

VERA CRUZ BRIDGE FRACTURE CRITICAL REPORT
(Des. 2200460)

Bridge No. Vera Cruz Bridge over Wabash River (Str. 316-90-6418)

Dates of Inspection: September 29th & 30th, 2022


Frequency (months): N/A

Inspection Findings: Both trusses have moderate pitting and section loss throughout and are in Fair (NBI Rating 5) to Satisfactory (NBI Rating 6) condition.



Prepared By:
HWC Engineering
135 N. Pennsylvania Street, Suite 2800
Indianapolis, IN 46204
Telephone: (317) 347-3663
www.hwcengineering.com




John Lukac, P.E., MBA
Inspector No. IN000269-2024-ATL-F-LRE

Date: 10/26/2022

- Members to be Inspected: Truss Members, Bearings, Floor Beams, and Connections. Stringers are not fracture critical.
- Inspection Procedures: Visually and tactually conduct an arms-length inspection of all fracture critical members and connections for section loss, cracks, or other signs of failure.
- Special Equipment: Calipers, wire brush, hammer, ladder, harness & tie-off, clip board, mirror, tape measure, camera, flashlight, level, leaf blower, shovels, tree trimmers, and waders.
- Follow up Action: Structure is recommended to remain closed to vehicular traffic and to be closed to pedestrian traffic . Prior to opening the bridge back up to pedestrian traffic, it is recommended that the stringers and timber decking be replaced.

Inspection Team

Name	Qualifications	Responsibilities
John Lukac, P.E., MBA	INDOT Certified Team Leader IN00269-2024-ATL-F-LRE, BSCE, NHI 2-week class 2010, NHI 130053 refresher 2020, Sbrit Fatigue Class, NHI FC 2015, 17+ years' experience in bridge inspection, design, and construction inspection	Field Inspection, Final Report Review and Approval
Lukas Sipe, E.I.	INDOT Certified Team Leader IN000656-2029-ATL, BSCE, NHI 2-week class 2019, 4 years' experience in bridge inspection, design, and construction inspection	Field Inspection Assistant, Report Development
Daniel Black, E.I.	INDOT Certified Team Member IN000797-2024-ATM, BSCE, NHI 2-week class 2021, 2 years' experience in bridge inspection and design	Field Assistant, Report Development

INTRODUCTION

A. Location and Description

The historic Bridge is located just West of SR 301 over the Wabash River, South of Vera Cruz. The bridge is located at a latitude of 40°41'55.22" N and a longitude of 85°04'58.40" W.

Bridge No. 316-90-6418 is a single span, Double Intersection Pratt (Whipple) Truss. The structure is on an approximate zero-degree skew. The Structure length is 150'. The structure has a clear roadway width of 18 ft. The bridge is closed to traffic.

B. History

This bridge was built in 1887 by the Indiana Bridge Company of Muncie. The bridge was bypassed in 1985. This bridge is considered historically select.

FIELD INVESTIGATION

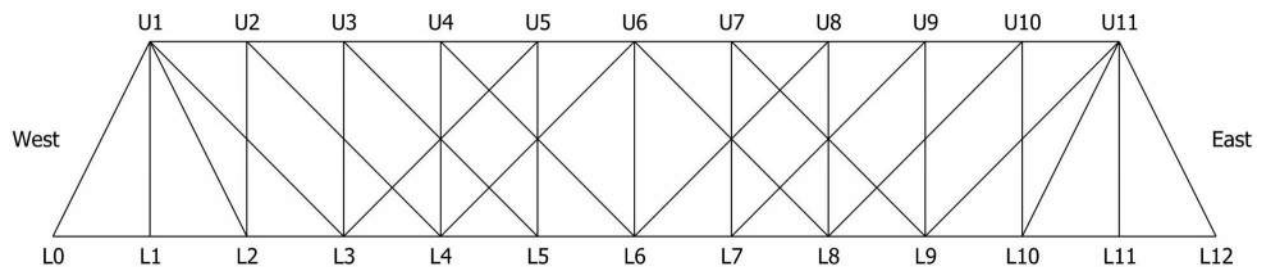
A. Members to be Inspected

The FHWA defines a fracture critical member as a steel member in tension, or with a tension element, whose failure would probably cause a portion of, or the entire, bridge to collapse.

The following members are considered non-redundant, and fracture critical bridge members:

1. Lower chords and lower chord connections
2. Diagonals and diagonal connections in tension
3. End verticals and end vertical connections

Per the Indiana Bridge Inspection Manual, the portions of the fracture critical member within a minimum of 12 inches of the entire connection shall be considered a fracture critical connection, whereas the portion of the tension member beyond the 12-inch window shall be considered a fracture critical member. Floor beam connections, lateral bracing connections, bearings, gusset plates, connection angles, pins, hangars, etc. are all typically considered part of the fracture critical connection.



B. Bridge Cleaning Requirements

The lower chord and bearings required cleaning to access the underlying structural member's condition. Hand tools, shovels, and leaf blower were used by the inspector to clean individual areas and around end bearings. Tree trimming was required to clear larger branches off of the truss.

C. Traffic Maintenance Requirements

Bridge is currently closed to vehicular traffic. No maintenance of traffic required.

SUMMARY OF INSPECTION RESULTS

A. Connections

The lower connections are generally in fair to satisfactory condition with moderate pack rust between members and eyebars at the connections and moderate pitting with up to 20% section loss. A couple floor beam connections have deep pitting in the flanges. The upper connections are in generally satisfactory condition with Peeling Paint, Minor Pitting, and Light Surface Rust and up to 5% section loss. No cracks were found.

