Ground Improvement and Lightweight Fill for Highway and Rail Embankments on Soft Soils
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ABSTRACT

Soft, compressible due to the Midwest’s glacial history have long posed challenges in the design and construction of embankments for transportation corridors. The range of ground improvement methods and lightweight fill alternatives available to address these embankment stability and settlement challenges has grown over recent decades. This presentation will give an overview of available methodologies.

The process of identifying ground improvement alternatives, evaluating feasibility, and assessing relative costs of alternatives will be illustrated by a light rail transit project in Minneapolis. A 2.7-mile long portion of the corridor traverses an area of peats and organic soils up to 70-feet deep.

An existing freight rail embankment must be widened to support two new light rail tracks, the existing freight rail, and a new service road, while maintaining the freight rail in service throughout the construction period. A combination of alternatives have been identified for various areas within the corridor, including a load transfer platform with rigid inclusions and geofoam. The project is currently under design, with construction scheduled to commence in 2018.

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******* Everyone is invited – refreshments will be served *******
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