

320130169P

CODE FOR SUSTAINABLE HOMES

PRE-ASSESSMENT REPORT

PENDLE GARAGE, CLITHEROE

OCTOBER 2012

REF: 2012.054

ELEMENT SUSTAINABILITY – ISSUE NOTES

Project No: 2012.054

Title: Code for Sustainable Homes, Pre-Assessment Report

Client: Bowsall Ltd.

Issue Date: October 2012

Authorised by:



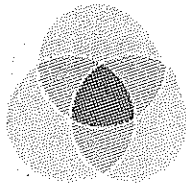
Laurie Wills
Director

25th October 2012

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Appendix A - Code for Sustainable Homes Pre-Assessment Reports

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INTRODUCTION

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building.

This Code for Sustainable Homes (Code) Pre-Assessment report has been prepared for the new build element of the proposed development at Pendle Garage, Clitheroe on behalf of Bowsall Ltd by an independent, licensed Code Assessor.

It is understood that the Target Code rating for this development is Code Level 3. The purpose of this initial report is to evaluate the potential rating achievable under a formal Code assessment and demonstrate a commitment to the principles of good construction, design and sustainability.



1. METHOD

The proposed development comprises a total of twenty nine new homes, including mews, semi-detached and detached units as well as a single apartment block containing nine dwellings.

The proposals, along with site details have been considered and details entered within the November 2010 Code for Sustainable Homes Pre-Assessment calculator tool. This provides an initial estimation of the scheme's performance under the Code.

Due to the inherently different characteristics of apartments and houses, two Pre-Assessment reports have been completed for this site – one for the apartment block and one generic assessment of the houses.

The Pre-Assessment reports demonstrating how the requisite Code Level 3 target may be achieved is presented within the Appendix of this report.

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2. RESULTS

The Code assessment appraises developments across nine categories of sustainable design including:

- Energy and CO2 Emissions
- Water
- Materials
- Surface Water Run-off
- Waste
- Pollution
- Health and Wellbeing
- Management, and
- Ecology.

Following an initial review of the proposed development site the Code (November 2010) Pre-Assessment report demonstrates that the dwellings are able, in principle, to meet all mandatory credit requirements of the Code and achieve Level 3 under the assessment.

The Pre-Assessment report details the mandatory Code Level 3 criteria and demonstrates how compliance may be achieved with the following scores (please note that the Code Level 3 target requires a minimum score of 57%):

- Apartments - 57.72%
- Houses - 57.56%

Note that a number of assumptions have been made within this initial assessment process which will require confirmation by means of further technical input during the formal Design Stage assessment.



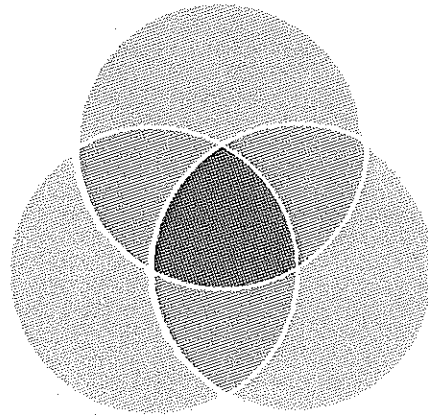
PENDLE GARAGE, CLITHEROE

Appendix

Code for Sustainable Homes Pre-Assessment Reports

November 2010 Guidance

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ELEMENT SUSTAINABILITY

Report Reference: 2012.032
Site Registration: HOUSES
Site Name: Pendle Garage
Assessor Number: STRO007305
Company: Element Sustainability
Assessor: Laurie Wills



Site Details

Site Name: Pendle Garage
Site Registration: HOUSES
Site Address: Pendle Garage

City/Town: Barrow
County: Lancashire
Postcode: BB7 9AQ
No. of Dwellings: 1
No. of Dwelling Types: 0
Planning Authority: Ribble Valley Borough Council
Funding Body: Homes & Communities Agency

Assessor Details

Company: Element Sustainability
Assessor Name: Laurie Wills
Cert Number: STRO007305
Address: 25 Mayor's Road

City/Town: Altrincham
County: Cheshire
Postcode: WA15 9RW
Tel: 0161 928 5396
Email: info@elementsustainability.co.uk

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Client Details

Company: Bowsall
Contact Name: John Stainton
Job Title: MD
Email:
Tel:
Address: Bowsall House
3 King Street

City/Town: Salford
County: Lancs
Postcode: M3 7DG

Architect Details

Company: JDA
Contact Name: Rob Henderson
Job Title: Director
Email:
Tel: 0161 336 5011
Address: The Warehouse
Saxon Street
Denton
City/Town: Manchester
County: Lancashire
Postcode: M34 3DS

Developer Details

Company: Bowsall Ltd.
Contact Name: John Stainton
Job Title: Head of Development
Email:
Tel:
Address: 3 King Street

City/Town: Salford
County: Lancashire
Postcode: M3 7DG

Dwelling ID	Plot No	Address	Social Unit
1	1		No

3501301889

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
			3	57.56

Deviations from Standard

No deviations from standard

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Score Sheet for Pendle Garage

Dwelling ID	ENE									WAT			MAT			SUR			WAS			POL		HEA				MAN				ECO					Summary	
	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	1	2	3	1	2	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level		
1	0	3	2	1	1	2	0	2	1	4	1	1	3	1	0	2	4	3	1	1	3	1	3	1	0	3	2	2	2	0	1	0	3	0	57.56	3		