B. Members

The lower chord members are in generally fair to satisfactory condition with peeling paint, surface rust, and minor pitting. The diagonal members and verticals are generally in fair to satisfactory condition with minor pitting and out of plane distortion at pack rust between members and up to 20% section loss.

C. Other/Routine Inspection Notes – Non-Fracture Critical Items:

Member	Rating	Comments
Deck	2	<p>Comments: Tree growing into East end of deck with Damage. Section loss of decking at West end of bridge. Heavy moisture saturation in timber decking with section loss of timber under wearing surface and at deck copings. Heavy rot on timber with large checks and splits. Local failures visible.</p> <p>Material: Timber</p>
Wearing Surface	2	<p>Comments: Local failures with cracking and heaving throughout.</p> <p>Material: Asphalt</p>
Superstructure	5	<p>Comments: See Fracture Critical Notes for Truss Elements</p> <p><i>Stringers (Rating: 3)</i> - Heavy Peeling of paint with heavy surface rust. Section Loss on webs and flanges at abutments, Stringer 6 at East abutment has 2' hole in web with 50% section loss. 2'-3' holes in webs of stringers 3,4,5 at East abutment. Web of stringer 3 is buckling. Section loss on stringers throughout length with holes in webs. Holes in channels 1 & 7 throughout.</p> <p><i>Floorbeams (Rating: 6)</i> - Heavy Peeling of paint with heavy surface rust throughout. Pack rust at sway bar bracing. 10-15% Section loss anticipated.</p> <p>Material: Steel</p>
Substructure	4	<p>Comments: Section Loss on masonry blocks and loss of mortar throughout. 1'-2' Section Loss of masonry blocks on East abutment under cap and under Southwest bearing and on West abutment under Southwest corner of bridge and front face of abutment</p> <p>Material: Masonry Block Abutments</p>
Channel	6	<p>Comments: Heavy bank erosion upstream and downstream. Large debris in channel upstream. Channel flows near East abutment. Heavy tree growth at ends of bridge.</p> <p>Material: Natural-Vegetation</p>

SUMMARY OF RECOMMENDATIONS

It is recommended for the Vera Cruz historic bridge, that the structure remain out of use for vehicular traffic and be closed off to pedestrian traffic. Barricades are recommended to be placed at each end of the structure to fully close it off from pedestrian use. The tree growing into the deck at the east end of the bridge is recommended to be removed.

Prior to opening to bridge back up for pedestrian use, it is recommended that the stringers and timber decking be replaced. If the bridge is ever desired to be brought back into vehicular use, a major rehabilitation is recommended to repair truss members, tuckpointing and replacement of masonry blocks in the abutments, replacement of bridge approaches, and painting the structure.

FRACTURE CRITICAL INSPECTION NOTES
SOUTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
L0	Bearing	B	5	Heavy Surface Rust on Bearing Plate
	Pin	A	6	Surface rust and minor Section Loss
	L0-L1	E	6	Peeling paint, surface rust, <5% Section Loss
	L0-U1	D	6	Built-up member, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L0-L1	A	6	Continuous member to L2. Peeling paint, Surface rust, minor pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L0-U1	D	6	Built-up member, Peeling paint, Surface rust, Minor pitting, Minor pack rust between rivets on top plate. ½" - 1" hole in top plate.

Location/Member		Fatigue Category	Rating	Comments
L1	Floor Beam	B	5	Peeling paint, Surface rust, Minor to Heavy pitting, with Flaking rust and Section loss in bottom flange and web. Minor section loss on rivets. < 10% Section Loss.
	L0-L1	A	6	Continuous member to L2, Peeling paint, Surface rust, minor pitting. <5% Section Loss
	L1-U1	E	6	Peeling paint, Surface rust, minor pitting. <5% Section Loss
	L1-L2	A	6	Continuous member to L0, Peeling paint, Surface rust, minor pitting. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L1-U1	A	6	Peeling paint, Surface rust, minor pitting. <5% Section Loss

Member	Fatigue Category	Rating	Comments
--------	------------------	--------	----------



L1-L2	A	6	Peeling paint, Surface rust, minor pitting. <5% Section Loss
-------	---	---	--

SOUTH TRUSS

Member	Fatigue Category	Rating	Comments
U1-L2	A	6	Flaking Paint, Minor Pitting, Light surface rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U1-L3	A	6	Flaking Paint, Minor Pitting, Light surface rust, <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L2	Pin	A	6	Surface Rust on Pin with minor Section Loss, 10-15% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface rust, Heavy surface rust on bottom flange with minor section loss, section loss on rivet heads, <10% Section Loss
	L1-L2	E	6	Peeling Paint, Surface rust, Minor pitting, Pack rust between eyebars, <10% Section Loss
	U1-L2	E	6	Peeling Paint, Surface rust, Minor pitting, Pack rust at U-bolt, <5% Section Loss
	L2-U2	D	6	Peeling Paint, Surface rust, Minor pitting, Pack rust at connection plate with minor out-of-plane distortion, Section loss on rivets, <5% Section Loss
	L2-L3	E	6	Peeling Paint, Surface rust, Minor pitting, Pack rust between eyebars, <10% Section Loss

Member	Fatigue Category	Rating	Comments
L2-L3	A	6	Flaking Paint, Minor Pitting, Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L2-U2	D	6	Peeling Paint, Minor Pitting, Surface Rust. Pack Rust between plates with out-of-plane distortion, some rivets broken. <10% Section Loss

Member	Fatigue Category	Rating	Comments
U2-L4	A	6	Minor Pitting, Light Surface Rust, <5% Section Loss

