



UPC 110498
Rehabilitation of John G. Lewis Memorial Bridge on
Route 673 (Featherbed Lane) over Catoctin Creek
Loudoun County, VA

5th Stakeholder Meeting

April 19, 2017

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Link to the project webpage:

http://www.virginiadot.org/projects/northernvirginia/route_673_over_catocin_creek.asp

PROJECT LOCATION



Project Background



Existing Bridge

Project Background cont'd

John G. Lewis Memorial Bridge (Route 673 - Featherbed Lane) over Catoctin Creek:

- Single span steel pin connected Pratt through truss with a timber deck and asphalt overlay, supported on stringers and floor beams.
- It is 157 feet long, 14 feet wide, 11 feet 2 inches face-to-face of rails, and carries one alternating traffic lane.
- Originally erected in 1889 on the Leesburg & Alexandria Turnpike (Route 7) over Goose Creek.
- In 1932 the bridge was dismantled and moved to its current location.
- The bridge was posted 15 tons in 2004 and reduced to 3 tons in 2013 due to insufficient capacity.
- The existing bridge has an average traffic count of 60 vehicles per day with daily truck traffic less than 3 trucks in 2015.
- The bridge was posted in the National Register of Historic Places on June 25, 1974.



Selected Alternative 2A

New Two-Span Steel Beam Bridge with Existing Truss Bridge Installed Above



Virginia Department of Transportation

John G. Lewis Memorial Bridge over Catoclin Creek

ALTERNATIVE 2A - Two Span Continuous Steel Beam and Timber Deck Bridge with Existing Truss Members Attached. Maintain Existing Bridge Width



Section 106 Commitment

The Virginia Department of Historic Resources concurred with the Virginia Department of Transportation's determination that the John G. Lewis Memorial Bridge (over Featherbed Lane) project will have **No Adverse Effect** upon the John G. Lewis Memorial Bridge (Structure No. 6051/DHR No. 053-0131) provided that VDOT fulfills the following commitments:

- Reduce the depth of design, to the extent possible, of any new continuous steel beams beneath the deck in order to minimize any visual impacts to the bridge.
- Replace the replaceable cracked truss components to strengthen the structure.
- Update the 1974 NRHP nomination form to reflect the existing condition of the bridge.
- Design new bridge piers and abutments to be characterized by faux-stone architectural treatment with a color scheme that matches the existing bridge abutments, and the pattern of the faux-stone treatment will be similar to Virginia Drystack.
- The VDOT shall provide 60% and 90% bridge design plans to the VDHR and consulting parties for review and comment for the purpose of verifying VDOT's fulfillment of these commitments.

