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Code for Sustainable Homes Report

69 Butt Lane Pre-Assessment

January 2012

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1 Introduction

This Code for Sustainable Homes Pre-assessment has been prepared by FES on behalf of *Hayward Architects Ltd* for the development at *69 Butt Lane, Hinckley*.

The report will consider and assess the commitments made by the developer to achieve Code for Sustainable Homes Level 3 certification for this private dwelling.

1.1 Assessor Declaration

I, James Robinson have complied this report to the best of my ability and have based all findings on the information that is referenced within this report. To the best of my knowledge all the information contained within this report is correct and accurate.

I have within my possession all the reference material that is named within this report, which is available for Inspection by the Client, the client's representative or Stroma Accreditation for Quality Assurance monitoring.

Signed

James Robinson

FES

STR **O007503**

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2 Code Assessment

The Code for Sustainable Homes assesses each dwelling against nine categories, many of which compliment national and local planning policies such as PPS9 – Biodiversity and Geological Conservation, PPS10 – Planning for Sustainable Waste Management, PPS22 – Renewable Energy and PPS25 – Development and Flood Risk. The nine categories assessed are:

- Energy and Carbon Dioxide Emissions
- Water Consumption
- Environmental Impact of Materials
- Surface Water Run-off
- Waste Management
- Pollution
- Health and Wellbeing
- Management
- Ecology

The Code sets mandatory requirements at each level. To obtain Code for Sustainable Homes Level 3 certification the assessed dwelling must achieve ADL1A 2010, and achieve a maximum internal water consumption of 105 litres per person per day and a total assessment score of 57 points.

2.1 Assessor Notes

This report is based on the information provided by the client and best practice/standard Code for Sustainable Homes commitments.

2.2 Code Commitments

ENERGY

ENE 1 – Dwelling Emission Rates ..... ***10 Credits***

SAP 2009 calculations confirm that a 40.4% reduction over ADL1A 2010 is achieved through fabric enhancements and suitably sized PV arrays.

4.4 Credits can be awarded.

ENE 2 – Fabric Energy Efficiency ..... ***9 Credits***

SAP 2009 calculations confirm that a fabric energy efficiency of **47.46** is achieved.

6.5 Credits can be awarded.

ENE 3 – Energy Display Device ..... ***2 Credits***

Providing an energy display device is provided at the property. This will adhere to the specification identified in the Code Technical Guide.

- Local time.
- Current mains energy consumption
- Current emissions
- Current tariff
- Current cost in £s
- Visual presentation of data (non-numeric)
- Historical consumption data so customers can compare current with previous usage.
- http://www.thecodestore.co.uk/shop/category/235/energy-and-co2-emissions/ene3-energy-display-devices.html

2 Credits can be awarded.

ENE 4 – Drying Space ..... ***1 Credit***

Providing an external rotary dryer is provided.

1 Credit can be awarded.

ENE 5 – Energy Labelled White Goods ..... ***2 Credits***

Where white goods are provided, these must be Code compliant, under the *EU Energy Efficiency Labelling Scheme*:

- A+ rated fridge/freezer
- A rated dishwasher
- B rated washer dryer.

2 credits can be awarded.

ENE 6 – External Lighting ..... ***2 Credits***

Provided all external light fittings are dedicated energy efficient. Security lighting, if provided, will be dedicated energy efficient and have PIR sensors.

2 Credits can be awarded.

ENE 7 – Low or Zero Carbon Technologies**.....2 Credits**

The current strategy includes the provision of PV arrays. These will be sourced and installed from a MCS accredited company. A **14.58%** reduction in CO_2 is achieved.

1 credit can be awarded.

ENE 8 – Cycle Storage**.....2 Credits**

Providing the dwelling provides dedicated cycle storage for 2 cycles. This can be located in a garden shed set on a concrete foundation and with a secure entrance lock and secure steel fittings or a solid garage with either secure entrance lock or secure fixings. A shed will require a footprint of at least 4sqm or a garage requires a footprint of 11.74sqm - single garage or 26sqm – double garage.

2 Credits can be awarded.

ENE 9 – Home Office**.....1 Credit**

Dedicated home office facilities can be located in the lounge. The following facilities will need to be provided along a 1.8m stretch of wall;

- Two double power sockets
- One BT point
- 1.5% daylight factor

1 Credit can be awarded.

WATER

WAT 1 – Internal Water Consumption.....5 Credits

Providing an internal water consumption of 105 litres per person per day is achieved. The following sanitary schedule is advised:

- Toilet – 4 & 2.6 dual flush
- WHB Taps – 4 litre/min
- Kitchen Tap – 4 litre/min
- Shower – 6 litre/min
- Bath – 150 litre

3 Credits can be awarded.

WAT 2 – Outdoor Water.....1 Credit

Providing a 150 litre water butt is provided to the property.

