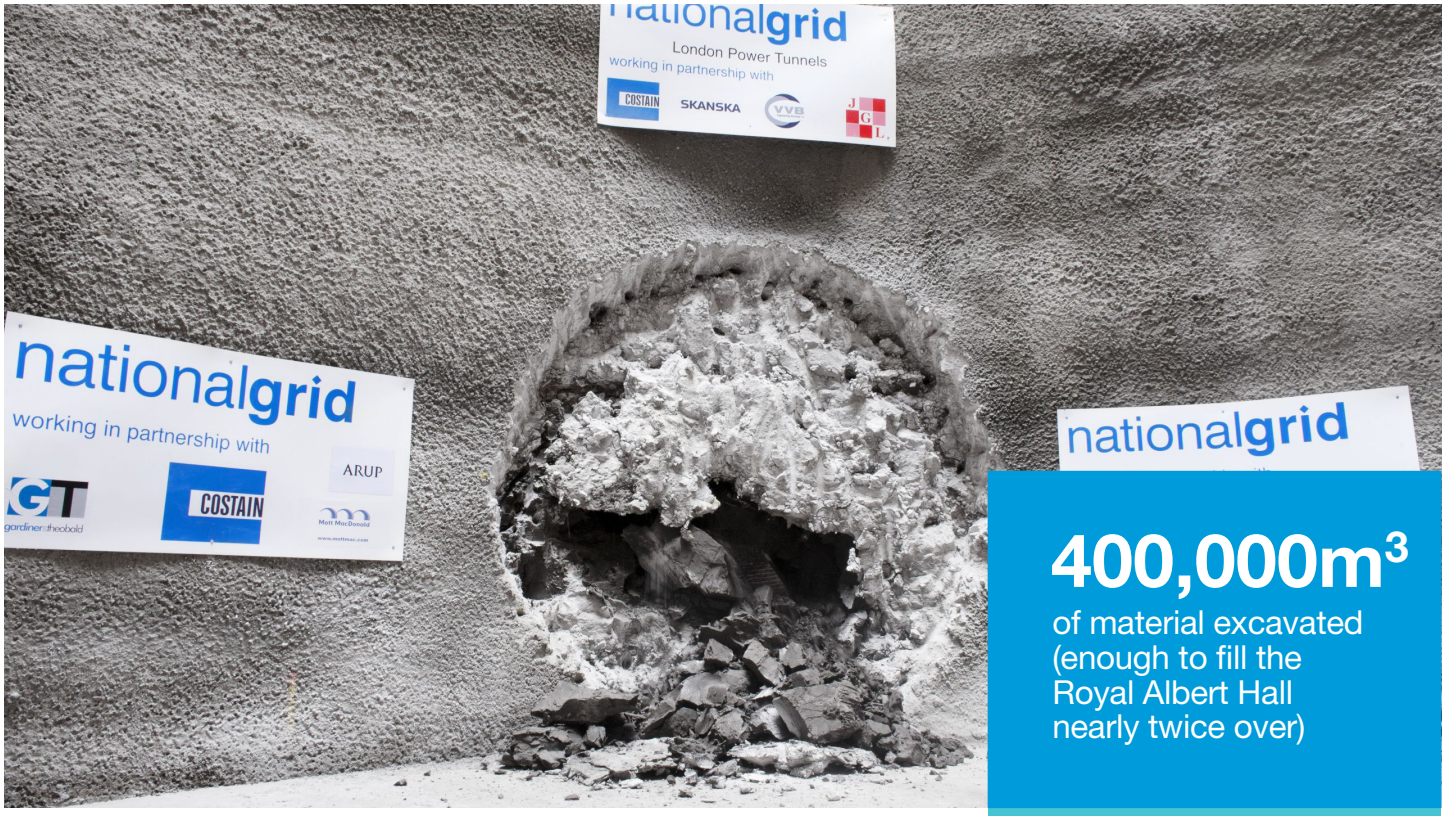
CASE STUDY:

nationalgrid

London Power Tunnels – Soil reclamation and reuse

Background

National Grid Property Ltd is continuing to deliver a programme of gasholder decommissioning and former gas works remediation across a number of sites within Greater London. This work requires a substantial need for suitable infill material for backfilling the excavations caused as a result of this clean-up work. As a responsible company we wanted to find a way where we could reclaim clean excavated material and use it on the many gas work sites that we are bringing back to life.



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90%
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In 2011 National Grid Construction started work on the building of its major infrastructure project, the London Power Tunnels. This involved tunnelling at a depth of 30m to install 400,000kv cables to provide a safe and reliable electricity supply to much of the Capital.

The tunnels would allow for the connection of substations at Hackney to St Johns Wood, St Johns Wood to Willesden and Kensal to Wimbledon; a total distance of 32km.

Regeneration Strategy

The tunnelling work was expected to produce approximately 400,000m³ of excavated material over the lifetime of the project. Ordinarily this material would have been sent to landfill as there was very little opportunity to store or re-use the material within the project. As a responsible market leader in land regeneration, a plan was developed using CL:AIRE Code of Practice, to use the excavated London clay on a number of National Grid Property sites within a 14 mile radius of the tunnel sites. Our site in Beckton was identified as a temporary storage site for some of the excavated material. To date over 80,000m³ of material has been reused.

It soon became clear that three receptor sites were available. They included: Poplar Gasworks, Bromely-by-Bow Gasworks and Beckton Gasworks. By working with our regulators, not only were we able to reclaim and reuse thousands of tons of materials, but we were also able to reduce our waste to landfill and save on CO2 emissions.

Some key facts:

- 400,000m³ of material excavated (enough to fill the Royal Albert Hall nearly twice over)
- 90% of materials diverted from landfill
- 340,000m³ of material needed to backfill 12 National Grid Property sites
- Estimated saving of 1,049,000kg of CO2 emissions saved
- Two year programme of work

Outcome

The project is currently managing the successful sustainable reuse of materials within the economic timescales of the project. The first phase of the project has led 85% of excavated material being diverted away from landfill and to National Grid Property sites, where it is used as backfill. The project is an excellent example of the sustainable re-use of materials. It required substantial co-ordination of contractors and stakeholders and is showing huge benefits in the early stages of the project.

National Grid has won a Silver Award for outstanding corporate and business communications in the Chartered Institute of Public Relations' Pride Awards 2012. National Grid was also awarded the Best Re-Use of Materials Award at the Brownfield Briefing Awards, as well as the 2012 International Tunnelling Award for Safety Initiative of the Year.