2021 ROUTINE BRIDGE SAFETY INSPECTION REPORT

Cleveland Township, Columbia County
T-373 (Esther Furnace Road) over Roaring Creek
County Bridge No. 11
BMS No. 19-7205-0373-0011
BRKEY: 12786

PREPARED FOR:

Columbia County
and
Pennsylvania Department of Transportation
Engineering District 3-0

PREPARED BY:

Larson Design Group
1000 Commerce Park Drive, Suite 201
Williamsport, PA 17701

Report Approved By:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
KURT A. BRUNGARD
ENGINEER
061035

4/23/21

Kurt A. Brungard, P.E.

DATE OF INSPECTION: March 24, 2021
CATEGORY: C1
INSPECTION FREQUENCY: 12 Months
INSPECTION BY: Dale J. Sitler, P.E., C.B.S.I.
and
Andrew J. Susen, C.B.S.I.

C12

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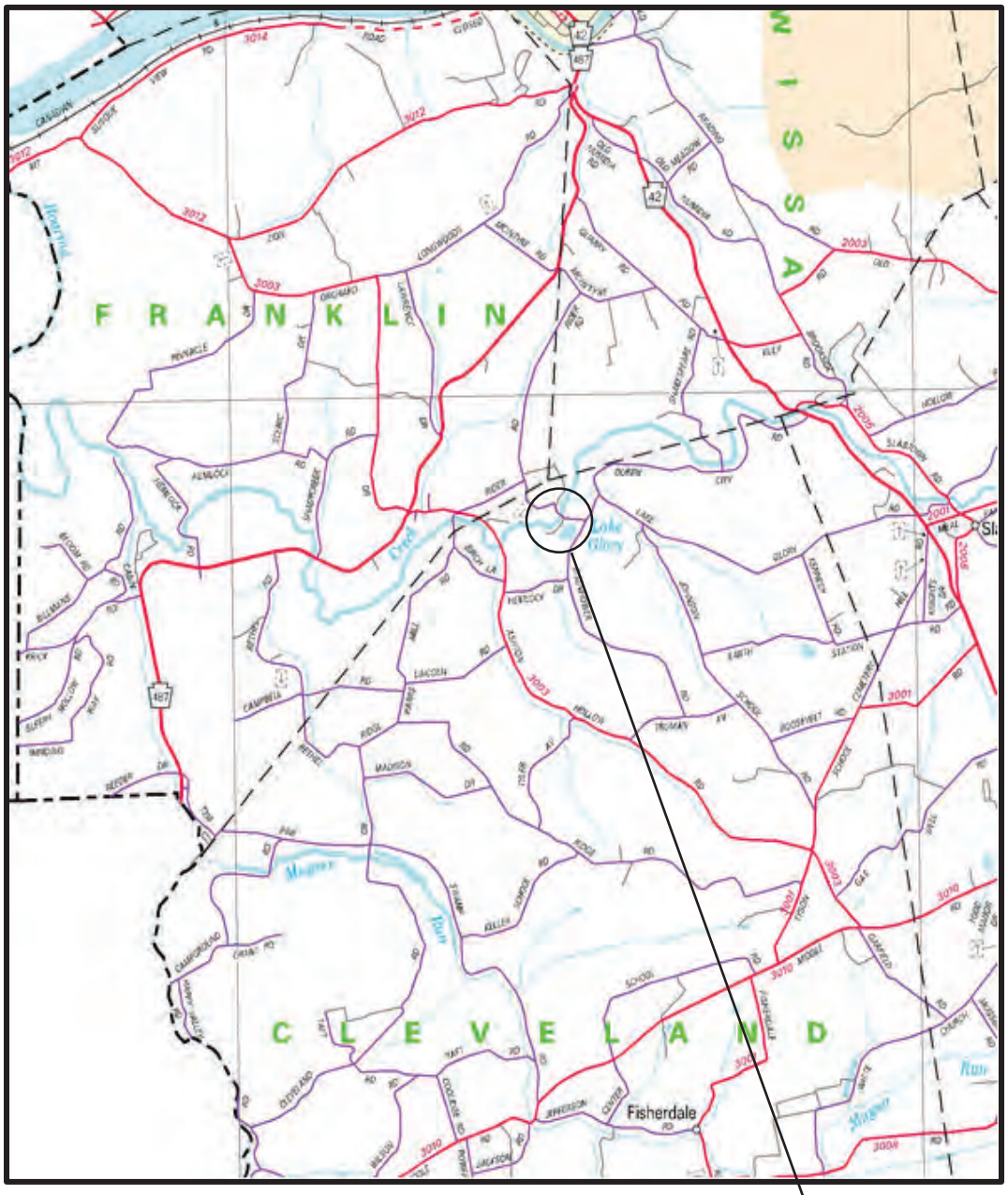
SITE LOCATION MAP



T-373 (Esther Furnace Road) over Roaring Creek
BMS No. 19-7205-0373-0011
40° 54’ 23.95” Latitude 76° 27’ 35.03” Longitude

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INSPECTION SUMMARY

General Description

The structure carrying T-373 over Roaring Creek is a two span timber queen post truss covered bridge on stone masonry and concrete abutments.

- Year built: 1905
- Clear span: 1 @ 44', 1 @ 42'
- Clear roadway width: 12.8'
- Minimum underclearance: 3.8'
- Skew: 90°

The Routine Inspection was performed on March 24, 2021. A hands-on inspection of all elements was performed by Dale J. Sitler, P.E., C.B.S.I. and Andrew J. Susen, C.B.S.I. No special access equipment was needed for this inspection.

Historical data was investigated for this structure. Floorbeam 1 was replaced in 2006 after the previous floorbeam failed due to loading by an overweight vehicle. The footing is exposed at the pier but now has large rock countermeasures in place that were constructed after the 2006 flood. The structure was impacted in October 2016 by an over height vehicle. The far Vertical Clearance sign was replaced, knee braces were installed at U0 and U1 on the left truss, the far portal header, rafters, knee braces, headache bar, and siding were replaced following the 2016 impact.

The National Register Files were also consulted, and this bridge was placed on the register November 29, 1979, along with all other covered bridges in Columbia County.

Summary of Inspection Findings and Changes Since the last inspection:

The overall physical condition is poor, as indicated by the condition ratings given on PennDOT Form D-450.

There are new patches in the wheel paths at the near and far approaches since the 2020 inspection. There are additional loose deck planks at the far end of the deck. There is additional decay to the near left end post at the near abutment since the last inspection. The encasement at the right end of the near abutment is broken off entirely during this inspection. There are logs lodged at the upstream nose of the pier.

There was an increase in the decay at the near right end post, in Span 2, at the far side of the pier over the last several inspections. This results in a large area of the bearing end of the end post being decayed; however, the decay is not critical at this time due to the short distance between the end post connection to the low chord and the bearing for the low chord. We recommend the end post be repaired or replaced in the near future. Increased decay may result in High Priority Deficiencies, Critical Deficiencies, or closure of the structure.

Please refer to the current D-450 (iforms attached) for specific documentation of this inspection.

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Approach Roadway Description: Current Condition Rating - 5
Previous Condition Rating - 5

The overall condition of the approach roadway is fair

There are two panels of Type 2-S weathering steel approach guide rail with steel offset blocks and turned down end treatments at each corner. The approach guide rail is a non-standard height but is adequate for site conditions. All of the end treatments are within the clear zone. There is no concrete end anchorage at the far end treatments. The end treatments are non-standard but are adequate for site conditions. There are no transitions which is inadequate for the site and the approach guide rail is not connected to the bridge. There is minor damage to the near right end treatment; however, the end treatment remains functional. The near left and far end treatments are slightly loose, but secure.

The near bituminous approach roadway pavement exhibits minor wear and rutting. There are new patches in the near left and right wheel paths since the 2020 inspection. There is a cracked and depressed area in the near right wheel path up to 2" deep. The far approach roadway has a newer patch for 10' with depressions and cracks in the wheel paths. There are newer bituminous patches in the wheel paths at the back of the backwall that are settled up to 1".

The drainage is natural and adequate. The near drains toward the structure and the far drains away from the structure.

The grass and gravel shoulders are stable. There is a 1' drop off from the bituminous at the far left and far right shoulder that is located behind the guide rail with no repair required. All the shoulders are stable.

All of the required bridge signing is present and clearly visible. The near Bridge Load Posting Assembly is covered with dirt and grime, but remains legible.

Superstructure Description: Current Condition Rating - 4
Previous Condition Rating - 4

The overall condition of the superstructure is poor.

The solid sawn timber bridge railing and solid sawn timber curbs are bolted to the truss verticals and diagonals. They exhibit minor checks and splits throughout, a few moderate checks and splits with a severe split at the near left end, and minor damage at the near right diagonal. Overall, the bridge railing is secure and adequate for the site.

The deck wearing surface consists of longitudinal timber running boards with a bituminous coating. The bituminous coating is worn off in the middle. The timbers exhibit moderate wear with minor to moderate checks and splits. There are a few newer running boards with isolated areas of minor decay to the older boards. The near left and near right end running boards were replaced before the 2016 inspection and are secure. An additional board was installed at the near left above the previous decay in the deck plank boards since the 2017 inspection. There is minor section loss to the second board inside at the near right due to wear and splitting in Panel 1. There is a heavy split in the center board at the far right end of the deck. The interior board at the far left end is slightly loose at the end of the deck, but remains secure overall.

The bituminous coated transverse timber deck planks exhibit minor checks and splits. The bituminous coating is in fair condition with up to 2" gaps between the boards at the far abutment. The previously decayed deck planks at the near left were replaced since the 2017 inspection. The last three boards at the far end of the deck bend under foot load. There are two additional boards that bend during the 2021 inspection. The boards bend to bear at the stringer extension 2.5' behind the front face of the abutment. There are minor checks and splits on the underside of the deck.

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The solid sawn timber floorbeams and stringers exhibit minor to moderate checks and splits throughout. Floorbeam 1 was replaced in 2006. There is a severe, half-height diagonal check in Floorbeam 2 that has not increased since it was initially noted in 2004.

The stringers in Panel 1 are nail laminated pressure treated timber. The remaining solid sawn timber stringers exhibit minor to moderate checks and splits throughout. There are random 1/4" to 1/2" wide splits in Panels 4, 5, and 6. There are localized areas of decay and insect damage which has not changed since initially noted in 2004.

The solid sawn timber Queen Post Truss exhibits minor to moderate checks and splits throughout and a few areas of insect damage. There is a hole above the L1U1 knee brace connection to the right truss due to insect damage. The header beam connections are pulling apart at U4 left and right trusses, and at the left and right ends of the far portal header. There is a 1" gap at the vertical connection at U0 right truss. There are heavy full height checks in truss members L1U1 right truss, L5U5 right truss, and L2U2 left and right trusses. The diagonals exhibit checking up to 1/8" wide with up to 1.25" deep awl penetration. All of the steel plate repairs, nail laminated repairs, and splices appear to be stable except the longitudinal roof support beam above U3 left. The roof support beam on the left side between U2 and U3 is laterally displaced inward with two of the four lag bolts on the far end steel plate splice pulling out slightly with apparent movement toward the near end. There are no steel connection angles between the upper chord and the vertical at this location. There has been no increase in the displacement since the 2016 inspection. There is a 1/2" wide split on the far side of vertical U3 and 1/8" wide at the near side on the left truss between the siding nailer board and the roof support. There has been no change since the 2017 inspection. The top of the vertical at U3 on the right truss is splintered at the roof support connection parallel to the knee brace. There is a 5/8" wide split above the end post connection notch at U2 in the left and right trusses with heavy splits on the near side of the right and far side of the left verticals. The roof support beam is twisted at U4 on the left truss. The splits and displacement were caused by the floorbeam failure in 2006 and have not changed significantly since the failure.

The lower chords exhibit minor to moderate checks and splits over the pier and at the far abutment. The lower chord sags approximately 4" at L1 on the left. This is as constructed in 2006 during the floor beam replacement. There is a missing connection bolt at the low chord splice in Panel 3 on the right truss. There is minor decay on the interior and exterior low chord with up to 1.5" of awl penetration on the far side of Vertical 1 at the left truss. The decay extends for approximately 8% of the total member area. There has been no change in decay at this location since the 2017 inspection.

The upper chord of the left in Span 1 is significantly bowed inward with heavy checking on underside and interior side. The truss end post at the near left was previously encased in concrete; the concrete has broken off and exposes entire end of end post which exhibits moderate decay. Interior laminated piece is missing approximately 50% of area due to decay with 3.5" high by 3" deep area of decay on the interior face of the middle end block. The concrete encasement at the near right end post has broken off in 2020. There was an increase in decay at the near right end post since the 2020 inspection. The end post at near right bearing exhibits heavy decay in the exterior lamination and minor decay to the middle block. There is heavy decay with minor crushing of the timber at the right end post bearing at the far side of the pier. There is decay of the middle block and the right laminated block. The decay results in approximately 50% loss of the total area of the section. The decay is not considered a critical situation due to the short distance between the end post connection to the low chord and the low chord bearing. No movement under live load is observed. There was an increase in the decayed area since the 2019 inspection. There is moderate decay at the far left and right end post section bearing at the far abutment.

The truss exhibits a slight lean to the left, which has not changed significantly over the historic measurements. Refer to the attached truss lean sheet for measurements.

The portals exhibit moderate to heavy checks and splits. The portals exhibit moderate to severe decay and insect damage at the bottom of the verticals and the sills. There is a nail laminated repair at the near left sill. The near left portal vertical and L0U0 have a very minor scrape from a vehicle impact. The top of the far portal siding was been knocked off the bridge due to the 2016 vehicle impact. The lower lateral brace from L2 left to L3 right has been repaired with a steel plate, and the lower lateral cross brace from L3 right to L4 left has been replaced. The lower lateral brace from L0 Left L1 Right exhibits heavy decay at L0 and is detached from the near abutment connection. The detachment is new in 2021. The knee brace at U5 on the right truss is loose due to a missing dowel at the U5 connection.

The timber siding exhibits minor to moderate weathering of the paint. There are up to 1" gaps between the boards. There is moderate to heavy decay at the abutments and at the pier. There are a few loose boards at the near left portal. A few of the nailers exhibit splitting and decay with the worst split at U4L4 on the left truss. There is a loose siding board at PP4 top right. The bottom of several siding boards on the upstream side of Span 2 are broken below the low chord which appears to be due to flood impact.

The roof timber members exhibit minor decay and moderate peeling paint on the rafters and the slats. There are also minor checks, splits, and a broken roof slat hanging down at the peak at mid-span as well as several other broken slats throughout. The standing seam metal roof is in satisfactory condition with no holes detected.

The low chords bear on the top of the concrete abutments and pier. The stringers bear on concrete at the near abutment and solid sawn timber at the far abutment. The truss end posts bear on notches in the concrete far abutment and pier stem. The truss end post bears on the original stone masonry abutment seats at the near abutment. There are no defects at the near abutment bearings.

Substructure Description:

Current Condition Rating - 5
Previous Condition Rating - 5

The overall condition of the substructure is fair.

The near concrete backwall exhibits no defects. The timber plank backwall at the far abutment exhibits moderate checks and splits.

The low chord and truss bearing seats partially encase the timber members in concrete. The near truss end posts bear on the original stone masonry abutment. The stringers at the near abutment bear on the concrete abutment top which exhibits minor edge spalls. There are steel angles embedded in the concrete to anchor the cross bracing.

The low chord and truss bearing seats at the far abutment are concrete and exhibit cracks, unsound concrete, and efflorescence at the connections. The stringers at the far abutment bear on timber with a concrete lower portion. The timber exhibits minor checks and splits. The concrete exhibits moderate honeycombing and three large construction defects at the areas of the large encased rock and unsound concrete.

The concrete truss seats at the pier exhibit areas of unsound concrete under both right end post bearings for the full height of the stem. There is insignificant loss under the truss chord bearing may change due to stem deterioration.

There are integral concrete cheekwalls at the far that exhibit minor surface defects and scaling. There are hairline cracks at the left cheekwall.

The near concrete encased stone masonry abutment stem consists of two tiers. The upper tier exhibits a hairline vertical crack. The lower tier concrete encasement exhibits broken concrete at the left and the

right end of the abutment, exposing the original stone masonry abutment stem. The concrete encasement does not provide any bearing and the rest of the concrete encasement is secure. The portion of the encasement missing at the right end of the abutment is new in 2021. The stone masonry stem exhibits mortar cracking. Water leakage is visible from the roadway between S1 and S4.

The far concrete abutment stem exhibits light to moderate scaling along the bottom. A full height, 3/8" maximum width crack with 1/8" displacement extends from the left low chord seat through the truss seat to the ground, there was no change since the 2007 inspection. There are areas of unsound concrete and efflorescence adjacent to the crack and at the seats. There are also areas of delamination and efflorescence at the right lower chord and truss seats with areas of deterioration. There is hairline map cracking with minor efflorescence at the left end.

The concrete pier cap exhibits a full height concrete deterioration that extends into the pier stem. The deterioration extends around the downstream end of the pier with hairline to open cracks with efflorescence. There is deterioration on the downstream end of the pier stem. The deterioration is active and will continue to increase. There is also unsound concrete on the downstream half of the pier.

The near wingwalls are stone masonry with minor mortar cracking and areas of missing mortar. The near right wing exhibits mortar loss on the top third of the wing and has several cracked stones. At the near right free end, there are missing cap stones and three courses of stone are loose. The far integral concrete wingwalls exhibit minor honeycombing, isolated areas of hairline cracking with minor efflorescence, and deterioration on top at the free ends. There are areas of unsound concrete throughout the far left wing and isolated areas of unsound concrete in the far right wing. The far left wing exhibits a full length hairline horizontal crack 4' from the top of the fixed end.

