

Botley Landslip - Emergency Embankment Reconstruction

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“Worst ever” landslip at Botley

With our teams barely recovering from responding to a series of emergency works to stabilise landslips and maintain railway services, the biggest landslip that has ever been recorded on Britain’s railways occurred.

An 80 metre long and 15 metre high section of the railway embankment at Botley in Hampshire was almost sinking before our eyes, resulting in the track being lowered by up to two metres in places. The team were mobilised onto site the same day where two further landslips were identified at the same location.

The railway line links Fareham with Eastleigh and closure meant that all Portsmouth to London Waterloo trains were being diverted, with buses serving stations from Fareham to Eastleigh.



Under extremely challenging conditions, over a six week period, a team of over one hundred people worked 50,000 hours on site, placed some 50,000 tonnes of new material and installed over 1,100 sheet piles, working 24 hours a day and 7 days a week.

The line was re-opened a day ahead of schedule and is now running safely for railway users.

Remarkable team work

Whilst working in parallel with our Design Partner to complete a design for reconstruction and stabilisation of the embankment, our committed seamless team of people and suppliers came together to:

- Install 2km of access across the farmers field
- Remove the railway tracks and divert cables
- Remove the failed embankment material
- Install 1100 sheet piles
- Reconstruct the bank with new material.



TOP: Scale of the landslip

MIDDLE: Preparing to re-open the line

BOTTOM: Embankment

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Stephen Hammond, Rail Minister:

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The work Network Rail has been carrying out to reopen the line around Botley by mid-March has been impressive. They undertook a massive engineering task just to prepare the site before they could start dealing with three separate landslips along one mile of track. Lessons are being learned from the extreme weather and I've asked Network Rail to examine how the network can be made more resilient in future.

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When the embankment was originally constructed in the 1840s, the engineers built the earthworks out of whatever material they could find locally, which was a mixture of clay, sand and silt. Persistent heavy rainfall during the wettest winter in 250 years caused the embankment to become unstable, ultimately suffering a rotational failure, where the land to the south of the line raised up, as the embankment sunk down.

Our team have had to completely remove the failed embankment, install a 100 metre long wall of sheet piles either side, and tie the piles together with steel rods before re-constructing the embankment with new material.

It was a tremendous team achievement between all of the numerous parties involved. Not only did the team demonstrate outstanding personal service, they did so in the most atrocious of conditions.

Excellent Industry Recognition

The works were visited by Richard Price, the Chief Executive of the ORR and several of his ORR colleagues, as well as several Directors from the Wessex Alliance Board, who were all keen to see the scale of the works completed. Rail Minister Stephen Hammond visited the team on site to see the scale of the damage. The BBC and ITV television crews also broadcast updates on what has been described as the largest landslip ever recorded.

IMAGE: Rail Minister, Stephen Hammond, meeting the team following his site visit to Botley.