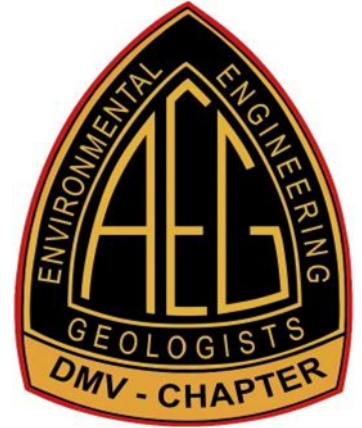
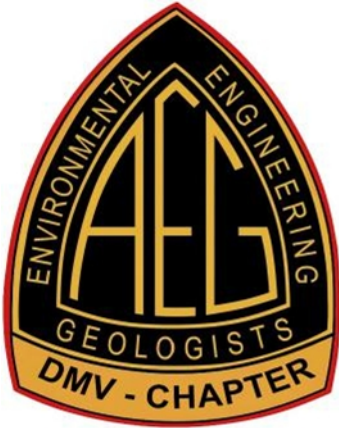


Association of Environmental & Engineering Geologists

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Notice of Meeting

Wednesday, February 19, 2025

**Presentation Category:
Geophysics**

Topic:

**Ground Vibration Control from Explosives Demolition of the Kosciuszko Bridge
New York City**

Presenter:

**Patrick T. Hastings, P.G.
Seismic Surveys, LLC.**

Abstract

The project involved designing and constructing the new eastbound structures of Interstate 278 over Newtown Creek, connecting Brooklyn and Queens, New York City. Spanning from Morgan Avenue in Brooklyn to the Long Island Expressway Interchange in Queens, this effort culminated in the explosive demolition of the existing Kosciuszko Bridge. The new bridges were built parallel to, and on the eastbound side of, the old bridge, facilitating a safe and efficient transition.

The explosives demolition method was selected by the general contractor due to its short duration and the ability to safely dismantle bridge trusses on the ground, minimizing risks to traffic on the newly constructed bridges. The demolition process included the felling of 20 steel trusses—10 on the Brooklyn approach and 10 on the Queens approach. However, vibration and air overpressure from the explosions posed significant risks to adjacent structures, including third-party buildings, buried gas transmission pipelines, the Long Island Railroad, the Historical Old Calvary Cemetery, and the new K-Bridges.

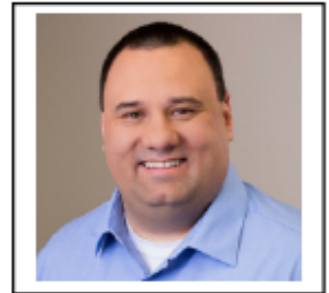
This presentation highlights the methods and procedures developed to mitigate these risks. Seismic Surveys, LLC (SSI) partnered with Controlled Demolition, Inc. (CDI) to estimate air overpressure and vibration levels, leveraging CDI's proprietary database. These predictions were compared to actual seismic measurements—peak particle velocity and frequency—recorded during the demolition. On October 1, 2017, SSI deployed 52 seismographs to monitor vibrations at key locations near the site.

The presentation will conclude with a video compilation of CDI's successful felling of the 3,104-foot-long, 20-span structural steel Kosciuszko Bridge, emphasizing the project's engineering achievements and precision.

About the Presenter:

Patrick T. Hastings, Jr., P.G. President/Principal Geologist

Mr. Hastings is a licensed Professional Geologist in Florida, Virginia, Pennsylvania, South Carolina, and North Carolina, with over 20 years of expertise in geophysics and construction management. He is based in Orlando, Florida, and serves as the President of Seismic Surveys, LLC where he oversees operations, strategic initiatives, and project execution. A certified ICC Residential Building Inspector and certified pre-blast surveyor in West Virginia, Mr. Hastings combines technical expertise with a strong focus on public relations and stakeholder engagement. He holds a B.S. degree in Geology from the University of Michigan and a M.S. degree in Geology from the University of Minnesota. Mr. Hastings specializes in vibration monitoring, pre-construction surveys, and data analysis to support infrastructure and development projects. Key projects encompass a broad spectrum of vibration, noise, structure, and geotechnical monitoring services, including seismic assessments for construction and blasting activities, as well as detailed pre- and post-construction structure surveys.



Please reserve your seat by **12 pm Monday, February 17, 2025**
Visit our website & E-Pay System

<https://www.aeg-bwh.org/ticketpurchase>

Meeting Information

Date/Time:

**Wednesday, February 19, 2025
6:00-8:30 PM**

Location:

**Brewer's Ally
124 N Market Street
Frederick, MD 21701**

Cost (dinner and meeting):

Members	\$40
Non-members	\$45
Retiree Members	\$30
Students	\$20

Agenda:

6:00-6:45 PM	Social
6:45-7:30 PM	Dinner
7:30-8:30 PM	Presentation