The footings at both abutments are not exposed. The pier footing is exposed behind the large rock protection up to 2.0' high at the inlet end on the far side. The pier footing exhibits light scaling and minor surface edge spalls.

There are no drains provided at either abutment.

There is no scour undermining or visible settlement at the substructure units.

Channel Description: Current Condition Rating - 5
Previous Condition Rating - 5

The overall condition of the channel is fair.

The channel is relatively straight upstream and downstream with most of the flow in Span 2.

All of the channel banks except the far downstream bank are low with 2:1 slopes and are covered with heavy vegetation and trees. The far downstream channel bank has a grass lawn with random trees. There is a small run-off stream that flows into the channel near the far left wing.

The upstream and downstream channel banks have some lateral scour that exposes tree roots. There is a 3' deep scour hole adjacent to the structure upstream of the lower chord in Span 2 at the mid-span that has been present for many years.

There are two large logs and various debris stuck at the upstream nose of the pier that are new during the 2021 inspection.

There is rock protection along the far abutment and around the pier. There are also large rocks that extend approximately 200' downstream at the far downstream bank and a few large rocks at the near abutment. The rock is stable but is not a designed countermeasure.

There is a large sediment deposit in Span 1 with moderate vegetation. There are also heavily vegetated sediment deposits which extend approximately 100' upstream and downstream of Span 1. The deposits are approximately 20' wide and approximately 2.5' high with large trees. There is no need for removal due to the sediment being located in the elevated flood plain.

The streambed material consists of boulders, cobbles, and some fines.

There is no new high water mark. Water overtopped the far approach and was approximately 3' below the inlet siding boards.

RECOMMENDATIONS AND SUMMARIES

We recommend that the following repairs be made in order of priority to retard further deterioration, preserve the structural integrity of the bridge and extend its useful life:

** The following repair costs were developed solely for repairs completed by the Owner. The estimates do not reflect potential additional expenses for right-of-ways, contractor costs or design fees. For budget planning of significant repairs or replacement, more detailed studies and cost estimates are recommended.

Current Recommendations:

Immediate Improvements: (Requires Prompt Action)

No immediate improvements are required at this time.

Short Term Improvements: (Within the Next 2 Years)

Priority Code 2 (PRIORITY – RE-PRIORITIZE SCHEDULE)

1. Install current standard transition guide rail at all four corners ($4,000). **
2. Replace Floorbeam 2 due to the severe check at mid-span ($5,000). **
3. Repair the separated header beam connections at U4 left and right truss ($10,000). **
4. Repair the decayed end post bearing at the right truss on the far side of the pier ($5,000).
5. Repair the decayed exterior low chord member in Span 1 left truss adjacent to member U1L1 ($5,000). **
6. Repair or replace the decayed near left end post at the near abutment ($5,000). **

Priority Code 3 (SCHEDULE – ADD TO SCHEDULED WORK)

1. Repair the loose knee brace connection at U5 on the right truss ($5,000). **
2. Repair the displaced lap splice connection at U3 on the left truss ($5,000). **
3. Repair or replace member U2L2 at the left truss, U3L3 at the left and right truss due to the large splits at top above the notch for the diagonal member ($15,000). **
4. Repair the deteriorated concrete at the far wingwalls ($1,200). **
5. Re-point the deteriorated portions of the stone masonry in the near wingwalls ($200). **
6. Repair the deteriorated concrete at the far abutment ($1,200). **
7. Repair the deteriorated concrete on the pier at the downstream end ($1,200). **
8. Repair or replace the decayed timber portal sill member at the far right ($660). **
9. Repair or replace the decayed and detached lower lateral bracing L0 left L1 right ($660). **
10. Remove the large logs from the nose of the pier to inhibit scour ($65). **
11. Either shim up or lag screw down the loose deck planks and running boards at the far end of the deck above the far abutment ($400). **

Priority Code 4 (PROGRAM – ROUTINE STRUCTURAL)

1. Repair the deterioration in near and far approach roadways ($160). **
2. Repair the spalled concrete encasement at the left end of the near abutment ($1,200). **

Priority Code 5 (ROUTINE – ROUTINE NON-STRUCTURAL)

1. Clean the dirt and moss from the near Bridge Load Posting Assembly to ensure legibility ($50). **

Long Term Improvements:

No long term improvements are recommended at this time.

Previous Recommendations:

Immediate Improvements: (Requires Prompt Action)

No immediate improvements are required at this time.

Priority Code 2 (PRIORITY – RE-PRIORITIZE SCHEDULE)

1. Install current standard transition guide rail at all four corners ($4,000). **
2. Replace Floorbeam 2 due to the severe check at mid-span ($5,000). **
3. Repair the separated header beam connections at U4 left and right truss ($10,000). **
4. Repair the decayed end post bearing at the right truss on the far side of the pier ($5,000).
5. Repair the decayed exterior low chord member in Span 1 left truss adjacent to member U1L1 ($5,000). **

Priority Code 3 (SCHEDULE – ADD TO SCHEDULED WORK)

1. Repair the loose knee brace connection at U5 on the right truss ($5,000). **
2. Repair the displaced lap splice connection at U3 on the left truss ($5,000). **
3. Repair or replace member U2L2 at the left truss, U3L3 at the left and right truss due to the large splits at top above the notch for the diagonal member ($15,000). **
4. Repair the deteriorated concrete at the far wingwalls ($1,200). **
5. Re-point the deteriorated portions of the stone masonry in the near wingwalls ($200). **
6. Repair the deteriorated concrete at the far abutment ($1,200). **
7. Repair the deteriorated concrete on the pier at the downstream end ($1,200). **
8. Repair or replace the decayed timber portal sill member at the far right ($660). **

Priority Code 4 (PROGRAM – ROUTINE STRUCTURAL)

1. Repair the loose and replace the missing siding on the left and right side of the bridge ($660). **
2. Repair the deterioration in near and far approach roadways ($160). **
3. Repair the spalled concrete encasement at the left end of the near abutment ($1,200). **

Priority Code 5 (ROUTINE – ROUTINE NON-STRUCTURAL)

1. Remove the tree below Span 1 ($26). **

Long Term Improvements:

No long term improvements are recommended at this time.

Program Status and Project Development for Replacement/Rehabilitation:

This bridge is not programmed for replacement or rehabilitation. If program status information is desired, please reference the PennDOT Website (www.state.pa.us) for the Twelve Year Program or contact Kurt Brungard at Larson Design Group. Phone: 570-323-6603 or e-mail: kbrungard@larsondesigngroup.com.

Need for Specialty Inspection and/or Analysis:

Fracture Critical:	Not Required
Underwater Inspection:	Not Required
Scour Analysis:	Not Recommended

Recommended Inspection Frequency:

The recommended inspection frequency is 12 months due to the bridge weight restriction per PennDOT PUB 238, Table IP 2.3.4-1.

Load Rating Summary:

Because the condition of the main load carrying members has not changed significantly, the 2002 Load Rating Analysis is valid with additional revisions to the safe load capacity (SLC) based on SOL 495-13-08. The inventory and operating ratings from the Allowable Stress Analysis and SLC reduction to the controlling member are listed below:

	Inventory Rating - Tons				Operating Rating - Tons			
Component	H20	HS20	ML80	TK527	H20	HS20	ML80	TK527
Interior Stringer	2*	3*	2*	3	3*	5*	4*	5*
Exterior Stringer	2	3	3	3	3	5	4	5
Floorbeam	2	3	2	2*	3	6	4	4
As per SOL: 90%					3	4	3	4

* Indicates controlling ratings

Superstructure Condition Rating: 4
Substructure Condition Rating: 5
ADT: 50
SOL: 90% of OR

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Load Posting Review:

The structure is currently posted for 3 Tons. This bridge restriction is necessary because the main bridge members are deficient and cannot carry the legal loads safely. In accordance with Section §4902(a) of the PA Vehicle Code, we recommend this structure remain posted as is.

Signing Needs:

No additional signing is required at this time.

Americans with Disabilities Act:

This bridge does not have a sidewalk; therefore, no pedestrian access deficiencies were noted.

References Used in Preparation of this Report

The inspection was performed in accordance with NBI standards. Reference documents for the inspection included the following:

PennDOT PUB 100A BMS2 Coding Manual, 2018 Edition
PennDOT PUB 238 Bridge Safety Inspection Manual, 2010 2nd Edition (including updates)
The AASHTO Manual for Bridge Evaluation, 2010 Edition with 2013 Interim Revisions
2019 NBIS Inspection Report Performed by Larson Design Group
2020 Interim Inspection Report Performed by Larson Design Group

NEAR APPROACH

Note: Near Bridge Load Posting is covered with dirt. Remains legible.

FAR APPROACH

INLET ELEVATION

OUTLET ELEVATION

UPSTREAM CHANNEL

DOWNSTREAM CHANNEL

GENERAL VIEW OF BRIDGE WEARING SURFACE AND RAILING

GENERAL UNDERSIDE
Note: Span 1 shown.

NEAR ABUTMENT
Note: The encasement below the right end post has fractured. New since 2020.

TYPICAL VIEW OF PIER
Note: Far side shown.

FAR ABUTMENT

TYPICAL GUIDE RAIL
Note: Far right shown.

TYPICAL BEARING
Note: Near right shown.

GENERAL VIEW OF TRUSS
Note: Left truss shown.

DETERIORATION IN NEAR APPROACH ROADWAY
Note: New bituminous patches in the roadway since 2020.

PATCHES IN THE FAR APPROACH ROADWAY
Note: The patches are new since the 2020 inspection. Settlement of the patches.

DECAY IN THE EXTERIOR LOW CHORD AT FAR SIDE OF U1L1 Left
Note: No increase in decay.

SPLIT AT THE TOP OF U2L2 RIGHT

DISPLACEMENT OF THE LAP SPLICE CONNECTION AT U3 LEFT TRUSS
Note: No change in displacement.

NEAR RIGHT TRUSS END POST
Note: Decay at the base of the member. No increase since the 2020 inspection.

NEAR LEFT TRUSS END POST
Note: Increase in decay to the interior laminated member since 2020.

DECAYED RIGHT END POST AT THE FAR SIDE OF PIER
Note: Increase in decay since the 2018 inspection.

MISALIGNED HEADER BOARD AT U4 LEFT

LOOSE KNEE BRACE AT U5 RIGHT

DECAY IN SILL PLATE AT FAR RIGHT PORTAL

HEAVY CHECK ON FAR SIDE OF FLOORBEAM 2
Note: No change in the size of the check for several inspections.

LOWER LATERAL BRACING L0 LEFT L1 RIGHT
Note: Timber is disconnected from the abutment.

CONCRETE ENCASEMENT AT NEAR RIGHT TRUSS BEARING
Note: Encasement is fractured since 2020; stone masonry is stable. The left end post bearing is typical.

CONCRETE DETERIORATION AT THE FAR ABUTMENT

NEAR RIGHT WINGWALL
Note: Deteriorated and missing mortar; typical at near left.

FAR LEFT WINGWALL
Note: Deteriorated concrete.

DETERIORATION OF DOWNSTREAM END OF PIER
Note: Active deterioration present with continual increase in deterioration.

DEBRIS AT THE UPSTREAM NOSE OF THE PIER
Note: New since the 2020 inspection.

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

1A09	**Inspection Status:**	9 - Accepted
7A02	**Team Leader:**	D. Sitler (1046)
7A03	**Inspection Type:**	R - Regular (routine)
7A05	**Inspected By:**	8 - Consulting Firm

Structure Description

5A08	**FHWA Facility Carried:**	T-373 CTY BR. 11
5A07	**Features Intersected:**	ROARING CREEK
5A09	**Location:**	3.1 MI. S. OF CATAWISSA
5C01	**Roadway Name:**	T-373 ESTHER FURNACE ROAD
5A06	**City / Borough Name:**	19/205 - CLEVELAND
6B48	**Combust. Mat. Under Bridge:**	12 - No Reportable Materials
	Combust. Mat. Under Bridge Note:	

Structure Type (Dept)

Main			Approach		
6A26	**Material Makeup:**	5 - Timber	6A26	**Material Makeup:**	
6A27	**Physical Makeup:**	9 - Other or none	6A27	**Physical Makeup:**	
6A28	**Span Interaction:**	1 - Simple, non-comp	6A28	**Span Interaction:**	
6A29	**Structural Config:**	18 - Truss - thru	6A29	**Structural Config:**	

Sign Information

ID01	ID02	ID03	ID04	ID06	ID07	ID05	ID08
Type of Sign	Sign Needed	Sign Message	Near Adv	Bridge Site Near	Bridge Site Far	Far Adv	Signing Notes
0 - Bridge	Yes		G	G	G	G	N - Covered with grime. Remains legible. F Adv - slightly faded but legible.
1 - Bridge Weight Limit	Yes	3 Tons	G	G	G	G	N - Covered with grime, but still clearly legible. F Adv - slightly faded but legible.
2 - Except Combinations	No	_					_
3 - One Truck at a Time	No						_
4 - Vertical Clearance On	Yes	9'-0"	G	G	G	G	N Adv - clearly visible. F Adv - slightly leaning but clearly visible.
5 - Vertical Clearance Under	No	_					_
6 - One Lane Bridge	Yes	OLB		G	G		Leaning at near and far, clearly visible.
7 - Narrow Bridge	No						_
8 - Hazardous Clearance	Yes			G	G		In place and functional.
9 - Other	Yes	Dist Ahead	G			G	Dist Ahead: N Adv - 2000 FT, F Adv - 500 FT; slightly faded at F Adv but clearly legible.

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

Features Intersected

6C02 SR ID SR	6C02 SR ID Seg	5C03 On/ Under	5B09 Skew Angle	5C06 Dir	5C29 NHS	4A20 Min Lat Cl Left	4A19 Min Lat Cl Right	6C18 Tot Hor Cl Left	6C19 Tot Hor Cl Right	6C20 Min Vrt Cl Rdwys Left	6C21 Min Vrt Cl Rdwys Right	6C22 Vrt Cl Over 10ft Left	6C23 Vrt Cl Over 10ft Right	6B17 ADT
_	_	1	90	N/A	0 - Not on NHS	0.0	0.0	0.0	12.8	99.9	9.3	99.9	9.3	50
		2	-1	N/A		0.0	0.0	-1.0	-1.0	-1.0	8.8	-1.0	-1.0	-1

Vertical Details

6C02 SR ID SR	6C02 SR ID Seg	5C03 On/ Under	6C35 Left Vertical Clearance Signing	6C37 Left Vertical Clear Posting	6C36 Right Vertical Clearance Signing	6C38 Right Vertical Clear Posting
_	_	1		0 ft 0 in	1 - Req and existing	9 ft 0 in
		2		0 ft 0 in		0 ft 0 in

6B15 **Design Exceptions:**

6A50 **Sup Latent Problem:**

6A51 **Sub Latent Problem:**

Deck Geometry

6B14 **Table Used for Appraisal:** 3 - 2E

Controlling Values

5C10 **ADT:** 50

5C27 **Bridge Road Width:** 12.8

4A10 **Appraisal:** 3 - Intolerable-Correct

Notes: Appraisal rating based on vertical underclearance on the bridge, Table 2E

4A11 **Underclr Appr:** N - Not applicable (NBI)

6B13 **Controlling Vertical:** -1.0 FT

Controlling Lateral:

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Traffic Safety Features

Feature Type	IA01 Location	IA02 Adequacy Rating	IA03 Description	5C08 Posted Spd Lmt (mph)
1 - Railing		4 - does not meet code 6	3"x6" TIMBER RAIL,3"x8"TIMBER CURB	-1

Comment: Bolted to diag's & vert's, min checks & splits thru-out, min damage at NR diag, few mod checks and splits. Sev split at NL end, still secure. 30" min rail Ht. 13" min curb Ht. Adequate for site.

2 - Transition		2 - Req not provided	none	-1

Comment: Railing not attached to bridge. Railing terminates w/ boxing glove end @ bridge corners.

3 - Approach Guiderail		4 - does not meet code 6	Type 2-S	-1

Comment: 2 panels Type 2-S @ all 4 corners (weathering steel) w/ steel offset blocks - substandard height but adequate for site due to low speeds and low ADT.

4 - Approach railend		4 - does not meet code 6	Turned down end treatments	-1

Comment: 25'L Turned down end treatments at N - within clearzone, adequate for site. Minor damage at near right end.
37.5'L Turn down end treatments at F - within clearzone, no concrete end anchorage, adequate for site.

NL and both Far End Treatments are slightly loose, but secure.

Approach Alignment

4A02 **Code:** 5 - Above Tolerable

Comment: Limited sight distance with minor speed reduction. Horizontal curve at near, vertical crest curve at far.

Approach Roadway

6B39 **Code:** 5 - Fair

Pavement: BITUMINOUS: NEAR - Minor wear and rutting. Patches in the near left and near right wheel paths. Depressed, cracked, deteriorated area at NR 5.5' L x 3' W x 2" D. There are new patches in the wheel paths since 2020.
FAR - Newer bitum 10" L x full wheel path width x 1.5" D depression along the end of the deck. The deterioration in the wheel paths at the end of the deck was patched since 2020. Patches settled appx. 1". Transverse crack in far left wheel path at end of deck

Drainage: Natural and Adequate. Near Drains toward structure, Far Drains away.

Shoulders: Gravel & Grass - approx 1' elev difference between bituminous and gravel at FL & FR corners - behind guide rail, no repair required. All shoulders stable.

Approach Slab

6B38 **Code:** N - N/A

Pavement: N/A

6B04 **Bump at Bridge:** Bump Due to deterioration and settlement at the end of the deck and in the approach roadway.