9881081100

Summary Score Sheet

Dwelling Type:

Dwelling ID: 1

			Score Assessment					
	Credit Score	Credits Available	Sub Total	Credits Available	%	Weighting Factor	Points Score	
Energy & CO2 Emissions								
ENE 1 Dwelling Emission Rate	0	10	12	31	38.71	36.4	14.09	
ENE 2 Fabric Energy Efficiency	3	9						
ENE 3 Energy Display Device	2	2						
ENE 4 Drying Space	1	1						
ENE 5 Energy Labelled White Goods	1	2						
ENE 6 External Lighting	2	2						
ENE 7 Low or Zero Carbon Energy Technologies	0	2						
ENE 8 Cycle Storage	2	2						
ENE 9 Home Office	1	1						
Water								
WAT 1 Internal Water Use	4	5	5	6	83.33	9	7.5	
WAT 2 External Water Use	1	1						
Materials								
MAT 1 Environmental Impact of Materials	11	15	15	24	62.5	7.2	4.5	
MAT 2 Responsible Sourcing (Basic Building Elements)	3	6						
MAT 3 Responsible Sourcing (Finishing Elements)	1	3						
Surface Water Run-off								
SUR 1 Management of Surface Water Run-Off from Site	0	2	2	4	50	2.2	1.1	
SUR 2 Flood Risk	2	2						
Waste								
WAS 1 Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4	
WAS 2 Construction Site Waste Management	3	3						
WAS 3 Composting	1	1						
Pollution								
POL 1 Global Warming Potential of Insulants	1	1	4	4	100	2.8	2.8	
POL 2 NOx Emissions	3	3						
Health & Wellbeing								
HEA 1 Daylighting	1	3	5	12	41.67	14	5.83	
HEA 2 Sound Insulation	3	4						
HEA 3 Private Space	1	1						
HEA 4 Lifetime Homes	0	4						
Management								
MAN 1 Home User Guide	3	3	9	9	100	10	10	
MAN 2 Considerate Constructors Scheme	2	2						
MAN 3 Construction Site Impacts	2	2						
MAN 4 Security	2	2						
Ecology								
ECO 1 Ecological Value of Site	0	1	4	9	44.44	12	5.33	
ECO 2 Ecological Enhancement	1	1						
ECO 3 Protection of Ecological Features	0	1						
ECO 4 Change of Ecological Value of Site	3	4						
ECO 5 Building Footprint	0	2						
Level Achieved: 3								
Total Points Scored: 57.56								

Evidence for ENE 1 (Dwelling Emission Rate)

Only Part L 2010 Building Regulations compliance achieved. 0 credits allocated

Assumptions for ENE 1

Code Level 3 Mandatory energy criteria to be met - 0% DER:TER reduction beyond Part L, 2010.

Evidence for ENE 2 (Fabric Energy Efficiency)

Mid Terrace
End Terrace
Semi Detached
Detached
3 credits allocated

Assumptions for ENE 2

Award of 3 credits for this issue. To be confirmed by SAP calculations at detailed design stage.

Evidence for ENE 3 (Energy Display Device)

Correctly specified display device showing current primary heating fuel consumption data.
Correctly specified display device showing current consumption data.

Assumptions for ENE 3

Provision of energy meters displaying current electricity AND primary heating fuel consumption data to occupants by a correctly specified energy display device.

Evidence for ENE 4 (Drying Space)

Compliant external drying space

Assumptions for ENE 4

Where space and equipment are provided for drying clothes. For 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line and be secure.

For example, a retractable external drying line in rear garden.

Evidence for ENE 5 (Energy Labelled White Goods)

EU energy efficiency labelling scheme leaflet provision/provided

Assumptions for ENE 5

EU Energy Efficiency Labelling Scheme leaflet to be provided.

Evidence for ENE 6 (External Lighting)

Dual lamp luminaries with compliant space & security lamps

Assumptions for ENE 6**Space Lighting**

All external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropriate control systems.

Note: Statutory safety lighting is not covered by this requirement

Security Lighting

Where all security lighting is designed for energy efficiency and is adequately controlled such that:
All burglar security lights have:

- A maximum wattage of 150 W

AND

- Movement detecting control devices (PIR)

AND

- Daylight cut-off sensors

All other security lighting:

- Is provided by dedicated energy efficient fittings

AND

- Is fitted with daylight cut-off sensors OR a time switch

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Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)

Credit(s) not sought or contribution of low or zero carbon technologies less than 10%

Assumptions for ENE 7

Credit not sought.

Evidence for ENE 8 (Cycle Storage)

2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling

Assumptions for ENE 8

2 & 3 bedroom dwellings = storage for 2 cycles per dwelling. Assumed this provision will be within a secure shed to the rear of the property with secure entrance lock or secure fixing(s).

Secure entrance lock -

A permanent mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the doorframe. Alternatively a 'sold secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deemed compliant.

Secure fixing -

A ground anchor certificated to 'Sold Secure' Silver Standard.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

Where sufficient space and services have been provided which allow occupants to set up a home office in a suitable room. The space dedicated for use as a home office must have adequate ventilation and achieve an average daylight factor of 1.5%.

