



Design & Access Statement

Bristol Rovers Football Club – New South Stand

Project synopsis

The project involves the design, manufacture and construction of a new South Stand at the Memorial Stadium, 33 Filton Ave, Bristol BS7 0BF.

- Client/Applicant: Bristol Rovers Football Club
- Principal Contractor: Arena Group
 - Sub-Contractor: Horton & Armitage (Piling & Roof Structure)
 - Structural Engineer: Holdgate Consulting

The delivery of this project can be summarised as comprising the following headline tasks:

- Removal of the existing modular seating structures to the South end and South-West corner of the Memorial Stadium
- Installation of CFA (or similar) piled foundations of between 3-5m depth in the site area at each of the structural leg positions (based upon prior geotechnical surveys and associated assessment of borehole logs from the development area)
- Erection of a steel roof structure and associated single-skin trapezoidal cladding to create a permanent roof structure for the new South Stand
- Installation of a new modular seating system with a capacity of 3,414 seats within the footprint of the steel roof structure
- Provision of a total of 10no. new wheelchair specific positions and companion chairs to the front of the new South Stand
- Installation of modular WC units and food & beverage concessions (directly by Bristol Rovers Football Club) to satisfy the increased capacity offering
- Movement of existing scoreboard and support structure further east (directly by Bristol Rovers Football Club)

Programme

The works are scheduled to commence in May 2023 (initial ground preparation / site clearance), with a target handover for the new grandstand in time for the start of the 2023/24 EFL season (beginning of August 2023). The programme will be reviewed continuously and updated to suit the latest information from Arena Group's fabricators and installers.

Design approach

The full architectural design pack is appended to the rear of this D&A statement document.

To summarise, the brief from Bristol Rovers Football Club was to provide a more comprehensive grandstand structure than that previously in situ – this from both an architectural and functional perspective.

This can be broken down in to four main priorities:

1. Providing a significant uplift in capacity over the existing structure to satisfy proven spectator demand, thus assisting the Club's shift to improve commercial sustainability



2. Providing a new structure with a traditional/permanent aesthetic, thus moving away from the continual use of temporary demountable structures in this area of the stadium
3. Creating seated accommodation with significantly improved comfort, sightlines and wheelchair provision than the existing
4. Providing more seamless access/egress arrangements thus providing more flexibility in instances where the structure is to be split between home and away spectators

In order to achieve the best balance between time, cost and quality (particularly given the need to remove and replace the existing stand within the 2022/23 closed season) it was decided to adopt a hybrid approach for the design and build.

