Code for Sustainable Homes
Technical Guide November 2010 - Full Technical Guide
Design Stage Report

STROMA CERTIFIED CODE ASSESSOR

DISCONS - RM

UK Building Compliance

Report Reference:	**DG/MA**
Site Registration:	**002848-120917-02-1188**
Site Name:	**Land adjacent to 49 Merevale Avenue**
Assessor Number:	
Company:	**Uk Building Compliance**
Assessor:	**James Hunt**

THE CODE FOR SUSTAINABLE HOMES

CERTIFICATION MARK

Site Details	
Site Name:	Land adjacent to 49 Merevale Avenue
Site Registration:	002848-120917-02-1188
Site Address:	Land adjacent to 49 Merevale Avenue
City/Town:	Hinckley
County:	Leicestershire
Postcode:	LE10 0PX
No. of Dwellings:	1
No. of Dwelling Types:	1
Planning Authority:	Hinckley & Bosworth Borough Council
Funding Body:	

Assessor Details	
Company:	Uk Building Compliance
Assessor Name:	James Hunt
Cert Number:	
Address:	The Old Factory 8 Hawley Road
City/Town:	Hinckley
County:	Leics
Postcode:	LE10 0PR
Tel:	01455 634855
Email:	jamie.hunt@ukbuildingcompliance.co.uk

Client Details	
Company:	D Gamble
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

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

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

Dwelling ID	Plot No.	Address	Social Unit
1	1	Plot adjacent to 49 Merevale Avenue	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		Plot adjacent to 49Merevale Avenue	3	58.38

Deviations from Standard

No deviations from standard

Score Sheet for Land adjacent to 49 Merevale Avenue

	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	6.9	0	2	1	2	2	2	2	1	3	1	10	0	0	2	2	4	0	1	1	2	3	4	1	0	3	0	0	2	0	0	1	2	0	58.38	3

Summary Score Sheet

Dwelling Type: Plot adjacent to 49 Merevale Avenue

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	6.9	10	18.9	31	60.97	36.4	22.19
ENE 2 Fabric Energy Efficiency	0	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	2	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	10	15	10	24	41.67	7.2	3
MAT 2 Responsible Sourcing (Basic Building Elements)	0	6					
MAT 3 Responsible Sourcing (Finishing Elements)	0	3					
Surface Water Run-off							
SUR 1 Management of Surface Water Run-Off from Site	2	2	4	4	100	2.2	2.2
SUR 2 Flood Risk	2	2					
Waste							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	5	8	62.5	6.4	4
WAS 2 Construction Site Waste Management	0	3					
WAS 3 Composting	1	1					
Pollution							
POL 1 Global Warming Potential of Insulants	1	1	3	4	75	2.8	2.1
POL 2 NOx Emissions	2	3					
Health & Wellbeing							
HEA 1 Daylighting	3	3	8	12	66.67	14	9.33
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	5	9	55.56	10	5.56
MAN 2 Considerate Constructors Scheme	0	2					
MAN 3 Construction Site Impacts	0	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	0	1	3	9	33.33	12	4
ECO 2 Ecological Enhancement	0	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	2	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 3		**Total Points Scored: 58.38**				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 6.9 credits allocated

STANDARD ASSESSMENT CRITERIA - MANDATORY ELEMENT
Credits are awarded based on the percentage improvement in the Dwelling Emission Rate (DER), (estimated carbon dioxide emissions in kg per m2 per annum arising from energy use for heating, hot water and lighting for the actual dwelling), over the Target Emission Rate (TER) (the maximum emission rate permitted by Building Regulations), for the dwelling where DER and TER are as defined in the SAP 2009 calculations.

DEVELOPMENT DESIGN STAGE
To achieve Code Level 3 compliance with Building Regulations Part L 2010 is required. This achieves 0 credits out of a possible 10. However credits can be awarded if there is a % improvement in the DER over the TER (e.g. 8% = 1 credit, 16% = 2 credits etc). For a breakdown of credits awarded based on % improvement achieved please see page 32 of the Code for Sustainable Homes Technical Guide November 2010.

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Detailed documentary evidence confirming the TER, DER and percentage improvement of DER over TER based on design stage SAP outputs*
OR
Where applicable:
A copy of calculations as detailed in the assessment methodology based on design stage SAP outputs*
AND
Confirmation of FEE performance where SAP section 16 allowances have been included in the calculation
*Dated outputs with accredited energy assessor name and registration number, assessment status, plot number and development address. If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.

