Code for Sustainable Homes

Technical Guide November 2010 - Full Technical Guide

Pre-Assessment Report

STROMA CERTIFIED CODE ASSESSOR

17 SEP 2013
103107

build energy

compliance
testing
consulting

Report Reference:	
Site Registration:	**007832-130909-25-1138**
Site Name:	**Land at Thornton Street North**
Assessor Number:	
Company:	**Build Energy**
Assessor:	**Laura Meehan**

THE CODE FOR SUSTAINABLE HOMES
CERTIFICATION MARK

Code for Sustainable Homes
Pre-Assessment Report (Report Reference:)

Site Details	
Site Name:	Land at Thornton Street North
Site Registration:	007832-130909-25-1138
Site Address:	Land at Thornton Street North
City/Town:	Manchester
County:	Greater Manchester
Postcode:	M40 8JT
No. of Dwellings:	1
No. of Dwelling Types:	0
Planning Authority:	Manchester City Council
Funding Body:	

Assessor Details	
Company:	Build Energy
Assessor Name:	Laura Meehan
Cert Number:	
Address:	Unit 6, Silver Business Park Airfield Way
City/Town:	Christchurch
County:	Dorset
Postcode:	BH23 3TA
Tel:	
Email:	

Client Details	
Company:	Building Design Services
Contact Name:	Mohammed Farooq
Job Title:	Client
Email:	Bds2000@live.co.uk
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Address:	6 Stock CLose Rochdale
City/Town:	
County:	
Postcode:	OL12 6BB

Architect Details	
Company:	
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Developer Details	
Company:	
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Dwelling ID	Plot No.	Address	Social Unit
1	1-3	Land at Thornton Street North	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		Land atThornton Street North	3	58.84

Deviations from Standard

No deviations from standard

Score Sheet for Land at Thornton Street North

	ENE									WAT		MAT			SUR		WAS			POL		HEA				MAN				ECO					Summary	
Dwelling ID	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	1.7	4.1	2	1	2	2	1	2	1	3	1	11	0	3	0	2	4	3	1	1	3	2	4	1	0	3	0	2	2	0	0	0	2	0	58.84	3

Summary Score Sheet

Dwelling Type: Land at Thornton Street North

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	1.7	10	16.8	31	54.19	36.4	19.73
ENE 2 Fabric Energy Efficiency	4.1	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	2	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	1	2					
ENE 8 Cycle Storage	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	3	5	4	6	66.67	9	6
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	11	15	14	24	58.33	7.2	4.2
MAT 2 Responsible Sourcing (Basic Building Elements)	0	6					
MAT 3 Responsible Sourcing (Finishing Elements)	3	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	2	3	7	12	58.33	14	8.17
HEA 2 Sound Insulation	4	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	0	4					
Management							
MAN 1 Home User Guide	3	3	7	9	77.78	10	7.78
MAN 2 Considerate Constructors Scheme	0	2					
MAN 3 Construction Site Impacts	2	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	0	1	2	9	22.22	12	2.67
ECO 2 Ecological Enhancement	0	1					
ECO 3 Protection of Ecological Features	0	1					
ECO 4 Change of Ecological Value of Site	2	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 3		**Total Points Scored: 58.84**				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 1.7 credits allocated

No drawing no., Thornton Street new dwellings ground and first floor plans by Building Design Services, received 1st of September 2013

No drawing no., Thornton Street new dwellings elevations plans by Building Design Services, received 1st of September 2013

Draft SAP Calculations for the Semi detached houses, based on assumptions, completed by Laura Meehan of Build Energy, September 2013

Assumptions for ENE 1

Floors
Floors to have a u value of 0.12 W/m2K,

Walls
Exposed walls to have a U-value of 0.14 W/m2K

Roofs
Roofs to have a u-value of 0.1 W/m2K

Openings (windows and doors)
Triple glazed, low E soft coating
Good seal
Window U-value of 0.8 W/m2K
Doors to be 1.2 W/m2K

Ventilation
Air permeability rate of 5 m^3/hm^2
Natural

Main Heating
Boiler to have a seasonal efficiency within SAP of at least 88%
Controls - Time, temperature and zone control.
Boiler interlock.

Water Heating
From mains.

Lighting
100% dedicated low energy lighting

Thermal Bridging
y-value 0.08 Accredited construction details.

Renewables
Not yet specified.

Summer Overheating
Window ventilation - Fully open half the time

This achieves 1.6 credits under ENE 1.

