



## > At a glance



250 beds



9 storeys



3,158 linear  
metres  
panels



6,095m<sup>2</sup>

ARCHITECT  
KTA Architects

CLIENT  
Sandy Park

MAIN CONTRACTOR  
Sandy Park

## OVERVIEW

The new 'Courtyard By Marriot' Hotel will be the largest commercial hotel in the region with 250 bedrooms, ground floor leisure facilities and a spectacular rooftop cocktail bar.

Working with Exeter based KTA Architects, Sigmat have been involved in delivering an all-encompassing offsite MMC solution including; 4-levels of hot rolled steel transfer structure with Sigmat's own SFS infill, 5-levels of Sigmat Light Gauge Steel Framing with 180mm decking throughout the whole scheme, including provision of roofing, lift / stair cores and staircases.



**“LGSF is an amazing system for the right project and has huge benefits for this type of scheme such as the speed of construction onsite and the flexibility to create a cost-effective, custom engineering solution that really delivers.”**

Sigmat also provided every single stud on the pre-drilled external panels, along with bespoke holes to act as a fixing point for the horizontal rail on each floor to support vertical fins.

This unique approach was employed to deliver on the architectural designs specifics to create an impressive wave effect across the building. Alongside additional architectural features such as vertical aluminium brise soleil which helps to manage heat and light, the heart of the scheme also includes a bespoke, hot-rolled glazed link bridge which offers seamless access from the hotel reception to the nearby Sandy Park stadium, home to the Exeter Chiefs Rugby Club.

The scheme presented a number of key structural challenges; The vertical brise soleil fins were up to 17m long and fixed directly to the LGSF external wall studs. Torsion of the light gauge sections was prevented using an innovative rail system which also allowed for on-site tolerance and adjustment when installing the fins.

A hybrid design utilising slender hot rolled posts and light gauge steel panels at the upper floor allowed for a large open plan space with continuous glazing down the full elevation and projecting wrap-around canopy. A series of plan trusses within the roof structure required complex wind modelling and stability analysis to create a feature gull wing roof with 62m2 central opening. The hybrid nature of the build relied on Sigmat's wealth of hot rolled and cold rolled design expertise." Anthony Longbottom, Head of Pre-Construction, Sigmat.



**This has been a ground-breaking project for us. The hybrid approach of using hot-rolled to level 3 of the structure and light gauge for all upper floors has offered us huge amounts of flexibility and really demonstrated the effectiveness of LGSF as a leading value engineering solution."**

Adam Willis - KTA Architects