6A39 **Relief Joints:** 0 - Joints not present **6A41** **Number of Joints:** 0

Comment: N/A

6B02 **New Wearing Surface Under Bridge:** No

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5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

Deck Wearing Surface

Main

5B02 **Type of Wearing Surface:** 7 - Wood or Timber
5B03 **Type of Memb. Water-Proof:** 0 - None
5B04 **Deck Corrosion Protection:** 0 - None
6A33 **Thickness:** 1.8
6A34 **Date Recorded:** 07/19/2007

Approach

6A30 **Type of Wearing Surface:** _ - Unknown (NBI)
6A31 **Type of Memb. Water-Proof:** _ - Unknown (NBI)
6A32 **Deck Corrosion Protection:** _ - Unknown (NBI)
6A33 **Thickness:** 0.0
6A34 **Date Recorded:** 01/01/1901

6B40 **Condition Rating:** 6 - Satisfactory-structural elements show some minor deterioration.

IC02 **Dk WS Notes:** Timber longitudinal running boards w/ bituminous coating - coating worn off in middle, moderate wear, minor to moderate checks & splits, few newer boards, isol minor areas of minor decay in older boards. End running boards at NL & NR replaced before 2016 inspection, and secure. An additional timber running board was installed at the near left above the previously decayed deck boards prior to 2018. Minor Sx loss to 2nd board inside at NR due to wear and splitting in Panel 1. Heavy split in the center board at the far right end of the deck. The ends of the running boards at the far end of the deck are loose, but remain securely attached to the deck.

Expansion Joints:

6A41 **Number of Expansion Joints:** 0

	VD25	VD26	VD27
Joint Number	Joint Type	Movement Class	Manufacture Code
0			

Bridge Cleaning

VD31 **Bridge Seat Cleaning:** 0
VD32 **Bridge Seat Cleaning Note:**
VD33 **Scuppers w/ Downspouts:** 0
VD34 **Scuppers w/o Downspouts:** 0

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

Joint Inventory and Inspection Information

IJ01 Overall Joint Condition Rating: N - Not Applicable

IJ02 / IJ03 Joint / Record Key	IJ04 Joint Type	IJ05 Joint Location	IJ06 Joint Movement	IJ07 Joint Manufacturer	IJ08 Joint Length (ft)	IJ09 Debris Impact?	IJ10 Leaking?	IJ13 Condition Rating
						N	N	

IJ02 / IJ03 Joint / Record Key	IJ11 Damaged?	IJ12 Covered?	IJ14 Extrusion Install Year	IJ15 Seal Install Year	IJ16 ECMS NO	IJ17 Replacement Reason	IJ18 Replacement Comments	IJ19 Condition Summary
	N	N						

Bearing Inventory and Inspection Information

IB01 Overall Bearing Condition Rating: N - Not Applicable

IB02/IB03 Bearing / Record Key	IB04 Bearing Type	IB05 Bearing Location	IB06 Bearing Count	IB07 Bearing Movement	IB08 Corrosion?	IB09 Alignment Issues?	IB10 Anchor Bolt Issues?	IB11 Loss of Bearing Area?	IB12 Condition Rating

IB02/IB03 Bearing / Record Key	IB13 Install Year	IB14 ECMS NO	IB15 Replacement Reason	IB16 Replacement Comment	IB17 Condition Summary

Deck

1A01 **Condition** 5 - Fair-all primary structural elements are sound but may have minor section loss, cracking spalling.

6B07 **Est. Spall Delamination:** 0.00% 6B08 **Date:** 03/20/2008

6B10 **Est. Chloride Content:** 0.00% 6B11 **Date:** 03/20/2008

1A07 **Unrepaired Spalls:** 0.00 SF 6B47 **Deck Cracking Metric:** 0.00 YD/SY

Deck Top: Transverse timber planks w/ bituminous coating - minor checks and splits, bituminous coating in fair condition, up to 2" gaps between boards at FAB. Areas of decay in the older deck boards to the left of the running boards at the near end of the deck. 6" W (avg.) by full board width x 1" - 2" deep. The left end of the 5th and 6th deck planks are new since 2017. The last three boards at the far end of the deck bend under foot load. The boards bend appx. 1/4" - 1/2" to meet the stringer extension. The deck planks are located behind the FF of the abutment. The loose deck planks appear to be contributing to the loose running boards (increase in number of loose boards in 2021).

Deck Underside: Minor checks and splits.

Deck Drainage: None.

Expansion Joints: N/A

Deck Notes:

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

Superstructure

1A04 **Condition Rating:** 4 - Poor-adv. section loss, deterioration, spalling or scour.

Narrative: Superstructure condition rating based on severe check in FB #2.

TIMBER SIDING - paint minor to mod weathered, up to 1" gaps between boards, mod to hvy decay at abut's and pier, few loose boards at NL portal. Few nailers w/ splitting and decay, worst split at U4L4 left. There is a loose siding board @ PP4 Top Rt. The bottom of several siding boards on the upstream, side of Span 2 are broken below the low chord appears due to impact.
ROOF - minor decay and moderate peeling paint on rafters & slats, minor checks and splits, broken roof slat hanging down at peak at midspan, several random other broken slats. Standing seam metal roof in satis condition w/ no holes detected.

Girders/Beams: Truss Members Cont'd: UPPER CHORD of Lt truss in SP01 is significantly bowed inward w/ hvy checking on underside and interior side. Truss End post at NL previously encased in concrete - conc. has broken off and exposes entire end of endpost - moderate decay. Interior laminated piece is missing appx. 50% of area due to decay with 3.5" H x 3" D decay on the interior face of the middle end block (increase in 2021). End post at NR brg exhibits hvy decay in the exterior laminated piece and minor decay to the middle block. Heavy decay w/ minor crushing of the timber at the right end post bearing at the far side of the pier. Decay of the middle block measuring 7" w x full thickness and 2.5" to 0.75" by 6" L area of decay at the right laminated timber. The timber members bolted through the end post on either side measure 3" x 12" and the block on the inside measures 8" x 10". The total area of loss is apx. 50% of the total area. Not a critical situation due to the distance between the end post connection to the low chord and the low chord bearing. No movement under live load observed. No change in area of decay since the 2019 inspection. Moderate decay at the far left and far right end post section bearing at the far abutment.

Entire truss leans to the Lt and has not changed significantly over historic measurements (see attached sheet).

Floorbeams: Solid sawn timber - minor to moderate checks and splits thru-out, severe diagonal check on F side of Floorbeam 2 extends 1/2 height - no change in length since initially noted in 2004. Floorbeam 1 was replaced in 2006.

Stringers: Solid sawn timber - minor to moderate checks and splits thru-out, random severe splits 1/4" to 1/2" wide in S6 panel 4, S3 panel 5 and S7 panel 6, nail laminated stringers in panel 1. Localized areas of decay and insect damage. No changes since initially noted in 2004.

Diaphragms: N/A

Truss Members: (2 Span) Solid Sawn Timber Queen Post Truss - Min. to mod checks, few minor splits and few areas insect damage. 1" x 2" hole due to insect damage above L1U1 Rt knee brace conn. Header Bm connections pulling apart @ U4 (NL & FR), 1" gap @ vert connection @ U0 (Rt). Hvy checks for full ht of L1U1 (Rt), L5U5 (Rt) & L2U2 (Lt & Rt). Diagonals w/ checking up to 1/8" wide w/ 1.25" max awl penetration. All nail laminated and steel splice plates appear to be stable except at longit roof support beam above U3 Lt - roof support from U2 to U3 is laterally displ inward up to 1" and appears to have moved toward N end (1 5/8"), 2 of 4 lag bolts on F side of plate are pulling out, the member is lap spliced and the steel plate only provides lateral support for the splice, no steel angles present at this connection (no change since 2016). 1/2"W split present on F side of vert btwn siding nailer and roof support above U3 Lt, 1/8" W at N side, no change since 2017 insp. Top of vert at U3 Rt is splintered at roof support conn parallel to knee brace. 5/8"W split present at U2 above endpost notch (interior side) on Lt and Rt trusses w/ hvy splits in N side of the right and F side of Left verticals. Roof support beam also twisted at U4 (Lt). Large splits and displacement caused by FB failure in 2006 and have not changed since failure.
LOWER CHORDS w/ min to mod checks and splits over pier and at FAB. L/C sags approx 4" @ L1 on Lt - as const in 2006 FB rehab. Missing bolt @ end of L/C splice in Panel 3 on Rt. Minor decay with up to 1.5" awl penetration on far side of vertical 1 of the left truss on both inside and outside. The decay on the far side of the vert to Ext L/C 5" D x 2" W. Full Member 5" x 12", 16% of ext L/C member sxn loss, 8% total member loss, no change since 2017 insp.

Portals/Bracings: PORTALS - mod to hvy checks & splits, mod decay and insect damage at bottom of verticals and sills at N, severe decay and insect damage at F, newer nail laminated sill @ NL. Portal vertical and L0U0 at NL has very minor scrape due to struck by vehicle. No repair req'd. U0 portal header previously replaced in 2019.
LATERAL BRACING - broken lower lateral cross brace L3(Rt)L4(Lt) prev replaced. L2 (Lt)L3(Rt) broken & repaired w/ steel plate. L0 Lt L1 Rt heavy decay at L0, detached and not connected at L0 in 2021.
KNEE BRACE - U5 Rt truss is loose due to the missing dowel connection w/ vertical U5. U0 & U1 knee braces previously installed in 2018.

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Bearings: There are no mechanical bearings at any substructure location. The superstructure members bear directly on the concrete substructure.

LOWER CHORDS - bear on concrete abutment tops and pier.
STRINGERS - bear on concrete at near abutment & solid sawn timber at far abutment.
TRUSS ENDPOSTS - bear on notch in concrete stems at Pier and FAB. Endposts bear on original stone masonry abutment seats at NAB.
No defects at the near abutment bearings. .

Drainage System: N/A

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Substructure

1A02 **Substructure Condition Rating:** 5 - Fair-all primary structural elements are sound but may have minor section loss, cracking spalling.

Notes:

Near Abutment

Backwall: Concrete - no defects

Bridge Seats: Lower chord & truss seats - members partially encased in concrete at bearings, NR truss end post bearing on stone masonry. Concrete repair-sound. NL bearing on stone masonry - concrete repair is stable.
Stringer seats - concrete abutment tops, minor edge spalling. Steel angles embedded in concrete for cross bracing bearings.

Cheekwalls: N/A

Stem: Concrete Encased Stone Masonry - (2) tiers. Upper tier - HL vertical crack under Stringer 4. Lower tier - min honeycombing at lower half at centerline, Near right corner of encasement, previously cracked portion broken off in 2021 for 30"L x 25"H - not critical due to bearings are on stone masonry abutment and not on jacket. NL corner large portion of concrete (12"L x 30"H x 12" D) has completely broken off, original stone masonry stem visible behind the unreinforced concrete jacket. Stone masonry stem exhibits mortar cracking. Bottom of concrete encasement visible at right 1/2 of stem (4'L). Water leakage from roadway visible between S1 and S4.

Wings: Stone masonry - WNL - open cracks in mortar, min efflor. WNR - open mortar cracks thru-out up to 1/8", few cracked stones, free end missing mortar and stones, grout on top face and top three courses of stones at free end are loose.

Footing: Not exposed.

Piles: N/A

IN20 **Scour Undermine:** 0 - No

Settlement: None evident.

Embank Slope-wall: N/A

Wall Drainage: None

Far Abutment

Backwall: Timber plank - moderate checks & splits.

Bridge Seats: Lower chord & truss seats - Concrete w/ cracks, unsound concrete & efflor at connections. Stringer seats - Timber w/ concrete lower portion. Timber - min checks and splits. Concrete - honeycombing, (3) large construction defects at areas of large encased rock w/ unsound concrete.

Cheekwalls: Integral concrete - min surface defects and scaling, HL cracks @ LT cheekwall.

Stem: Concrete - light to moderate scaling along bottom. Full ht 3/8" max width crack w/ 1/8" max displacement at Left top which appears to be caused by the expansion of unsound concrete surface(at top paint mark , no change since 2007 insp.) extends from left lower chord seat through truss seat to ground, 11"H x 6"L x 2"D spall at bottom of crack, unsound concrete and efflor. adj to crack and @ seats w/ areas of deterioration at prior repair (deteriorated area 2.8'L x 3.0'H x 1"D) surrounded by unsound concrete. Areas of delamination and efflor. @ right lower chord and truss seats w/ area of deterioration (honeycomb area 1.8L x 3'H x 1"D). HL map cracking w/ minor efflorescence at LT.

Wings: Integral concrete - WFL - hairline cracks w/ efflorescence thru out, minor honeycomb, Increased delamination & minor concrete deterioration on top @ free end. Areas of unsound concrete thru-out wing. Full length HL to open horizontal crack 4' from top of fixed end. WFR - minor honeycomb, HL cracks w/ efflor @ free end, Increased delamination and deterioration on top @ free end w/ isolated areas of unsound concrete.

Footing: Not exposed, Ftg not visible (prior to 2017 inspection) - covered with silt.

Piles: N/A

IN20 **Scour Undermine:** 0 - No

Settlement: None evident.

Embank Slope-wall: N/A

Wall Drainage: None

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Navigational Control

4A21 **Controls Exist:** No
4A22 **Vert Clearance:** 0.00
4A24 **LIft Vertical:** 0.00
4A23 **Horz Clearance:** 0.00
4A07 **Pier Protection:** N - Not Applicable

Pier Details

5D02 **Pier/Bent Number:** **P01** **IN20** **Scour Undermine:** No

Condition Summary: CAP&PIER: Concrete - full ht x 3" max depth deterioration w/ delamination and unsound concrete extends around D/S half of pier w/ HL to 1/8" cracks w/ efflor., Active deteration on D/S face
FOOTING: Concrete - minor surface edge spalls , light scaling along face at far side and random on top, Fully exposed. max exp ht is 2.0' at F IN.
PILE: N/A

Bridge Seats: Concrete - Truss seats - unsound concrete under NEAR and FAR right end post bearing areas for the full stem height below the bearing. Insignificant loss under truss chord bearing, may change due to stem deteration.

Cheekwalls: N/A

Columns/Stems: Concrete - hairline to open map cracking w/ heavy deterioration of the entire D/S end of pier w/ up to 6"D w/ efflor. and delamination at D/S end w/ areas of unsound concrete adjacent to the deterioration extending around the D/S nose of the pier to the inside face of the D/S end post bearings. The deterioration is active and will continure to increase. There is also an area of unsound concrete 1' high by 1/2 width of the pier on the far side of the stem. Random form holes on far side not filled w/ grout.

Settlement: None evident.

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

IU00a **UW Reviewer Action:**

IU00b **Reviewer Comments:**

IU02 **Number of Units:** 0

IU03 **SCBI Source:** O - observed

IU04 **Overall SCBI:** 4

IU04b **SCBI Recalculated:** ☐

IU01 **Recalculate SCBI:** 0 - no recalc needed

4A08 **SCBI:** 4 - Stable, needs action

4A08b **Scour Critical Category:** D

IU06 **Streambed Material #1:** A5 - Stable nat alluvium

IU06 **Streambed Material #2:**

IU07 **Notes:** Boulders, Cobbles, Fines large rock at FAB and Pier (D=5.5'/7.5') History of minor scour.

Current Countermeasures

CM Num	IU21 Type	IU22 Location	IU23 Condition	IU24 Subunit

Possible Countermeasures

PCM Num	IU25 Location	IU26 Work Candidate

SAR Calculation Data

IU11 **NAB Location:** 2 - Right

IU12 **FAB Location:** 1 - Left

US Left Wingwall

IU13 **Presence:** 1 - Yes

IU14 **Condition:** 1 - Good

US Right Wingwall

IU15 **Presence:** 1 - Yes

IU16 **Condition:** 1 - Good

Horizontal Debris Blockage

IU17 **Start:** 45

IU18 **End:** 53

Vertical Debris Blockage

IU19 **Start:** 0

IU20 **End:** 45

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

Sub Unit OSA Data

Observed Scour Rating Components

IN01 Sub Unit	IN12 Pier/ Abut Type	IN13 Inv. Found Type	IN14 Found Type	IN15 Strmbd Mat	IN19 Move Ind	IN04 Chg Since Last Insp	IN05 Scour Hole	IN06 Debris Potential	IN07 Scour-ability	IN08 Opening Adeq. / Channel	IN09 Sediment	IN10 Align-ment	IN11 Velocity/ Stream Slope	IN03 Observed Scour Rating
B - FAB	2	L	2	A5	0	8	9	6	5	7	9	7	7	6
B - NAB	6	L	2	A6	0	8	9	6	6	6	5	7	8	6
P - P01	23	L	2	A5	0	8	9	6	5	7	6	7	8	6

Other Subunit Details

IN01 Sub Unit	IN16 UW Insp Type	IN18 Water Dept	IN17 Observed Scour Depth	IN20 Scour Undermine	IN21 Counter-measures	IN02 Info from Current Insp	IN22 100 yr Flood Calc Scour Depth	IN23 500 yr Flood Calc Scour Depth	IU27 SCBI Code
B - FAB	E	0.0	0.0	0	0	1	0.0	0.0	5

IN24 **Notes:** NO SCOUR, NO U/M, FTG. NOT EXP. LARGE ROCK ALONG LENGTH, SLIGHTLY DISPLACED IN=7.5' OUT= 6.8' MAX H2O= 0.0'

B - NAB	E	0.0	0.0	0	0	1	0.0	0.0	4

IN24 **Notes:** NO SCOUR, NO U/M, FTG. NOT EXP. IN= 3.8' OUT= 3.8' MAX.H2O= 0.0'

P - P01	E	0.0	0.4	0	0	1	0.0	0.0	5

IN24 **Notes:** 0.4' Max SCOUR, NO U/M, FTG. EXP. FULL LENGTH BEHIND LARGE ROCK - NOT DESIGNED BUT STABLE, FTG EXPOSED BUT PROTECTED BY LARGE STABLE ROCK, ROCK SLIGHTLY DISPLACED, 2 LARGE TREES AND VARIOUS DEBRIS AT U/S SIDE I@N=6.9' @F=7.9 O@N=6.6' F=7.3' MAX H2O=0.0'

Underclearance

IL09 **Origin Description:**
IL10 **Horizontal:**
IL11 **Vertical:**
IL12 **Notes:**

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5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Channel

1A05 **Channel/ Channel Protection Cond. Rating:** 5 - Fair

Channel: Fairly straight U/S & D/S, flow mostly in span 2.

