2nd Avenue Subway

New York, New York

Keller safely constructed a deep support of excavation system on both sides of a busy active New York City street.

The project

Originally proposed in 1919, the 2nd Avenue Subway finally began construction in 2008. One of the first operations was the construction of a deep support of excavation (SOE) system to enable excavation of the tunnel boring machine launching pit beneath 2nd Avenue.

The challenge

The SOE system was to be constructed while maintaining 2nd Avenue open to vehicular and pedestrian traffic and minimizing noise disturbance to the occupants of the adjacent buildings.

The solution

Keller constructed 274 – 1180 mm diameter secant piles in two phases on both sides of 2nd Avenue while vehicles passed immediately adjacent to the drilling equipment. The shafts ranged from 30 to 90 feet in depth and required excavating through dense till and thick rock to serve as water-tight retaining walls for the deep excavation.

Project facts

Owner(s)
MTA New York City Transit Authority

Keller business unit(s)
Keller

Main contractor(s)
S-3 Tunnel Constructor

Engineer(s)
DNHH/Harris/Arup, JV

Solutions
Support of excavation

Markets
Infrastructure
Transportation

Techniques
Secant or tangent (contiguous) piles

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