-Insp.</u>	
		<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>
Member:	HL93 NL					0.11	0.14	0.09	0.12
North Bascule Girder (06-EG002)	H15/H20 (15T)	4	7	3	6	0.22	0.29	0.19	0.25
	HS-20 (36T)	6	11	5	9	0.14	0.18	0.12	0.16
	3 (25T)	5	9	5	8		0.19		0.17
	NJ3S2 (40T)	8	14	7	12		0.18		0.15
	3-3 (40T)	11	18	10	16		0.24		0.21
Condition Rating 5	SU4 (27T)	5	8	4	7		0.16		0.14
Sect. Loss Location:	SU5 (31T)	5	9	5	8		0.15		0.13
Sect. Loss Extent:	SU6 (35T)	5	9	5	8		0.14		0.12
	SU7 (39T)	6	10	5	9		0.13		0.11
	EV2 (28.75T)								
	EV3 (43T)								



SOUNDINGS PLAN
 SCALE: N.T.S.

POINT	NORTH FASOG LOCATION	CLEAR DIMENSION 2001	CLEAR DIMENSION 2021	WATER DEPTH 2023	CLEAR DIMENSION 2023
A	WEST ABUTMENT	10.8'	10.0'	3.7'	9.1'
B	BENT 1	12.9'	11.3'	5.6'	11.0'
C	BENT 2	14.8'	11.9'	7.1'	12.3'
D	BENT 3	16.3'	13.8'	8.2'	13.6'
E	BENT 4	15.2'	14.1'	8.4'	13.8'
F	BENT 5	17.1'	14.1'	8.7'	14.1'
G	MAIN CHANNEL	16.8'	13.9'	8.9'	14.3'
H	BENT 6	18.1'	14.1'	8.8'	14.2'
I	BENT 7	17.1'	14.0'	8.4'	13.8'
J	BENT 8	16.9'	13.5'	8.5'	13.9'
K	BENT 9	16.4'	13.4'	8.2'	13.6'
L	BENT 10	15.8'	12.9'	7.5'	13.0'
M	BENT 11	14.8'	12.0'	7.4'	12.8'
N	BENT 12	12.5'	10.8'	6.6'	12.0'
O	BENT 13	11.8'	10.8'	4.9'	10.3'
P	BENT 14	10.4'	9.5'	4.0'	9.4'
Q	BENT 15	9.4'	8.4'	3.1'	8.5'
R	BENT 16	8.0'	8.0'	2.0'	7.4'
S	EAST ABUTMENT	6.8'	7.0'	1.1'	6.5'

POINT	SOUTH FASOG LOCATION	CLEAR DIMENSION 2001	CLEAR DIMENSION 2021	WATER DEPTH 2023	CLEAR DIMENSION 2023
T	WEST ABUTMENT	11.8'	10.8'	3.8'	9.2'
U	BENT 1	13.2'	12.0'	5.6'	11.0'
V	BENT 2	15.5'	12.7'	7.3'	12.7'
W	BENT 3	17.7'	14.8'	9.1'	14.5'
X	BENT 4	17.4'	14.9'	8.8'	14.2'
Y	BENT 5	17.4'	13.8'	8.5'	13.9'
Z	MAIN CHANNEL	16.9'	14.5'	8.3'	13.7'
AA	BENT 6	16.8'	13.9'	8.3'	13.7'
AB	BENT 7	16.6'	14.9'	8.0'	13.4'
AC	BENT 8	17.0'	13.9'	7.7'	13.1'
AD	BENT 9	16.3'	13.6'	7.9'	13.3'
AE	BENT 10	16.1'	13.0'	7.6'	13.0'
AF	BENT 11	15.0'	12.4'	6.1'	11.5'
AG	BENT 12	13.9'	11.9'	6.8'	12.2'
AH	BENT 13	12.6'	10.6'	5.7'	11.1'
AI	BENT 14	11.5'	9.9'	4.6'	10.0'
AJ	BENT 15	10.9'	9.1'	4.0'	9.4'
AK	BENT 16	9.6'	8.9'	3.1'	8.5'
AL	EAST ABUTMENT	8.9'	8.0'	2.4'	7.8'

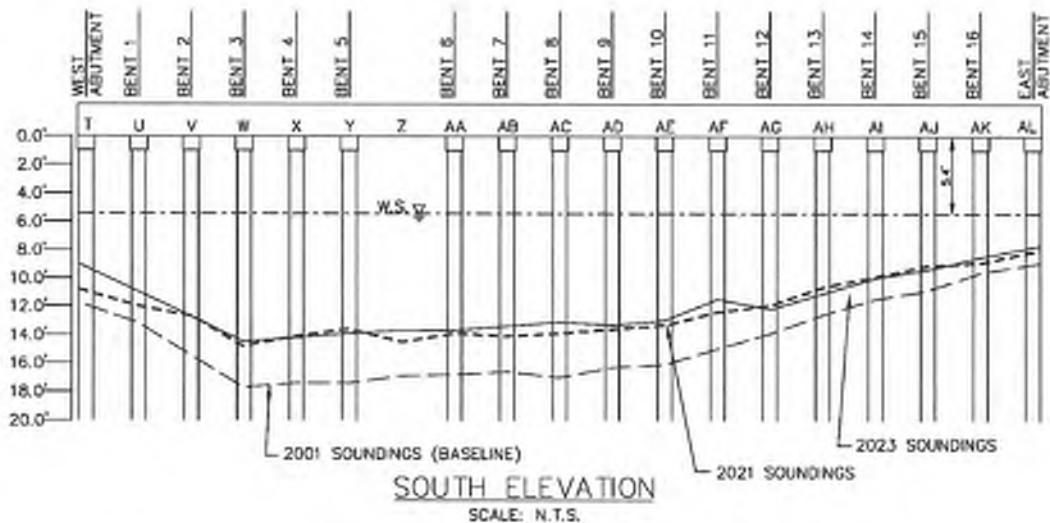
NOTES:

1. REFERENCE ELEVATION = 5.4' (AT POINT AL (EAST ABUTMENT)) MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

MONMOUTH COUNTY Structural Division	
STRUCTURE NO. 1300-0W9	
BRIELLE ROAD OVER GLIMMER GLASS	
BOROUGH OF MANASQUAN, MONMOUTH COUNTY	
CHURCHILL CONSULTING ENGINEERS 344 NORTH ROUTE 73 BRIDGE PLAZA	Cycle No. 20 DATE: 9-13-2023

Structure No.: 1300W9
 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023



NOTES:

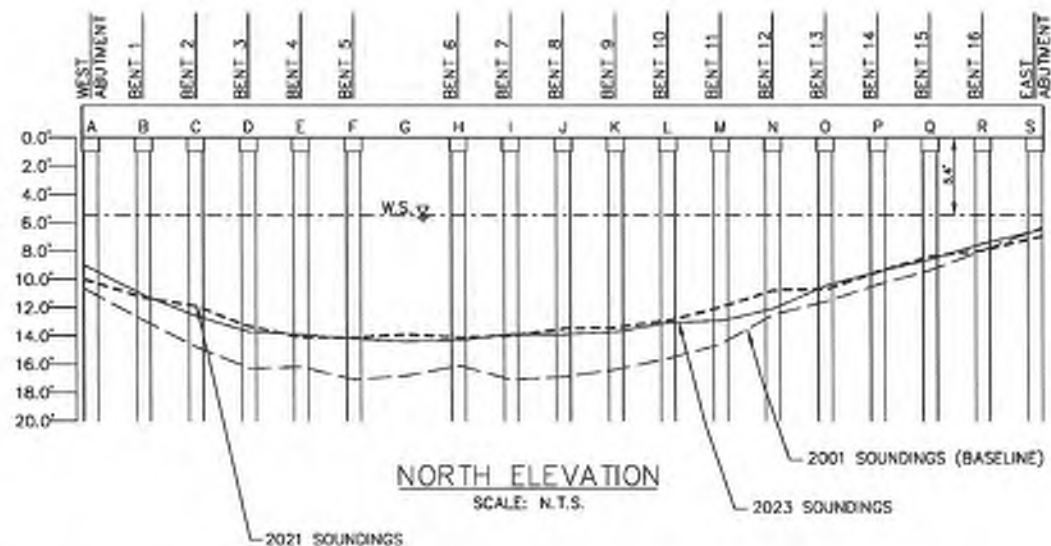
1. REFERENCE ELEVATION = 5.4' (AT POINT AL (EAST ABUTMENT)); MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

2001 CHANNEL BOTTOM -----
 2021 CHANNEL BOTTOM -----
 2023 CHANNEL BOTTOM -----
 2023 WATER SURFACE -----

MONMOUTH COUNTY Structural Evaluation	
STRUCTURE NO. 1300-OW9	
BRIELLE ROAD OVER GLIMMERGLASS	
BOROUGH OF MANASQUAN, MONMOUTH COUNTY	
CHURCHILL CONSULTING ENGINEERS 344 NORTH ROUTE 73 BRIDGE PL. 08009	CYCLE No. 20
	DATE: 9-15-2023

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

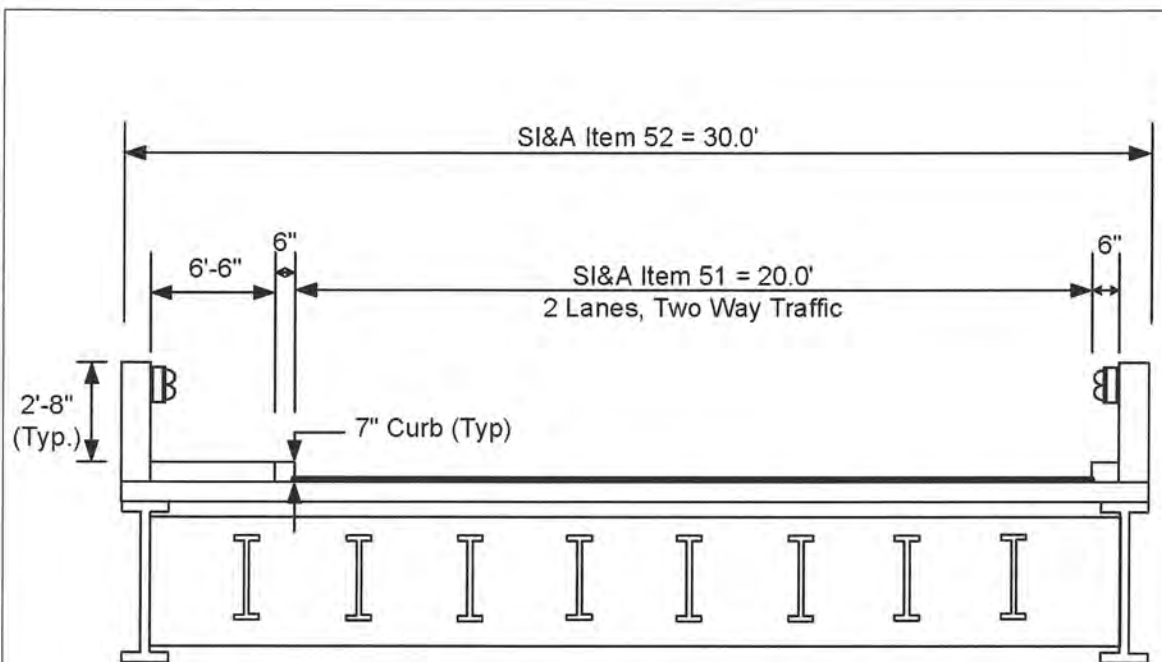


NOTES:

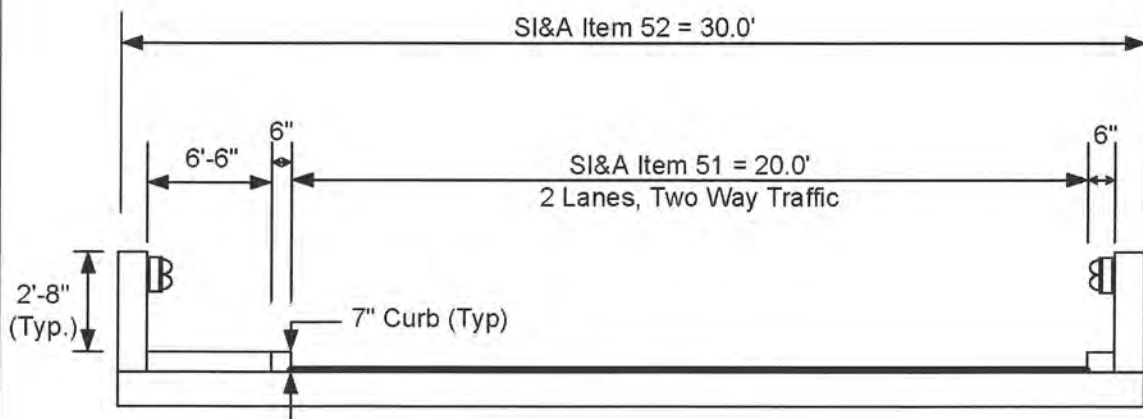
1. REFERENCE ELEVATION = 5.4' (AT POINT A, (EAST ABUTMENT)) MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

2001 CHANNEL BOTTOM -----
 2021 CHANNEL BOTTOM -----
 2023 CHANNEL BOTTOM -----
 2023 WATER SURFACE -----

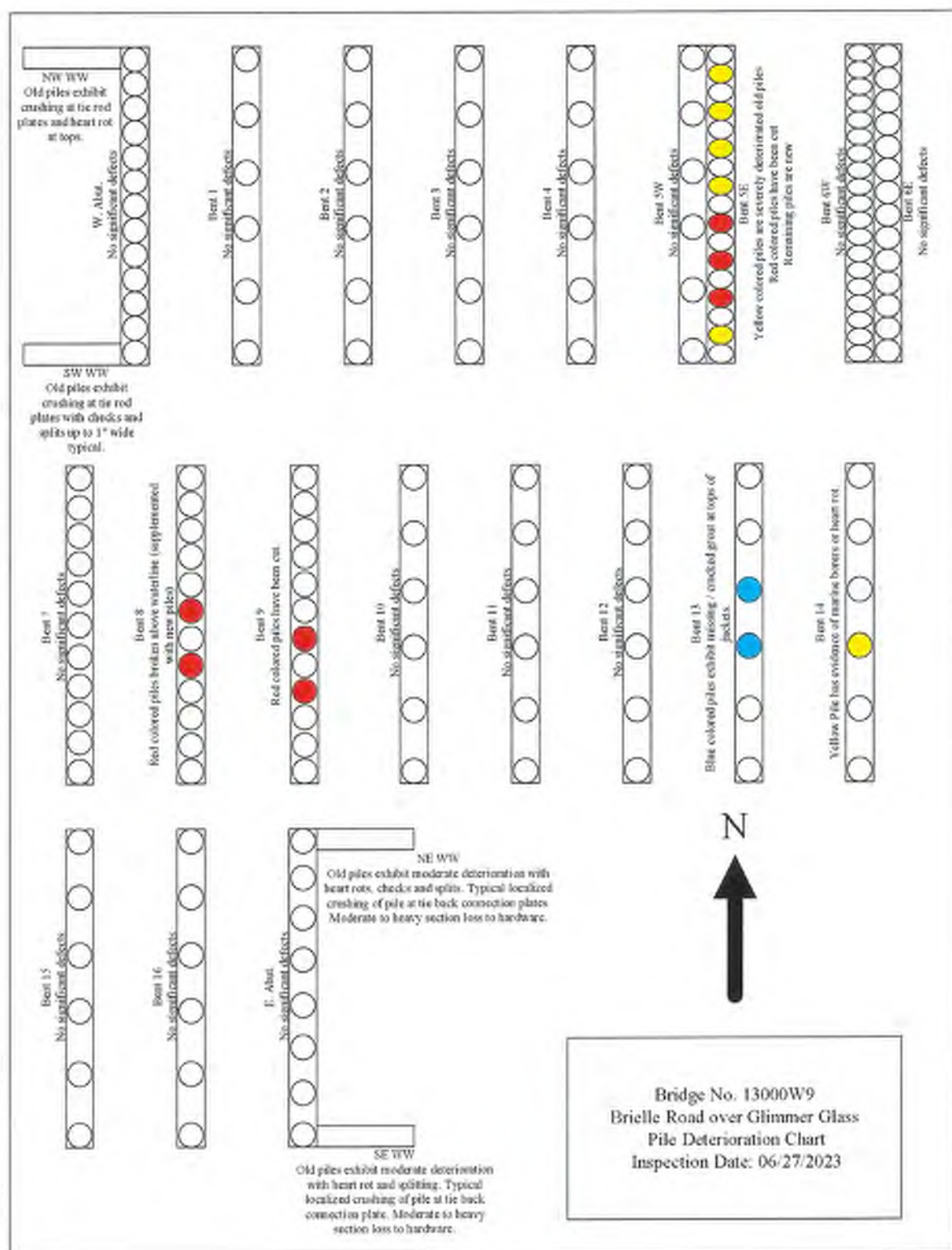
MONMOUTH COUNTY Structural Evaluation	
STRUCTURE NO. 1300-0W9	
BRIELLE ROAD OVER GLIMMER GLASS	
BOROUGH OF MANASQUAN, MONMOUTH COUNTY	
 CONSULTING ENGINEERS 344 NORTH ROUTE 78 FREEHOLD, NJ 08008	CYCLE No. 20
	DATE: 9-13-2023



Cross Section (Main Span) Looking East



Cross Section (Approach Span) Looking East



Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 1	Category:	00 - General View
	Description:	South (ebb) elevation, looking north.



Photo 2	Category:	00 - General View
	Description:	North (flood) elevation, looking south.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 3	Category:	00 - General View, 02 - Approaches
	Description:	East approach roadway, looking west. There is no barrier gate at the east approach.



Photo 4	Category:	02 - Approaches, 00 - General View
	Description:	West approach roadway, looking east. Wide cracks in pavement throughout the roadway.

Structure No.: 13000W9 Route: 9013
Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
Insp. Date: 06/27/2023

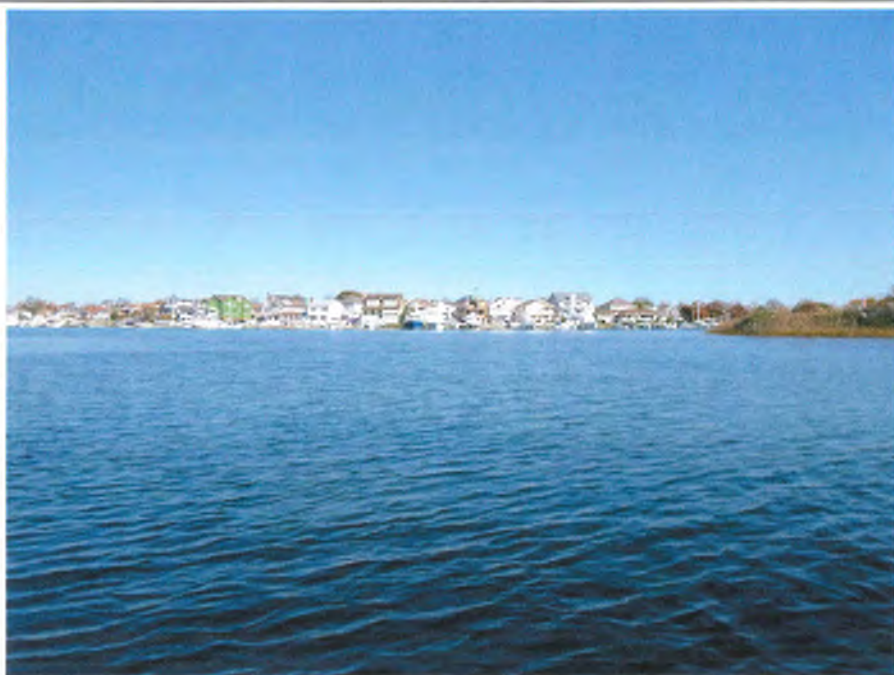


Photo 5	Category:	00 - General View
	Description:	Channel (flood), looking north. Channel is tidal.



Photo 6	Category:	00 - General View
	Description:	Channel (ebb), looking south. Channel is tidal.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 7	Category:	00 - General View
	Description:	Span 6 (lift span), looking west.



Photo 8	Category:	00 - General View
	Description:	Typical approach span superstructure (Span 3), looking south.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 9	Category:	59 - Other, 60 - Priority Repair
	Description:	Genset on the operator's platform, looking east. Genset is inoperable.



Photo 10	Category:	01 - Deck Defects
	Description:	Top of deck in movable span, looking southeast. Deteriorated timber along the Bent 5 joint.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

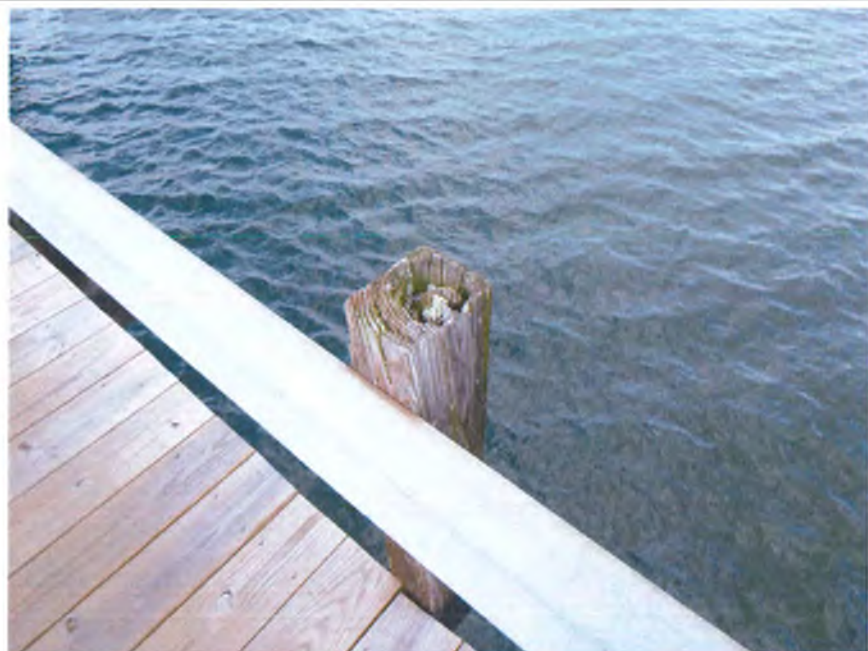


Photo 11	Category:	06 - Parapets/Balustrades/Median/Railings
	Description:	North bridge railing, Span 10, looking northwest. Heart rot in post.



Photo 12	Category:	09 - Utilities/Light Poles
	Description:	South fascia in Span 9, looking northwest. Loose wires and hanging conduit. Moderate rust to conduit.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 13	Category:	01 - Deck Defects
	Description:	South fascia lamppost supports, looking west. Supports are severely corroded.



Photo 14	Category:	03 - Roadway, 02 - Approaches
	Description:	West approach roadway, looking southeast. Wide cracks and potholes.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 15 Category: 02 - Approaches

Description: West approach, looking northeast. Large hole in pavement adjacent to the steel sheeting and below guiderail.



Photo 16 Category: 05 - Sidewalks/Safetywalks/Curbs, 02 - Approaches

Description: North curb at the West Approach, looking northeast. Wide crack in the curb. Moderate to heavy vegetation growth at curb.

Structure No.: 13000W9

Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 17	Category:	20 - Superstructure Defects
	Description:	Minor misalignment between deck planks in Span 4, looking west.



Photo 18	Category:	20 - Superstructure Defects
	Description:	Damaged deck plank and exposed nail in Span 12, looking south.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 19	Category:	20 - Superstructure Defects
	Description:	Medium to wide checks in transverse tie in Span 4, looking south.



Photo 20	Category:	20 - Superstructure Defects
	Description:	Loose deck hardware between deck and transverse tie in Span 12, looking southwest.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 21	Category:	20 - Superstructure Defects
	Description:	North girder, Span 6, looking east. Typical section loss (1/8") at bottom flange.



Photo 22	Category:	35 - Pile Bent/Cap/Bracing/Foundation, 20 - Superstructure Defects
	Description:	North girder at the east end, looking south. Hole in web near bottom flange. Masonry plates at Bent 6 are moderately rusted.



Photo 23	Category:	20 - Superstructure Defects
	Description:	Floorbeam 1 in Span 6, looking southwest. Section loss to bottom flange between Stringers 5 and 7,



Photo 24	Category:	20 - Superstructure Defects
	Description:	Floorbeam 2 in Span 6, near the South Girder, looking east. Section loss to rivets in connection plate between lateral bracing and floorbeam.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 25	Category:	20 - Superstructure Defects
	Description:	Section loss in top and bottom flange of Floorbeam 2 in Span 6, between Stringers 6 and 7, looking west.



Photo 26	Category:	20 - Superstructure Defects
	Description:	Section loss in bottom flange of Floorbeam 2, in midspan of Span 6, looking east.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 27 Category: 20 - Superstructure Defects

Description: Dent in bottom flange of Stringer 8, near connection to Floorbeam 5 in Span 6, looking north.



Photo 28 Category: 59 - Other

Description: Missing bolt filler at north end of machinery tower, looking southwest.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 29	Category:	59 - Other
	Description:	Missing connection bolt in north counterweight track, looking west.



Photo 30	Category:	32 - Substructure Embankment/Slope Protection, 36 - Piles/Sheeting/Wales, 30 - Abutments
	Description:	West Abutment bulkhead sheeting, looking west. Corrosion holes in steel sheeting.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 31	Category:	35 - Pile Bent/Cap/Bracing/Foundation, 30 - Abutments
	Description:	West Abutment, looking northeast. Timber piles are offset up to 5" from pile cap.



Photo 32	Category:	31 - Wingwalls/Retaining Walls/Headwalls
	Description:	Southwest wingwall, 9th pile from the West Abutment face, looking north. Pile is deteriorated.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 33	Category:	36 - Piles/Sheeting/Wales
	Description:	Pile 3 at the East Abutment, looking east. 1" gap between the abutment cap and pile.



Photo 34	Category:	31 - Wingwalls/Retaining Walls/Headwalls
	Description:	Southeast wingwall, looking north. The 14th pile from the East Abutment is deteriorated.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 35	Category:	31 - Wingwalls/Retaining Walls/Headwalls
	Description:	Southwest wingwall between Piles 11 and 12, looking northwest. The water below the water surface is deteriorated.



Photo 36	Category:	35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Bent 4, Pile 5, in Span 4, looking east. Surface check in pile.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

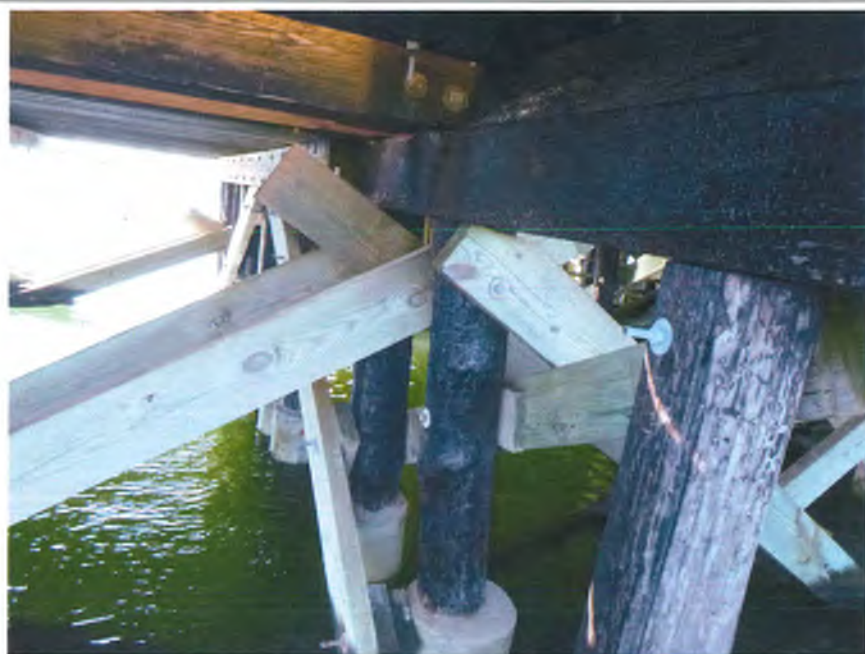


Photo 37	Category:	59 - Other
	Description:	Bent 8 in Span 9, looking south. Bent is charred from previous fire damage.



Photo 38	Category:	35 - Pile Bent/Cap/Bracing/Foundation
	Description:	Bent 15 pier cap, looking north. South nose has wide checks.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 39	Category:	10 - Signs/Posting
	Description:	East approach spans, looking west. 3 Ton Weight Limit sign and 10 ft Vertical Clearance bar.



Photo 40	Category:	10 - Signs/Posting
	Description:	West approach, looking east. 3 Ton Weight Limit sign and 10 ft Vertical Clearance sign.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 41 Category: 10 - Signs/Posting

Description: East approach, looking west. 3 Ton Weight Limit sign and 10 ft Vertical Clearance sign.



Photo 42 Category: 61 - Work Done, 39 - Fender System/Navigation Lighting

Description: South fascia at Span 6, looking northeast.
Work Done: The navigational light on the north fascia at the midspan of Span 6 has been replaced.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023



Photo 43	Category:	63 - Special Equipment
	Description:	Boat used for inspection.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

NEW JERSEY DEPARTMENT OF TRANSPORTATION
STRUCTURAL EVALUATION AND BRIDGE MANAGEMENT
FIELD NOTES
County Highway Agency

Inspectors: James Lavender, Kyle Somogyi

Name: BRIELLE ROAD OVER GLIMMER GLASS

Crew Chief: Degnan, Bradley Weather: Sunny

Temperature: 90 °F Special Equipment Used: Small Boat (See Photo 43)

RATINGS:

- N Not applicable.
9 Excellent Condition.
8 Very Good Condition - no problems noted.
7 Good Condition - some minor problems.
6 Satisfactory Condition - some minor deterioration of structural elements.
5 Fair Condition - minor section loss to primary structural elements.
4 Poor Condition - advanced section loss to primary structural elements.
3 Serious Condition - seriously deteriorated primary structural elements.
2 Critical Condition - facility should be closed until repairs are made.
1 Imminent Failure Condition - facility closed. Study of repairs is feasible.
0 Failed Condition - facility is closed and beyond repair.

GPS COORDINATES		
@ Southwest Corner		
Lat.	N	40.11184
Long.	W	-74.04496

GENERAL

Type of Bridge: Single leaf bascule steel deck girder main span with 16 nail laminated timber deck approach spans on timber trestles

Year Built: 1938 Year of Widening/Major Repairs: 0000

No. of Lanes: On 02 Under 00

Vertical Clearances: Over Deck: 14.00 ft

Minimum Under: 00.00 ft

Maximum Under (Item 10): 14 ft Bascule span

Horizontal Underclearance: Total Horizontal Clearance: 20.0 ft Curb to curb

Right 00.0 ft

Left 00.0 ft

Overall Physical Condition of Structure: The structure is in poor condition due to the condition of the superstructure.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 1 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber, North side only) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	West Abutment: None. Bent 1: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	Electric conduits on south fascia for gate and lights; No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 2 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 2: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
7	Light Stands	South side: No significant defects.
6	Utilities	Electric conduits on south fascia for gate and lights. Severely corroded conduit supports. [See Photo(s): 13]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 3 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) Small corner check at north curb at midspan.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 3: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	Electric conduits on south fascia for gate and lights; No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 4 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 4: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	Electric conduits on south fascia for gate and lights; No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 5 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber, North side only) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
6	Deck Joints/Filler Material	Minor decay of timber header in westbound lane. Joint opening at Bent 5: North - 1/2"; Center - 3/4"; South - 1". [See Photo(s): 10]
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	Electric conduits on south fascia for gate and lights; No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 6 from West

RATING	COMPONENT	REMARKS
7	Top of Deck	(Open Steel Grating) No significant defects.
7	Underside of Deck	(Open Steel Grating) One corroded transverse member at Bent 5.
N	Median	None.
7	Curbs	(Steel Channel) No significant defects.
7	Sidewalks	(North Only, Open Steel Grating) No significant defects.
N	Parapets	None.
7	Railings	(Mixed 3 Rail Steel Pipe Rail and W-Beam Guide Rail. South - Full Length, North - 2 Posts) No significant defects.
6	Deck Joints/Filler Material	Joint opening at Bent 6: North - 1"; Center - 1/2"; South - 1". Minor decay to header in southbound lane. [See Photo(s): 10]
N	Drains and Scuppers	None.
N	Light Stands	None.
N	Utilities	None.
5	Span Lock	Manually operated span lock with areas of surface rust. (Refer to Mechanical Inspection Report)

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 7 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-beam Guide Rail on Timber Posts and CLF along Pedestrian Sidewalk on North) No significant defects.
N	Deck Joints/Filler Material	Bent: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	South side: Electric conduits (2" diameter) leading to control house, no significant defects. Waterline (1" diameter), no significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 8 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-beam Guide Rail on Timber Posts and CLF along Pedestrian Sidewalk on North) No significant defects.
N	Deck Joints/Filler Material	Bent 8: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
7	Utilities	South side: Electric conduits (2" diameter) leading to control house, no significant defects. Waterline (1" diameter), no significant defects. Abandoned 2" diameter rusted pipe at south fascia.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 9 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
6	Railings	(W-beam Guide Rail on Timber Posts and CLF along Pedestrian Sidewalk on North) Timber post: Medium surface checks and splitting. Typical for all posts, except one (1) moderately rotted post at north side (6" deep). [See Photo(s): 11]
N	Deck Joints/Filler Material	Bent 9: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Severe rusting of the conduit supports. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 10 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
6	Railings	(W-Beam Guide Rail on Timber Posts) Heart rot at the top of one post on the north side at midspan. [See Photo(s): 11]
N	Deck Joints/Filler Material	Bent 10: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Severe rusting of the conduit supports. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 11 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 12 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 12: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
7	Light Stands	Traffic signal at north side, no significant defects.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]
7	Traffic Gate	No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 13 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 13: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9

Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 14 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
6	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 14: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 15 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 15:
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout.
7	Gutter Line	No significant defects.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 16 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
N	Deck Joints/Filler Material	Bent 16: None.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

DECK

SI&A Item 58 Condition Rating: 6

SPAN # 17 from West

RATING	COMPONENT	REMARKS
7	Wearing Surface	(Bituminous Concrete) No significant defects.
7	Underside of Deck	(Nail Laminated Timber Slab) See Superstructure.
N	Median	None.
7	Curbs	(Timber, 6" to 8" Reveal) No significant defects.
7	Sidewalks	(Timber) No significant defects.
N	Parapets	None.
7	Railings	(W-Beam Guide Rail on Timber Posts) No significant defects.
7	Deck Joints/Filler Material	East Abutment: Tar sealant. No significant defects.
N	Drains and Scuppers	None. Raised timber curb allows drainage under curb.
N	Light Stands	None.
6	Utilities	South side: Electric conduits (2" diameter) leading to control house: Moderate rusting throughout. Waterline (1" diameter): Moderate rusting throughout. [See Photo(s): 12]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

APPROACHES

SI&A Item BA Rating: 6

SI&A Item 72 Rating: 8

WEST APPROACH

RATING	COMPONENT	REMARKS
6	Pavement	(Bituminous Concrete) Wide cracks and small pothole throughout the roadway. [See Photo(s): 14]
N	Approach Shoulder	None.
	Approach Roadway Vertical & Horizontal Alignment	Vertical: Slight upgrade onto bridge. Horizontal: Straight (tangent). Good sight distance, no speed reduction.
7	Guide Rail Condition	(W-Beam Guide Rail with Steel Spacer Blocks) No significant defects.
6	Sidewalks	(Bituminous) Large holes (2 SF each) at steel bulkhead at pylon (behind guiderail). [See Photo(s): 15]
6	Curbs	(Concrete and bituminous concrete) Wide cracks and fractures at north curb at end of concrete section. Moderate to heavy vegetation growth at both curbs. [See Photo(s): 16]
N	Utilities	None.
6	Approach Roadway Embankment	North and South: Roadway retained by sheeting. Small corrosion holes in steel bulkhead. North: Well vegetated with rip-rap at end of sheeting. South: Marsh land in tidal zone. "See Substructure for retaining wall condition" [See Photo(s): 30]
7	Traffic Gate	No significant defects.

Additional Remarks:

Advance posting signs in place.

Structure No.: 13000W9 Route: 9013
Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
Insp. Date: 06/27/2023

APPROACHES

SI&A Item BA Rating: 6

SI&A Item 72 Rating: 8

EAST APPROACH

RATING	COMPONENT	REMARKS
7	Pavement	(Bituminous Concrete) No significant defects.
N	Approach Shoulder	None
	Approach Roadway Vertical & Horizontal Alignment	Vertical: Slight upgrade onto bridge. Horizontal: Straight No speed reduction, good sight distance.
7	Guide Rail Condition	(W-Beam Guide Rail with Steel Spacer Blocks) No significant defects.
6	Sidewalks	(Bituminous) Small hole (9" L x 2" W) along bulkhead cap 10' from bridge. [See Photo(s): 15]
7	Curbs	(Timber) No significant defects.
7	Utilities	Pipe (2" diameter) along top of south wingwall. No significant defects.
6	Approach Roadway Embankment	North and South: Retained by sheeting, adjacent to water. Numerous small to large holes in steel sheeting. North: Well vegetated, sloped to water. "See Substructure for retaining wall condition" [See Photo(s): 30]
7	Others	Weight limit 3 tons and 10'-0" vertical clearance signs in good condition at east approach.

Additional Remarks:

Advance load posting sign at nearest intersection.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 1 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) No significant defects.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	No significant defects.
7	Deck Tie Beam	Check in underside west face for the full length.

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 2 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Several planks are misaligned 1/2" to 1" vertically. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Conduits at south fascia. No significant defects.
7	Deck Tie Beam	Checks in east face for full length.