Banks: Low banks (2:1 slopes) w/ heavy veg & trees except F D/S which has grass lawn w/ random trees. Far left small stream enters channel

Streambed Movements: Moderate to heavy lateral scour at near & far U/S banks also w/ exposed tree roots. N U/S & D/S channel banks have some lateral scour exposing/undermining tree roots. 3' deep scour hole that has been present for 15+ years in Span 2.

Debris, Vegetation: 2 large logs and various debris at U/S nose of pier.

River Control Devices: None

Embank/Strmbed Contr: Placed rock protection at FAB, around pier. F D/S has large rock that extends D/S 200'. Additional rock protection has been placed at FAB and far side of pier from 2006 flood repairs. Few large rocks at NAB. All rocked placed - Not a designed coutermeasure.

Drift Other: Large sediment deposit under span 1 w/ moderate vegetation. Heavily vegetated sediment deposit extends 100' U/S & 100' D/S x 20' w x 2.5' h w/ trees. No need for removal due to this is elevated flood plain.

Waterway Adequacy

1A06 **Appraisal Code:** 7 - Good

Narrative: Slight chance of overtopping deck at near and above far approach. (Scour Vulnerability = LOW)

IL02 **Overtop Risk:** S - Slight

IL03 **Traffic Delay:** I - Insignificant

5C22 **Functional Class:** 09 - Rural Local

IL13 **Worst Flood Event:**

IL14 **Worst Flood Event Date:** January 01, 2001

High Water Mark

IL05 **Elevation:** -1 **IL06** **Date:** January 01, 1901 **IL07** **New High Water Mark:** No

IL08 **High Water Notes:** Water overtopped far approach and was approximately 3' below inlet siding boards

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Form K

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Paint Condition

6B36 **Paint Cond Rating:** N - Not Applicable **6B37** **Ext of Paint Cond:** N - Not Applicable

6B35 **New Paint:** 0 - no new paint

Int Beam / Gird: N/A
Fascias: N/A
Splsh Zone Truss Gird: N/A
Truss: N/A
Bearings: N/A
Other: N/A

Load Ratings

IR01a **Load Rating Review Recommended:** Recalc not required
Due To:

IR03 **Calculation Date:** April 11, 2014

IR02 **Rating Approval Date:** April 11, 2014

Load Rating Details

	IR10	IR11	IR11a	IR21	IR20	IR05	IR06	IR07	IR16	IR14	IR15	IR13	IR12
LOAD TYPE	IR LOAD	OR LOAD	SLC RATING	IR Rating Factor	OR Rating Factor	NBI IND	RTNG ANAL METH	CONT MEM TYPE	ANALYSIS ENGINEER	AASHTO MANUAL YEAR	AASHTO SPEC YEAR	OPR GOV CRIT	INV GOV CRIT
1	2	3	3	-1.00	-1.00	0	1	1		2000	1996	M	M
IR19 Notes Description:													
2	3	5	4	-1.00	-1.00	1	1	1		2000	1996	M	M
IR19 Notes Description:													
8	2	4	3	-1.00	-1.00	0	1	1		2000	1996	M	M
IR19 Notes Description:													
0	2	5	4	-1.00	-1.00	0	1	1		2000	1996	M	M
IR19 Notes Description:													

Posting

VP01 **Status Date:** 03/19/2013
VP02 **Posting Status:** P - Posted for load
VP03 **Special Restrictive Posting:** 0 - Not Applicable
VP04 **Posted Weight Limit:** 3 ton
VP05 **Posted Limit Combination:** -1 ton
VP06 **Posting Reason:** K - Comb of one or more

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Proposed Maintenance Items :-

IM01	IM03	IM04	IM05	IM06	IM08	IM11
Type of Work	Action	Est Qty	UOM	Priority	Init Recm'd Date	Target Year	Work Assign

Flexible 27 - RDGDERL-CONNECT GDERAIL TO BR 4 EA 2 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** Install current standard transitions at all 4 corners.
IM09 **Location:** NL, NR, FL, FR

Flexible 36 - A744701-RPR/RPL.TRUSS MEMBER 11 EA 2 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** #1 - N/A
#2 - (PR = 2; QTY = 7):
1-Replace Floorbeam #2 due to severe check at midspan.
2-Repair Header Beam connections at both trusses on U4.
3-Repair the decayed end post bearing on the right truss at the far side of the pier and at the near abutment. Also repair or replace the decayed near left end post at the near abtment.
4-Repair the decayed exterior Low Chord Member in Span 1, left Truss at U1L1.

#3 - (PR = 3; QTY = 4):
1-Repair the loose knee brace at U5 right truss.
2-Repair the displaced lap splice connection at U3 on the left truss.
3-Replace the verticals with large splits above the diagonal notches at members U2L2 on the right truss and U3L3 on the left and right trusses.
IM09 **Location:** 1, 2

Flexible 28 - B744802-REPAIR ABUTMENT 1 CY 3 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** Repair deteriorated concrete on far abutment.
IM09 **Location:** FAB

Flexible 15 - C744802-RPR/RPL WINGWALL 1 CY 3 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** Repair the deteriorated concrete on both far wings.
IM09 **Location:** WFL, WFR

Flexible 32 - D744802-RPR. PIER 1 CY 3 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** Repair the deteriorated concrete on the pier at downstream end.
IM09 **Location:** P01

Flexible 19 - F744804-REPOINT MASONRY 20 LF 3 3/24/2009 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** Repair the deteriorated and loose stone masonry on the free end of the near wings.
IM09 **Location:** WNL, WNR

Flexible 60 - B744601-RPR/RPL.TMBR.MBR 2 EA 3 10/17/2016 0
IM07 **Status:** 0 - Work not planned **IM15** **Notes:** #1 - N/A
#2 - Repair or replace the decayed timber portal sill member at the far right
#3 - Repair or replace the decayed and detached lower lateral bracing L0 left L1 right.
IM09 **Location:** U0

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

IM01 Type of Work	IM03 Action	IM04 Est Qty	UOM	IM05 Priority	IM06 Init Recm'd Date	IM08 Target Year	IM11 Work Assign
Flexible	3 - ECREMVG-REMOVE VEG/DEBRIS	5	CY	3	3/24/2021	0	

IM07 **Status:** 0 - Work not planned IM15 **Notes:** Remove the large logs from the nose of the Pier to inhibit scour.

IM09 **Location:** US

Flexible	35 - B744301-RPR/RPL.TMBR.DK.	4	SY	3	3/24/2021	0	

IM07 **Status:** 0 - Work not planned IM15 **Notes:** Either shim up or lag screw down the loose deck planks and running boards at the far end of the deck above the far abutment.

IM09 **Location:** 2

Flexible	40 - RDPAVMT-PATCH/RAISE PAVEMENT	4	SY	4	3/9/2012	0	

IM07 **Status:** 0 - Work not planned IM15 **Notes:** Raise the far approach pavement to provide a smooth transition onto the bridge.

New patches at the near and far in 2021.

IM09 **Location:** N

Flexible	28 - B744802-REPAIR ABUTMENT	1	CY	4	3/12/2015	0	

IM07 **Status:** 0 - Work not planned IM15 **Notes:** Repair the spalled concrete encasement at the left end of the near abutment.

IM09 **Location:** NL

Flexible	70 - RDLDSGN-RPL.LOAD LIMIT SIGN	1	EA	5	3/24/2021	0	

IM07 **Status:** 0 - Work not planned IM15 **Notes:** Clean the dirt and moss from the near Bridge Load Posting Assembly to ensure legibility.

IM09 **Location:** N

Completed Maintenance Items :-

IM01 Type of Work	IM03 Action	IM04 Est Qty	UOM	IM05 Priority	IM14a Completed Date	IM08 Target Year	IM11 Work Assign
Flexible	36 - A744701-RPR/RPL.TRUSS MEMBER	3	EA	2	1/1/1901	0	No

IM07 **Status:** 5 - Completed/Dept IM15 **Notes** Repair the split Lower Chord at PP5 right truss. (repaired 3-9-12 insp) Repair/Replace the damaged L5U5 vertical. (repaired 3-9-12 insp) Repair the connections at PP5 and set the vert and siding plumb. (repaired 3-9-12 insp)

IM09 **Location:** FB2, U4, F Portal,

Flexible	40 - RDPAVMT-PATCH/RAISE PAVEMENT	2	SY	3	1/1/1901	0	

IM07 **Status:** 5 - Completed/Dept IM15 **Notes** Repair deterioration in near wheelpaths.

IM09 **Location:**

Flexible	51 - RDCLSGN-RPL.CLEARANCE SIGN	1	EA	3	1/1/1901	0	

IM07 **Status:** 5 - Completed/Dept IM15 **Notes** Replace missing F OLB sign.

IM09 **Location:**

5A01 **SR ID:** 19720503730011 5A03 **BR Key:** 12786 7A01 **Inspection Date:** March 24, 2021

IM01 Type of Work	IM03 Action	IM04 Est Qty	UOM	IM05 Priority	IM14a Completed Date	IM08 Target Year	IM11 Work Assign
Flexible	60 - B744601-RPR/RPL.TMBR.MBR	0	EA	4	1/1/1901	0	No

IM07 Status: 5 - Completed/Dept **IM15 Notes** Replace the (4) broken / damaged siding boards at the far left (07/2017 flood damage)

Siding boards have been replaced since the July 2017 inspection.

IM09 Location: FL

Flexible	3 - ECREMVG-REMOVE VEG/DEBRIS	3	CY	4	1/1/1901	0	

IM07 Status: 5 - Completed/Dept **IM15 Notes** Remove the tree debris at the upstream end of the pier. Completed prior to 2014 insp.

IM09 Location: U/S

Flexible	46 - RDSHLDR-RPR/RECONST	2	SY	5	1/1/1901	0	No

IM07 Status: 7 - Superseded **IM15 Notes** Repair erosion along both far shoulders under guiderail.

IM09 Location:

Flexible	70 - RDLDSGN-RPL.LOAD LIMIT SIGN	1	EA	0	3/15/2010	0	

IM07 Status: 5 - Completed/Dept **IM15 Notes** F BLP assembly greater than 25' from bridge (located approx 75' from structure).

IM09 Location:

Flexible	45 - D744503-RPL.BRGPED/SEAT	2	EA	0	5/24/2011	2011	

IM07 Status: 5 - Completed/Dept **IM15 Notes** 1. Repair the bearing seat for the truss endpost at the NR (60% bearing loss, PR=0)
2. Repair/Stabilize the NL bearing seat (PR=2)
#1 Crit Def mtg held 4/6/11 #2 County will clean out under Nr Rt arch bearing and re-pack with cementitious grout #3 Work to be completed by mid-May 2011

IM09 Location: NR, NL

Flexible	35 - B744301-RPR/RPL.TMBR.DK.	3	SY	1	5/24/2011	2011	

IM07 Status: 5 - Completed/Dept **IM15 Notes** Replace the heavily decayed and failed deck boards at the NL corner of the structure- 7 boards total.
#1 Crit Def mtg held 4/6/11 #2 County has placed additional running board to temporarily cover failing deck boards #3 Work to be completed by mid-May 2011

IM09 Location: NL

Flexible	3 - ECREMVG-REMOVE VEG/DEBRIS	40	CY	3	3/9/2012	0	

IM07 Status: 6 - Completed/Contr **IM15 Notes** Remove the large trees lodged at the pier nose. (repaired 3-9-12 insp)

IM09 Location: U/S

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pennsylvania
DEPARTMENT OF TRANSPORTATION

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

IM01	IM03	IM04		IM05	IM14a	IM08	IM11
Type of Work	**Action**	**Est Qty**	**UOM**	**Priority**	**Completed Date**	**Target Year**	**Work Assign**
Flexible	35 - B744301-RPR/RPL.TMBR.DK.	3	SY	3	3/18/2019	0	

IM07 **Status:** 5 - Completed/Dept **IM15** **Notes** Replace the heavily decayed and failed transverse timber deck boards at the NL corner of the structure- 7 boards total.

#1 crit def meeting held 4-6-11
#2 County placed additional running board to temporarily cover failing deck boards
#3 Work to be Completed by mid-May 2011
#4 Deck boards not repaired as of 3-11-2012 inspection. Added maintenance back into list with PR=2 due to temporary repair in place.
#5 Repair not made as of 3-19-2013 inspection, maintain PR = 2 repair until decay extends beyond area of repair.
#6 Repair not made as of 3-12-2015 inspection, maintain PR = 2 repair until decay extends beyond area of repair.
#7 End three deck boards replaced as of 3-8-2016 inspection, reduce to PR = 3 for remaining boards.
#8 - Remaining decayed portions were repaired prior to the 2019 inspection.

IM09 **Location:** NL

Flexible	3 - ECREMVG-REMOVE VEG/DEBRIS	2	CY	5	4/1/2020	2018	No

IM07 **Status:** 5 - Completed/Dept **IM15** **Notes** Remove the tree under Span 1

Cut up to pass during next high water prior to the 2020 inspection.

IM09 **Location:**

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Current Inspection

7A03 **Primary Type:** R - Regular (routine)

7A06 **Types of Inspections Performed:**

NBI	Underwater	Element	Fracture Critical	Other Special
Yes	No	No	No	Yes

Actual Inspection Workforce Hours

6B26 **NBI Crew:** 0.00

6B28 **Fracture Critical:** 0.00

6B27 **Crane:** 0.00

6B30 **Underwater:** 0.00

6B29 **Other 1:** 0.00

6B31 **Other 2:** 0.00

Inspection Costs (Entered to nearest dollar)

6B32 **Engineering:** 3832

6B33 **Rigging:** 0

6B34 **Office:** 0

Special Equip Used:

6B12 **Temperature:** 51.0

6B09 **Weather:** 6 - Rain

6B03 **Inventory Review Recommended:** No

Change Notes:

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Inspection Team

7A05	**Inspected By:**	8 - Consulting Firm
7A05a	**Insp. Org. Name:**	Larson Design Group, Inc.
7A02	**Team Leader:**	D. Sitler (1046)
6B23	**Team Member:**	Andrew J. Susen, CBSI
6B24	**Hired By:**	1
6B25	**Insp Contract Num:**	E04777
2A02	**Inspection Notes:**	LDG No. C12 Timber Truss Covered Bridge Clear Span = 94' Category = C1/I4 Maintain 12 month inspection frequency due to bridge weight restriction. 3/24/2021: Routine hands-on inspection of all bridge elements performed. There are new patches in the wheel paths at the near and far approaches since the last inspection. There are additional loose deck planks at the far end of the deck. There is additional decay to the near left end post at the near abutment since the last inspection. The encasement at the right end of the near abutment is broken off entirely during this inspection. There are logs lodged at the upstream nose of the pier. There has been an increase in decay to the truss end posts over the last several inspections. The condition of the end posts is not critical; however, additional decay could result in high priority or critical deficiencies and/or closure of the bridge. We recommend the repair or replacement of these end posts in the near future. 4/1/2020: An Interim hands-on inspection was performed on the superstructure without the use of specialized equipment. This structure was completed in April due to a mandated inspection shutdown from Central Office in portions of March. Future inspections will be completed in March. New siding has been installed at all previously missing areas along the structure. The large tree below Span 1 has been cut up to allow passage during the next high water event. There is no significant increase in deterioration on the structure. 3/18/2019: Routine hands-on inspection of all bridge elements performed. A new timber running board was added at the near left to cover the decayed deck planks. There is a large tree under Span 1 that is new and requires removal. There was additional deterioration to the concrete at the downstream nose of the pier. There was an increase in the decay at the near right end post at the far side of the pier since the 2018 inspection. This results in a large area of the bearing decayed; however the decay is not critical at this time due to the distance between the connection to the low chord and the bearing for the low chord.
6B49	**Inaccessible Portion of Structure:**	
IC01	**Inaccessible Inspection Location:**	
	Damage Inspection Comment:	

5A01 **SR ID:** 19720503730011 **5A03** **BR Key:** 12786 **7A01** **Inspection Date:** March 24, 2021

Next Inspection

7A14 **Next Inspection By:** 8 - Consulting Firm

6B20 **Next Insp Type:** I - Interim (special)

Schedule

Insp Types	7A07 Required	7A09 Frequency	7A10 Next Date
NBI:	**----**	24	March 24, 2023
Fracture Critical:	No	-1	January 01, 1901
Underwater:	No	-1	January 01, 1901
Other Special:	Yes	12	March 24, 2022
Element:	No	-1	March 18, 2021
Crane:	**----**	**6B21**	January 01, 1901

7A19 **Ext Insp Interval Eligiblity** No **7A20** **Ext Insp Interval Concurrence** No

6B01 **Special InspType:**

Estimated Inspection Workforce Hours

7A12 **NBI Crew:** 0.00 **7A17** **Underwater:** 0.00

7A15 **Fracture Critical:** 0.00 **7A16** **Other 1:** 0.00

7A13 **Crane:** 0.00 **7A18** **Other 2:** 0.00

SAFETY FEATURES RATING SHEET

REFER TO PUB 100-A CODING GUIDE AND PDT FORM D-450-A FOR ADDITIONAL INFORMATION

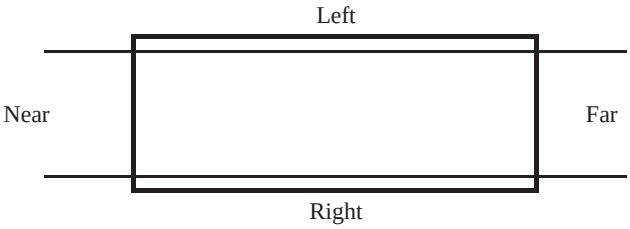
Created by : ADS/GRH 7/19/2007 Checked by: DJS/AJS 3/24/2021

Near Left Notes:

No transitions. Type 2-S weathering steel approach guide rail with steel offset blocks. Turned down end treatment within Clear Zone.

