



Walden

VT 15 Bridge 83

Walden Bridge 83 – BRF 030-3(5)

Project Location: Town of Walden in Caledonia County on VT 15 over Joe's Brook. The bridge is located approximately 5.15 miles southeasterly of the Hardwick/ Walden town line and extending east 0.13 miles.

PROJECT MILESTONES

Preliminary Plans	April 25, 2013
Permitting	March 10, 2014
Final Design	July 24, 2014
Right-of-Way Complete	July 30, 2014
Bid Advertisement	January 30, 2015
Contract Award	March 2, 2015
Target Construction Schedule	Summer 2015

The Walden VT 15 Bridge 83 project will replace the existing bridge, which has a sub-standard width and is in poor condition, with a new bridge that meets current design standards. The existing Walden VT 15 Bridge 83 is a single span, two lane structure which was constructed in 1933. The bridge is 43-feet in length and 22.3-feet wide. The bridge superstructure (deck and beams) are composed of T-beams and are in poor condition. The structure has settled and has a significant dip at each end of the bridge. There are multiple areas on the underside of the deck with exposed reinforcement and the substructure is showing signs of scour underneath the abutment footings. The bridge is also currently supported at mid span by a steel bent.

VTrans has evaluated various alternatives for the replacement of Walden VT 15 Bridge 83. The criteria assessed for the proposed design included the roadway alignment, right of way impacts, wetland and archaeological resources, aesthetic requirements, and hydraulics. During the design phase, concerns were expressed with potential impacts to nearby residences, the length of the bridge closure period, and sight distances along the curved alignment. Several alternatives were considered including no action, repair and rehabilitation, superstructure replacement, and full bridge replacement. Given the poor condition of both the superstructure and substructure components, it was recommended that a full bridge replacement be undertaken with a full-bridge closure and off-site detour.

The new bridge superstructure will be composed of Concrete NEXT D Beams. NEXT D Beams are precast concrete beams that are fabricated in a shop and shipped to the site. By fabricating them off sight and shipping them into the project, the bridge closure period will be significantly shorter. The new bridge will be 58-feet in length and 34.25-feet wide including two, 11-foot travel lanes and two, 4-foot-4-inch shoulders. The new bridge will feature a 3-Rail Box Beam steel bridge guardrail. The substructure will be composed of concrete abutments on spread footings that will be set on ledge. All of the existing superstructure and substructure components will be removed prior to the new bridge construction.

The bridge will be constructed during the summer of 2015 using ABC methods, which will expedite construction and reduce disturbance to the public. Due to the location of the bridge, a temporary bridge was deemed unfeasible because of wetlands and the roadway alignment. Since no temporary bridge will be in place, the bridge will be closed to traffic during the construction period. There will be an allowable 28 day road closure with temporary single lane closures prior to and following the bridge closure period.



Scour Below Abutment Footing



Target Construction Schedule: Construction activities will take place beginning in April 2015. The contractor anticipates closing the bridge to traffic July 6, 2015. The closure will last 28 days with the bridge being scheduled to reopen to traffic August 3, 2015. Although the bridge will only be closed to traffic for 4 weeks, it is expected that construction activities will last the majority of the summer.

Contractor: J.A. McDonald, Inc.

Cost: \$1,592,083.50

VTrans Resident Engineer: Kevin McClure

VTrans Project Manager: Carolyn W. Carlson, P.E.

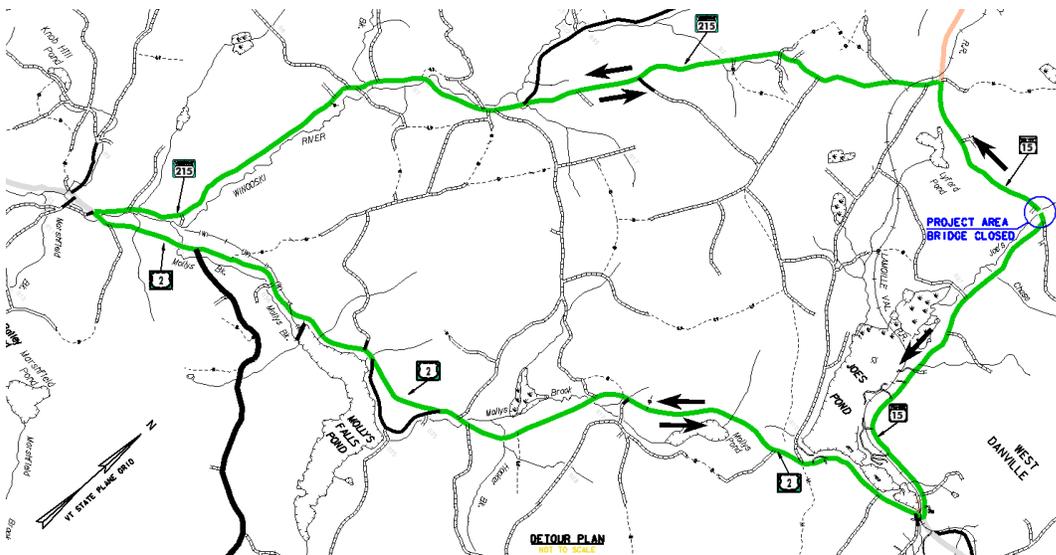
Detour Route: During construction, traffic will be rerouted on US 2 and VT 215 around the bridge closure.

From the North:

At the intersection of US 2 and VT 15, traffic will continue west on US 2 for approximately 9.3 miles to the intersection of US 2 and VT 215. Traffic will turn right onto VT 215 and head northeast for approximately 9 miles to VT 15.

From the West:

Traffic will turn right at the intersection of VT 15 and VT 215 and continue southwest on VT 215 for approximately 9 miles to the intersection of VT 215 and US 2. Traffic will turn left onto US 2 and head west for approximately 9.3 miles to the intersection of US 2 and VT 15.



Bridge Location Map

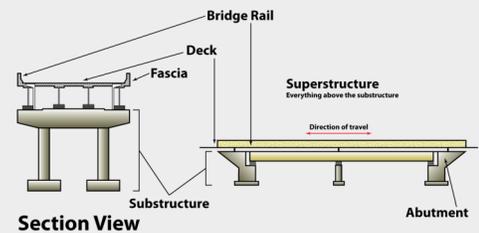
For more details, click here.



Existing Bridge With Steel Bent Support



Deterioration Under the Bridge Deck



Section View



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