

Elizabeth House, Waterloo

London

Elizabeth House is the major new mixed-use redevelopment project adjacent to London's Waterloo Station.



The project

The redevelopment involves demolition of the current office block, improvement of existing public space and construction of a new building and pedestrianised. The project will provide multiple new entrances to the station

The works are in close proximity to multiple types of existing infrastructure and it is necessary to monitor adjacent London Underground and Network Rail assets throughout the course of the project.

The challenge

Included in the monitoring were 8 London Underground Tunnels as well as pedestrian passages, including 11 escalators. Installation and monitoring had to take place without disruption to the everyday usage of the station and tunnels.

During installation it was necessary to engage with multiple key asset holders including Network Rail, London Underground, LCR (London commercial railways), and contractors on nearby work sites.

The solution

The monitoring and data collection was automated wherever possible to maintain data frequency whilst minimising the need for intervention. Installations and Manual surveys had to take place during the limited time in the early mornings when services aren't running and stations are closed to the public.

Over the planned 5 year lifespan of the project, GEO-Instruments' monitoring system will be providing data 24 hours a day using a mesh network of over 200 triaxial tiltmeters. Further surveys of over 700 prisms, tape-extensometer bolts as well as track trolley geometry surveys and precise levelling will provide manual back up to the automated system.

GEO-Instruments already have significant experience monitoring major assets in the Waterloo area from previous monitoring work on the nearby Southbank Place project.

Where necessary we worked with the main contractor to gain necessary access and permissions to monitor listed assets.

Project facts

Owner(s)

Elizabeth House

Keller business unit(s)

GEO-Instruments

Main contractor(s)

HB Reavis

Services

Automated monitoring

Markets

Building Monitoring

Technologies

Tiltmeters

Email address

enquiries.uk@geo-instruments.co.uk

Phone number

+44 (0)207 709 2030