Far Left Notes:

No transitions. Type 2-S weathering steel approach guide rail with steel offset blocks. Turned down end treatment within Clear Zone.



Near Right Notes:

No transitions. Type 2-S weathering steel approach guide rail with steel offset blocks. Turned down end treatment within Clear Zone. Minor damage but remains functional.

Far Right Notes:

No transitions. Type 2-S weathering steel approach guide rail with steel offset blocks. Turned down end treatment within Clear Zone.

LEGEND: Approach Roadway Width = 17' Speed Limit = Unposted

Measure guide rail height = guide lines ---

If between 2' $6^{15/16}$" and 2' 3" code no higher than "6"

If between 2' 3" and 2' 0" code no higher than "4"

If less than 2' then code G.R. "3"

T - Trailing Edge

R - Required/Missing

D - Damaged

■ - Steel Brackets

Trans - Remember Spacer Tube

Rubrail

Distance from Roadway includes SPET Offset when applicable.

	BRIDGE RAILING RATING			Controlling Rating (IA02)
	Height	Description	Code	
Left	2'-6"	3" by 6" timber rail and 3" by 8" timber curb bolted to truss	4	**4**
Right	2'-6"	3" by 6" timber rail and 3" by 8" timber curb bolted to truss	4	

LOCATION	TRANSITION = First 25' GR				APPROACH GUIDE RAIL (25' plus)				APPROACH RAIL ENDS			
	Length	Height	Gradual Stiffening/ Spacing	Code	Length	Height	Post Spacing	Code	Length	SPET Offset Dist.	Distance From Roadway	Code
Near Left	None			2	25'	2'-3"	6'-3"	4	25'	2'	2'	4
Near Right	None			2	25'	2'-3"	6'-3"	4	25'	2'	5'	4
Far Left	None			2	25'	2'-0"	6'-3"	4	37'-6"	1'	1'	4
Far Right	None			2	25'	2'-0"	6'-3"	4	37'-6"	2'	2'	4

CONTROLLING RATINGS (IA02): **2** **4** **4**

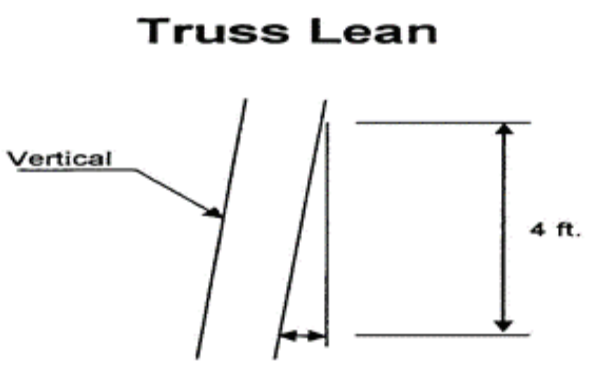
TRUSS LEAN MONITORING TABLE

LEAN MEASUREMENTS TAKEN OVER A 4FT LENGTH

INSP BY	DATE	LEFT TRUSS							
		L0U0	L1U1	L2U2	L3U3	L4U4	L5U5	L6U6	
DG/GAS	2004	0" LT	5/8" LT	13/16" LT	1 3/8" LT	11/16" LT	7/16" LT	3/16" RT	
PES/JWL	2005	0" LT	3/8" LT	9/16" LT	1 3/16" LT	1/2" LT	7/16" LT	3/16" LT	
DG/SRS	7/17/2006	0" LT	3/8" LT	5/8" LT	1 3/16" LT	9/16" LT	3/8" LT	1/8" RT	
PES/GJK	8/21/2006*	1/4" RT	1/4" LT	1/2" LT	1 1/4" LT	11/16" LT	7/16" LT	1/8" LT	
ADS/GRH	7/19/2007	0" LT	7/16" LT	11/16" LT	1 9/16" LT	9/16" LT	3/16" LT	1/4" RT	
PES/RPP	3/20/2008		7/16" LT		1 11/16" LT		3/16" LT		
RDT/PES	3/24/2009	1/4"	1/4"	3/4"	1 11/16"	3/4"	3/16"	1/8" RT	
PES/SBJ	3/15/2010	1 3/8"	1 1/8"	15/16"	1 3/8"	5/8"	1/8"	1/16"	
PES/DJS	3/16/2011	7/16" LT	3/8" LT	7/8" LT	1 7/8" LT	1 1/16" LT	3/8" LT	1/4" LT	
PES/ERB	3/9/2012	3/8" LT	3/16" LT	7/8" LT	1 3/4" LT	15/16" LT	3/16" LT	7/16" RT	
DJS/ERB	3/19/2013	3/8" LT	7/16" LT	15/16" LT	1 3/4" LT	15/16" LT	1/4" LT	5/8" RT	
RDT/SBJ	3/10/2014	3/16" LT	1/4" LT	3/4" LT	1 5/8" LT	3/4" LT	3/16" LT	9/16" RT	
SBJ/MRK	3/12/2015	3/16" LT	7/16" LT	15/16" LT	1 7/16" LT	3/4" LT	1/16" LT	1/2" RT	
RDT/SBJ	3/8/2016	7/16" LT	3/8" LT	15/16" LT	1 3/4" LT	3/4" LT	3/16" LT	9/16" RT	
DJS/JWL	3/7/2017	1/4" LT	3/8" LT	15/16" LT	1 5/8" LT	3/4" LT	1/4" LT	11/16" RT	
SBJ/ATR	3/26/2018	5/16" LT	7/16" LT	15/16" LT	1 5/8" LT	3/4" LT	3/16" LT	11/16" RT	
DJS/ATR	3/18/2019	1/4" LT	1/4" LT	7/8" LT	1 5/8" LT	5/8" LT	1/8" LT	9/16" RT	
SBJ/KMA	4/1/2020	1/4" LT	3/8" LT	7/8" LT	1 11/16" LT	3/4" LT	1/8" LT	5/8" RT	
DJS/AJS	3/24/2021	1/4" LT	1/4" LT	13/16" LT	1 11/16" LT	3/4" LT	1/8" LT	5/8" RT	

General Notes:

*Taken after Floorbeam 1 failed at left truss



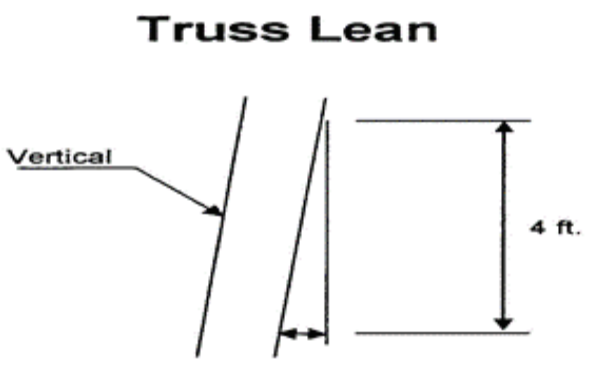
TRUSS LEAN MONITORING TABLE

LEAN MEASUREMENTS TAKEN OVER A 4FT LENGTH

INSP BY	DATE	RIGHT TRUSS							
		L0U0	L1U1	L2U2	L3U3	L4U4	L5U5	L6U6	
KAB/JWL	2002				1 1/4" LT	13/16" LT	9/16" LT	1 1/16" LT	
PES/RSS	2003	1 1/4" LT	13/16" LT	13/16" LT	1 1/8" LT	13/16" LT	11/16" LT	3/4" LT	
DG/GAS	2004	1 3/8" LT	1 1/16" LT	1 1/8" LT	1 11/16" LT	1" LT	3/4" LT	1 1/16"	
PES/JWL	2005	1 1/8" LT	3/4" LT	1" LT	1 3/16" LT	3/4" LT	11/16" LT	1" LT	
DG/SRS	7/17/2006	1 1/8" LT	13/16" LT	15/16" LT	1 3/16" LT	7/8" LT	5/8" LT	7/8" LT	
PES/GJK	8/21/2006*	7/8" LT	1 1/4" LT	13/16" LT	1 1/8" LT	13/16" LT	5/8" LT	7/8" LT	
ADS/GRH	7/19/2007	1 5/16" LT	1 3/16" LT	1 1/16" LT	1 7/16" LT	1 1/16" LT	3/4" LT	1 3/16" LT	
PES/RPP	3/20/2008		1 3/16" LT		1 1/2" LT		3/4" LT		
RDT/PES	3/24/2009	1 3/8"	1 1/8"	1 1/16"	1 1/2"	1"	3/4"	1 3/16"	
PES/SBJ	3/15/2010	1 1/4"	1 1/16"	1"	1 3/8"	15/16"	3/16"	1 1/4"	
PES/DJS	3/16/2011	1 1/4" LT	1 3/8" LT	1 1/8" LT	1 3/4" LT	1 3/8" LT	15/16" LT	1 5/16" LT	
PES/ERB	3/9/2012	1 1/2" LT	1 1/4" LT	1" LT	1 3/4" LT	1 1/16" LT	3/4" LT	13/16" LT	
DJS/ERB	3/19/2013	1 5/16" LT	1 1/4" LT	7/8" LT	1 1/2" LT	15/16" LT	9/16" LT	15/16" LT	
RDT/SBJ	3/10/2014	1 3/8" LT	1 3/8" LT	7/8" LT	1 1/2" LT	13/16" LT	9/16" LT	1 1/16" LT	
SBJ/MRK	3/12/2015	1 5/16" LT	1 1/8" LT	13/16" LT	1 1/2" LT	3/4" LT	9/16" LT	7/8" LT	
RDT/SBJ	3/8/2016	1 5/16" LT	1 3/16" LT	7/8" LT	1 1/2" LT	7/8" LT	9 16" LT	15/16" LT	
DJS/JWL	3/7/2017	1 3/8" LT	1 1/4" LT	1" LT	1 5/8" LT	15/16" LT	9 16" LT	1" LT	
SBJ/ATR	3/26/2018	1 5/16" LT	1 3/16" LT	1" LT	1 5/8" LT	7/8" LT	9 16" LT	1" LT	
SBJ/KMA	4/1/2020	1 3/8" LT	1 1/4" LT	1" LT	1 5/8" LT	7/8" LT	9/16" LT	1" LT	
DJS/AJS	3/24/2021	1 3/8" LT	1 1/4" LT	1" LT	1 5/8" LT	7/8" LT	11/16" LT	1" LT	

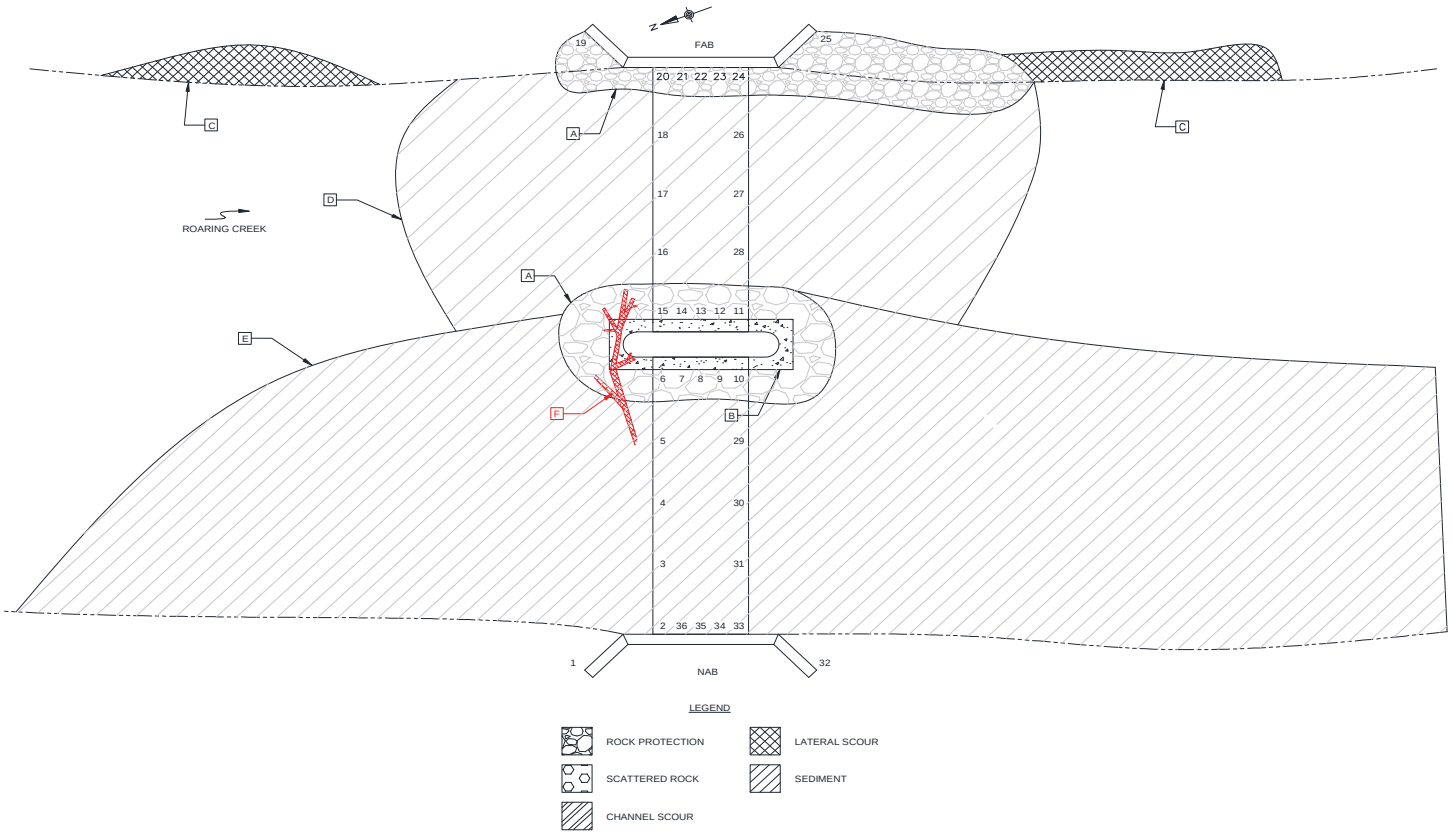
General Notes:

*Taken after Floorbeam 1 failed at left truss



UNDERCLEAR SHEET

Bridge Site Map



Notes:

- A Rock protection placed along the far abutment and at the pier after flood of 2006
- B Footing exposed behind large rock.
- C Moderate to heavy lateral scour with exposed tree roots. Not adjacent to the structure.
- D Scour hole upstream, downstream and through Span 2 of the structure in the channel.
- E Large, shallow sediment deposit extending up, under, and downstream of the structure with vegetation and trees. No removal required.
- F Trees and brush lodged at the upstream nose of the pier

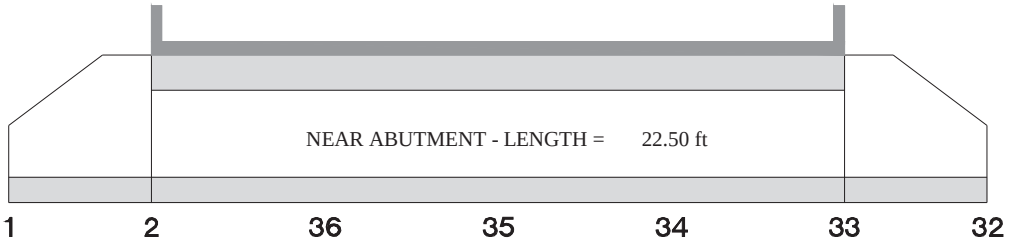
General Comments:

Numbers on plan represent underclearance measurement location points. See following pages.
BASE MAP: Created from field measurements and observations during baseline data measurements.
RED - INDICATES CHANGES PRIOR TO THE 4/1/2020 INSPECTION

UNDERCLEAR SHEET

Streambed Probing at substructure unit to assess scour and undermining

ABUTMENT TYPE:	Stone Masonry	REFERENCE POINT:	Varies as noted
WINGS INTEGRAL:	Yes	MAX WATER DEPTH:	0.00 ft
STREAMBED MAT'L:	A6	UNDERMINE/SCOUR PRESENT:	No



Location		1	2	36	35	34	33	32	*Gauge Depth is set measurement from reference point indicating max until scour occurs.Can vary due to difference in elevation of reference point (ie - superelevation)*
Reference Point Description		Top Wing	Low Chord	Beam 2	Beam 3	Beam 4	Low Chord	Top Wing	
Gauge Depth		N/A	5.50 ft	7.50 ft	7.50 ft	7.50 ft	5.50 ft	N/A	
Ref Point to Bottom of Ftg		Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		3.5 ft				3.8 ft		BASELINE MEASUREMENTS
	Scour Depth		0.0 ft				0.0 ft		
DJS/AJS	**3/24/2021**	**0.0 ft**	**3.8 ft**	**6.1 ft**	**6.1 ft**	**6.1 ft**	**3.8 ft**	**1.9 ft**	
	Scour Depth		**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020	0.0 ft	3.5 ft	5.8 ft	6.1 ft	5.9 ft	3.8 ft	1.9 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/ATR	3/18/2019	0.0 ft	3.5 ft	5.9 ft	6.1 ft	5.9 ft	3.8 ft	1.9 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
SBJ/ATR	3/26/2018	0.0 ft	3.6 ft	5.8 ft	6.0 ft	6.0 ft	3.8 ft	1.9 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
ATR/MDD	7/25/2017	0.0 ft	3.5 ft	5.6 ft	6.3 ft	5.9 ft	3.6 ft	1.9 ft	Flood inspection
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/JWL	3/7/2017	0.0 ft	3.5 ft	5.8 ft	6.1 ft	5.9 ft	3.6 ft	1.9 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016	0.0 ft	3.5 ft	5.8 ft	6.1 ft	5.9 ft	3.6 ft	1.9 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