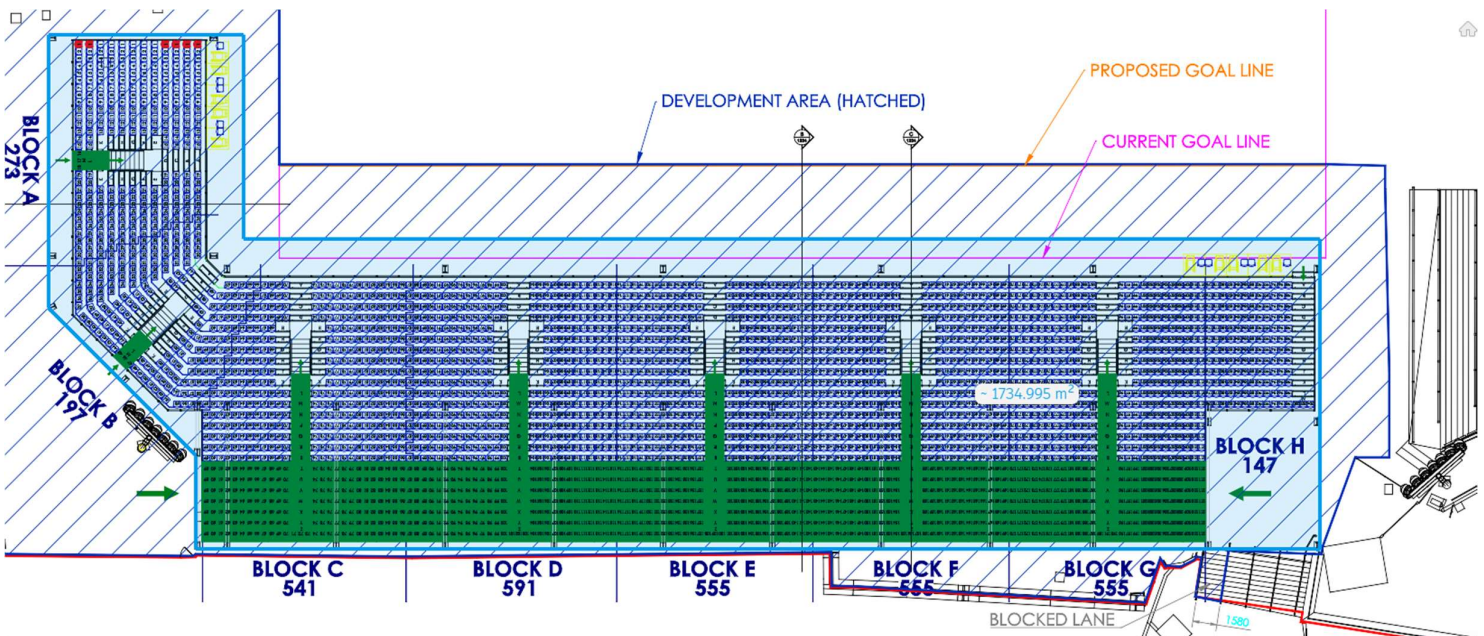
This involves the use of traditional foundations and a typical steel roof structure, but incorporates a modified version of an Arena modular grandstand system, meaning that valuable detailed component design time is reduced significantly, and installation time on site is a fraction of that associated with the common or garden steel and pre-cast concrete seating structures.

It also reduces the type and number of plant movements during the construction phase which are typically associated with traditional seating structures.

Furthermore, there is the added legacy benefit that the entire structure is essentially demountable in nature and can be remodelled/re-positioned/removed with very little impact.

