

Bridge 9 East Face

Chelsea

VT Route 110 Bridge 9

Chelsea BHF 0169 (9)

Project Location: Town of Chelsea in Orange County on Vermont Route 110. Bridge 9 carries VT 110 over the First Branch of the White River, and is located approximately 0.2 miles south of the intersection of V 110 and VT 113.

PROJECT MILESTONES

- Preliminary Plans
June 2015
- Permitting
October 2015
- Final Design
January 2016
- Right-of-Way Complete
October 2016
- Bid Advertisement
November 2016
- Contract Award
December 2016
- Target Construction Schedule
June 2017 – August 2017

The Chelsea Vermont Route 110 Bridge 9 project will replace the deck and superstructure on this bridge. Bridge 9 has substandard lane and shoulder widths, substandard approach and bridge railing, is inadequate for pedestrian and bicycle use, has inadequate hydraulic capacity, and is considered structurally deficient. The existing structure, constructed in 1936, is a single span rolled steel bridge 84' in length.

VTrans evaluated alternatives for the improvement of Bridge 9 in an engineering study completed in May 2014. The study assessed the proposed design criteria for the bridge and roadway alignment, Right-of-Way impacts, hydraulics, and historical and archaeological resources. Several alternatives were considered including no action, repair and rehabilitation, superstructure replacement, and complete replacement. Given the age of the structure, existing deficiencies, and the need to expedite project delivery, the engineering study recommended superstructure replacement using Accelerated Bridge Construction (ABC) methods with an offsite detour.

The new bridge elements will consist of a new Precast Concrete Bridge superstructure supported on the existing, but widened substructure. This solution has a relatively short construction period and comparatively low construction and maintenance costs. Bridge 9 will maintain the current line, grade, and span, and widened to meet Vermont State Standards along with a new raised sidewalk on one side. New crash-tested bridge and approach rails will be included. It has been determined that meeting the hydraulic standard is not feasible, as it would necessitate raising the bridge and approach roadways an undesirable amount, while likely just relocating floodwater elsewhere.

The bridge will be constructed during the summer of 2017 using ABC methods, which will expedite construction and reduce disturbance to the public. There will be an allowable 12 day road closure with periodic short term single lane closures prior to and following the bridge closure period. The community will have the opportunity to provide input on the closure periods and timing within the summer construction window. The new bridge is expected to have a service life of approximately 40 years.



Bridge 9, Looking South

Target Construction Schedule: Construction activities will take place during 2017.

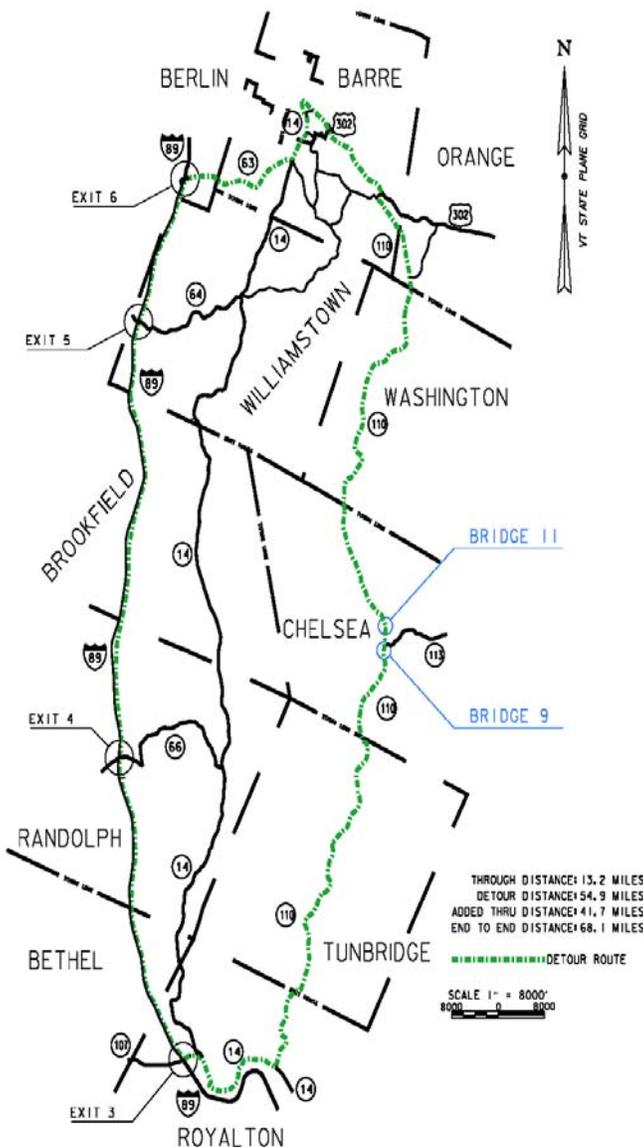
Contractor: TBD

Cost: TBD

VTrans Project Manager: Jennifer Fitch, P.E.

VTrans Resident Engineer: TBD

Detour Route: The detour route will be the responsibility of the State of Vermont. Traffic south of the project is diverted from VT 110 onto VT 14 in South Royalton and then onto I-89 to Berlin. Then follow VT 63 through Barre onto US 302, and south to VT 14 in East Barre and back to VT 110.



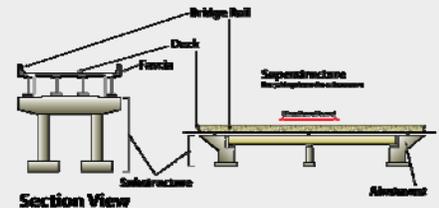
Detour Map



Bridge 9, Looking North



Typical Deck Deterioration



Generic Bridge Element Description



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