SOUTH TRUSS

Member/Location		Fatigue Category	Rating	Comments
L3	Pin	A	6	Minor Pitting, Surface Rusts, <5% Section Loss
	Floor Beam	B	6	Peeling Paint, Minor to Heavy pitting, Section loss on bottom flange and webs with minor section loss on flanges <10% Section Loss
	L2-L3	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust between Eyebars, <10% Section Loss
	U1-L3	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at Eyebars, <5% Section Loss
	L3-U3	D	6	Peeling Paint, Minor to Moderate Pitting, Surface Rust, Pack Rust between plates with out-of-plane distortion of member, Pack Rust at threaded rod with Section Loss on inside of Plates. <10% Section Loss
	L3-U5	E	5	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at eyebars, heavy rusting at interior eyebar with Section Loss at connection, cable retrofitted at interior eyebar, <20% Section Loss
	L3-L4	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack rust at eyebars, <10% Section Loss

Member	Fatigue Category	Rating	Comments
L3-U3	D	5	Peeling Paint, Minor Pitting, Surface Rust, Pack rust between plates with Broken rivets and out-of-plane distortion. <10% Section Loss

Member	Fatigue Category	Rating	Comments
L3-L4	A	6	Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L3-U5	B	5	Peeling Paint, Minor Pitting, Surface Rust, Retrofitted with cable at interior member. Turn-buckles on members, <20% Section Loss

SOUTH TRUSS

Member/ Location	Fatigue Category	Rating	Comments	
L4	Pin	A	6	Surface Rust with Minor Section loss. <5% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with Heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L3-L4	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	U2-L4	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	L4-U4	D	6	Peeling Paint, Surface Rust, Minor to moderate pitting, 1/4"- 1/2" pack rust between plates. Out-of-plane distortion of member. Pack rust at threaded rod with section loss in inside of member. <10% Section Loss.
	L4-U6	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with Section Loss, <10% Section Loss
	L4-L5	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L4-U6	B	6	Peeling Paint, Surface Rust, Minor Pitting, turnbuckle on members. < 5% Section Loss.

Member	Fatigue Category	Rating	Comments
L4-L5	A	6	Peeling Paint, Surface Rust, Minor Pitting, < 5% Section Loss.

Member	Fatigue Category	Rating	Comments
L4-U4	D	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust between plates and rivets. Out-of-plane distortion of outer plate from Pack Rust. <10% Section Loss.

SOUTH TRUSS

Member/ Location	Fatigue Category	Rating	Comments	
L5	Pin	A	6	Surface Rust, Minor Pitting, Minor Section Loss, <5% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with Heavy Pitting on web and bottom flange with Section Loss. Section Loss on rivet heads, <10% Section Loss
	L4-L5	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	U3-L5	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss
	L5-U5	D	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust between plates with out-of-plane distortion between rivets. Pack Rust up to 3/4" wide. <10% Section Loss
	L5-L6	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L5-L6	A	6	Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U3-L5	A	6	Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L5-U5	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust between plates and rivets with out-of-plane distortion of outer plate. <10% Section Loss

SOUTH TRUSS

Member	Fatigue Category	Rating	Comments
U4-L6	A	6	Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L6	Pin	A	5	Surface Rust Minor Pitting, 1" Section Loss on interior nut and ½" Section Loss on Pin.
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L5-L6	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	U4-L6	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	L6-U6	D	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at threaded rod with Section Loss and out-of-plane distortion. <5% Section Loss.
	L6-U8	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	L6-L7	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L6-U8	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L6-L7	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L6-U6	B	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss.

SOUTH TRUSS

Member/ Location		Fatigue Category	Rating	Comments
L7	Pin	A	5	Minor Pitting, Surface Rust, 1" Section Loss on interior nut and Minor Section Loss on Pin.
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L6-L7	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	L7-U7	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at Threaded Rod on interior and eyebars at exterior with Section Loss. Pack Rust between Plates with out-of-plane distortion. <10% Section Loss.
	L7-U9	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at eyebars with Minor Section Loss, <5% Section Loss
	L7-L8	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L7-U9	A	6	Peeling Paint, Surface Rust, Minor Pitting. Minor out-of-plane distortion. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L7-U7	D	5	Peeling Paint, Surface Rust, Minor Pitting. Pack Rust between plates and rivets. Out-of-plane distortion of outer plate at Pack Rust. Broken Rivets. <10% Section Loss.

Member	Fatigue Category	Rating	Comments
L7-L8	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss.

SOUTH TRUSS

Member/Location		Fatigue Category	Rating	Comments
L8	Pin	A	5	Minor pitting, Surface Rust, ½” Section Loss on interior and exterior nuts with minor Section Loss on pin. <10% Section Loss.
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L7-L8	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	U6-L8	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack rust at eyebars with Section Loss. <10% Section Loss
	L8-U8	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at threaded rod and eyebars with minor section loss on interior plate at Pack Rust. Pack Rust between Plates with out-of-plane distortion. <10% Section Loss
	L8-U10	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack rust at eyebars with Section Loss. <10% Section Loss
	L8-L9	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L8-U6	B	6	Peeling Paint, Minor Pitting, Surface Rust, Turn-buckle in member, Minor out-of-plane distortion. < 5% Section Loss.

