

PRESS RELEASE

Arcadis JV helps to drive carbon reduction in UK's High Speed Railway viaduct

- **HS2 designers on track to more than halve the amount of embedded carbon as foundation work begins on one of the project's main viaducts**
- **Innovative construction approach set to save an estimated 7,433 tons of carbon – the equivalent of 20,500 return flights from London to Edinburgh**
- **Arcadis JV involved in pioneering approach inspired by French high-speed lines**

16 August, 2022 – HS2, Britain's new high speed railway line and the largest infrastructure project in Europe, has taken another step forward with the commencement of works on the pioneering low-carbon Wendover Dean Viaduct. At 450m-long, the viaduct will be the first major railway bridge in the UK to be built with a 'double composite' structure, using significantly less carbon-intensive concrete and steel in comparison to a more traditional design.

The 'double composite' approach was inspired by structures on the latest French high-speed TGV lines. It was developed by a team made up of Eiffage, Kier, Ferrovial Construction and BAM Nuttall (EKFB), working with design JV partner Arcadis, Setec and COWI (ASC), and specialist architects Moxon.

Over the summer, an expert team of ground engineers will construct 63 concrete piles to form the foundations for the structure.

On top of each group of piles – which will range from between 38 and 46m deep - a concrete pile cap will support the pier. This will in turn support the weight of the bridge structure above. Instead of hammering the piles into the ground, holes will be bored before being backfilled to create the pile.

The piers – some of which will be up to 14 meters high – will be cast as shells before being assembled on site and filled with concrete. This will reduce the amount of work on site and cut disruption for residents.

Instead of using solid pre-stressed concrete beams to form the bridge spans, the viaduct will use two steel girders sandwiched between two layers of reinforced concrete to create a super strong but lightweight hollow span.

This approach is set to save an estimated 7,433 tons of carbon – the equivalent of 20,500 return flights from London to Edinburgh – and help HS2 achieve its goal of halving the amount of embedded carbon in construction.

Peter Oosterveer, CEO of Arcadis, said:

"HS2 is one of the most important economic and social regeneration projects that Europe has seen for decades, and I'm pleased to see our teams playing such an integral role in making this globally ambitious project a reality. Transport accounts for nearly a third of global carbon emissions, and it is crucial that our industry continues to pioneer new ideas and approaches that support carbon reduction. Being able to draw on best practice examples from all around the world is critical when it comes to ensuring the long-term social, environmental and economic

sustainability of all the projects in which we are involved.”

Andrew Bull, ASC Programme Director at Arcadis, added:

“It’s fantastic to see our innovative solutions now becoming reality. I am very proud of our design teams who have worked hard with our client, external stakeholders and the wider supply chain to bring innovation with tangible benefits. This viaduct is a great example of how we can collaborate to achieve win-win-win solutions saving time, money and carbon.”

HS2 Ltd Project Client Rohan Perin, said:

“HS2 trains will be zero-carbon from day one, offering a cleaner, greener way to travel, cut the number of cars and lorries on our roads, cut demand for domestic flights, and help the fight against climate change.

“But we’re also serious about reducing the amount of carbon we use during construction, and Wendover Dean is a great example of how we’re using the latest engineering techniques to do just that. Concrete is one of the construction industries’ biggest sources of embedded carbon – and this innovative design will help us cut our carbon footprint while delivering a lighter, stronger and more elegant structure.”

The first ‘double composite’ beams will be installed next year.

ENDS

FOR FURTHER INFORMATION PLEASE CONTACT:

ARCADIS CORPORATE COMMUNICATIONS

Kerri Moore

E-mail: kerri.moore@arcadis.com

ARCADIS INVESTOR RELATIONS

Christine Disch

Mobile: +31 6 15376020

E-mail: christine.disch@arcadis.com

ABOUT ARCADIS

Arcadis is the leading global design & consultancy organization for natural and built assets. We maximize impact for our clients and the communities they serve by providing effective solutions through sustainable outcomes, focus and scale, and digitalization. We are 29,000 people, active in more than 70 countries that generate €3.4 billion in revenues. We support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.

www.arcadis.com