1 Credit can be awarded.

MATERIALS

MAT 1 – Environmental Impact of Materials.....15 Credits

The following the Green Guide ratings the current details achieve as a minimum:

- Walls – A+
- Ground Floor – B
- Internal Walls – A+
- Glazing – B
- Roof – A+

11 credits can be awarded.

MAT 2 & 3 Responsible Sourcing of Materials.....9 Credits

Credits are awarded where the developer can source Chain of Custody or Environmental Management System certificate for 80% of the building materials in the following elements:

- Walls – external & internal
- Ground floor
- Roof
- Doors – internal & external
- Windows
- Internal finishes – skirting, furniture etc

At the present time **No Credit** anticipated. This can be reviewed at the detailed design stage, however it is only possible to pursue credits depending on the building contractor.

No Credit anticipated at this stage

SURFACE WATER RUN-OFF

SUR 1 – Management of Surface Water Run-off**.....2 Credits**

The inclusion of a drainage design would suggest the development achieves the mandatory SUR 1 requirement; however the drainage engineer must complete the ***SUR 1 Report.*** **Credits cannot** be awarded at this point and would only be achievable dependent on the ***SUR 1 Report***.

No Credit anticipated at this stage – Mandatory level achievable even with no points score
Opportunity for points score dependant on Hydrologist calculations

SUR 2 – Flood Risk Assessment**.....2 Credits**

The site is located on zone 1 of the Environment Agency flood risk map; however we advise a flood risk assessment is undertaken to confirm the site as having a low flood risk from all sources.

2 Credits can be awarded, dependant on flood risk assessment.

WASTE

WAS 1 – Storage of Waste**.....4 Credits**

Providing dedicated internal recyclable waste storage facilities are provided to the dwelling – 3 x 10 litre bins fixed to the inside of a kitchen cupboard.

The dwelling must be provided with accessible external storage of waste located in line with the ***WAS1 Checklist*** ensuring the route from the closest external exit must comply with the following:

- The door must have a level threshold.
- The route must be level of gently sloping. **Steps are not allowed.**
- The route must be weatherproof, i.e. paved or similar
- There must be a 1500mm turning circle in front of the bins.
- The bins must be placed on hard standing.
- The route must be less than 30m.

External bins must be located in accordance with the ***Checklist IDP***, Providing this is adhered to.

4 Credits can be awarded.

WAS 2 – Site Waste Management**.....3 Credits**

At the present time **No Credit** anticipated, as a Code compliant SWMP has not been indicated. This can be reviewed at the detailed design stage, however it may not be possible to pursue credits depending on the building contractor.

No Credit anticipated at this stage

WAS 3 – Composting**.....1 Credit**

Providing dedicated and accessible composting facilities are provided for green/kitchen composting in accordance with the ***Checklist IDP***.

1 Credit can be awarded.

POLLUTION

POL 1 – GWP of Insulants**.....1 Credit**

All insulates specified are Celotex products which all have a GWP of less than 5.

1 Credit can be awarded.

POL 2 – NOx Emissions**.....3 Credits**

Providing a gas condensing boiler with confirmed NOx emissions of less than 40mg/kWh is specified.

3 Credits can be awarded.

HEALTH AND WELLBEING

HEA 1 – Daylighting**.....3 Credits**

Initial calculations confirm that 2 of the 3 credits are achieved.

2 Credits can be awarded.

HEA 2 – Sound Insulation**.....4 Credits**

Detached dwellings achieve all credits by default.

4 Credits can be awarded.

HEA 3 – Private Space**.....1 Credit**

The dwelling meets the area allowance for private space. Providing this is in line with ***Checklist IDP***.

1 Credit can be awarded.

HEA 4 – Lifetime Homes**.....4 Credits**

Providing the property is designed to meet all 16 Lifetime Homes design criteria, with confirmation from the architect or developer.

No Credit anticipated at this stage

MANAGEMENT

MAN 1 – Home User Guide**.....3 Credits**

Providing a Code compliant Home User Guide is provided at the dwelling in accordance with the ***MAN1 Checklist***.

3 Credits can be awarded.

MAN 2 – Considerate Construction Scheme**.....2 Credits**

At the present time **no credits** anticipated, as registration with the Considerate Contractors Scheme has not been indicated. This can be reviewed at the detailed design stage, however it may not be possible to pursue credits depending on the building contractor.

No Credit anticipated at this stage

MAN 3 – Construction Site Impacts**.....2 Credits**

Providing the contractor is obliged to monitor the four following activities:

- Energy use arising from site activities (regular meter readings and records of fuel consumption).
- Water consumption from site activities (regular meter readings).
- Best practice policies with respect to dust.
- Best practice policies with respect to water pollution.