Additional Remarks:
 None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 3 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Moisture reading is 15% to 18%. Several planks are misaligned, up to ¼" vertically and ½" horizontally. One (1) exposed nail at west end near middle. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	No significant defects.
7	Deck Tie Beam	Corner check at the northwest corner. Checks on both faces for full length.

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 4 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Several planks are misaligned, up to 1" vertically and ½" horizontally. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	No significant defects.
6	Deck Tie Beam	Medium to wide splits on bottom and both faces. [See Photo(s): 19]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 5 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Several planks are misaligned, up to ¼" vertically and ½" horizontally. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Conduits at south side. No significant defects.
6	Deck Tie Beam	Checks on both faces for full length. [See Photo(s): 19]

Additional Remarks:

Active water leakage above the beam on the west face at the middle.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 6 from West

RATING	COMPONENT	REMARKS
4	Girder-FB-Stringer	(2 Girders / 4 Floorbeams / 8 Stringers) (Floorbeams numbered west to east. Stringers numbered south to north.) Girders: Girders exhibit section loss to bottom flange in midspan (1/16" at south girder, 1/8" at north girder). Laminar rust at heel end of girders. Heavy to moderate pitting (1/16" typically) beneath paint system with up to 1/16" loss on bottom flange. Knife edging to bottom flange below gusset plate connections. Pin holes in bottom gusset of floorbeam 2 at the North Girder Areas of moderate rust at failed paint system along top and bottom flanges and connection plates. Minor rusting at connecting pins for the counterweights at the bascule girders. North Girder- Up to 100% section loss with knife edging to bottom flange of FB4 (8" L x 1" max.). 5" corrosion hole in base of web at east bearing (5" L x 1 1/2" H total area). Torch-cut hole (1" dia.) at west end for utility conduit. South Girder - Rivet heads on south face at floorbeam are not fully seated. Floorbeams: Moderate to severe rust with 10% section loss to top and bottom flanges at scattered locations (typical). Unfilled drill holes in web at locations of previous stringer connections (typical at all floorbeams). Light to moderate pitting beneath paint system at random locations. FB1 - Corrosion holes in top and bottom flange at north half close to centerline. Top flange exhibits section loss near the edge (1" to 1-1/2" wide typical) at old stringer locations, with a corrosion hole between Stringers 2 and 3. Bottom flange exhibits up to 1-1/4" edge loss between Stringers 5 and 7. FB2 -section loss up to 1/8" to bottom flange at midspan. Top flange has 1/8" section loss with knife edge at midspan. Both flanges with up to 100% section loss by 1/2" wide knife edging on the north half. Bottom flange exhibits 1/4" section loss to the bottom flange between Stringers 2 and 3 at location of old stringer. The bottom 4" of web below the midspan gusset plate exhibits 3/16" section loss. Up to 1-1/4" edge loss of the bottom flange at midspan. FB3 - More than 1/8" section loss to bottom flange on top face. Top flange up to 1/8" section loss with knife edge at old stringer locations with 100% section loss along edges. 1/2" edge loss to both sides of bottom flange in north half. Hole (6" L x 1" H) in top of web between stringer 4 and 5, at location of previous floorbeam. FB4 -50% section loss of top flange from north end to center of floorbeam and 30% section loss of bottom flange at north half; knife edge scattered throughout with 1/8" to 1/4" remaining thickness. Areas of 100% section loss to top flange and bottom flange between S5 and S8 (up to 8" L x 1-1/2" W), and in the top flange between S4 and S7.

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

		Between FB5 and FB6 - Two (2) pinholes in top of web and location of previous floorbeam. Between FB6 and FB7 - Hole (1" dia.) in top of web at location of previous floorbeam. Stringers (Galvanized): Few dents / gouges in the bottom flanges of S1 and S8 near FB1. [See Photo(s): 21, 22, 23, 24, 25, 26, 27]
5	Cross Frames	Bracing was previously partially replaced or spliced with galvanized angle; including some gusset plates in the north half between FB1 and FB3. Remaining original bracing exhibits moderate rusting, section loss in scattered areas with some moderate pitting; Significant loss to rivets in the gusset plate at FB2 and South Girder. [See Photo(s): 24]
6	Bearings	Bent 5: Minor surface rust at north bearing. Bottom flange of both girders are not centered on bearing plates (up to 1/2" offset). Bent 6: Moderate rusting at curved masonry plates. [See Photo(s): 22]
	Deflection and Vibration	Moderate vibration was noted under traffic.
7	Basculer Sensor	See Machinery Tower for notes on inspection findings for timber tower.
5	Moveable Bridge Related Structural Items	Counterweight Tracks: Track is typically lightly rusted. The plate overhangs the inside of the timber frame (up to 1/2") mainly at middle of track on both columns. Portions of the plate have been cut back along the inside overhang on the north plate on the north track to reduce the binding created by the overhang (1/2" taken off for -21" maximum cut). A lag bolt is missing on the north track. Note there is an 11/16" gap between the plate and the timber frame at the south plate of the south track. Typical missing bolts on counterweight tracks. Counterweights: Both the north and south rollers travelled smoothly along their tracks during operation of the leaf. The rollers are well lubricated. The roller linkages are in good condition and also are well lubricated. Timber Machinery Tower: Timber Frame: Random medium to wide (1/2" maximum) surface checks and splits. Minor rusting to hardware. Timber Gusset: Wide vertical (1/4") checks in both vertical columns. Missing hole filler at machinery support channel to timber at the north tower. Miscellaneous:

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

		The safety railing along the overhead walkway is inadequate. There is no ladder to access the walkway. Cantilever deck for operator house is sagging at the southeast corner. Joint Clearance and Movements: The span moves considerably under live load due to deflection of the timber substructure. Span Locks: Manually operated. Few areas of surface rust (Refer to mechanical inspection report). Gates: No significant defects. No barrier gate on east approach. (Refer to Electrical Inspection Report) [See Photo(s): 3, 28, 29]
7	Sidewalk Support	Four (4) floorbeams (numbered west to east), 3 stringers (numbered south to north), all galvanized. No significant defects.

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
D	Coped flanges - Detail 20. Riveted connections.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 7 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) No significant defects. Small gaps at end of planks. Several planks are slightly misaligned.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
5	Others / Sidewalk Beams	Surface charring from fire damage at north side. Electrical cable hanging at south fascia. [See Photo(s): 12, 37]
6	Deck Tie Beam	Checks on both faces for full length. [See Photo(s): 19]
7	Operator's House Timber Support Beam	Beam (12" x 12") was previously installed adjacent to operator's house at south side of roadway. No significant defects.

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 8 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) Small gap at end of planks. Minor misalignment between planks.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
5	Others / Sidewalk Beams	Surface charring at north from fire damage. Electrical cable hanging at south fascia. [See Photo(s): 12, 37]
7	South Side Fascia Support Beam	Timber support beam (12" x 12") was previously installed south side of roadway. No significant defects.
6	Deck Tie Beam	Checks at both faces. [See Photo(s): 19]

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 9 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) One plank is missing a section at south end of east half (2' L x 2" H) [See Photo(s): 18]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
5	Others / Sidewalk Beams	Surface charring from fire damage. Electrical cable hanging at south fascia. [See Photo(s): 12, 37]
6	Deck Tie Beam	Checks in bottom surface, worse at south end. [See Photo(s): 19]

Additional Remarks:

Not fully accessible due to cross bracing across span. Abandoned utility at south fascia is resting on Bent 8 and 9.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 10 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Small gaps at end of planks. Several planks are slightly misaligned vertically. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
5	Others / Sidewalk Beams	Surface charring from fire damage. Electrical cable hanging at south fascia. [See Photo(s): 12, 37]
6	Deck Tie Beam	Two (2) loose pieces of hardware in underside. Short checks in underside, worse at south end. [See Photo(s): 19]

Additional Remarks:

Not fully accessible due to cross bracing across span.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 11 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) Small gaps at end of planks. Several planks are slightly misaligned vertically. [See Photo(s): 17]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
6	Others / Sidewalk Beams	Surface charring from fire damage at Bent 10. Electrical cable hanging at south fascia. [See Photo(s): 12, 37]
7	Deck Tie Beam	No significant defects.

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 12 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) One plank at the west end of the east half of span is splintered/missing a section (18"x 2") with an exposed nail. [See Photo(s): 18]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Six (6) loose hardware connections. Short, wide checks in bottom at south end, typical short fine checks on all faces. [See Photo(s): 20]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 13 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) One splintered plank with exposed nail in west half of span and south end.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Short checks on both faces. [See Photo(s): 19]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 14 from West

RATING	COMPONENT	REMARKS
6	Slab	(Nail Laminated Timber) One plank at south end is splintered/missing a section (18"x 2"). Numerous nails are exposed. [See Photo(s): 18]
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Wide checks in bottom (15 LF), through connection hardware. [See Photo(s): 19]

Additional Remarks:

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 15 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) Minor vertical misalignment and small gaps between planks at random locations.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Two pieces of loose hardware at north end. Short checks on both faces. [See Photo(s): 19]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 16 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) Small gaps and minor vertical misalignment between planks.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Checks on both faces, for almost full length. [See Photo(s): 19]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUPERSTRUCTURE

SI&A Item 59 Condition Rating: 4

SPAN # 17 from West

RATING	COMPONENT	REMARKS
7	Slab	(Nail Laminated Timber) No significant defects.
N	Diaphragms	None.
N	Bearings	None.
	Deflection and Vibration	Minor vibration under live load.
7	Others / Utilities	Electrical cable hanging at south fascia.
6	Deck Tie Beam	Checks along bottom and both faces. [See Photo(s): 19]

Additional Remarks:

None.

FATIGUE DETAILS

Estimated percentage of Large trucks in ADT = 01%

Category	Detail Description and Location
N/A	N/A

PAINT INSPECTION

*Environment: 3B
Date of Last Painting:

1. Rural or Industrial, Mild exposure
 2. Industrial, Severe Exposure
 - 3A. Marine, Mild Exposure
 - 3B. Marine, Severe Exposure
- *Ref. NJDOT Design Manual Sec. 1.24.19

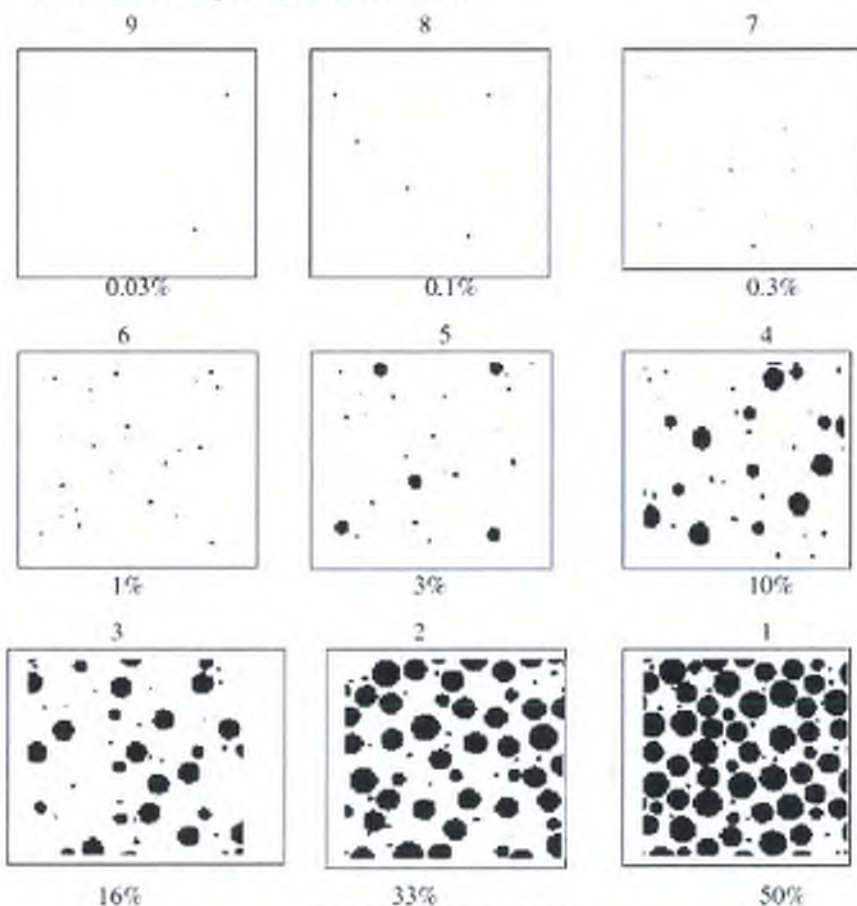


FIG. 1 Examples of Area Percentages

Notes: Blistered Paint areas
are counted as rust

10 = 0% Rust
0 = 100% Rust

Use the closest rating to
the actual field
condition based on the
average for the bridge.
Indicate any areas of
severe rusting in
remarks.

For structures composed
of weathering steel, this
sheet should be used to
rate the effectiveness of
the iron oxide coating
(see Appendix G from
the state coding guide).
For beam ends, use the
controlling rating (paint
or oxide coating).

INSPECTION RATINGS (0 THROUGH 10 OR N/A)

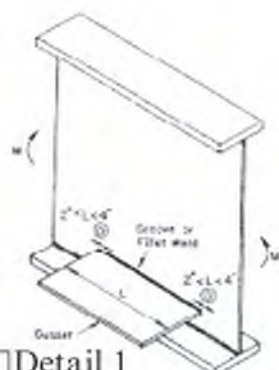
Fascia Beam: 04 Fascia Bottom Flange: 04
Interior Beam: 04 Interior Bottom Flange: 02
Bracing: 03 Substructure: 01
Bearings: 03 Above Deck Superstructure:

Beam Ends: 05
Connections: 04
Railings/Fence: 06

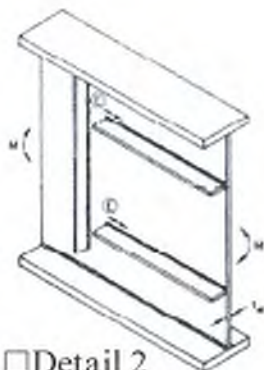
Remarks 1: Ratings apply to Span 6 (Bascule span).

Remarks 2: Pier cap beam at Bent 6 severely rusted with 100% section loss (at Bascule span heel).

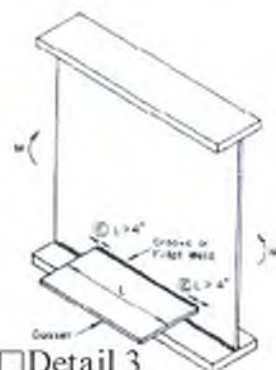
TYPICAL FATIGUE DETAILS



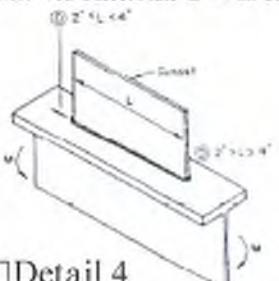
Detail 1
 Short Web Gusset Plate $L < 4$ in. Category D



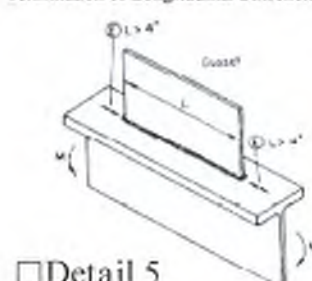
Detail 2
 Termination of Longitudinal Stiffeners Category E



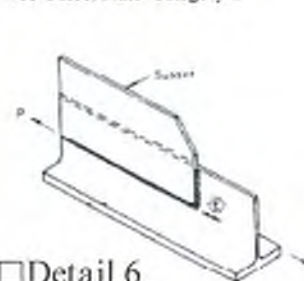
Detail 3
 Web Gusset Plate Category E



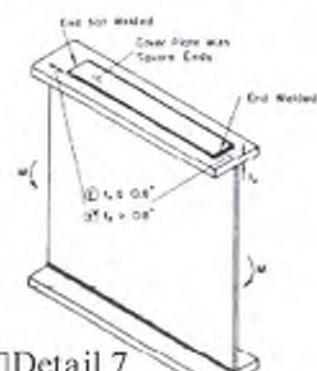
Detail 4
 Short Flange Gusset Plate $L < 4$ in. Category D



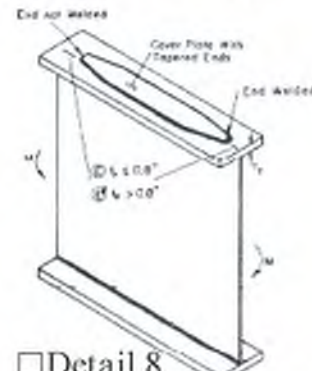
Detail 5
 Flange Gusset Plate Category E



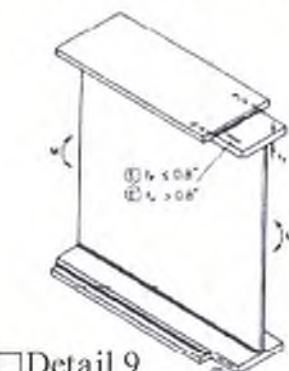
Detail 6
 Gusset Welded to Bracing Member Category E



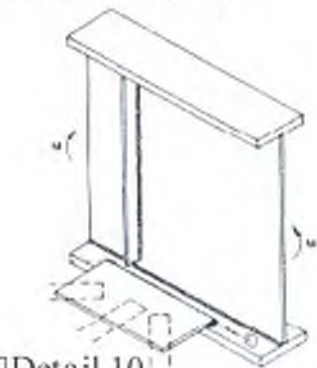
Detail 7
 Square Ended Cover Plates Narrower than the Girder Flange Category E or E'



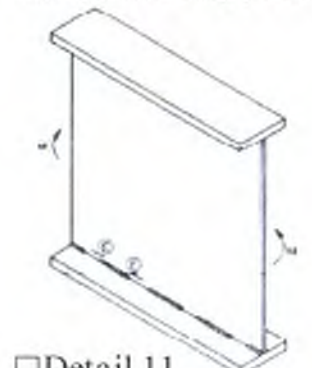
Detail 8
 Cover Plates Narrower than the Girder Flange with Tapered Ends Category E or E'



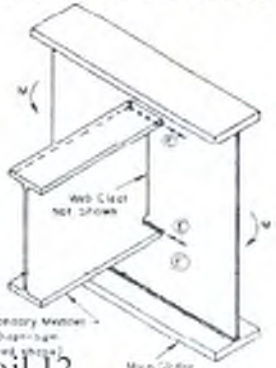
Detail 9
 Cover Plates Wider than the Girder Flange with End Welds Category E or E'



Detail 10
 Flange Gusset Plate Category E



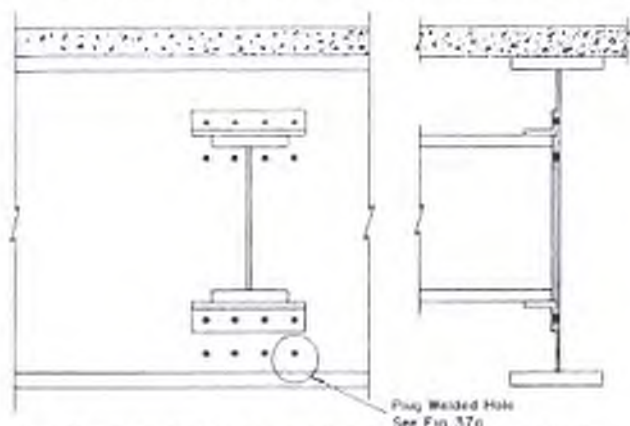
Detail 11
 Intermittent Fillet Welds Category E



Detail 12
 Stringer Framing into Girder Web Category E or E'

TYPICAL FATIGUE DETAILS

- ☐ 13. Field Weld Repairs - Proper welding procedures may not have been used; testing of weld by non-destructive methods was usually not done, therefore, the possibility of large flaws exists. Check carefully on the main structural members (stringers, floorbeams, girders).
- ☐ 14. Tack Welds - Check carefully on riveted members constructed in 1940's and 1950's as these welds were sometimes used to hold the plates together during riveting.
- ☐ 15. Plug Welds - Check at bolted connections on welded structures. These welds may have been used to fill-in incorrectly drilled holes (see sketch).

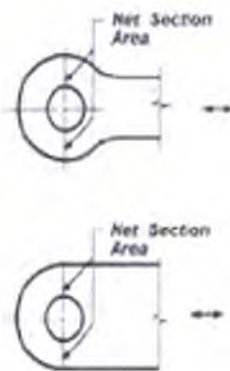


- ☐ 16. Backing Bars - These welds are possibly not full penetration. Check carefully on box girders if accessible and at butt (groove) welds made in the field.
- ☐ 17. Details with 2 or 3 Intersecting Welds (Slot Welds) - Incomplete penetration of the 2nd and 3rd welds is possible.
- ☐ 18. Butt (Groove) Welds on Horizontal Web Stiffeners - NDT of the weld was not always required on the stiffener in the tension zone. If the weld is not good, this will be an "E" detail or worse which can exist in a high stress area. (This would be the same as or worse than typical detail 3.)
- ☐ 19. Detail Without Proper Welding Clearance - Poor welding can result if proper clearance for the welding rod is not maintained by the designer (such as a horizontal web stiffener placed too near the bottom flange of a girder; fillet weld at bottom of stiffener is difficult due to a lack of clearance for the welding rod).
- ☒ 20. Coped or Blocked Flanges - Check carefully when these details exist on main structural members (stringers and floorbeams). Coped flanges are a typical detail on movable spans.
- ☐ 21. Distortion (Bending) at Small Gaps - For typical details which exhibit damage due to this, see "Inspecting Steel Bridges for Fatigue Damage" (see sketches).



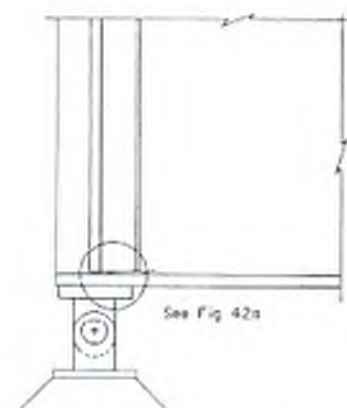
☐ Detail 22

Base Metal at the Net Section of Riveted Connections

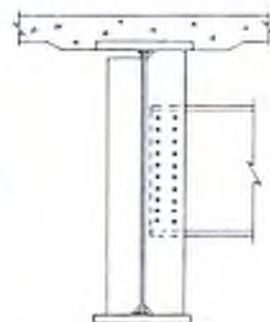
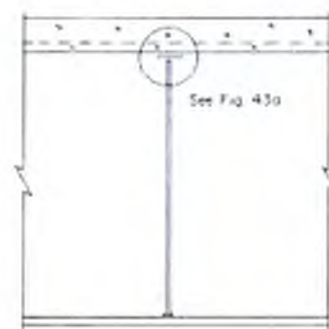
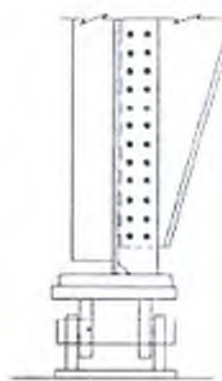


☐ Detail 23

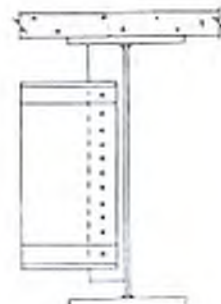
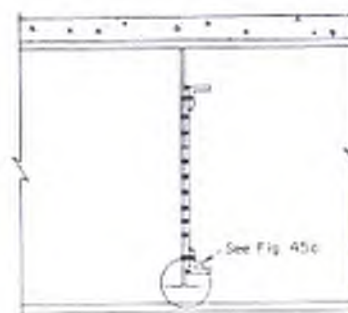
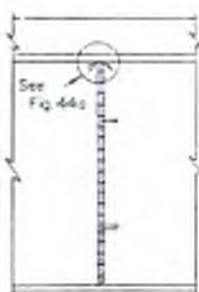
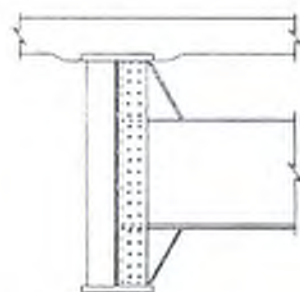
Base Metal at the Net Section of the Eyebar Head, or Pin Plate

TYPICAL FATIGUE DETAILS**Detail 21A**

Schematic Showing Crack in Girder Web at Floor Beam Connection Plates at Supports

**Detail 21B**

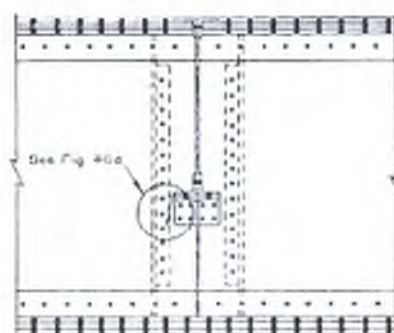
Schematic of Crack in Girder Web at Floor Beam Connection Plates in Negative Moment Region

**Detail 21C**

Schematic of Crack in Girder Web and Transverse Connection Plate Welds at Floor Beam in Negative Moment Region of Skewed Bridge

Detail 21D

Schematic of Transverse Diaphragm Attached to Cut Short Welded Connection Plate Showing Web Cracking in Gap

**Detail 21E**

Schematic Showing Stringer Framing into Riveted Floor Beam with Crack Between Seat Angle Connection and Adjacent Web Stiffeners

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

WEST ABUTMENT

RATING	COMPONENT	REMARKS
5	Sheeting	Heavy to severe rust and delamination throughout with 1/4" section loss and corrosion holes (up to 8" dia.) between top and middle wales; tie backs heavily rusted with up to 75% section loss. [See Photo(s): 30]
7	Piles	13 Timber Piles, Numbered South to North: All timber piles jacketed into channel bottom with structural jackets. No significant defects.
6	Pile Cap	Timber cap spliced to older cap at north end. Piles 5 through 11 are offset, up to 5" maximum (at pile 7). Cap bears on a minimal area of offset pile. [See Photo(s): 31]
5	Wales	Top: 1/4" penetration, 6 LF of rot and wide checks at south end. Middle: 1/2" penetration, 10% section loss. Bottom: Advanced decay with up to 100% section loss. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 35]
N	Header	N/A
5	SW Wingwall Sheeting	Moderate to severe corrosion through the tidal zone with areas of 100% section loss (Refer to 2023 Underwater Inspection Report). Small hole at corner of abutment at low water line. [See Photo(s): 30]
5	Piles	Southwest Wingwalls: 5 new piles previously installed in between old piles. Five piles and new cross ties previously installed, extending through to SWWW, installed (Refer to 2023 Underwater Inspection Report). Old piles exhibit severe crushing at tie rod plates and heart rot at tops. [See Photo(s): 34]
5	Wales	Southwest Wingwall: Severe decay and splitting with up to 40% section loss (Refer to 2023 Underwater Inspection Report). [See Photo(s): 35]
5	NW Wingwall Sheeting	Sheeting exhibits moderate to severe rusting, with 10%-15% section loss in tidal zone, surface rust at and above tidal zone. Severe rusting with scattered holes at top (up to 6" dia.) (Refer to 2023 Underwater Inspection Report). [See Photo(s): 30]

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

5	Piles	Northwest wingwall: Old piles exhibit moderate deterioration through the tidal zone. Old piles exhibit severe crushing at tie rod plates with checks and splits up to 1" wide typical. Pile 3 from the abutment exhibits up to 75% section loss due to heart rot. Five new piles and new cross ties previously installed, extending through to NWWW, installed. (Refer to 2023 Underwater Inspection Report). [See Photo(s): 34]
5	Wales	Northwest Wingwall: Severe decay and splitting with up to 40% section loss (Refer to 2023 Underwater Inspection Report). [See Photo(s): 35]

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

EAST ABUTMENT

RATING	COMPONENT	REMARKS
5	Sheeting	Top 3' has horizontal timber planks. Sheeting exhibits moderate to heavy section loss including large holes up to 18" high and 2' deep along the top and in tidal zone at Piles 4-6. Several holes have been previously patched. Tie backs heavily rusted throughout. Penetration (2' deep) at 2 of 6 bays (at Piles 4 and 6, less severe at Pile 5). [See Photo(s): 30]
7	Piles	8 Timber Piles, Numbered South to North: All timber piles jacketed into channel bottom with structural jackets. No significant defects.
5	Pile Cap	Wide surface check at north end, 16" long. Partial bearing on 2nd pile 1/4" gap. Back of pile is bearing. Not bearing on pile 3 ~ 1" gap. Not bearing on pile 6 ~ 1.25" gap. Wooden shims in place. Not fully seated on north pile offset to west by 6" Not fully seated on pile 2 offset to west by 3". [See Photo(s): 33]
5	Wales	Top: 1/4" penetration Middle: 1/2" penetration, up to 30% section loss. Bottom: Advanced decay with up to 40% section loss (Refer to 2023 Underwater Inspection Report) [See Photo(s): 30]
N	Header	N/A
5	SE Wingwall Sheeting	Sheeting exhibits moderate to severe rusting with heavy losses in the tidal zone. Large holes at roadway level. Tiebacks heavily rusted up to 100% section loss. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 30]
5	Piles	Southeast Wingwall: Several new piles with new tie rods and hardware were previously added. Old piles exhibit moderate to severe deterioration with heart rot and splitting. Typical localized crushing of pile at tie back connection plate at older piles. Moderate to heavy section loss to hardware. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 34]
5	Wales	Southeast Wingwall: Severe decay and splitting with up to 40% section loss to older wales. Several short wale segments previously installed (Refer to 2023 Underwater Inspection Report).

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

		[See Photo(s): 35]
5	NE Wingwall Sheeting	Moderate to severe rusting at tidal zone throughout with areas of 100% section loss. (Refer to 2023 Underwater Inspection Report). [See Photo(s): 30]
5	Piles	Northeast Wingwall: 5 new piles with new tie rods and hardware installed to replace deteriorated piles. Old piles exhibit moderate deterioration with heart rots, checks and splits. Typical localized crushing of pile at tie back connection plates. Moderate to heavy section loss to hardware. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 35]
5	Wales	Northeast Wingwall: New wales were added. Medium to wide surface checks (typical). Heavy deep rotting on the old wales. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 35]

Additional Remarks:

Northeast wingwall is not accessible/visible due to heavy vegetation and reeds.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 1 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas especially at ends. [See Photo(s): 38]
7	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. (Refer to 2023 Underwater Inspection Report)
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 2 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. One (1) check at north end. [See Photo(s): 38]
7	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects to timber above concrete piles.
N	Foundation	None.
6	Cross Bracing	(Timber) Lower connection at P3 exhibits area of advanced decay. Heart rot to brace ends below L.W.L. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 3 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
6	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. [See Photo(s): 38]
7	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects to timber above concrete piles. (Refer to 2023 Underwater Inspection Report)
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below L WL. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 4 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Cap split for 2 LF at south end. [See Photo(s): 38]
7	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects above concrete piles. (Refer to 2023 Underwater Inspection Report)
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below LWL. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 5 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	Bent 5W (Timber): Wide surface check and end splits at north, minor at south. Algae growth in scattered areas, mostly at ends. Missing piece of hardware between Piles 5 and 6. Bent 5E (Timber): No significant defects. [See Photo(s): 38]
7	Piles	Bent 5W (6 Timber Piles Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects to timber above concrete jacket. No significant defects. Bent 5E (17 Timber Piles Numbered South to North): Odd numbered piles are newer plastic coated timber piles. Even numbered piles are severely deteriorated older piles, Piles 4, 6, and 8 have been cut.
N	Foundation	None.
6	Cross Bracing	(Timber) Bents 5W and 5E: Heart rot to brace ends below LWL. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
6	Fender System	Timber fenders board exhibit minor marine borer activity and minor section loss. (Refer to 2023 Underwater Inspection Report).

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 6 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	Bent 6W (Timber): Wide surface checks and end splits. Moderate algae growth in scattered areas and ends. Bent 6E (Steel Cap Beam): Steel cap beam for Span 7 at Bent 6 has been reinforced with timber planks and hanging rods. Steel cap exhibits severe rust and section loss to both top and bottom flanges at both sides adjacent to the previously repaired section. Holes in web between piles 2 and 3 (up to 8" dia.) and in bottom flanges (2" L x 1" W). Repair channel at south half for 15' both sides. [See Photo(s): 38]
7	Piles	Bent 6W (19 Timber Piles Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects above water surface. (Refer to 2023 Underwater Inspection Report) Bent 6E (14 Timber Piles Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects above water surface. (Refer to 2023 Underwater Inspection Report)
N	Foundation	None.
7	Cross Bracing	(Timber) Bents 6W and 6E: No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
6	Fender System	Timber fenders board exhibit minor marine borer activity and minor section loss. Minor decay (2 SF) at north end. Newer 12" dia plastic coated piles installed at wingwall flares (Refer to 2023 Underwater Inspection Report). Old piles at wingwall flares severely deteriorated.

Additional Remarks:

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 7 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate to heavy algae growth in scattered areas Charring (fire damage) at north side with section loss (1/4"). Minor check (1/2" x 2', ± 4" deep) on bottom face of pile cap below north side. [See Photo(s): 38]
6	Piles	(11 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Cracked fiberglass jacketing at Pile 2. Piles 8 through 11 have minor charring (fire damage). [See Photo(s): 37]
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
7	Longitudinal Bracing	(Timber) No significant defects.
N	Girts	None.

Additional Remarks:

Not fully accessible due to longitudinal cross bracing across Spans 7 and 8.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 8 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Charred (fire damage) at north end. Moderate algae growth in scattered areas. Cap has been reinforced in the middle 20 LF with additional timber. [See Photo(s): 37, 38]
6	Piles	(12 Timber Piles, Numbered South to North): All piles except Piles 5 and 7 jacketed into channel bottom with structural jackets. Piles 5 and 7 are broken above the waterline (supplemented with newer piles 4, 6, and 8). Piles 10 through 12 have minor charring (fire damage). [See Photo(s): 37]
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
7	Longitudinal Bracing	(Timber) No significant defects.
N	Girts	None.

Additional Remarks:

Not fully accessible due to cross bracing across Spans 8 and 9.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 9 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
6	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Cap has been reinforced on both faces approximately 75% length from south end. Charring (fire damage) at north side with section loss (1/2"). [See Photo(s): 37, 38]
6	Piles	(12 Timber Piles, Numbered South to North): All piles except Piles 4 and 6 jacketed into channel bottom with structural jackets. Piles 4 and 6 have been cut at top and do not bear at pile cap. Piles 3, 5, and 7 are newer piles to support cut Piles 4 and 6. Typical fine checks to all piles above concrete jacket. [See Photo(s): 36]
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

Not full accessible due to cross bracing across Spans 9 and 10. Abandoned utility is resting on cross bracing at south fascia.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 10 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Charring at north end and at bottom face with 1/2" section loss at all faces(12 LF). [See Photo(s): 37, 38]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Pile 2 has wide check on north face for full height above concrete jacket [See Photo(s): 36]
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below Low Water Level (LWL). (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

Not fully accessible due to cross bracing across span 10.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 11 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Moderate algae growth in scattered areas. Minor offsets (approx. 2") at top of Piles 1 and 4 on the east side. Check (1/8" x 2 LF) at north end, east side. Three (3) loose hardware connections in underside between Piles 1 and 5. [See Photo(s): 20, 31]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Pile 1 previously replaced with additional connection hardware added. All other piles have fine checks in exposed areas above concrete jackets at locations of deteriorated creosote. [See Photo(s): 36]
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below LWL. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 12 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
6	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Minor offsets (2") at top of Piles 2 and 3 on east side and Piles 1 and 5 on west side (all appear to be fully bearing). Four (4) loose hardware connections between Piles 2 and 5. [See Photo(s): 20, 31, 36]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Piles 1 and 6 have full height checks above the concrete jackets. [See Photo(s): 36]
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below LWL. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 13 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
6	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Split (1/8") at Pile 5 (8 LF). Two (2) loose hardware connections in underside between Piles 4 and 5 [See Photo(s): 20, 38]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Missing / cracked grout at tops of jackets at Piles 3 and 4. Surface checks throughout all piles above concrete jackets. [See Photo(s): 36]
N	Foundation	None.
6	Cross Bracing	(Timber) Heart rot to brace ends below L.W.L. (Refer to 2023 Underwater Inspection Report)
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013
Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 14 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
6	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. Wide check underside of cap between Pile 4 and 5. [See Photo(s): 38]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Pile 3 has deterioration above concrete jacket; evidence of marine borers and/or heart rot in top 3' with wide check on east face at hardware connection. All other piles have no significant defects above the concrete jackets. [See Photo(s): 36]
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 15 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. A few short checks and shakes at south end up to 5 L.F. Check at north end below sidewalk at top west face. [See Photo(s): 38]
7	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. No significant defects to timber above concrete jackets.
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013
Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
Insp. Date: 06/27/2023

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT # 16 from West

RATING	COMPONENT	REMARKS
N	Bent	N/A
5	Cap	(Timber) Wide surface checks and end splits. Moderate algae growth in scattered areas. [See Photo(s): 38]
6	Piles	(6 Timber Piles, Numbered South to North): All piles jacketed into channel bottom with structural jackets. Piles 4 and 6 are slightly offset at top under pile cap and leaning up to 3" to west (appear to be fully bearing). No significant defects to timber above concrete jackets. (Refer to 2023 Underwater Inspection Report) [See Photo(s): 31]
N	Foundation	None.
7	Cross Bracing	(Timber) No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.

Additional Remarks:

None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 5

Abutment West

RATING	COMPONENT	REMARKS
--------	-----------	---------

COUNTERMEASURES

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists primarily of soft sand, shells and gravel with areas of soft silt. No evidence of scour observed. (Refer to 2023 Underwater Inspection Report)
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities:

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 5

Abutment East

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed. (Refer to 2023 Underwater Inspection Report)
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities:

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 5

Pier All

RATING	COMPONENT	REMARKS
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COUNTERMEASURES

	Description	None.
N	Condition	N/A

PROBING/SCOUR

7	Findings	The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed. (Refer to 2023 Underwater Inspection Report)
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities:

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

WATERWAY/CHANNEL

SI&A Item No. 61: 8
 SI&A Item No. 71: 8
 Prioritization Category: 3
 Scour Sufficiency Rating: 58.8

WATERWAY # 1

RATING	COMPONENT	REMARKS
--------	-----------	---------

FLOW CONDITIONS

	Direction	Tidal Ebb – South, Flood - North
	Magnitude	Moderate volume, occupying 100% of structure's length. The upstream and downstream channels are wider than bridge waterway but does not appear to adversely affect flow. Only bascule span is navigable.
	Velocity	Moderate, varies with tide.