Evidence for ENE 2 (Fabric Energy Efficiency)

Detached
0 credits allocated

STANDARD ASSESSMENT CRITERIA
Credits in this category are awarded based on the Fabric Energy Efficiency (FEE) of the dwelling, taken from the SAP 2009 Calculations. FEE is the energy demand for space heating and cooling expressed in kWh/m2/year.

Credits are awarded on a sliding scale ranging from 3 to 9 and the scale is based on increments of 0.1 credits, distributed equally. The number of credits awarded also depends on the dwelling type. Please see page 40 of the Code for Sustainable Homes Technical Guide November 2010 for a table of benchmarks and credits.

DEVELOPMENT DESIGN STAGE
SAP Calulation

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Detailed documentary evidence confirming fabric energy efficiency based on Design Stage SAP outputs*
OR
Where applicable:
A copy of calculations as detailed in the assessment methodology based on design stage SAP outputs

*Dated outputs with accredited energy assessor name and registration number, assessment status, plot number and development address. If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.

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.

STANDARD ASSESSMENT CRITERIA
Credits are awarded for specifying equipment that displays energy consumption data of the dwelling, thus empowering dwelling occupants to reduce energy use.

1 credit is awarded where current electricity OR primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.

2 credits are awarded where current electricity AND primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.

DEFAULT CASE - Where electricity is the primary heating fuel and current electricity data is displayed to occupants by a correctly specified energy display device - 2 credits can be achieved.

CORRECTLY SPECIFIED ENERGY DISPLAY DEVICE
This is a system comprising a self-charging sensor fixed to the incoming mains to measure and transmit energy consumption data to a visual display unit. As a minimum the unit must be capable of displaying the following information:

- Local time
- current mains energy consumption (kW and kWh)
- current emissions (g/kg CO2)
- Current tariff
- Current cost (pounds and pence) (real time data for pre-payment customers and on a monthly basis for credit paying customers)
- display accurate account balance information (in credit or debit)
- visual presentation of data (non-numeric) to allow consumers to easily identify high and low level of usage.
- historical consumption data so that consumers can compare their current and previous usage in a meaningful way.

DEVELOPMENT DESIGN STAGE
A correctly specified energy display device will be installed in the property and that it will display both current electricity and primary heating fuel consumption data. In this regard 2 credits will be achieved in this category.

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence confirming:
That the correctly specified energy display device is dedicated to the dwelling
AND
The consumption data displayed by the correctly specified energy display device

Where detailed documentary evidence cannot be produced at this stage:
A specification can be allowed as evidence of intent to meet specific requirements
OR
A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking can be allowed

Evidence for ENE 4 (Drying Space)
Compliant external drying space
STANDARD ASSESSMENT CRITERIA A credit is awarded based on the provision for drying space for each dwelling type as follows: -Where space with posts and footings or fixings capable of holding 4m+ of drying line for 1-2 bed dwellings, and 6m+ of drying line for 3+ bed dwellings, is provided for drying clothes. The space (internal or external) should be secure. For internal drying spaces it should be a heated space with adequate, controlled ventilation, which complies with Part F of Building Regulations. Rooms that commonly meet these requirements are a bathroom or utility room. An example of an internal fixing would be a retractable clothes dryer installed over the bath in the bathroom. An example of an external fitting would be a rotary dryer located in an enclosed space only accessible to the residents of the dwelling(s). DEVELOPMENT DESIGN STAGE Rotary dryer 6m+ DESIGN STAGE EVIDENCE REQUIREMENTS For external drying space, detailed documentary evidence confirming: • The location of fixings/footings or posts • The length of drying line • Details of the lock provided (for communal drying space only) Where detailed documentary evidence cannot be produced at this stage: A specification can be allowed as evidence of intent to meet specific requirements OR A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking

Evidence for ENE 5 (Energy Labelled White Goods)

A+ rated fridge & freezers or fridge/freezer
A rated washing machine and dishwasher AND B rated washer-dryers & tumbles dryers, or EU energy efficiency labelling scheme leaflet where washing machines and/or dishwashers not provided

STANDARD ASSESSMENT CRITERIA
Credits are awarded where information is provided relating to the provision of energy efficient white goods, or where energy efficient white goods are supplied as follows:

· 1 credit where fridges and freezers or fridge-freezers have an A+ rating under the EU Energy Efficiency Labelling Scheme
· Plus a second credit where washing machines and dishwashers have an A rating under the EU Energy Efficiency Labelling Scheme AND

EITHER

· washer-dryers or tumble dryers have a B rating OR
· where washer-dryers or tumble dryers are not provided, information on the EU Energy Efficiency Labelling Scheme is provided to each dwelling.