Evidence for ENE 2 (Fabric Energy Efficiency)

Semi Detached
4.1 credits allocated

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Draft SAP Calculations for the Semi detached houses, based on assumptions, completed by Laura Meehan of Build Energy, September 2013

Assumptions for ENE 2

Floors
Floors to have a u value of 0.12 W/m2K,

Walls
Exposed walls to have a U-value of 0.14 W/m2K

Roofs
Roofs to have a u-value of 0.1 W/m2K

Openings (windows and doors)
Triple glazed, low E soft coating
Good seal
Window U-value of 0.8 W/m2K
Doors to be 1.2 W/m2K

Ventilation
Air permeability rate of 5 m^3/hm^2
Natural

Main Heating
Boiler to have a seasonal efficiency within SAP of at least 88%
Controls - Time, temperature and zone control.
Boiler interlock.

Water Heating
From mains.

Lighting
100% dedicated low energy lighting

Thermal Bridging
y-value 0.08 Accredited construction details.

Renewables
not yet specified.

Summer Overheating
Window ventilation - Fully open half the time

This achieves 3.9 credits under ENE 2.

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

· System will comprise a self-charging sensor(s) fixed to the incoming mains supply/supplies, to measure and transmit energy consumption data to a visual display unit.
· As a minimum the visual display unit will be capable of displaying the following information:
o Current mains energy consumption (kilowatts and kilowatt hours)
o Local time
o Current emissions (g/kg CO2)
o Current tariff Current cost (in pounds and pence). For pre-payment customers this should be 'real time' data and for 'credit' paying customers cost should be displayed on a monthly basis
o Display accurate account balance information (amount in credit or debit)
o Visual presentation of data (i.e. non-numeric) to allow consumers to easily identify high and low level of usage
o Historical consumption data so that comparisons can be made between current and previous usage in a meaningful way. This will include cumulative consumption data in any of the following forms day/week/month/billing period'.

Evidence for ENE 4 (Drying Space)

Compliant external drying space

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Assumptions for ENE 4

There will be a dedicated drying space will be provided capable of holding 4m+ of drying line in a secure location, the back garden.

Evidence for ENE 5 (Energy Labelled White Goods)

A+ rated fridge & freezers or fridge/freezer
A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.

Assumptions for ENE 5

· The client will be providing a fridge freezer with an A+ rating according to the EU Energy Efficiency Labelling Scheme.
· The client will be providing washing machines and dishwashers with an A rating according to the EU Energy Efficiency Labelling Scheme.
· We can confirm that a Standard Homes pack will be provided to the new dwelling that will include the EU Energy Efficiency Labelling Scheme.
· A copy of the EU Energy Efficiency Labelling Scheme leaflet has been sent to yourselves demonstrating the information that will be provided in the leaflet.

Evidence for ENE 6 (External Lighting)

Compliant space lighting
Compliant security lighting

Assumptions for ENE 6

All external space lighting will be specifically designed to accommodate only energy efficient fittings. All security lighting is designed for energy efficiency and is adequately controlled such that:

· Burglar security lights have maximum wattage of 150w and incorporate PIR sensors with daylight cut off sensors.
· General security lights designed to only accommodate energy efficient fittings and are fitted with daylight cut off sensors or timers

In addition all space lighting will be only capable of accepting lamps having a luminous efficacy greater than 40 lumens per circuit Watt

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

Contribution of low or zero carbon technologies greater than or equal to 10%

Assumptions for ENE 7

Any Low or zero carbon technologies will meet any additional requirements defined in Directive 2009/28/EC as applicable.

Any LZC technologies and associated equipment will be covered under the MCS scheme, in addition to this all installers will be covered by the scheme.

The low carbon technology will meet 10% of the reduction of CO2 for the dwelling this will be shown within the SAP calculation.

Evidence for ENE 8 (Cycle Storage)

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

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Assumptions for ENE 8

· Cycle storage will be provided that is adequately sized, safe, secure, convenient and weather proof.
· The cycle storage for the dwellings will have enough room for storing the cycle storage (2m x 2.5 on the ground).
· Each 3 Bedroom House on this site will be provided with storage space for 2 cycles.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

· Sufficient space and subsequent services (two telephone points, two double sockets, adequate ventilation & broadband connection) are to be provided in each dwelling where the occupants are able to set up a home office in a suitable quiet room with a daylight factor of at least 1.5%.
· The dedicated room will also have sufficient wall space (greater than 1.8m) to allow a desk, chair and filing cabinet to be placed in the room and to allow space for the occupants to move around the desk and access the filing cabinet.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 105 litres per person per day

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Assumptions for WAT 1

It is anticipated that the sanitary ware will have the following flow rates/capacities:
Toilets - dual flush of 3/6.
Wash hand basins - flow rates of 3 litres per minute to all taps on wash hand basins
Kitchen sinks - flow rates of 5 litres per minute to all taps on kitchen sinks
Baths- Capacity of 240 litres
Showers - flow rates of 8.5 litres per minute will be used
Dishwashers - litres per place setting of 1
Washing Machines - litres per kg of dry load of 5

The system installer will also be required to have checked all of the hot and cold water system in order to eliminate the possibility of Legionnaire's disease.

Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

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Assumptions for WAT 2

· 200 litre Water butt will be provided to for irrigation purposes. The water butt will be easily accessible and placed on a flat surface, they will be covered with a removable top and a draw off tap will be fitted.
· The water butts will be filled via a drainpipe connection with overflow facility, and this can easily be removed to aid internal cleaning.
· The water butts will be durable and opaque to sunlight, will be adequately supported and will be placed on stable ground.

Evidence for MAT 1 (Environmental Impact of Materials)

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

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Assumptions for MAT 1

We can confirm that a minimum of three of the elements listed below will achieve a minimum rating of between A+ and D

- Roof
- External Walls
- Internal Walls (Including separating walls)
- Ground Floors
- Windows

The specification is likely to comprise of the following:

Ground Floor -
Upper Floor - OSB-2 decking on timber joists, 807280041, A+
Roof - Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and concrete plain tiles- Please check on the Green Guide to Specification.
External Walls - Brick and block
Internal Walls - Timber stud, plasterboard, paint, 809760003, A+ rated
Windows - PVC-U window, double glazed, 813100009, A rated Please check Green Guide

The specification is likely achieve around 11 credits, however the full calculations will be undertaken at design stage.

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

Zero credits or credits not sought

Assumptions for MAT 2

This credit will not be targeted.

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

3 credits scored

Assumptions for MAT 3

It is assumed that where possible all materials will be responsibly sourced within

- Stairs
- Windows
- External and Internal Doors
- Skirting
- Furniture
- Facias

Our specification is likely to comprise of the following:

Stairs - 100% of the Stairs will FSC certified timber

Windows- are unlikely to be certified

External and internal Doors- 100% of doors will be FSC certified timber

Skirting- 100% of skirting will be FSC certified timber

Kitchen Furniture- will be 100% FSC certified timber

Fascias- Any Fascias will be 100% FSC Certified timber

In addition all timber will be legally sourced

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.
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Assumptions for SUR 1
All the mandatory requirements of this credit will be met to ensure that the peak rate of run off and annual rate of run off is no greater for the developed site than for the pre development.

Evidence for SUR 2 (Flood Risk)
Low flood risk - zone 1
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Assumptions for SUR 2
Site specific Flood Risk Assessment (FRA) in support of this credit indicating the sites probability of flooding and EA information indicating the flood zone, will need to be provided.

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
No drawing no., Thornton Street new dwellings ground and first floor plans by Building Design Services, received 1st of September 2013 No drawing no., Thornton Street new dwellings elevations plans by Building Design Services, received 1st of September 2013 http://www.manchester.gov.uk/info/200084/bins_rubbish_and_recycling/6026/see_which_recycling_bin_to_use, accessed 12/09/2013
Assumptions for WAS 1
· The space allocated for waste storage will be able to accommodate containers with at least the minimum volume recommended by British Standards 5906 (British Standards, 2005) based on a maximum collection frequency of once per week. This equates to 170 litres based on the 1 bedroom houses · The site plan provided shows the location of the bin stores, which are within 30m of an external door to the property. As confirmed in the Checklist Was 1, these will be stored on a level hard standing area that will be covered and will be accessible to disabled people. Please see below for the additional commitments that will be provided regarding this credit- · A Local Authority collection scheme is in place which collects at least fortnightly and sorts waste after collection. · A single 30 litre bin is provided for recycling, this will be kept in a cupboard in the kitchen, which will be located near to the waste bin. · A turning circle of at least 1500mm diameter will be provided by the bin store to allow a wheelchair user to turn and return in the opposite direction. · The route to the bin store will be direct, free from obstructions and raised thresholds and will have a suitable surface.

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

The Site waste management plan will be developed in accordance with Checklist Was 2a, will include procedures and commitments for reducing waste in line with Checklist Was 2b and Checklist Was 2d and will include procedures and commitments for diverting waste from landfill in line with Checklist Was 2c and Was 2d.

The Site Waste Management will include monitoring and reporting of waste generated on site in the defined waste groups (as defined in the SWMP regulations 2008), the setting of targets to promote resource efficiency (in accordance with guidance from WRAP, Envirowise, BRE and DEFRA) and the setting of quantative targets for waste management to achieve an 85% reduction of waste to landfill.