EMBANKMENTS

8	Upstream	Northeast – Steel sheeting and timber bulkhead and marshland Northwest – concrete rubble, steel sheeting and timber bulkhead and marshland.
8	Downstream	Northwest – stable with gabion baskets and residential piers. Northeast – sheet pile, stone jetties. No significant defects.
8	Channel Countermeasures	Southwest: Silt with intertidal grasses seaward of steel sheeting and timber piles/wales. Southeast: Open water, bounded to the south and east by a marina, seaward of steel sheeting and timber piles/wales.

CHANNEL MOVEMENT AND CHANGES

	Horizontal Location	Main navigation channel flows between Bents 5E and 6W.
	Cross Section	See sounding profiles.
	Alignment	Flow is parallel to substructure units.
	Changes Since Previous Inspection	Minor channel bottom fluctuations.
	Navigation Clearances	Vertical – unlimited when bridge is open. Horizontal – 31' within bascule span.
	Waterway Opening	Adequate for present flow.
N	Debris in Channel	None.

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

WATERWAY/CHANNEL

SI&A Item No. 61: 8

SI&A Item No. 71: 8

Prioritization Category: 3

Scour Sufficiency Rating: 58.8

8	Navigation Lighting	All navigation lights are functioning. Work Done: The navigational light on the north fascia at the midspan of Span 6 has been replaced. [See Photo(s): 42]
---	---------------------	---

Repair Quantities:

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

HIGHWAY SAFETY

Coding of SI&A Item 36: 0 0 0 0

RATING		COMPONENT	REMARKS
0		Bridge Railing	W-beam element is not doubled up and is mounted to timber and steel posts with no spacer blocks. Inadequate post spacing. Approach spans have 2'-8" railing with W-beam mounted to steel posts with no spacer blocks. Inadequate post spacing.
0	0	Transition to Bridge Railing	All four corners: Metal spacer blocks and inadequate post spacing. NE (timber) and SE (steel) posts spaced 5 at 1'-6", 7 at 3'-2" with single W-beam element at southeast, 10' gap at northeast. NW: Steel posts spaced 1@2'-5" and 10@3'-1" to 3'-6". SW: Traffic barrier and pipe railing behind for 1st 20' length, then double element guide rail with no spacer posts. Guide rail posts spaced 4@1'-9", there after 3'-1".
	1	Curb & Sidewalk Terminations	Continuous on all approaches.
0		Approach Guide Rails	Northeast approach rail: Inadequate post spacing, timber posts. Metal spacer blocks.
0		Approach Guide Rail End Terminals	Northwest and southwest: Continuous Northeast: BCT Southeast: Boxing glove.

Structure No.: 13000W9 Route: 9013 Cycle No.: 20
 Name: BRIELLE ROAD OVER GLIMMER GLASS Insp. Date: 06/27/2023

DECK GEOMETRY

SI&A Item 68 Rating: 2

COMPONENT	REMARKS
Bridge Cross Section	Bridge roadway is slightly wider than approaches. Bridge roadway narrows at machinery tower.
Adequacy of Lane/Shoulder Widths	Two Lane, Two Way Traffic, One Lane each direction, no shoulders. Curb to Curb = 20' ADT = 7555 (2023, Estimated)
Vertical Clearance over Deck	14'-0" at machinery tower.

Posting for Load/Speed/Clearance Restrictions

- ☐ None
☒ Posting for Load
☐ Posting for Speed
☒ Posting for Clearance
☐ Posting for Others

"WEIGHT LIMIT 3 TONS" sign and (10'-0") clearance sign posted at both approaches as well as advanced warning signs.

Structure No.: 13000W9 Route: 9013
 Name: BRIELLE ROAD OVER GLIMMER GLASS

Cycle No.: 20
 Insp. Date: 06/27/2023

WORK DONE HISTORICAL DATA

CYCLE NO.	YEAR	WORK DONE SUMMARY
20	2023	The navigational light on the north fascia at the midspan of Span 6 has been replaced. Repairs were made to address the safety interlock deficiencies.
CYCLE NO.	YEAR	WORK DONE SUMMARY
19	2021	Small hole adjacent to the southeast wingwall sheeting on the east approach has been patched with bituminous concrete.
CYCLE NO.	YEAR	WORK DONE SUMMARY
18	2019	New grout-filled fiberglass structural jackets at all load bearing piles at all substructure units. New bearings and pile cap at Bent 5E. Holes in steel sheeting at east abutment have been patched. New timber walkway above roadway for machinery tower. Lighting standard in Span 2 rotated perpendicular to the roadway.
CYCLE NO.	YEAR	WORK DONE SUMMARY
17	2017	None
CYCLE NO.	YEAR	WORK DONE SUMMARY
16	2015	New gusset plate in span 6, at floorbeam 3. New approach pavement and approach spans sidewalks and curbs. New timber header installed at Bent 6. New timber deck was installed on the approach spans. Fiber glass jackets were installed on numerous piles throughout the structure, horizontal timber planks were installed on the upper part of the east abutment and additional walers, additional piles and walers were installed on the northwest wingwall and the southwest wingwall steel sheeting was reinforced with timber planks. Additional clearance and weight limit signs were installed at both approaches.
CYCLE NO.	YEAR	WORK DONE SUMMARY
15	2013	Scattered asphalt patching in top of deck Spans 1 and 4. New top railing installed on south side old warning gate platform. New timber header installed at Bent 6 in WB lane. New north curb installed in Spans 1, 2, & west 1/2 of Spans 3 and 7. New nail laminated timber deck planks in Spans 1 and 2. Installed new timber cross bracing at both sides of all bents and new timber longitudinal bracing from bents 6 through 9.
CYCLE NO.	YEAR	WORK DONE SUMMARY
14	2011	Installed longitudinal braces at bents 7 & 8, timber cross bracings in span 9, timber support beams in spans 7 & 8 adjacent to operators house, deck planks in span 13, north curb in spans 11 thru 17 and replaced 20 to 75% sidewalk timber planks in spans 1, 5, 7, 11 & 13 thru 17, Installed vertical

Structure No.: 13000W9 Route: 9013

Cycle No.: 20

Name: BRIELLE ROAD OVER GLIMMER GLASS

Insp. Date: 06/27/2023

WORK DONE HISTORICAL DATA

		sheeting with waler for 75% of length at both fenders in span 6 and replaced most of the sheeting planks at bent 5. Repaired loose timber header at toe (bent 5). Repaired sidewalk hole at west approach and 7 tiebacks in span 15.
CYCLE NO.	YEAR	WORK DONE SUMMARY
13	2009	None

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2023_19227 Maintenance Recommendation Type: PR - Priority Repair 1
Current Work Spec.: 13H3_00 Maintenance Recommendation Category: Utility
Original Work Spec. Identified In: 13H3_00 Maintenance Recommendation Activity: Other utility work
Date Originally Entered: 11/30/2023 Originally Reported By: Nick Sprankle
Date Closed: _____ Closed By: _____

Inspector

Describe Deficiency: During the 11/29/2023 electrical inspection TranSystems noted the genset would not start. The GFCI for the block heater was found to be tripped, and a cold start was unsuccessful. Upon resetting and allowing the block heater to warm up, the genset would still not start. Note that without power to the bridge, the operator's house restroom facility is not usable.

Description of Proposed Work: Utilize a qualified technician to service the generator. Ensure that the generator is equipped with properly sized cold weather mitigation equipment such as a block heater and oil circulator.

Is Interim Work Needed: No

Description of Interim Work Required to Maintain Structure Until Proposed Work can be Accomplished: N/A

Date Email Sent: 12/01/2023 Email Sent By: Amato, Cory

Email Sent To:
caamato@transystems.com;James.
DeCristofaro@dot.nj.gov;
Shenouda.Zaki@dot.nj.gov;
Meriam.Michael@dot.nj.gov;
Michael.Ruggiero@co.monmouth.
nj.us;MohammadDanish.
Imtiyaz@dot.nj.gov;Georgio.
Mavrakis@dot.nj.gov;Daniel.
Maciszewski@dot.nj.gov;
Muhammad.Akhtar@dot.nj.gov;
shsh.nasiruddin@dot.nj.gov;
caamato@transystems.com;
ngsprankle@transystems.com;
bhdegnan@transystems.com

Estimated Quantity/Costs

Quantity: _____ Unit: _____
Unit Cost: _____ Man Hours: _____
Total Cost: _____

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Bridge Owner - Engineering Section

Date Completed:

Work Order # (NJDOT) Only:

Final Work Description:

Interim Work
Description:

Date Email Sent:

Email Sent By:

Email Sent To:

Comments:

Date Final Work Verified as Completed:

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done/Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:



Photo 1	Category:	59 - Other, 60 - Priority Repair
	Description:	Genset on the operator's platform, looking east. Genset is inoperable.

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2022_15505 Maintenance Recommendation Type: PR - Priority Repair I
Current Work Spec.: 13H3_00 Maintenance Recommendation Category: Safety Features
Original Work Spec. Identified In: Maintenance Recommendation Activity: Other safety feature work
Date Originally Entered: 04/07/2022 Originally Reported By: Arora (Sub WJE)
Date Closed: Closed By:

Inspector

Describe Deficiency: ***UPDATED BY (Nick Sprankle / TranSystems), AS OF (11/29/2023) NO WORK WAS DONE***

During the Type II electrical inspection on 4/6/2022, the following was observed:

1. With the manually operated span locks disengaged, the operator can open the west barrier gate from the control console.

Description of Proposed Work: Modify the existing relay logic to prohibit the west barrier gate from opening when the span locks are not engaged.

Is Interim Work Needed: No

Description of Interim Work Required to Maintain Structure Until Proposed Work can be Accomplished: N/A

Date Email Sent: 12/01/2023 Email Sent By: Amato, Cory

Email Sent To:
caamato@transystems.com;James.
DeCristofaro@dot.nj.gov;
Shenouda.Zaki@dot.nj.gov;
Meriam.Michael@dot.nj.gov;
Michael.Ruggiero@co.monmouth.
nj.us;MohammadDanish.
Imtiyaz@dot.nj.gov;Georgio.
Mavrakakis@dot.nj.gov;Daniel.
Maciszewski@dot.nj.gov;
Muhammad.Akhtar@dot.nj.gov;
shah.nasiruddin@dot.nj.gov;
caamato@transystems.com;
ngsprankle@transystems.com;
bhdegnan@transystems.com

Estimated Quantity/Costs

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Quantity: _____ Unit: _____
Unit Cost: _____ Man Hours: _____
Total Cost: _____

Bridge Owner - Engineering Section

Date Completed: _____ Work Order # (NJDOT) Only): _____
Final Work Description:
Interim Work
Description:
Date Email Sent: _____ Email Sent By: _____ Email Sent To: _____
Comments:

Date Final Work Verified as Completed: _____

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done/Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:

NJDOT Fracture Critical Member (FCM) Checklist

Structure Number: 13000W9 Date of Inspection: 06/27/2023
 Name of Structure: BRIELLE ROAD OVER GLIMMER GLASS Cycle Number: 20
 Type of Bridge: Single leaf bascule steel deck girder main span with 16 nail laminated timber deck approach spans on timber trestles

NOTE: For Definition of 'Fracture Critical Bridge', Refer to the 2012 BIRM and Section X.E from NJDOT Explanation of SOW.

Is the Structure Fracture Critical?: Yes

FC Member Type - 1: Welded FCM Member FC Member Type - 2: FC Member Type - 3:

Plans/Sketches showing FCM members provided for Fracture Critical Bridge? Yes

Fracture Critical Member Identification Information: Rolled steel deck girders in Span 6 with bolted / riveted connections

Hand On Inspection Performed for FC Member: Yes Photo/s attached for Special Equipment used for Hands On Inspection?: Yes

Access Information for FC Member Hands On Inspection: Small Boat

Fracture Critical Inspection Frequency Item (92A): 24 Fracture Critical Inspection Date Item (93A): 06/27/2023

NOTE: Special Testing & Special Testing Date is Applicable to Welded FC Member and Pin & Hanger FC Members only.

Special Equipment - 1: A Special Testing Type - 1: D Date of Special Testing: 8/15/2005

Special Equipment - 2: Special Testing Type - 2:

Special Equipment - 3: Special Testing Type - 3:

Reason for Fracture Critical classified in the C&R Section?: Yes Comments on Condition Rating of FC Member: Poor Condition

Additional Structure Type - 1: 4 Additional Structure Type - 2:

Additional Structure Type Remarks:

Fatigue Detail - 1: 04 Fatigue Detail - 2: 12 Fatigue Detail - 3:

Fatigue Location - 1: 23 Fatigue Location - 2: 02 Fatigue Location - 3:

Comments on Load induced Fatigue Details: Yes
 1. Pin & Hanger FCM Member: Additional Structure Type must be coded as 1, 2, or 3.
 2. Welded FCM Member: Additional Structure Type must be coded as 4.
 3. Riveted/Bolted FCM Member: Additional Structure Type must be coded as F.

Fatigue Detail/Location Remark: Category D - Coped flanges and riveted gusset plate connections

(FQ) Latest In-Depth FC/Pin-Hanger Inspection Date: 1/1/1901 FC Members Inspected: Steel deck girders in Span 6

Special FCM Insp. Required: False Special FCM Insp. Date: Special FCM Insp. Consultant:

Special P/H Insp. Required: False Special P/H Insp. Date: Special P/H Insp. Consultant:

NEW JERSEY DEPARTMENT OF TRANSPORTATION

MONMOUTH COUNTY

TYPE I

MECHANICAL INSPECTION REPORT

STATE JOB NO. 2207613

GROUP NO. 13H3

Structure No. 1300-0W9

Brielle Road over Glimmer Glass Bridge

Borough of Manasquan

Date of Inspection: November 28, 2023

Inspection Conducted and
Report Prepared by:

TRANSYSTEMS

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APPENDIX C	Field Notes
APPENDIX D	Mechanical Scope of Work
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INTRODUCTION

This report presents the findings of a Type I mechanical inspection of the machinery systems at the Brielle Road Bridge over the Glimmer Glass (Structure No. 1300-0W9) in the Borough of Manasquan in Monmouth County, New Jersey. The inspection was performed by Krishna Mehta, P.E. The inspection was conducted on November 28-29, 2023. The weather was fair with an average temperature of 38° F.

The Glimmer Glass Bridge is a single leaf heel trunnion bascule bridge that carries vehicular and pedestrian traffic across the Glimmer Glass. For the purpose of this report, and to be consistent with prior reports, the bridge is considered to be oriented east-west with the heel at the east and the toe at the west. The operator's house is located southeast of the movable span. Machinery components are identified as indicated on the attached figure.

The inspection was conducted in accordance with the scope of work provided by NJDOT. The inspection consisted of a visual and aural assessment of the operating and support machinery, including a review of components during operation. The inspection also consisted of measuring the bearings, wire ropes and roadway joints. The inspection included operating machinery, the rope and counterweight systems, live load supports, centering guides, heel trunnion assemblies, and span locks.

The ensuing sections of this report present a brief description of the mechanical systems, significant conditions that existed at the time of the inspection, conclusions as to the state of the inspected machinery, recommendations for corrective action, and associated cost estimates.

Supporting inspection material is provided in the following appendices:

Machinery schematics are presented in Appendix A.

Inspection photographs with captions are located in Appendix B.

Typed inspection field notes are presented in Appendix C.

The scope of work provided by the NJDOT is presented in Appendix D.

The Form EL-45Mc is located in Appendix E.

DESCRIPTION

The movable span is a unique single leaf heel trunnion bascule bridge with rolling counterweights. When in the closed position, the heel trunnions and live load bearings transfer dead load and live load from the bridge superstructure to the substructure and/or piers. While in operation, the heel trunnions and span operating machinery mounted atop a tower at the heel end of the span support the entire dead load of the structure, as well as operating loads from imbalance, wind, ice, etc. Rolling counterweights are provided to offset the weight of the leaf and lessen the operating loads; the counterweights are connected to the leaf with wire rope and follow curved treads down the back side of the tower during leaf operation.

The span operating machinery is mounted on a timber tower rising directly above the heel trunnion. The span operating machinery for the bridge consists of a single 3 horsepower, 1750 rpm A.C. electric motor with an integral brake assembly. The motor is part of a SEW-Eurodrive gearmotor with a ratio of 46:1. The output shaft of the gearmotor is coupled to line shafting that supports two (2) helical grooved rope drums.

At each rope drum a 1 1/4" diameter wire rope makes 2 1/2 wraps around the helical grooves with one end of the rope paying out to a turnbuckle connection at the toe of the span and the other end of the wire rope paying out to the three (3) roller counterweight system. During openings the rope drums rotate, thereby reeling wire rope in from the span side, while rope is payed out towards the counterweights. The rope drum rotation is reversed to close the span.

The bascule leaf is equipped with four (4) live load supports. Two (2) supports are provided at the tip of the leaf and are identified as the forward live load supports; the strike plates are mounted to the approach pier and contact the underside of each bascule girder in-line with the end floorbeam (there are not live load shoes at this location). The strike plates also incorporate guides along their outboard edges and function to center the span during seating. Two (2) supports are provided at the rear of the leaf and are identified as the rear live load supports. The rear strike plates are mounted to the bascule pier and contact live load shoes that are mounted to the underside of the rear floorbeam.

The bascule leaf is equipped with two (2) span locks, one outboard of each bascule girder at the toe end of the leaf. The span locks are manually operated screw clamp mechanism mounted on the approach pier outboard of each bascule girder. When the bascule span is seated, the screw clamps can be pivoted vertically and the screws lowered to engage receivers on the leaf. The screw clamps secure the tips of the leaves against the forward live load supports and prevent the leaf from being raised inadvertently.

OBSERVATIONS

Operation

The bridge was operated multiple times during the course of the inspection and all machinery systems were observed. No deficiencies were noted during operation. See Photo M01, Appendix B.

Balance

The bridge balance condition could not be evaluated by traditional mechanical and visual means. There is no open gearing where tooth contact patterns in the grease can be observed to help generally determine the bridge balance condition. The disc brake cannot be safely released during operation allowing the performance of a drift test. Refer to the electrical section of this report for motor ampere readings taken during operation to gain some insight into the overall bridge balance condition.

Span Drive Machinery

A platform along the west side of the tower is used to access the span drive machinery for inspection and maintenance. See Photo M02, Appendix B. As there is no ladder provided to this platform, a bucket truck was used to lift inspection personnel for access to this platform. See Photo M28, Appendix B.

Span Drive Gearmotor

The span drive machinery is powered by a 3hp SEW Eurodrive gearmotor with an integral disc brake. The gearmotor is provided with a wire mesh enclosure with a removable panel on the west side. Cotter pins are used to secure the panel in place. The cotter pins are heavily corroded and frozen in place. This may be a result of galvanic corrosion. See Photo M03, Appendix B.

The gearmotor, including the disc brake, are in as-new condition, well secured to the support, and with no noted paint deterioration or other issues. The enclosed reducer oil level is adequate. Note that the internal gearing and the disc brake were inaccessible as they require disassembly for inspection.

The output shaft of the gearmotor is not painted. This shaft has light corrosion. See Photos M03 and M04, Appendix B.

Machinery Supports and Frame

All supports and their connections to the tower are in fair condition. The components have paint deterioration and light corrosion in spots, notably at the welds for the gearmotor support. See Photo M05, Appendix B.

Bearings

The span drive machinery includes six plain bearing pillow block assemblies. The bearings are secured to steel supports that are secured to the timber structural tower. The bearings are in fair condition. There are isolated areas of minor corrosion, notably at cap and bearing fasteners and at the steel supports. The bearings are well secured, with no signs of movement during operation. See Photo M06, Appendix B.

Clearances were measured at all bearings. The clearances were compared to the maximum clearance for an ANSI RC6 fit to determine the estimated wear. An ANSI RC6 fit is the specified fit for a new bearing installation per the AASHTO LRFD Movable Highway Bridge Design Specifications. One of six measured bearings is within an RC6 fit indicating that these bearings are in like new condition. The maximum clearance for an ANSI RC9 fit is the threshold clearance which is our basis for adjusting bearing clearances by removing liners to compensate for wear or replacing worn bushings. Two of six measured bearings have exceeded the maximum clearance for an ANSI RC9 fit. The bearing clearances are similar to the clearances measured in 2017 and indicate that little wear has occurred during this period. The bearings are not equipped with liners that could be removed to compensate for wear. Replacement of the bearing bushings is not warranted at this time.

Shafts

The span drive shafts are in fair condition. The shafts have isolated areas of minor corrosion. See Photo M07, Appendix B.

Couplings

There are two double engagement gear couplings used within the span drive machinery. Both couplings are in fair condition. Based on a visual inspection, both couplings appeared to be adequately aligned and there is no evidence of movement at the interface of the hubs, shafts, and keys.

The south coupling, located at the output of the span drive gearmotor, has significant surface corrosion. The fasteners for this coupling are not painted. See Photo M08, Appendix B.

The north coupling is generally well painted. There is cracked paint at the cover split line, but no movement was felt during operation. See Photo M09, Appendix B.

Both couplings were noted to be lubricated, as light lubricant had pushed past the seals.

Operating Drums (Sheave Assemblies)

One operating drum is located at each end of the span drive machinery drivetrain. A single wire rope wraps around each drum and is connected to both the counterweight assembly and to the bascule span.

The operating drums are in fair condition. The assemblies have light paint deterioration and corrosion in spots. The drum flanges are secured to the drums with fasteners. Light impacted corrosion was noted between the flanges and the drums. See Photo M10, Appendix B.

Some of the drum grooves are inadequately lubricated and light wire imprints are noted in the grooves. See Photo M11, Appendix B. The portions of the ropes that are visible from the machinery platform have old or inadequate lubricant and the ropes are lightly corroded in spots. The area of the ropes in contact with the drum grooves have flats that indicate the wire rope has experienced moderate wear. See Photo M12, Appendix B.

The hubs of the drums are secured to drive shafts with keys. Light fretting was noted at the hub, shaft and key interface at the north drum. At the south drum, there is cracked paint at the hub and shaft interfaces but no fretting. See Photo M13, Appendix B. These are minor issues that do not require corrective action. Movement and fretting at these interfaces should be monitored as part of future inspections.

The 2017 inspection noted that there was abrasion against the rim extension of the drums from rubbing against the wire ropes as they try to "jump off" of the drums. This issue has been largely eliminated by the County mandating that the bridge only be operated in creep speed.

Support Systems

Heel Trunnion Assemblies

The movable leaf is supported by two heel trunnion assemblies. One heel trunnion frames into the rear of each bascule girder and is simply supported in two bearing housings.

All components of the heel trunnion assemblies were visually inspected for signs of damage and distress. The heel trunnion assemblies appeared to be in fair condition with adequate lubricant, but with paint deterioration and minor corrosion, especially at the south assembly. See Photo M14, Appendix B.

Live Load Supports and Centering Guides

Each leaf is equipped with four live load supports including two forward live load supports and two rear live load supports. The live load supports are in contact with the span closed and little movement under live load was noted.

The forward live load supports are in good condition. The strike plates incorporate guides to center the span during seating. The strike plates directly contact the underside of the bascule girder; no live load shoes are provided. The contact surface of the girders have light surface corrosion. There is light fretting surrounding the north assembly though no significant movement under traffic was noted. There was no evidence of contact at the centering guides that are integral to the toe end supports. See Photos M15 and M16, Appendix B.

The rear live load supports consist of pier mounted strike plates that contact shimmed shoes mounted to a structural support in the vicinity of the rear floorbeam. The rear supports are in fair condition with light corrosion.

Counterweight Rollers, Curved Tracks, Ropes, and Rope Attachments

The counterweight system includes counterweight assemblies, curved treads, and the ropes that pass from the counterweight assemblies, over the operating drums, and down to the bascule span. All components were visually inspected and found to be in fair condition.

As noted in the span drive section of the report, the wire ropes are inadequately lubricated in spots near the operating drums. The lubricant is also inadequate near the lift span rope connections and the ropes are moderately corroded in these areas. See Photos M17 and M18, Appendix B. The lubricant is also inadequate on the north rope that contacts the sheave on the counterweight side. See Photo M19, Appendix B. The connections to the girders are lightly corroded. See Photo M20, Appendix B.

Wire rope flats have developed as a result of wear against the grooves. The flats indicate the wire ropes have experienced moderate wear. The north rope was measured at 0.094" x 0.531" and the south rope was measured at 0.094" x 0.4375". These are both increases over the measurements taken during the 2017 Inspection. The rope diameters are 1.220" and 1.215" for the north and south ropes, respectively. These measurements both are smaller than those taken during the 2017 Inspection.

The connections of the ropes to the counterweight assemblies and to the lift span are in fair condition. The components are not painted and are covered in surface corrosion, though the integrity of the connections appears to be good. See Photo M21, Appendix B.

The wire rope adjusting devices are galvanized and in working condition. All pins and cotters are present and secure. The take-up threads are covered with heavy corrosion and may not allow for adjustment of the rope when needed. See Photo M22, Appendix B.

Each counterweight roller assembly is supported by a pair of steel curved tread plates secured to structural timbers with lag screws. The integrity of the system was good at the time of the inspection. The counterweight roller assemblies and the curved tread plates have surface corrosion but with no significant section loss was noted. The roller assemblies are well-lubricated.

As in past inspections, there are multiple missing or damaged tread plate lag screws. 15 screws are missing or damaged during the current inspection. See Photo M23, Appendix B. Despite the missing fasteners, no movement was noted at the plates during operation.

Some of the sections of tread plates are lubricated. It appears that the counterweight roller flanges and inboard sections of the curved tread plates are actively lubricated. Only

minor evidence of contact was noted during operations at the time of the inspection and no corrective action is necessary. See Photo M23, Appendix B.

Each curved tread plate assembly includes an upper and lower plate. There is a large step at the interface of the south inboard upper and lower curved tread plates. See Photo M24, Appendix B. This step does not appear to negatively affect bridge operation and no corrective action is warranted at this time though the supports should be monitored as part of future inspections.

Span Locks

The bridge is equipped with two clamp-style span locks. All components of the span locks are functional and in satisfactory condition including the pivot beams, screws, and receivers. Many of the components are galvanized steel and only minor corrosion was noted at the components. See Photo M25, Appendix B.

Auxiliary Generator

An auxiliary generator is provided at the southeast quadrant, near the operator's house. The generator did not turn on during this inspection. See Photo M26, Appendix B.

Roadway Joints

The elevation difference and horizontal gap across the roadway joints were measured and are presented in the field notes. The elevation difference and horizontal gap across the roadway joints is good at all locations, providing a smooth riding surface to vehicular and pedestrian traffic. This alignment also provides confirmation that the live load assemblies are properly adjusted. See Photo M27, Appendix B.

CONCLUSIONS

The bridge mechanical systems are in fair condition.

The most common issues are related to the paint and lubrication. Multiple machinery components are corroded though no significant section loss was noted with the exception of the cotter pins that secure the span drive gearmotor enclosure removable panel. The corroded pins should be replaced. Impacted corrosion at the interface of the drums and their flanges may be mitigated by maintenance efforts to seal and paint the connections.

The machinery lubrication is generally adequate with the exception of the operating drum grooves and the counterweight ropes.

Counterweight wire ropes have moderate wear as noted by the rope wear flats and the rope measurements. The lubricant is also inadequate along the length of the wire rope and the drum grooves. The old lubricant should be removed, the corrosion should be cleaned, and the entire length of the wire ropes should be visually inspected for broken wires. The entire surface of the wire ropes and drum grooves should then be relubricated. Monitor the progression of the flats (wear rate) and rope diameter of the ropes and program the wire ropes for replacement.

As in past inspections, numerous curved tread plates fasteners have failed. Routine failures may occur due to wear of the assemblies. Although the plates appeared to be adequately secured at the time of the inspection, it is recommended that failed fasteners be replaced.

The auxiliary generator did not turn on during this inspection. The auxiliary generator should be repaired.

RECOMMENDATIONS AND COST ESTIMATES

The following recommendations and cost estimates are separated into three groups.

Group I includes items that were identified in the Priority Repair Form at the time of inspection.

Group II includes items that may require additional engineering prior to implementation and/or may constitute major repairs.

Group III includes items that can be corrected as part of normal maintenance.

Cost estimates are provided for all items based on 2024 dollars.

Item	Recommendation	Group	Cost
1.	All Machinery. Clean and paint corroded or unpainted components.	III	\$25,000
2.	Span Drive Gearmotor Enclosure. Replace corroded cotter pins. Avoid the use of dissimilar metals if possible.	III	\$1,000
3.	Wire Ropes and Drums. Remove old lubricant, clean corrosion, inspect entire length for broken wires and lubricate the entire surface of wire ropes and drum grooves.	III	\$15,000
4.	Monitor the progression of the flats (wear rate) of the ropes and rope diameter and program the wire ropes for replacement.	II	\$5,000
5.	Seal and paint the connections of the drums and their flanges to mitigate impacted corrosion.	III	\$6,000
6.	Curved Treads. Replace missing, failed, or damaged lag screws.	III	\$10,000
7.	Auxiliary Generator. Repair the generator.	III	\$5,000
TOTAL			\$67,000

APPENDIX A
Machinery Schematics

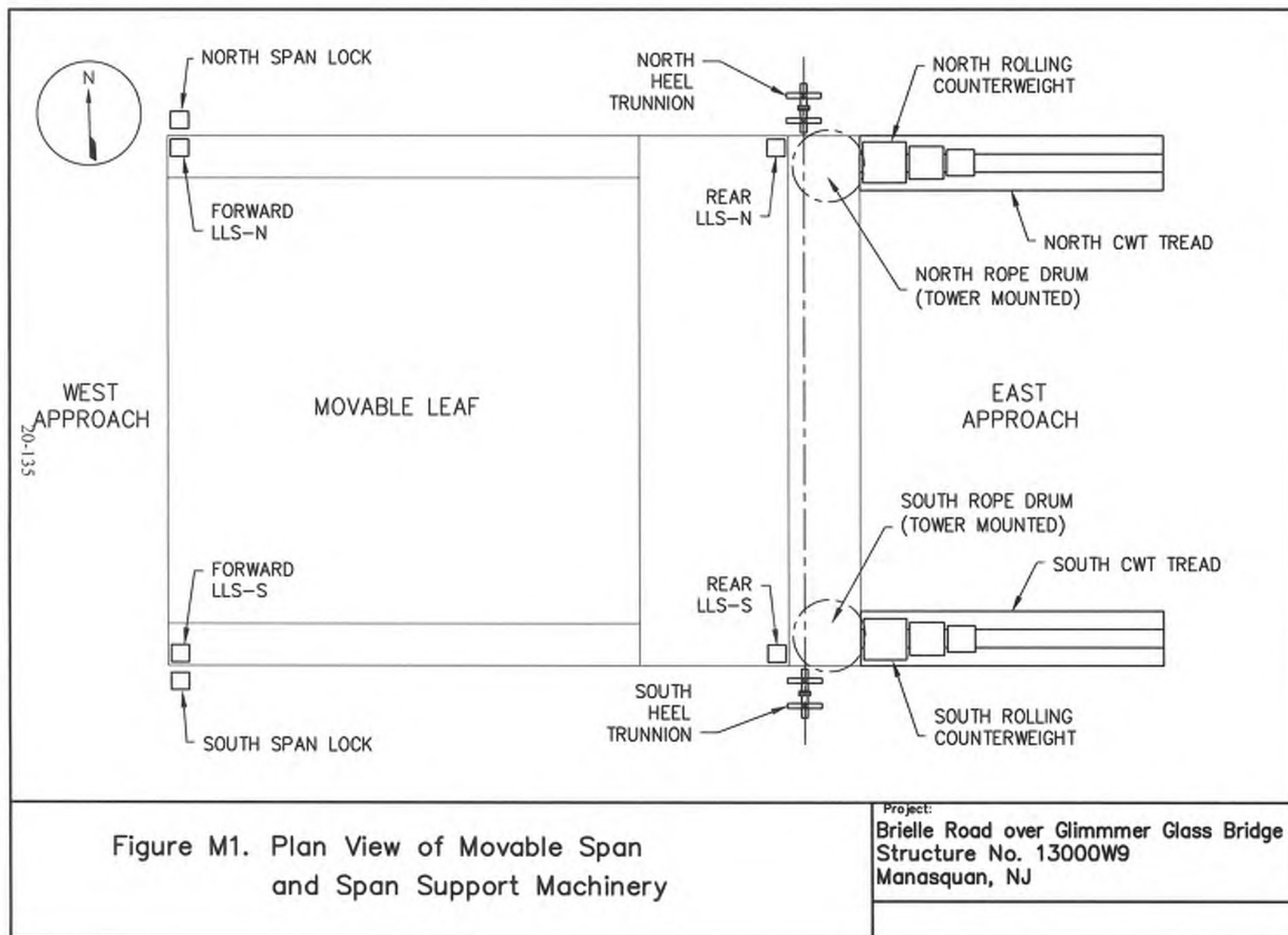


Figure M1. Plan View of Movable Span
and Span Support Machinery

Project:
Brielle Road over Glimmer Glass Bridge
Structure No. 13000W9
Manasquan, NJ

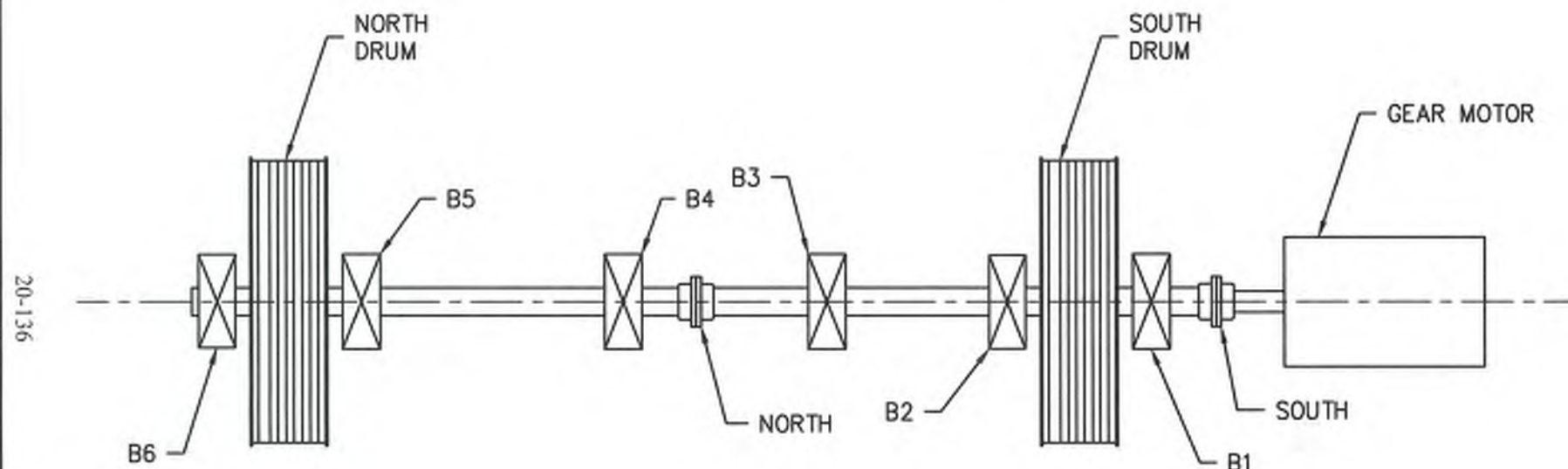


Figure M2. Plan View of Span Drive Machinery

Project:
Brielle Road over Glimmer Glass Bridge
Structure No. 13000W9
Manasquan, NJ

APPENDIX B
Photographs



Photo No: M01

Location:	Roadway
Description:	General view of the operating machinery.



Photo No: M02

Location:	Span Drive Machinery Platform
Description:	Platform along the west side of the tower is used to access the span drive machinery for inspection and maintenance.



Photo No: M03

Location: Span Drive Machinery Platform

Description: The gearmotor enclosure removable panel could not be removed as the cotter pins were heavily corroded and frozen in place.



Photo No: M04

Location: Span Drive Machinery Platform

Description: The output shaft of the gearmotor is not painted.



Photo No: M05

Location: Span Drive Machinery Platform

Description: The machinery supports exhibit paint deterioration and light corrosion.



Photo No: M06

Location: Span Drive Machinery Platform

Description: South operating drum and shaft bearing. The bearing and drum are in fair condition with light corrosion in spots.



Photo No: M07

Location:	Span Drive Machinery Platform
Description:	The shafts had isolated areas of minor corrosion.



Photo No: M08

Location:	Span Drive Machinery Platform
Description:	South coupling. Note the corrosion of the assembly.



Photo No: M09

Location: Span Drive Machinery Platform

Description: North coupling. Light cracked paint is noted at the split line, through no movement was noted.



Photo No: M10

Location: Span Drive Machinery Platform

Description: North operating drum. Note the impacted corrosion between the flange and the drum.