2 Credits can be awarded, depending on the building contractor.

MAN 4 – Security**.....2 Credits**

Providing an ALO from the local constabulary is consulted at the design stage, to ensure Section 2 of Secured by Design is achieved, and subsequent correspondence recorded.

2 Credits can be awarded.

ECOLOGY

ECO 1 – Ecological Value of the Site**.....1 Credit**

A review of the site on Google Earth shows the presence of ecological features and as a result the design team is unlikely to declare the site as having a low ecological value without the services of a suitably qualified ecologist.

No Credit anticipated at this stage.

ECO 2 – Ecological Enhancement**.....1 Credit**

This would require an ecologist to be instructed to make recommendations to enhance the ecological value of the site.

No Credit anticipated at this stage.

ECO 3 – Protection of Ecological Features**.....1 Credit**

This would require an ecologist to declared ecological feature for protection. Any existing features deemed as having ecological value will need to be protected during the works, this is to be confirmed by the ecologist and developer.

No Credit anticipated at this stage.

ECO 4 – Change in Ecological Value of Site**.....4 Credits**

It has been assumed that the enhancement in the ecological value of the site will be significantly negative.

No Credit anticipated at this stage.

ECO 5 – Building Footprint**.....2 Credits**

The property does not achieve the standard.

No Credit anticipated at this stage.

2.3 Summary Score

The tables below details the point scores thought achievable for 69 Butt Lane

	Credits Awarded	Weighing Factor	Points
Energy and CO2 Emissions		1.17	25.62
ENE 1 - Dwelling Emission Rate	4.4		
ENE 2 – Fabric Energy Efficiency	6.5		
ENE 3 – Energy Efficiency Device	2		
ENE 4 - Drying Space	1		
ENE 5 - Energy Labelled White Goods	2		
ENE 6 - External Lighting	2		
ENE 7 - LZC Technology	1		
ENE 8 - Cycle Storage	2		
ENE 9 - Home Office	1		
Water		1.50	6
WAT 1 - Indoor Water Use	3		
WAT 2 - External Water Use	1		
Materials		0.30	3.3
MAT 1 - Environmental Impact of Materials	11		
MAT 2 - Responsible Sourcing of Materials	0		
MAT 3 - Responsible Sourcing of Materials	0		
Surface Water Run-off		0.55	1.1
SUR 1 - Management of Surface Water Run-off	0		
SUR 2 - Flood Risk	2		
Waste		0.80	4.00
WAS 1 - Storage of Recyclable Waste	4		
WAS 2 - Construction Site Waste Management	0		
WAS 3 - Composting	1		
Pollution		0.70	2.80
POL 1 - GWP of Insulants	1		
POL 2 - NOx Emissions	3		
Health and Wellbeing		1.17	8.19
HEA 1 - Daylighting	2		
HEA 2 - Sound Insulation	4		
HEA 3 - Private Space	1		
HEA 4 - Lifetime Homes	4		
Management		1.11	7.77
MAN 1 - Home User Guide	3		
MAN 2 - Considerate Construction Scheme	0		
MAN 3 - Construction Site Impacts	2		
MAN 4 - Security	2		
Ecology		1.33	0
ECO 1 - Ecological Value of Site	0		
ECO 2 - Ecological Enhancement	0		
ECO 3 - Protection of Ecological Features	0		
ECO 4 - Change in Ecological Value of Site	0		
ECO 5 - Building Footprint	0		

Anticipated Level – Code Level 3
Estimated Total Points – 58.78

2.4 Notes

An estimated point score of 64.01 is achieved, equating to a code level 3. This score is based on realistic recommendation made in each section, which you must review to ensure achievement for a final code assessment.

Mandatory

Note that the following commitments are mandatory and therefore crucial to the current assessment:

- ***ENE 1 – Dwelling Emission Rates***
- ***ENE 2 – Fabric Energy Efficiency***
- ***WAT 1 – Internal Water Consumption***
- ***MAT 1 – Environmental Impact of Materials***
- ***SUR 1 – Management of Surface Water Run-off - Flood Risk Assessment***
- ***WAS 1 – Storage of Waste***

Assumptions

There are a number of sections were assumptions have been made, some dependent on third parties, please see list below.

- ***MAN 4 – Security*** - Consult with an ALO from the local constabulary.

- ***SUR 2 – Flood Risk Assessment*** - flood risk assessment is undertaken **Mandatory**.

Improvement

To increase the point score and potentially remove more costly items (such as an energy display device) the following areas are dependent on the contractor. However they may or may not be achievable on a small single build project.

- ***MAT 2 & 3 Responsible Sourcing of Materials***

- ***MAN 2 – Considerate Construction Scheme***

- ***MAN 3 – Construction Site Impacts***

Ecology also has the potential to increase the point score. However given the sites present ecology consultation/appointment of a suitably qualified ecologist would be required, and would not guarantee a high score in this area.