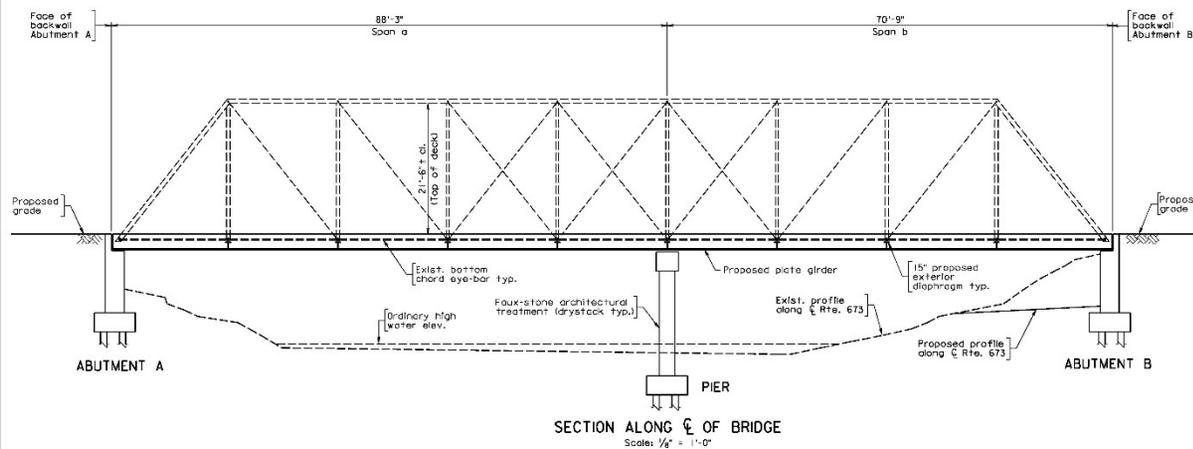
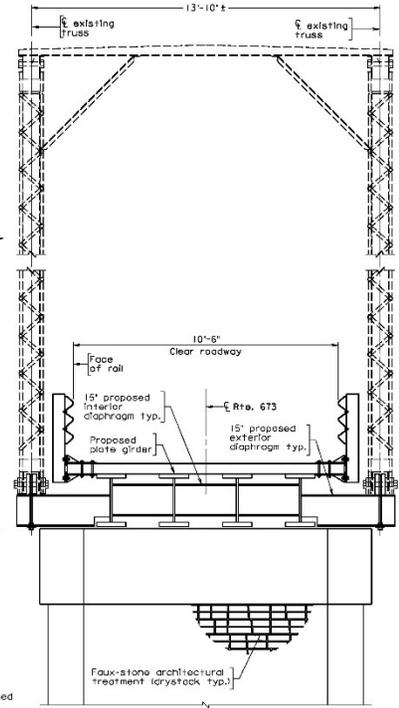
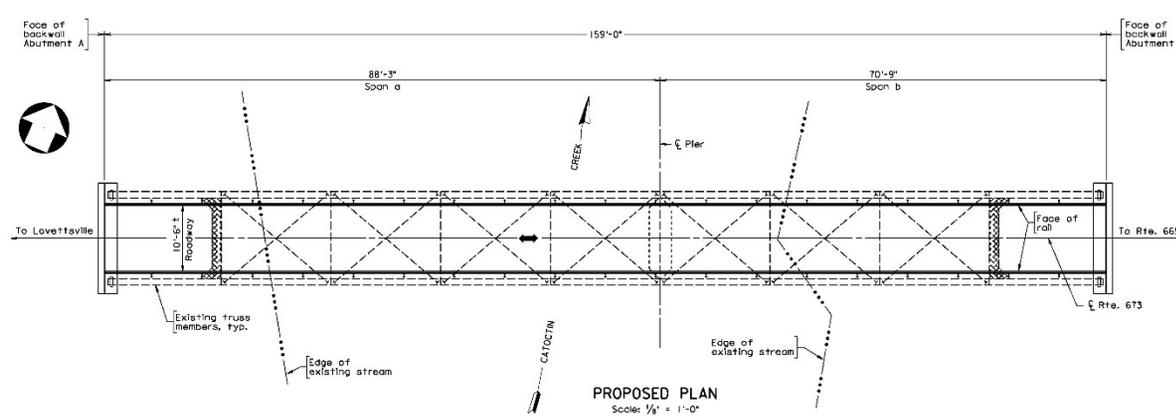
Proposed Design

The existing truss will be installed above a new two-span continuous steel multi-girder bridge with glu-lam timber deck

- To minimize the girder depth to the greatest extent possible to meet the DHR requirements the following bridge features will be incorporated:
 - ❖ Provide 2-span Bridge with Pier
 - ❖ Prepare and submit Design Exceptions and Waivers for FHWA and VDOT approval to modify the girder design criteria (Impact Factor and Live Load Deflection) to account for the unique characteristics of this specific bridge and its environment.
- Repair or replace cracked components at truss joints
- New bridge pier and abutments will have drystack faux-stone architectural treatment with a color scheme that matches the existing bridge abutments
- Install FHWA crash tested Approved steel guardrail bridge railing

Proposed Design

John G. Lewis Memorial Bridge over Catoctin Creek Steel Beam with Timber Deck, Existing Truss and Offset Pier

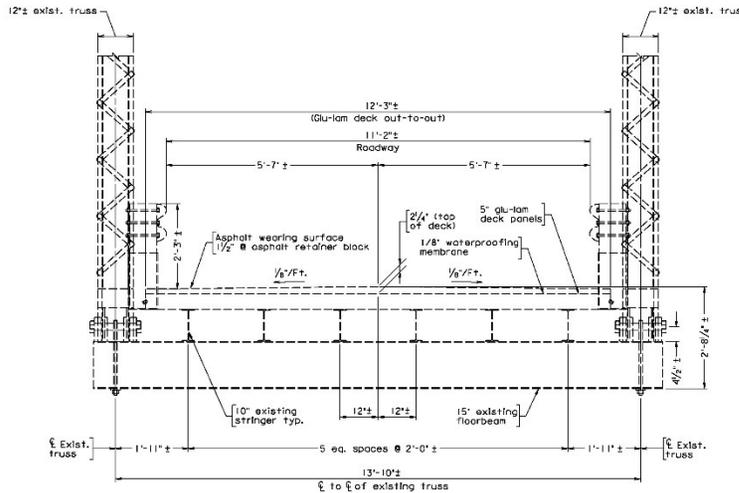


TYPICAL SECTION AT PIER
Scale: 1/2" = 1'-0"