Please note: where washer dryers are provided it is not necessary to provide a washing machine to obtain the second credit.

If no (or not all) white goods are provided but information on the EU Energy Efficiency Labelling Scheme of efficient white goods is provided to each dwelling then 1 credit is obtained.

DEVELOPMENT DESIGN REQUIREMENTS
Both credits assumed. Both credits may not be sought at post stage.

DESIGN STAGE EVIDENCE REQUIREMENTS
If any white goods are to be provided, detailed documentary evidence confirming:
The appliances to be provided with their applicable ratings under the EU Energy Efficiency Labelling Scheme

Where washer dryers or tumble dryers will not be provided and the second credit is sought, provide detailed documentary evidence as follows:
• A copy of the EU Energy Efficiency Labelling Scheme Information
AND
• Confirmation that the information will be provided to all dwellings

If no white goods are provided, detailed documentary evidence as follows:
• A copy of the information that will be provided on the EU Energy Efficiency Labelling Scheme
AND
• Confirmation that the information will be provided to all dwellings
AND
• Confirmation that all appliances available for purchase with the dwelling are compliant with the assessment criteria

Where details cannot be produced at this stage:
• A formal letter from the developer giving the specific undertaking

Evidence for ENE 6 (External Lighting)

Complaint space lighting, no security lighting installed

STANDARD ASSESSMENT CRITERIA
Where all external lighting within the development is provided by dedicated energy efficient fittings, as follows:

· Space lighting: 1 credit where all external space lighting, including lighting in the common areas, is provided by dedicated energy efficient fittings (40 lumens per watt) with appropriate control systems (daylight sensor)
· Security Lighting: 1 credit where all security light fittings are designed for energy efficiency and are adequately controlled such that:

- All burglar security lights:
a. Have a maximum wattage of 150W AND
b. Have movement detecting control devices (PIR) AND
c. Have daylight cut-off sensors

- All other security lighting:
a. Has dedicated energy efficient fittings AND
b. Is fitted with daylight cut-off sensors OR timers
· If no security lighting is installed then the security lighting credit can be awarded by default provided all the conditions for the space lighting credit have been met.
· Dual lamp luminaires with both space and security lamps can be awarded both credits provided they meet the above criteria for energy efficiency.

FOR HOUSES
Fittings serving the following areas should be included in the assessment of space and security lighting:
· External door, front porch, steps/pathways, patio, garage, garden, carports and any other outbuildings.

DEVELOPMENT DESIGN REQUIREMENTS
As electrical layout drawings are not available I have assumed that all external space lighting shall be dedicated energy efficient fittings (luminous efficancy greater than 40 lumens per circuit Watt) and will have a daylight cut-off sensor AND that EITHER no security lighting will be installed OR that all security light fittings will be energy efficient (Max 150W for burglar lights) and will have adequate controls (PIR and daylight cut-off sensors). This will achieve 2 credits in this issue.

DESIGN STAGE EVIDENCE REQUIREMENTS
Relevant drawings clearly showing the location of all external light fittings
AND
Detailed documentary evidence confirming:
- The types of light fitting and efficacy, in lumens per circuit watt, for all lamps
- The control systems applicable to each light fitting or group of fittings

Where detailed information is not available at this stage:
A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking

Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)
Contribution of low or zero carbon technologies greater than or equal to 15%
STANDARD ASSESSMENT CRITERIA Credits are awarded based on the percentage reduction in total carbon emissions that result from using Low or Zero Carbon (LZC) Energy Technologies for each dwelling using the ENE7 calculation method with credits awarded as detailed below: Where energy is supplied from renewable or low carbon energy technologies: · 1 credit is awarded where there is a 10% reduction in carbon emissions as a result · 2 credits are awarded where there is a 15% reduction in carbon emissions as a result Examples of LZC's are: Solar Hot Water, Photovoltaics, wind turbines, Biomass, CHP, air source heat pumps, ground source heat pumps. DEVELOPMENT DESIGN REQUIREMENTS SAP DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC) A copy of calculations as detailed in the assessment methodology based on design stage SAP outputs AND Detailed documentary evidence confirming that the specified low or zero carbon technologies: • Meet any additional requirements defined in Directive 2009/28/EC as applicable. And are: • Certified under the Microgeneration Certification Scheme* OR • Certified under the CHPQA standard* *As applicable.

