

Bill Boley

“Controlled Hydraulic Movement”

in action



Complex jacking procedure ensures building structural integrity is maintained
Hydraulic jacking specialists Bill Boley Ltd have completed a critical jacking and load monitoring project for HBG Construction, during the extensive renovation and remodelling of the former Marks & Spencer headquarters at 55, Baker Street, London W1.



Hydraulic jacking specialists Bill Boley Ltd have completed a critical jacking and load monitoring project for HBG Construction, during the extensive renovation and remodelling of the former Marks & Spencer headquarters at 55, Baker Street, London W1. This six storey building is being transformed into over 50,000 sq m of prestigious office accommodation, together with three storey town houses, restaurants, shops and leisure facilities. The first tenants will take up residence in 2008.



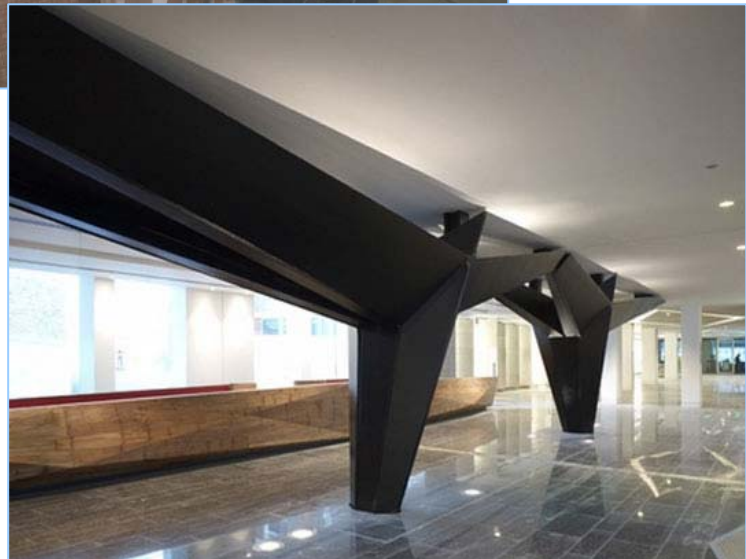
The open plan design of the new atrium necessitated the removal of ten ground floor structural columns, replacing these with two minimalistic cantilevered steel supports. To maintain structural integrity during the demolition process, Bill Boley Ltd were contracted to install a complex jacking and support system. This consisted of steel props located either side of each column to support

the floor above, with similar props placed on each floor on up through the building. On the ground floor, twenty 50 tonne jacks were installed at the base of the props with a further forty jacks fitted below the props on alternate floors above. Linear displacement transducers were fitted to the ground floor props to monitor vertical movement. Once all the props and jacks were in place, the Boley hydraulic control system introduced a calculated preload into all the props, thereby relieving the load on the ground floor columns so they could be safely removed and replaced by the new supports.

Load and displacement conditions were monitored on a weekly basis throughout the eight week project to ensure nothing untoward occurred. When the columns had been successfully removed, Boley engineers removed the preload in the jacks so that the props could be taken out, leaving the new supports to do their job.



This was a particularly complex jacking project and as Bill Boley's MD concludes: "Removing critical structural components in a building is always a nerve wracking time and in this case the work involved co-ordinated controlled jacking on three separate floors. As architects become more and more adventurous with their designs, we have to be more innovative with our jacking solutions. This is the second successful project for us in Baker Street over the past two years, having previously provided a range of jacking services during the demolition and renovation of the former Abbey National Building, famous for its white stone bell tower and the 221b fictitious Sherlock Holmes address."



Bill Boley Ltd
The Whitehouse, Thorncliffe,
Leek, Staffs ST13 8UW
wbolely@billboley.co.uk
www.billboley.co.uk

T: 01538 300551 F: 01538 300028

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