



Bargoed Plateau Site - WM Morrisons

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Contractor

Simons Construction

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Steelwork Design

Caunton Engineering

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Architect

Holder Mathias Architects

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Engineer

Capita Symonds Ltd

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Steel Tonnage

1,000 tonnes

Caunton Engineering worked for main contractor, Simons Construction, on a multi-million pound retail development in Bargoed, Wales. The Morrisons store sat on a plateau, which was carved out of the side of the Bargoed hillside. Its elevated position gave it far reaching views across the surrounding valleys. The store comprised of a ground level, undercroft car park for 400 spaces, with the main Morrisons retail deck positioned above this, which also included a large car park deck. Above the Morrisons store were a series of decks which comprised of plant areas and a selection of independent retail units, the latter aligning through with the existing street level and provided a continuation of the shop frontage and a suspended market area.

The plateau was formed in part with a contiguous piled wall, which was approximately 11 metres high by 130 metres long and was reinforced with additional screw anchors to secure the wall during the excavation stage. The steel structure which framed the store comprised of 1,000 tonnes of structural steelwork. This was designed by Caunton Engineering and had been designed to connect into the contiguous piled wall at set intervals along its length and to offer full support to the wall at its head in the final condition. This resulted in the need for an impressive 24 metres deep horizontal truss, which had to be concealed within the retail unit's floors. The truss was required to span the full length of the wall and connected into it using cast in plates. The massive loads were transferred through the truss by large welded nodes, some of which facilitated 12 incoming members.

In addition, this project was fully managed and constructed using BIM methodology. This enabled the Architects and Engineers models to be fully integrated with Caunton's detail and design models. This aided the development process on the project and allowed complex geometry and data to be easily transferred amongst the design team. Design Team meetings were far more productive as Caunton took integrated models with them and presented them onsite using projectors, which allowed the team to realise the problem and thereby collectively find a solution.