The following services must be provided in the suitable room intended as a home office:

- Two double power sockets
- Two telephone points (or double telephone point), or one telephone point where cable or broadband is available.
- A window (Note: The room chosen to be the nominated home office must have a daylight factor of at least 1.5%)
- Adequate ventilation.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 90 litres per person per day

Assumptions for WAT 1

Specification of low flow taps and showers, dual flush WC and low volume baths to achieve <90l/p/day potable water demand. Specification to be assessed using the Water Calculator at detailed design stage.

Evidence for WAT 2 (External Water Use)

Compliant communal rainwater collection system

200 litre water butt to be provided to each private garden.

Assumptions for WAT 2

Specification of water butt in communal garden.

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 11 credits scored

Assumptions for MAT 1

Conservative award of 11 credits for this issue. To be confirmed once specifications are finalised.

Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))

3 credits scored

Assumptions for MAT 2

Conservative award of 3 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))

1 credit scored

Assumptions for MAT 3

Conservative award of 1 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for SUR 1 (Management of Surface Water Run-Off from Site)

Mandatory Met: Peak rate of run-off and annual volume of run-off is no greater for the developed than for the pre-development. The system has also been designed for local drainage system failure.
Credits not sought, water quality criteria not met/sought.

Assumptions for SUR 1

Review of aerial images of the site shows that this site currently comprises ~70% hard standing.
Mandatory requirements assumed to be met on the basis that the post developed site appears to comprise ~50% impermeable surfacing.

Evidence for SUR 2 (Flood Risk)

Low flood risk - zone 1

Assumptions for SUR 2

Review of EA flood risk mapping shows site to be in Flood Zone 1. Full FRA required to determine risk of flooding FROM ALL SOURCES.

Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)

Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: After collection sorting with appropriate internal storage of recyclable materials

Assumptions for WAS 1

Ribble Valley Borough Council provides a POST COLLECTION SORTING recycling service for household waste:

Requires provision of a single bin with a total capacity of 30 litres for recycle

PLUS

external storage in line with Local Authority bin provision.

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Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

A compliant Site Waste Management Plan (SWMP) is required that contains:

- Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice
 - Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste.
 - Procedures for minimising hazardous waste
 - Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)
- It is assumed that at least 85% of waste will be diverted from landfill.

Evidence for WAS 3 (Composting)

Individual composting facility/facilities

Assumptions for WAS 3

Green waste from Ribble Valley is composted through an 'in vessel' processing facility that can also deal with most food waste generated within the kitchen.

Internal space to be provide for the 'kitchen caddy' to facilitate food waste composting.

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

Assumptions for POL 1

All insulating materials in the elements of the dwelling listed below only use substances that have a GWP < 5 (in manufacture AND installation):

- Roofs: including loft access
- Walls: internal and external including lintels and all acoustic insulation
- Floors: including ground and upper floors
- Hot water cylinder: pipe insulation and other thermal stores
- Cold water storage tanks: where provided
- External doors

Evidence for POL 2 (NOx Emissions)

NOx emissions less than or equal to 40mg/kWh

Assumptions for POL 2

Heating provision will be from very low NOx emission combi-boilers.

Evidence for HEA 1 (Daylighting)

Living room: Average daylight factor of at least 1.5%

Dining room: Average daylight factor of at least 1.5%

Home office: Average daylight factor of at least 1.5%

Assumptions for HEA 1

Daylight factor calculations are required prior to submission of Design Stage CSH Assessment.

Note requirement for room nominated as Home Office to achieve daylight factor >1.5.

Evidence for HEA 2 (Sound Insulation)

Accredited Part E sound testing has been undertaken

Robust details have been incorporated

Airborne 5dB higher, impact 5dB lower

Assumptions for HEA 2

+/- 5dB over / under Part E compliance standard.

To be confirmed by either integration of RD or post completion testing.

Evidence for HEA 3 (Private Space)

Shared private space provided

Assumptions for HEA 3

Each dwelling benefits from secure private garden.

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

Assumptions for HEA 4

Credits not sought.

Evidence for MAN 1 (Home User Guide)

All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met

All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met

Assumptions for MAN 1

Full scope Home User Guide to be supplied to all dwellings, covering the following topic areas-

Energy;
Water use;
Recycling and waste;
Sustainable DIY;
Emergency information;
Links, references and further information.
Site & surrounding areas:
Recycling and waste;
Public transport;
Local amenities;
Responsible purchasing;
Emergency information;
Links, references and further information.

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Evidence for MAN 2 (Considerate Constructors Scheme)

Considerate constructors scheme: Significantly beyond best practise, a score of between 32 and 40 and at least a score of 4 in every section

Assumptions for MAN 2

Score of >32 required in Considerate Constructors Scheme (with no assessment section scoring below 4).

Evidence for MAN 3 (Construction Site Impacts)

Monitor, report and set targets for CO2 production or energy use from site activities
Monitor, report and set targets for water consumption from site activities
Adopt best practise policies in respects to air (dust) pollution from site activities
Adopt best practise policies in respects to water (ground and surface) pollution

Assumptions for MAN 3

Requirement to -

Monitor, report & set targets for CO2 or energy arising from commercial transport to and from the site;

Monitor, report and set targets for water consumption arising from site activities;

Adopt best practice policies in respect of air (dust) pollution arising from site activities;

Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site;

The above will be carried out in line with the Checklist contained in the Code for Sustainable Homes 'Technical Guide'

Evidence for MAN 4 (Security)

Secure by design section 2 compliant

Assumptions for MAN 4

Assumed the scheme will comply fully with Secure By Design criteria.