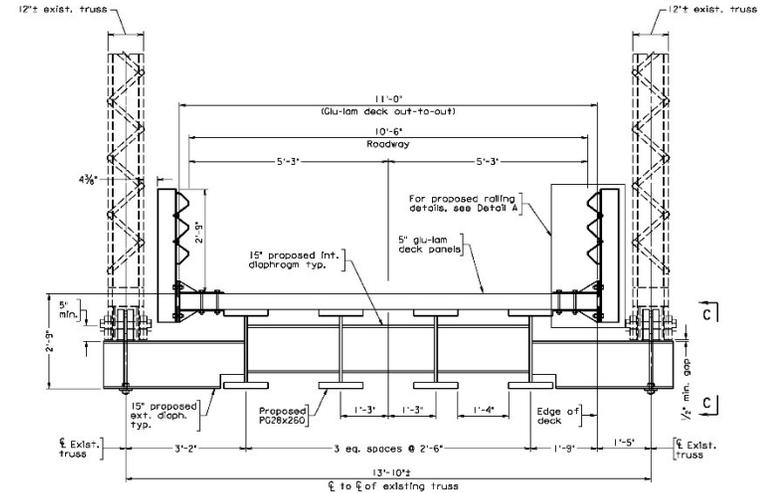
VDOT REGION IV NORTHERN VIRGINIA DISTRICT
LEESBURG COUNTY, VIRGINIA
PROJECT NO. 0673-076-6051
ROUTE 673 (FEATHERBED LA.) OVER CATOCTIN CREEK
STEEL BEAM WITH TIMBER DECK,
EXISTING TRUSS AND OFFSET PIER

Proposed Design

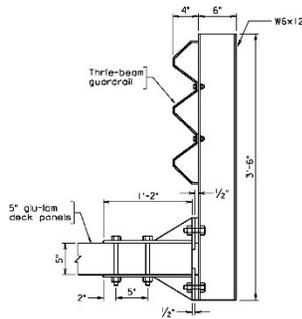
John G. Lewis Memorial Bridge over Catoctin Creek Steel Beam with Timber Deck, Existing Truss and Offset Pier



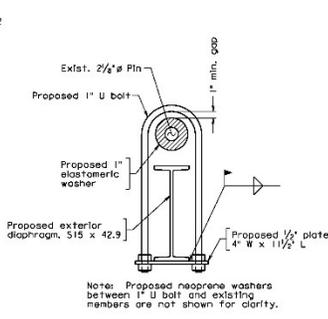
EXISTING STRUCTURE - TRANSVERSE SECTION
Scale: $\frac{3}{4}'' = 1'-0''$



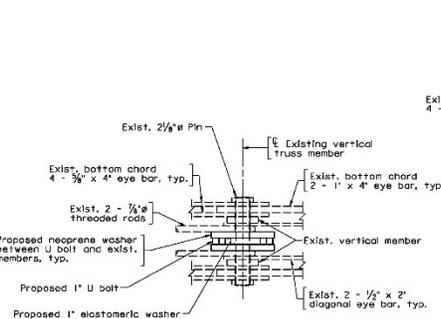
PROPOSED STRUCTURE (PG28x260) - TRANSVERSE SECTION
Scale: $\frac{3}{4}'' = 1'-0''$



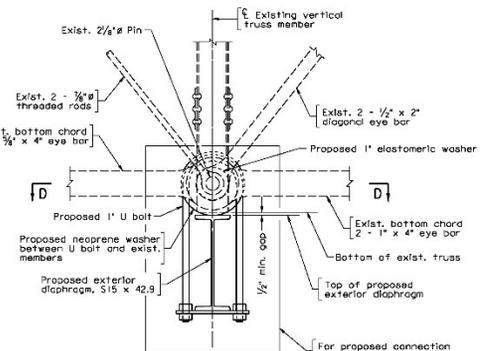
PROPOSED RAILING - DETAIL A
Scale: $1\frac{1}{2}'' = 1'-0''$