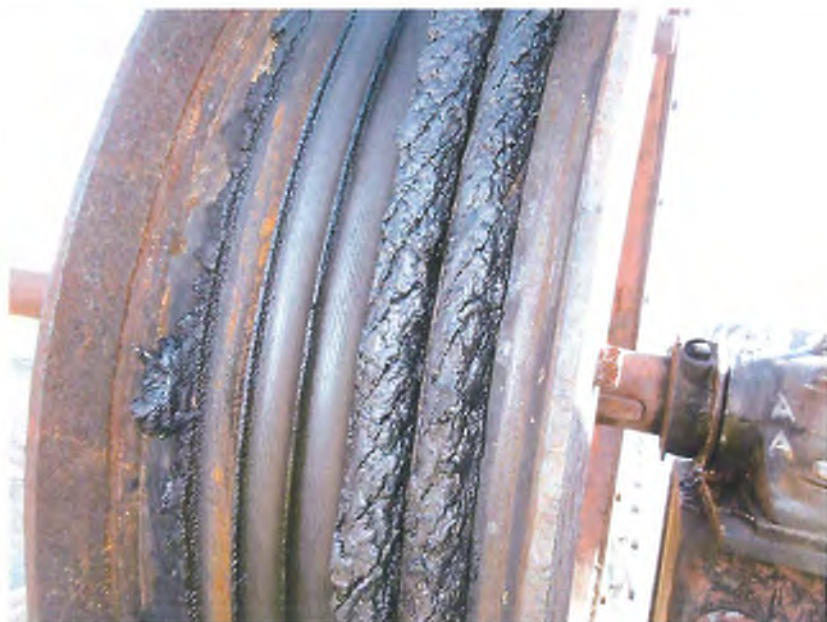


Photo No: M11

Location: Span Drive Machinery Platform

Description: South operating drum. Note the corrosion and wire imprints in the rope grooves.



Photo No: M12

Location: Span Drive Machinery Platform

Description: North Counterweight Rope. Area of the rope in contact with the drum grooves have flats that indicate the wire rope has experienced moderate wear.



Photo No: M13

Location: Span Drive Machinery Platform

Description: North drum assembly. There is light fretting corrosion at the hub, key and shaft interfaces.



Photo No: M14

Location: Bascule Pier, Roadway level

Description: South heel trunnion assembly. The components have light surface corrosion in spots.



Photo No: M15

Location: West Rest Pier, Pier Level

Description: South Forward Live Load Support. The strike plate and centering guide are in good condition.



Photo No: M16

Location: West Rest Pier, Pier Level

Description: North Forward Live Load Support. Note the contact on the strike plate.



Photo No: M17

Location:	Roadway Level at Bascule Span
Description:	North rope connection to lift span. The rope is corroded due to inadequate lubricant.



Photo No: M18

Location:	Roadway Level at Bascule Span
Description:	North rope connection to lift span. The rope is corroded due to inadequate lubricant.



Photo No: M19

Location:	Span Drive Machinery Platform
Description:	North rope that contacts the sheave on the counterweight side. The rope is corroded due to inadequate lubricant.



Photo No: M20

Location:	South Girder, Below Roadway Level
Description:	South rope connection to span. Note the corrosion.



Photo No: M21

Location: Span Drive Machinery Platform

Description: North counterweight assembly. The components are not painted and were covered in surface corrosion, though the integrity of the connections appears to be good.



Photo No: M22

Location: Roadway Level at Bascule Span

Description: South Take-up Threads. Covered with heavy corrosion and may not allow for adjustment of the rope when needed.

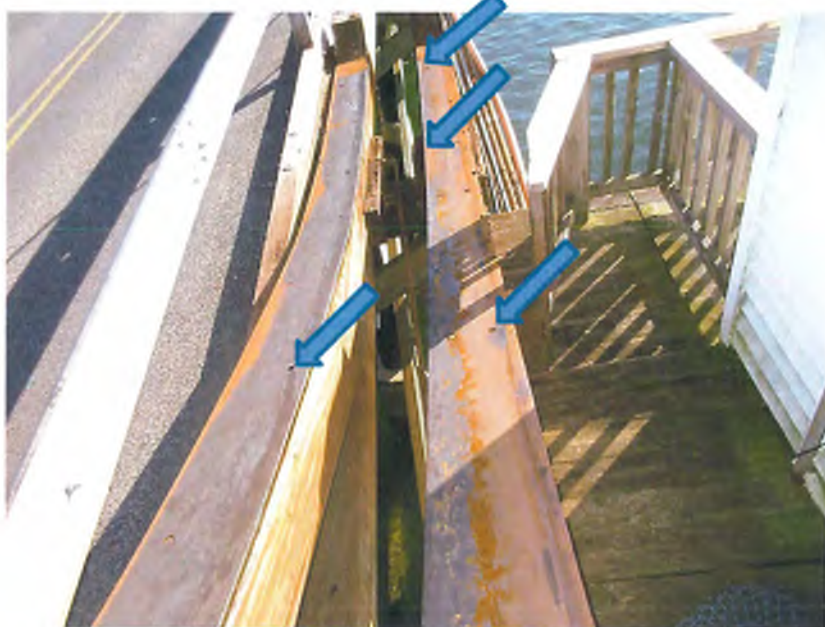


Photo No: M23

Location: Roadway Level

Description: South counterweight assembly curved tread plates. Note the missing lag screws (arrows).



Photo No: M24

Location: Roadway Level

Description: South counterweight assembly inboard curved tread plates. Note the step between the upper and lower curved tread plate.



Photo No: M25

Location: Roadway Level

Description: South span lock assembly. Many of the components are galvanized steel and only minor corrosion was noted at the components.



Photo No: M26

Location: Roadway Level

Description: Auxiliary generator. The generator did not turn on during the inspection.



Photo No: M27

Location: Roadway Level

Description: The elevation difference and horizontal gap across the roadway joints is good at all locations.



Photo No: M28

Location: Roadway Level

Description: A bucket truck was used to lift inspection personnel for access to the span drive machinery platform.

APPENDIX C

Field Notes

TranSystems

Field Notes

Date: 11/28/2023

Bridge: Glimmer Glass

Inspection By: KHM

Sheet No: 1

General:

Machinery

- There is no ladder access; a bucket truck was used to provide access up to the platform
- temporarily halt traffic using the gates when lifting personnel to the platform

Gearmotor:

Gearmotor:

- | | |
|---|--|
| -Data plate 2020 SEW Eurodrive (see notes to right) | SEW-Eurodrive Inc., USA |
| -Brake holds torque, some wind up present | RF77 DRN100LM4/BE5HR/TH |
| -Very good condition | 87.7956021003.0001X20.20 |
| -Oil level - okay | 3hp; Input: 1762 rpm / Output: 38 rpm |
| -Mounting - OK, welded angles corroded - Rec | Ma max: 7260 lb-in ; Mtg Position: M1 |
| | Lube: CLP HC 220 Synth Oil / 1.20 l |
| | Motor: 3 hp, 1899 rpm, 60 hz, NEMA A, 208-230YY/460Y |

Cover for Gear Motor Enclosure:

- Aluminum sheet/mesh construction
- Pins welded on inside - secured with 4 carbon steel cotters - corroded
- Could not remove cover - 1 of 4 cotters failed due to corrosion
- Rec - Replace with new cotters/check for dissimilar metals and guard against corrosion.

Coupling C1 (South):

- Double engagement gear coupling
- Paint deterioration
- Appears newer bolts coupling bolts have been installed - bolts not painted

Coupling C2 (North):

- Double engagement gear coupling
- Paint deterioration
- Cracked Paint at coupling split line but No movement was felt during operation

TranSystems

Field Notes

Date: 11/28/2023

Bridge: Glimmer Glass

Inspection By: KHM

Sheet No: 2

Mark	Clearance					2017 Inspection	Bolts
	RC6 fit	RC9 fit	Current				
			North	South	Average		
B1	0.010"	0.028"	N/A	0.031" @12:00	0.031"	0.031"	2 Bolt; Light Corrosion on 1 Cap Bolt
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							
B2	0.010"	0.028"	0.035" @11:00	N/A	0.035"	0.033"	4 Bolt; Light Corrosion on Bolt Heads
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							
B3	0.010"	0.028"	0.008" @7:00	0.012" @12:00	0.010"	0.010"	2 Bolt
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							
B4	0.010"	0.028"	0.018" @2:00	0.008" @10:00	0.013"	0.013"	2 Bolt
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							
B5	0.010"	0.028"	0.025" @12:00	N/A	0.024"	0.024"	4 Bolt
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							
B6	0.010"	0.028"	0.025" @12:00	N/A	0.025"	0.025"	4 Bolt
Lubrication: Fresh and Ample							
Other Remarks: Good Paint; No Corrosion; Full Shim							

Notes:

The installation tolerance for a new plain bearing is typically an RC6 fit. The maximum clearance for an ANSI RC9 fit is our typical threshold clearance for adjusting clearances to compensate for wear or replacement of worn shoes.

Shafts:

Runs straight and true, paint failure and light corrosion

Bearing B1-B6:

-All Dodge plain bearings

-secured with screws into steel, Double nuts on top.

-Paint fair with Minimal issues noted

-No signs of movement anywhere

-All well lubricated

-No significant issues noted

Drums:

-fair, Light spotty corrosion

-Wire imprints (Light) in spots

-Did not see side loading as noted in 2017 report

-some Light corrosion of rope/sheave grooves where not accessible with bridge seated

-Flanges secured with fasteners - Light pack rust in spots

-Fits on shafts: OK

-Light fretting at shaft/ hub interface at north sheave - Rec monitor

-Less apparent at south - Cracked Paint, little fretting

-Integrity - good

Counterweight Rope - North

-Connections are pin/turnbuckle, closed spelter socket at rope, galvanized turnbuckle and upper/lower clevis, lower pin painted minimal corrosion

-rope lube old

corroded wires near socket

Areas of moderate corrosion on wire rope along the span side

Areas of moderate corrosion on north rope that contacts the sheave on the counterweight side.

- rope flats indicate moderate wear - seen from machinery platform

- rope flats are measured at 0.094" X 0.531"

- Rope diameter is 1.220" (Nominal diameter is 1.250")

Counterweight Rope - South

-Connections are pin/turnbuckle, closed spelter socket at rope, galvanized turnbuckle and upper/lower clevis, lower pin painted minimal corrosion

-rope lube old

Areas of moderate corrosion on wire rope along the span side

- rope flats indicate moderate wear - seen from machinery platform

- rope flats are measured at 0.094" X 0.4375"

- Rope diameter is 1.215" (Nominal diameter is 1.250")

TranSystems

Field Notes

Date: 11/28/2023

Bridge: Glimmer Glass

Inspection By: KHM

Sheet No: 5

Counterweight System

-3 rollers per side

-Each cwt assembly rolls on a pair of steel plates secured with lag screws to timber

-2 plates, each beam, upper and lower

-North inboard plated covered with lube, outboard lube at inner edge only

-No signs of hard contact at inner edges

-Minimal noise during operation

-Internal bushings at rollers - lube fittings at ends of pins have been lubed recently

-some gouges in roller flanges appear to be casting defects

-Missing / damaged lag screws in roller plates:

- north inboard - 4

- north outboard - 2

- South inboard - 4

- South outboard - 5

15 Total either damaged or missing

-Clear that over time screw heads get contacted and are damaged.

-Steps between /w upper and lower plates - larger at south - IB

-Minor squeak at north near full open - possibly light contact at flange/plate - No rec.

- North tread joint is uneven.

Heel Trunnion

-Light corrosion

-Evidence of lube

-Mounting plate bolts failed but welded down and secured via bracket

-Riveted to girder

Centering Device

- Some paint chipping and corrosion. Functions adequately

Bridge Balance

-No open gearing and Operates in slow speed. Cannot confirm mechanically

Heel Bearings

-Light corrosion

-Evidence of lube

-Mounting plate bolts failed but welded down and secured via bracket

-Riveted to girder

Live Load Supports at Toe:

-Appear to be recent - fair contact at north and south, south contact partial

-No contact noted at guides

Locks:

-Manual screw assemblies

-good condition

-Light corrosion at threaded rod and socket and at base plate

-Minimal movement with traffic

Generator

- Did not turn on.

-Oil level - OK

-Oil film covers pan

-spotty corrosion on engine

-Support corrosion

-bolts - OK

TranSystems

Field Notes

Date: 11/29/2023

Bridge: Glimmer Glass

Inspection By: KHM

Sheet No: 8

Expansion Joints

	Location	Horizontal Gaps	Vertical Offset	
	SW	1"	Flush	
	W	1"	3/8" span high	
	NW	7/8"	1/4" span high	
	SE	3/4"	1/4" span low	
	E	7/8"	1/16" span high	
	NE	1"	1/4" span high	

Measured on 11/29/2023 at 12:00pm at a temperature of 38 deg F and Sunny

APPENDIX D
Scope of Work

SCOPE OF WORK FOR CONSULTANT INSPECTIONS

Type I (01/31/2023)
Monmouth County Bridges
Group 13H3 Cy 1
State Job No. 2207613

3. For Movable Bridges

a) Mechanical Inspection

13000W9 and Brielle Road over Glimmer Glass Bridge Single Leaf Bascule

For movable bridges, perform a routine inspection of the items listed below and observe (during a trial opening) for smooth operation, uniform and regular movement, heavy seating and impact, excessive vibrations, and uneven wear of bearing surfaces. Reference any applicable codes that may be affected by the condition, access, or layout of the equipment.

(3.a.1) Review previous inspection reports. Obtain and/or prepare the necessary drawings and other related data and services required in the mobilization for the inspection specified herein. Include the coordination of the inspection specified herein with the U.S. Coast Guard, Department forces, and Monmouth County. Inspection/testing activities that disturb vehicular traffic shall only be performed during off peak hours.

FOR SECURITY REASONS, A 72-HOUR NOTIFICATION MUST BE GIVEN PRIOR TO THE START OF THE ON-SITE INSPECTION. ACCESS TO THE BRIDGE WILL NOT BE ALLOWED WITHOUT THIS ADVANCE NOTIFICATION. THE FOLLOWING AGENCIES MUST BE NOTIFIED:

Structural Evaluation	609-963-1365
Movable Bridge Engineering	609-462-6229
Monmouth County	732-431-6556

(3.a.2) Perform a visual inspection* of the operating machinery and associated components. Utilizing the checklist, EL-45Mc, identify and record any and all deficiencies, particularly those areas needing immediate corrective action in order to keep the bridge safely in service. Clean, remove and replace equipment inspection covers or enclosure panels, as required, to perform the inspections specified herein. Unless stated elsewhere herein, the Department's personnel will not be utilized for this purpose. Record date, time and any condition that may affect inspection results at the time of testing. Reference any applicable codes that may be affected by the condition, access, or layout of the equipment. Record all nameplate information for all mechanical equipment in the field notes. Detail the procedures and equipment used for each task in the field notes.

The mechanical equipment inspection will include, but not necessarily be limited to, a detailed examination for smooth operation, uniform and regular movement, synchronization, interlock, mounting, overheating, vibration, wear, rust, corrosion, noise, slippage, engagement, applied tension, lubrication, oil levels, oil contamination, dirt accumulation, fluid pressure, leakage, alignment, clearances, chordal thickness, backlash, air pressure, weather tightness, safety and signs of distress or pending distress with regards to the following components:

- Open gearing
- Enclosed gearing
- Machinery supports and frames.
- Bearings
- Shafts
- Keys, keyways, splines, and mechanical shrink-fit assemblies
- Couplings
- Fasteners
- Auxiliary drive system(s)
- Strike plates
- Brakes
- Engine-generator
- Sheave Wheel Assemblies
- Wire Ropes and Sockets

(3.a.2a) For bascule spans, the inspection will also include the following additional components:

- Live-load shoes
- Span locks
- Curved racks
- Trunnion assemblies
- Bumper Blocks

(3.a.3) Measure and record chordal thickness and backlash of gears where feasible. Compare to original values and the values stated in previous reports and report any changes. Provide copies of measurements in the inspection reports.

(3.a.4) Measure and record clearance of bearings. Compare to original values and the values stated in previous reports and report any changes. Provide copies of measurements in the inspection reports.

(3.a.5) Perform in-depth brake inspection. Measure and record the torque settings of all motor and machinery brakes. Measure and record thickness of all brake pads and drum clearances. Check brake engagement timing and synchronization during a test operation. Compare all measurements with previous data and report any changes. Provide copies of measurements in the inspection reports.

(3.a.6) Remove all trunnion-bearing caps. Inspect all trunnion bearings for scoring and other signs of severe wear. Compare to conditions stated in previous reports and report any changes.

(3.a.7) Remove counterweight pocket caps. Inspect all counterweight pockets and caps for damage, rusting, or water intrusion. Inspect all counterweight ballast material for rusting, corrosion, or wear. Compare to conditions stated in previous reports and report any changes.

(3.a.8) Measure and record the socket liner clearance and lock bar dimensions of the span locks. Compare to original values and values stated in previous reports and report any changes. Provide copies of measurements in the inspection reports.

(3.a.9) Measure and record clearance at expansion joints between movable span(s) and fixed spans. Compare to original construction values and report any changes. Provide a record of measurements and temperature.

(3.a.10) Verify span/counterweight balance by observing span operation. Record date, time, weather, wind velocity and direction at the time of observation. Detail observations in field notes.

(3.a.11) Prepare and submit a concise report of the inspection specified herein. The report shall include:

1. A description of the structure, its mechanical operating system, and all major equipment
2. A copy of this scope of work
3. Completed inspection form EL-45Mc
4. Span drive machinery layout
5. Span lock machinery layout
6. A typed copy of all field notes
7. A summary of conclusions and recommendations
8. Cost estimates for recommended repairs
9. Final Mechanical Inspection Report in electronic form

*The dismantling of equipment, except as specifically stated elsewhere in this text, is not intended as part of this scope of work. However, if during the course of this inspection the consultant believes that dismantling of equipment is warranted, the consultant shall advise the Department of this fact. No payment for the dismantling of equipment will be made without prior approval.

Note: Any condition requiring immediate corrective action or priority repair shall be promptly reported, in writing, to the Department.

APPENDIX E

NUMERICAL DRAWBRIDGE MECHANICAL INSPECTION REPORT

New Jersey Department of Transportation
DRAWBRIDGE MECHANICAL INSPECTION REPORT

ROUTE: N/A BRIDGE: Brielle Rd. over Glimmer Glass Bridge STRUCTURE NO.: 1300-0W9
 DATE: 11 / 28 / 2023 WEATHER: Fair TYPE: I INSPECTION
(I or II)
 INSPECTOR: Krishna Mehta, P.E. TEMPERATURE: 38 ° F

MECHANICAL

The following were evaluated for smooth operation, uniform & regular movement, synchronization, interlock, mounting, overheating, vibration, wear, rust, noise, slippage, engagement, applied tension, lubrication, oil levels, oil contamination, dirt accumulation, fluid pressure, leakage, alignment, clearances, chordal thickness, backlash, air pressure, weather tightness, safety, and signs of distress:

3=Operational/Needs Minor Work 2=Operational/Needs Major Work
1=Non-Operational S=Satisfactory N=Not Applicable

OPEN GEARING	N	ENCLOSED GEARING	S
MACHINERY SUPPORTS & FRAME	3	BEARINGS	S
SHAFTS	S	KEYS, KEYWAYS, SPLINES, SHRINK FITS	S
COUPLINGS	3	FASTENERS/MOUNTINGS	S
AUXILIARY DRIVE	N	BRAKES	S
TRUNNION ASSEMBLIES	3	SPAN LOCKS	S
SHEAVE WHEEL ASSEMBLIES	3	CURVED RACKS	N
SPAN GUIDES	N	BUMPER BLOCKS	N
LIVE LOAD SHOES/STRIKE PLATES	S	BUFFERS	N
WIRE ROPES AND SOCKETS	2	TENSION ADJUSTING DEVICES	3
COUNTERWEIGHT / BALANCE CHAINS	3	SPAN LEVELING DEVICES	N
CENTERING DEVICES	S	WEDGE OR SCREW-JACK MACHINERY	N
LATCH BAR MACHINERY	N	RING GEAR	N
CENTER BEARING	N	BALANCE WHEELS AND TRACK	N
SPAN BALANCE	S	ENGINE/GENERATOR	1
COUNTERWEIGHT POCKETS AND CAPS	N	COUNTERWEIGHT BALLAST MATERIAL	N

ATTACH EXPLANATION OF WORK NEEDED

NEW JERSEY DEPARTMENT OF TRANSPORTATION

MONMOUTH COUNTY

TYPE I

ELECTRICAL INSPECTION REPORT

STATE JOB NO. 2207613

GROUP NO. 13H3

Structure No. 1300-0W9

**Brielle Road over Glimmer Glass Bridge
Borough of Manasquan**

Date of Inspection: November 28, 2023

Inspection Conducted and
Report Prepared by:

TRANSYSTEMS

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INTRODUCTION

This report presents the findings of a Type I electrical inspection conducted on November 28 and 29, 2023 by Nicholas Sprankle and Sohini Roy on the Brielle Road bridge over Glimmer Glass, Monmouth County, New Jersey (Structure No.1300 - 0W9). Electrical testing of the bridge power and distribution system was performed by Scott Testing, Inc of Hamilton Township, NJ. The work involved the integrity evaluation of the structure from a safety and electrical functionality point of view. The electrical inspection included a visual inspection of all electrical equipment and associated components, traffic safety equipment, uniformity and smooth operation of the span, physical condition, equipment grounding, bonding, current/voltage readings of electrical components, interlocking of the system, etc.

The following codes and standards were considered for this inspection and report:

- American Association of State Highway and Transportation Officials (AASHTO)
- NFPA 70, National Electric Code (NEC)
- NFPA 101, Life Safety Code (LSC)
- National Electrical Manufacturers Association (NEMA)
- Manual on Uniform Traffic Control Devices (MUTCD)
- Code of Federal Regulation, Title 33 (CFR)

DESCRIPTION

The Brielle Road bridge over Glimmer Glass, Monmouth County, New Jersey (Structure No. 1300-0W9) is an electrically powered, single leaf heel trunnion bascule bridge with electrically operated warning gates and barrier gate.

Vehicular traffic control and safety equipment for the bridge consists of two sets of traffic signals, one at each bridge approach and two electrically operated warning gates, one at each bridge approach. Additionally, the west approach is provided with a barrier gate. The traffic control and traffic safety equipment are fully integrated into the bridge control system to provide both control and safety interlocks for bridge operation.

Marine traffic navigation lighting and control for the waterway consists of channel marking navigation lights, span mounted red and green marine traffic navigation lights, marine radio and an air horn.

The control system for the bridge, including safety interlocks, bridge sequence of operation, and bridge status indication utilizes the bridge relay logic controls. The complete system provides interlock and controls which allow the bridge to be opened and closed in a particular sequence. The bridge operated smoothly in accordance with AASHTO and MUTCD requirements with the exception of the opening of the west barrier gate with manually operated span locks disengaged. See Appendix E - Interlock Test Procedure for the interlock results.

OBSERVATIONS

During the inspection, the bridge was operated by the bridge tender several times, under the direction of the inspection team, to monitor all electrical aspects and measure the general functionality of the bridge.

The following outlines the observations of the visual inspection of the bridge, particularly the configuration and status of the electrical installation and electrical equipment, assuring the systems comply with all local and national standards and codes and can continue to operate reliably and safely.

Traffic Signals

The bridge is equipped with two (2) sets of three (3) aspect traffic signal fixtures at the west approach of the bridge and two (2) sets of three (3) aspect traffic signal fixtures at the east approach of the bridge. At each approach, one set is mounted horizontally on a cantilevered arm which extends over halfway of the roadway and other is mounted vertically on the signal pole. No signs of insect intrusion have been observed. All traffic signal heads are in good operational condition at the time of the inspection. The traffic stop bars have been inspected on each approach. The stop bars are in satisfactory condition. The time delay from "yellow" to "red" at the time of the inspection is 3.5 seconds. The time delay from "red" signal to traffic gate permissive is 10 seconds.

The condition of the traffic signals is considered to be satisfactory with the following deficiency:

- The mast arm of the east traffic signal is turned away from traffic.
See Photo E01.

Warning Gates

The bridge is provided with two warning gates, one at each of the bridge approaches. The gates are manufactured by B&B Roadway, model VW-4, and are of the vertical arm type. Each warning gate straddles the full width of the roadway when lowered and blocks all vehicular and pedestrian traffic. Both gates are in good physical and operational condition.

Both gate motors are in good condition and are provided with hand crank mechanisms and a hand crank limit switch to prevent electrical operation of the gate when the hand crank handle is inserted. Door limit switches are also provided, on both doors, to prevent operation of the warning gates while the doors are open. Inside the warning gate housing, there are control enclosures where gate starters, gate arm light controller and termination blocks are housed.

The warning gate motor nameplate data was recorded and is as follows:

Manufacturer:	Leeson
Category#	111950.00
Frequency:	60 Hz
Rating/KW:	1/2 HP/0.37 KW
Duty:	Continuous

RPM: 1725 RPM
Ambient Temp.: 40°C
Operating Voltage: 115/208-230
Encl.: TEFC
Full Load Current: 8.8/8.4 Amps

As part of the inspection, the warning gate arm heights were measured and recorded as follows:

Warning Gate Designation	Gate Arm Height
East Warning Gate	43"
West Warning Gate	51"

Insulation resistance was tested for the warning gate motors by Scott Testing, Inc of Hamilton, NJ, with the results in Appendix G. The east and west warning gate insulation resistances were found to be above the minimum acceptable level.

The condition of the warning gates is considered to be good with the following deficiencies:

- There is evidence of water intrusion and corrosion on the reducer fasteners and base inside the west warning gate. See Photo E02.
- A hinge on the door for the west warning gate is missing its pin. See Photo E03.
- The center light on the west warning gate arm is secured with electrical tape. See Photo E04.
- Wire nut splices are present within the east warning gate in violation of AASHTO Design Specifications Section 8.9.2. This is typical for both gates. See Photo E05.
- The outer jacket of the SO cable for the east warning gate is damaged. See Photo E06.
- The east warning gate hand crank limit switch does not actuate reliably with the hand crank inserted. See Photo E07.
- The east warning gate interior conduit hub is not ground bonded. See Photo E08.
- The east warning gate has unlabeled conductors. This is typical for both gates. See Photo E09.
- The configuration of the west gates is not compliant with MUTCD section 4J.

Barrier Gates

The west approach is provided with one tractor-type barrier gate manufactured by B&B Roadway. The barrier gate is in generally good condition and operates well. The barrier gate blocks both lanes when closed. The bridge is not provided with a barrier gate on the east approach, and the installation of a barrier gate on this approach would not be practical due to the age of the structure and the amount of work that would be required. Insulation resistance was tested for the barrier gate motor by Scott Testing, Inc of Hamilton, NJ, with the results in Appendix G. The barrier gate insulation resistance was found to be above the minimum acceptable level.

The barrier gate motor nameplate data was recorded and is as follows:

Manufacturer: Baldor Reliance
Phase/Frequency: 3/60 Hz
Speed: 1675/415 RPM
Voltage: 230 Volts
Current: 6.6/8.4 Amps
HP: 2/0.5 HP
Frame: 184C

The condition of the barrier gate is considered to be generally good with the following deficiencies:

- Wire nut splices are present within the barrier gate motor junction box in violation of AASHTO Design Specifications Section 8.9.2. See Photo E10.
- There is corrosion on the LFMC conduit feeding the lights on the barrier gate. See Photo E11.
- There is corrosion on a limit switch terminal inside the barrier gate motor junction box. See Photo E12.
- There is a missing grommet for the control conductors inside the barrier gate motor junction box. See Photo E13.

Bridge Air Horn

A marine horn is installed at the bridge outside the operator house to provide audible communications with marine traffic in accordance with U.S. Coast Guard Guidelines. The horn is operational and in good condition. No deficiencies were noted for the air horn during the inspection.

Navigation Lights System

The bridge is provided with four (4) span mounted navigation lights, two (2) green and two (2) red lighting fixtures. On each side of the bridge, there is one (1) green span navigation light at the toe end and one (1) red navigation light at the center of the span. Due to the nature of the installation, it is difficult to perform maintenance on the lights in the event of lamp failure.

Six (6) channel marking navigation lights are provided in the fender area of the bridge. Three (3) fixtures are provided at each of the piers. These channel marking navigational lights are in fair physical and operational condition. No signs of insect intrusion have been observed.

The condition of the span navigation lighting system is considered to be good with the following deficiencies:

- The northwest pier light is not located at the end of the fender as described in Title 33, Section 118.80 of the Code of Federal Regulations. This is typical for all four corners of the fender system. See Photo E14.
- The axis light on the east fender has a cracked mounting base. See Photo E15
- The axis light on the east fender has broken flanges on the enclosure lid, which can lead to water ingress. See Photo E16.

- The red lift span light on the south approach is not located at the free end of the span, as described in Title 33, Section 118.80 of the Code of Federal Regulations. This is typical for both approaches. See Photo E17.

Span Drive Motor

The span drive motor is mounted on top of the tower at the east side of the bridge. An enclosure is installed to protect the exposed motor from the harsh environment

The span drive motor nameplate data was recorded and is as follows:

Manufacturer:	Sew EuroDrive
Phase/Frequency:	3/60 Hz
Frame:	NEMA A
Rating:	3 HP
Speed:	1899 RPM
Voltage:	208-230 YY/460Y

The condition of the span drive motor is considered to be generally good with no deficiency noted.

Motor Brakes

The drive motor is provided with an integral disc type motor brake.

Insulation resistance was tested for the motor brake by Scott Testing, Inc of Hamilton, NJ, with the results in Appendix G. The motor brake insulation resistance was found to be above the minimum acceptable level.

The condition of the motor brake is considered to be generally good with no deficiency noted.

Circuit Breakers/Fuses

All circuit breakers have been visually inspected and found to be in good condition. There is no evidence of circuit breakers tripping during any test openings.

Relays/Timers

Control relays have been visually inspected and found to be in satisfactory condition.

Contactors/Starters/Overloads

All contactors, starters and overloads have been visually inspected and found to be in satisfactory condition.

Switches/Pushbuttons

Switches and pushbuttons located on the operator panel and on and other control areas are discussed in their respective section. General purpose switches for lighting and receptacles are all in satisfactory condition and working properly.

Indicating Lights

Indications on the operator panel include the following:

- "Span Up" and "Span Not Seated" to indicate the span position
- "Locks", "Barrier" and "Gates" indicators for the status of the span lock, barrier gate and the warning gates
- "Span and Nav Lights" indicator for the fully seated span position with the navigation lights on
- Green, yellow and red indicators for traffic signals.

The condition of the indicating lights is considered to be good with the following deficiency:

- Three indicating lights for the traffic signals are unlabeled on the control console. See Photo E18.

Resistors/Reactors

A dynamic braking resistor is installed in the operator house above the span motor drive.

The dynamic braking resistor nameplate data was recorded and is as follows:

Manufacturer: Sew EuroDrive
Part#: 08224234
Serial#: 2039877
Typ: BW027-012
Resistance: 27 Ohms
Power: 1.2 kW

The condition of the braking resistor is considered to be satisfactory with no deficiency.

Control Console

Traffic and span operations are controlled at the control console, located in the operator's house. The control console is divided into two sections. The upper section contains the control surface upon which all switches, pushbuttons and indicating lights for control of the traffic equipment and span are mounted. The raise span and lower span control pushbuttons have been recently replaced with yellow pushbuttons. The control console is also provided with a "mission control" E-stop, mushroom-head type pushbutton that sends an automated message to Monmouth County personnel and prohibits all span operation when depressed.

The lower section is a control cabinet that contains the various motor contactors, relays, and timers for traffic control and span operation. The span operating voltage and current meters are mounted on the wall directly above the control console and have been abandoned in place. The bridge control system is operating on relay-based logic controller and is in satisfactory condition.

The location of the control console does not provide the operator with a clear view of the span. The operator had to go outside the operator's house multiple times during span

operations to verify that traffic was clear. Though a CCTV system has been installed on the bridge as an aid for the operator's vision, the operator informed us that it has not been operational for at least a year.

The condition of the control console is considered to be good with the following deficiencies:

- The meters installed above the control console have been abandoned in place. The ammeter is functional, but the range is too large to be useful. The ammeter scale is 0-150A, while the current during operation does not exceed 20A. See Photo E19.
- The labels on the control console switches, pushbuttons, and indicating lights are temporary. See Photo E20.
- There are wire nut splices and unorganized wiring within the control cabinet, in violation of AASHTO Design Specifications Section 8.9.2. This is typical for both the lower and the upper sections of the control console. See Photo E21.
- The foot switch is not operational. See Photo E22.
- The original span selector switch with the "raise" and "lower" positions has been taped up and abandoned in place.

Limit Switches

Limit switches are provided on different electrical components for sending feedback signals to the bridge control system to monitor span position, span lock position, and gate position.

Span Position: The span fully seated position is sensed by two proximity sensor switches that are mounted on the span girders, for position indication, control and interlock functions.

Span Lock: Each manually operated span lock is provided with an engaged proximity sensor switch to indicate the driven and pulled positions of the lock bar.

Warning and Barrier Gates: Each of the warning gates are provided with an eight-position rotary cam limit switch for position indication, control and interlock functions as well as individual limit switches to indicate whether a hand crank is inserted or a door is open to prevent electrical operation of the gate.

The barrier gate is provided with various types of limit switches for position indication and interlock. Proximity sensor switches are provided for gate fully open and fully closed, and lever type limit switches for lock pin driven and retracted. The barrier gate is provided with an eight-position rotary cam limit switch for control, indication and interlock with the bridge control system. The barrier gate is also provided with plunger type micro-switches on the access covers to prevent electrical operation of the gate when the access cover is opened.

The condition of the limit switches is considered to be good with no deficiency noted.

Transformers

The transformers have been visually inspected.

The condition of the transformers is considered to be satisfactory with no deficiencies noted.

Safety Switches

Safety disconnect switches are located throughout the structure. The warning gates and barrier gate are provided with internal toggle-type motor safety disconnect switches.

The condition of the safety switches is considered to be good with the following deficiency:

- There is no local disconnect switch provided for the span drive motor and the motor brake.

Submarine Cable System

The bridge is provided with a submarine cable to provide power and control to devices on the west of the navigable channel. The bridge is provided with two submarine cable terminal cabinets, one for each side of the span. The location of the west terminal cabinet is exposed and not easily accessible for maintenance.

The condition of submarine cable system is considered to be fair with the following deficiencies:

- The east submarine cable cabinet terminals show signs of corrosion with unlabeled conductors. See Photo E23.
- The grounding conductor for the east submarine cable cabinet is not insulated with green color, and the grounding connection shows signs of oxidation. See Photo E24.
- The east submarine cable is supported with four strands of its cable armor wrapped around two lag bolts which may provide inadequate support. See Photo E25.

Lightning Protection

There is no lightning protection system installed at the bridge.

Lighting Fixtures

Lighting fixtures have been inspected throughout the bridge.

The condition of lighting fixtures is considered to be satisfactory with the following deficiency:

- The lamp in the east rest pier, under the operator's house, has failed and is missing a globe. See Photo E26.

Emergency Lighting Units

An emergency lighting unit is provided in the operator's house.

The condition of the emergency lighting unit is considered to be good with no deficiency.

Electric Heating System

The condition of the electric heating system is considered to be good with no deficiency noted.

Block Heater

There is a block heater installed for the generator.

The condition of the block heater system is considered to be poor with the following deficiency:

- At the start of the inspection, the GFCI was found to be tripped for the block heater. A cold start was unsuccessful. Upon resetting and allowing the block heater to warm up, the genset would still start. It did not trip again during the inspection. This was sent as a Priority Repair 1 on 11/30/2023 and the repair form can be found in Appendix F of this report.

Fire/Smoke Detection System

The smoke detector in the operator's house is in satisfactory physical condition.

Utility Service

The bridge electric utility service is derived from 3 x 25kVA, pole mounted single phase transformers located on the southeast approach. The service is then fed to the meter and routed into the main disconnect switch located inside the operator's house, and finally into the manual transfer switch located adjacent to the main disconnect, where it is distributed to loads throughout the bridge. The incoming service voltage is 120/208VAC, 3 phase. The utility meter is located on the outer wall of the operator's house. The service equipment is in generally satisfactory condition. The bridge is provided with a 100 Amp, 3 phase main service disconnect breaker in the operator control house, which was found to be in satisfactory condition at the time of inspection.

The condition of the bridge's main utility service is considered to be satisfactory with the following deficiencies:

- There are signs of corrosion on the utility feed conduit from the meter and pole mounted transformers to the bridge on the southeast approach. See Photo E27.

Standby Generator and Transfer Switch

A standby generator is located outside of the operator's house. The generator showed 21.8 hours of total run time. The generator did not start during the inspection.

The generator nameplate data was recorded and is as follows:

Manufacturer: Onan
Model#: 15JC D12524B
Serial#: L880195265
Speed/Frequency: 1800 RPM/60 Hz
Power: 15 KW, 18.8 KVA
Power Factor: 0.8 Lag

Phase: 3
Voltage: 120/240 V
Insulation: NEMA Class F
Ambient Temp.: 40°C

The condition of the standby generator is considered to be poor with the following deficiencies:

- The standby generator shows signs of surface corrosion. See Photo E28.
- The cover for the frequency meter is cloudy. See Photo E29.

An electrically operated manual transfer switch (MTS) is provided adjacent to the service disconnect breaker, which allows for power transfer between the normal utility source and the backup generator source.

The transfer switch nameplate data was recorded and is as follows:

Manufacturer: Asco
Cat#: D03ATSA30104CGXC
Serial#: 2367236-009RE
Rating: 104 Amps

The condition of the manual transfer switch is considered to be good with no deficiency.

Variable Speed Drives

The motor drive controller was recently replaced with a 3-horsepower motor manufactured by Sew-EuroDrive. The variable frequency drive is installed in the operator's house.

The span motor drive nameplate data was recorded and is as follows:

Manufacturer: Sew EuroDrive
Phase/Frequency: 3/60 Hz
Frame: NEMA A
Rating: 3 HP
Speed: 1762 RPM
Voltage: 208-230 YY/460Y
Current: 8.9/4.45 Amps
P.F.: 0.73

The condition of the variable speed drive is considered to be good with no deficiency.

Sound Powered Telephones/Intercom System

Communication between personnel is facilitated through the use of marine radio. The condition of the communication system is considered to be good with no deficiencies noted.

