

Details Of Sustainable Measures

Design Considerations

Within the design the following consideration have been made that can affect the energy use of the development .

The orientation of the building is east with openings on all elevations, this giving the advantage of solar gains, therefore reducing the heating requirement.

The Proposed Materials

The development will achieve a rating of A - D in at least 3 elements following the criteria set in code for sustainable homes. (New elements). The proposed materials and build ups are as found below:

External Walls: Existing external cladding material, existing cladding rails with 100mm inner skin of Celcon Standard 3.6kN blockwork with 150mm studwork filled with insulation batts such as Knauf Crown Dritherm 32 using 8kN blockwork underground with internal cladding of 12.5mm plasterboard and a 3mm skim finish to achieve 0.20 W/m²k.

Ceiling Level: 200mm quilt insulation within the bottom cord of the ceiling joists and 200mm laid perpendicular over the ceiling joists to achieve 0.10 W/m²k.

Floor On Slab Ground Floor: Min 65mm floating screed reinforced or 75mm unreinforced on 1000 gauge separating layer on mix 150mm Celotex insulation board GA4000 with 25mm insulation board upstands on a continuous 1200-gauge DPM membrane over the existing 250mm reinforced solid ground bearing concrete slab to achieve 0.12 W/m²k.

Timber Framed Warm Wall: 50 x 100mm stud fully filled with 100mm Celotex GA4000 insulation supported on 25 x 50mm battens with a plasterboard and skim finish over to achieve 0.24W/m²k.

Online Green Guide Calculator Tool

BRE Global have created the Green Guide Calculator tool to enable BREEAM and Code assessors to quickly and efficiently generate Green Guide ratings for a significant proportion of specifications not listed in the Green Guide Online. The Green Guide Calculator database is based on the components currently used to create specifications within the Green Guide Online. These components can be selected and combined to generate instant Green Guide ratings for a multitude of different specifications.

Global Warming Potential (GWP)

With the building / insulation of the products used we propose that all the insulation materials used will achieve a GWP < 5

Global Warming Potential is defined as the potential for global warming that a chemical has relative to 1 unit of carbon dioxide, the primary greenhouse gas. In determining the GWP of the blowing agent, the Intergovernmental Panel on Climate Change (*IPCC*) methodology using a 100-year Integrated Time Horizon (ITH) must be applied.

Water Use

External water use. (Provision of water butt)

The dwellings will provide external water collection system (water butt) The aim is to promote the recycling of rainwater and reduce the amount of mains water used for external water use.

- No open access at the top of the collector (a child-proof lid is allowed)
- Provision of a tap or other arrangement for drawing off water
- Connection to the rainwater downpipes with an automatic overflow into the conventional rainwater drainage system
- A means of detaching the rainwater downpipe and access provision to enable the interior to be cleaned. Where the collection system is to be sited outside, and not buried, it must be stable and adequately supported; the material used for the container shall be durable and opaque to sunlight.

The dwelling meets the sustainable water efficiency in accordance with policy 9 of the North Northamptonshire Joint Core Strategy 2016 of 105l/p/day. Accompanying water calculations have been attached to the application to show this.

Fabric First

The dwelling / construction has been designed with fabric first approach, high levels of insulation achieving low u – values, therefore reducing the need for heating, reducing the Co2 the dwelling will produce. Refer to proposed materials section for further details.

Electrical Charging Port

The dwelling / construction has been designed with a single electric vehicle charging point in order to promote the use of electric vehicles from the owners of the dwelling therefore reducing overall Co2 output.