CASE STUDY

TRICEL
GENERATIONS OF INNOVATION

Tricel , Engineering Water Storage Solutions for the UK's Largest Infrastructure Project

Project Information

Client: HS2 Ltd. – The UK's flagship high speed rail project, transforming transport between London, Birmingham, Manchester, and Leeds while prioritising environmental and community sustainability.

Industry: Rail Infrastructure, Civil Engineering, and Construction

Contractor: EKFB Joint Venture – a collaboration between Eiffage, Kier Group, Ferrovial Construction, and BAM Nuttall

Project: Tricel Water designed, manufactured, and installed two large GRP water tanks (8 m × 7 m × 4 m) for HS2's Greatworth Green and Chipping Warden Green Tunnel projects. A third tank is planned for early 2026, continuing Tricel Water's key role in the Green Tunnel programme.

TANK DIMENSIONS: 8m x 7m x 4m deep (x2 installed; third planned for 2026)

Challenge: HS2's Green Tunnels programme required bespoke water storage infrastructure to support construction and long-term operations. Tight deadlines, rural site access, environmental commitments, and oversized components demanded exceptional engineering precision.

Timeline: 2025 – First two tanks installed
2026 – Third tank scheduled

Current Project Status: Tanks in Final Installation Phase & Sign Off

A BESPOKE WATER STORAGE SOLUTION

HS2 is one of Europe's largest infrastructure investments, aimed at delivering a high-speed rail link between London, Birmingham, Manchester, and Leeds, transforming UK transport and supporting sustainable growth.

The green tunnels programme is a unique element of HS2's design. Unlike traditional bored tunnels, these cut-and-cover tunnels are constructed in open trenches before being covered over and landscaped to blend seamlessly into the surrounding countryside.

The Greatworth Green Tunnel and Chipping Warden Green Tunnel, each 2.5km long, are designed to:

- Reduce the railway's visual and noise impact.
- Restore natural habitats and biodiversity.
- Deliver a sustainable and community-sensitive rail corridor.

These environmental objectives made the water infrastructure design critical to construction logistics and long-term site management, requiring bespoke engineering solutions.

Tricel's Engineering and Delivery Approach

Tricel's engineering, logistics, and installation teams collaborated closely with EKFB engineers to deliver a seamless, high-quality solution.

Bespoke GRP Tank Design:
Tanks were designed to exact specifications, ensuring maximum capacity, durability, and compliance with HS2's stringent engineering requirements.

Precision Logistics and Delivery:
Transportation plans were created to deliver tank components to the rural construction sites with minimal disruption, ensuring adherence to HS2's traffic and environmental management strategies.

On-Site Installation Expertise:
Tricel's installation teams deployed equipment and expertise to position and secure the tanks within restricted tunnel site areas, maintaining safety and efficiency throughout.

Sustainability Built-In:
GRP construction ensures corrosion resistance, low maintenance requirements, and long-term durability, supporting HS2's environmental objectives and lifecycle cost efficiency.

Understanding the Challenge

Delivering water storage solutions for a project of HS2's scale required addressing several challenges:

- Large-Scale Engineering: Each tank's dimensions (8m x 7m x 4m deep) Brought unique challenges that encouraged creative solutions in manufacturing, delivery, and installation.
- Restricted Site Access: Tunnels are in rural locations, requiring detailed logistics planning to transport large components.
- Environmental Considerations: HS2's strict sustainability commitments meant solutions had to align with environmental protection and long-term resilience standards.
- Tight Construction Timelines: HS2's extensive civil works programme leaves no room for delays; installations needed precision scheduling.
- Future-Proofing: The tanks needed to serve immediate construction needs and remain functional for decades.

Client Feedback

"Tricel Water's expertise and precision delivery made this critical part of the HS2 Green Tunnel programme seamless and stress free".

Timeline

2025: Successful installation of two large tanks at Greatworth Green and Chipping Warden tunnels.

2026: Scheduled installation of the third tank to complete HS2's Green Tunnel water storage infrastructure.

From Vision to Results:

A Seamless Execution

- On-Time Delivery: Both tanks were delivered and installed seamlessly, with zero delays to HS2's ambitious construction programme.
- Enhanced Site Capabilities: The tanks provide essential water storage for construction and future operational requirements, supporting site safety and environmental management.
- Proven Expertise: This high-profile project demonstrates Tricel's capability in delivering complex GRP water storage solutions for large-scale infrastructure.
- Sustainability Integration: Solutions align with HS2's commitment to reducing environmental impact and integrating construction with natural landscapes.

Contact us today to discuss your project needs

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