Member	Fatigue Category	Rating	Comments
L8-U10	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L8-U8	D	5	Peeling Paint, Minor Pitting, Surface Rust. Pack Rust between Plates and Rivets with out-of-plane distortion of plates and broken rivets. <10% Section Loss

SOUTH TRUSS

Member	Fatigue Category	Rating	Comments
L8-L9	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L9	Pin	A	6	Surface Rust, Minor Pitting, Minor Section Loss. <10% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads and Rivet heads with Full Section Loss. <10% Section Loss
	L8-L9	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	U7-L9	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack rust at eyebars with Section loss. <10% Section Loss
	L9-U9	D	5	Peeling Paint, Minor Pitting, Surface Rust, Pack rust between plates. Out-of-plane distortion in outer plate from Pack Rust. Broken Rivets. Pack Rust at Threaded rod with 1/16" – 1/8" Section Loss on interior plate of vertical. <10% Section Loss.
	L9-U11	E	6	Peeling Paint, Minor Pitting, Surface Rust, Pack rust at eyebars with Section Loss. <10% Section Loss.
	L9-L10	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U7-L9	B	6	Peeling Paint, Minor Pitting, Surface Rust, Turn-buckle members, Interior Member bent near L8-U8. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L9-U9	D	5	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust between plates with out-of-plane distortion between rivets, some rivets broken. <10% Section Loss.

SOUTH TRUSS

Member	Fatigue Category	Rating	Comments
L9-U11	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L9-L10	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member/Location	Fatigue Category	Rating	Comments	
L10	Pin	A	6	Surface Rust, Minor Pitting, Minor Section Loss on bottom Pin. <10% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L9-L10	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	L10-U10	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at connection and threaded rods with minor section loss at pack rust. <5% Section Loss.
	L10-U11	D	5	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust at threaded rods and eyebars with minor Section Loss. Pack rust between plates with out-of-plane distortion of outer plate with broken rivets. <10% Section Loss.
	L10-L11	E	6	Peeling Paint, Surface Rust, Minor Pitting Pack Rust at eyebars with minor Section Loss, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L10-U10	D	5	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust between plates with out-of-plane distortion between rivets, some rivets broken. <10% Section Loss.

Member	Fatigue Category	Rating	Comments
L10-U11	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L10-L11	A	6	Continuous member to L12, Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

SOUTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
L11	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting with heavy Pitting on Bottom flanges and webs with Section Loss. Section Loss on Rivet heads. <10% Section Loss
	L10-L11	A	6	Continuous member, Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss
	L11-U11	E	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss
	L11-L12	A	6	Continuous member, Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L11-U11	A	6	Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L11-L12	A	6	Continuous member to L10, Peeling Paint, Minor Pitting, Surface Rust. <5% Section Loss

Location/Member		Fatigue Category	Rating	Comments
L12	Bearing	B	5	Heavy rusting on bearing plate with heavy pitting and section loss.
	Pin	A	5	Peeling Paint, Minor Pitting, Surface Rust, 1/16" to 1/8" section loss at exterior channel. <10% Section Loss
	L11-L12	E	6	Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss
	U11-L12	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust on inside of channels at bearing plate. Pack Rust between top plate and channels with minor out-of-plane distortion of top plate. <5% Section Loss

Member	Fatigue Category	Rating	Comments
U11-L12	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust between Top Plate and channels with minor out-of-plane distortion of Top Plate between Rivets. <5% Section Loss.

SOUTH TRUSS

Location/ Member		Fatigue Category	Rating	Comments
U1	Pin	A	6	Peeling Paint, Minor Pitting, <5% Section Loss
	L0-U1	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L1	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L2	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-U2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L3	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U1-U2	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

Location/ Member		Fatigue Category	Rating	Comments
U2	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-U2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-L2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-L4	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-U3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U2-U3	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

SOUTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U3	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-U3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-L3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-L5	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-U4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U3-U4	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

Location/Member		Fatigue Category	Rating	Comments
U4	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, Expansion rusting on pin at exterior channel with minor Section Loss. <10% Section Loss
	U3-U4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U4-L4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U4-L6	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U4-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U4-U5	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

SOUTH TRUSS

Location/ Member		Fatigue Category	Rating	Comments
U5	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, Expansion rusting on pin at exterior channel with minor Section Loss. <10% Section Loss
	U4-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L3-U5	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L5-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U5-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U5-U6	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

Location/ Member		Fatigue Category	Rating	Comments
U6	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U5-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L4-U6	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L6-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-L8	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-U7	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U6-U7	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

SOUTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U7	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-U7	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L7-U7	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-L9	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U7-U8	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

Location/Member		Fatigue Category	Rating	Comments
U8	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L6-U8	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L8-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U8-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U8-U9	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

SOUTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U9	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U8-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L7-U9	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L9-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U9-L10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U9-U10	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

Location/Member		Fatigue Category	Rating	Comments
U10	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U9-U10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L8-U10	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L10-U10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U10-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U10-U11	D	6	Peeling Paint, Minor Pitting, Surface Rust on top of member, Pack rust between rivets. <10% Section Loss

SOUTH TRUSS

Location/ Member		Fatigue Category	Rating	Comments
U11	Pin	A	6	Peeling Paint, Minor Pitting, <5% Section Loss
	U10-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L9-U11	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L10-U11	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L11-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U11-L12	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
L0	Bearing	B	6	Minor Pitting, Surface Rust on Plate
	Pin	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss
	L0-L1	E	6	Heavy Pitting on inside of eyebars, Peeling Paint, Surface Rust, Minor Pitting. <10% Section Loss
	L0-U1	D	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L0-L1	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L0-U1	D	6	Built-up member, Peeling Paint, Surface Rust, Minor Pitting. Pack rust in Top plate. <5% Section Loss

