



Bethel

VT 12 Bridge 38

Bethel BHF 0241 (38)

Project Location: Town of Bethel in Windsor County on VT 12 over Gilead Brook. The bridge is located approximately 4 miles north of the intersection of VT 12 and VT 107.

PROJECT MILESTONES

Preliminary Plans	Summer 2015
Permitting	Fall 2017
Final Design Complete	Fall 2017
Right-of-Way Complete	Spring 2018
Bid Advertisement	Fall 2018
Contract Award	Fall 2018
Target Construction Schedule	2019 & 2020

The Bethel VT 12 Bridge 38 project will replace the existing bridge, which has a nonstandard width and is nearing the end of its design life. The existing bridge, constructed in 1928, is a four-span, two-lane structure with a length of 326 feet and roadway clear width of 20 feet. The superstructures of the two 120'-2" interior spans are steel deck trusses. The concrete deck was last replaced in 1971 and is in need of replacement.

VTrans evaluated alternatives for replacement of the Bethel VT 12 Bridge 38 in an engineering study completed in May 2014. The study addressed the proposed design criteria for bridge and roadway alignment, right-of-way impacts, hydraulics, historical and archaeological resources, and historic aesthetic requirements. Several alternatives were considered including no action, rehabilitation, and complete bridge replacement. Strengthening the truss members to meet current and future design loads was determined to be economically unfeasible. Given the age and condition of the structure, the engineering study recommended a complete bridge replacement.

The new three-span bridge will have a weathering steel plate girder superstructure with parabolic haunched webs at the piers for aesthetic purposes. The new bridge will be 364 feet in length including two approach spans of 110 feet and a center span of 144 feet. The clear roadway width of the new bridge will be 31 feet. An ornamental steel lattice treatment similar to that on the existing bridge will be attached to the outside of the standard two rail box beam for aesthetic purposes. The two piers will be concrete hammerhead piers that rise approximately 45 feet above the existing streambed. The piers are located near the edges of the existing channel.

Closure of VT 12 would significantly affect the traveling public and first responders so traffic will be maintained on the existing bridge throughout construction. The new bridge will be constructed just to the west of the existing bridge. To align the existing roadway to the proposed roadway, there will be temporary single-lane closures for paving operations on either end of the bridge. Since traffic is being maintained throughout construction and there are significant project constraints due to the length, height and site, Accelerated Bridge Construction methods are not appropriate for this project.



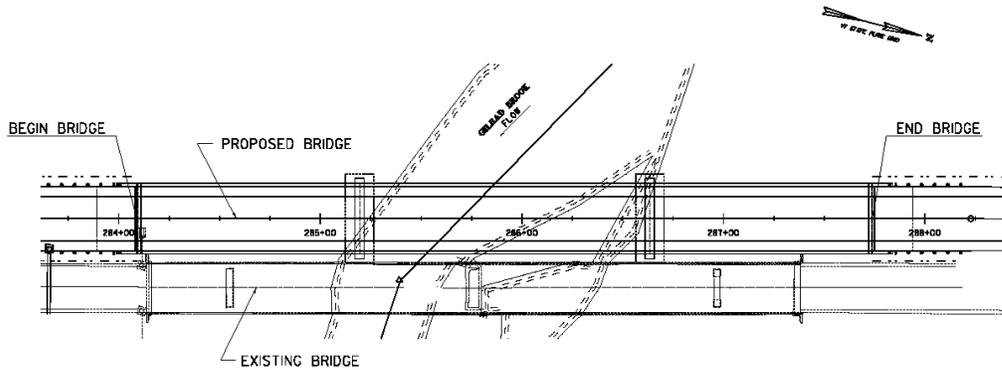
Structure facing north



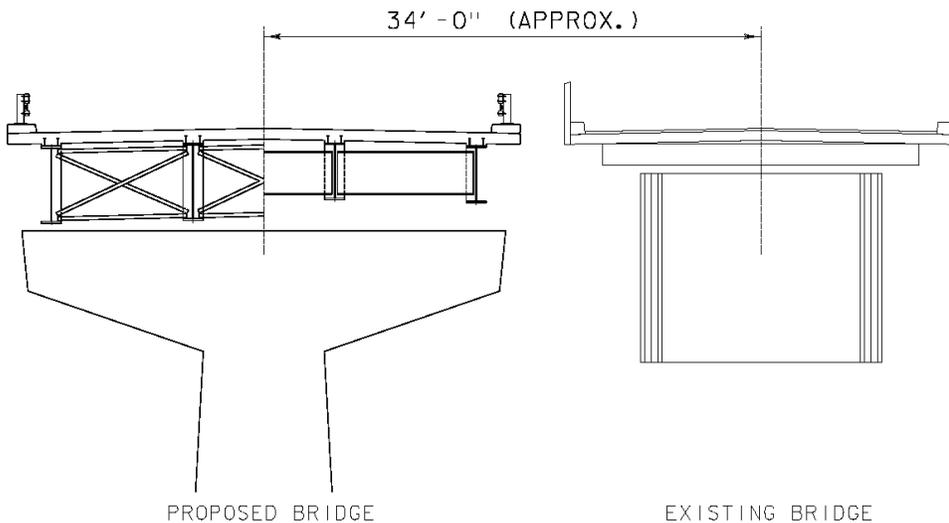
Target Construction Schedule: Construction activities will take place beginning in Spring 2019 last two seasons through the Fall of 2020.

Contractor: To be determined.

Cost: To be determined.



Plan view of the bridge site. The new bridge is to the west of the existing bridge.



Cross-section looking north showing the new superstructure and pier to be constructed slightly to the west of the existing bridge. The left half of the superstructure shows the deeper girders at the piers and the right half shows the shallower girders near midspan.

For more information click here:



Existing lattice bridge rail detail to be emulated in new bridge rail.



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