



A Massive Undertaking

# HS2

## TBM Arisings Storage Bins 1, 2 and 3 in West London

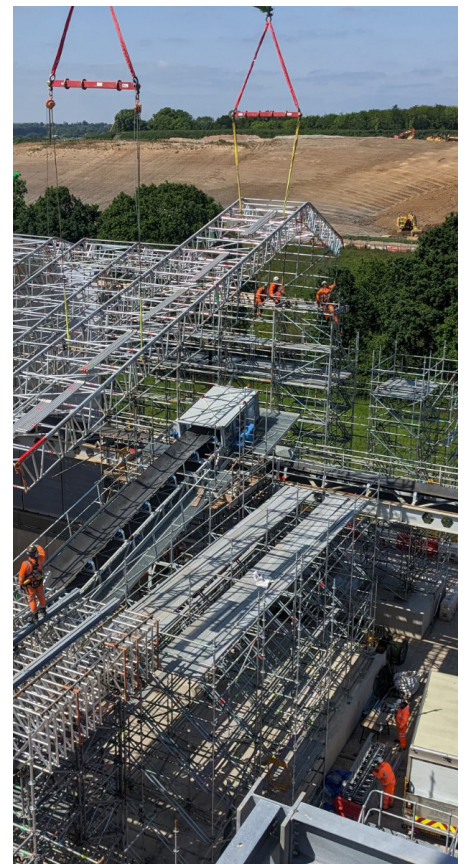
Working with SCS JV to deliver the London Tunnels programme for HS2, we have designed and installed a massive temporary roof structure to protect a number of storage areas known as TBM Arisings Storage Bins 1, 2, and 3 in West Ruislip in West London. The London Tunnels project will excavate and build 13 miles of tunnels to take the final leg of the high-speed rail from West Ruislip to Euston in central London.

The TBM Arisings Storage Bins are a significant construction endeavour that commenced in August 2022 and concluded in summer 2023. The project was undertaken by SCS JV for HS2, with design work led by Keith Drewett of Tubular Techniques and Rob Vernon of Alltask, head of innovations. The primary objective was to build a roof structure to safeguard the soil extracted by two Tunnel Boring Machines (TBMs) currently tunnelling under London for HS2.

One unique aspect of the project was its sheer size. The structure spans an

impressive 179 meters in length, with a width of 55 meters and a height of 13 meters. It incorporates beam spans in some places of over 30 meters in certain sections, making it one of the largest temporary structures erected in Europe.

Throughout the construction process, numerous challenges were encountered. These included working with bespoke scaffold components, adapting to an evolving design, managing crane operations and permits, monitoring weather conditions (particularly wind speeds), and addressing logistical



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01634 298000  
 enquiries@alltask.co.uk  
 www.alltask.co.uk



concerns related to material and personnel transportation. However, these hurdles were overcome through training, on-the-job learning, close collaboration with various stakeholders, such as the design teams and crane providers, and effective communication between all the parties involved.

Several restrictions also impacted the project's progress. The project faced limited daylight during the winter months, with sunlight not appearing until 08:30am on some days. Furthermore, the team respected the Section 61 noise abatement order in effect and adhered to restrictions on weekend work on certain occasions.

The project presented a range of interesting elements, including its speed and design. Building such a large temporary structure required a high level of expertise and coordination. The intricate interface with the crane provider, Emersons Crane Hire proved particularly noteworthy.

The process of managing crane teams, permits, and wind speed considerations added a layer of complexity to the project. Careful planning and forward-thinking

were necessary to ensure smooth operations and avoid unnecessary costs.

Richard Bridges, Scaffold Supervisor commented - "The interaction with crane provider Emersons presented numerous challenges for me, as I had never previously undertaken a contract lift. While the project has been challenging, it has been an opportunity to work as a team on one of Europe's most prominent temporary structures. Seeing the end result has been incredibly satisfying."

In conclusion, the TBM Arisings Storage Bins project has been a massive undertaking, marked by its size, complexity, and challenges. Working as a team on this structure was rewarding and the project stands out for its massive scale.



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