Evidence for ECO 1 (Ecological Value of Site)

Credit not sought

Assumptions for ECO 1

From a review of aerial images, this site contains mature trees and/or shrubs to the perimeter of the scheme, grassland in the to the rear of the garage as well as a number of smaller shrubs and trees adjacent to the garage buildings.

Comparison of the development proposals (Sketch Layout) to the aerial image shows that the perimeter trees / shrubs may be retained with the construction zone being established solely within the central area.

The two trees adjacent to the buildings appear to be sufficiently large to have a trunk diameter greater than 100mm and are therefore, classified as being of ecological value.

For this reason credits are not awarded.

Evidence for ECO 2 (Ecological Enhancement)

Key recommendations and 30% additional recommendations by a suitably qualified ecologist

Assumptions for ECO 2

There will be a commitment to enhance the ecological value of the site and incorporate all key recommendations along with 30% of other recommendations made by the Ecological survey.

A suitably qualified ecologist should be instructed ASAP.

Evidence for ECO 3 (Protection of Ecological Features)

Credit not sought

Assumptions for ECO 3

The development proposals require the removal of the central trees and shrubs. Credit cannot be awarded.

Evidence for ECO 4 (Change of Ecological Value of Site)

Minor enhancement: Greater than 3 and less than or equal to 9

Assumptions for ECO 4

Landscaping and planting provision to provide minor enhancement to ecological value of the site.

A suitably qualified ecologist should be instructed ASAP to determine initial value of the site and provide guidance on planting requirements.

Evidence for ECO 5 (Building Footprint)

Credit not sought

Assumptions for ECO 5

Two storey houses - credit not sought.

Assessor Declaration

I Laurie Wills, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

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 relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



Laurie Wills
Element Sustainability
26 October 2012

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Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes®.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
 - Dwelling Emission Rate
 - Building Fabric
 - Internal Lighting
 - Drying Space
 - Energy Labelled White Goods
 - External Lighting
 - Low or Zero Carbon Technologies
 - Cycle Storage
 - Home Office
- Water
 - Internal Water Use
 - External Water Use
- Materials
 - Environmental Impact of Materials
 - Responsible Sourcing of Materials - Basic Building Elements
 - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
 - Management of Surface Water Run-off from the Development
 - Flood Risk
- Waste
 - Storage of Non-Recyclable Waste and Recyclable Household Waste
 - Construction Site Waste Management
 - Composting
- Pollution
 - Global Warming Potential of Insulants
 - NOx Emissions

- Health & Wellbeing
 - Daylighting
 - Sound Insulation
 - Private Space
 - Lifetime Homes
- Management
 - Home User Guide
 - Considerate Constructors Scheme
 - Construction Site Impacts
 - Security
- Ecology
 - Ecological Value of Site
 - Ecological Enhancement
 - Protection of Ecological Features
 - Change in Ecological Value of Site
 - Building Footprint

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The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆☆	36 Points
Level 2 ★★☆☆☆☆	48 Points
Level 3 ★★★☆☆☆	57 Points
Level 4 ★★★★☆☆	68 Points
Level 5 ★★★★★☆	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified 'competent persons' for the purpose of carrying out Code assessments.

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Energy & CO2 Emissions

ENE 1:Dwelling Emission Rate

Available Credits:10

Aim: To limit CO2 emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.

ENE 2: Fabric Energy Efficiency

Available Credits:9

Aim: To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.

ENE 3: Energy Display Device

Available Credits:2

Aim: To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

ENE 4: Drying Space

Available Credits:1

Aim: To promote a reduced energy means of drying clothes.

ENE 5: Energy Labelled White Goods

Available Credits:2

Aim: To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.

ENE 6: External Lighting

Available Credits:2

Aim: To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.

ENE 7: Low or Zero Carbon Technologies

Available Credits:2

Aim: To limit CO2 emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.

ENE 8: Cycle Storage

Available Credits:2

Aim: To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.

ENE 9: Home Office

Available Credits:1

Aim: To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

Water

WAT 1: Indoor Water Use

Available Credits:5

Aim: To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.

WAT 2: External Water Use

Available Credits:1

Aim: To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Materials

MAT 1: Environmental Impact of Materials

Available Credits:15

Aim: To specify materials with lower environmental impacts over their life-cycle.

MAT 2: Responsible Sourcing of Materials - Basic Building Elements

Available Credits:6

Aim: To promote the specification of responsibly sourced materials for the basic building elements.

MAT 3: Responsible Sourcing of Materials - Finishing Elements

Available Credits:3

Aim: To promote the specification of responsibly sourced materials for the finishing elements.

Surface Water Run-off

SUR 1: Management of Surface Water Run-off from developments

Available Credits:2

Aim: To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.

SUR 2: Flood Risk

Available Credits:2

Aim: To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

Waste

WAS 1: Storage of non-recyclable waste and recyclable household waste

Available Credits:4

Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.

WAS 2: Construction Site Waste Management

Available Credits:3

Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.

WAS 3: Composting

Available Credits:1

Aim: To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.

Pollution

POL 1: Global Warming Potential of Insulants

Available Credits:1

Aim: To promote the reduction of emissions of gases with high GWP associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.

POL 2: NOx Emissions

Available Credits:3

Aim: To promote the reduction of nitrogen oxide (NOx) emissions into the atmosphere.

