

## College of Engineering

DEPARTMENT OF CIVIL
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To Whom It May Concern

This letter summarizes my experience with PRS's Neoloy geocell material used in an application on Amtrak's Northeast Corridor, near Havre de Grace, Maryland where Amtrak employed the Neoloy geocell material to improve main line conditions at a location with poor subgrade conditions and rapidly deteriorating track geometry.

This project was implemented in collaboration with the US DOT (Department of Transportation) - Federal Railroad Administration (FRA) and Amtrak (National Railroad Passenger Corporation), and monitored by Harsco Rail's technical consulting group (formerly ZETA-TECH Associates, Inc.), an industry leading technical consultant for the railway and transit industries, together with leading geotechnical researchers from Colombia University, and experts from PRS. I served as a technical consultant and advisor to Harsco Rail.

In this project, PRS-Neoloy geocell was used to reinforce a problematic section of track, which suffered significant mud pumping and track geometry degradation from poor subgrade (expansive clay). PRS-Neoloy was used in the track substructure and was selected due to its very high tensile strength and long term resistance to plastic and elastic deformation (creep resistance) under heavy dynamic loading.

The PRS-Neoloy reinforcement proved to be effective in reducing degradation showing a reduction in the surfacing (maintenance) cycle on the order of seven (7) times.

Sincerely

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Professor of Practice

Director of the Railroad Engineering and Safety Program