Evidence for WAS 3 (Composting)

Communal/community composting service run by the local authority

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http://www.manchester.gov.uk/info/200084/bins_rubbish_and_recycling/6026/see_which_recycling_bin_to_use, accessed 12/09/2013

Assumptions for WAS 3

· Individual composting facilities will be provided for each dwelling in accordance with the criteria set out in the Code for Sustainable Homes Guidelines.
· An internal kitchen waste bin will be provided
· Information leaflets for the composting bins will be supplied to all dwellings.
· A turning circle of at least 1500mm diameter will be provided by the bin store and composting bins to allow a wheelchair user to turn and return in the opposite direction.
· The route to the bin store will be direct, free from obstructions and raised thresholds and will have a suitable surface.

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

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Assumptions for POL 1

All materials used within the building fabric and services will have a GWP less than 5. The insulation applies to the following areas-

· Roofs including loft access.
· Internal and external walls including lintels and all acoustic insulation.
· Floors ground and upper
· Hot water pipe insulation
· Hot water cylinder pipe insulation
· Cold water storage tanks where provided
· External doors.

These insulation products have yet to be specified and as soon as the manufacturers information is available this will be supplied to you.

Evidence for POL 2 (NOx Emissions)

NOx emissions less than or equal to 40mg/kWh

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Assumptions for POL 2

Once boilers have been specified, the specifications will be forwarded confirming that the NOx emissions are below 40mg/kWh at 0% excess O^2.

Evidence for HEA 1 (Daylighting)

Kitchen: Average daylight factor of at least 2%
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%

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Assumptions for HEA 1

It is assumed that calculations will be carried out in order to confirm that the development meets with the following Average Daylight Factor criteria:

- Kitchens achieve a minimum average daylight factor of a least 2%
- Living rooms, dining rooms and studies achieve a minimum average daylight factor of at least 1.5%
- 80% of the working planes for the Kitchens, living rooms, dining rooms and studies have been designed to receive direct light from the sky.

Evidence for HEA 2 (Sound Insulation)

Accredited Part E sound testing has been undertaken
Airborne 8dB higher, impact 8dB lower

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Assumptions for HEA 2

There is a commitment to carry out a programme of pre-completion testing on the development by a UKAS accredited tester and meet the relevant sound insulation performance levels, in this case we intend to gain 4 credits and meet the criteria set out below.

- Airbourne sound insulation values are at least 8dB higher and impact sound insulation values are at least 8 dB lower.

If during testing it is found that the remedial works are needed in order to meet the required standards, these will be carried out.

Evidence for HEA 3 (Private Space)

Individual private space provided

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Assumptions for HEA 3

- A minimum 1.5m²/bedroom private space allocation will be provided for each bedroom.
- The private space provided will be located close to the dwellings and is accessible to wheelchair users in accordance with BS8300
- The private space provided will be accessible only to the allocated dwelling as the space will be privately fenced.

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

Assumptions for HEA 4

This credit will not be targted.

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

A stand-alone Home User Guide ('HUG'),will be compiled using Checklist Man 1 Part 1 together with information that the guide is available in alternative accessible formats will be provided as part of a handover pack. The guide will also cover information relating to the site and its surroundings, compiled using Checklist Man 1 Part 2.

Part 1 Operational Issues

a. Environmental strategy/design and features

Details of any specific environmental/energy design strategy/features including an overview of the reasons for their use (e.g. environmental and economic savings and restrictions on making alterations) and how they should best be operated (where they are not passive features such as insulation and SUDS). Strategies/features could include passive solar design, super insulation, energy efficient timber windows, heat recovery systems, solar hot water systems, photovoltaics, passive vents or the use of certified timber or SUDS within the boundary of individual properties. (Each dwelling will in any case be issued with a copy of the Code Certificate.)

b. Energy

o Information as described in the Building Regulations ADL1A (Schedule 1 requirement c) i.e. Sufficient information about the building, the fixed building services (this should include things like the implication of covering heating outlets with bags etc and other hazards) and their maintenance requirements so that the building can be operated in such a manner as to use no more fuel and power than is reasonable in the circumstances.

o A way of complying would be to a provide suitable set of operating and maintenance instructions aimed at achieving economy in the use of fuel and power in a way that householders can understand. The instructions should be directly related to the particular system/s installed in the dwelling.

o The instructions should explain to the occupier how to operate the system(s) efficiently. These should include: the making of seasonal adjustments to control settings and what routine maintenance is needed to enable operating efficiency to be maintained at a reasonable level through the service live/s of the system/s.

o Details of any renewable system/s and how it/they operate/s.

o Details of low-energy light fittings, their use and their benefits, e.g. how much energy they save compared to traditional light fittings and what this can mean in terms of reduced energy bills

o Information should also be provided explaining lamp efficacy and the benefits of purchasing high efficacy lamps.

o Details of the EU labelling scheme for white goods.

o General information on energy efficiency.

c. Water Use

· Details of water-saving measures and tips.

