9. Sustainability
A Sustainable Future

Solar Control
An integrated brise soleil on the exterior of the Trinity Building, combined with low G-Value glass provides shading & prevents overheating. In each facade the depth of brise soleil has been optimised in response to the path & angle of the sun. The proportion of glass to solid is balanced to reduce solar gain, maximise daylighting & enable views into & out of the building.

Heat Loss Form Factor
Trinity Building massing has been developed to reduce quantity of facade when compared to the volume of the floor plates within it. This factor enables the measurement of potential heat loss through the facade based on the massing of the building.

Due to the compact & rectilinear form of the Trinity Building, a form factor of HLFF c. 1.8 is achieved. The form factor is measured between 5 & 0.5 (lowest number is highest performing) with a typical passive building generating a HLFF of 3 or less.

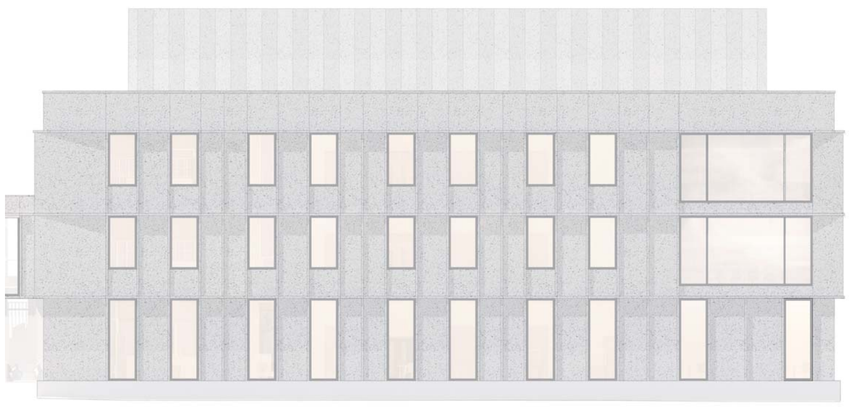
Fabric First Approach
Where it is possible to do so, the Civic Centre facade will be thermally upgraded including replacement of the existing single glazed windows & doors with thermally isolated, high performing double glazing which will help to reduce thermal gains & improve overall building performance.

The new Trinity Building is designed with a high performing floor, roof, & facade to insulate the building, & double glazing to reduce solar gains. These measures will enable the building to have low ongoing energy needs in heating & cooling. Fresh air will be provided by mechanical means with supplementary openable windows for added user control.

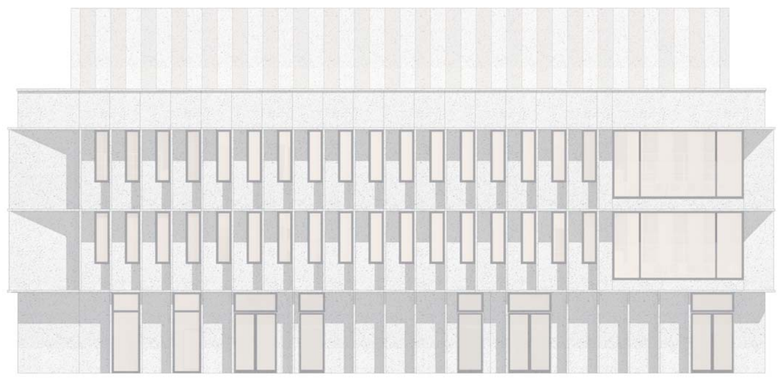
Due to the centrally located stair core, the floor plan realises good levels of daylighting into workspaces which exceeds industry standards.

Embodied Carbon
The project is targeting low embodied carbon targets through the reuse of the existing Civic Centre, retaining it's function as a Council Building & through the use of low embodied carbon materials within the new build Trinity Building. Primary structure specifies the use of high cement replacement concrete & for use on the facade, artificial stone GRC panels are specified which are lower in embodied carbon than typical stone or pre-cast concrete.

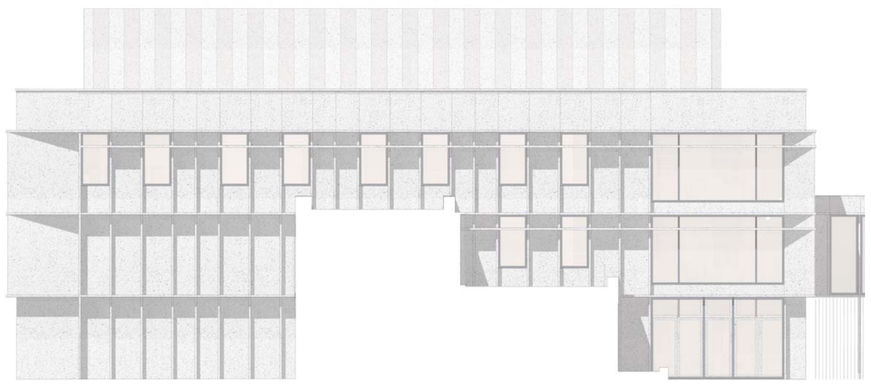
On-site Renewable Energy Strategy
Photo-Voltaic panels form the basis of on site renewable energy generation. Suitable areas have been identified on both the New Trinity Building & the existing Civic Centre roof (subject to planning approval) to maximise renewable energy generation.