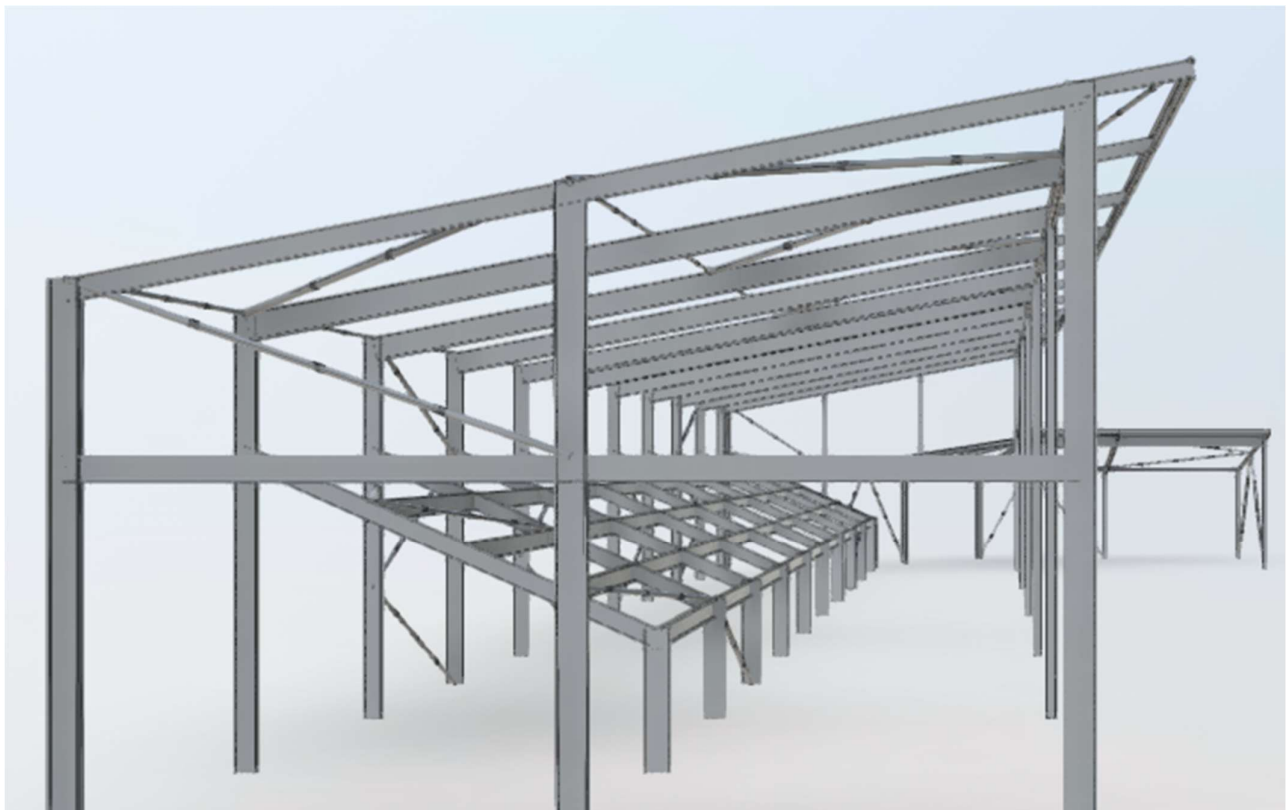
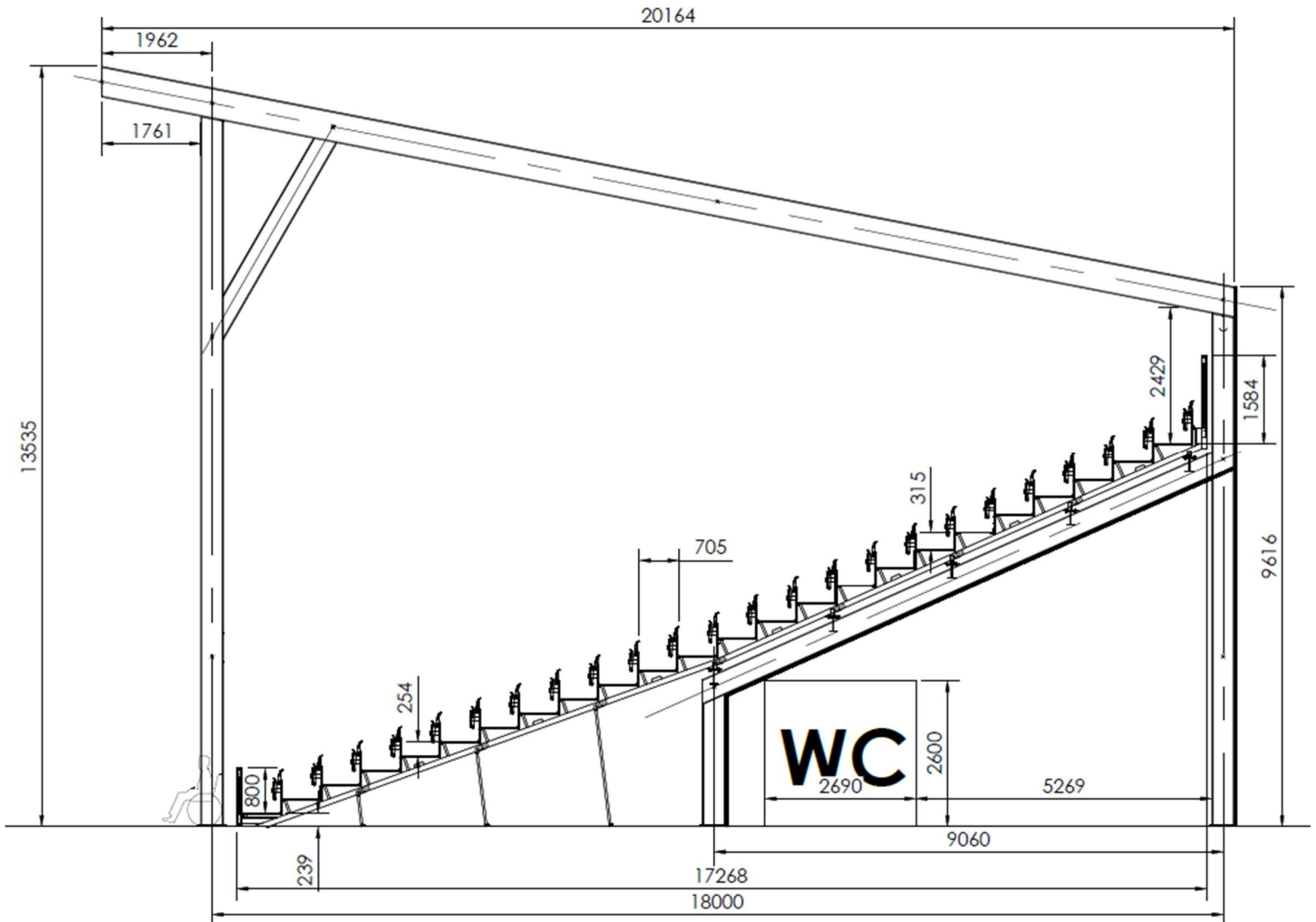
Scaling