PROPOSED CONNECTION - DETAIL B
Scale: $1\frac{1}{2}'' = 1'-0''$



SECTION D-D
Scale: $1\frac{1}{2}'' = 1'-0''$



VIEW C-C
Scale: $1\frac{1}{2}'' = 1'-0''$

• Bottom connection at LS south is shown

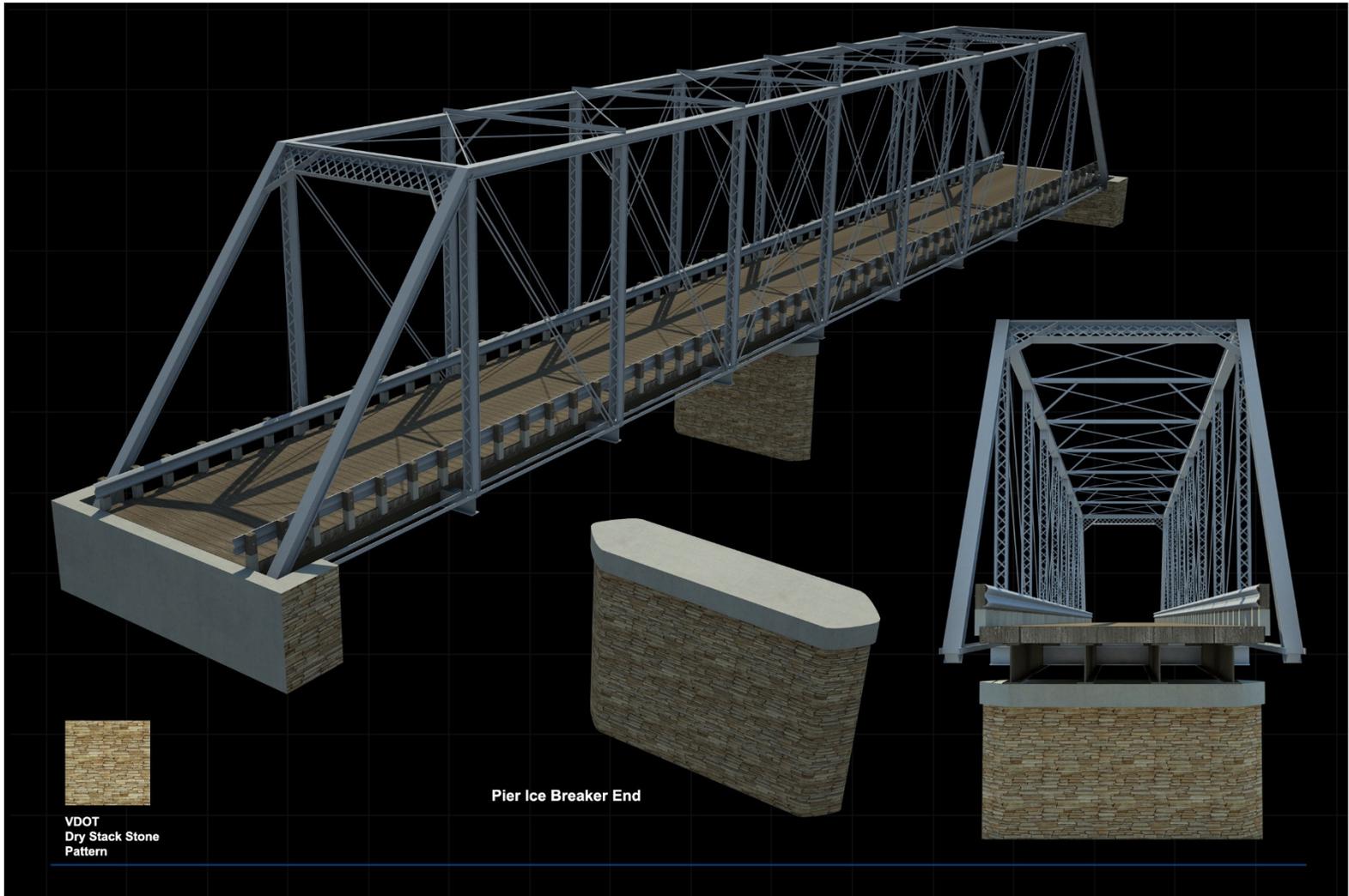


Substructure Architectural Treatment



Virginia Department
of Transportation

John G. Lewis Memorial Bridge over Catoctin Creek Substructure Architectural Treatment