Health & Wellbeing

HEA 1: Daylighting

Available Credits:3

Aim: To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.

HEA 2: Sound Insulation

Available Credits:4

Aim: To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

HEA 3: Private Space

Available Credits:1

Aim: To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.

HEA 4: Lifetime Homes

Available Credits:4

Aim: To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

Management

MAN 1: Home User Guide

Available Credits:3

Aim: To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

MAN 2: Considerate Constructors Scheme

Available Credits:3

Aim: To promote the environmentally and socially considerate, and accountable management of construction sites.

MAN 3: Construction Site Impacts

Available Credits:2

Aim: To promote construction sites managed in a manner that mitigates environmental impacts.

MAN 4: Security

Available Credits:2

Aim: To promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Ecology

ECO 1: Ecological value of site

Available Credits:1

Aim: To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.

ECO 2: Ecological enhancement

Available Credits:1

Aim: To enhance the ecological value of a site.

ECO 3: Protection of ecological features

Available Credits:1

Aim: To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

ECO 4: Change in ecological value of site

Available Credits:4

Aim: To minimise reductions and promote an improvement in ecological value.

ECO 5: Building footprint

Available Credits:2

Aim: To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

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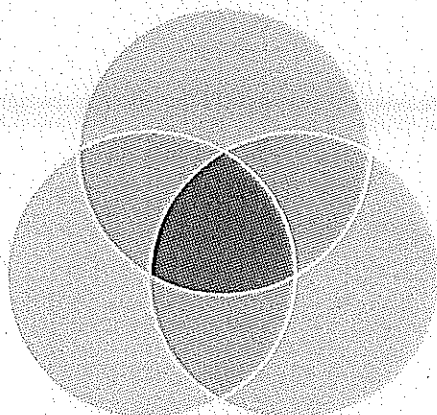
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Code for Sustainable Homes
Technical Guide November 2010 - Full Technical Guide
Pre-Assessment Report



ELEMENT SUSTAINABILITY

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Report Reference: 2012.032
Site Registration: APARTMENTS
Site Name: Pendle Garage
Assessor Number: STRO007305
Company: Element Sustainability
Assessor: Laurie Wills



Site Details

Site Name: Pendle Garage
Site Registration: APARTMENTS
Site Address: Pendle Garage

City/Town: Barrow
County: Lancashire
Postcode: BB7 9AQ
No. of Dwellings: 1
No. of Dwelling Types: 0
Planning Authority: Ribbles Valley Borough Council
Funding Body: Homes & Communities Agency

Assessor Details

Company: Element Sustainability
Assessor Name: Laurie Wills
Cert Number: STRO007305
Address: 25 Mayor's Road

City/Town: Altrincham
County: Cheshire
Postcode: WA15 9RW
Tel: 0161 928 5396
Email: info@elementsustainability.co.uk

Client Details

Company: Bowsall
Contact Name: John Stainton
Job Title: MD
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Tel:
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3 King Street

City/Town: Salford
County: Lancs
Postcode: M3 7DG

Architect Details

Company: JDA
Contact Name: Rob Henderson
Job Title: Director
Email:
Tel: 0161 336 5011
Address: The Warehouse
Saxon Street
Denton
City/Town: Manchester
County: Lancashire
Postcode: M34 3DS

Developer Details

Company: Bowsall Ltd.
Contact Name: John Stainton
Job Title: Head of Development
Email:
Tel:
Address: 3 King Street

City/Town: Salford
County: Lancashire
Postcode: M3 7DG

Dwelling ID	Plot No.	Address	Social Unit
1	1		No

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Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
			3	57.72

Deviations from Standard

No deviations from standard

Score Sheet for Pendle Garage

Dwelling ID	ENE									WAT		MAT			SUR		WAS			POL		HEA				MAN				ECO					Summary	
	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	1	2	3	1	2	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level
1	0	3	2	1	1	2	0	2	1	4	1	1	3	1	0	2	4	3	1	1	3	0	3	1	0	3	2	2	2	0	1	0	3	1	57.72	3

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Summary Score Sheet

Dwelling Type:

Dwelling ID: 1

		Score Assessment					Weighting Factor	Points Score
		Credit Score	Credits Available	Sub Total	Credits Available	%		
Energy & CO2 Emissions								
ENE 1	Dwelling Emission Rate	0	10	12	31	38.71	36.4	14.09
ENE 2	Fabric Energy Efficiency	3	9					
ENE 3	Energy Display Device	2	2					
ENE 4	Drying Space	1	1					
ENE 5	Energy Labelled White Goods	1	2					
ENE 6	External Lighting	2	2					
ENE 7	Low or Zero Carbon Energy Technologies	0	2					
ENE 8	Cycle Storage	2	2					
ENE 9	Home Office	1	1					
Water								
WAT 1	Internal Water Use	4	5	5	6	83.33	9	7.5
WAT 2	External Water Use	1	1					
Materials								
MAT 1	Environmental Impact of Materials	11	15	15	24	62.5	7.2	4.5
MAT 2	Responsible Sourcing (Basic Building Elements)	3	6					
MAT 3	Responsible Sourcing (Finishing Elements)	1	3					
Surface Water Run-off								
SUR 1	Management of Surface Water Run-Off from Site	0	2	2	4	50	2.2	1.1
SUR 2	Flood Risk	2	2					
Waste								
WAS 1	Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4
WAS 2	Construction Site Waste Management	3	3					
WAS 3	Composting	1	1					
Pollution								
POL 1	Global Warming Potential of Insulants	1	1	4	4	100	2.8	2.8
POL 2	NOx Emissions	3	3					
Health & Wellbeing								
HEA 1	Daylighting	0	3	4	12	33.33	14	4.67
HEA 2	Sound Insulation	3	4					
HEA 3	Private Space	1	1					
HEA 4	Lifetime Homes	0	4					
Management								
MAN 1	Home User Guide	3	3	9	9	100	10	10
MAN 2	Considerate Constructors Scheme	2	2					
MAN 3	Construction Site Impacts	2	2					
MAN 4	Security	2	2					
Ecology								
ECO 1	Ecological Value of Site	0	1	5	9	55.56	12	6.67
ECO 2	Ecological Enhancement	1	1					
ECO 3	Protection of Ecological Features	0	1					
ECO 4	Change of Ecological Value of Site	3	4					
ECO 5	Building Footprint	1	2					
		Level Achieved: 3			Total Points Scored: 57.72			