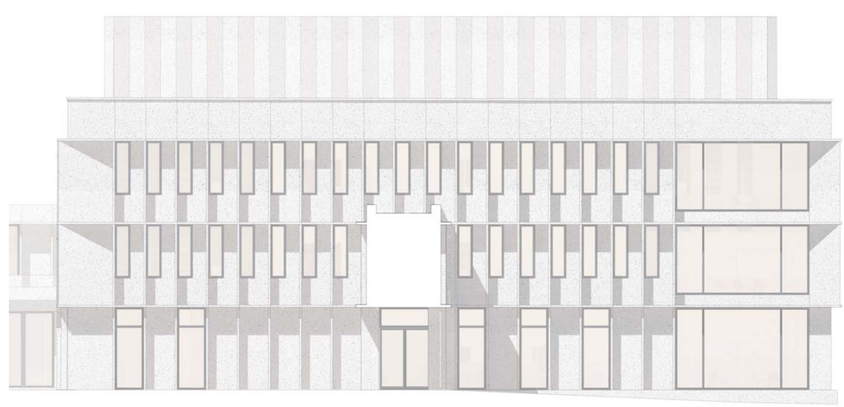
North Facade



West Facade (opposite to school)



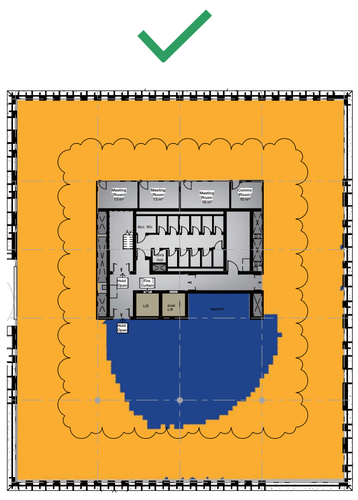
South Facade



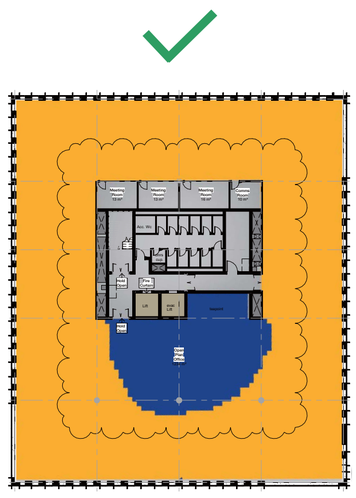
East Facade (opposite to Civic Centre)



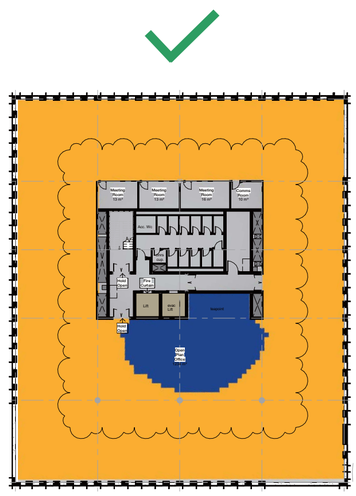
L00
66% floor in compliance
floor area is above the 55%
recommended by WELL standard



L01
84% floor in compliance
floor area is above the 55%
recommended by WELL standard

