



KING CROSS STATION LONDON

TEMPORARY PROPPING & HYDRAULIC JACKING WORKS

CONTRACT SERVICES - HIRE - SALES



PROJECT DESCRIPTION

King's Cross Railway Station is one of London's major railway terminus throughout its rail infrastructure.

In 2005, a £500 million restoration plan was announced and commenced 2007. The scheme included works to be carried out from reglazing of the arched roof to complete redevelopment of the station's surrounding environment.

The architect (John McAslan) claims that the roof is the longest single-span station structure in Europe.

Hydra Capsule were approach to design and supply a system to accommodate restricted access and raising of 2 concrete slabs synchronously (160 Tc each).

"The station redevelopment has been the catalyst for one of the largest regeneration schemes in Europe, attracting £2.2bn of private investment"



PROJECT WORKS

All the hydraulic jacks were 50 tonnes capacity and had a 300mm maximum stroke. Which in turn, were all electronically controlled by our multi-flow solenoid control hydraulic pump.

This synchronised lifting system allow 2 sets of 4 jacks (8 nr. in total) to be lifted together in 250mm stages. All hydraulic jacks and lifting points were digitally monitoring by our electronic instrumentation (ie. draw-wire potentiometer and pressure sensors), allowing Hydra Capsule to have complete control throughout the operation(s).

The total lift of the slabs were +2.18 metres in height. Once completed, the slabs were fixed into its permanent place.



The complete jacking operation was completed all within 1 working day, as a result of using a jack-and-pack method. This allowed jacks to be paired together and lifted alternatively for speed, control and safety.

In addition, due to the weight conditions and jacking arrangement, Hydra Capsule also fully designed and calculated all the forces / loadings for the temporary support system.

By offering the complete package, we were able to fully justify our proposal and build confidence with the client by proving our theoretic calculations.