Evidence for ENE 1 (Dwelling Emission Rate)

Only Part L 2010 Building Regulations compliance achieved. 0 credits allocated

Assumptions for ENE 1

Code Level 3 Mandatory energy criteria to be met - 0% DER:TER reduction beyond Part L, 2010.

Evidence for ENE 2 (Fabric Energy Efficiency)

Mid Terrace

End Terrace

Semi Detached

Detached

3 credits allocated

Assumptions for ENE 2

Award of 3 credits for this issue. To be confirmed by SAP calculations at detailed design stage.

Evidence for ENE 3 (Energy Display Device)

Correctly specified display device showing current primary heating fuel consumption data.

Correctly specified display device showing current consumption data.

Assumptions for ENE 3

Provision of energy meters displaying current electricity AND primary heating fuel consumption data to occupants by a correctly specified energy display device.

Evidence for ENE 4 (Drying Space)

Compliant external drying space

Assumptions for ENE 4

Where space and equipment are provided for drying clothes. For 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line and be secure.

For example, a retractable internal drying line over the bath. Note requirement for adequate ventilation with extract of >30l/s.

Evidence for ENE 5 (Energy Labelled White Goods)

EU energy efficiency labelling scheme leaflet provision/provided

Assumptions for ENE 5

EU Energy Efficiency Labelling Scheme leaflet to be provided.

Evidence for ENE 6 (External Lighting)

Dual lamp luminaires with compliant space & security lamps

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Assumptions for ENE 6

Space Lighting

All external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropriate control systems.

Note: Statutory safety lighting is not covered by this requirement

Security Lighting

Where all security lighting is designed for energy efficiency and is adequately controlled such that:

All burglar security lights have:

- A maximum wattage of 150 W

AND

- Movement detecting control devices (PIR)

AND

- Daylight cut-off sensors

All other security lighting:

- Is provided by dedicated energy efficient fittings

AND

- Is fitted with daylight cut-off sensors OR a time switch

Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)

Credit(s) not sought or contribution of low or zero carbon technologies less than 10%

Assumptions for ENE 7

Credit not sought.

Evidence for ENE 8 (Cycle Storage)

2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling

Assumptions for ENE 8

2 & 3 bedroom dwellings = storage for 2 cycles per dwelling. Assumed this provision will be within a communal cycle store secure entrance lock AND secure fixing(s).

Secure entrance lock -

A permanent mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the doorframe. Alternatively a 'sold secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deemed compliant.

Secure fixing -

A ground anchor certificated to 'Sold Secure' Silver Standard. Alternatively a secure stand can be provided.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

Where sufficient space and services have been provided which allow occupants to set up a home office in a suitable room. The space dedicated for use as a home office must have adequate ventilation and achieve an average daylight factor of 1.5%.

The following services must be provided in the suitable room intended as a home office:

- Two double power sockets
- Two telephone points (or double telephone point), or one telephone point where cable or broadband is available.
- A window (Note: The room chosen to be the nominated home office must have a daylight factor of at least 1.5%)
- Adequate ventilation.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 90 litres per person per day

Assumptions for WAT 1

Specification of low flow taps and showers, dual flush WC and low volume baths to achieve <90l/p/day potable water demand. Specification to be assessed using the Water Calculator at detailed design stage.

Evidence for WAT 2 (External Water Use)

Compliant communal rainwater collection system

200 litre water butt to be provided for the communal garden.

Assumptions for WAT 2

Specification of water butt in communal garden.

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 11 credits scored

Assumptions for MAT 1

Conservative award of 11 credits for this issue. To be confirmed once specifications are finalised.

Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))

3 credits scored

Assumptions for MAT 2

Conservative award of 3 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))

1 credit scored

Assumptions for MAT 3

Conservative award of 1 credit for this issue. To be confirmed once specifications and suppliers are finalised.

Evidence for SUR 1 (Management of Surface Water Run-Off from Site)

Mandatory Met: Peak rate of run-off and annual volume of run-off is no greater for the developed than for the pre-development. The system has also been designed for local drainage system failure.
Credits not sought, water quality criteria not met/sought.

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Assumptions for SUR 1

Review of aerial images of the site shows that this site currently comprises ~70% hard standing.
Mandatory requirements assumed to be met on the basis that the post developed site appears to comprise ~50% impermeable surfacing.

