

GRS-IBS Technology used for Hartland Bridge Replacement Project

PROJECT TITLE

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STUDY TIMELINE

Fall 2018 – Fall 2020

INVESTIGATORS

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VTRANS CONTACTS

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More information about the VTrans Research Program, including additional Fact Sheets, can be found at:
<http://vtrans.vermont.gov/planning/research>

Problem Statement

Bridge D37 carried TH 41 in Hartland over Interstate 91. The existing bridge was in poor condition, and after evaluating several alternatives to preserve and extend the service life of the bridge, VTrans determined that a superstructure replacement was an appropriate course of action.



Methodology

During the design phase, the project's scope evolved, and the proposed superstructure replacement became a full bridge replacement using an innovative technology: Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS). With FHWA support, this technology is being used for the first time in Vermont.

GRS-IBS technology will extend the life of the bridge while reducing the project construction duration and cost. The existing six span bridge is being replaced with two shorter single-span bridges. Each bridge will span one barrel of the interstate and will be supported on GRS-IBS abutments with an earthen embankment in the median between abutments. By replacing the existing six-span bridge with two single spans over each barrel of the interstate, VTrans eliminated 190 linear feet of structure that would require future maintenance.

Next Steps

The project is currently under construction. The existing bridge has been demolished and traffic is maintained on an off-site detour. The new bridges are scheduled to be opened by Winter 2020.

Potential Impacts and VTrans Benefits

Extended bridge life, minimal maintenance, rapid construction, additional funding share from FHWA, and potential use GRS-IBS technology on future projects.