Location/Member		Fatigue Category	Rating	Comments
L1	Floor Beam	B	5	1/8" Section Loss on web and Bot. Flange, Flaking Rust, Peeling Paint, Minor Pitting, <10% Section Loss
	L0-L1	A	6	Continuous Member, Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss
	L1-U1	E	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss
	L1-L2	A	6	Continuous Member, Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L1-U1	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L1-L2	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

NORTH TRUSS

Member	Fatigue Category	Rating	Comments
U1-L2	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U1-L3	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L2	Pin	A	6	Surface Rust, Pitting, <10% Section Loss
	Floor Beam	B	5	Heavy Pitting, 10-15% Section Loss on web and bottom flange. Section Loss on rivet heads.
	L1-L2	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack rust between eyebars with minor Section Loss. <5% Section Loss
	U1-L2	E	6	Peeling Paint, Surface Rust, Minor Pitting <5% Section Loss
	L2-U2	D	6	Peeling Paint, Surface Rust, Minor Pitting, Pack rust between plates, out-of-plane distortion of outer plates, Broken rivets, <5% Section Loss
	L2-L3	E	6	Peeling Paint, Surface Rust Minor Pitting, Pack Rust between eyebars with minor Section Loss. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L2-L3	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L2-U2	D	6	Surface Rust, Peeling Paint, Minor Pitting, Pack rust between plates, out-of-plane distortion of outer plates due to Pack rust. Broken rivets. <5% Section Loss

Member	Fatigue Category	Rating	Comments
U2-L4	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

NORTH TRUSS

Member/Location		Fatigue Category	Rating	Comments
L3	Pin	A	5	1" Section loss on interior nut. ½" Section Loss on pin. Surface Rust.
	Floor Beam	B	5	Surface Rust, Peeling Paint, Heavy Pitting, <10-15% Section Loss
	L2-L3	E	6	Minor Pitting, Surface Rust, Peeling Paint, <5% Section Loss
	U1-L3	E	6	Surface Rust, Peeling Paint, <5% Section Loss
	L3-U3	D	6	Surface Rust, Peeling Paint, Pack Rust, <5% Section Loss
	L3-U5	E	6	Surface Rust, Peeling Paint, out-of-plane distortion on interior, <5% Section Loss
	L3-L4	E	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L3-U3	D	6	Surface Rust, Peeling Paint, Minor Pitting, Heavy Pack Rust, broken rivets, out-of-plane distortion. <10% Section Loss

Member	Fatigue Category	Rating	Comments
L3-L4	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L3-U5	B	6	Out-of-plane distortion, turn-buckle, Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

NORTH TRUSS

Member/ Location		Fatigue Category	Rating	Comments
L4	Pin	A	5	¾" Section Loss on interior nut. Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss
	Floor Beam	B	5	Heavy pitting on bottom flange ~10-15% Section Loss. Top flange ~5% Section Loss. Section Loss on rivets. Surface Rust, Peeling Paint.
	L3-L4	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust at eyebars. <5% Section Loss
	U2-L4	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust at eyebars <5% Section Loss
	L4-U4	D	6	Surface Rust, Peeling Paint, Heavy Pitting, Pack Rust between plates, out-of-plane distortion of outer plate. <5% Section Loss
	L4-U6	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust at eyebars with minor section loss. <5% Section Loss
	L4-L5	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust between eyebars. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L4-U6	B	6	Surface Rust, Peeling Paint, Minor Pitting, Turn-buckle. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L4-L5	A	6	Surface Rust, Peeling Paint, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L4-U4	D	5	Surface Rust, Peeling Paint, Minor Pitting, Out-of-plane distortion due to Pack rust between plates, broken rivets. <10% Section Loss

NORTH TRUSS

Member/ Location		Fatigue Category	Rating	Comments
L5	Pin	A	5	1" Section Loss on interior nut, ½" Section Loss on pin. Surface Rust, Peeling Paint, Minor Pitting.
	Floor Beam	B	5	Surface Rust, Peeling Paint, Heavy Pitting, Pack Rust, Section Loss on Rivets, 10-15% Section Loss
	L4-L5	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust on eyebars with minor Section Loss. <5% Section Loss
	U3-L5	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust on eyebars with minor Section Loss. <5% Section Loss
	L5-U5	D	6	Heavy Pack Rust, Surface Rust, Minor Pitting, Out-of-plane distortion due to pack rust between plates. <10% Section Loss
	L5-L6	E	6	Surface Rust, Peeling Paint, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L5-L6	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U3-L5	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L5-U5	D	6	Pack Rust between Plates with out-of-plane distortion of outer plate between rivets. Heavy Pack Rust, Peeling Paint, Surface Rust, Minor Pitting. <10% Section Loss

NORTH TRUSS

Member	Fatigue Category	Rating	Comments
U4-L6	A	6	Peeling Paint, Surface Rust, Out-of-plane distortion near L6. <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L6	Pin	A	6	Minor Section Loss on interior nut, Minor Pitting, Peeling Paint, Surface Rust, <5% Section Loss.
	Floor Beam	B	6	Minor Pitting, Peeling Paint, Surface Rust, <10% Section Loss.
	L5-L6	E	6	Minor Pitting, Peeling Paint, Surface Rust, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	U4-L6	E	6	Minor Pitting, Peeling Paint, Surface Rust, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	L6-U6	D	6	Minor Pitting, Peeling Paint, Surface Rust. <5% Section Loss.
	L6-U8	E	6	Minor Pitting, Peeling Paint, Surface Rust, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	L6-L7	E	6	Minor Pitting, Peeling Paint, Surface Rust, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L6-U8	A	6	Minor Pitting, Peeling Paint, Surface Rust. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L6-L7	A	6	Minor Pitting, Peeling Paint, Surface Rust. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L6-U6	B	6	Minor Pitting, Peeling Paint, Surface Rust. <5% Section Loss.

