

Award

Lord's Cricket Ground, Compton & Edrich Stands Redevelopment

PROJECT TEAM

Architect: **WilkinsonEyre**

Structural engineer: **Buro Happold**

Steelwork contractor: **Severfield**

Main contractor: **ISG Construction**

Client: **Marylebone Cricket Club**



Established in 1814, Lord's is renowned as the home of cricket and of Marylebone Cricket Club (MCC), the custodian of the Laws of cricket played around the world. The ground, in the St John's Wood area of North-West London, has been undergoing redevelopment in accordance with a staged masterplan to upgrade facilities and increase revenue generation.

The latest phase encompassed redevelopment of the Compton & Edrich Stands, located either side of the distinctive media centre at the 'Nursery End' of the ground. A three-tier arrangement increases

capacity of the stands from 9,000 to 11,600 seats and is accompanied by two new main sponsor corporate boxes. The redevelopment vastly improves sightlines, removes obstructed view seats, creates new wheelchair spaces and additional accessible seating, and adds a steel-framed roof which partially covers the top tier.

The new stands, while providing a high-quality aesthetic, transform the famous Nursery End of the ground, complement the existing media centre, provide world-class facilities, and open up views towards the Pavilion and back towards the Nursery Ground.

The structural layout of floors and seating responds to the functional requirements, with the overall shape developed to complement the media centre. Each stand was spatially offset from the media centre so that the new elevation could be read individually but also allowing the three elements to be seen as a single new composition.

The structural framing is a moment frame in two-directions. In cross-section the structure is largely supported on two main columns, with further support to the lower tier. The outer column being pin-ended to respond to the aesthetic requirement of presenting



a lighter colonnade façade, whilst the inner column, coupled with the bending resistance of the rakers, provides the lateral and longitudinal strength and stiffness. To achieve this, the inner column is a 1400mm x 500mm fabricated box with 100mm thick base plates anchored with Macalloy bar assemblies. The lower tier was not utilised in the radial stability due to its variable relationship to the primary frame around the stands and was isolated using a movement bearing at the connection to the main column.

The steelwork is largely exposed in the completed structure and therefore design and detailing of the connections and position of splices needed to respond to the aesthetic requirements, as well as cater for the significant forces being transferred through them.

To develop the required structural stiffness, the rakers were designed to be continuous through the main supporting columns. This required them to be deep fabricated sections. The back-span element was designed to gently taper to the outer façade to maintain the aesthetic brief for the external view. The deep section has significant service openings through the web which allows for M&E services to be accommodated within the structural depth.

The roof form is created by a series of curved, plated rafters located on primary grids which in-turn support the timber waffle (purlins and radials) and the tensioned membrane

roof covering. An important visual aspect of the roof was to develop a smooth line for the inner dripline of the canopy forming the leading edge. This required all site-bolted connections to be hidden within the CHS diameter, providing a near seamless continuous member. The complex forces generated within this member, due to its geometry and structural demands, made this particularly challenging and required detailed analysis of specific rather than global forces and careful positioning of splice locations.

The programme had to allow the stadium to remain functional during the summer cricket season, maximising availability of seating in the new stands for major international fixtures, requiring phased handover of the structure. The key requirement being that the 11,600 new seats were available for the new season in Spring 2020 despite demolition work only commencing the previous September. Full fit-out, construction of the canopy roof and completion of hospitality areas was programmed for the following off-season over the autumn and winter of 2020-21.

The project was challenging in terms of the complex architectural steelwork and very tight offsite lead-in and construction programme. There was less than a year for the old stands to be demolished, all the new piling and foundations installed, and the new stands built, in time for what would have been the start of the 2021 cricket season (postposed due to COVID-19 restrictions).

The logistics of the site were particularly challenging as there was only a single access point for vehicles. The route from the access point to the construction site involved driving through areas that remained open to the public, as the cricket academy needed to remain in use throughout the construction works. The single access point needed to feed four work-fronts – involving both steelwork and precast concrete deliveries. Some of the longer abnormal loads had to be delivered to site on rear steer trailers to enable them to be manoeuvred around the site.

Judges' comment

The new twin Compton and Edrich Stands frame the Media Centre as a considered composition to complement Lord's historic festival atmosphere, while accommodating increased numbers of spectators in style and comfort. The apparent easy symmetry belies the many difficulties of planning sensitivities, timetable, site and ground constraints that were overcome.