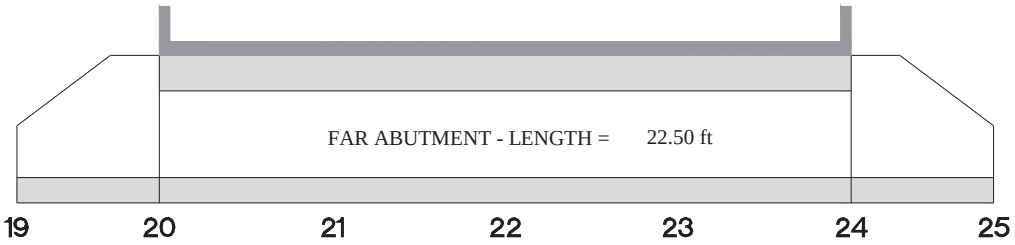
General Scour Comments:
Measurements taken in front of footing at the pier

Undermining Sketch:

UNDERCLEAR SHEET

Streambed Probing at substructure unit to assess scour and undermining

ABUTMENT TYPE:	Concrete	REFERENCE POINT:	Varies as noted
WINGS INTEGRAL:	Yes	MAX WATER DEPTH:	0.00 ft
STREAMBED MAT'L:	A5	UNDERMINE/SCOUR PRESENT:	No



Location		19	20	21	22	23	24	25	*Gauge Depth is set measurement from reference point indicating max until scour occurs.Can vary due to difference in elevation of reference point (ie - superelevation)*
Reference Point Description		Top Wing	Low Chord	Beam 2	Beam 3	Beam 4	Low Chord	Top Wing	
Gauge Depth		N/A	7.50 ft	9.50 ft	9.50 ft	9.50 ft	7.50 ft	N/A	
Ref Point to Bottom of Ftg		Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		7.3 ft				7.4 ft		BASELINE MEASUREMENTS
	Scour Depth		0.0 ft				0.0 ft		
DJS/AJS	**3/24/2021**	**0.0 ft**	**7.5 ft**	**9.5 ft**	**8.5 ft**	**9.3 ft**	**6.8 ft**	**0.0 ft**	
	Scour Depth		**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020	0.0 ft	7.4 ft	9.4 ft	8.4 ft	9.5 ft	7.5 ft	0.0 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/ATR	3/18/2019	0.0 ft	7.4 ft	9.5 ft	8.4 ft	9.5 ft	7.5 ft	0.0 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
SBJ/ATR	3/26/2018	0.0 ft	7.4 ft	9.3 ft	8.4 ft	9.8 ft	7.6 ft	0.0 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.3 ft	0.1 ft		
ATR/MDD	7/25/2017	0.0 ft	7.5 ft	9.3 ft	9.5 ft	9.1 ft	7.5 ft	0.0 ft	Flood inspection
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/JWL	3/7/2017	0.0 ft	7.5 ft	9.4 ft	9.5 ft	9.0 ft	7.5 ft	0.0 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016	0.0 ft	7.5 ft	9.3 ft	9.5 ft	8.9 ft	7.5 ft	0.0 ft	
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

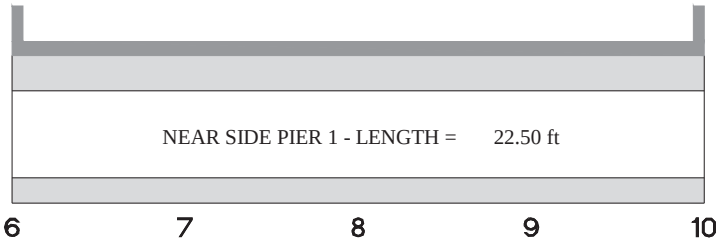
General Scour Comments:
Measurements taken in front of footing at the pier

Undermining Sketch:

UNDERCLEAR SHEET

Streambed Probing at substructure unit to assess scour and undermining

PIER TYPE: Concrete
STREAMBED MAT'L: A5
REFERENCE POINT: Varies as noted
MAX WATER DEPTH: 0.00 ft
UNDERMINE/SCOUR PRESENT: No



Location			6	7	8	9	10		*Gauge Depth is set measurement from reference point indicating max until scour occurs.Can vary due to difference in elevation of reference point (ie - superelevation)*
Reference Point Description			Low Chord	Beam 2	Beam 3	Beam 4	Low Chord		
Gauge Depth			7.50 ft	9.50 ft	9.50 ft	9.50 ft	7.50 ft		
Ref Point to Bottom of Ftg			Unknown	Unknown	Unknown	Unknown	Unknown		
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		7.8 ft				6.2 ft		BASELINE MEASUREMENTS
	Scour Depth		0.3 ft				0.0 ft		
DJS/AJS	**3/24/2021**		**6.9 ft**	**8.8 ft**	**8.8 ft**	**8.6 ft**	**6.6 ft**		
	Scour Depth		**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020		6.7 ft	8.9 ft	9.2 ft	9.0 ft	6.9 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/ATR	3/18/2019		6.7 ft	8.9 ft	9.2 ft	9.0 ft	7.0 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
SBJ/ATR	3/26/2018		6.6 ft	8.4 ft	8.6 ft	8.6 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
ATR/MDD	7/25/2017		6.6 ft	8.3 ft	8.8 ft	8.6 ft	6.5 ft		Flood inspection
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
DJS/JWL	3/7/2017		6.6 ft	8.2 ft	8.7 ft	8.6 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016		6.6 ft	8.3 ft	8.6 ft	8.6 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

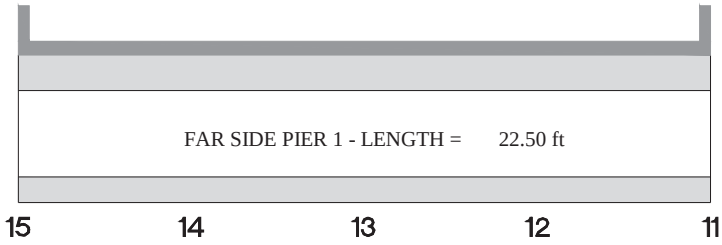
General Scour Comments:
Measurements taken in front of footing at the pier

Undermining Sketch:

UNDERCLEAR SHEET

Streambed Probing at substructure unit to assess scour and undermining

PIER TYPE: Concrete
STREAMBED MAT'L: A5
REFERENCE POINT: Varies as noted
MAX WATER DEPTH: 0.00 ft
UNDERMINE/SCOUR PRESENT: Yes



Location			15	14	13	12	11		*Gauge Depth is set measurement from reference point indicating max until scour occurs.Can vary due to difference in elevation of reference point (ie - superelevation)*
Reference Point Description			Low Chord	Beam 2	Beam 3	Beam 4	Low Chord		
Gauge Depth			7.50 ft	9.50 ft	9.50 ft	9.50 ft	7.50 ft		
Ref Point to Bottom of Ftg			Unknown	Unknown	Unknown	Unknown	Unknown		
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		8.7 ft				8.2 ft		BASELINE MEASUREMENTS
	Scour Depth		1.2 ft				0.7 ft		
DJS/AJS	**3/24/2021**		**7.9 ft**	**8.9 ft**	**9.5 ft**	**9.3 ft**	**7.3 ft**		
	Scour Depth		**0.4 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020		8.0 ft	9.4 ft	9.4 ft	9.5 ft	7.8 ft		
	Scour Depth		0.5 ft	0.0 ft	0.0 ft	0.0 ft	0.3 ft		
DJS/ATR	3/18/2019		8.0 ft	9.5 ft	9.3 ft	9.5 ft	7.8 ft		
	Scour Depth		0.5 ft	0.0 ft	0.0 ft	0.0 ft	0.3 ft		
SBJ/ATR	3/26/2018		8.1 ft	8.8 ft	9.4 ft	9.2 ft	7.7 ft		
	Scour Depth		0.6 ft	0.0 ft	0.0 ft	0.0 ft	0.2 ft		
ATR/MDD	7/25/2017								Flood inspection; blank values indicate unable to measure due to high fast water
	Scour Depth								
DJS/JWL	3/7/2017		7.5 ft	9.1 ft	9.4 ft	9.3 ft	7.3 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016		7.0 ft	8.8 ft	9.0 ft	9.0 ft	7.3 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

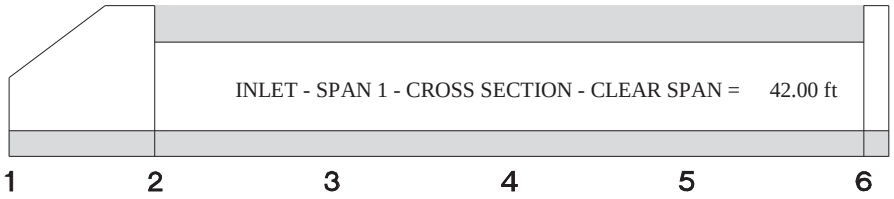
General Scour Comments:
Measurements taken in front of footing at the pier

Undermining Sketch:

UNDERCLEAR SHEET

Bridge Waterway Cross Section Along Fascia

BRIDGE TYPE: Timber Covered
STREAMBED MAT'L: A5
REFERENCE POINT: Low Chord bottom
REF POINT TO WATER SURFACE: 6.7 ft (at midspan)
CHANNEL SCOUR PRESENT: Yes



Location	1	2	3	4	5	6		*Gauge Depth is set measurement from reference point indicating max until scour occurs.*
Distance From NAB	N/A	0.00 ft	10.50 ft	21.00 ft	31.50 ft	42.00 ft		
Gauge Depth	N/A	5.50 ft	6.00 ft	7.00 ft	8.00 ft	7.50 ft		
Ref Point to Bottom of Ftg	Unknown	Unknown	N/A	N/A	N/A	Unknown		

INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		3.5 ft		8.0 ft		7.8 ft		BASELINE MEASUREMENTS
	Scour Depth		0.0 ft		1.0 ft		0.3 ft		
DJS/AJS	**3/24/2021**	**0.0 ft**	**3.8 ft**	**4.8 ft**	**7.8 ft**	**8.1 ft**	**6.9 ft**		
	Scour Depth		**0.0 ft**	**0.0 ft**	**0.8 ft**	**0.1 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020	0.0 ft	3.5 ft	4.8 ft	7.2 ft	8.1 ft	6.7 ft		
	Scour Depth		0.0 ft	0.0 ft	0.2 ft	0.1 ft	0.0 ft		
DJS/ATR	3/18/2019	0.0 ft	3.5 ft	4.8 ft	6.2 ft	8.1 ft	6.7 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.1 ft	0.0 ft		
SBJ/ATR	3/26/2018	0.0 ft	3.6 ft	4.8 ft	7.9 ft	8.1 ft	6.6 ft		
	Scour Depth		0.0 ft	0.0 ft	0.9 ft	0.1 ft	0.0 ft		
ATR/MDD	7/25/2017	0.0 ft	3.5 ft	4.9 ft	7.2 ft	8.0 ft	6.6 ft		Flood inspection
	Scour Depth		0.0 ft	0.0 ft	0.2 ft	0.0 ft	0.0 ft		
DJS/JWL	3/7/2017	0.0 ft	3.5 ft	4.9 ft	7.1 ft	8.0 ft	6.6 ft		
	Scour Depth		0.0 ft	0.0 ft	0.1 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016	0.0 ft	3.5 ft	4.6 ft	6.9 ft	8.0 ft	6.6 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

General Scour Comments:
Measurements taken in front of footing at the pier

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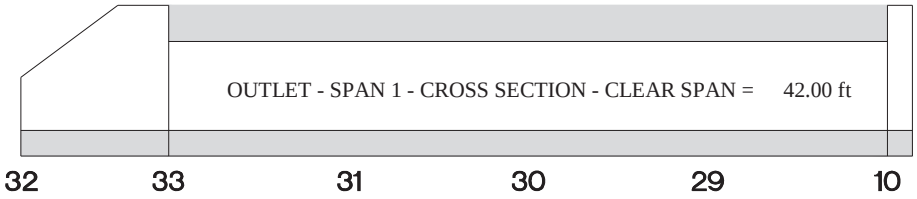
UNDERCLEAR SHEET

Bridge Waterway Cross Section Along Fascia

BRIDGE TYPE: Timber Covered
STREAMBED MAT'L: A5
REFERENCE POINT: Low Chord bottom
REF POINT TO WATER SURFACE: 7.3 ft (at midspan)
CHANNEL SCOUR PRESENT: Yes



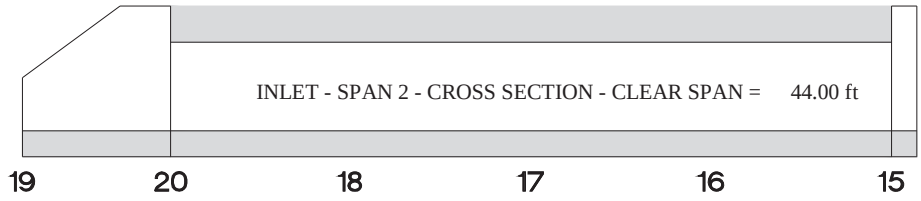
Location		32	33	31	30	29	10		*Gauge Depth is set measurement from reference point indicating max until scour occurs.*
Distance From NAB		N/A	0.00 ft	10.50 ft	21.00 ft	31.50 ft	42.00 ft		
Gauge Depth		N/A	5.50 ft	6.00 ft	7.00 ft	8.00 ft	7.50 ft		
Ref Point to Bottom of Ftg		Unknown	Unknown	N/A	N/A	N/A	Unknown		
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		3.8 ft		8.6 ft		6.2 ft		BASELINE MEASUREMENTS
	Scour Depth		0.0 ft		1.6 ft		0.0 ft		
DJS/AJS	**3/24/2021**	**1.9 ft**	**3.8 ft**	**5.0 ft**	**7.5 ft**	**8.1 ft**	**6.6 ft**		
	Scour Depth		**0.0 ft**	**0.0 ft**	**0.5 ft**	**0.1 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020	1.9 ft	3.8 ft	5.0 ft	7.4 ft	8.0 ft	6.9 ft		
	Scour Depth		0.0 ft	0.0 ft	0.4 ft	0.0 ft	0.0 ft		
DJS/ATR	3/18/2019	1.9 ft	3.8 ft	4.8 ft	6.7 ft	8.2 ft	7.0 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.2 ft	0.0 ft		
SBJ/ATR	3/26/2018	1.9 ft	3.8 ft	5.1 ft	7.5 ft	7.8 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.5 ft	0.0 ft	0.0 ft		
ATR/MDD	7/25/2017	1.9 ft	3.6 ft	5.0 ft	7.3 ft	7.6 ft	6.5 ft		Flood inspection
	Scour Depth		0.0 ft	0.0 ft	0.3 ft	0.0 ft	0.0 ft		
DJS/JWL	3/7/2017	1.9 ft	3.6 ft	5.0 ft	7.5 ft	7.6 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.5 ft	0.0 ft	0.0 ft		
RDT/SBJ	3/8/2016	1.9 ft	3.6 ft	4.7 ft	6.8 ft	7.6 ft	6.5 ft		
	Scour Depth		0.0 ft	0.0 ft	0.0 ft	0.0 ft	0.0 ft		

General Scour Comments:
Measurements taken in front of footing at the pier

UNDERCLEAR SHEET

Bridge Waterway Cross Section Along Fascia

BRIDGE TYPE: Timber Covered
STREAMBED MAT'L: A5
REFERENCE POINT: Low Chord bottom
REF POINT TO WATER SURFACE: 7.6 ft (at midspan)
CHANNEL SCOUR PRESENT: Yes



Location	19	20	18	17	16	15		*Gauge Depth is set measurement from reference point indicating max until scour occurs.*
Distance From FAB	N/A	0.00 ft	11.00 ft	22.00 ft	33.00 ft	44.00 ft		
Gauge Depth	N/A	7.50 ft	8.00 ft	9.00 ft	8.00 ft	7.50 ft		
Ref Point to Bottom of Ftg	Unknown	Unknown	N/A	N/A	N/A	Unknown		