NORTH TRUSS

Member/ Location	Fatigue Category	Rating	Comments	
L7	Pin	A	5	½” Section Loss on interior nut, Surface rust, Peeling Paint, Minor Pitting
	Floor Beam	B	5	Heavy Pitting on bottom flanges, top flange, and web. 10-15% Section Loss, Peeling Paint, Surface Rust
	L6-L7	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss
	L7-U7	D	5	Out-of-plane distortion due to heavy Pack Rust between plates. Peeling Paint, Surface Rust, <10% Section Loss
	L7-U9	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss
	L7-L8	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L7-U9	A	6	Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L7-U7	D	5	Heavy Pack Rust, Out-of-plane distortion of outer plate between rivets, broken rivets, Surface Rust, Minor Pitting, <10% Section Loss

Member	Fatigue Category	Rating	Comments
L7-L8	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L8	Pin	A	5	¾” Section Loss on interior nut. Surface Rust, Peeling Paint, Minor Pitting at eyebar connections.
	Floor Beam	B	5	Heavy Pitting on bottom flanges. Minor pitting on top flanges, Peeling Paint, Surface Rust, 10-15% Section Loss
	L7-L8	E	6	Minor Pitting, Surface Rust, Peeling Paint, Minor Pack Rust at pin, <5% Section Loss
	U6-L8	E	6	Minor Pitting, Surface Rust, Peeling Paint, Pack Rust at eyebars with minor Section Loss, <5% Section Loss
	L8-U8	D	6	Pack Rust between Plates, Out-of-plane distortion at Pack Rust, Minor Pitting, Surface Rust, Peeling Paint, <5% Section Loss.
	L8-U10	E	6	Minor Pitting, Surface Rust, Peeling Paint, Pack Rust at eyebars with minor Section Loss, <5% Section Loss.
	L8-L9	E	6	Minor Pitting, Surface Rust, Peeling Paint, Minor Pack Rust at Pin, <5% Section Loss.

NORTH TRUSS

Member	Fatigue Category	Rating	Comments
L8-U6	B	6	Peeling Paint, Surface Rust, Minor Pitting, Turn-buckle, <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L8-U10	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L8-U8	D	5	Heavy Pack Rust, Out-of-plane distortion, Peeling Paint, Surface Rust, Minor Pitting, Broken rivets throughout. <10% Section Loss.

Member	Fatigue Category	Rating	Comments
L8-L9	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.

Member/ Location	Fatigue Category	Rating	Comments	
L9	Pin	A	6	Peeling Paint, Surface Rust, Pack Rust, Minor Pitting. <5% Section Loss
	Floor Beam	B	5	Heavy Pitting on bottom flanges, 10-15% Section Loss. Minor Pitting on top flanges, <10% Section Loss, Surface Rust, Peeling Paint
	L8-L9	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	U7-L9	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <10% Section Loss.
	L9-U9	D	6	Minor Pack Rust between plates. Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss.
	L9-U11	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.
	L9-L10	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss.

Member	Fatigue Category	Rating	Comments
U7-L9	B	6	Peeling Paint, Surface Rust, Minor Pitting, Turn-buckle, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L9-U9	D	5	Heavy Pack Rust between plates, Out-of-plane distortion of outer plates between rivets. Broken Rivets, Peeling Paint, Surface Rust, Minor Pitting.

NORTH TRUSS

Member	Fatigue Category	Rating	Comments
L9-U11	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L9-L10	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member/ Location	Fatigue Category	Rating	Comments	
L10	Pin	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss
	Floor Beam	B	6	Peeling Paint, Surface Rust, Minor Pitting, Heavy Pitting with Section Loss on Bottom Flange. <10% Section Loss
	L9-L10	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss
	L10-U10	D	6	Pack Rust between plates, Out-of-plane distortion, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss
	L10-U11	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss
	L10-L11	E	6	Peeling Paint, Surface Rust, Minor Pitting, Pack Rust at eyebars with minor Section Loss. <5% Section Loss

Member	Fatigue Category	Rating	Comments
L10-U10	D	5	Heavy Pack Rust between Plates, Out-of-plane distortion of outer plates between rivets. Broken rivets throughout, Peeling Paint, Surface, Minor Pitting.

Member	Fatigue Category	Rating	Comments
L10-U11	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

Member	Fatigue Category	Rating	Comments
L10-L11	A	6	Continuous member to L12, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
L11	Floor Beam	B	5	Heavy Pitting on bottom and top flange, section loss on rivet heads. Peeling Paint, Surface Rust, 10-15% Section Loss
	L10-L11	A	6	Continuous member, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.
	L11-U11	E	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.
	L11-L12	A	6	Continuous member, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L11-U11	A	6	Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.

