



# HS2

Clancy are delighted to be undertaking 2 further works for the joint venture at multiple sites and locations in Aylesbury, including early contractor involvement contracts to provide foundations for future utilities under HS2. This is testament to the hard work of our staff and the quality of our ways of working.

## Tunnelling under a live railway to pave the way for HS2



### Background

Clancy has completed a complex auger bore to re-route a water main under a live railway - part of a programme of utility diversions that are making way for Europe's biggest infrastructure programme, HS2.

We have been working on behalf of the Eiffage, Kier, Ferrovial Construction and Bam Nuttall (EKFB) joint venture that is delivering the railway route around the Aylesbury area in Buckinghamshire. The project has been one part of a complex engineering scheme that will allow the re-alignment of the existing Princes Risborough-Aylesbury (PRA) rail line so that HS2 trains from Birmingham and London can pass beneath it.





## Solution

A major challenge of this project was to undertake the diversion without impacting existing PRA railway movements, while also working with tightly constrained land boundaries.

As part of EKFB's early engagement in the design process, they recommended a change of engineering strategy for the water and electrical diversions. An opportunity was identified to use an auger boring approach that would minimise the risk of disruption to the existing rail line and allow us to work within the constrained land boundaries. Initially, a comfortable drilling length was noted at 75 metres, but Clancy adapted the micro-tunnelling design aligned with our supply chain based on ground investigation works and our live drilling experience in the area – extending it to an ambitious, yet achievable, 92 metres. This made sure that the entry and exit points sat well clear of the rail line and gave us the extra space needed for the boring technology, while also minimising deep trenching in a challenging landlocked location.

To maintain the water service to the local community while works were underway, we proposed, designed and implemented a line stopping and rider main methodology to isolate the pipework at the connection points. This ensured there was no outage on the network – minimising the impact to the local community.

Accessing a landlocked section of the water main, while navigating the rail line and an environmentally sensitive brook was a considerable task. The team had to work flexibly, optimising shift crossings through the night and arranging works to align with planned rail outages and blockades to transport vacuum trucks, excavators, materials and equipment to the site.

## Benefit

This project has seen us successfully drill under a live, existing railway asset. As an additional benefit, we've been able to improve the resilience of the water network in the meantime, removing 445 metres of an older asbestos cement main, replacing it with a new, stronger high-density polyethylene (HDPE) main.

The diversion is part of a much wider programme of activity in the Aylesbury area, which has also included moving two 33kV electrical circuits – demonstrating the strength of Clancy's expertise across different utility networks.

Our work has been highly rated by EKFB – so much so that we were asked to deliver further works for the joint venture at multiple sites and locations in Aylesbury, including early contractor involvement contracts to provide foundations for future utilities under HS2. This is testament to the hard work of our staff and the quality of our ways of working.



HIGH PROFILE  
**PROJECT**  
UNDER INTENSE  
PUBLIC SCRUTINY



MINIMISED DISRUPTION DUE TO  
**INNOVATIVE**  
TECHNOLOGY

