Case History of University Link Light Rail TBM Tunnel

Matthew W. Burdick, P.E., and Richard A. McLane of Traylor Bros.

WEDNESDAY APRIL 24th at NOON in BB125

- Lunch Provided -

Mr. Burdick and Mr. McLane will review the underground work performed on Sound Transit's University Link Light Rail TBM Tunnel UWS to CHS Contract U220. The tunnel system consists of twin 11,400 feet long segmentally lined tunnels with excavated diameters of 21.5 feet using earth pressure balanced TBMs. The twin tunnels are connected by sixteen cross passages excavated using the sequential excavation method. The presentation will cover TBM selection and design, ground conditioning, preparations for hyperbaric interventions above 4.5 bar, and challenges of performing SEM excavation on multiple cross passages from within an active TBM tunnel.

Matthew W. Burdick, P.E., started his construction career in 1997 as intern on one of Boston's Big Dig projects and spent the next twelve years working on marine and heavy civil contracts including the Bath Iron Works LLTF, Woodrow Wilson Bridge and temporary foundations of the main span of the San Francisco Oakland Bay Bridge. A transfer within Traylor Bros. in 2009 to work on the U220 contract changed his focus to underground construction. Matt is a registered professional engineer in California and Washington.

Richard A. McLane joined Traylor Bros. in 2005 upon graduation from the Mechanical Engineering department at Cal Poly San Luis Obispo and immediately went to work on the TBMs destined for use on the LAMTA Gold Line Extension project. Richard has since moved on to the San Vicente Pipeline and U220 light rail projects, focusing on the procurement, assembly and operation of all types of mechanized tunneling systems. His areas of expertise include ground conditioning, bi-component grout mixing and delivery PLC control systems.

COLORADOSCHOOLOFMINES
EARTH • ENERGY • ENVIRONMENT