Member	Fatigue Category	Rating	Comments
L11-L12	A	6	Continuous member, Peeling Paint, Surface Rust, Minor Pitting, <5% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
L12	Bearing	B	5	Heavy rusting on bearing plate with heavy pitting and section loss.
	Pin	A	5	Peeling Paint, Minor Pitting, Surface Rust, 1/16" to 1/8" section loss at exterior channel and on interior channel and side of pin. <10% Section Loss
	L11-L12	E	6	Continuous member to L10. Peeling Paint, Minor Pitting, Surface Rust, <5% Section Loss
	U11-L12	D	6	Peeling Paint, Minor Pitting, Surface Rust, Pack Rust on inside of channels at bearing plate. Pack Rust between top plate and channels with minor out-of-plane distortion of top plate. <5% Section Loss

Member	Fatigue Category	Rating	Comments
U11-L12	D	6	Minor Pack Rust between top plate and channels. Minor out-of-plane distortion of top plate at pack rust. Peeling Paint, Surface Rust, Minor Pitting. <5% Section Loss

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U1	Pin	A	6	Peeling Paint, Minor Pitting, <5% Section Loss
	L0-U1	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L1	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L2	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-U2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-L3	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U1-U2	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
U2	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U1-U2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-L2	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-L4	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-U3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U2-U3	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U3	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U2-U3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-L3	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-L5	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U3-U4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U3-U4	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
U4	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, Expansion rusting on pin at exterior channel with minor Section Loss. <10% Section Loss
	U3-U4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U4-L4	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U4-L6	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, Heavier Surface Rust on interior eyebars around pin. <5% Section Loss
	U4-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U4-U5	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U5	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, Heavier rusting on pin at exterior channel. Expansion rusting on pin at exterior channel with minor Section Loss. <10% Section Loss
	U4-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L3-U5	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L5-U5	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U5-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U5-U6	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
U6	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U5-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L4-U6	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L6-U6	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-L8	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-U7	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U6-U7	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U7	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U6-U7	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L7-U7	D	6	Out-of-plane distortion of exterior plate at connection. Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-L9	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U7-U8	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
U8	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U7-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L6-U8	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L8-U8	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U8-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U8-U9	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

NORTH TRUSS

Location/Member		Fatigue Category	Rating	Comments
U9	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U8-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L7-U9	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L9-U9	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U9-L10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U9-U10	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

Location/Member		Fatigue Category	Rating	Comments
U10	Pin	A	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U9-U10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L8-U10	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L10-U10	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U10-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

Member	Fatigue Category	Rating	Comments
U10-U11	D	6	Peeling Paint, Surface Rust on top, Minor Pitting, Pack Rust between rivets. <10% Section Loss.

NORTH TRUSS

Location/ Member		Fatigue Category	Rating	Comments
U11	Pin	A	6	Peeling Paint, Minor Pitting, <5% Section Loss
	U10-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L9-U11	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L10-U11	E	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	L11-U11	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss
	U11-L12	D	6	Peeling Paint, Minor Pitting, Light Surface Rust, <5% Section Loss

TRUSS MEMBER INVENTORY

MEMBER	NUMBER ELEMENTS	SHAPE	SIZE (inches) (as measured in field)	SEPERATION
Top Chords:				
All (Built-up)	2	Channels	10.0 x 2 3/8 x 0.50	11 3/8" back-back
	1	Plate	16.0 x 0.33	
Lower Chords:				
L0-L1	2	Eyebars	3.0 x 1.0	6 7/8" back-back
L1-L2	2	Eyebars	3.0 x 1.0	8 1/2" back-back
L2-L3	2	Eyebars	3.0 x 1.0	9 1/4" back-back
L3-L4	2	Eyebars	4.0 x 1.0	13 1/4" back-back
L4-L5	2	Eyebars	4.0 x 1.0	9 1/4" back-back
L5-L6	2	Eyebars	4.0 x 1.0	13 1/4" back-back
Diagonals:				
U1-L2	2	Eyebars	1.88 x 1.0	2 1/2" Center-Center
U1-L3	2	Eyebars	2.0 x 1.0	8 1/4" back-back
U2-L4	2	Eyebars	1.63 x 1.0	8" back-back
L3-U5	2	Eyebars	1.0 x 0.5	6" back-back
U3-L5	2	Eyebars	1.5 x 1.0	6 1/2" back-back
L4-U6	2	Eyebars	1.25 x 0.5	5 1/2" back-back
U4-L6	2	Eyebars	0.75 x 1.50	7 3/4" back-back
Verticals:				
L1-U1	2	Eyebars	1.00 Dia.	4" Center-Center
L2-U2	1	I-Beam	6.0 x 7.4 x 0.38	
	2	Plates	6.0 x 0.4	
L3-U3	1	I-Beam	6.0 x 3.33 x 0.33	
	2	Plates	5.0 x 0.43	



L4-U4	1	I-Beam	6.0 x 3.33 x 0.33
	2	Plates	5.0 x 0.43
L5-U5	1	I-Beam	6.0 x 3.33 x 0.33
	2	Plates	5.0 x 0.43
L6-U6	1	S-Shape	5.0 x 2.75 x .38 x .25 web

Note: Symmetrical about center of truss.



LOWER LATERAL BRACING IN PLANE OF DECK - 2 / PANEL				
MEMBER	NUMBER ELEMENTS	SHAPE	SIZE (inches)	SEPARATION
Avg.	2	Bars	1.67" dia.	