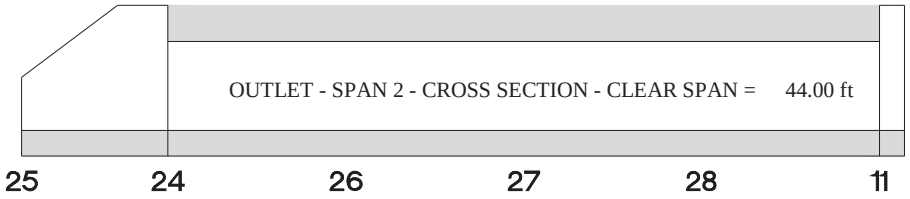
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		7.3 ft		9.3 ft		8.7 ft		BASELINE MEASUREMENTS
	Scour Depth		1.2 ft		0.3 ft		0.0 ft		
DJS/AJS	**3/24/2021**	**0.0 ft**	**7.5 ft**	**12.4 ft**	**12.0 ft**	**11.3 ft**	**7.9 ft**		
	Scour Depth		**0.0 ft**	**4.4 ft**	**3.0 ft**	**3.3 ft**	**0.4 ft**		
SBJ/KMA	4/1/2020	0.0 ft	7.4 ft	12.4 ft	12.0 ft	11.3 ft	8.0 ft		
	Scour Depth		0.0 ft	4.4 ft	3.0 ft	3.3 ft	0.5 ft		
DJS/ATR	3/18/2019	0.0 ft	7.4 ft	12.4 ft	11.9 ft	11.3 ft	8.0 ft		
	Scour Depth		0.0 ft	4.4 ft	2.9 ft	3.3 ft	0.5 ft		
SBJ/ATR	3/26/2018	0.0 ft	7.4 ft	12.2 ft	12.0 ft	11.3 ft	8.1 ft		
	Scour Depth		0.0 ft	4.2 ft	3.0 ft	3.3 ft	0.6 ft		
ATR/MDD	7/25/2017	0.0 ft	7.5 ft						Flood insp; blank values unable to measure due to flood water
	Scour Depth		0.0 ft						
DJS/JWL	3/7/2017	0.0 ft	7.5 ft	12.2 ft	12.0 ft	11.3 ft	7.5 ft		
	Scour Depth		0.0 ft	4.2 ft	3.0 ft	3.3 ft	0.0 ft		
RDT/SBJ	3/8/2016	0.0 ft	7.5 ft	10.8 ft	12.9 ft	11.3 ft	7.0 ft		
	Scour Depth		0.0 ft	2.8 ft	3.9 ft	3.3 ft	0.0 ft		

General Scour Comments:
Measurements taken in front of footing at the pier

UNDERCLEAR SHEET

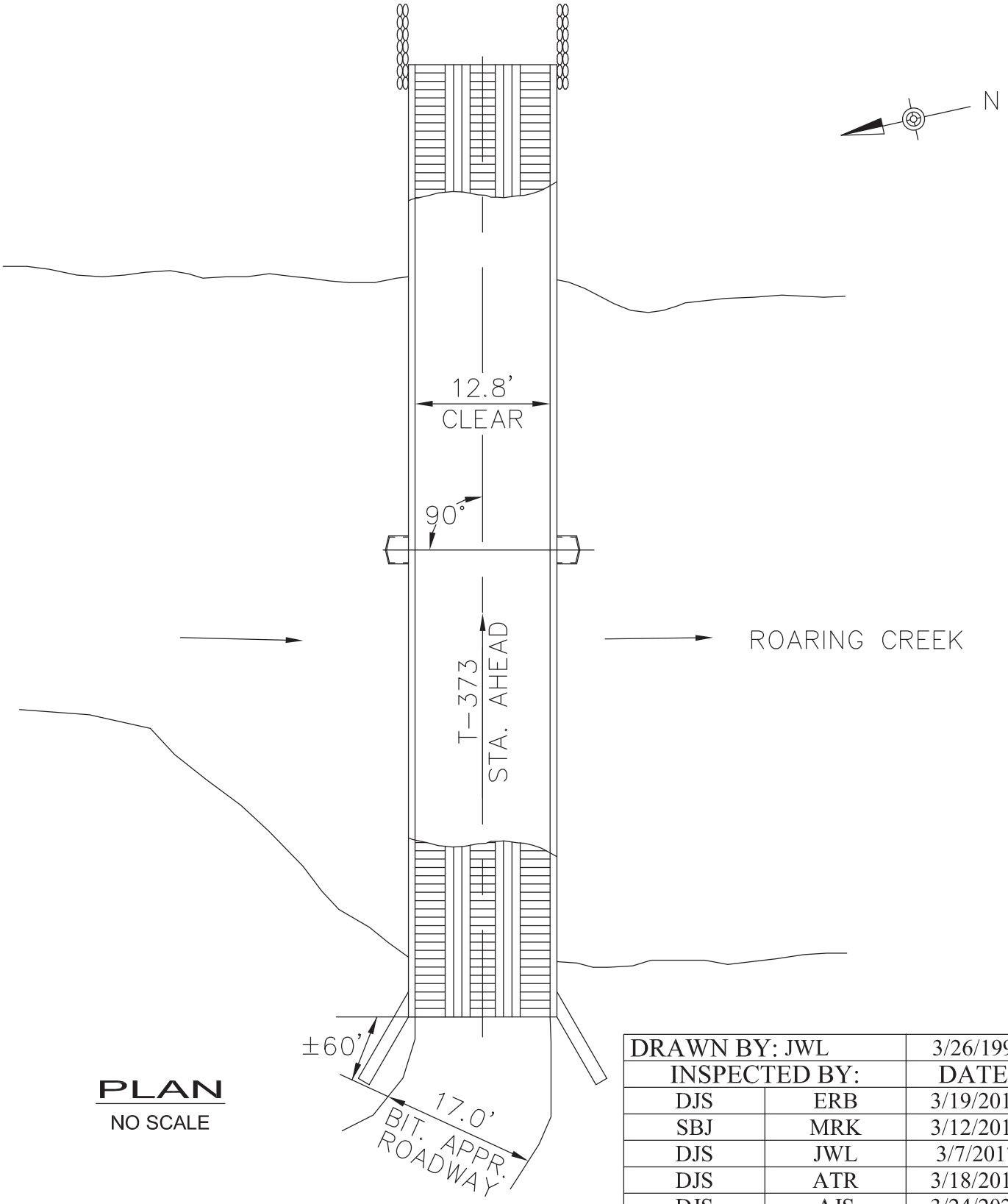
Bridge Waterway Cross Section Along Fascia

BRIDGE TYPE: Timber Covered
STREAMBED MAT'L: A5
REFERENCE POINT: Low Chord bottom
REF POINT TO WATER SURFACE: 7.6 ft (at midspan)
CHANNEL SCOUR PRESENT: Yes



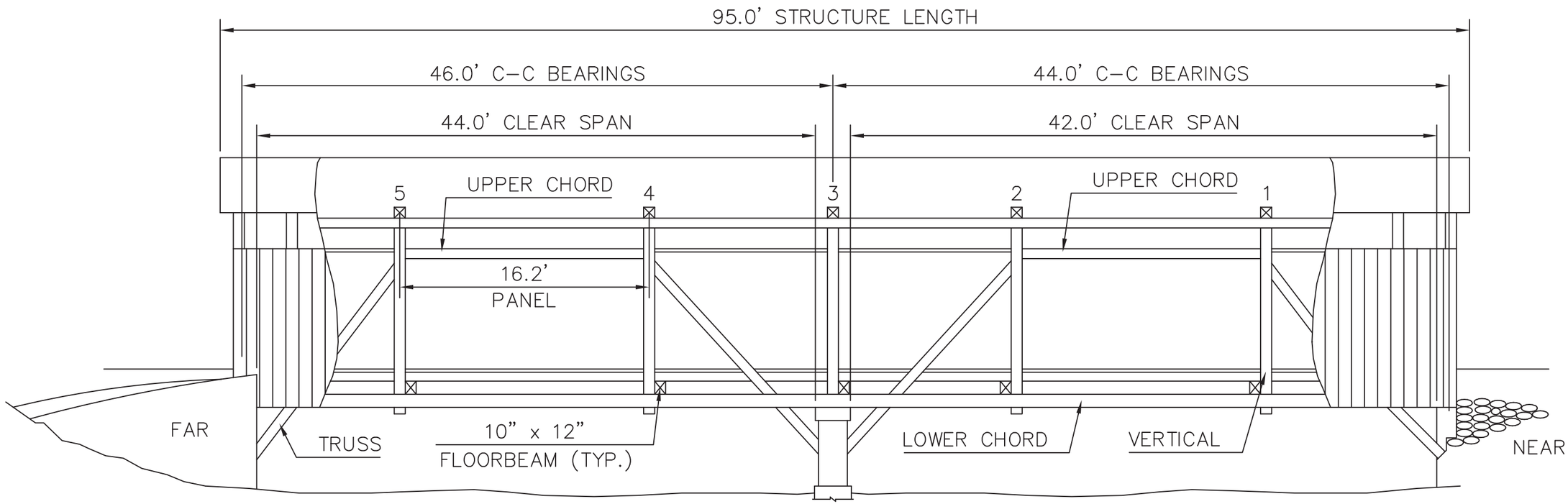
Location		25	24	26	27	28	11		*Gauge Depth is set measurement from reference point indicating max until scour occurs.*
Distance From FAB		N/A	0.00 ft	11.00 ft	22.00 ft	33.00 ft	44.00 ft		
Gauge Depth		N/A	7.50 ft	8.00 ft	9.00 ft	8.00 ft	7.50 ft		
Ref Point to Bottom of Ftg		Unknown	Unknown	N/A	N/A	N/A	Unknown		
INSP BY:	DATE:	MEASURED UNDERCLEARS FROM REFERENCE POINT TO STREAMBED							COMMENTS:
KGT/KAB	7/20/1995		7.4 ft		9.6 ft		7.4 ft		BASELINE MEASUREMENTS
	Scour Depth		0.7 ft		0.6 ft		0.0 ft		
DJS/AJS	**3/24/2021**	**0.0 ft**	**6.8 ft**	**11.2 ft**	**12.5 ft**	**11.5 ft**	**7.3 ft**		
	Scour Depth		**0.0 ft**	**3.2 ft**	**3.5 ft**	**3.5 ft**	**0.0 ft**		
SBJ/KMA	4/1/2020	0.0 ft	7.5 ft	11.2 ft	12.5 ft	11.5 ft	7.8 ft		
	Scour Depth		0.0 ft	3.2 ft	3.5 ft	3.5 ft	0.3 ft		
DJS/ATR	3/18/2019	0.0 ft	7.5 ft	11.0 ft	12.5 ft	11.3 ft	7.8 ft		
	Scour Depth		0.0 ft	3.0 ft	3.5 ft	3.3 ft	0.3 ft		
SBJ/ATR	3/26/2018	0.0 ft	7.6 ft	11.2 ft	12.4 ft	11.5 ft	7.7 ft		
	Scour Depth		0.1 ft	3.2 ft	3.4 ft	3.5 ft	0.2 ft		
ATR/MDD	7/25/2017	0.0 ft	7.5 ft						Flood insp; blank values unable to measure due to flood water
	Scour Depth		0.0 ft						
DJS/JWL	3/7/2017	0.0 ft	7.5 ft	11.2 ft	12.4 ft	11.5 ft	7.3 ft		
	Scour Depth		0.0 ft	3.2 ft	3.4 ft	3.5 ft	0.0 ft		
RDT/SBJ	3/8/2016	0.0 ft	7.5 ft	11.0 ft	12.5 ft	11.5 ft	7.3 ft		
	Scour Depth		0.0 ft	3.0 ft	3.5 ft	3.5 ft	0.0 ft		

General Scour Comments:
Measurements taken in front of footing at the pier



PLAN
NO SCALE

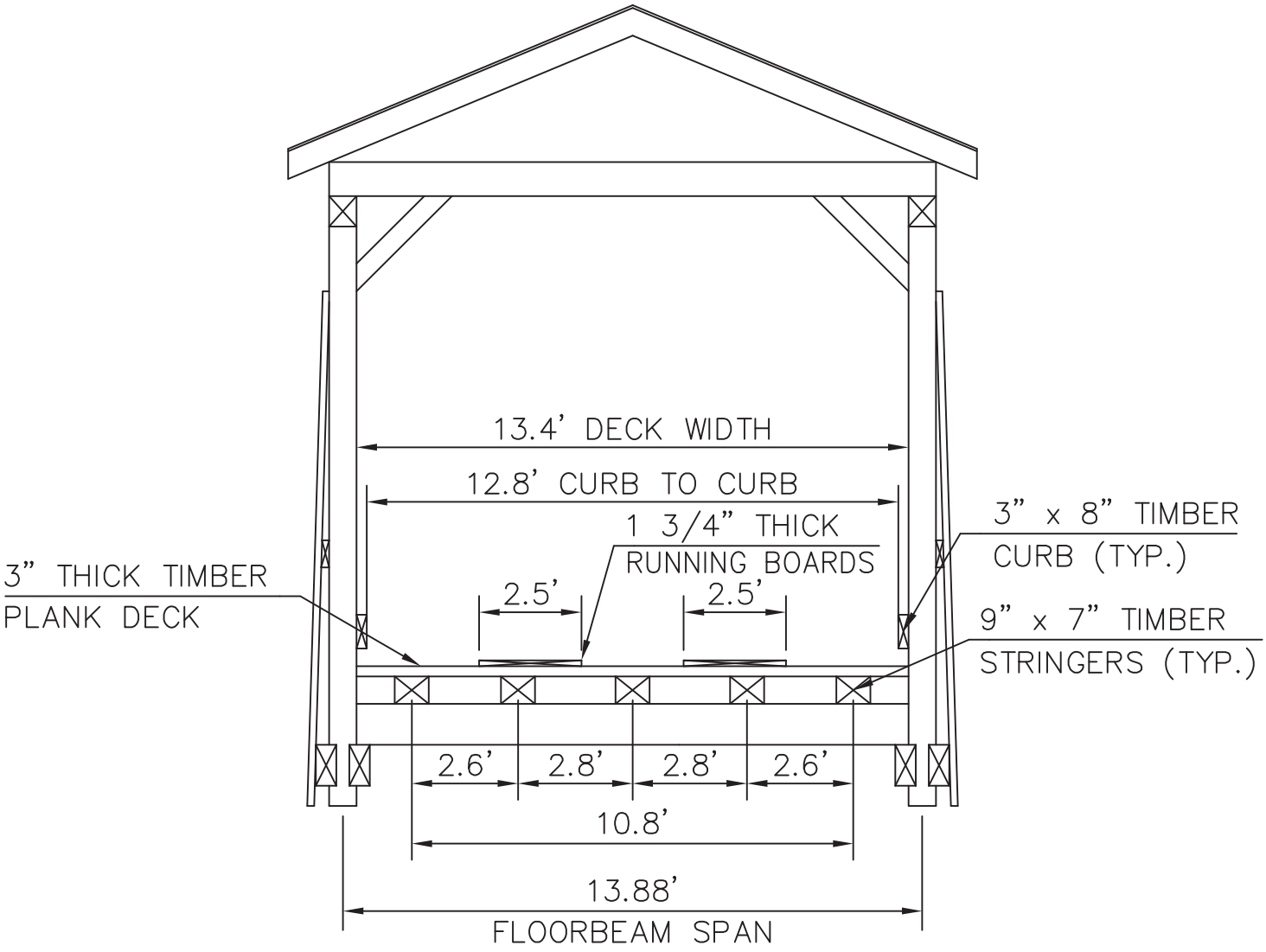
DRAWN BY: JWL		3/26/1997
INSPECTED BY:		DATE:
DJS	ERB	3/19/2013
SBJ	MRK	3/12/2015
DJS	JWL	3/7/2017
DJS	ATR	3/18/2019
DJS	AJS	3/24/2021



ELEVATION

NO SCALE

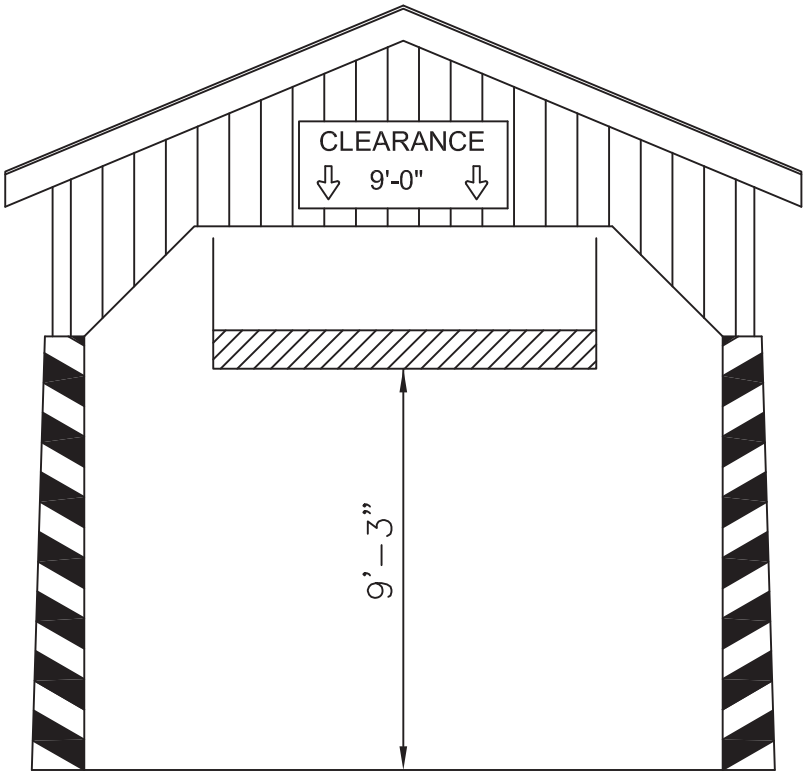
DRAWN BY: JWL		3/26/1997
INSPECTED BY:		DATE:
DJS	ERB	3/19/2013
SBJ	MRK	3/12/2015
DJS	JWL	3/7/2017
DJS	ATR	3/18/2019
DJS	AJS	3/24/2021



CROSS SECTION

NO SCALE

DRAWN BY: JWL		3/26/1997
INSPECTED BY:		DATE:
DJS	ERB	3/19/2013
SBJ	MRK	3/12/2015
DJS	JWL	3/7/2017
DJS	ATR	3/18/2019
DJS	AJS	3/24/2021



END VIEW

NO SCALE

*THE NEAR AND FAR ENDS HAVE HEIGHT RESTRICTIONS LIMITING THE UPPER CHORD TO 9'3" TOTAL WIDTH.

