

Environmental and Sustainability Note

St Gabriels Student Accommodation

Prepared for McLaren Construction
ESL 22-0194

05 June 2025

Review of Proposed Changes to PV and Green Roof Design

- 1.1 This environmental and sustainability note has been prepared by Envision on behalf of McLaren Construction and is submitted in support of the minor material amendment application for St Gabriel's Student Accommodation project.

Sustainability Strategy

- 1.2 The targets of the sustainability strategy for the St Gabriels Student Accommodation are:-
- To reduce operational energy consumption and associated CO₂ emissions in line with Manchester City Council's planning policy EN4, and achieve EPC A rating for the new buildings / EPC B for the refurbished buildings;
 - To achieve BREEAM Very Good as a minimum across the development, with an aspiration to achieve BREEAM Excellent for the new buildings.
- 1.3 The aspiration to achieve BREEAM Excellent on the new buildings was introduced as a result of the investor's ESG requirements and is above the minimum of Very Good required by Manchester City Council.

Development of Design to Meet Targets

- 1.4 The design of both the new and refurbished buildings has undergone significant design development, with a strong focus placed on achieving the above sustainability targets at all times.
- 1.5 As part of the design strategy, there was an initial design aspiration to include a large photovoltaic (PV) array on the main roof and a sedum roof on the lower roofs of the new buildings within the development (referenced Building 03 and Building 04).
- 1.6 Following more detailed design development, it was determined that there was limited available space on the main roof for the PV array. In addition, the ecological analysis confirmed that the proposed sedum roof had limited biodiversity value and therefore minimal contribution to the improvement in ecological value.
- 1.7 An alternative design strategy was then developed, to maximise the quantum of PV to be installed, by including PV panels on the upper and lower roof levels of the new buildings, and on the roof of the external bicycle enclosure, and exclude the sedum roof.

Environmental and Sustainability Impact of Proposed Change

- 1.8 As it is often the case with sustainability design strategies, it is necessary to analyse different design features and the benefits each provides to the achievement of the overall sustainability targets. This analysis concluded the following:-
- Inclusion of the PV array has a significant impact on both achieving the EPC A rating and BREEAM Excellent targets for the new buildings, as well as a wider influence on the predicted operational energy demand for the development and reducing the associated CO₂ emissions.
 - Exclusion of the sedum roof does not have a significant impact on the change in ecological value, and therefore no impact on achievement of the targeted BREEAM Excellent rating.
- 1.9 It is recognised that in some circumstances, it is feasible to incorporate a biodiverse roof with PV panels, however this was explored as a design option and confirmed as not feasible in this situation, due to the required low pitch of the PV panels overshadowing the green roof system.
- 1.10 On balance, it is therefore proposed that the inclusion of the larger array of PV panels, and the exclusion of the sedum roof, delivers an overall sustainability benefit.