

Case Study

Service: Preloading Steelwork

Location: Kingsgate House, London

Client: Careys

Swantest have been working alongside Careys at Kingsgate House in London during the excavation of a large basement area which is 19m deep in some sections. During these excavation works large kingposts have been pile driven around the perimeter wall to act as support. On one side of the excavation is Victoria Street and on the opposite side there are LUL tunnels. Ensuring that there is minimum movement in these walls during excavation is vital. Swantest were able to design a bespoke steel jacking rig which allowed us to preload these kingposts. Swantest successfully preloaded almost 100 kingposts and by working to either a predetermined load or deflection ensured that there was no disruption to the surrounding structures.

As well as preloading the vertical kingposts which supported the perimeter walls, Swantest have also successfully preloaded the horizontal flying shores which support the basement excavation. Some of these CHS steel props are over 30m in length and 1.2m in diameter. Again Swantest were able to work accurately to a predefined load and induce over 120t of preload into some of the props which will minimise movement during the deep excavation works.

Key to images:

1. Overview of the preloaded flying shores
2. Bespoke jacking rig
3. Preloaded kingposts supporting Victoria Street