Evidence for SUR 2 (Flood Risk)

Low flood risk - zone 1

Assumptions for SUR 2

Review of EA flood risk mapping shows site to be in Flood Zone 1. Full FRA required to determine risk of flooding FROM ALL SOURCES.

Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)

Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection:
After collection sorting with appropriate internal storage of recyclable materials

Assumptions for WAS 1

Ribble Valley Borough Council provides a POST COLLECTION SORTING recycling service for household waste:

Requires provision of a single bin with a total capacity of 30 litres for recycle

PLUS

external storage in line with Local Authority bin provision.

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

A compliant Site Waste Management Plan (SWMP) is required that contains:

- Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice
- Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste.
- Procedures for minimising hazardous waste
- Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)

It is assumed that at least 85% of waste will be diverted from landfill.

Evidence for WAS 3 (Composting)

Local authority kitchen waste collection scheme - No Garden

Assumptions for WAS 3

Green waste from Ribble Valley is composted through an 'in vessel' processing facility that can also deal with most food waste generated within the kitchen.

Internal space to be provide for the 'kitchen caddy' to facilitate food waste composting.

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

Assumptions for POL 1

All insulating materials in the elements of the dwelling listed below only use substances that have a GWP < 5 (in manufacture AND installation):

- Roofs: including loft access
- Walls: internal and external including lintels and all acoustic insulation
- Floors: including ground and upper floors
- Hot water cylinder: pipe insulation and other thermal stores
- Cold water storage tanks: where provided
- External doors

Evidence for POL 2 (NOx Emissions)

NOx emissions less than or equal to 40mg/kWh

Assumptions for POL 2

Heating provision will be from very low NOx emission combi-boilers.

Evidence for HEA 1 (Daylighting)

Credit(s) not sought

Assumptions for HEA 1

Evidence for HEA 2 (Sound Insulation)

Accredited Part E sound testing has been undertaken
Robust details have been incorporated
Airborne 5dB higher, impact 5dB lower

Assumptions for HEA 2

+/- 5dB over / under Part E compliance standard.

To be confirmed by either integration of RD or post completion testing.

Evidence for HEA 3 (Private Space)

Shared private space provided

Assumptions for HEA 3

Each dwelling benefits from a secure communal garden which can only be accessed by residents of the apartments.

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

Assumptions for HEA 4

Credits not sought.

Evidence for MAN 1 (Home User Guide)

All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met
All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met

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Assumptions for MAN 1

Full scope Home User Guide to be supplied to all dwellings, covering the following topic areas-

Energy;
Water use;
Recycling and waste;
Sustainable DIY;
Emergency information;
Links, references and further information.
Site & surrounding areas:
Recycling and waste;
Public transport;
Local amenities;
Responsible purchasing;
Emergency information;
Links, references and further information.

Evidence for MAN 2 (Considerate Constructors Scheme)

Considerate constructors scheme: Significantly beyond best practise, a score of between 32 and 40 and at least a score of 4 in every section

Assumptions for MAN 2

Score of >32 required in Considerate Constructors Scheme (with no assessment section scoring below 4).

Evidence for MAN 3 (Construction Site Impacts)

Monitor, report and set targets for CO2 production or energy use from site activities
Monitor, report and set targets for water consumption from site activities
Adopt best practise policies in respects to air (dust) pollution from site activities
Adopt best practise policies in respects to water (ground and surface) pollution

Assumptions for MAN 3

Requirement to -

Monitor, report & set targets for CO2 or energy arising from commercial transport to and from the site;

Monitor, report and set targets for water consumption arising from site activities;

Adopt best practice policies in respect of air (dust) pollution arising from site activities;

Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site;

The above will be carried out in line with the Checklist contained in the Code for Sustainable Homes 'Technical Guide'

Evidence for MAN 4 (Security)

Secure by design section 2 compliant

Assumptions for MAN 4

Assumed the scheme will comply fully with Secure By Design criteria.

Evidence for ECO 1 (Ecological Value of Site)

Credit not sought

Assumptions for ECO 1

From a review of aerial images, this site contains mature trees and/or shrubs to the perimeter of the scheme, grassland in the to the rear of the garage as well as a number of smaller shrubs and trees adjacent to the garage buildings.

Comparison of the development proposals (Sketch Layout) to the aerial image shows that the perimeter trees / shrubs may be retained with the construction zone being established solely within the central area.

The two trees adjacent to the buildings appear to be sufficiently large to have a trunk diameter greater than 100mm and are therefore, classified as being of ecological value.

For this reason credits are not awarded.

Evidence for ECO 2 (Ecological Enhancement)

Key recommendations and 30% additional recommendations by a suitably qualified ecologist

Assumptions for ECO 2

There will be a commitment to enhance the ecological value of the site and incorporate all key recommendations along with 30% of other recommendations made by the Ecological survey.

A suitably qualified ecologist should be instructed ASAP.

Evidence for ECO 3 (Protection of Ecological Features)

Credit not sought

Assumptions for ECO 3

The development proposals require the removal of the central trees and shrubs. Credit cannot be awarded.

Evidence for ECO 4 (Change of Ecological Value of Site)

Minor enhancement: Greater than 3 and less than or equal to 9

Assumptions for ECO 4

Landscaping and planting provision to provide minor enhancement to ecological value of the site.

