



Newfane

FAS Route 106 (Depot Road/TH-2), Bridge 12

Newfane BF 01016(6)

Project Location: Town of Newfane in Windham County on FAS Route 106 over Rock River. The bridge is located approximately 1.9 miles west of the intersection of FAS Route 106 and VT Route 30.

The Newfane FAS Route 106 Bridge 12 project will replace the existing arch, which has a substandard vertical alignment and bridge railing, and is considered structurally deficient, with a new bridge that meets current design standards. The existing bridge is a historic Reinforced Concrete Closed Spandrel Elliptical Arch constructed in 1908. The existing bridge is 100-feet long (providing a 76.5-foot clearspan) and 18-feet wide. The arch is in poor condition and is considered structurally deficient.

VTrans evaluated alternatives for replacement of Bridge 12 in an engineering study completed in February 2015. The study assessed the proposed design criteria for the bridge and roadway alignment, Right-of-Way impacts, hydraulics, historic resources, and archaeological resources. Several alternatives were considered including no action, rehabilitation of this existing historic arch, full replacement with a new reinforced concrete arch, and full replacement with a prefabricated steel beam bridge with a concrete arch façade to mimic the original structure. Given the age of the structure and structural deficiencies, the engineering study recommended full bridge replacement constructed during an offsite detour.

The new structure will either be a functioning reinforced concrete arch similar to the original structure, or a prefabricated steel beam bridge with a concrete arch façade. With either option, the structure will have the appearance of a closed spandrel elliptical arch, similar to the existing in dimensions, with a major axis length of 76.5-feet and a minor axis length of 31.0-feet. This clearspan meets the hydraulic standard of passing the Q50 storm event with at least 1.0-foot of freeboard, and meets bank full width requirements. The lines and concrete details of the original spandrel walls will be replicated as close as possible. Additionally, all dimensions and proportions of the original arch will be maintained where possible. The bridge will remain a one-lane bridge, with a 10-foot travel lane with 4-foot shoulders on either side.

It is anticipated that the bridge will be constructed during the summer of 2020. There will be an approximate 20 week road closure. The detour for this project location would add approximately 0.5 miles to the through route, and have an end-to-end distance of 4.5 miles.



05.14.2014

Bridge Railing Condition



Looking East Over Bridge

Target Construction Schedule: It is anticipated that construction activities will take place beginning in April/June 2020 and last one construction season. The bridge closure period will be approximately 20 weeks.

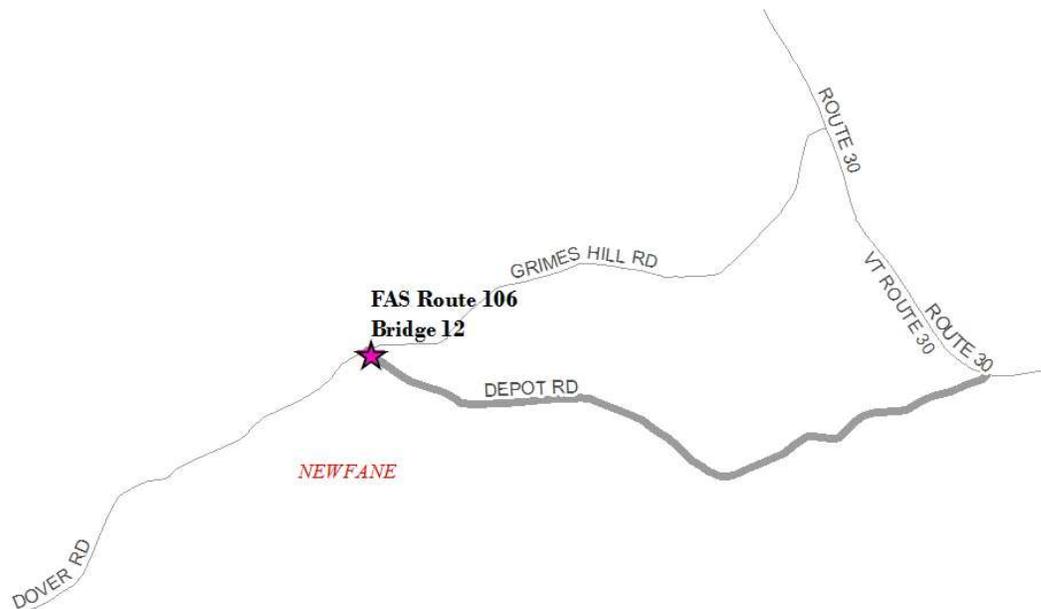
Contractor: TBD

Estimated Total Project Cost: TBD

VTrans Project Manager: Carolyn Carlson, P.E.

VTrans Resident Engineer: Unknown at this time

Detour Route: Traffic will be maintained on an off site detour. The town is responsible for choosing and signing the detour route.



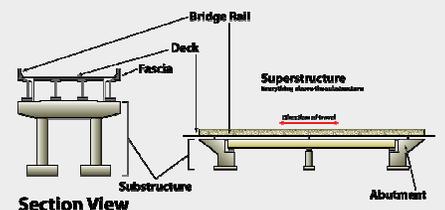
Bridge Location Map



Concrete Spalling



Arch Ring Map Cracking



Section View



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