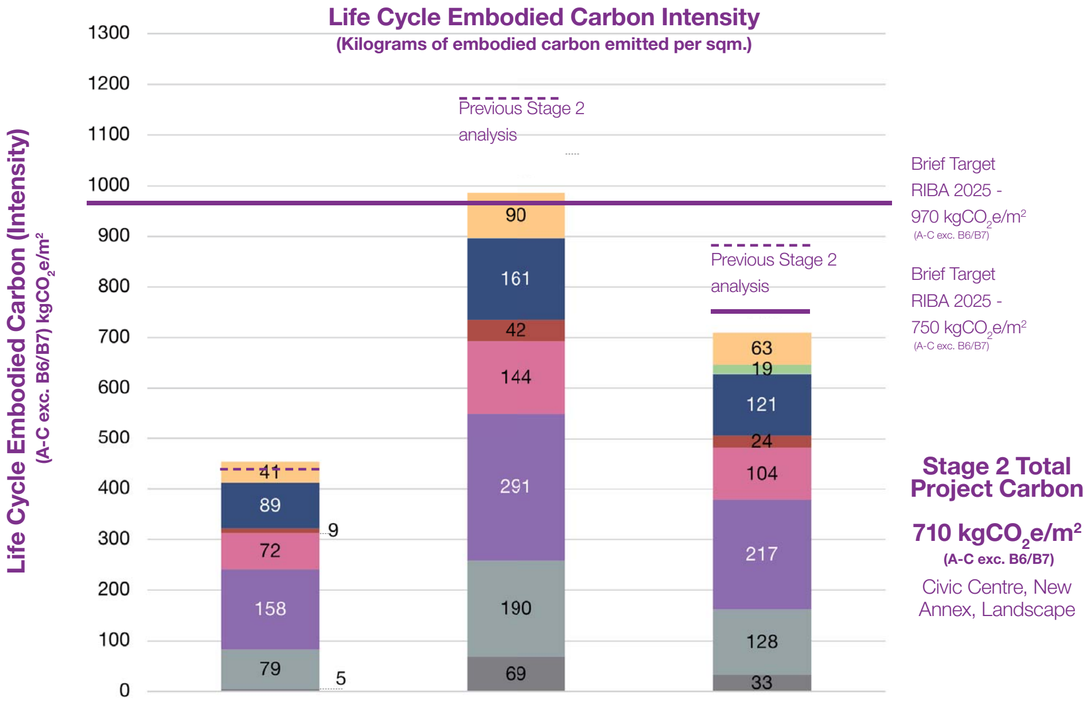


L02
86% floor in compliance
floor area is above the 55%
recommended by WELL standard



L03
90% floor in compliance
floor area is above the 55%
recommended by WELL standard

Above
Daylighting Analysis - Trinity Building





Above
GRC Stone samples alongside piece of existing Civic Centre panel

Low Profile Solar PV Modules



Key

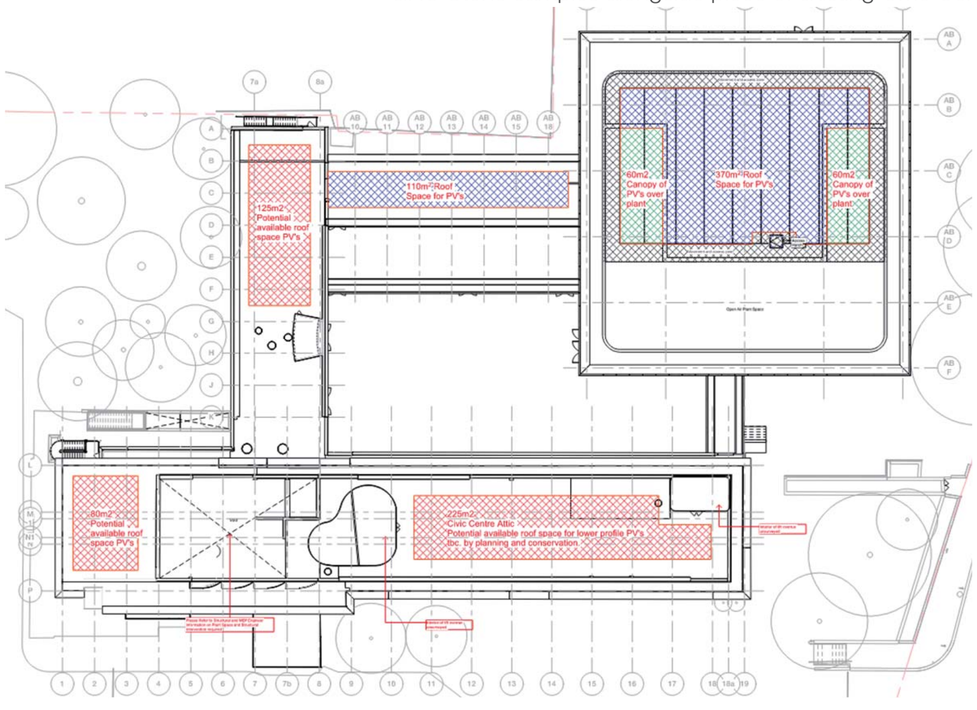
PV locations (subject to listed building consent)

PV locations

Regular Solar PV Modules



Right
Proposed PV panel locations at roof level



Haringey LONDON · Hawkins\Brown · BUROHAPPOLD ENGINEERING · Churchman Thornhill Finch · MONTAGU EVANS