Diaphragm wall construction for an underground metro project

Lucknow, Uttar Pradesh

Keller completed this critical project in a highly congested environment on time receiving awards from the client and Indian government for its safety practices.

Keller engineering excellence delivered top down construction approach.

The project

M/s Lucknow Metro Rail Corporation was constructing an underground metro station at Hazrat Ganj, Lucknow as part of the Lucknow Metro North-South Corridor. The main contractor awarded Kellert the contract to construct diaphragm walls with lateral support to retain deep excavation.

The challenge

The major geotechnical condition was to maintain the verticality of the d-wall in the given soil conditions using a top-down method, and complete the work in the middle of one of the busiest narrow roads in Lucknow.

The solution

To address the challenges of the project, Keller developed and executed a buildable, value added 'top down construction' method to build the d-wall to retain the excavations as deep as 20m. Using the global strength of Keller, colleagues from Australia, the USA and Poland helped in the initial engineering operations. With proper planning, regular site inspection and testing, we were able to successfully accomplish our first d-wall installation in 600 days with absolute safety and quality compliance.

Project facts

Owner(s)
Lucknow Metro Rail Corporation

Keller business unit(s)
Keller India

Main contractor(s)
Gulermak-Tata Projects Ltd JV

Engineer(s)
AYESA-KRNA-Aarvee-Geodata JV

Solutions
Earth retention and shoring

Markets
Infrastructure

Techniques
Diaphragm walls and barrettes