Evidence for ENE 8 (Cycle Storage)

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

STANDARD ASSESSMENT CRITERIA
Credits are awarded where individual or communal cycle storage is provided that is adequately sized, safe, secure, convenient and weather-proof for the following number of cycles:

1 credit where:
- Studios or 1 bedroom dwellings have storage for 1 cycle for every two dwellings
- 2 and 3 bedroom dwellings have storage for 1 cycle per dwelling
- 4 bedrooms and above have storage for 2 cycles per dwelling

2 credits where:
- Studios or 1 bedroom dwellings have storage for 1 cycle per dwelling
- 2 and 3 bedroom dwellings have storage for 2 cycles per dwelling
- 4 bedrooms and above have storage for 4 cycles per dwelling

For specific details on adequately sized, safe, secure, convenient and weather-proof storage please refer to page 74 of the code for sustainable homes technical guide November 2010. If all these details are not complied with then the credits cannot be awarded.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that adequate, safe, secure, convenient and weatherproof cycle storage will be provided in a rear garden shed in order to achieve 2 credits in this category. For 1 bed dwellings this is storage for 1 cycle per dwelling. In order for the shed to provide storage for 2 bikes the shed would need to be 4m2. This is because the code defines adequately sized storage for 2 bikes as 2m long x 1.5m wide plus 1m2 for garden tools when the cycle storage is in a shed - so 2m x 2m would satisfy this requirement. The shed must be set on a concrete base/foundation and requires a secure entrance lock (deadlock or sash lock where the door is at least 44mm thick or a 'sold secure' Silver Standard padlock with a hasp and staple) and a secure stand inside the shed such as a sheffield cycle stand. The secure stand is a stand which allows both wheel and frame to be locked and must be of galvanised steel bar construction (minimum thickness of 3mm) and have a minimum foundation depth of 300mm with a welded anchor T-bar set in concrete to prevent it being easily removed from the ground.

Credits may not be sought at post stage.

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence showing:
- The number of bedrooms and the corresponding number of cycle storage spaces per dwelling
- Location, type and size of storage
- Convenient access to cycle storage
- Any security measures
- Details of the proprietary system (if applicable)
- How the requirements of clause 35 of Secured by Design – New Homes 2010 will be met (if applicable)

Where detailed information is not available at this stage:
A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking

Evidence for ENE 9 (Home Office)

Compliant home office

STANDARD ASSESSMENT CRITERIA
1 credit is awarded where sufficient space and services have been provided which allow the occupants to set up a home office in a suitable quiet room.

The space needs to satisfy the following requirements:

Sufficient services:
- Two double power sockets
- Two telephone points or one telephone point where broadband is available at the address.
- Window: the room must have a daylight factor of at least 1.5%
- Adequate ventilation: an openable window with an openable casement of a minimum of 0.5m2.
- Sufficient space: at least 1.8m wall length

Suitable room:
- For dwellings with 3 or more bedrooms, a suitable room is a room other than the kitchen, living room, master bedroom or bathroom
- For dwellings with 1 or 2 bedrooms, a suitable room may be in the living room, one of the bedrooms or any other suitable area e.g. hall, dining area.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that a home office will be provided with sufficient space and services in a suitable room. A suitable room would be EITHER the bedroom as this achieves a daylight factor of 2.58%, has windows with an openable casement of at least 0.5m2 and has a wall length of at least 1.8m
OR
the living room as this achieves a daylight factor of 2.03%, has windows with an openable casement of at least 0.5m2 and has a wall length of at least 1.8m. Broadband is available for the postcode EN3 5JS therefore only one telephone point would need to be installed in the chosen room (bedroom or living room), in addition to the 2 double power sockets, to satisfy the services requirements for a code compliant home office.

Credits may not be sought at post stage.

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence showing:
- Location of and sufficient space for the home office
- Location and number of sockets
- Location of telephone points
- That adequate ventilation will be provided
- That an average daylight factor of at least 1.5% is achieved
- Confirmation of one of the following:
  - cable connection
  - that broadband is available at the site level (not for individual dwellings), i.e. a letter from the developer confirming that they have checked that broadband is available
  - two telephone points (or double telephone point)

Where detailed information is not available at this stage:
A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking

Evidence for WAT 1 (Internal Water Use)

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

STANDARD ASSESSMENT CRITERIA - MANDATORY ELEMENT
Up to 5 credits are available for performance which reduces the amount of portable water used in the dwelling. Credits are awarded based on a whole house assessment of the efficiency of internal water fittings against a benchmark figure. The assessment is measured in litres per person per day using the Water Efficiency Calculator for New Dwellings. For a breakdown of credits awarded based on water consumption (litres/person/day) please see page 82 of the Code for Sustainable Homes Technical guide November 2010.

