

SUSTAINABILITY APPRAISAL & ENERGY STATEMENT – 21st October 2014

RESIDENTIAL DEVELOPMENT

Land off Malting Lane, Donington, Spalding, Lincs. – H04-0461-10 Condition 8

Introduction

Condition 8 of the outline planning consent noted above states “The development hereby permitted shall include measures to demonstrate good practice in energy efficiency and shall incorporate renewable energy production equipment to provide at least 10% of predicted energy requirements, all in accordance with details to be submitted to and approved in writing by the Local Planning Authority, and the development shall be implemented in accordance with the details so approved”.

Following detailed consultation with our energy consultants and in agreement with our Registered Provider client, we propose to meet this requirement via a Fabric First approach in lieu of a provision of a renewable energy supply. In addition to this all units on the development will achieve a minimum Code Level 3 in respect of Code for Sustainable Homes and together with and a Building for Life score of least 12 from 20.

Sustainability Statement

.

It is our intention to achieve a minimum of 10% reduction in energy usage of the development compared to if it were built to minimum Building Regulations Part L1a (2010) by means of a Fabric First approach. The Fabric First improvement is met by improving the building fabrics thermal performance to such high levels that it reduces the dwellings energy requirements when compared to one constructed to the minimum thermal standards.

All dwellings on site will be constructed using highly insulated air tight timber frame construction incorporating reflective Low emissivity cavities and membranes. All elements of the building fabric will exceed the minimum requirement of the Approved Document Part L1a based on u values and air tightness. The timber frame system also utilises enhanced thermal bridging details prepared by TRADA to further enhance the dwellings energy performance.

The units will all be heated using a high efficiency Sedbuk A rated gas condensing combination boiler. The heating system will have advanced heating controls incorporating delayed start thermostats, load/weather compensation and time and temperature zone controls adding to the systems efficiency. The cumulative effect of these controls coupled with the highly efficient condensing boiler almost matches and in some cases exceeds the improvements some renewable technologies claim.

Our client has expressed the wish to utilise the Fabric First approach and thus reduce issues with its householders should renewable energy devices cease to operate in the future and reduce operator/system errors and maintenance charges. All renewable technologies have a limited lifespan before costly replacement or maintenance is required to ensure they continue to operate efficiently as intended. A Fabric First approach works for the life of the dwelling and requires no maintenance ensuring the 10% improvement is valid throughout the buildings life.

We have evidenced the 10% improvement based on SAP ratings prepared by our Energy Assessor, Maldon CSH & Energy Assessor Partnership. In order to comply with the requirement of Approved Document Part L1a, all newly constructed dwellings require a SAP rating. SAP ratings compare the emission rates of the unit being assessed called the Dwelling Emission Rate (DER) verses a notional dwelling of the same size that is built to the minimum requirement of Part L1a called the Target Emission Rate (TER) to ensure compliance with the regulations.

The summary table below shows each units TER and DER values and the improvement value expressed as a percentage for the development.

Table 1 – Illustrating improvement between target and dwelling emission rate using SAP 2009

PLOT	DER	TER	DER/TER Variance
1	16.05	18.58	13.62%
2	15.05	16.64	9.56%
3	16.10	18.58	13.35%
4	17.99	20.02	10.14%
5	17.99	20.02	10.14%
6	17.99	20.02	10.14%
7	17.91	20.02	10.54%
8	16.19	18.58	12.86%
9	15.09	16.64	9.31%
10	16.15	18.58	13.08%
11	18.03	20.02	9.94%
12	18.03	20.02	9.94%
13	18.03	20.02	9.94%
14	18.03	20.02	9.94%
15	18.03	20.02	9.94%
16	16.65	17.44	4.53%
17	17.85	20.02	10.84%
18	16.15	18.58	13.08%
19	16.15	18.58	13.08%

PLOT	DER	TER	DER/TER Variance
20	18.03	20.02	9.94%
21	18.03	20.02	9.94%
22	18.03	20.02	9.94%
23	18.03	20.02	9.94%
24	18.03	20.02	9.94%
25	16.65	17.44	4.53%
26	18.03	20.02	9.94%
27	18.03	20.02	9.94%
28	18.03	20.02	9.94%
29	17.85	20.02	10.84%
30	18.03	20.02	9.94%
31	16.13	18.58	13.19%
32	16.13	18.58	13.19%
33	16.13	18.58	13.19%
34	16.13	18.58	13.19%
35	18.03	20.02	9.94%
36	18.03	20.02	9.94%
37	20.18	21.90	7.85%
38	17.85	19.66	9.21%
39	20.18	21.90	7.85%
40	17.85	19.66	9.21%
41	20.18	21.90	7.85%
42	17.85	19.66	9.21%
43	20.18	21.90	7.85%
44	17.85	19.66	9.21%
45	20.18	21.90	7.85%
46	17.85	19.66	9.21%
47	20.18	21.90	7.85%
48	17.85	19.66	9.21%
49	16.19	18.58	12.86%
50	15.14	16.64	9.01%
51	15.97	18.58	14.05%
TOTAL	896.29	997.56	10.15%

Prepared by Giovanni Corbo BSc (Hons) – registered Code assessor and OCDEA SAP assessor.