Design Features

STREAM HYDRAULICS

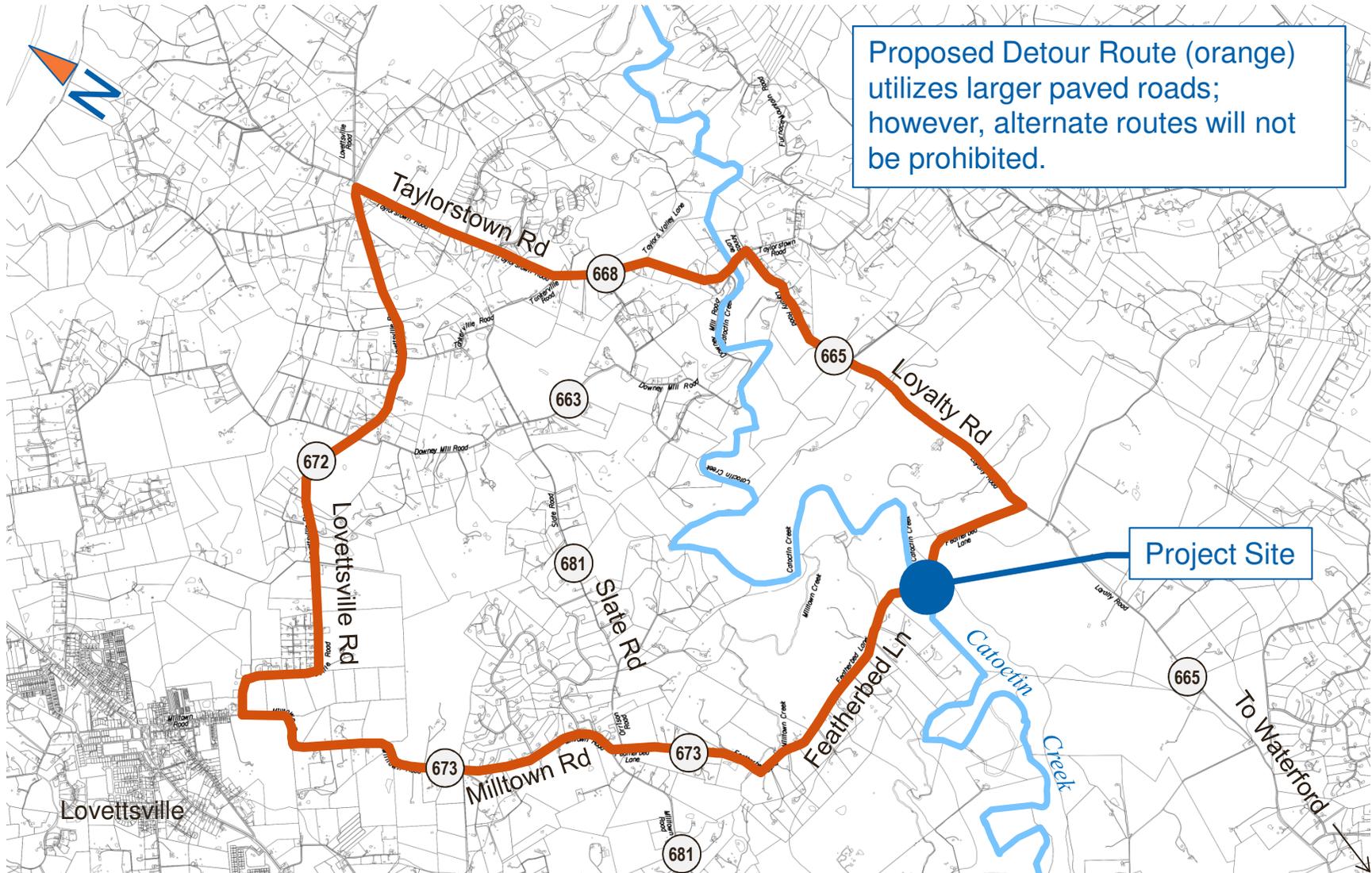
To satisfy the FEMA and Loudoun County no-rise policy for Catoctin Creek 100-yr flood discharge, the bridge waterway opening has to be maintained. To offset the “blockage” created by the new pier, the ground in front of the east abutment will be benched.

MAINTENANCE ACCESS ROAD

An access road will be added at the south east corner of the bridge to allow maintenance crew to remove debris that may collect at the new pier in the creek.

Detour Route

Featherbed Lane will be closed at the Bridge during construction



Project Schedule

(TENTATIVE)

- **Public Hearing Nov. 01, 2018**
- **Right-of-Way Feb. 27, 2020**
- **PAC Meeting Oct. 22, 2020**
- **Ad Date Feb. 09, 2021**

QUESTIONS