Bridge No. 111-3/5-5.95(01110) **BARS No.** 035A123

I-470, Wheeling, WV 26003, United States

District - 6

BRIDGE INSPECTION REPORT

Type of Inspections Performed:

Fracture Critical, Inspection and Report

FIELD INSPECTED BY: Signature

STRUCTURAL EVALUATION BY: Signature

REVIEWED AND APPROVED BY:

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Inspection Types

NBI 90 (Routine) Date: 07/18/2012 **Frequency:** 12
(LAST DAY)

Periodic ☐

In-Depth ☐

Interim-Condition ☒

Fracture Critical ☒	**Required:** Y	**Item 93A Date:** 07/18/2012	**Frequency:** 24
Underwater ☐	**Required:** N	**Item 93B Date:**	**Frequency:**
	Underwater Equipment:		
Other Special ☐		**Item 93C Date:**	**Frequency:**
	Special Code:		
Inventory ☐		**Inspection Date:**	
Interim ☐		**Inspection Date:**	
Damage/Special ☐		**Inspection Date:** 05/01/1993	
Closure ☐		**Inspection Date:**	**Frequency:**
	UB Inspection Required ☐	**Inspection Date:**	**Frequency:**
	UB Inspection Vehicle:		

Procedure

Information for this inspection report was obtained June 29, 30, July 3, 5, 6, 12, 18, 2021 The inspector in charge was R. Johnson assisted by: Irene Song on June 29, 30, July 3, 5, 6, 12, 18, Jane Smith on June 29, July 3, 5, 6, 12, 16, 18, 24, 25, Anders Carter on June 29, July 3, 5, 6, 13 Florence Moore on June 30, and Stella Clark on July 18. The level of inspection forming the basis for this report was general visual observation, beginning with the substructure units at the ground and waterlines, ending with the upper chords of Span Two. The underside was observed from the ground and by use of ladders and a swinging scaffold, providing all areas hands on inspection. Orientation of the structure units is in compliance with the plans and straightline survey. A Periodic Inspection, made June 12, 2019 by L. Nelson, rated the general overall condition of the structure poor.

Summary & Recommendations

The structure, in general, is in poor condition. The most serious deficiencies observed, along with our recommendations, are as follows: 1. Various truss members, floor system members, truss connections, and laterals exhibit section loss which should be repaired. 2. The fractured lower chord pin nuts in Spans One and Three should be repaired or replaced. 3. Damaged and loose sections of the two-line guardrail should be repaired. 4. Stringer Two at Abutment Two should be raised and the expansion seal at this location replaced. 5. Span One's Downstream Truss should be monitored during each future inspection. 6. Replacement of the frozen roller nests over Pier One and any deteriorated bearing plates is recommended. 7. The cracked and spalled areas of the substructure units should be repaired. 8. All loose truss members should be tightened and the entire structure cleaned and painted. 9. Despite, effective retrofits and maintenance over the years. The structure is fracture critical and in a general state of decline. The structure has been in service for 85 years and soon will be requiring extensive repairs to items that were previously retrofitted; we recommend prompt replacement of the structure. A WORK ORDER DATED 8/2/2012 WAS SUBMITTED FOLLOWING THIS INSPECTION.

Engineers Comments

Inspection Frequency has been reduced from 24 months to 12 months due to low ratings. This structure is programmed to be replaced with construction currently scheduled to start in January 2022. Due to the deteriorated condition of the floor system, we recommend reducing the Gross Load Posting from the current 13 Tons to 7 Tons.

Traffic Conditions

The structure is posted for 13 tons in accordance with a Commissioner's Order dated December 24, 1987, currently on file. The posting, to the best of our knowledge, is being obeyed. The intersection with WV 4 at Abutment Two occasionally causes traffic to back up on the structure. The structure's narrow width (15'-9") restricts traffic flow to one direction at a time.

Waterway - Feature Intersected

Divers from Materials Control Soil and Testing have removed this structure from their inspection schedule due to the low water conditions usually found. The water was shallow and clear at each substructure during our inspection; we found no scour or undercutting around the piers. We did, however, find a moderate amount of debris accumulated at the upstream end of Pier Two, the only substructure in the water during our inspection. The stream aligns well with the structure and the channel appears capable of handling periods of high water. No high water marks were visible during our inspection. Previous reports have noted minor scour at both piers; with no significant changes over the years. A Scour Evaluation Summary (DS-34) dated June 24, 2019, lists the structure as having scoured potential and in the low-risk category with a recommended code 8. The bridge will be inspected for scouring problems during routine inspections and after any flow event producing water surface elevations greater than Q10 discharge. No substructure plans exist. Soundings were taken along the structures upstream side referenced to the centerline of the lower chord pins at panel point intervals with a 19.8' maximum water depth located near the mid-span of Span Two. Our soundings were plotted in comparison to the initial Inventory Report. However, we found no significant change since last plotted in 2018.