FLOOR SYSTEM				
MEMBER	NUMBER ELEMENTS	SHAPE	SIZE (inches)	SEPARATION
Stringers	5	'W'	8.25 x 4.0 x 1/8	3'-0" o.c.
	2	Channel	8.25 x 2.25x1/4	
Floor Beams		Built-up Member	13.5 x 6.0 x .25 (Coping)	12'-6" o.c.
			24.0 x 6.0 x .25 (Center)	
Deck			Timber 3" Thick	
Wearing Surface			3.25" Depth HMA	

Accompanying Truss Dimensions

Panel Height (CL Pin – CL Pin) = 25'-0"

Panel Length (CL Pin – CL Pin) = 12'-6"

Truss Width (CL South Truss – CL North Truss) = 20'-0"

Deck out to out Width = 18'-0"



PHOTOGRAPHS



Photo 1: Missing Masonry Block; Section Loss on East Abutment, North Corner



Photo 2: Timber Section Loss on underside of decking



Photo 3: Hole in Stringer 6 Web, East Abutment



Photo 4: Hole in Stringer 3 Web, East Abutment



Photo 5: Damage in timber decking



Photo 6: Section Loss of Masonry Blocks at East Abutment



Photo 7: Typical Asphalt Wearing Surface



Photo 8: Section Loss on Floor Beam at L1, North Truss



Photo 9: Pack Rust and Section Loss on L3-U3 at Threaded Rod at L3, South Truss



Photo 10: Broken rivets and Out-of-Plane Distortion of outer plate at L3-U3, South Truss



Photo 11: Typical Pack Rust and Rusting of Eyebars at Lower Connections, South Truss



Photo 12: Pack Rust and Section Loss on Interior Plate of L4-U4, South Truss



Photo 13: Out-of-Plane Distortion and Pack Rust at L5-U5 at L5, South Truss



Photo 14: Section Loss on Interior nut and Pin at L6, South Truss



Photo 15: Broken Rivets at Pack Rust at L8-U8 at L8, South Truss



Photo 16: Typical Peeling Paint on Diagonals, South Truss

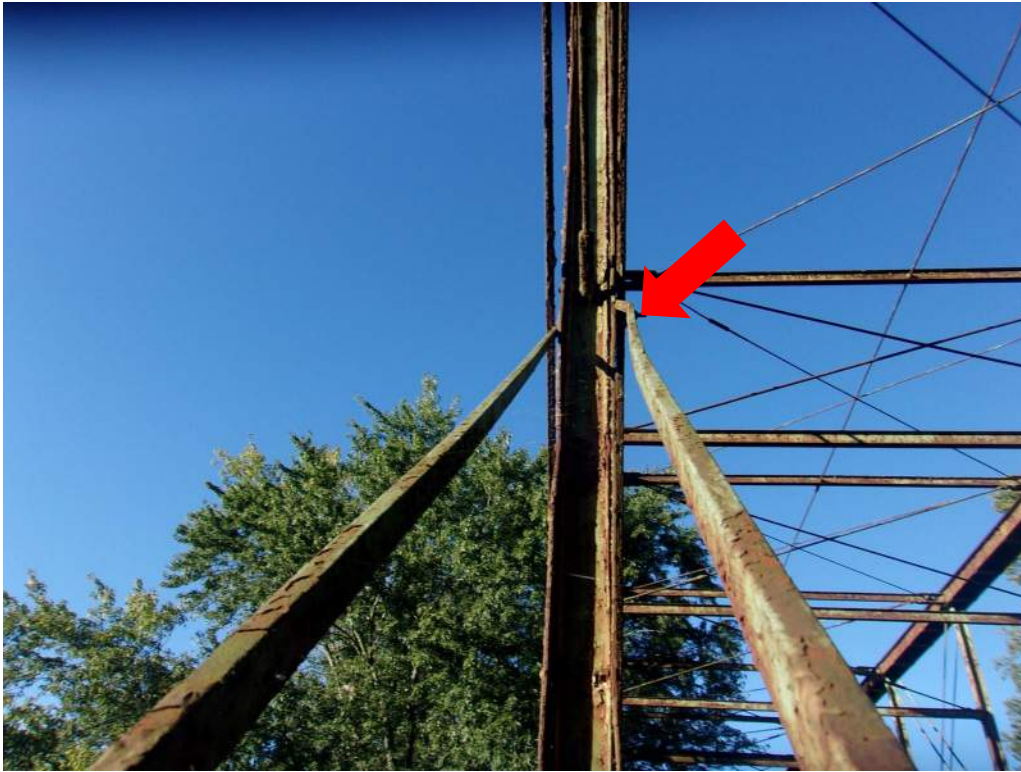


Photo 17: Bend in Interior Member, U7-L9, South Truss



Photo 18: Missing Rivets on Floor Beam web at L9, South Truss



Photo 19: Out-of-Plane Distortion of Outer Plate and Broken Rivet at L9-U9, South Truss



Photo 20: Hole in Stringer 1 near L11, South Truss



Photo 21: Section Loss on Pin at L12, South Truss



Photo 22: Section Loss on Pin at Interior Channel at L12, North Truss



Photo 23: Surface Rust and Pitting with Section Loss on L2 Pin, North Truss



Photo 24: Heavy Pitting and Section Loss on Web and Bottom Flange on Floorbeam of L2, North Truss



Photo 25: Out-of-Plane Distortion of Outer Plates due to Pack Rust at L2-U2, North Truss



Photo 26: Section Loss on Pin and Interior nut of L3, North Truss



Photo 27: Pack Rust Between Plates and Heavy Rust at L4, North Truss



Photo 28: Out-of-Plane Distortion of U4-L6 near L6, North Truss



Photo 29: Out-of-Plane Distortion of Outer Plates between rivets with Broken Rivets at L9-U9, North Truss



Photo 30: Bridge Elevation Looking South



Photo 31: Bridge Elevation Looking North



Photo 32: Typical Approach Looking West



Photo 33: Typical Approach Looking East



Photo 34: Deterioration on West end of Deck



Photo 35: Typical Floorbeam Condition



Photo 36: Masonry Block Section Loss on West Abutment



Photo 37: Typical Outside Condition on Upper Chord



Photo 38: Typical Inside Condition on Upper Connections