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Design and access statement: Barry Methodist Church

Background: The former Methodist Church on Porthkerry Road in Barry is a grade II listed late 19th Century Church and comprises two buildings – a smaller school hall/chapel and a larger church building. Planning consent was obtained on the 9th of May 2014 to convert the church into 7 houses and the smaller school hall into 4 houses (Planning: 2014/00224/FUL, Listed Building Consent: 2014/00225/LBC).

Issue: Having begun to convert these properties it has become apparent that the kitchen/dining area of one of the church properties (unit 4B), has issues with insufficient daylight in the room and therefore the introduction of new light levels is required.

Justification: The justification for the requirement of greater light in this room comes through the daylight factor calculation. Using the Building Research Establishment method detailed below.

BRE Day Light Factor calculation for the Kitchen Area to Unit 4B is as follows:

$$\frac{\sigma TW}{A (1-R^2)}$$

σ = Angle of obstruction measured from the mid point of the window = 57°

T = 0.8 the light transmission of glazing standard value 0.8

W = Window area, 2.52m²

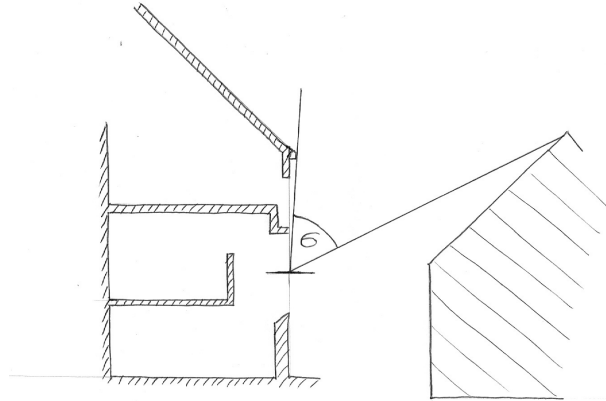
A = Area of all surfaces of the room, 184.98m²

R = Average reflection factor of the room, standard value of 0.5

$$\frac{57 \times 0.8 \times (2.1 \times 1.2)}{184.98 (1 - 0.5^2)}$$

=0.83%

Sketch to demonstrate the calculation of theta for the day light calculation:



The daylight factor was calculated to be **0.83%** using the below formula; this fails the BRE minimum recommended interior daylighting figure of 2% for kitchens.

This issue therefore needs to be solved to make the quality of internal space acceptable for the new occupant.

Options for Consideration: 3 options to address the light issue have been considered:

Option 1 - Porthole windows - Previous projects by Brownfield Green have used 'porthole' like windows to solve this issue. However this was discounted, as architecturally it would not suit this project although this solution would require the minimum amount of alteration to the existing fabric.

Option 2 - Adding a new window- sketches 03 & 04 (enclosed). This was also discounted for architectural reasons. Adding a new window of this type would not be in keeping with the other alterations to the church consented to in the previously consented schemes.

Option 3 - The proposed amendment. This will involve adding a new French window doorset, as is detailed on sketches 05 & 06 (enclosed). This door will be architecturally in keeping with the project and reflect the opening already present in unit 3. This addition will improve access to this room. The effects on community safety, environmental sustainability or movement are not applicable.

Option 3 is our preferred and proposed amendment to the existing consented scheme.

Calculating the day light factor with the additional Option 3 windows exceeds the minimum 2% requirement.