· External water use and efficiency, e.g. the use of water butts or other type of rainwater recycling systems.

d. Recycling & Waste

· Information about the Local Authority collection scheme (if applicable).

· If the home is not covered by a Local Authority collection scheme, details and location of communal recycling bins/skips/facilities.

· Information on the location and use of any recycling bins.

· Information on the location and use of any compost bins.

Information on WRAP which can offer guidance on recycling and sustainable waste disposal.

e. Sustainable DIY

· Environmental recommendations for consideration in any home improvement works, such as the use of low VOC products or the purchase of certified timber.

f. Emergency Information

Information on smoke detector/s.

g. Links, References & Further Information

Include references/links to other information including websites, publications and organisations providing information on how to run the home efficiently and in the best environmentally sound way. As a minimum, this should include links to:

- The Energy Saving Trust good practice guidance (www.energysavingtrust.org.uk <http://www.energysavingtrust.org.uk>).

- The Local Authority.

Evidence for MAN 2 (Considerate Constructors Scheme)
Credits not sought
Assumptions for MAN 2
This credit will not be targeted

Evidence for MAN 3 (Construction Site Impacts)
Monitor, report and set targets for CO2 production or energy use 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 80% of timer reclaimed, re-used or responsibly sourced
Assumptions for MAN 3
· It is assumed that the contractor will be committed to monitor, sort and recycle construction waste on site and will be operating an SWMP on site as per our legal requirement. · It is assumed that the contractor will aim to put into place the following procedures, therefore achieving 2 credits. A Monitor and report CO2 or energy arising from site activities - This will be achieved by checking and recording the meter reading of the on site diesel hopper which supplies all plant on site C Monitor and report on water consumption from site activities - This will be achieved by checking and recording the meter reading of the on site water meter. D Adopt best practice policies in respect of air (dust) pollution arising from the site - We will adopt best practice policies in line with DTI/BRE Publication 'Control of Dust from Construction and Demolition Activities' and disseminate this information to employees via tool box talks and risk assessments. E Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site - We will adopt best practice policies in line with PPG 1/5/6 and disseminate this information to employees via tool box talks and risk assessments and environmental assessments. All of the above monitoring items will be benchmarked using the KPI standards and actual monitoring information will be displayed on site within the site office to allow viewing by all site operatives.

Evidence for MAN 4 (Security)
Secured by design section 1 & 2 compliant
Assumptions for MAN 4
We can confirm that an Architectural liaison officer (ALO) or Crime Prevention Design Adviser (CPDA) will be consulted during the early design stages and all of the recommendations will be incorporated in to the design. Section 2 of the Physical Security- from Secured by Design -New Homes has been checklist will be complied with and the relevant sections incorporated into the design.

Evidence for ECO 1 (Ecological Value of Site)
Credit not sought
Assumptions for ECO 1
As the previous site is completely concrete, it is assumed that this credit can be achieved, pending more detailed drawings.

Evidence for ECO 2 (Ecological Enhancement)
Credit not sought or no compliant enhancement
Assumptions for ECO 2
These credits will not currently be targeted.

Evidence for ECO 3 (Protection of Ecological Features)
Credit not sought

Assumptions for ECO 3
As the previous site is completely concrete, it is assumed that this credit can be achieved, pending more detailed drawings.

Evidence for ECO 4 (Change of Ecological Value of Site)
Neutral: Greater than -3 and less than or equal to +3
No drawing no., Thornton Street new dwellings ground and first floor plans by Building Design Services, received 1st of September 2013 No drawing no., Thornton Street new dwellings elevations plans by Building Design Services, received 1st of September 2013
Assumptions for ECO 4
It is likely that the development has a neutral effect on the change in Ecological value and is unlikely to be greater than 3, however this is dependent on calculations being carried out showing the species change.

Evidence for ECO 5 (Building Footprint)
Credit not sought
Assumptions for ECO 5
These credits will not be targeted as the development is only two storeys.

Assessor Declaration

I Laura Meehan, 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:



Laura Meehan
Build Energy
Thursday, September 12, 2013

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

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.

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 send 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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