CCTV System

The bridge is equipped with cameras mounted on masts which provide the operator the view of the bridge and the roadway. One overhead monitor is provided in the control house.

The condition of the CCTV system is considered to be poor with the following deficiencies:

- There are signs of corrosion on the camera enclosure mounted on the east traffic signal arm. See Photo E30.
- The camera lens on the east traffic signal arm is cloudy. See Photo E31.
- The overhead monitor inside the operator's house has been inoperable for at least a year. See Photo E32.

Bypass Switches

There is only one bypass pushbutton on the control console.

The condition of the bypass switch is considered to be fair with the following deficiency:

- The bypass switch on the control console is not labeled adequately, the functionality of the bypass switch cannot be deciphered from the label "Bypass".

Switches and Receptacles

The condition of the switches and receptacles in the control and machinery areas are in satisfactory condition with the following deficiency:

- The receptacle cover on the platform below the operator's house, is open and has a pin stuck in the ground connection of the receptacle. See Photo E33.

Interlock Testing

Safety interlock verification was performed as per the Traffic Safety Interlocking Matrix, provided by the DOT. The span operated as expected without incident each time. The interlock tests were performed successfully for the traffic signals and gates to ensure that the span could not be operated out of sequence. Results can be found within Appendix E of this report.

The condition of the interlocks is considered to be fair with the following deficiency:

- With the manually operated span locks disengaged, the operator can open the west barrier gate from the control console. This was sent as a Priority Repair 1 on 11/29/2023 and the repair form can be found in within Appendix F of this report.

General Wiring, Conduit, Enclosures and Boxes

Raceways, conduit, fittings, boxes and wiring were inspected throughout the bridge. The condition of the raceways, conduits, enclosures and boxes throughout the bridge is considered to be fair with the following deficiencies:

- The conduit on the southeast approach has rust and is missing conduit straps. See Photo E34.
- The junction box on the platform below the operator's house has a loose cover with missing screws and is taped off on the side. See Photo E35.

- The cover is missing for the circular conduit body on the platform below the operator's house, with wire nut splices within, in violation of AASHTO Design Specifications Section 8.9.2. See Photo E36.
- There is an unplugged hole in a junction box located on the platform below the operator's house. See Photo E37.
- The flexible conduit on the southeast approach is pulled loose from its fitting. See Photo E38.
- The junction box on the platform below the operator's house has signs of water intrusion. See Photo E39.
- The panelboards are not provided with panel labels. See Photo E40.
- The flexible conduit on the southeast approach of the moving span is damaged and secured with tape. See Photo E41.
- There is an unsupported and abandoned cable near the span drive motor. See Photo E42.
- The conduit body on the platform below the operator's house is damaged. See Photo E43.

CONCLUSION

The overall condition of the bridge electrical system is generally fair. There was a priority interlocking issue present in the bridge control system, which still exists since the last Type II inspection. Conduit throughout the bridge is generally in fair condition, and many areas showed areas of poor installation and damages on the conduits, which can cause water ingress. Traffic safety equipment on the bridge is in good condition.

Navigation lighting is in generally satisfactory condition, though the placement of the fender navigation lights do not comply with U.S. Coast Guard requirements. The outboard fender navigation lights should be relocated as required. The span drive system was recently replaced and is in satisfactory condition.

RECOMMENDATIONS AND COST ESTIMATES

The following recommendations and cost estimates are separated into three groups:

- Group I Includes items that were identified in Priority Repair Forms at the time of inspection.
- Group II Includes items that may require additional engineering prior to implementation and/or may constitute major repairs.
- Group III Includes items that can be corrected as part of normal maintenance.

Cost estimates are provided for all items based on 2023 dollars.

Item	Description	Group	Cost
1	Modify existing relay logic to ensure span locks are properly interlocked with west barrier gate operation.	I	\$25,000.00
2	Verify the block heater has adequate output to warm the generator.	I	\$5,000.00
Total for Group I			\$30,000.00
1	Repair the footswitch in the operator's house.	II	\$3,000.00
2	Investigate the source of water ingress in the west warning gate. Provide proper seal for the warning gate to prevent further water ingress.	II	\$1,000.00
3	Relocate the fender navigation lights to the end of the fender in accordance with U.S. Coast Guard Guidelines.	II	\$5,000.00
4	Install access for the span navigation lights and replace them with pivoting type, green over red navigation lights.	II	\$20,000.00
5	Install new instrumentation suited for the current range for the span operation.	II	\$3,000.00
6	Evaluate the relocation of the west warning gate from the barrier gate to meet the MUTCD guidelines.	II	\$25,000.00
7	Install new permanent labels for the control console switches, pushbuttons, and indicating lights.	II	\$2,000.00
8	Provide labels for the wires of the east submarine cable cabinet, east and west warning gates, and panelboards.	II	\$2,000.00
9	Replace the frequency meter on the standby generator.	II	\$1,000.00
Total for Group II			\$62,000.00
1	Replace the housing at the west warning gate arm.	III	\$2,000.00
2	Replace all the wire nut splices throughout the span with mechanical crimps.	III	\$2,000.00

3	Provide proper grounding for the east warning gate interior conduit hub.	III	\$500.00
4	Spot clean and paint on all the corroded surfaces and enclosures throughout the span.	III	\$2,000.00
5	Clean and protect the limit switch terminals and install grommet for the control wires inside the barrier gate motor junction box.	III	\$1,600.00
6	Replace the east side center fender navigation light.	III	\$3,000.00
7	Provide green tape over the grounding wire of the east submarine terminal cabinet and replace the grounding lug.	III	\$500.00
8	Consult with the cable manufacturer regarding the proper mounting of the submarine cables.	III	\$3,000.00
9	Replace the Lamp and install a globe in the platform below the control house.	III	\$500.00
10	Replace the camera lens on the east traffic signal arm.	III	\$1,000.00
11	Replace the overhead monitor inside the operator's house.	III	\$1,000.00
12	Replace the receptacle on the platform below the operator's house.	III	\$1,000.00
13	Install new screws with a new cover on the junction box on the platform below the operator's house.	III	\$500.00
14	Replace the damaged flexible conduit on the southeast approach.	III	\$2,000.00
15	Seal the junction box below the operator's house.	III	\$500.00
16	Replace the flexible cable on the southeast approach.	III	\$1,000.00
17	Replace the cracked coupling on the east rest pier on the platform below the operator's house.	III	\$500.00
18	Remove the abandoned cable near the span drive motor.	III	\$1,000.00
19	Reposition the mast arm of the east traffic signal such that it faces traffic.	III	\$500.00
20	Install a new pin on the hinge of the door for the west warning gate.	III	\$500.00
21	Wrap the damaged outer jacket of the SO cable with tape for the east warning gate.	III	\$500.00
22	Adjust the hand crank limit switch such that it actuates reliably when a hand crank tool is inserted.	III	\$500.00
Total for Group III			\$25,600.00
TOTAL ELECTRICAL COSTS			\$118,000.00

APPENDIX A
Photographs

Structure No.:	1300-0W9	Route:	N/A	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass Bridge	Insp. Date:	11/28-29/23		



Photo No: E01

Location: East Traffic Signal

Description: The mast arm is turned away from traffic.



Photo No: E02

Location: West Warning Gate

Description: There is evidence of water intrusion and corrosion on the reducer fasteners and base inside the warning gate.



Photo No: E03

Location:	West Warning Gate
Description:	A hinge on the door is missing its pin.



Photo No: E04

Location:	West Warning Gate
Description:	The center light on the gate arm is secured with electrical tape.



Photo No: E05

Location:	East Warning Gate
Description:	Wire nut splices are present within the gate. This is typical for the west warning gate.



Photo No: E06

Location:	East Warning Gate
Description:	The outer jacket of the SO cable is damaged.

Structure No.:	1300-0W9	Route:	N/A	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass Bridge			Insp. Date:	11/28-29/23



Photo No: E07

Location:	East Warning Gate
Description:	The hand crank limit switch does not actuate reliably with the hand crank inserted.



Photo No: E08

Location:	East Warning Gate
Description:	The interior conduit hub is not ground bonded.



Photo No: E09

Location:	East Warning Gate
Description:	The gate has unlabeled conductors. This is typical for the west warning gate.



Photo No: E10

Location:	Barrier Gate
Description:	Wire nut splices are present within the gate motor junction box.



Photo No: E11

Location:	Barrier Gate
Description:	There is corrosion on the LFMC feeding the lights on the gate.



Photo No: E12

Location:	Barrier Gate
Description:	There is corrosion on a limit switch terminal inside the gate motor junction box.

Structure No.:	1300-0W9	Route:	N/A	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass Bridge			Insp. Date:	11/28-29/23



Photo No: E13

Location:	Barrier Gate
Description:	There is a missing grommet for the control conductors inside the gate motor junction box.



Photo No: E14

Location:	Northwest Fender Navigation Light
Description:	The pier light is not located at the end of the fender. This is typical for all four corners of the fender system.



Photo No: E15

Location:	East Fender
Description:	The axis light has a cracked mounting base.



Photo No: E16

Location:	East Fender
Description:	The axis light has broken flanges on the enclosure lid, which can lead to water ingress.

Structure No.:	<u>1300-0W9</u>	Route:	<u>N/A</u>	Cycle No.:	<u>20</u>
Name:	<u>Brielle Road over Glimmer Glass Bridge</u>	Insp. Date:	<u>11/28-29/23</u>		



Photo No: E17

Location:	South Approach
Description:	The red lift span light is not located at the free end of the span. This is typical for the north approach.



Photo No: E18

Location:	Operator's House - Control Console
Description:	Three indicating lights for the traffic signals are unlabeled.

Structure No.:	<u>1300-0W9</u>	Route:	<u>N/A</u>	Cycle No.:	<u>20</u>
Name:	<u>Brielle Road over Glimmer Glass Bridge</u>	Insp. Date:	<u>11/28-29/23</u>		



Photo No: E19

Location:	Operator's House - Control Console
Description:	The meters installed above the control console have been abandoned in place.



Photo No: E20

Location:	Operator's House - Control Console
Description:	The labels on the control console switches, pushbuttons, and indicating lights are temporary.

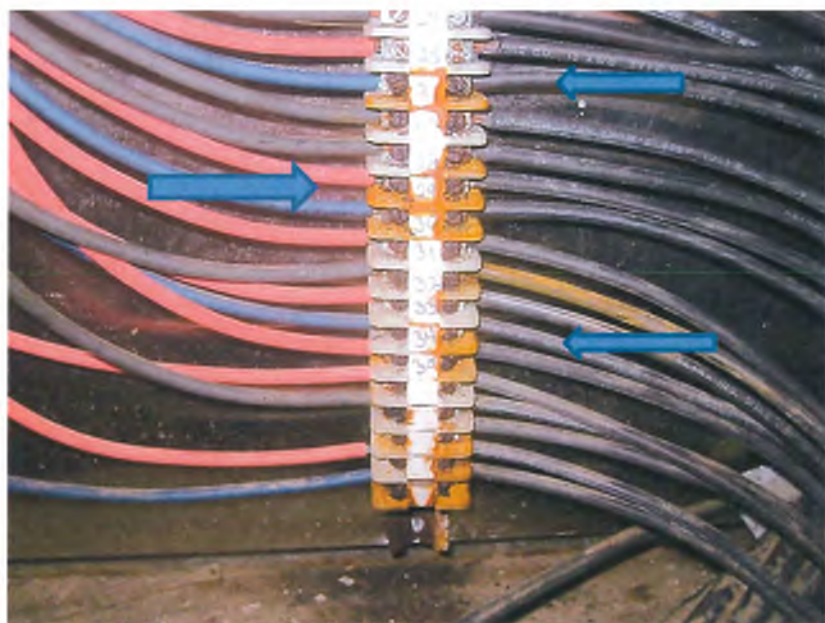


Photo No: E23

Location:	East Rest Pier
Description:	The terminals show signs of corrosion with unlabeled conductors.



Photo No: E24

Location:	East Rest Pier
Description:	The grounding conductor is not insulated with green color, and the grounding connection shows signs of oxidation.

Structure No.: 1300-0W9 Route: N/A
Name: Brielle Road over Glimmer Glass Bridge

Cycle No.: 20
Insp. Date: 11/28-29/23



Photo No: E25

Location: Platform below Operator's House

Description: The cable is supported with four strands of its cable armor wrapped around two lag bolts which may provide inadequate support.



Photo No: E26

Location: Platform below Operator's House

Description: The lamp has failed and is missing a globe.



Photo No: E27

Location: Southeast Approach

Description: There are signs of corrosion on the utility feed conduit at the southeast approach from the meter and pole mounted transformers to the bridge.



Photo No: E28

Location: East Roadway Level

Description: The standby generator shows signs of surface corrosion.

Structure No.:	1300-0W9	Route:	N/A	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass Bridge			Insp. Date:	11/28-29/23



Photo No: E29

Location:	East Roadway Level
Description:	The cover for the frequency meter on the standby generator is cloudy.



Photo No: E30

Location:	East Traffic Signal
Description:	There are signs of corrosion on the camera enclosure mounted on the signal arm.



Photo No: E31

Location:	East Traffic Signal
Description:	The camera lens is cloudy.



Photo No: E32

Location:	Operator's House
Description:	The overhead monitor has been inoperable for at least a year.



Photo No: E33

Location:	Platform below Operator's House
Description:	The receptacle cover is open and has a pin stuck in the ground connection of the receptacle.



Photo No: E34

Location:	Southeast Approach
Description:	The conduit has rust and is missing conduit straps.



Photo No: E35

Location: Platform below Operator's House

Description: The junction box has a loose cover with missing screws and is taped off on the side.



Photo No: E36

Location: Platform below Operator's House

Description: The cover is missing for the circular conduit body with wire nut splices within.



Photo No: E37

Location:	Platform below Operator's House
Description:	There is an unplugged hole in the junction box.



Photo No: E38

Location:	Platform below Operator's House
Description:	The flexible conduit is pulled loose from its fitting.

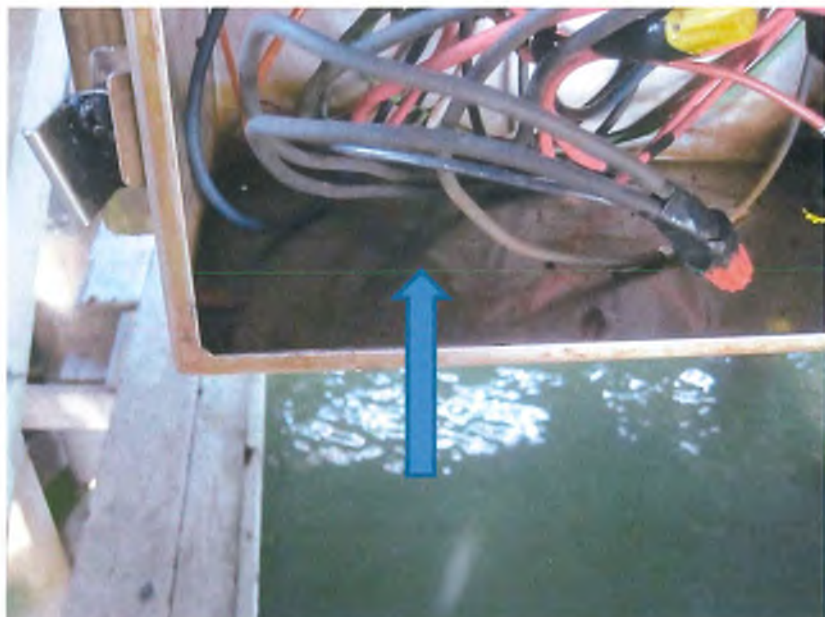


Photo No: E39

Location:	Platform below Operator's House
Description:	The junction box has signs of water intrusion.



Photo No: E40

Location:	Operator's House
Description:	The panelboards are not provided with panel labels.



Photo No: E41

Location:	Southeast Approach
Description:	The flexible conduit is damaged and secured with tape.



Photo No: E42

Location:	Span Drive Motor
Description:	There is an unsupported and abandoned cable near the motor.

Structure No.:	1300-0W9	Route:	N/A	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass Bridge			Insp. Date:	11/28-29/23



Photo No: E43

Location:	Platform Below Operator's House
Description:	The conduit body is damaged.

APPENDIX B
Field Notes

Brielle Road over Glimmer Glass Bridge FIELD NOTES

Weather: 38F, windy

Near side- East, Far Side: West

MTS switch (SR 0902), (SR 0900): No ATS

Control Console:

- Meters installed above the console have been abandoned in place. (SR 0858)
- Control console switches and pushbuttons indicate poorly labeled lights. (SR 0884)
- Control Console cabinet contained disorganized wiring and wire nut splices. (SR 0893/SR 0894)
- The footswitch was not operational and has been abandoned. (SR 0899)

Marine Nav Lighting:

- Tip Lights are not installed per CFR Title 3 Section 118.8C.
- No deficiency in marine air horn and warning gongs.

Traffic Signals

- Stop bar – OK (SR 0905)
- Cloudy light lens on the pole of the near traffic signal (SR 0906)
- Corrosion on the enclosure for the pole of the near traffic signal (SR 0907)
- Near signal mast is turned away from traffic. (SR 0904)

Warning Gates:

- Heights: Near Side Warning Gate: 43", Far Side Warning Gate: 51"
- Wire nut splices inside both gates (SR 0913/NS8623)
- Near on-coming warning gate: metal plates instead of washers SR 0945, Hand crank LS out of alignment SR 0946, Conduit hub not ground bonded NS8626

Barrier Gates:

- Wire nut splices in the barrier gate motor junction box(NS 8613)
- Field conduit damages at warning lights(SR 0920)
- Grommet missing for control wires(SR 0932)
- Corrosion on Limit Switch terminal(SR 0929)
- West Barrier Gate: Wire nut splices (SR 0927)

CCTV:

- Camera mount at near signal arm is corroded (SR 0909)
- Camera lens at near signal arm is clouded (SR 0906)
- Monitor is off/system is inoperable (SR 0855) since a year.

No span transmitter

Generator:

- Did not start.
- GFCI was tripped for the block heater
- Runtime: 21.8 hours (SR 0936)
- Surface Corrosion (SR 0939)
- Gauge – not operational due to water ingress (SR 0938)

Drive Cabinets:

- New drive: SR0842/SR 0877-79- during operation

Emergency Lights:

- Operational-checked(SR 0840)

Electric Heating System:

- Heater inside control rooms: Dayton: works (SR 0837)
- AC not used in this weather (SR 0838)

Fire Extinguisher:

- qty(2), inside control room has maintenance tag, outside control room-no maintenance tag SR 0867

Panelboards:

- Not provided with panel labels: SR 0835

Smoke detector:

- Relay(SR 0839)

Dynamic braking resistor :

- SR 0844, No nameplate – NS8696

LIMIT SWITCH:

- SR 0875-76, corrosion on LS enclosure SR0958

Radio :

- SR 0860 – Functional

Interlock Testing:

- The span motor breaker was switched off prior to testing "Open Span" to prevent popping off any of the span locks.

NAMEPLATE DATA:

Transfer switch

Manufacturer:	Asco
Cat#:	D03ATSA30104CGXC
Serial#:	2367236-009RE
Rating:	104 Amps

Span motor drive

Manufacturer: Sew EuroDrive
 Phase/Frequency: 3/60 Hz
 Frame: NEMA A
 Rating: 3 HP
 Speed: 1762 RPM
 Voltage: 208-230 YY/460Y
 Current: 8.9/4.45 Amps
 P.F.: 0.73

Generator

Manufacturer: Onan
 Model#: 15JC D12524B
 Serial#: L880195265
 Speed: 1800 RPM (60Hz)
 Power: 15 KW, 18.8 KVA
 Power Factor: 0.8 Lag
 Phases: 3Ø
 Voltage: 120/240 V
 Insulation: NEMA Class F
 Ambient Temp.: 40°C

Braking Resistor

Manufacturer: Sew EuroDrive
 Part#: 08224234
 Serial#: 2039877
 Typ: BW027-012
 Resistance: 27 Ohms
 Power: 1.2 kW

Span drive motor

Manufacturer: Sew EuroDrive
 Phase/Frequency: 3/60 Hz
 Frame: NEMA A
 Rating: 3 HP
 Speed: 1899 RPM
 Voltage: 208-230 YY/460Y

Barrier gate motor

Manufacturer: Baldor Reliance
 Phase/Frequency: 3/60 Hz
 Speed: 1675/415 RPM
 Voltage: 230 Volts
 Current: 6.6/8.4 Amps
 HP: 2/0.5 HP
 Frame: 184C

Warning gate motor

Manufacturer: Leeson
 Category#: 111950.00
 Frequency: 60 Hz

Rating/KW:	1/2 HP/0.37 KW
Duty:	Continuous
RPM:	1725 RPM
Ambient Temp.:	40°C
Operating Voltage:	115/208-230
Encl.:	TEFC
Full Load Current:	8.8/8.4 Amps

APPENDIX C
Electrical Scope of Work

b) Electrical Inspection

*13000W9 and Brielle Road over Glimmer Glass Bridge
Single Leaf Bascule*

(3.b.1) Review previous inspection reports. Obtain and/or prepare the necessary drawings and other related data and services required in the mobilization for the inspection specified herein. Include the coordination of the inspection specified herein with the U.S. Coast Guard, Department forces and Monmouth County. Inspection/testing activities that disturb vehicular traffic shall only be performed during off peak hours.

FOR SECURITY REASONS, A 72-HOUR NOTIFICATION MUST BE GIVEN PRIOR TO THE START OF THE ON-SITE INSPECTION. ACCESS TO THE BRIDGE WILL NOT BE ALLOWED WITHOUT THIS ADVANCE NOTIFICATION. THE FOLLOWING AGENCIES MUST BE NOTIFIED:

Structural Evaluation	609-963-1365
Movable Bridge Engineering	609-462-6229
Monmouth County	732-431-6556

(3.b.2) Perform a visual inspection* of the electrical equipment and associated components. Utilizing the checklist, EI-451e, identify and record any and all deficiencies, particularly those areas needing immediate corrective action in order to keep the bridge safely in service. Clean, remove and replace equipment inspection covers or enclosure panels, as required, to perform the inspections specified herein. Unless stated elsewhere herein, the Department's personnel will not be utilized for this purpose. Record date, time and any condition that may affect inspection results at the time of testing. Reference any applicable codes that may be affected by the condition, access, or layout of the equipment. Record all nameplate information for all electrical equipment in the field notes. Detail the procedures and equipment used in the field notes.

The electrical equipment inspection will include, but not necessarily be limited to, a detailed examination for smooth operation, uniform and regular movement, mounting, applied tension, vibration, overheating, wear, rust, carbon deposits, loose terminations, noise, lubrication, alignment, clearances, spring tension, arcing, insulating fluid levels, insulating fluid contamination, dirt accumulation, insulation values, system grounding, enclosure grounding, equipment grounding, bonding, current/voltage/kilowatt readings, interlock, weather tightness, safety and signs of distress or pending distress with regards to the following components:

- Advance warning signs
- Traffic signals and warning gongs
- Warning and/or barrier gates
- Horn and navigation lighting
- Drive motor(s)
- Brake motor(s)
- Circuit breakers/fuses
- Relays/timers
- Contactors/starters
- Overloads
- Switches/pushbuttons
- Indicating lights
- Resistors/reactors

Type I

Instruments (gauges, meters, dials, selsyns)
 Control consoles
 Panel boards
 Limit switches
 Transformers
 Safety switches
 Raceways, conduits, fittings, boxes
 Enclosures
 Insulators
 Wiring
 Lightning protection
 Service lighting
 Emergency lighting units
 Electric heating system
 Span lock motor(s)
 Transfer switch(es)
 Generator(s)
 Battery charger(s)
 Louver motor(s)
 Block heater(s)
 Programmable controller(s)
 Thyristor motor control system(s)
 Tachometers(s)
 Over speed/under speed switch(es)
 A/B transfer switch(es)
 Sound powered telephones/intercom system
 Elevators
 Interlocks/bypass switches

(3.b.3) Perform the following for a minimum of two complete cycles (raising and lowering):

- (1) Measure and record drive motor amperes per terminal simultaneously for each motor.
 - (2) Measure and record drive motor voltage between terminals simultaneously for each motor.
- Note: Voltage readings shall be taken from the load side of the motor's disconnect switch.
- (3) Measure and record utilities' incoming voltages, per phase simultaneously.
 - (4) Measure and record generator output voltages, per phase simultaneously.

Present, in table form, the above measurements for every five degrees of span movement. Record date, time, weather, wind velocity and direction at the time of testing. Detail the procedures and equipment used in field notes.

(3.b.3a) Review the above measurements and compare to previous inspection results. Discuss changes and identify any possible defects or inconsistencies in the operation of the drive motor and/or span. Record the power factor of each drive motor. Compare power requirements of the span motor during raising and lowering. Identify any abnormal condition in the balance of the span and counterweight.

Type I

(3.b.4) Perform overload current, and ground fault current tests as recommended by the manufacturer, in order to verify the calibration of all three phase circuit breakers. Test motor overload units. Compare overload heater rating with motor full load current rating to verify proper sizing.

(3.b.5) Perform insulation resistance testing (megger) of all power circuit wiring from the main disconnect to and including each motor device. Perform surge comparison tests on all induction-type drive motors. Review the data obtained and identify any defects or inconsistencies. Compare to original values and values stated in previous reports. Provide a record of the readings in the inspection report.

Traffic Safety Inspection

(3.b.6) Perform a visual inspection* of the traffic safety equipment and associated components. Utilizing the checklist, EL-45S, identify and record any and all deficiencies, particularly those areas needing immediate corrective action in order to keep the bridge safely in service. Clean, remove and replace equipment inspection covers or enclosure panels, as required, to perform the inspections specified herein. Unless stated elsewhere herein, the Department's personnel will not be utilized for this purpose. Compare observations with Manual of Uniform Traffic Control Devices (MUTCD) guidelines to determine if any deficiencies exist. Record date, time and any condition that may affect inspection results at the time of testing. Record all nameplate information for all electrical equipment in the field notes. Detail the procedures and equipment used in field notes.

The traffic safety equipment inspection will include, but not necessarily be limited to, a detailed examination for smooth operation, uniform and regular movement, synchronization, interlock, mounting, slippage, engagement, applied tension, alignment, clearances, backlash, weather tightness, safety and signs of distress or pending distress with regards to the following components:

- Marine Navigation Lighting
- Warning Gongs
- Traffic Signal Fixtures
- Traffic Signal Pole
- Traffic Signal Operation
- Warning Gate Cabinets & Machinery
- Warning Gate Arms
- Warning Gate Lights
- Warning Gate Operation
- Barrier Gate Cabinets & Machinery
- Barrier Gate Arms
- Barrier Gate Lights
- Barrier Gate Operation
- Barrier Gate Locking Mechanisms

(3.b.7) Inspect the condition and operation of marine navigation lighting. Observe and check the physical condition of the navigation lighting, security of mountings, wiring to navigation lighting and aids, and internal wiring. Verify that upon operator's initialization, bascule bridge span navigation lighting turns green at bridge fully open position. Inspect the navigation lighting for proper luminance, lens condition, focus, clarity, and insect intrusion. Confirm proper visibility in accordance with United States Coast Guard (USCG) Standards stated in CFR title 33 section 118.65. Include conduit and wiring, light lens diameters, visibility to marine traffic, and number of fixtures. Provide a record of details and measurements. Any navigation lighting deficiency is to be considered a condition that requires immediate repair.

Type I

(3.b.8) Inspect for proper operation and proper physical condition of all warning gongs, poles, mountings, fixtures, and operation. Verify that upon operator's initialization, warning gongs repetitively sound at red traffic signal until the raising of the span or span lock release.

(3.b.9) Inspect condition and operation of the traffic signals. Observe and check the physical condition of the traffic signals, security of fixture mountings, wiring to traffic signal lights, and internal wiring. Verify that upon operator's initialization, the traffic signals switch from green to yellow to red. Record the time delay from yellow to red signal. Record the time delay from red signal to traffic gate permissive. Inspect the traffic signals for proper luminance, lens condition, focus, clarity, and insect intrusion. Include conduit and wiring, light lens diameters, visibility to traffic, and number of fixtures per approach. Provide a record of details and measurements.

(3.b.10) Inspect condition and operation of the warning gates. Include mounting base condition, storage position, deployed position, gate arm length, motor condition and specifications, machinery, wiring, flashing light operation, operation timing (for lowering and raising), hand crank operation. Compare to previous data and report any changes. Provide a record of all details and measurements. Verify that upon operator's initialization, the traffic gates completely lower to stop traffic and raise to allow traffic to proceed.

(3.b.11) Inspect condition and operation of the barrier gates. Include mounting base condition, storage position, deployed position, gate arm length, motor condition and specifications, machinery conditions, wiring condition, flashing light operation, operation timing (for lowering and raising), hand crank operation, locking operation, and distance to traffic warning gates and movable span. Compare to previous data and report any changes. Provide a record of all details and measurements. Verify that upon operator's initialization, the barrier gates completely lower/close and lock across the whole roadway to block traffic and raise/open to allow traffic to proceed.

(3.b.12) Inspect safety interlocking circuits forward / upstream and reverse / downstream. Include observations of operation with scenarios listed below. Verify for all possible combinations that:

INTERLOCK TESTS ARE NOT TO BE ATTEMPTED WITHOUT MOVABLE SPAN AND GATES BEING COMPLETELY CLEAR OF ROADWAY TRAFFIC AND PEDESTRIANS.

Warning gates do not lower during a green signal
 Barrier gates do not lower (or close) during a green signal or with any warning gate up/raise
 Barrier gates do not lower (or close) during a red signal with any warning gate up/raise
 Span locks do not pull during a green signal
 Span locks do not pull during a red signal, with any warning gate and/or barrier gate raise/open
 Span locks do not pull during a red signal, with warning gate down and any barrier gate raise/open
 Span does not lift with any gate up/raise or traffic signal green.
 All gates do not raise, or open and/or traffic signal cannot turn green with span raised.
 Span locks do not drive with span raised
 Barrier gates do not raise (or open) with span locks pulled
 Warning gates do not raise with any barrier gate down/closed and/or span locks pulled
 Traffic signals cannot turn green with any gate down/closed and/or span locks pulled

Provide recommendations (if any) to improve the safety of the system. Identify and record any and all deficiencies that do not comply with the NIDOT Movable Bridge Engineering Group – Bypass and Interlocking Standards, particularly those areas needing immediate corrective action, in order to keep the bridge safely in service. Any deficiencies related to the safety of the traffic system must be immediately reported to the Department and a priority repair letter must be generated to correct the deficiency. Information necessary to supplement the priority repair letter must be provided.

Type I

Information may include providing electrical schematics, hand marked sketches, limit switch settings verification and adjustment procedures, field wiring changes and bridge operational program logic change.

(3.b.13) Prepare and submit a concise report of the inspection specified herein. The report shall include:

1. A description of the structure, its electrical system, and all major equipment
2. A description of the traffic safety system, and all related equipment
3. A copy of this scope of work
4. Completed inspection form EL45Ec
5. Completed inspection form EL45S
6. Electrical equipment layout
7. A typed copy of all field notes
8. A summary of conclusions and recommendations
9. Cost estimates for recommended repairs
10. Final report in electronic form

*The dismantling of equipment, except as specifically stated elsewhere in this text, is not intended as part of this scope of work. However, if during the course of this inspection the consultant believes that dismantling of equipment is warranted, the consultant shall advise the Department of this fact. No payment for the dismantling of equipment will be made without prior approval.

Note: Any condition requiring immediate corrective action or priority repair shall be promptly reported, in writing, to the Department.

61-4854-97

New Jersey Department of Transportation DRAWBRIDGE ELECTRICAL INSPECTION REPORT

ROUTE: _____	BRIDGE: _____	STRUCTURE NO: _____
DATE: ____/____/____	WEATHER: _____	TYPE _____ INSPECTION _____
INSPECTOR: _____	TEMPERATURE _____ °F	

ELECTRICAL

The following were evaluated for smooth operation, uniform & regular movement, mounting, applied tension, vibration, overheating, wear, rust, noise, carbon deposits, loose terminations, dirt accumulation, insulation, grounding, bonding, current/voltage/kilowatt readings, interlocks, weather tightness, safety, and signs of distress:

3=Operational/Needs Minor Work 2=Operational/Needs Major Work

1=Non Operational S=Satisfactory N=Not Applicable

TRAFFIC SIGNALS/WARNING GONGS	HORN	
WARNING/BARRIER GATES	SERVICE/EMERGENCY LIGHTING	
SMOKE DETECTION/ROOM HEATING	SOUND POWERED PHONES	
CONTROL CONSOLE / INDICATOR LIGHTS	INSTRUMENTS (GAUGES, METERS, SELSYN)	
PROGRAMMABLE CONTROLLERS	SWITCHES/PUSHBUTTONS	
DRIVE AMPERAGE/VOLTAGE READINGS	RADIO TRANSmitters/RECEIVERS	
NAVIGATION LIGHTING	CIRCUIT BREAKERS/FUSES	
PANEL BOARDS/SAFETY SWITCHES	RELAYS/TIMERS	
RACEWAYS/CONDUIT/FITTINGS/BOXES	INSULATORS	
ENCLOSURES	TRANSFER SWITCHES	
CONTACTORS/STARTERS/OVERLOADS	LIGHTNING PROTECTION	
RESISTORS	ELEVATORS	
TRANSFORMERS	BRAKE MOTOR(S)	
LIMIT SWITCHES	GENERATOR	
DRIVE MOTORS	FREQUENCY OF GENERATOR	
SPAN LOCK MOTOR(S)	TACHOMETER	
BATTERIES/BATTERY CHARGER(S)	WIRING	
OVER SPEED-UNDER SPEED SWITCH	BLOCK HEATERS	
PRIMARY DRIVE SYSTEM	LOUVER MOTOR(S)	
SECONDARY DRIVE SYSTEM	BYPASSES/INTERLOCKS	

ATTACH DETAILED EXPLANATION OF WORK NEEDED

Type I

02-010-1-00

New Jersey Department of Transportation
DRAWBRIDGE TRAFFIC SAFETY INSPECTION REPORT

ROUTE _____	BRIDGE _____	STRUCTURE NO. _____
DATE: ____/____/____	WEATHER: _____	TYPE: _____ INSPECTION: _____
INSPECTOR: _____	TEMPERATURE: _____ °F	

TRAFFIC SAFETY INSPECTION

The following were evaluated for smooth operation, uniform & regular movement, synchronization, interlock, mounting, overheating, vibration, wear, rust, noise, slippage, engagement, applied tension, lubrication, oil levels, oil contamination, dirt accumulation, fluid pressure, leakage, alignment, clearances, chordal thickness, backlash, air pressure, weather tightness, safety, and signs of distress:

S=Operational / Good Condition 2=Operational / Needs Repair 1=Non Operational N=Not Applicable

TRAFFIC SIGNAL MOUNTING		WARNING GONGS	
TRAFFIC SIGNAL POLE & ARM		BARRIER GATE MOUNTINGS	
TRAFFIC SIGNAL OPERATION		BARRIER GATE CABINETS	
WARNING GATE MOUNTINGS		BARRIER GATE MACHINERY	
WARNING GATE CABINETS		BARRIER GATE HAND CRANK OPERATION	
WARNING GATE MACHINERY		BARRIER GATE ARMS	
WARNING GATE HAND CRANK OPERATION		BARRIER GATE LIGHTS	
WARNING GATE ARMS		BARRIER GATE LOCKING MECHANISMS	
WARNING GATE LIGHTS		SAFETY INTERLOCKS	
MARINE NAVIGATION LIGHTING		AERIAL NAVIGATION LIGHTING	

SAFETY INTERLOCK VERIFICATION

(Check box if interlocks are operating correctly. The following operations should be prohibited)

WARNING GATE LOWER WITH GREEN SIGNAL	
BARRIER GATE LOWER/CLOSE WITH GREEN SIGNAL & WARNING GATES UP/RAISE	
BARRIER GATE LOWER/CLOSE WITH RED SIGNAL & WARNING GATES UP/RAISE	
SPAN LOCK PULL WITH GREEN SIGNAL, WARNING & BARRIER GATES UP/OPEN	
SPAN LOCK PULL WITH RED SIGNAL, WARNING & BARRIER GATES UP/OPEN/RAISE	
SPAN LOCK PULL WITH RED SIGNAL, WARNING GATES DOWN, & BARRIER GATE(S) UP/OPEN/RAISE	
SPAN LIFT WITH ANY GATE(S) UP/RAISE OR TRAFFIC SIGNAL GREEN	
GATE(S) UP/RAISE OR OPEN AND/OR TRAFFIC SIGNAL GREEN WITH SPAN RAISED	
SPAN LOCKS CANNOT BE DRIVEN WITH SPAN RAISED	
BARRIER GATE RAISE/OPEN WITH SPAN LOCKS PULLED	
WARNING GATE RAISE/UP WITH ANY BARRIER GATES DOWN/CLOSED AND/OR SPAN LOCKS PULLED	
GREEN SIGNAL WITH ANY GATE(S) DOWN/CLOSED AND/OR SPAN LOCKS PULLED	

TIMING (In Seconds)

FROM GREEN TO YELLOW SIGNAL	
FROM YELLOW TO RED SIGNAL	
FROM RED SIGNAL TO WARNING GATE PERMISSIVE	

ATTACH EXPLANATION OF WORK NEEDED

Type I

APPENDIX D
Form EL-45S/Form EL-45EC

EL-4561-03*

New Jersey Department of Transportation
DRAWBRIDGE ELECTRICAL INSPECTION REPORT

ROUTE: Brielle Road BRIDGE: Glimmer Glass STRUCTURE NO.: 1300-0W9
 DATE: 11/28/2023 WEATHER: Windy-Sunny TYPE: I INSPECTION
 INSPECTOR: Nicholas G. Sprinkle & Sohini Roy TEMPERATURE: 38 F

