

PROJECT BRIEF

Preston Bridge Replacement Retaining Wall Design

PROJECT PROFILE

CLIENT:
CME Associates, Inc.

LOCATION:
Preston, CT

VALUE:

- Identified risk of excessive settlement of reconstructed embankment and associated mitigation measures

SERVICES PROVIDED:

- Slope stability assessment
- Performed feasibility assessment of retaining wall options for roadway widening
- Identified the need for lightweight fill to maintain stability of the existing abutments under new bridge superstructure loads

“The roles performed by Geocomp on this project included design, coordination and supervision of an extensive subsurface investigation, in addition to geotechnical laboratory testing of collected soil samples.”



GEOTECHNICAL DESIGN & ANALYSES

Geocomp was the geotechnical engineer of record for the bridge replacement project. The roles performed by Geocomp on this project included design, coordination and supervision of an extensive subsurface investigation, in addition to geotechnical laboratory testing of collected soil samples. Analysis of bearing capacity and anticipated settlements of the existing abutments and wingwalls were also performed. Geotechnical recommendation for design and construction of the new retaining walls, reuse of the abutment foundations, lightweight fill requirements, and associated earthworks and dewatering were also completed.



BACKGROUND

The Connecticut Department of Transportation (ConnDOT) replaced a single span bridge in Preston, Connecticut. The old bridge foundations were reused for support of the new bridge superstructure. Several sensitive utilities were supported on the previous bridge and needed to be relocated, and temporary support was needed on deep foundation during the bridge construction as well. Approximately 1,000 linear feet of retaining walls were constructed for widening and raising of the old bridge approach embankments. The site was underlain by soft organic deposits requiring care assessments of potential roadway settlements during construction. Excavation of existing fills and replacement with lightweight fill were required to maintain the stability of the existing abutments under the new bridge loading conditions.