The area of the proposed new South Stand is highlighted below in light blue shading (N.B. This is the full extent of the roof coverage which is the largest measurement):



This shows the total development area as approximately 1,735m²

The structural design is being finalised as this document is being constructed, however the critical dimensions shown on the below section are unlikely to change to any noticeable degree (i.e. any structural changes will be very minor tweaks to suit the piling design and associated loadings).





Arena Group can confirm that, as far as is possible, this structure has been designed in line with the recommendations of the Guide to Safety at Sports Grounds (Sixth Edition).

There are some minor deviations from the best practice recommendations, and these were highlighted and requested to be actioned during the recent meeting between Bristol Rovers Football Club, the Safety Advisory Group and representatives from Building Control, the Planning Department and Arena Group. The key comments and justifications/responses to these are listed below:

1. Block A has 6 rows which are 15 row in length.
Response – This is only 1no. over the preferred number and in an isolated area. There is < 8m evacuation time and accordingly, SAG had no objections to this if Risk Assessed as per Section 12.15 of the Green Guide
2. Proposed seat spacing is 460mm instead of 500mm.
Response – 500mm seat width is highlighted as the preferred dimension for new build stadia – furthermore, this structure is based upon a modular seating system which dictates the seating dimension and type, which has a maximum seat centre of 460mm and this is in line with the recommended figure for existing construction. 460mm is commonly used as a seat centre in many new build grandstands and stadia, as many new tip-up seats are much narrower than the recommended seat centre (between 420-440mm). Additionally, BS EN 13200-1:2012 Section 5.2.2 refers to a minimum centre of 450mm.
3. Sight lines go below C90.
Whilst BS EN 13200-1:2012 refers to a minimum recommended C-value of 90, it must be stressed that C60 is commonly accepted as a minimum, particularly where there are restrictions in terms of the design capability (in this instance, the use of a modular seating system), and when considered against what the structure is replacing, whereby sightlines were considerably worse. It is considered that all spectators will have an excellent view of the pitch as opposed to the previous structure this replaces.
4. Disabled seating numbers – BC requirement is 34no. disabled seats based upon the new capacity
Response – The proposed new provision is 10no. spaces with assist spaces, and this is a significant upgrade from the previous offering and is the maximum number of spaces which can be accommodated given the design brief for general spectator accommodation. The BC figure quoted may be too many for the actual demand – the Football Club confirmed that there were 6no. seats previously available, and furthermore, they were not in a good location and not fully covered.
It was also queries whether the new provision blocks sightlines to the seating behind, to which it was confirmed by Arena Group that these sightlines had been calculated, and there were positive C values behind all wheelchair and assist spaces.
5. Holding capacity of concourse - Ian Laws raised that the concourse under the new stand must be able to hold 50% of the stand spectators sitting above and this could be tight by his calculations.
Response - The concourse includes fully open ends at both sides and therefore this would comply. Ian Laws agreed with these clarifications.