ELECTRICAL

The following were evaluated for smooth operation, uniform & regular movement, mounting, applied tension, vibration, overheating, wear, rust, noise, carbon deposits, loose terminations, dirt accumulation, insulation, grounding, bonding, current voltage kilowatt readings, interlocks, weather tightness, safety, and signs of distress:

3=Operational/Needs Minor Work 2=Operational/Needs Major Work

1=Non-Operational S=Satisfactory N=Not Applicable

TRAFFIC SIGNALS/GONGS	S	HORN	S
WARNING BARRIER GATES	3	SERVICE EMERGENCY LIGHTING	3
SMOKE DETECTION/ROOM HEATING	3	SOUND POWERED PHONES	N
CONTROL CONSOLE / INDICATOR LIGHTS	S	INSTRUMENTS (GAUGES METERS SELSYN)	2
PROGRAMMABLE CONTROLLERS	N	SWITCHES/PUSHBUTTONS	S
DRIVE AMPERAGE/VOLTAGE READINGS	S	RADIO TRANSMITTERS/RECEIVERS	3
NAVIGATION LIGHTING	3	CIRCUIT BREAKERS/FUSES	3
PANEL BOARDS/SAFETY SWITCHES	3	RELAYS/TIMERS	S
RACEWAYS/CONDUIT/FITTINGS/BOXES	2	INSULATORS	N
ENCLOSURES	3	TRANSFER SWITCHES	3
CONTACTORS/STARTERS/OVERLOADS	S	LIGHTNING PROTECTION	N
RESISTORS	S	ELEVATORS	N
TRANSFORMERS	3	BRAKE MOTOR(S)	3
LIMIT SWITCHES	3	GENERATOR	1
DRIVE MOTORS	3	FREQUENCY OF GENERATOR	1
LOCK MOTOR(S)	N	TACHOMETER	N
BATTERIES/BATTERY CHARGER(S)	3	WIRING	3
OVER SPEED/UNDER SPEED SWITCH	N	BLOCK HEATERS	1
PRIMARY DRIVE SYSTEM	3	LOUVER MOTOR(S)	N
SECONDARY DRIVE SYSTEM	N	BYPASSES/INTERLOCKS	2

ATTACH DETAILED EXPLANATION OF WORK NEEDED

EL-605 2/21

New Jersey Department of Transportation
DRAWBRIDGE TRAFFIC SAFETY INSPECTION REPORT

ROUTE: <u>Brielle Road</u> BRIDGE: <u>Glimmer Glass</u>	STRUCTURE NO.: <u>1300-0W9</u>
DATE: <u>11/28/2023</u> WEATHER: <u>Windy/Sunny</u>	TYPE: <u>1</u> INSPECTION (1 or 2)
INSPECTOR: <u>Nicholas G. Sprinkle & Sohini Roy</u>	TEMPERATURE: <u>38°</u> F

TRAFFIC SAFETY INSPECTION

The following were evaluated for smooth operation, uniform & regular movement, synchronization, interlock, mounting, overheating, vibration, wear, rust, noise, shippage, engagement, applied tension, lubrication, oil levels, oil contamination, dirt accumulation, fluid pressure, leakage, alignment, clearances, chordal thickness, backlash, air pressure, weather tightness, safety, and signs of distress:

S=Operational / Good Condition 2=Operational / Needs Repair 1=Non-Operational N=Not Applicable

TRAFFIC SIGNAL MOUNTING	S	WARNING GONGS	S
TRAFFIC SIGNAL POLE & ARM	2	BARRIER GATE MOUNTINGS	S
TRAFFIC SIGNAL OPERATION	S	BARRIER GATE CABINETS	2
WARNING GATE MOUNTINGS	S	BARRIER GATE MACHINERY	S
WARNING GATE CABINETS	2	BARRIER GATE HAND CRANK OPERATION	S
WARNING GATE MACHINERY	S	BARRIER GATE ARMS	S
WARNING GATE HAND CRANK OPERATION	2	BARRIER GATE LIGHTS	S
WARNING GATE ARMS	S	BARRIER GATE LOCKING MECHANISMS	S
WARNING GATE LIGHTS	S	SAFETY INTERLOCKS	2
MARINE NAVIGATION LIGHTING	2	AERIAL NAVIGATION LIGHTING	N

SAFETY INTERLOCK VERIFICATION

(Check box if interlocks are operating correctly. The following operations should be prohibited)

WARNING GATE LOWER WITH GREEN SIGNAL	Pass
BARRIER GATE LOWER/CLOSE WITH GREEN SIGNAL & WARNING GATES UP	Pass
BARRIER GATE LOWER/CLOSE WITH RED SIGNAL & WARNING GATES UP	Pass
SPAN LOCK PULL WITH GREEN SIGNAL, WARNING & BARRIER GATES UP/OPEN	Pass
SPAN LOCK PULL WITH RED SIGNAL, WARNING & BARRIER GATES UP/OPEN	Pass
SPAN LOCK PULL WITH RED SIGNAL, WARNING GATES DOWN, & BARRIER GATE(S) UP/OPEN	Pass
SPAN LIFT WITH ANY GATE(S) UP OR TRAFFIC SIGNAL GREEN	Pass
GATE(S) UP OR OPEN AND/OR TRAFFIC SIGNAL GREEN WITH SPAN RAISED	Pass
SPAN LOCKS CANNOT BE DRIVEN WITH SPAN RAISED	Pass
BARRIER GATE RAISE/OPEN WITH SPAN LOCKS PULLED	Fail
WARNING GATE RAISE WITH ANY BARRIER GATES DOWN/CLOSED AND/OR SPAN LOCKS PULLED	Pass
GREEN SIGNAL WITH ANY GATE(S) DOWN/CLOSED AND/OR SPAN LOCKS PULLED	Pass

TIMING (In Seconds)

FROM GREEN TO YELLOW SIGNAL	0
FROM YELLOW TO RED SIGNAL	3.5
FROM RED SIGNAL TO WARNING GATE PERMISSIVE	10

ATTACH EXPLANATION OF WORK NEEDED

Type I

Page 10

APPENDIX E

Interlock Testing Results

New Jersey Department of Transportation

Movable Bridge Engineering Group

Date: 11/28/2023

1300-0W9 Brielle Road over Glimmer Glass - Interlock Testing Matrix

Task	Description	Pass	Fail	Comments
INTERLOCKS				
ALL BYPASS SWITCHES ARE OFF				
1	Span Closed, All Gates Raised/Open, Traffic Signals Green, and Span Locks driven			
1.1	East Warning Gate Cannot Lower	Pass		
1.2	West Warning Gate Cannot Lower	Pass		
1.3	West Barrier Gate Cannot Close	Pass		
1.4	Span Cannot Open	Pass		
2	Span Closed, All Gates Raised/Open, Traffic Signals Red, and Span Locks driven			
2.1	West Barrier Gate Cannot Close	Pass		
2.2	Span Cannot Open	Pass		
3	Span Closed, Traffic Signals Red, Span Locks driven, East Warning Gate Lowered, All Other Gates Raised/Open			
3.1	Traffic Light Cannot Turn Green	Pass		
3.2	West Barrier Gate Cannot Close	Pass		
3.3	Span Cannot Open	Pass		
4	Span Closed, Traffic Signals Red, Span Locks driven, West Warning Gate Lowered, All Other Gates Raised/Open			
4.1	Traffic Light Cannot Turn Green	Pass		
4.2	West Barrier Gate Cannot Close	Pass		
4.3	Span Cannot Open	Pass		
5	Span Closed, Traffic Signals Red, Span Locks driven, Both East and West Warning Gates Lowered, West Barrier Gate Open			
5.1	Traffic Light Cannot Turn Green	Pass		
5.2	Span Cannot Open	Pass		
6	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, All Span Locks Driven			
6.1	Traffic Light Cannot Turn Green	Pass		
6.2	West Warning Gate Cannot Raise	Pass		
6.3	East Warning Gate Cannot Raise	Pass		
6.4	Span Cannot Open	Pass		
7	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, East Span Lock manually Pulled, West Span Lock Driven			
7.1	Traffic Light Cannot Turn Green	Pass		
7.2	West Warning Gate Cannot Raise	Pass		
7.3	East Warning Gate Cannot Raise	Pass		
8	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, West Span Lock manually Pulled, East Span Lock Driven			
8.1	Traffic Light Cannot Turn Green	Pass		
8.2	West Warning Gate Cannot Raise	Pass		
8.3	East Warning Gate Cannot Raise	Pass		
9	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, All Span Locks Pulled			
9.1	Traffic Signal Cannot Turn Green	Pass		
9.2	West Warning Gate Cannot Raise	Pass		
9.3	East Warning Gate Cannot Raise	Pass		Priority finding: With the manually operated span locks disengaged, the operator can open the west barrier gate from the control console.
SPAN LIFT INTERLOCKS - FORWARD		Pass	Fail	Comments
10	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, East Span Lock manually Pulled, West Span Lock Driven			
10.1	Span Cannot Open	Pass		

11	Span Closed, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, West Span Lock manually Pulled, East Span Lock Driven			
11.1	Span Cannot Open	Pass		
12	SPAN LIFT INTERLOCKS - REVERSE	Pass	Fail	Comments
	Span Raised, Traffic Signals Red, All Warning Gates Lowered, West Barrier Gate Closed, All Span Locks Pulled			
12.1	Traffic Light Cannot Turn Green	Pass		
12.2	West Warning Gate Cannot Raise	Pass		
12.3	East Warning Gate Cannot Raise	Pass		
12.4	West Barrier Gate Cannot Open	Pass		
13	Warning Gates Handcranks	Pass	Fail	Comments
	Span Closed, Traffic Signals Green, All Warning Gates Raised, All Barrier Gates open			
13.1	Red Traffic Signal, Warning Gongs Sounding, Gate arm lights flashing with West Warning Gate Lowered (Handcrank) to less than 85 Degrees	Pass		
13.2	Red Traffic Signal, Warning Gongs Sounding, Gate arm lights flashing with East Warning Gate Lowered (Handcrank) to less than 85 Degrees	Pass		
14	Navigation Lighting Interlocks	Pass	Fail	Comments
14.1	Span Navigation Light remain Red until Spans are Fully Raised. When Spans are Fully Raised, the Span Navigation Lights turn to Green. The Span Navigation Lights return to Red as soon as Spans exit Fully Raised position	Pass		

APPENDIX F
Priority Repair Form

Structure No.: 1300W9 Route: 9013 Milepost: _____
 Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2022_15505 Maintenance Recommendation Type: PR - Priority Repair 1
 Current Work Spec.: 13H3_00 Maintenance Recommendation Category: Safety Features
 Original Work Spec. Identified In: Maintenance Recommendation Activity: Other safety feature work
 Date Originally Entered: 04/07/2022 Originally Reported By: Arora (Sub WJE)
 Date Closed: _____ Closed By: _____

Inspector

Describe Deficiency: ***UPDATED BY (Nick Sprinkle - TranSystems), AS OF (11/29/2023) NO WORK WAS DONE***

During the Type II electrical inspection on 4/6/2022, the following was observed:

1. With the manually operated span locks disengaged, the operator can open the west barrier gate from the control console.

Description of Proposed Work: Modify the existing relay logic to prohibit the west barrier gate from opening when the span locks are not engaged.

Is Interim Work Needed: No

Description of Interim Work Required to Maintain Structure Until Proposed Work can be Accomplished: N/A

Date Email Sent: 04/07/2022

Email Sent By: Colville, Michael

Email Sent To:

mcollville@arora.com; Michael.
 Ruggiero@co.monmouth.nj.us;
 Denis.Walsh@co.monmouth.nj.us;
 mcollville@arora.com;
 kgetiger@arora.com; David.
 Yegorov@co.monmouth.nj.us;
 MaheshK.Patel@dot.nj.gov;
 Douglas.Tintle@dot.nj.gov;
 SaadAli.Khan@dot.nj.gov; Nikunj.
 Lathia@dot.nj.gov; Jalay.Shah@dot.nj.gov;
 nj.gov;meriam.michael@dot.nj.gov

Estimated Quantity/Costs

Quantity:

Unit:

Unit Cost:

Man Hours:

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Total Cost: _____

Bridge Owner - Engineering Section

Date Completed:

Work Order # (NJDOT) Only:

Final Work Description:

Interim Work

Description:

Date Email Sent:

Email Sent By:

Email Sent To:

Comments:

Date Final Work Verified as Completed:

Structure No.: 13000W9 Route: 9013 Milepost: _____
 Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:

Structure No.: 13000W9 Route: 9013 Milepost: _____
 Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

In Progress Items

Item Number: 2023_19227 Maintenance Recommendation Type: PR - Priority Repair 1
 Current Work Spec.: 13H3_00 Maintenance Recommendation Category: Utility
 Original Work Spec. Identified In: 13H3_00 Maintenance Recommendation Activity: Other utility work
 Date Originally Entered: 11/30/2023 Originally Reported By: Nick Sprinkle
 Date Closed: _____ Closed By: _____

Inspector

Describe Deficiency: During the 11/29/2023 electrical inspection TranSystems noted the genset would not start. The GFCI for the block heater was found to be tripped, and a cold start was unsuccessful. Upon resetting and allowing the block heater to warm up, the genset would still not start. Note that without power to the bridge, the operator's house restroom facility is not usable.

Description of Proposed Work: Replace the genset and verify the block heater has adequate output to warm the generator.

Is Interim Work Needed: No

Description of Interim Work: N/A
 Required to Maintain Structure
 Until Proposed Work can be
 Accomplished:

Date Email Sent: _____ Email Sent By: _____ Email Sent To: _____

Estimated Quantity/ Costs

Quantity: _____ Unit: _____
 Unit Cost: _____ Man Hours: _____
 Total Cost: _____

Bridge Owner - Engineering Section

Date Completed: _____ Work Order # (NJDOT) Only: _____

Final Work Description:

Interim Work
 Description:

Date Email Sent: _____ Email Sent By: _____ Email Sent To: _____

Comments:

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Date Final Work Verified as Completed:

Structure No.: 13000W9 Route: 9013 Milepost: _____
Name: BRIELLE ROAD OVER GLIMMER GLASS

CoMBIS Priority Repair Form

Bridge Owner - Maintenance Section

Beyond Capacity of Maintenance Dept. - Recommend Contractor Be Hired:

Contract Number:

Date Work Assigned:

Personnel Assigned:

What Was

Done Materials Used:

Maintenance Comments:

Was Interim Work Completed:

Date Interim Work Flagged as Complete:

Date Final Work Completed:

Flagged as Complete By:



Photo 1	Category:	59 - Other, 60 - Priority Repair
	Description:	Genset on the operators platform, looking east. Genset is inoperable.

APPENDIX G
Testing Reports



245 Whitehead Rd
Hamilton, NJ 08619
Tel: 609-689-3400 Fax: 609-689-0010

Glimmer Glass Bridge Test Report

TRANSYSTEMS

TranSystems
2020 Headquarter Plaza, West Tower
Morristown, NJ 07960
J23-2609.1



Scott Testing



1698 FIFTH STREET • EATING, NJ • 08638 • TEL 609 882 3400 • FAX 609 882 5660

November 30, 2023

TranSystems

220 Headquarter Plaza, West Tower
Morristown, NJ 07960

Attention: Cory Amato

Reference: **Testing and Maintenance of Glimmer Glass Bridge**

Glimmer Glass Bridge
17 Drawbridge Lane
Manasquan, NJ 08736

STI Project #: 123-2609.1

Dear Mr. Amato,

The testing and maintenance of the electrical equipment at the above referenced facility has been completed and two (2) copies of the report are enclosed.

All testing and maintenance procedures were in accordance with **NETA** (International Electrical Testing Association) and manufacturer's specifications. Please refer to the deficiency report for any specific observations.

We appreciate this opportunity to have been of service to you and look forward to supporting you with your future electrical testing and maintenance needs.

Please feel free to contact us if you have any questions or need anything additional.

Sincerely,

Jacob Driver

Field Technician
Scott Testing, Inc.

**Scott Testing**

1698 FIFTH STREET • Ewing, NJ • 08638 • TEL 609 882 2400 • FAX 609 882 5660



Description of Services

Bridge Motors

The main drive motor was visually inspected for signs of damage and proper installation by TranSystems. Motor cables were removed from the VFD for testing. The windings were tested for insulation integrity to ground. Winding resistance measurement was taken of each phase. A ten minute polarization index test was conducted as well as a surge test. The warning gate motors and barrier gate motors meggered at 1KVDC and values were recorded.

Power Monitoring

Scott Testing installed a Hioki PQ3198 Power Quality Analyzer on the main drive for the draw bridge. The Hioki was set to record two complete operations of the bridge on normal power. The significant parameters during the operations were recorded and plotted on RMS graphs.

Observations

- No Span meter present on control board.
- AC Amperes analog meter does not function during bridge lifts.
- Generator did not start for emergency power bridge lifts.



Motor Test Report

J23-2609.1



Testing Log

GLIMMERBRIMMOTOR

Date-Time	R	LC	IR	DA/PI	DC Tests	Surge	Notes
11/28/2023 12:43:21 PM	✓	✓					
11/28/2023 12:55:18 PM			✓	✓			
11/28/2023 12:56:50 PM						✓	



Resistance / Inductance / Capacitance Results**GLIMMERBRIMOTOR\11/28/2023 12:43:21 PM**

Temperature 50.00 [°F]

Resistance

	Lead 1-2	Lead 2-3	Lead 3-1	Unbalance [%]	Average
DC Resistance [Ω]	1.1376	1.1368	1.1363	0.1	1.1369
Temp Corrected R [Ω]	1.1376	1.1368	1.1363		1.1369

Motor Information:

Reeves ID R373106-001-VX

3 Phase

Size 0221 Assembly

FIA: 11

Output Speeds: Max 1870 RPM, Min 187 RPM

Gear Ratio: 2.2

Belt: 605036-29-D



DC Test Results

GLIMMERBRIMMOTOR\11/28/2023 12:55:18 PM

Temperature [°F] -- Relative Humidity [%] 0.0 Status User Abort

IR Results

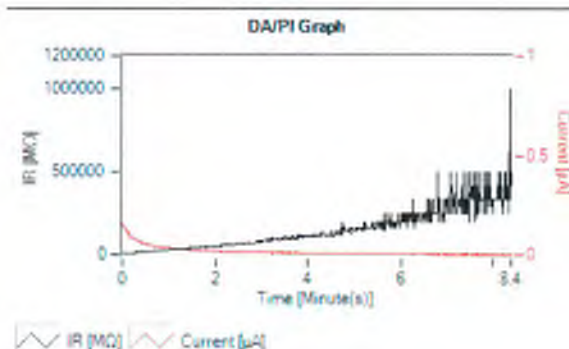
Voltage [V]	I [μA]	IR [MΩ]
990	0.034	29118

DA/PI Results

Voltage [V]	DA Ratio	PI Ratio
990	4.3	8.5

DA/PI Results

Time [Minute(s)]	Voltage [V]	I [μA]	IR [MΩ]
00:15	1000	0.083	12048.19
00:30	1000	0.056	17857.14
00:45	1000	0.042	23809.52
01:00	990	0.034	29117.65
01:30	1000	0.025	40000.00
02:00	990	0.019	52105.26
02:30	1000	0.015	66666.67
03:00	1000	0.012	83333.33
04:00	1000	0.009	111111.12
05:00	1000	0.007	142857.14
06:00	1000	0.006	166666.67
07:00	1000	0.003	333333.33
08:00	1000	0.004	249999.99





DC Test Results

GLIMMERBRIMOTOR\11/28/2023 12:55:18 PM

Temperature -- Relative Humidity 0.0 Status User
[°F] -- [%] Abort

IR Results

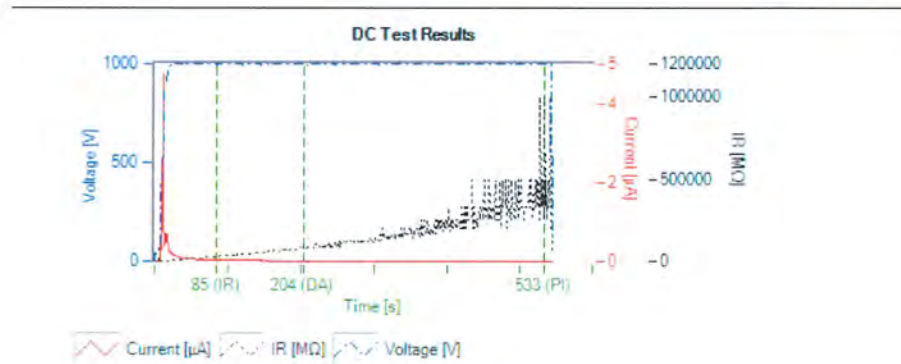
Voltage [V]	I [μA]	IR [MΩ]
990	0.034	29118

DA/PI Results

Voltage [V]	DA Ratio	PI Ratio
990	4.3	8.5

DA/PI Results

Time [Minute(s)]	Voltage [V]	I [μA]	IR [MΩ]
00:15	1000	0.083	12048.19
00:30	1000	0.056	17857.14
00:45	1000	0.042	23809.52
01:00	990	0.034	29117.65
01:30	1000	0.025	40000.00
02:00	990	0.019	52105.26
02:30	1000	0.015	66666.67
03:00	1000	0.012	83333.33
04:00	1000	0.009	111111.12
05:00	1000	0.007	142857.14
06:00	1000	0.006	166666.67
07:00	1000	0.003	333333.33
08:00	1000	0.004	249999.99



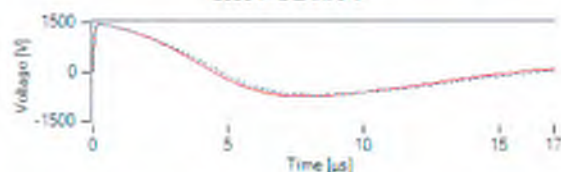


Surge Lead-to-Lead Comparison

GLIMMERBRI\MOTOR\11/28/2023 12:56:50 PM

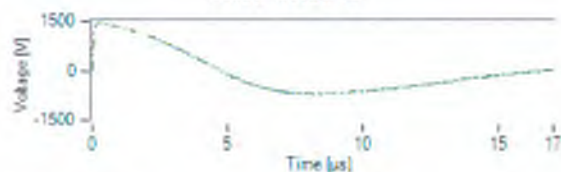
Compare	Peak Voltage [V]	Number of Pulses	LL EAR Status	L-L Limit 50
				L-L EAR [%]
1-2	1440	30	PASS	8
2-3	1440	29	PASS	1
3-1	1440	30	PASS	10

Lead 1 - 2 EAR: 8%



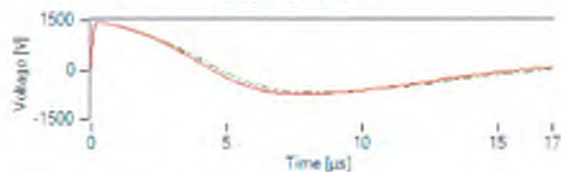
Lead 1 Lead 2

Lead 2 - 3 EAR: 1%



Lead 2 Lead 3

Lead 3 - 1 EAR: 10%



Lead 3 Lead 1

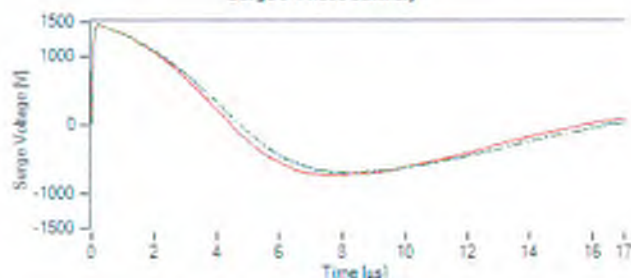


Surge 3-Phase Summary

GLIMMERBRIMOTOR\11/28/2023 12:56:50 PM

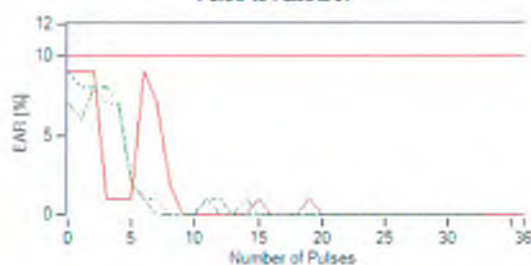
Lead	Peak Voltage [V]	Number of Pulses	PP EAR Status	P-P Limit
				10
1	1440	30	PASS	9
2	1440	29	PASS	9
3	1440	30	PASS	8

Surge 3-Phase Summary



Lead 1 Lead 2 Lead 3

Pulse-to-Pulse EAR



First Bridge Operation on Normal Power

Glimmer Glass Bridge

17 Drawbridge Lane

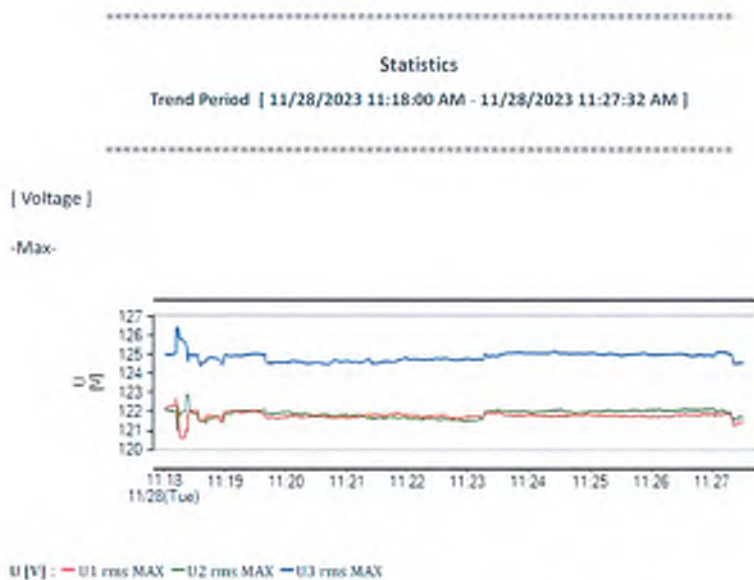
Manasquan, NJ 08736

Prepared for TranSystems

220 Headquarter Plaza- West Tower

Morristown, NJ 07960

Report date[11/28/2023 10:56 AM]



Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms MAX [V]	572	122.69 (11/28/2023 11:18:12.1) 120.57 (11/28/2023 11:18:19.1)	121.79	0.19	121.60	121.79	122.02
U2 rms MAX [V]	572	122.92 (11/28/2023 11:18:22.1) 120.99 (11/28/2023 11:18:33.1)	121.89	0.21	121.55	121.96	122.13
U3 rms MAX [V]	572	126.96 (11/28/2023 11:18:34.1) 124.89 (11/28/2023 11:18:35.1)	124.89	0.25	124.54	124.94	125.13

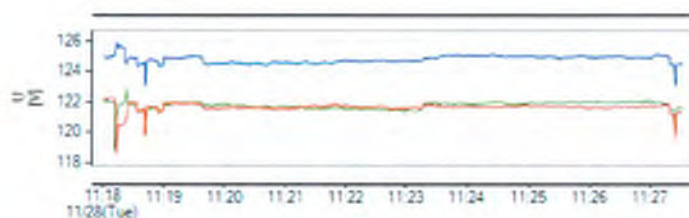
-Avg-



U [V] : — U1 rms AVG — U2 rms AVG — U3 rms AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms AVG [V]	572	122.28 (11/28/2023 11:18:11.1) 120.51 (11/28/2023 11:18:19.1)	121.72	0.20	121.45	121.73	121.97
U2 rms AVG [V]	572	122.83 (11/28/2023 11:18:23.1) 120.73 (11/28/2023 11:18:12.1)	121.83	0.22	121.49	121.90	122.06
U3 rms AVG [V]	572	125.95 (11/28/2023 11:18:14.1) 123.98 (11/28/2023 11:27:25.0)	124.85	0.24	124.50	124.91	125.10

-Min-



U [V] : — U1 rms MIN — U2 rms MIN — U3 rms MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms MIN [V]	572	122.26 (11/28/2023 11:18:10.1) 118.55 (11/28/2023 11:18:15.1)	121.65	0.27	121.37	121.67	121.93
U2 rms MIN [V]	572	122.77 (11/28/2023 11:18:23.1) 118.87 (11/28/2023 11:18:42.1)	121.76	0.26	121.43	121.84	122.01
U3 rms MIN [V]	572	125.91 (11/28/2023 11:18:13.1) 123.07 (11/28/2023 11:18:42.1)	124.80	0.25	124.46	124.87	125.07

[Current]

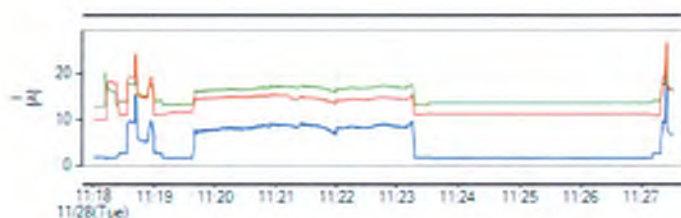
-Max-



I [A] : — I1 rms MAX — I2 rms MAX — I3 rms MAX

Item	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 rms MAX [A]	572	38.923 (11/28/2023 11:38:42.1) 10.085 (11/28/2023 11:38:13.1)	13.461	2.790	11.267	11.704	18.116
I2 rms MAX [A]	572	38.902 (11/28/2023 11:38:42.1) 12.814 (11/28/2023 11:38:10.1)	15.569	2.266	13.565	14.329	17.850
I3 rms MAX [A]	572	28.447 (11/28/2023 11:38:42.1) 1.560 (11/28/2023 11:38:13.1)	4.897	3.718	1.633	1.889	9.483

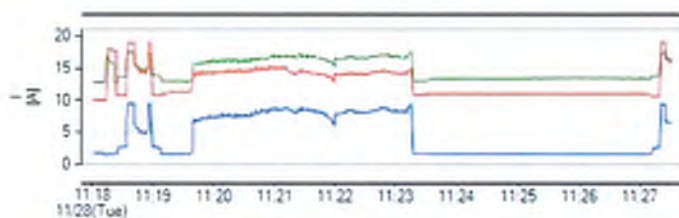
-Avg-



I [A] : — I1 rms AVG — I2 rms AVG — I3 rms AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 rms AVG [A]	572	26.894 (11/28/2023 11:27:25.0) 9.989 (11/28/2023 11:18:13.1)	13.118	2.294	11.880	11.608	17.566
I2 rms AVG [A]	572	26.066 (11/28/2023 11:27:25.0) 12.809 (11/28/2023 11:18:09.1)	15.187	1.765	13.267	14.021	17.688
I3 rms AVG [A]	572	17.682 (11/28/2023 11:27:25.0) 1.551 (11/28/2023 11:18:13.1)	4.689	3.370	1.627	1.824	9.102

-Min-

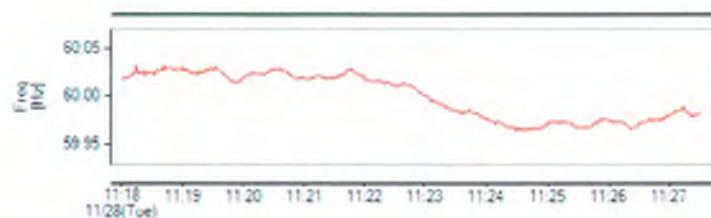


I [A] : — 11 rms MIN — 12 rms MIN — 13 rms MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
11 rms MIN [A]	572	19.214 (11/20/2023 11:27:21.0) 9.970 (11/20/2023 11:08:12.1)	12.765	2.924	10.000	11.347	16.021
12 rms MIN [A]	572	17.608 (11/20/2023 11:23:15.1) 12.766 (11/20/2023 11:08:22.1)	14.837	1.629	12.992	13.728	17.146
13 rms MIN [A]	572	9.568 (11/20/2023 11:08:36.1) 1.452 (11/20/2023 11:08:12.1)	5.487	3.162	1.620	1.799	8.763

[Frequency]

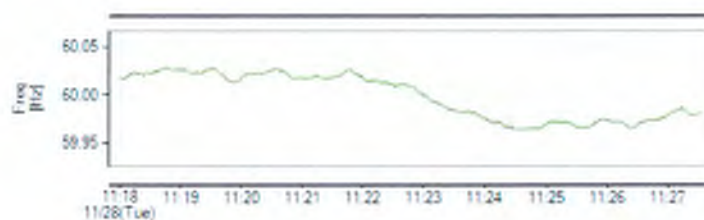
-Max-



Freq (Hz) : - Freq MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq MAX (Hz)	572	60.033 (11/20/2023 11:18:13.1) 59.964 (11/28/2023 11:24:30.1)	59.999	0.024	59.967	60.009	60.029

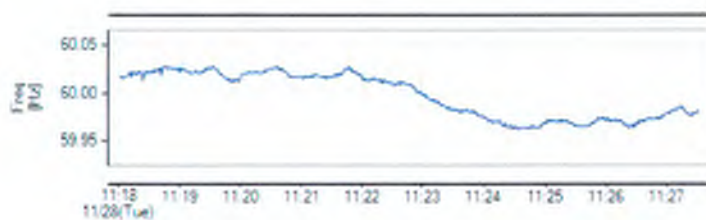
Avg.