A suitably qualified ecologist should be instructed ASAP to determine initial value of the site and provide guidance on planting requirements.

Evidence for ECO 5 (Building Footprint)

Flats ratio of 3:1

Assumptions for ECO 5

Three storey apartments.

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Assessor Declaration

I Laurie Wills, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

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 relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



Laurie Wills
Element Sustainability
26 October 2012

Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes®.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible, and can be delivered by the building industry. The issues and categories are as follows:

- Energy & CO2 Emissions
 - Dwelling Emission Rate
 - Building Fabric
 - Internal Lighting
 - Drying Space
 - Energy Labelled White Goods
 - External Lighting
 - Low or Zero Carbon Technologies
 - Cycle Storage
 - Home Office
- Water
 - Internal Water Use
 - External Water Use
- Materials
 - Environmental Impact of Materials
 - Responsible Sourcing of Materials - Basic Building Elements
 - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
 - Management of Surface Water Run-off from the Development
 - Flood Risk
- Waste
 - Storage of Non-Recyclable Waste and Recyclable Household Waste
 - Construction Site Waste Management
 - Composting
- Pollution
 - Global Warming Potential of Insulants
 - NOx Emissions

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- Health & Wellbeing
 - Daylighting
 - Sound Insulation
 - Private Space
 - Lifetime Homes
- Management
 - Home User Guide
 - Considerate Constructors Scheme
 - Construction Site Impacts
 - Security
- Ecology
 - Ecological Value of Site
 - Ecological Enhancement
 - Protection of Ecological Features
 - Change in Ecological Value of Site
 - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

Code Levels	Total Points Score (Equal to or Greater Than)
Level 1 ★☆☆☆☆☆	36 Points
Level 2 ★★☆☆☆☆	48 Points
Level 3 ★★★☆☆☆	57 Points
Level 4 ★★★★☆☆	68 Points
Level 5 ★★★★★☆	84 Points
Level 6 ★★★★★★	90 Points

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified 'competent persons' for the purpose of carrying out Code assessments.

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Energy & CO2 Emissions

ENE 1:Dwelling Emission Rate

Available Credits:10

Aim: To limit CO2 emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.

ENE 2:Fabric Energy Efficiency

Available Credits:9

Aim: To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.

ENE 3:Energy Display Device

Available Credits:2

Aim: To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

ENE 4:Drying Space

Available Credits:1

Aim: To promote a reduced energy means of drying clothes.

ENE 5:Energy Labelled White Goods

Available Credits:2

Aim: To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.

ENE 6:External Lighting

Available Credits:2

Aim: To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.

ENE 7:Low or Zero Carbon Technologies

Available Credits:2

Aim: To limit CO2 emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.

ENE 8:Cycle Storage

Available Credits:2

Aim: To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.

ENE 9:Home Office

Available Credits:1

Aim: To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

Water

WAT 1:Indoor Water Use

Available Credits:5

Aim: To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.

WAT 2:External Water Use

Available Credits:1

Aim: To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

Materials

MAT 1:Environmental Impact of Materials

Available Credits:15

Aim: To specify materials with lower environmental impacts over their life-cycle.

MAT 2:Responsible Sourcing of Materials - Basic Building Elements

Available Credits:6

Aim: To promote the specification of responsibly sourced materials for the basic building elements.

MAT 3:Responsible Sourcing of Materials - Finishing Elements

Available Credits:3

Aim: To promote the specification of responsibly sourced materials for the finishing elements.

Surface Water Run-off

SUR 1: Management of Surface Water Run-off from developments

Available Credits: 2

Aim: To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.

SUR 2: Flood Risk

Available Credits: 2

Aim: To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

Waste

WAS 1: Storage of non-recyclable waste and recyclable household waste

Available Credits: 4

Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.

WAS 2: Construction Site Waste Management

Available Credits: 3

Aim: To promote resource efficiency via the effective and appropriate management of construction site waste.

WAS 3: Composting

Available Credits: 1

Aim: To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.

Pollution

POL 1: Global Warming Potential of Insulants

Available Credits: 1

Aim: To promote the reduction of emissions of gases with high GWP associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.

POL 2: NOx Emissions

Available Credits: 3

Aim: To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.

Health & Wellbeing

HEA 1: Daylighting

Available Credits: 3

Aim: To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.

HEA 2: Sound Insulation

Available Credits: 4

Aim: To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

HEA 3: Private Space

Available Credits: 1

Aim: To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.

HEA 4: Lifetime Homes

Available Credits: 4

Aim: To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.

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Management

MAN 1:Home User Guide

Available Credits:3

Aim:To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

MAN 2:Considerate Constructors Scheme

Available Credits:3

Aim:To promote the environmentally and socially considerate, and accountable management of construction sites.

MAN 3:Construction Site Impacts

Available Credits:2

Aim:To promote construction sites managed in a manner that mitigates environmental impacts.

MAN 4:Security

Available Credits:2

Aim:To promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Ecology

ECO 1:Ecological value of site

Available Credits:1

Aim:To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.

ECO 2:Ecological enhancement

Available Credits:1

Aim:To enhance the ecological value of a site.

ECO 3:Protection of ecological features

Available Credits:1

Aim:To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

ECO 4:Change in ecological value of site

Available Credits:4

Aim:To minimise reductions and promote an improvement in ecological value.

ECO 5:Building footprint

Available Credits:2

Aim:To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

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