DRAWN BY: JWL		3/26/1997
INSPECTED BY:		DATE:
DJS	ERB	3/19/2013
SBJ	MRK	3/12/2015
DJS	JWL	3/7/2017
DJS	ATR	3/18/2019
DJS	AJS	3/24/2021

Structure Identification

***5A01**	Structure ID:	19720503730011	**5A03**	NBI Structure No.: 12786
5A02	Name:	3.1 MI. SOUTH OF CATAWISSA		Agency ID:
				*7A01 Inspection Date: 03/24/2021

Location

5A04	District:	03
5A05	County:	19 - Columbia
***5A06**	City/Town/Place:	14184
***5A07**	Feature Intersected:	ROARING CREEK
***5A08**	Facility Carried:	T-373 CTY BR. 11
***5A09**	Location:	3.1 MI. S. OF CATAWISSA
***5A10**	Lat / ***5A11** Long:	40d 54' 23.95" 76d 27' 35.03"
***5A12**	Border State/FHWA Reg:	
	Share:	0%
***5A13**	Border Struc No:	_
***5A14**	FIPS State:	42 - Pennsylvania
***5A14**	FIPS Region:	3 - Region 3-Baltimore

Age and Service

***5A15**	Year Built:	1905
***5A16**	Year Reconstruct:	
***5A17**	Type Service On:	1 - Highway
***5A18**	Under:	5 - Waterway
***5A19**	# Lanes Under:	0

Management

5A20	Maint Resp:	02 - County Hwy Agency
***5A21**	Owner:	02 - County Hwy Agency
5A23	Agency Admin Area:	18 - SEDA-COG MPO

Deck Information

***5B02**	Deck Surface Type:	7 - Wood or Timber
***5B03**	Deck Membrane Type:	0 - None
***5B04**	Deck Protection:	0 - None
	***5B05** Curb Sidewalk Width: Left:	0.00 ft.
	***5B06** Right:	0.00 ft.
***5B07**	Deck Width:	13.40 ft.
***5B09**	Skew:	90 degrees
***5B10**	Structure Flared:	0 - No flare

Span Information

***5B11**	Number of Main Spans:	2
***5B12**	Main Span Material:	7 - Wood or Timber
***5B13**	Main Span Design:	10 - Truss-Thru
***5B14**	Number of Approach Spans:	0
***5B15**	Approach Span Material:	
***5B16**	Approach Span Design:	
***5B17**	Maximum Span Length:	46.00 ft.
***5B18**	Structure Length:	95.00 ft.
5B19	Deck Area:	1,273.00 sf.
5B20	Total Length:	95.00 ft.

Classification Information

5E01	NBIS Bridge Len:	Y - Long Enough
5E02	Parallel Structure:	N - No || bridge exists
5E03	Temporary Structure:	_
***5E04**	Hist Significance:	1 - Br on NRHP
5E05	Frac Crit Details:	

Agency Items

5E10	ACM Status:	A
5E11	IR:	0
5E12	IC:	0
5E13	ACM Insp Date:	MMDDYYYY
5E14	ACM Qty:	NO_ACM
5E15	ACM num Loc:	0
5E16	ACM Loc Desc 1:	***
5E17	ACM Loc Desc 2:	
5E18	9:	
5E19	10:	
5E20	11:	
5E21	12:	
5E22	13:	
5E23	14:	
5E24	15:	

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Structure Identification

***5A01** Structure ID: 19720503730011

5A02 Name: 3.1 MI. SOUTH OF CATAWISSA

5A03 NBI Structure No.: 12786

Agency ID:

*7A01 Inspection Date: 03/24/2021

2A01 Structure Notes

A075L
NO SCOUR ANALYSIS IS RECOMMENDED BY LDG 083195
SCOUR EVALUATION 15458 W06 = 4 E29-A = 4
SF SP SW DDDATE USGSFV USGSSD EP DSTAT USGSSF EF SAS FEDCAT
B M -- ???????? 051995 032001 2 AAN 082002 2 018 2A1
MAP D13 D14 HSOR HSCCV SPR CK COMMENT OVER O DATE P/F
THIS LINE IS RESERVED FOR CCV DATA
STAT IR IC ACM INSP ACM QNTY # LOCATION OF ACM
A A 0 0 MMDDYYYY NO_ACM 0 ***
B M -- ???????? 051995 032001 2 AAN 082002 2 018 2B 082

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Structure Identification

***5A01**	Structure ID: 19720503730011	**5A03**	NBI Structure No.: 12786
5A02	Name: 3.1 MI. SOUTH OF CATAWISSA		Agency ID:
			*7A01 Inspection Date: 03/24/2021

General

6A01	Senat Dist:	27	_
6A02	Cong Dist:	11	_
6A03	Leg Dist:	107	_
6A04	Bndy:	N - None	
6A05	Util Present:		
***6A06**	Sub Agency:	019	
6A07	Fed Fund:	_	
***6A08**	Dept Struc Len:	-1	ft.
6A09	Critical Facility:		
6A10	Flood Insp:		
6A11	Covered Bridge:	X	
6A12	Dem/Repl Ind:	0	
6A13	Dem/Repl Date:		
6A14	Hist Dist Cont:	0	
6A15	Hist Dist:		
6A16	Preserv Candidate:		
6A17	Future Bridge Bill:		
6A18	Network:		
6A19	Bus Plan Ntk:	L - Local Net (Non-NHS)	
6A20	Watershed:	_ - Res. for Future Use	
6A21	De-Ice Equip:		
6A22	Corridor:	_	
6A23	Owner Desc:	COLUMBIA CO.	
6A24	Turnback Desc:		

Structure Type

		Main	Approach
***6A26**	Material:	5 - Timber	_
***6A27**	Physical:	9 - Other or none	_
***6A28**	Span Interaction:	1 - Simple, non-comp	_
***6A29**	Struct Config:	18 - Truss - thru	_

Deck Wearing Surface Info

		Main	Approach
***5B02 / 6A30**	Surf:	7 - Wood or Timber	_ - Unknown (NBI)
***5B03 / 6A31**	Memb:	0 - None	_ - Unknown (NBI)
***5B04 / 6A32**	Protect:	0 - None	_ - Unknown (NBI)
6A33	Thickness (in):	1.80	0.00
6A34	Dt Recorded:	07/19/2007	01/01/1901
6A35	Surf Thick (Over/Under):	-1.00 in.	-1.00 in.
6A36	Protect Year:		
6A37	Protect Note:		

Latent Problem

6A50	Sup Struc:	_
6A51	Sub Struc:	

Deck Info

6A38	Dept Structyp:	02 - Timber Plank Deck
6A39	Relief Joints:	
6A40	Form Type:	_
6A41	No. of Joints:	0
6A42	Rebar Type:	_
6A43	Appr Pav Width (ft):	17 ft.

Est Truck Traffic

6A52	Traffic:	-1
6A53	Fatig Life:	-1
6A54	Year:	-1

Fracture Critical

		Main	Approach
6A44	Group No.:	9 - Group 9	_
6A45	Mem Type:	9 - Non-Steel	0 - Suspended Assembly
6A46	Fatig Sus:	9 - Non-Steel Bridges	0 - Int Welds/Susp Assmb
6A47	Material:	9 - Non-Steel Bridges	0 - Int Welds/Susp Assmb
6A48	ADTT	3 - low	1 - high
6A49	Total Crf:	30	1

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Structure Identification

***5A01** Structure ID: 19720503730011 **5A03** NBI Structure No.: 12786

5A02 Name: 3.1 MI. SOUTH OF CATAWISSA Agency ID:

*7A01 Inspection Date: 03/24/2021

Roadway Detail

Roadway Identification

***5C01 Route Name:** T-373 ESTHER FURNACE
***5C03 On/Under:** 1 - Route On Structure
***5C04 Kind HWY(Rt Pref):** 5 - City Street
***5C05 Desig. Lvl Service:** 1 - Mainline
***5C06 Rte # / Suffix:** 00000 0 - Both Directions
5C07 Critical Facility:

Traffic

***5C08 Lanes:** 1 **Medians:** 0 **Speed:** -1 mph
5C09 ADT Class:
***5C10 Recent ADT:** 50 ***5C11 Year:** ~~2020~~ 2021
5C12 Future ADT: 77 **5C13 Year:** ~~2042~~ 2043
***5C14 Truck % ADT:** 0
***5C15 Detour Length:** 2 mi. **5C16 Speed:** -1 mph
6C27 ADTT: 0 **6C28 ADTT Year:** ~~2020~~ 2021

Highway Networks and Service Classifications

5C18 Mile Pt.: 0.00 mi.
5C19 Nat Base Net: 0 - Not on Base Network
5C20 LRS Inventory Rte: **Sub#:**
***5C21 Toll Facility:** 3 - On free road
***5C22 Functional Class:** 09 - Rural Local
5C23 Traffic Direction: 3 - 1-lane Br for 2-way

Width

***5C26 Appr. Road:** 17 ft. ***5C27 Roadway:** 12.8 ft.

Alternate Classifications

***5C28 Defense Hwy:** 0 - Not a STRAHNET hwy
***5C29 Nat. Hwy Sys.:** 0 - Not on NHS **5C30 SB:**
5C31 Fed Lands Hwy: 0 - N/A (NBI) **5C32 Trans:**
***5C33 Nat. Truck Net:** 0 - Not part of natl net **5C34 Emer:**

State Roadway Location

6C01 County: 19 - Columbia
6C02 SR Num: _
6C03 Seg: _
6C04 Offset: _

Roadway Admin

***6C05 Admin Juris:** 5 - County
6C07 Gov Cont: 02 - County Hwy Agency
6C06 Fed Aid: 0 - Not on Route
6C08 Urban / Rural: 1 - Rural
6C09 Hwy ind: N - Non-network
6C10 Hwy System Typ: 11 - Local Rural

Clearances

***4A20 Min Lat Under (L):** 0.00 ft.
***6C18 Horiz (L):** 0.00 ft.
***6C20 Min Vert (L):** 99.90 ft.
***6C22 Def Vert (L):** 99.90 ft.
***6C35 Vert Clearance Sign (L):** ft.
***6C37 Vert Clearance Post (L):** 0 ft. 0 in.

***4A19 Min Lat Under (R):** 0.00 ft.
***6C19 Horiz (R):** 12.80 ft.
***6C21 Min Vert (R):** 9.25 ft.
***6C23 Def Vert (R):** 9.25 ft.
***6C36 Vert Clearance Sign (R):** 1 ft.
***6C38 Vert Clearance Post (R):** 9 ft. 0 in.

Median

***6C25 Type:** 0 - No Median/barrier
***6C26 Width:** 0.00 ft.

Network

6C11 State Code: 0 - Not on a Network
6C12 INT: _ - Unknown
6C13 CCVNET:
6C14 ATTT:
6C15 RMS NHS: _ - Unknown
6C16 TTTN: _ - Unknown

Roadway Labels

6C30 Gen Seg Ahead Lbl: _
6C31 User Seg Ahead Lbl: _
6C32 Gen Seg Back Lbl: _
6C33 User Seg Back Lbl: _
Notes:

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Structure Identification

***5A01** Structure ID: 19720503730011

5A02 Name: 3.1 MI. SOUTH OF CATAWISSA

5A03 NBI Structure No.: 12786

Agency ID:

*7A01 Inspection Date: 03/24/2021

Waterway Detail

***5C03 On/Under** 2 - One Route Under

***4A21 Nav Control Exists:** 0 - Permit Not Required

***4A22 Nav Vertical Clr:** 0.00 **ft.**

***4A23 Nav Horizontal Clr:** 0.00 **ft.**

***4A24 Min Vert Lft Clr:** 0.00 **ft.**

Waterway

***FW01 Stream Name:** ROARING CREEK

FW03 Stream Classification 1:

FW03 Stream Classification 2

FW04 Timeframe:

FW03 Stream Classification 3

FW06 Permit Type:

FW07 Drainage Area: -1.00 **sq. mi.**

FW08 Fishable: X

FW09 Waterflow Direction: R - Left to Right

FW10 Primary Waterway:

FW11 Vertical Clearance: 8.8 **ft.**

FW12 Max W.S. Elevation: -1.00 **ft.**

FW13 Max W.S. Elevation Year: -1

Design Flood Data

FW14 Magnitude: -1.00 **cf/s**

FW15 Elevation: -1.00 **ft.**

FW16 Frequency: -1.00 **yrs**

FW17 Velocity: -1.00 **fps.**

FW18 Pollutant Description:

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Structure Identification

***5A01** Structure ID: 19720503730011

5A02 Name: 3.1 MI. SOUTH OF CATAWISSA

5A03 NBI Structure No.: 12786

Agency ID:

*7A01 Inspection Date: 03/24/2021

Number of Spans

5B11 Number of Main Spans: 2

5B14 Number of Approach Spans: 0

5D01 Unit Key	5D04 Type	5D02 Unit ID	SP03 Span Length
1	M - Main	1	44.00
2	M - Main	2	46.00
3	B - Abutment	NAB	-1.00
4	B - Abutment	FAB	-1.00
5	P - Pier	P01	-1.00
6	F - Frame	Unit 6	-1.00

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Structure Identification

***5A01** Structure ID: 19720503730011
5A02 Name: 3.1 MI. SOUTH OF CATAWISSA
5A03 NBI Structure No.: 12786
Agency ID:
*7A01 Inspection Date: 03/24/2021

Miscellaneous

VI01 Min Crane Reach: -1.00
VI02 High Voltage Power Line Ind:
VI03 RR Flagger Required:
VI04 Traffic Flagger Required:

Sidewalk
VI05 Type (Left): 1 - Unprotected
VI06 Type (Right): 1 - Unprotected
VI07 Width (Left): 0.00 ft.
VI08 Width (Right): 0.00 ft.

VI09 Horizontal Curve: 1 - On a hor curve
VI10 Vertical Curve: 1 - On Vert (Hump)

Contact

District Bridge Engineer Name:	Lloyd Ayres	District Bridge Engineer Phone:	570-368-4262	District Bridge Engineer Email:	layres@pa.gov
Local Bridge Coordinator	Marc Schaeffer	Local Bridge Coordinator Phone:	570-368-4347	Local Bridge Coordinator Email:	maschaefer@pa.gov
Local Owner Name:	Chris E. Young	Local Owner Phone:	570-389-5608	Local Owner Email:	cyoung@columbiapa.org

VI11 Inspection Limitations

Equipment

Permits

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4/13/2021

Structure Identification

***5A01** Structure ID: 19720503730011
5A02 Name: 3.1 MI. SOUTH OF CATAWISSA
5A03 NBI Structure No..: 12786
Agency ID:
*7A01 Inspection Date: 03/24/2021

Posting Detail

VP01	**Status Date:**	03/19/2013	**VP06**	**Posting Reason:**	K - Comb of one or more
***VP02**	**Posting Status:**	P - Posted for load	**VP07**	**Field Conditions:**	0 - Not Applicable
VP03	**Special Restrictive Posting**	0 - Not Applicable	**VP08**	**Special Conditions:**	0 - Not Applicable
VP04	**Posted Weight Limit:**	3.00	**VP09**	**AASHTO Impact Code:**	1 - AASHTO Impact Factor
VP05	**Posted Limit Combination:**	-1.00			
VP01	**Status Date:**	09/09/2011	**VP06**	**Posting Reason:**	L - Flood/Accident
***VP02**	**Posting Status:**	C - Closed to traffic	**VP07**	**Field Conditions:**	(blank)
VP03	**Special Restrictive Posting**	(blank)	**VP08**	**Special Conditions:**	(blank)
VP04	**Posted Weight Limit:**	-1.00	**VP09**	**AASHTO Impact Code:**	(blank)
VP05	**Posted Limit Combination:**	-1.00			
VP01	**Status Date:**	11/19/1986	**VP06**	**Posting Reason:**	K - Comb of one or more
***VP02**	**Posting Status:**	P - Posted for load	**VP07**	**Field Conditions:**	0 - Not Applicable
VP03	**Special Restrictive Posting**	0 - Not Applicable	**VP08**	**Special Conditions:**	0 - Not Applicable
VP04	**Posted Weight Limit:**	3.00	**VP09**	**AASHTO Impact Code:**	1 - AASHTO Impact Factor
VP05	**Posted Limit Combination:**	-1.00			

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Structure Identification

***5A01** Structure ID: 19720503730011
5A03 NBI Structure No.: 12786
5A02 Name: 3.1 MI. SOUTH OF CATAWISSA
Agency ID:
*7A01 Inspection Date: 03/24/2021

VD01 Design Method:
VD02 Live Load Continuity:
VD03 Geometry: 1 - Straight

Superstructure Steel

VD04 Steel Beam Splice:
VD05 Steel Types:

Superstructure Concrete

VD06 Vacuum Process:
VD11 Design Tension Methods :
VD07 Strand Type:
VD08 Comp Strength @ 28 Days: -1 psi.
VD09 Comp Strength @ Release: -1 psi.
VD10 Prestressed Splice Type: Design:
Filler:
Through:
VD12 Void Types:
VD13 Strand Sizes:

Substructure

VD14 Abutment Type:
Near: 4 - Stone/Masonry
Far: 2 - Cantilever
VD15 Abutment Foundation Type:
Near: L - Footing on soil
Far: L - Footing on soil
VD17 Pier Foundation Types:
L - Footing on soil

Pier Types

VD16 Material Type:
4 - Plain Concrete
VD16 Configuration Type:
4 - Solid

Culvert

Expansion Joint

Other

VD28 Haunch Type: 0 - no haunch
VD30 Bearing Types: 99 - Other
VD29 Special Pier Cap:
VD31 Bridge Seat Cleaning: 0
VD32 Seat Cleaning Note:

VD33 Scuppers w/ Downspouts: 0
VD34 Scuppers w/o Downspouts: 0

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