Freq [Hz] : — Freq AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq AVG [Hz]	572	60.029 (11/28/2023 11:18:45.1) 59.963 (11/28/2023 11:26:34.1)	59.998	0.023	59.966	60.009	60.027

-Min-

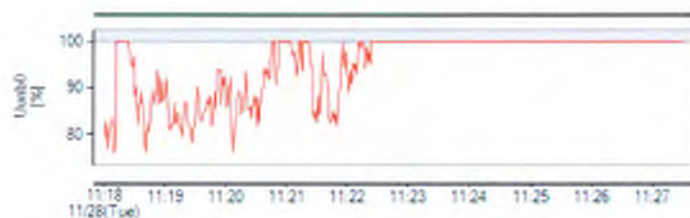


Freq (Hz) : Freq MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq MIN (Hz)	572	60.027 (11/28/2023 11:38:43.1) 59.963 (11/28/2023 11:24:29.1)	59.997	0.023	59.964	60.038	60.026

[Unbalance]

- Max -



Unb0 [%] : - Unb0 MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Unb0 MAX [%]	572	100.00 (11/28/2023 11:18.12.1) 75.90 (11/28/2023 11:18.10.1)	95.39	6.74	82.00	100.00	100.00



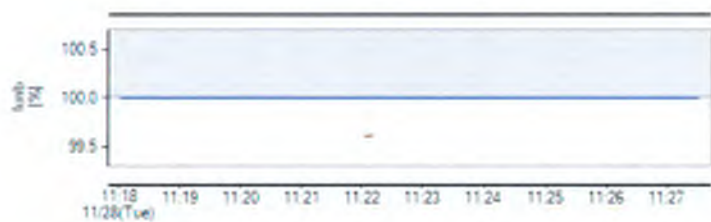
Unb [%] : - Unb MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Unb MAX [%]	572	100.00 (11/28/2023 11:18.01.1) 100.00 (11/28/2023 11:18.01.1)	100.00	0.00	100.00	100.00	100.00



Iamb0 [%] : Iamb0 MAX

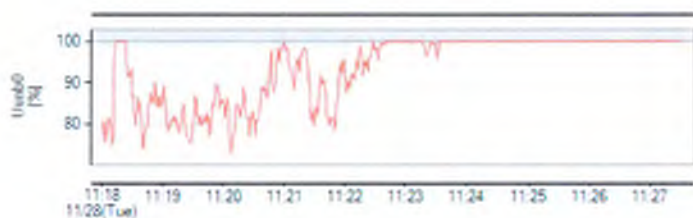
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb0 MAX [%]	572	75.60 (11/28/2023 11:18:16.1) 12.74 (11/28/2023 11:19:38.0)	19.34	5.22	16.15	17.91	21.97



Iamb [%] : Iamb MAX

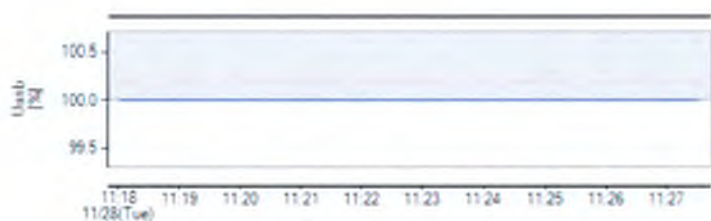
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb MAX [%]	572	100.00 (11/28/2023 11:18:01.1) 100.00 (11/28/2023 11:18:01.1)	100.00	0.00	100.00	100.00	100.00

-Avg-



Uunb0 [%] : - Uunb0 AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uunb0 AVG [%]	572	100.00 [11/20/2023 11:18:13.1] 72.91 [11/20/2023 11:20:00.0]	93.77	8.07	78.21	99.90	100.00



Uunb [%] : - Uunb AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uunb AVG [%]	572	100.00 [11/20/2023 11:18:01.1] 100.00 [11/20/2023 11:18:01.1]	100.00	0.00	100.00	100.00	100.00



busb0 [%] : — busb0 AVG

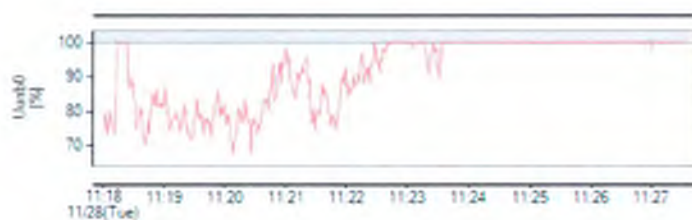
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
busb0 AVG [%]	572	64.15 (11/28/2023 11:18:13.1) 11.51 (11/28/2023 11:19:38.0)	18.12	4.60	15.77	16.80	20.60



busb [%] : — busb AVG

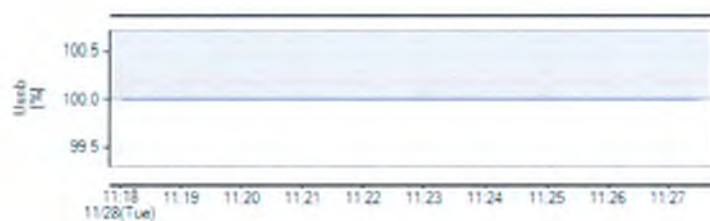
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
busb AVG [%]	572	100.00 (11/28/2023 11:18:01.1) 100.00 (11/28/2023 11:18:01.1)	100.00	0.00	100.00	100.00	100.00

-Min-



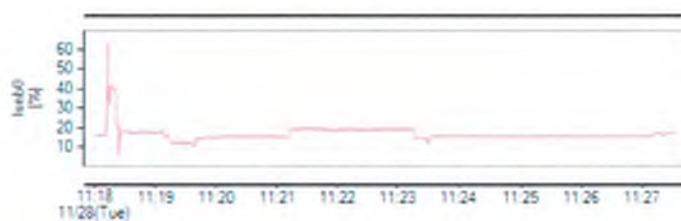
Uamb0 [%] : — Uamb0 MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb0 MIN [%]	572	100.00 (11/28/2023 11:18:13.1) 67.42 (11/28/2023 11:20:08.0)	91.75	9.86	74.27	99.47	100.00



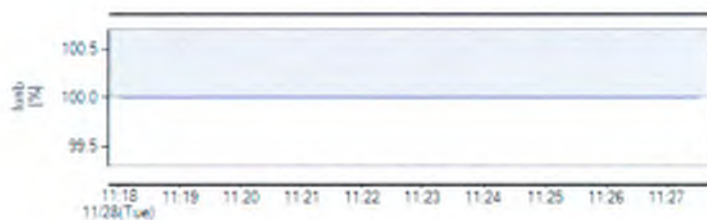
Uamb [%] : — Uamb MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb MIN [%]	572	100.00 (11/28/2023 11:18:01.1) 100.00 (11/28/2023 11:18:01.1)	100.00	0.00	100.00	100.00	100.00



Iamb0 [%] : Iamb0 MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb0 MIN [%]	572	63.46 (11/28/2023 11:18:13.1) 6.13 (11/28/2023 11:19:24.1)	16.68	3.70	13.64	15.61	19.24



Iamb [%] : Iamb MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb MIN [%]	572	100.00 (11/28/2023 11:18:01.1) 100.00 (11/28/2023 11:18:01.1)	100.00	0.00	100.00	100.00	100.00

[U thd]

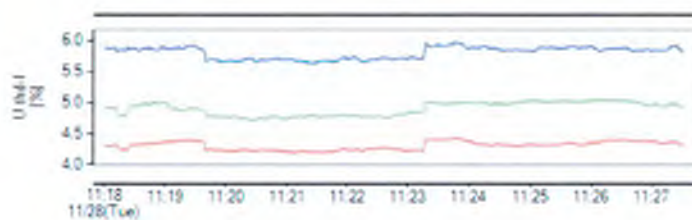
-Max-



U thd-f [%] : - U1 thd_f MAX - U2 thd_f MAX - U3 thd_f MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd_f MAX [%]	572	4.46 (11/20/2023 11:23:46.1) 4.19 (11/20/2023 11:21:00.1)	4.31	0.07	4.21	4.32	4.41
U2 thd_f MAX [%]	572	5.00 (11/20/2023 11:25:58.0) 4.71 (11/20/2023 11:20:29.2)	4.91	0.11	4.76	4.95	5.05
U3 thd_f MAX [%]	572	6.00 (11/20/2023 11:23:46.1) 5.64 (11/20/2023 11:21:23.1)	5.82	0.10	5.68	5.86	5.94

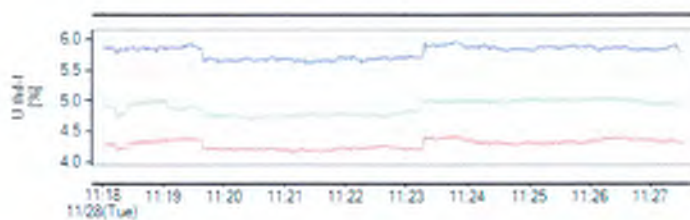
-Avg-



U thd,f [%] : — U1 thd,f AVG — U2 thd,f AVG — U3 thd,f AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd,f AVG [%]	572	4.44 (11/20/2023 11:23:46.1) 4.17 (11/20/2023 11:21:06.1)	4.30	0.07	4.20	4.32	4.40
U2 thd,f AVG [%]	572	5.05 (11/20/2023 11:26:04.0) 4.71 (11/20/2023 11:20:25.0)	4.90	0.11	4.75	4.94	5.04
U3 thd,f AVG [%]	572	5.98 (11/20/2023 11:23:46.1) 5.63 (11/20/2023 11:21:24.1)	5.81	0.10	5.67	5.85	5.93

-Min-



U thd-f [%] : — U1 thd-f MIN — U2 thd-f MIN — U3 thd-f MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd-f MIN [%]	572	4.42 (11/20/2023 11:23:53.1) 4.14 (11/20/2023 11:21:00.1)	4.29	0.07	4.19	4.31	4.39
U2 thd-f MIN [%]	572	5.05 (11/20/2023 11:26:05.0) 4.69 (11/20/2023 11:20:25.0)	4.89	0.11	4.73	4.92	5.03
U3 thd-f MIN [%]	572	5.96 (11/20/2023 11:23:46.1) 5.60 (11/20/2023 11:21:20.1)	5.80	0.10	5.65	5.84	5.91

[I thd]

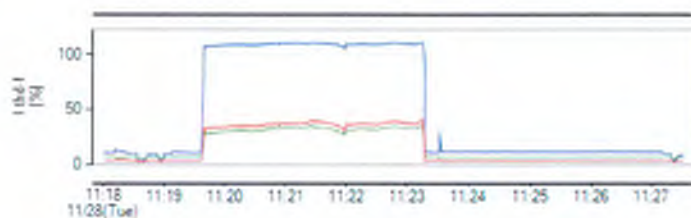
-Max-



I thd-f [%] : — I1 thd-f MAX — I2 thd-f MAX — I3 thd-f MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 thd-f MAX (%)	572	42.01 (11/28/2023 11:21:23.1) 2.45 (11/28/2023 11:27:22.0)	16.68	16.73	3.49	3.68	40.02
I2 thd-f MAX (%)	572	37.00 (11/28/2023 11:23:15.1) 5.53 (11/28/2023 11:18:36.1)	16.81	13.09	6.30	6.96	35.31
I3 thd-f MAX (%)	572	111.24 (11/28/2023 11:21:23.1) 3.38 (11/28/2023 11:18:58.1)	49.04	47.90	9.45	11.97	110.63

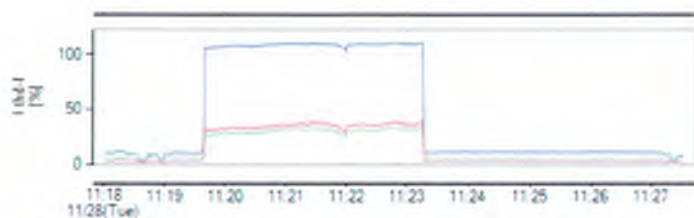
Avg.



I thd-f [%] : — I1 thd-f AVG — I2 thd-f AVG — I3 thd-f AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 thd-f AVG [%]	572	41.08 (11/28/2023 11:23:15.1) 2.38 (11/28/2023 11:27:21.0)	16.08	46.09	3.36	3.62	38.55
I2 thd-f AVG [%]	572	36.32 (11/28/2023 11:23:15.1) 4.56 (11/28/2023 11:27:25.0)	16.21	12.57	6.14	6.88	34.24
I3 thd-f AVG [%]	572	111.02 (11/28/2023 11:23:15.1) 3.35 (11/28/2023 11:08:58.1)	48.58	47.76	9.21	11.88	110.28

-Min-

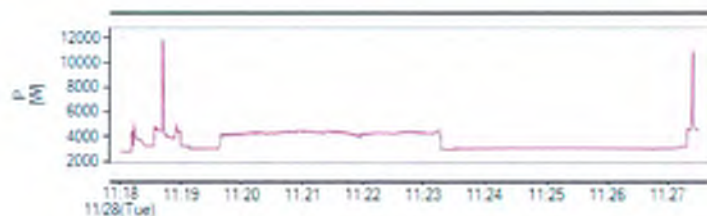


I thd-f [%] : — I1 thd-f MIN — I2 thd-f MIN — I3 thd-f MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 thd-f MIN [%]	572	40.17 (11/28/2023 11:23:15.1) 1.60 (11/28/2023 11:18:42.1)	15.50	15.51	3.31	3.55	37.60
I2 thd-f MIN [%]	572	35.37 (11/28/2023 11:23:15.1) 2.95 (11/28/2023 11:18:42.1)	15.61	12.06	5.94	6.65	33.08
I3 thd-f MIN [%]	572	110.97 (11/28/2023 11:23:15.1) 2.26 (11/28/2023 11:18:42.1)	47.95	47.55	8.94	11.67	109.92

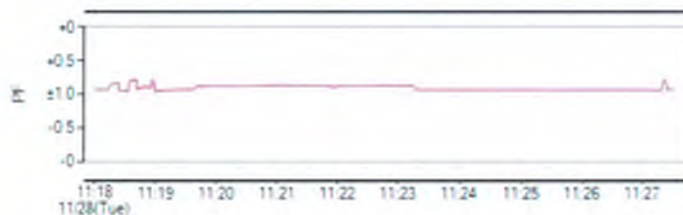
[Power]

- Max -



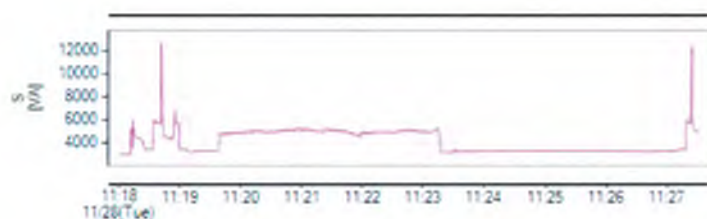
P [W] : - P Sum MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum MAX [kW]	572	11.056 [11/28/2023 11:18:42.1] 2.706 [11/28/2023 11:18:49.1]	3.676	0.765	3.028	3.253	4.483



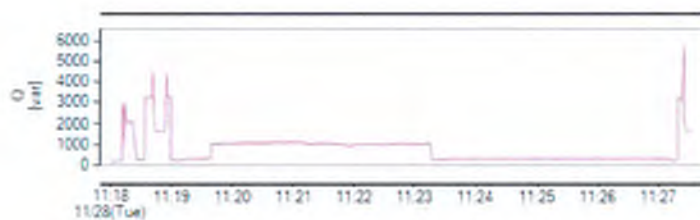
PF : - PF Sum MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum MAX	572	0.9456 [11/28/2023 11:18:32.1] 0.7823 [11/28/2023 11:18:49.1]	0.9017	0.0349	0.8625	0.9273	0.9352



S [VA] : — S Sum MAX

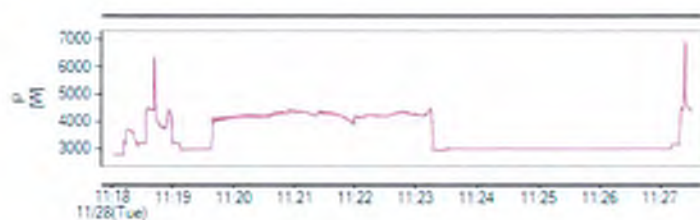
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum MAX (kVA)	572	12.706 (11/28/2023 11:18:42.1) 3.017 (11/28/2023 11:18:06.1)	4.127	1.011	3.249	3.454	5.251



Q [var] : — Q Sum MAX

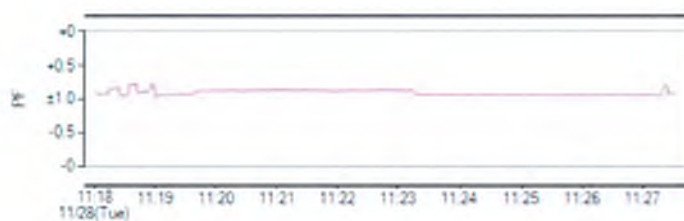
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum MAX (kvar)	572	5.622 (11/28/2023 11:27:25.0) 0.174 (11/28/2023 11:18:01.1)	0.779	0.696	0.255	0.314	2.110

-Avg-



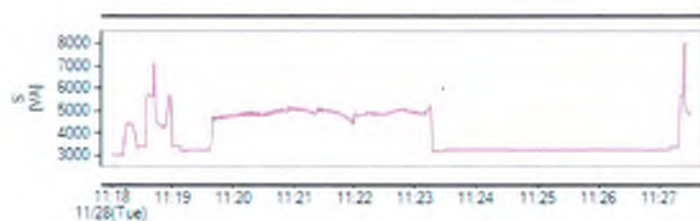
P [W] : - P Sum AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum AVG [kW]	572	6.870 (11/28/2023 11:27:25.0) 2.783 (11/28/2023 11:18:03.1)	3.586	0.637	2.983	3.190	4.404



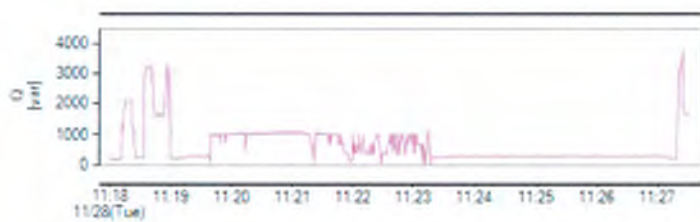
PF : - PF Sum AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum AVG	572	0.9436 (11/28/2023 11:28:29.1) 0.7768 (11/28/2023 11:18:58.1)	0.8979	0.0361	0.8595	0.9245	0.9317



S [VA] : — S Sum AVG

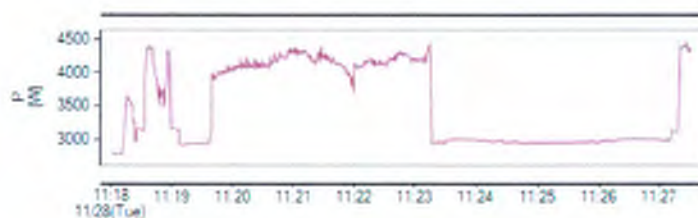
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum AVG [VA]	572	8.024 (11/28/2023 11:27:25.0) 3.015 (11/28/2023 11:18:03.1)	4.026	0.864	3.203	3.399	5.108



Q [var] : — Q Sum AVG

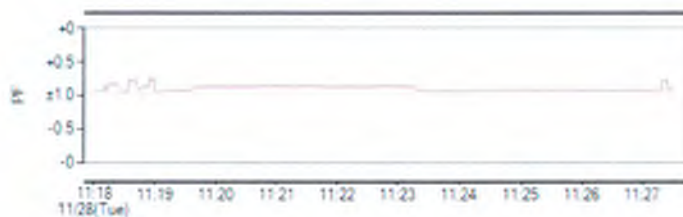
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum AVG [var]	572	3.743 (11/28/2023 11:27:25.0) 0.033 (11/28/2023 11:23:17.1)	0.671	0.615	0.220	0.305	1.670

-Min-



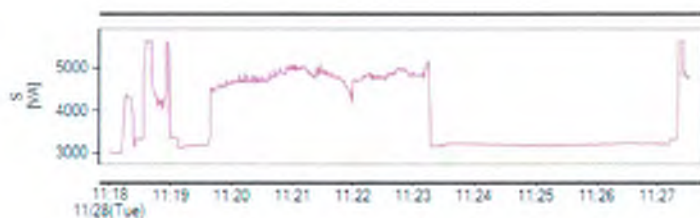
P [W] : - P Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum MIN [kW]	572	4.458 (11/28/2023 11:27:29.0) 2.783 (11/28/2023 11:38:03.1)	3.509	0.594	2.933	3.123	4.317



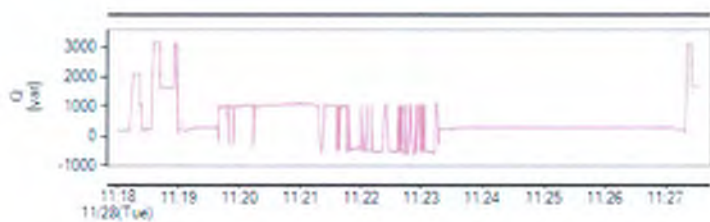
PF : - PF Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum MIN	572	0.9415 (11/28/2023 11:38:26.1) 0.7381 (11/28/2023 11:18:55.1)	0.8934	0.0390	0.8326	0.9210	0.9283



S [VA] : - S Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum MIN [kVA]	572	5.635 (11/28/2023 11:18:36.1) 3.014 (11/28/2023 11:18:03.1)	3.940	0.815	3.173	3.334	4.995



Q [var] : - Q Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum MIN [kvar]	572	3.203 (11/28/2023 11:18:40.1) -0.633 (11/28/2023 11:22:47.1)	0.507	0.704	-0.522	0.295	1.645

Second Bridge Operation on Normal Power

Glimmer Glass Bridge

17 Drawbridge Lane

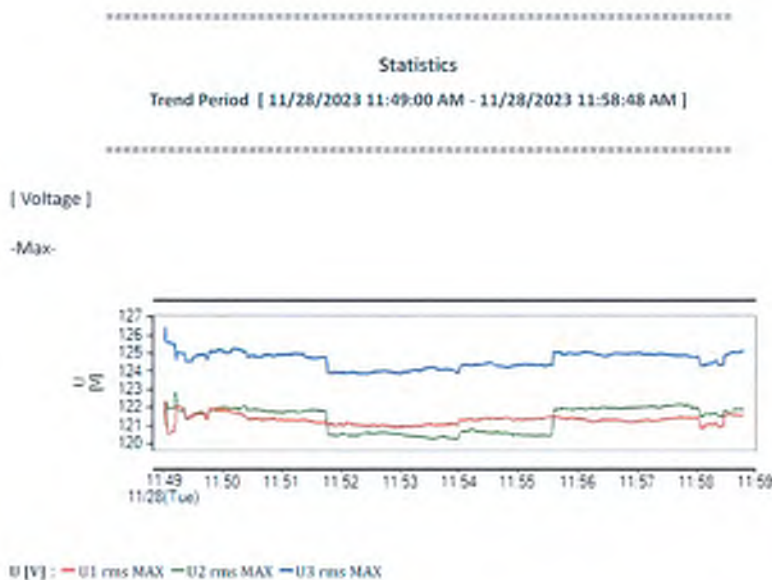
Manasquan, NJ 08736

Prepared for TranSystems

220 Headquarter Plaza- West Tower

Morristown, NJ 07960

Report date[11/28/2023 11:15 AM]



Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms MAX [V]	588	122.38 (11/28/2023 11:49:01.0) 120.49 (11/28/2023 11:49:04.0)	121.31	0.25	120.95	121.32	121.01
U2 rms MAX [V]	588	122.00 (11/28/2023 11:49:11.0) 120.26 (11/28/2023 11:53:13.1)	121.35	0.69	120.37	121.75	122.10
U3 rms MAX [V]	588	126.43 (11/28/2023 11:49:01.0) 123.04 (11/28/2023 11:53:01.1)	124.62	0.44	123.91	124.79	125.13

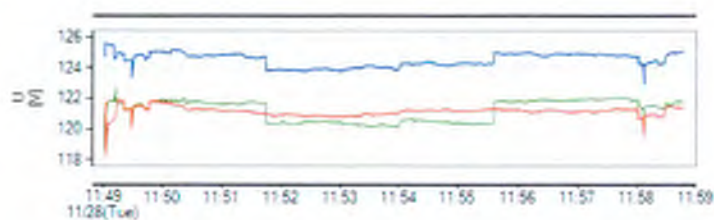
-Avg-



U [V] : - U1 rms AVG - U2 rms AVG - U3 rms AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms AVG [V]	500	122.00 (11/28/2023 11:49:01.0) 120.33 (11/28/2023 11:58:08.1)	121.24	0.25	120.80	121.27	121.76
U2 rms AVG [V]	500	122.75 (11/28/2023 11:49:12.0) 120.21 (11/28/2023 11:53:33.1)	121.29	0.69	120.31	121.69	122.03
U3 rms AVG [V]	500	125.67 (11/28/2023 11:49:02.0) 123.70 (11/28/2023 11:58:08.1)	124.58	0.43	123.80	124.75	125.10

-Min-

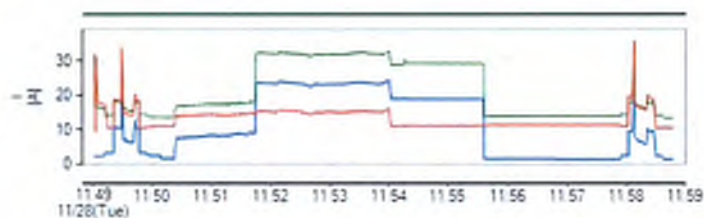


U [V] : — U1 rms MIN — U2 rms MIN — U3 rms MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 rms MIN [V]	500	121.93 (11/28/2023 11:49:15.0) 118.35 (11/28/2023 11:49:03.0)	121.16	0.28	120.81	121.20	121.69
U2 rms MIN [V]	500	122.70 (11/28/2023 11:49:12.0) 118.77 (11/28/2023 11:49:01.0)	121.23	0.70	120.25	121.62	121.97
U3 rms MIN [V]	500	125.65 (11/28/2023 11:49:02.0) 122.97 (11/28/2023 11:58:08.1)	124.53	0.44	123.85	124.71	125.06

[Current]

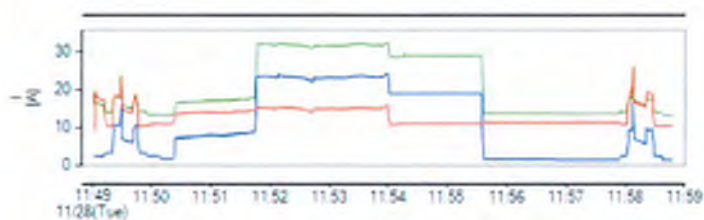
-Max-



I [A] : — 11 rms MAX — 12 rms MAX — 13 rms MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
11 rms MAX [A]	588	35.501 (11/20/2023 11:50:00.1) 9.350 (11/20/2023 11:49:02.0)	13.382	2.754	10.690	11.558	18.167
12 rms MAX [A]	588	35.652 (11/20/2023 11:50:00.1) 13.464 (11/20/2023 11:50:42.1)	21.611	7.842	13.697	17.593	32.404
13 rms MAX [A]	588	25.930 (11/20/2023 11:50:00.1) 1.429 (11/20/2023 11:50:40.1)	11.230	9.003	1.451	8.463	23.776

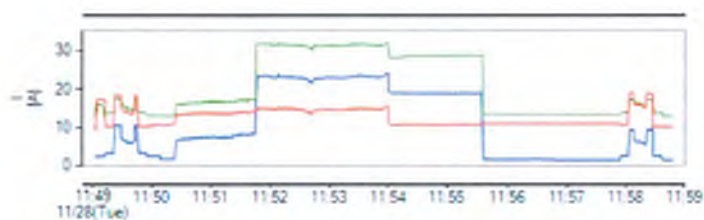
-Avg-



I [A] : — I1 rms AVG — I2 rms AVG — I3 rms AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 rms AVG [A]	500	26.110 (11/28/2023 11:58:06.1) 9.147 (11/28/2023 11:49:02.0)	13.028	2.360	10.476	11.273	17.345
I2 rms AVG [A]	500	32.497 (11/28/2023 11:52:06.1) 13.214 (11/28/2023 11:58:42.1)	23.189	7.793	13.420	17.138	32.078
I3 rms AVG [A]	500	24.268 (11/28/2023 11:54:06.1) 1.426 (11/28/2023 11:58:47.1)	11.003	8.916	1.448	7.943	23.580

-Min-

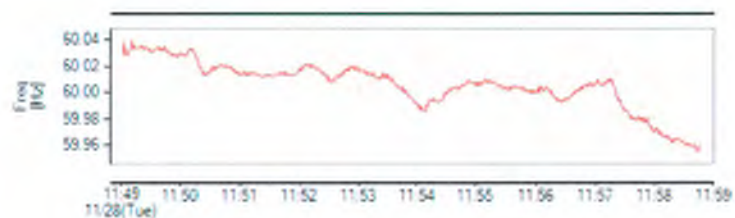


I [A] : — I1 rms MIN — I2 rms MIN — I3 rms MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 rms MIN [A]	500	19.013 (11/28/2023 11:58:07.1) 9.335 (11/28/2023 11:49:02.0)	12.663	2.242	10.208	11.921	17.043
I2 rms MIN [A]	500	32.332 (11/28/2023 11:53:59.1) 12.913 (11/28/2023 11:49:01.0)	20.784	7.032	13.088	16.853	31.764
I3 rms MIN [A]	500	24.220 (11/28/2023 11:53:59.1) 1.419 (11/28/2023 11:50:47.1)	10.782	8.904	1.444	7.329	23.395

[Frequency]

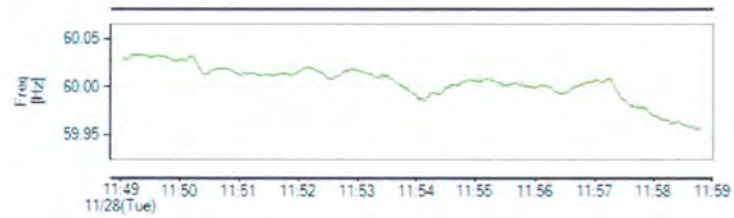
-Max-



Freq [Hz] : - Freq MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq MAX [Hz]	508	60.039 (11/28/2023 11:49:11.0) 59.955 (11/28/2023 11:58:44.1)	60.006	0.010	59.966	60.008	60.033

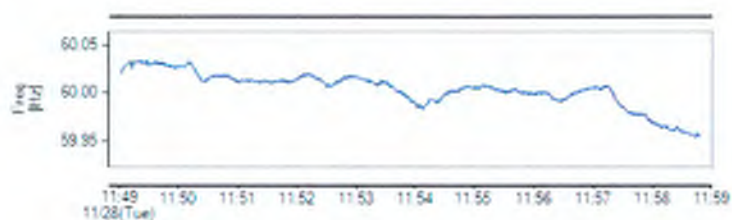
-Avg-



Freq [Hz] : Freq AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq AVG [Hz]	588	60.034 (11/28/2023 11:49:15.0) 59.955 (11/28/2023 11:58:44.1)	60.005	0.018	59.963	60.007	60.032

-Min-



Freq [Hz] : — Freq MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Freq MIN [Hz]	588	60.033 (11/28/2023 11:49:19.0) 59.954 (11/28/2023 11:58:44.1)	60.004	0.018	59.963	60.033	60.030

[Unbalance]

-Max-



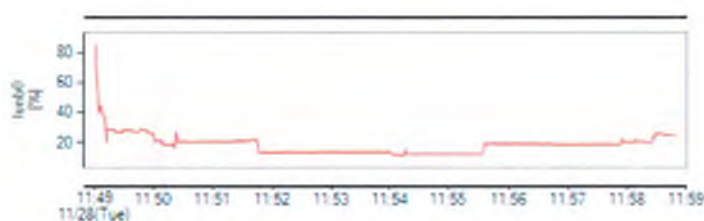
Unb0 [%] : - Unb0 MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Unb0 MAX [%]	588	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00



Unb [%] : - Unb MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Unb MAX [%]	588	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00



Iamb [%] : Iamb MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb MAX [%]	500	85.46 (11/28/2023 11:49:01.0) 10.70 (11/28/2023 11:54:12.1)	18.43	6.75	12.29	10.50	27.90



Iamb [%] : Iamb MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iamb MAX [%]	500	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00

-Avg-



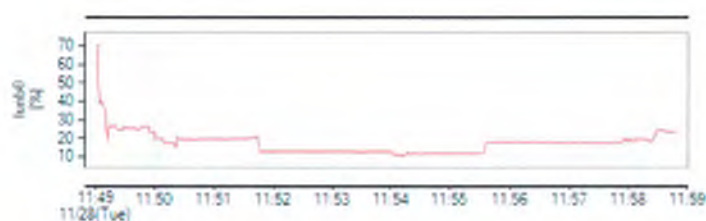
Uamb [%] : - Uamb AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb AVG [%]	588	100.00 (11/28/2023 11:49:01.0) 98.74 (11/28/2023 11:54:49.1)	99.99	0.07	100.00	100.00	100.00



Uamb [%] : - Uamb AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb AVG [%]	588	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00



Iunb0 [%] : — Iunb0 AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iunb0 AVG [%]	500	71.04 (11/28/2023 11:49:02.0) 18.23 (11/28/2023 11:58:12.1)	17.24	5.69	11.73	17.56	25.69



Iunb [%] : — Iunb AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iunb AVG [%]	500	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00

-Min-



Uamb0 [%] : - Uamb0 MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb0 MIN [%]	588	100.00 (11/28/2023 11:49:01.0) 96.69 (11/28/2023 11:54:58.1)	99.98	0.23	100.00	100.00	100.00



Uamb [%] : - Uamb MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Uamb MIN [%]	588	100.00 (11/28/2023 11:49:01.0) 99.99 (11/28/2023 11:54:58.1)	100.00	0.03	100.00	100.00	100.00



Iunb0 [%] : - Iunb0 MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iunb0 MIN [%]	588	78.79 (11/28/2023 11:49:02.0) 8.96 (11/28/2023 11:54:11.1)	15.96	4.99	10.95	16.43	23.53

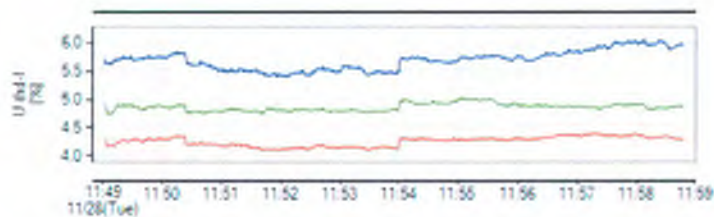


Iunb [%] : - Iunb MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Iunb MIN [%]	588	100.00 (11/28/2023 11:49:01.0) 100.00 (11/28/2023 11:49:01.0)	100.00	0.00	100.00	100.00	100.00

[U thd]

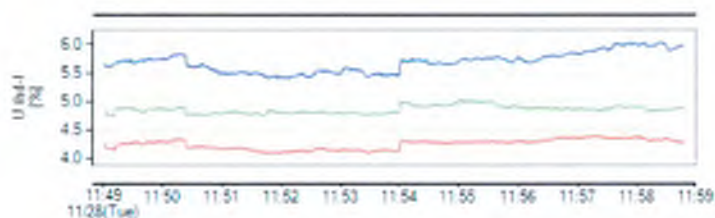
-Max-



U thd-f [%] : - U1 thd-f MAX - U2 thd-f MAX - U3 thd-f MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd-f MAX [%]	500	4.40 (11/28/2023 11:57:22.1) 4.09 (11/28/2023 11:53:29.1)	4.26	0.08	4.12	4.28	4.37
U2 thd-f MAX [%]	500	5.04 (11/28/2023 11:55:04.1) 4.75 (11/28/2023 11:49:06.0)	4.87	0.06	4.70	4.96	5.00
U3 thd-f MAX [%]	500	6.08 (11/28/2023 11:58:09.1) 5.49 (11/28/2023 11:51:56.1)	5.70	0.17	5.45	5.72	6.00

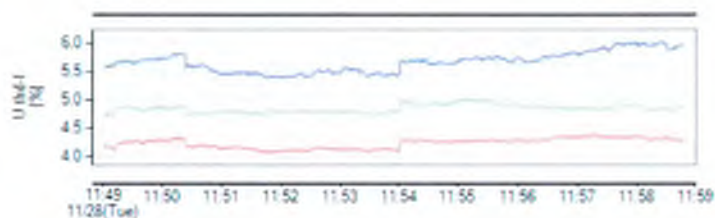
-Avg-



U thd-f [%] : — U1 thd-f AVG — U2 thd-f AVG — U3 thd-f AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd-f AVG [%]	588	4.39 (11/28/2023 11:57:19.1) 4.00 (11/28/2023 11:53:29.1)	4.24	0.09	4.11	4.27	4.36
U2 thd-f AVG [%]	588	5.02 (11/28/2023 11:55:02.1) 4.73 (11/28/2023 11:49:03.0)	4.85	0.06	4.77	4.86	4.99
U3 thd-f AVG [%]	588	6.04 (11/28/2023 11:58:08.1) 5.40 (11/28/2023 11:51:56.1)	5.68	0.17	5.43	5.70	5.99

-Min-

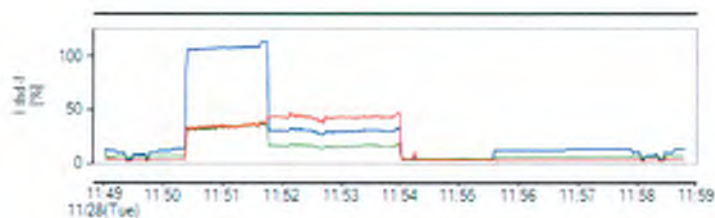


U thd-f [%] : — U1 thd-f MIN — U2 thd-f MIN — U3 thd-f MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
U1 thd-f MIN [%]	588	4.19 (11/28/2023 11:57:18.1) 4.05 (11/28/2023 11:51:51.1)	4.23	0.09	4.10	4.26	4.36
U2 thd-f MIN [%]	588	5.02 (11/28/2023 11:55:02.1) 4.69 (11/28/2023 11:49:03.0)	4.84	0.07	4.75	4.84	4.98
U3 thd-f MIN [%]	588	6.02 (11/28/2023 11:57:59.1) 5.38 (11/28/2023 11:52:23.1)	5.67	0.18	5.41	5.68	5.98

[I thd]

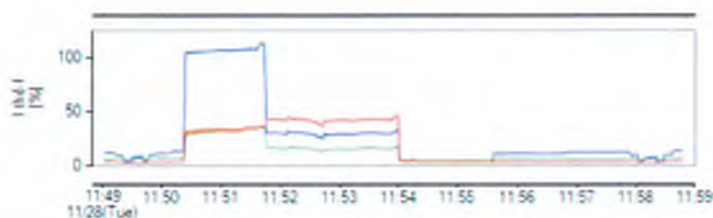
-Max-



I thd-f [%] : — I1 thd-f MAX — I2 thd-f MAX — I3 thd-f MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 thd-f MAX (%)	500	47.71 (11/28/2023 11:52:08.1) 2.51 (11/28/2023 11:58:07.1)	17.30	18.05	3.38	3.65	44.55
I2 thd-f MAX (%)	500	38.14 (11/28/2023 11:51:42.1) 4.41 (11/28/2023 11:54:29.1)	12.51	9.88	4.46	7.05	35.35
I3 thd-f MAX (%)	500	114.05 (11/28/2023 11:51:42.1) 3.20 (11/28/2023 11:49:22.0)	28.37	33.67	3.62	13.77	108.24

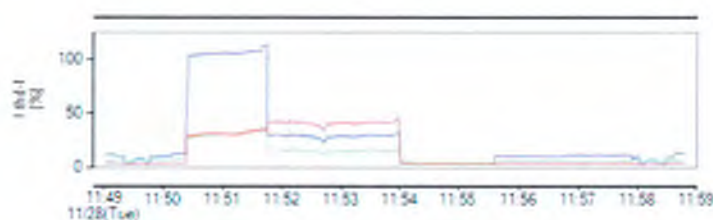
-Avg-



I thd-f [%] : — 11 thd-f AVG — 12 thd-f AVG — 13 thd-f AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
11 thd-f AVG [%]	500	46.63 (11/20/2023 11:54:03.1) 2.49 (11/20/2023 11:58:04.1)	16.66	17.39	3.32	3.57	43.22
12 thd-f AVG [%]	500	36.39 (11/20/2023 11:51:42.1) 4.38 (11/20/2023 11:54:22.1)	12.04	9.34	4.41	6.86	33.43
13 thd-f AVG [%]	500	113.56 (11/20/2023 11:51:42.1) 3.02 (11/20/2023 11:58:27.1)	27.50	33.34	3.57	12.67	107.41

-Min-



I thd-f [%] : — I1 thd-f MIN — I2 thd-f MIN — I3 thd-f MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
I1 thd-f MIN [%]	508	45.93 (11/28/2023 11:54:08.1) 2.14 (11/28/2023 11:58:08.1)	16.02	16.73	3.17	3.53	41.93
I2 thd-f MIN [%]	508	35.19 (11/28/2023 11:51:40.1) 3.80 (11/28/2023 11:58:08.1)	11.56	8.81	4.36	6.72	31.43
I3 thd-f MIN [%]	508	113.22 (11/28/2023 11:51:44.1) 2.81 (11/28/2023 11:49:42.0)	26.61	33.05	3.48	11.51	106.24

[Power]

-Max-



P [W] : - P Sum MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum MAX [kW]	588	10.159 (11/28/2023 11:58:08.1) 2.917 (11/28/2023 11:58:38.1)	5.118	2.014	3.034	4.313	8.021



PF : - PF Sum MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum MAX	588	0.9559 (11/28/2023 11:49:54.0) 0.7775 (11/28/2023 11:58:28.1)	0.9154	0.0330	0.8578	0.9270	0.9461



S [VA] : — S Sum MAX

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum MAX [kVA]	588	11.728 (11/28/2023 11:58:08.1) 3.084 (11/28/2023 11:58:38.1)	5.616	2.172	3.266	4.959	8.691



Q [var] : — Q Sum MAX

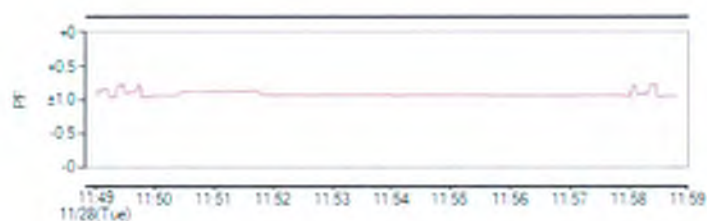
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum MAX [kvar]	588	5.712 (11/28/2023 11:58:08.1) -0.604 (11/28/2023 11:51:44.1)	0.520	0.835	-0.460	0.320	2.793

-Avg-



P [W] : P Sum AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum AVG [kW]	588	8325 (11/28/2023 11:54:09.1) 2883 (11/28/2023 11:58:43.1)	5.019	1.394	2.883	6.187	7.956



PF : PF Sum AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum AVG	588	0.9540 (11/28/2023 11:49:54.0) 0.7646 (11/28/2023 11:58:22.1)	0.9117	0.0154	0.8473	0.9263	0.9139



S [VA] : - S Sum AVG

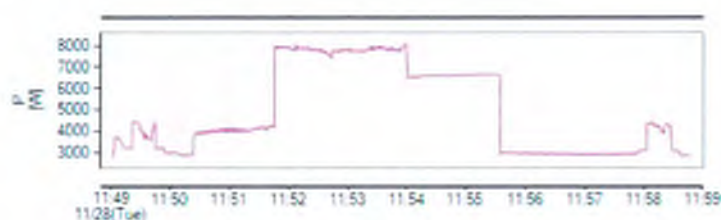
Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum AVG (kVA)	588	8.627 (11/28/2023 11:56:00.1) 3.054 (11/28/2023 11:58:43.1)	5.585	2.142	3.216	4.789	8.619



Q [var] : - Q Sum AVG

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum AVG (kvar)	588	3.544 (11/28/2023 11:58:09.1) -0.652 (11/28/2023 11:51:42.1)	0.470	0.757	-0.534	0.312	2.150

-Min-



P [W] : - P Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
P Sum MIN [kW]	588	0.059 (11/28/2023 11:53:59.1) 2.021 (11/28/2023 11:49:01.0)	4.935	1.999	2.910	4.036	7.890



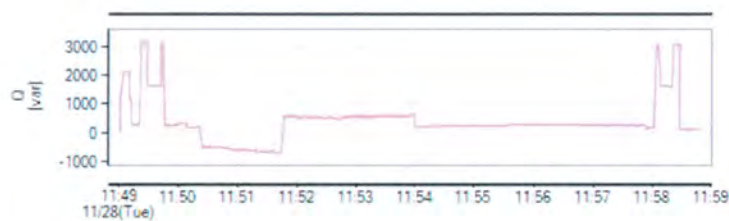
PF : - PF Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
PF Sum MIN	588	0.9525 (11/28/2023 11:49:40.0) 0.7266 (11/28/2023 11:49:42.0)	0.9377	0.0399	0.8318	0.9246	0.9422



S [VA] : — S Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
S Sum MIN [kVA]	588	8.767 (11/28/2023 11:53:59.1) 3.020 (11/28/2023 11:58:48.1)	5.412	2.146	3.147	4.657	8.549



Q [var] : — Q Sum MIN

Items	Times	Measured values	Average	Standard deviation	5%	50%	95%
Q Sum MIN [kvar]	588	3.226 (11/28/2023 11:49:28.0) -0.717 (11/28/2023 11:51:42.1)	0.428	0.729	-0.591	0.300	1.667

Insulation Resistance Report

J23-2609.1

Scott Testing, Inc.

245 Whitehead Road Hamilton, New Jersey 08619

Telephone: 609-689-3400 Fax: 609-689-0010

Insulation Resistance

Customer	TransSystems	Date	11/29/2023	Page	1	Of	1
Customer Address	220 Headquarter Plaza, West Tower, Morristown, NJ 07960	Project Number	J23-2609.1				
Owner	Glimmer Glass Bridge	Last Inspection Report	817-2301.2				
Owner Address	17 Drawbridge Lane, Manasquan, NJ 08736	Last Inspection Date	1/2/2018				
Equipment Location	Glimmer Glass Bridge	Air Temperature	49 F				
Owner Identification	Various Warning/Barrier Gates	Relative Humidity	55 %				

Nameplate Data

Manufacture _____ Cat # _____ S/N _____

Other Info _____

Test Data

EQUIPMENT	TEST KV	RESULTS			
NEAR WARNING GATE	1.0 VDC	>2,200 MEGS			
FAR WARNING GATE	1.0 VDC	>2,200 MEGS			
BARRIER GATE	1.0 VDC	>2,200 MEGS			
MOTOR BRAKE	1.0 VDC	>2,200 MEGS			

REMARKS Warning gate Motor Info: Mfg: Stearns, Model # BPF, Torque: 3ft-lbs, Voltage: 115 Vac / 208 Vac, Barrier Gate Motor Info: Mfg: Baldor, HP: 2/0.5, 230 Volt, 6.6/8.4 Amps, RPM: 1675/415, Frame 184C, 60HZ, 3PH, Rating 40CAMP-5 Min, Enc: TENV, All Megger Results include field cables.

Submitted By J.Driver

Equipment Used FLUKE (305035)



Monmouth County

Division of Engineering
Hall of Records Annex
Freehold, NJ 07728

UNDERWATER BRIDGE EVALUATION SURVEY REPORT OF

STRUCTURE NO.: 1300-0W9

**BRIELLE ROAD
OVER GLIMMER GLASS
BOROUGH OF MANASQUAN
MONMOUTH COUNTY**

September 13, 2023

PREPARED BY

 **CHURCHILL**
Consulting Engineers
344 North Route 73, Suite A
Berlin, New Jersey 08009



Churchill Consulting Engineers
344 North Route 73, Suite A, Berlin, NJ 08009
Phone 856-767-6901 Fax 856-767-0272

January 25, 2024

Transystems
220 Headquarters Plaza, West Tower, 2nd Floor
Morristown, NJ 07960

Attention: Mr. Cory A. Amato, P.E.

Re: 4 Monmouth County Bridge Inspections, GR 13H3
Structure Number: 1300-0W9
Structure Name: Brielle Road over Glimmer Glass
Underwater Bridge Inspection Report
Our File No. DT23025

Dear Mr. Amato:

In accordance with our Agreement, we are pleased to submit our revised report for the underwater inspection of the referenced structure.

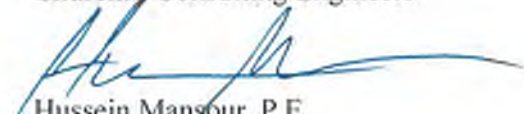
Our underwater inspection survey has been performed in accordance with the requirements given in Chapter 4 of the NJDOT Guidelines Manual for the Underwater Inspection of New Jersey's Bridges. However, we cannot ensure that all defects were or could have been disclosed in the course of this survey.

All procedures required by our Quality Assurance Plan for this project have been followed during the work required for the preparation of this report.

If you have any questions or require additional information, please contact our office.

Very truly yours,

Churchill Consulting Engineers



Hussein Mansour, P.E.
Project Engineer

HM: AK
enclosures

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5 Field Notes	20-15

N.J.D.O.T. - STRUCTURAL EVALUATION UNDERWATER BRIDGE EVALUATION SURVEY REPORT

STRUCTURAL DATA:

Bridge No.:	1300-0W9	Year Built:	1920	Widened/ Rehab:	1994/ 2015
Route No.:	9013	Length:	279'	Width:	30.0'
Mile Point:	0.56	Date of this Evaluation:	9/13/2023		
Name:	Brielle Road over Glimmer Glass By: Churchill Consulting Engineers				
Structure Type:	Single leaf bascule steel deck girder main span with sixteen nail laminated timber deck approach spans on timber trestles.		Date of Previous Evaluation:	9/10/2019	
			By:	Churchill Consulting Engineers	

WORK DONE: None.

OVERALL PHYSICAL CONDITION: Fair (Item 60 = 5)

OVERALL CONDITION (ITEM 67): Critical (Item 67 = 2) due to Low Inventory Ratings.

SUMMARY:

Number of Substructure Units in Water:	Abutments:	02	Piers:	16
Type of Underwater Inspection:	NJDOT Type 2			
Underwater Inspection Equipment Used:	Surface Supplied Air diving equipment, Dive Boat, Hand Tools, Underwater Lights.			
Substructure Elements Cleaned:	10% at waterline and channel bottom			
Water Flow Velocity:	Slow	Soil Type:	Soft sand and silt	
Diving Mode:	SSA	Dive Team Members:	3	
Diving Hazard Analysis / Assessment:	NH- No Assessed Hazard			
Reference Information:	The previous regular inspection report was available for review prior to inspection. Inspection was performed near mean high tide.			

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

COMPONENT / MATERIAL	GENERAL REMARKS
ABUTMENTS (Steel Sheeting & Timber)	<u>West Abutment:</u> The steel sheeting exhibits moderate to severe corrosion through the tidal zone. Five supplemental timber piles are installed. Piles exhibit checks above the structural jackets. Pile 11 exhibits cracked fiberglass jacket. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The abutment has three wales. The top wale exhibits 1/4" awl penetrations with 4 LF of rot at the south end. The middle wale exhibits 1/2" awl penetrations with up to 10% section loss, and the bottom wale exhibits advanced decay with up to 100% section loss. <u>Southwest Wingwall:</u> The steel sheeting exhibits moderate to severe corrosion through the tidal zone with areas of 100% section loss. Old piles exhibit moderate deterioration through the tidal zone with crushing at the original tie rod plates and splits up to 1" wide. A new waler and cross ties extending to the northwest wingwall have been installed behind the first six piles from the abutment. The old wales exhibit severe decay and splitting with up to 40% section loss. <u>Northwest Wingwall:</u> The steel sheeting exhibits moderate to severe corrosion through the tidal zone with areas of 100% section loss. Five new piles have been installed adjacent to the old, deteriorated piles with new cross ties extending to the southwest wingwall as well as a new top waler. The old wales exhibit severe decay and splitting with up to 40% section loss. <u>East Abutment:</u> The steel sheeting exhibits moderate to severe corrosion through the tidal zone. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The abutment has three wales. The top wale exhibits 1/4" awl penetrations. The middle wale exhibits 1/2" awl penetrations with up to 30% section loss, and the bottom wale exhibits advanced decay with up to 40% section loss. <u>Southeast Wingwall:</u> The steel sheeting exhibits moderate to severe corrosion with areas of 100% section loss. New piles have been installed adjacent to the old, deteriorated piles with new cross ties extending to the northeast wingwall as well as a new top waler. The old timber wales exhibit severe decay and splitting with up to 40% section loss. <u>Northeast Wingwall:</u> The steel sheeting exhibits moderate to severe corrosion with areas of 100% section loss. All new timber piles with new tie rods and hardware have been installed adjacent to the old, deteriorated piles. The timber wales exhibit severe decay and splitting with up to 40% section loss.

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

BENTS (Timber Piles No. South to North)	<u>Bent 1 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Pile 1 exhibits cracked fiberglass jacket. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 2 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Pile 2 exhibits cracked fiberglass jacket. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 3 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Piles 1, 3, 4, & 6 exhibit cracked fiberglass jackets. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 4 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The cross braces are in overall satisfactory condition with minor checks and minor to moderate heart rot at the bottom end. <u>Bent 5W (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 5E (from west):</u> The bent is in overall satisfactory condition and is comprised of seventeen 12" diameter timber piles, consisting of (8) old piles with advanced section loss up to 80% and (9) new plastic coated piles installed adjacent to the old piles. <u>Bent 6W (from west):</u> The bent is comprised of twelve 12" to 14" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Piles 4 & 7 exhibit cracked fiberglass jackets. <u>Bent 6E (from west):</u> The bent is comprised of fourteen 12" to 13" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Pile 8 exhibits cracked fiberglass jacket. <u>Bent 7 (from west):</u> The bent is comprised of eleven 12" to 13" diameter timber piles and is in
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Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

BENTS (Timber Piles No. South to North)	overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 8 (from west):</u> The bent is comprised of ten 12" to 13" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Piles 4, 8, 9, & 11 exhibit cracked fiberglass jackets. <u>Bent 9 (from west):</u> The bent is comprised of ten 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Few fine cracks in grout at top of fiberglass jackets. Piles 4 & 6 are cut at the high tide waterline. <u>Bent 10 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 11 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 12 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Pile 5 exhibits cracked fiberglass jacket. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 13 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Piles 1 & 2 exhibit cracked fiberglass jackets. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 14 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Pile 1 exhibits cracked fiberglass jacket. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 15 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass
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Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

BENTS (Timber Piles No. South to North)	jackets which extend into the mudline. Pile 1 exhibits cracked fiberglass jacket. The cross braces exhibit minor deterioration to the ends below the low water line. <u>Bent 16 (from west):</u> The bent is comprised of six 12" diameter timber piles and is in overall satisfactory condition. All piles have been jacketed with grout filled fiberglass jackets which extend into the mudline. Piles 3, 4, & 5 exhibit cracked fiberglass jackets. The cross braces exhibit minor deterioration to the ends below the low water line.
PROBING/SCOUR	<u>East and West Abutments:</u> The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed. <u>All Bents:</u> The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed.
COUNTERMEASURES	None.
FENDERS/ BULKHEADS	The fenders along the channel side of Piers 5W and 6E have been fully reconstructed and are in overall good condition. New plastic-coated piles have been installed at the wingwall flairs. There is minor marine borer infestation at the vertical sheeting boards.

Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass			Insp. Date:	9/13/2023

CONCLUSIONS & RECOMMENDATIONS:

The overall condition of the underwater components of the structure is satisfactory due to the substructure.

Based upon our probing of the channel bottom material adjacent to the substructure and our review of prior reports and plans, the bridge appears to have no potential scour problem at this time.

Based on the Scour Evaluation Program results, dated May 2007, the structure is not considered to be scour critical and SI&A Item 113 is coded '8'.

Since the previous underwater inspection, the following significant changes have occurred:

1. None.

Due to the conditions observed during our underwater inspection, we recommend the following Priority repairs be made to retard further deterioration, preserve the structural integrity of the bridge, improve safety and extend its useful life:

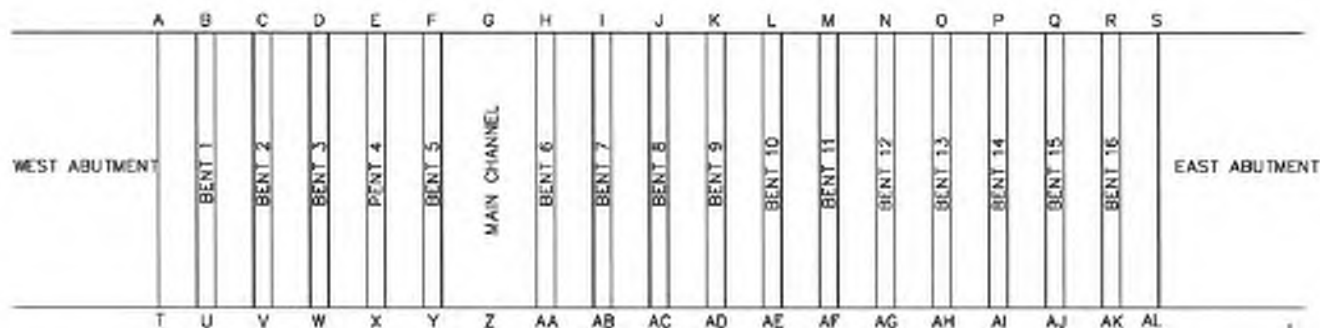
1. None

In addition, we recommend a Type-2 Underwater inspection of the bridge be performed on a four year interval and after any major storm events.

Structure No.: 1300-OW9
 Name: Brielle Road over Glimmer Glass
 Route: 9013

Cycle No.:
 Insp. Date:

20
 9/13/2023



SOUNDINGS PLAN
 SCALE: N.T.S.

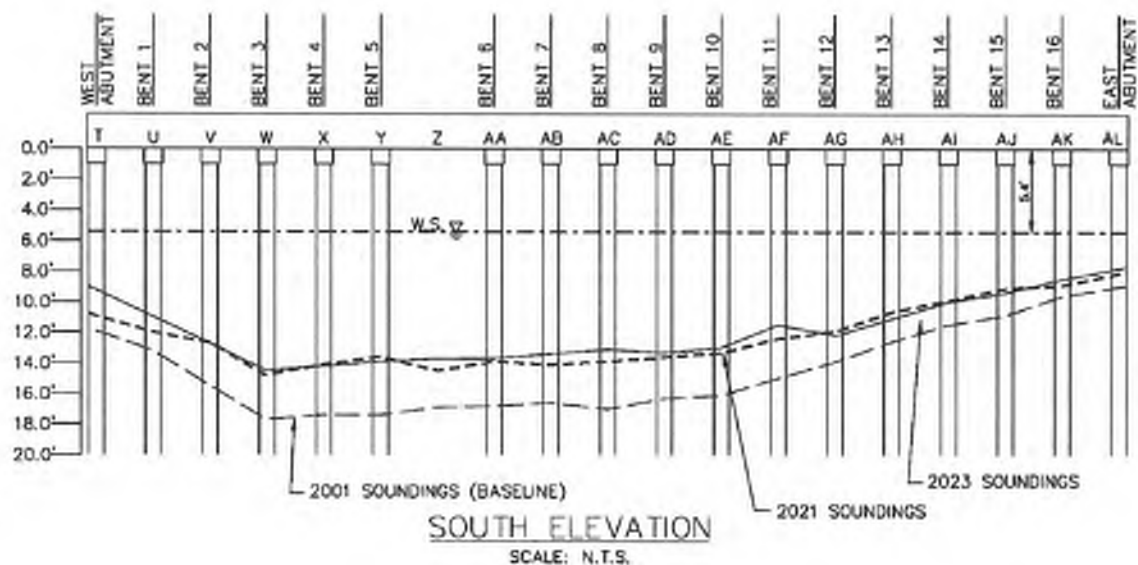
POINT	NORTH FASQA LOCATION	CLEAR DIMENSION 2001	CLEAR DIMENSION 2002	WATER DEPTH 2023	CLEAR DIMENSION 2023
A	WEST ABUTMENT	10.6'	10.0'	3.7'	9.1'
B	BENT 1	12.9'	11.3'	5.6'	11.0'
C	BENT 2	14.8'	11.9'	7.1'	12.5'
D	BENT 3	16.3'	13.8'	8.2'	13.6'
E	BENT 4	16.2'	14.1'	8.4'	13.8'
F	BENT 5	17.1'	14.1'	8.7'	14.1'
G	MAIN CHANNEL	16.8'	13.9'	8.9'	14.3'
H	BENT 6	16.1'	14.1'	8.8'	14.2'
I	BENT 7	17.1'	14.0'	8.4'	13.8'
J	BENT 8	16.9'	13.5'	8.5'	13.9'
K	BENT 9	16.4'	13.4'	8.2'	13.6'
L	BENT 10	15.6'	12.9'	7.6'	13.0'
M	BENT 11	14.6'	12.0'	7.4'	12.8'
N	BENT 12	12.5'	10.8'	6.6'	12.0'
O	BENT 13	11.6'	10.8'	4.9'	10.3'
P	BENT 14	10.4'	9.5'	4.0'	9.4'
Q	BENT 15	9.4'	8.4'	3.1'	8.5'
R	BENT 16	8.0'	8.0'	2.0'	7.4'
S	EAST ABUTMENT	6.6'	7.0'	1.1'	6.5'

POINT	SOUTH FASQA LOCATION	CLEAR DIMENSION 2001	CLEAR DIMENSION 2002	WATER DEPTH 2023	CLEAR DIMENSION 2023
T	WEST ABUTMENT	11.8'	10.8'	3.8'	9.2'
U	BENT 1	13.2'	12.0'	5.6'	11.0'
V	BENT 2	15.5'	12.7'	7.3'	12.7'
W	BENT 3	17.7'	14.8'	9.1'	14.5'
X	BENT 4	17.4'	14.1'	8.6'	14.2'
Y	BENT 5	17.4'	13.8'	8.5'	13.9'
Z	MAIN CHANNEL	16.9'	14.5'	8.3'	13.7'
AA	BENT 6	16.8'	13.9'	8.3'	13.7'
AB	BENT 7	16.6'	14.1'	8.0'	13.4'
AC	BENT 8	17.0'	13.9'	7.7'	13.1'
AD	BENT 9	16.3'	13.6'	7.9'	13.3'
AE	BENT 10	16.1'	13.0'	7.6'	13.0'
AF	BENT 11	15.0'	12.4'	6.1'	11.5'
AG	BENT 12	13.9'	11.9'	6.8'	12.2'
AH	BENT 13	12.6'	10.6'	5.7'	11.1'
AI	BENT 14	11.5'	9.9'	4.6'	10.0'
AJ	BENT 15	10.9'	9.1'	4.0'	9.4'
AK	BENT 16	9.6'	8.9'	3.1'	8.5'
AL	EAST ABUTMENT	8.9'	8.0'	2.4'	7.8'

NOTES:

1. REFERENCE ELEVATION = 5.4' [AT POINT AL (EAST ABUTMENT)] MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

MONMOUTH COUNTY Structure Evaluation	
STRUCTURE NO. 1300-OW9	
BRIELLE ROAD OVER GLIMMERGLASS	
BOROUGH OF MANASQUAN, MONMOUTH COUNTY	
K. CHURCHILL CONSULTING ENGINEERS 344 NORTH ROUTE 73 BRIELLE, NJ 08009	CYCLE No. 20 DATE: 9-13-2023



NOTES:

1. REFERENCE ELEVATION = 8.4' (AT POINT AL (EAST ABUTMENT)); MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

2001 CHANNEL BOTTOM -----
 2021 CHANNEL BOTTOM -----
 2023 CHANNEL BOTTOM -----
 2023 WATER SURFACE -----

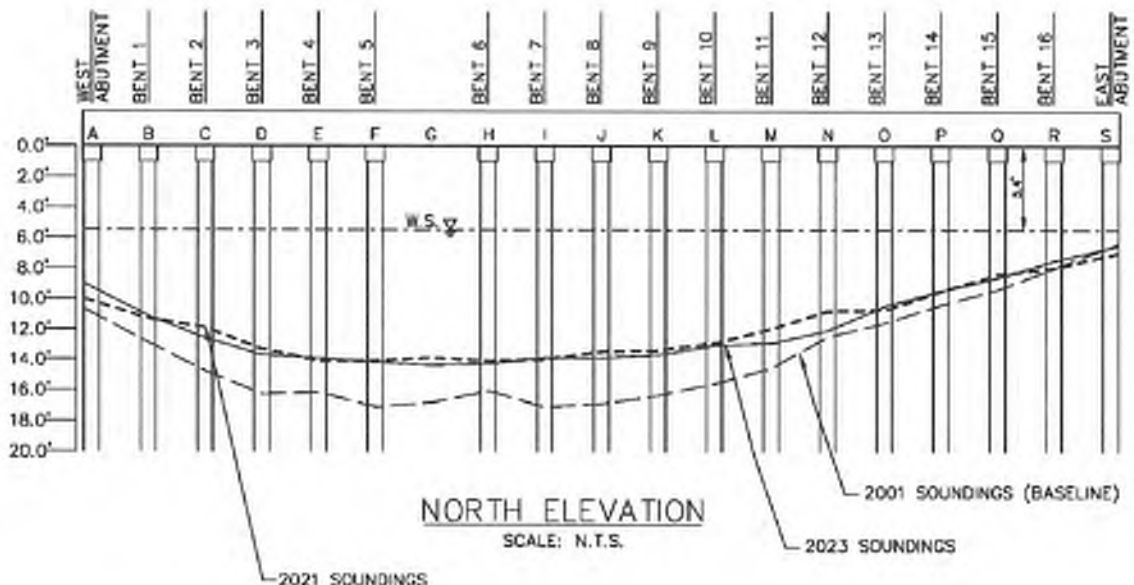
MONMOUTH COUNTY Structural Evaluation	
STRUCTURE NO. 1300-OW9	
BRIELLE ROAD OVER GLIMMERGLASS	
BOROUGH OF MANASQUAN, MONMOUTH COUNTY	
CHURCHILL CONSULTING ENGINEERS 344 NORTH ROUTE 73 BRIDGE PLAZA 08026	CYCLE No. 20 DATE: 9-13-2023

Structure No.: 1300-0W9
Name: Brielle Road over Glimmer Glass

Route: 9013

Cycle No.:
Insp. Date:

20
9/13/2023



NOTES:

1. REFERENCE ELEVATION = 5.4' (AT POINT AL (EAST ABUTMENT)); MEASURED FROM THE TOP OF THE PILE CAP TO THE WATERLINE.
2. THE CLEAR DIMENSIONS ARE MEASURED FROM THE TOP OF THE CAP AT THE BENT TO THE CHANNEL BOTTOM.

2001 CHANNEL BOTTOM -----
2021 CHANNEL BOTTOM -----
2023 CHANNEL BOTTOM -----
2023 WATER SURFACE -----

MORRIS COUNTY Structural Evaluation	
STRUCTURE NO. 1300-0W9	
BRIELLE ROAD OVER GLIMMERGLASS	
BOROUGH OF MANASQUAN, MORRIS COUNTY	
CHURCHILL CONSULTING ENGINEERS 344 NORTH ROUTE 73 JERSEY, NJ 08020	Cycle No. 20 DATE: 9-13-2023

Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass	Insp. Date:	9/13/2023		



Photo No: UW-01

Location:	South elevation, looking north.
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Description:	General view.
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Photo No: UW-02

Location:	North elevation, looking south.
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Description:	General view.
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Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass			Insp. Date:	9/13/2023

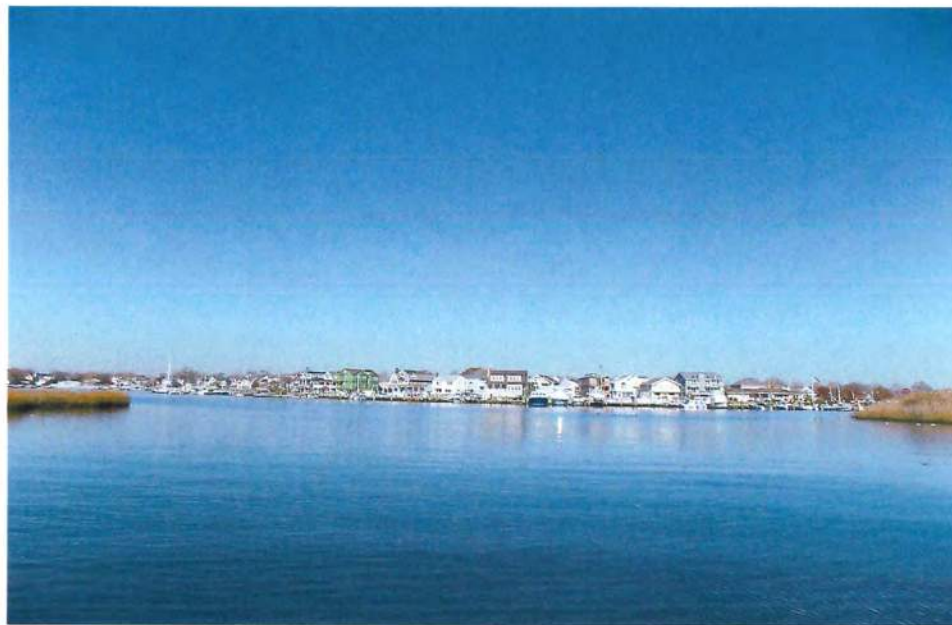


Photo No: UW-03

Location:	Upstream channel, looking north.
Description:	General view.



Photo No: UW-04

Location:	Downstream channel, looking south.
Description:	General view.

Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass			Insp. Date:	9/13/2023



Photo No: UW-05

Location:	West abutment and southwest wall, looking northwest.
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Description:	Moderate to severe corrosion of the steel sheeting in the tidal zone.
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Photo No: UW-06

Location:	East abutment, looking northeast.
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Description:	Moderate to severe corrosion of the steel sheeting in the tidal zone. Note: Piles exhibit checks above structural jackets (typical).
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Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass			Insp. Date:	9/13/2023



Photo No: UW-07

Location:	Piers 5E and 5W, looking northeast.
Description:	General view.



Photo No: UW-08

Location:	Pier 5, looking northeast.
Description:	North flare typical old piles exhibit section loss.

Structure No.:	1300-0W9	Route:	9013	Cycle No.:	20
Name:	Brielle Road over Glimmer Glass	Insp. Date:	9/13/2023		



Photo No: UW-09

Location:	Pier 15, pile 1, looking west.
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Description:	Typical cracked fiberglass jacket.
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Photo No: UW-10

Location:	Pier 4, looking north.
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Description:	Diver in action.
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Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

NEW JERSEY DEPARTMENT OF TRANSPORTATION
STRUCTURAL EVALUATION
MONMOUTH COUNTY

Name: Brielle Road over Glimmer Glass
Diver: Joey Becker
Company: Churchill Consulting Engineers
Team leader: Rebecca Collins, P.E.
Company: Churchill Consulting Engineers
Temperature: 62°F Weather: Sunny
Equipment Used: Surface supplied air, 20' Dive Boat, Hand Tools, Underwater Lights, Underwater Camera

RATINGS:

- N Not applicable.
- 9 Excellent Condition.
- 8 Very Good Condition – no problems noted.
- 7 Good Condition – some minor problems.
- 6 Satisfactory Condition – some minor deterioration of structural elements.**
- 5 Fair Condition – minor section loss to primary structural elements.
- 4 Poor Condition – advanced section loss to primary structural elements.
- 3 Serious Condition – seriously deteriorated primary structural elements.
- 2 Critical Condition – facility should be closed until repairs are made.
- 1 Imminent Failure Condition – facility closed. Study of repairs is feasible.
- 0 Failed Condition – facility is closed and beyond repair.

GENERAL

Type of Bridge: Single leaf bascule steel deck girder main span with sixteen nail laminated timber deck approach spans on timber trestles.

Type of Substructure: Timber pile bents

No. of Lanes: On 02 Under Waterway

Number of substructure units in water: Abutments: 02 Piers: 16

Overall condition of substructure: Fair

WATERWAY:

Type: Tidal Velocity: Varies

Streambed material: Sand and gravel. Note: grout jackets all intact. Top finish chamber cracked at few piles, grout in jacket appears good.

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

TIMBER ABUTMENT West

RATING	COMPONENT	REMARKS
5	Sheeting (Steel)	Moderate to severe corrosion through the tidal zone. There are corrosion holes to the steel sheeting at both abutments with exposed fill (Photo UW-05).
6	Piles (13 Timber, 12" Ø, No. South to North)	All piles jacketed into channel bottom with structural jackets. Piles exhibit checks above structural jackets (Photo UW-06 Typical). Pile 11: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Pile Cap (Timber)	Above waterline.
5	Wales (3 - Timber)	Top: ¼" penetration, 4 LF of rot at south end. Middle: ½" penetration, 10% section loss (Photo UW-05 and UW-06 typical). Bottom: Advanced decay with up to 100% section loss.
N	Header	None.
5	SW Wingwall Sheeting (Steel)	Moderate to severe corrosion through the tidal zone with areas of 100% section loss (Photo UW-05).
5	SW Wingwall Piles	Piles exhibit moderate deterioration through the tidal zone. Piles exhibit checks and splits up to 1" wide typical (Photo UW-05)
7	SW Wingwall Wales	No significant defects.
5	NW Wingwall Sheeting (Steel)	Moderate to severe corrosion through the tidal zone with areas of 100% section loss (Photo UW-05 typical).
7	NW Wingwall Piles	Newer piles installed between original piles. Newer piles exhibit no significant defects.
7	NW Wingwall Wales	No significant defects.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

TIMBER ABUTMENT East

RATING	COMPONENT	REMARKS
5	Sheeting (Steel)	Moderate to severe corrosion through the tidal zone. There are corrosion holes to the steel sheeting at both abutments with exposed fill (Photo UW-06).
6	Piles (8 Timber, 12" Ø, No. South to North)	All piles jacketed into channel bottom with structural jackets. Piles exhibit checks above structural jackets (Photo UW-06).
N	Pile Cap (Timber)	Above waterline.
5	Wales (3 – Timber)	Top: ¼" penetration Middle: ½" penetration, up to 30% section loss. Bottom: Advanced decay with up to 40% section loss (Photo UW-06).
N	Header	None.
5	SE Wingwall Sheeting (Steel)	Moderate to severe corrosion through the tidal zone with areas of 100% section loss (Photo UW-05 typical).
7	SE Wingwall Piles	Newer piles installed between original piles. Newer piles exhibit no significant defects.
7	SE Wingwall Wales	No significant defects.
5	NE Wingwall Sheeting (Steel)	Moderate to severe corrosion through the tidal zone with areas of 100% section loss (Photo UW-05 typical).
7	NE Wingwall Piles	Newer piles installed between original piles. Newer piles exhibit no significant defects.
7	NE Wingwall Wales	No significant defects.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 1 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Pile 1: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 2 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Pile 2: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 3 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Piles 1, 3, 4, & 6: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 4 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
7	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets.
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 5W (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
7	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets.
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT SE (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
6	Posts/Piles (17 Timber, 12" & 14" Ø, No. South to north)	(9) plastic coated 14" dia. piles driven between (8) severely deteriorated 12" dia. timber piles (Photo UW-08).
N	Foundation	None.
N	Cross Bracing	None
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
7	Others	Timber fenders exhibit minor marine borer activity and minor section loss.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 6W (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (12 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Piles 4 & 7: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
N	Cross Bracing	None
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
7	Others	Timber fenders exhibit minor marine borer activity and minor section loss.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 6E (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (14 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets (Photo UW-09 typical). Pile 8 fiberglass jacket cracked.
N	Foundation	None.
7	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
7	Longitudinal Bracing	No significant defects.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 7 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
7	Posts/Piles (10 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets.
N	Foundation	None.
7	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
7	Longitudinal Bracing	No significant defects.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 8 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (10 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Piles 4, 8, 9, & 11: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
7	Longitudinal Bracing	No significant defects.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 9 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (12 Timber, 12" Ø, No. South to north)	All 10 piles jacketed into channel bottom with structural jackets. Few fine cracks in grout at top of fiberglass jackets (Photo UW-09 typical). Piles 4 & 6 are cut at the high tide waterline.
N	Foundation	None.
7	Cross Bracing	No significant defects.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	No significant defects.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 10 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
7	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 11 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
7	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets.
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 12 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Pile 5 exhibits cracked fiberglass jacket (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 13 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Piles 1 & 2: Fiberglass jacket is cracked (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 14 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Pile 1: Fiberglass jacket is split with a fine crack in the southwest quadrant, grout is intact (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	None.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 15 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Pile 1: Fiberglass jacket is split, grout is intact (Photo UW-09).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE

SI&A Item 60 Condition Rating: 5

BENT 16 (from west)

RATING	COMPONENT	REMARKS
N	Bent	N/A
N	Cap	Above waterline, not inspected.
5	Posts/Piles (6 Timber, 12" Ø, No. South to north)	All piles jacketed into channel bottom with structural jackets. Piles 3, 4, & 5: Fiberglass jacket is split, grout is intact (Photo UW-09 typical).
N	Foundation	None.
7	Cross Bracing	No significant defects. Minor deterioration to brace ends below the low water line.
N	Horizontal Bracing	None.
N	Longitudinal Bracing	None.
N	Girts	None.
N	Others	None.

**Additional
Remarks:**

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 5

ABUTMENT West

RATING	COMPONENT	REMARKS
COUNTERMEASURES		
	Description	None.
N	Condition	N/A
PROBING/SCOUR		
7	Findings	The channel bottom consists primarily of soft sand, shells and gravel with areas of soft silt. No evidence of scour observed.
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities: None.

ABUTMENT East

RATING	COMPONENT	REMARKS
COUNTERMEASURES		
	Description	None.
N	Condition	N/A
PROBING/SCOUR		
7	Findings	The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed.
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities: None.

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

SUBSTRUCTURE/SCOUR

SI&A Item 60 Condition Rating: 5

BENTS ALL

RATING	COMPONENT	REMARKS
COUNTERMEASURES		
	Description	None.
N	Condition	N/A
PROBING/SCOUR		
7	Findings	The channel bottom consists primarily of soft sand, shells, and gravel with areas of soft silt. No evidence of scour observed.
	Changes Since Prior Inspection	Minor channel bottom fluctuations.
	Debris	None.

Repair Quantities: None.

Structure No.: 1300-0W9 Route: 9013 Cycle No.: 20
 Name: Brielle Road over Glimmer Glass Insp. Date: 9/13/2023

UNDERWATER DIVING INSPECTION

WATERWAY/CHANNEL

SI&A Item No. 61: 8 (Stage I)
 SI&A Item No. 71: 8 (Stage I)
 WATERWAY Glimmer Glass Prioritization Category: 3 (Stage I)
 SPAN(S) 17 Scour Sufficiency Rating: 58.8

RATING	COMPONENT	REMARKS
FLOW CONDITIONS		
	Direction	Tidal Ebb – South, Flood - North
	Magnitude	Moderate volume, occupying 100% of structure's length. The upstream and downstream channels are wider than bridge waterway but does not appear to adversely affect flow. Only bascule span is navigable.
	Velocity	Moderate, varies with tide.
EMBANKMENTS		
8	Upstream	Northeast – Steel sheeting and timber bulkhead and marshland Northwest – concrete rubble, steel sheeting and timber bulkhead and marshland.
8	Downstream	Northwest – stable with gabion baskets and residential piers. Northeast – sheet pile, stone jetties. No significant defects.
8	Channel Countermeasures	Southwest: Silt with intertidal grasses seaward of steel sheeting and timber piles/wales Southeast: Open water, bounded to the south and east by a marina, seaward of steel sheeting and timber piles/wales
CHANNEL MOVEMENT AND CHANGES		
	Horizontal Location	Main navigation channel flows between Piers 5W and 6W.
	Cross Section	See sounding profiles.
	Alignment	Flow is parallel to substructure units.
	Changes Since Previous Inspection	Minor channel bottom fluctuations.
	Navigation Clearances	Vertical – unlimited when bridge is open. Horizontal – 31' within bascule span
	Waterway Opening	Adequate for present flow.
N	Other/Debris in Channel	None.

Repair Quantities: None.