DEVELOPMENT DESIGN REQUIREMENTS
To achieve Code Level 3 a mandatory maximum water consumption of 105 l/p/d is required from the Water Efficiency Calculator and this achieves 3 credits out of a possible 5. Additional credits can be awarded if the water consumption is lower (e.g. 90l/p/d = 4 credits and 80l/p/d = 5 credits). An example of a code level 3 compliant specification which achieves 105l/p/d would be as follows:

- Dual flush WC's: 4 litre full flush volume, 2.6 litre part flush volume
- Wash Hand Basin taps: 6 litres/min flow rate
- Kitchen sink taps: 6 litres/min flow rate
- Shower: 9 litres/min flow rate
- Bath capacity: 145 litres
- Washing machines and dishwashers: none specified (use default figures)
- No rainwater harvesting or greywater recycling

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Completed Water Efficiency Calculator for New Dwellings internal portable water use for each dwelling which has a different specification
AND
Detailed documentary evidence showing:
- Location, details and type of appliances/ fittings that use water in the dwelling including any specific water reduction equipment with the capacity / flow rate of equipment.
- Location, size and details of any rainwater and greywater collection systems provided for use in the dwelling

Where detailed documentary evidence is not available at this stage;
Completed Water Efficiency Calculator for New Dwellings internal portable water use for each dwelling which has a different specification
AND
A letter of instruction to a contractor/ supplier or a formal letter from the developer giving a specific undertaking, providing sufficient information to allow the water calculations to be completed

Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

STANDARD ASSESSMENT CRITERIA
1 credit is awarded where a correctly specified and sufficient sized system to collect rainwater for external/internal irrigation use has been provided to a dwelling with a garden, patio or communal garden space (examples of such systems include rainwater butts and central rainwater collection systems).

If no individual or communal garden spaces are specified or if only balconies are provided, the credit can be awarded by default.

The water butt needs to satisfy the following requirements:

Sufficient size (for homes with private gardens, patios and terraces):
- terraces and patios - 100 litres minimum
- 1-2 bedroom home with private garden - 150 litres minimum
- 3+ bedroom home with private garden - 200 litres minimum
(The above volume requirements can be halved if there is no planting provided and the whole of the external space is covered by a hard surface).

Sufficient size (for communal gardens):
- 1 litre/m2 of land allocated to the dwelling with a minimum of 200 litres per communal garden.

Correctly specified:
- Provision of a childproof lid
- Provision of a tap for drawing off water
- Connection to the rainwater downpipes with an automatic overflow into the conventional rainwater drainage system
- A means of detaching the downpipe to enable cleaning of the interior
- Stable and adequately supported
- Container shall be durable and opaque to sunlight

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that a rainwater butt will be installed in the rear communal garden and that it will satisfy the above requirements in terms of size 200 litres and correct specification.

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence stating type, size and location of any rainwater collection systems

Where detailed documentary evidence is not available;
A letter of instruction to a contractor / supplier or a formal letter from the developer giving a specific undertaking

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 10 credits scored

STANDARD ASSESSMENT CRITERIA - MANDATORY ELEMENT
There is a mandatory requirement with no available credits to achieve a Green Guide rating of between A+ and D for at least three of the following five elements of the building envelope:

· Roof
· External Walls
· Internal Walls (including separating walls)
· Upper and Ground Floors (including separating floors)
· Windows

Between 1 and 15 credits are available depending on the Green Guide ratings and relative distributions of different materials across the above five main elements of the building envelope. Credits are awarded on the basis of the rating as follows:

· A+ rating = 3 credits
· A rating = 2 credits
· B rating = 1 credit
· C rating = 0.5 credits
· D rating = 0.25 credits
· E rating = 0 credits

DEVELOPMENT DESIGN REQUIREMENTS
See MAT1 Calc

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Completed Code Mat 1 Calculator Tool, showing building elements at the design stage with the relevant Green Guide element numbers
AND
References stating the design or specification documentation used to complete the tool

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

Zero credits or credits not sought

STANDARD ASSESSMENT CRITERIA
Credits are awarded where 80% of the assessed materials in the following key building elements are responsibly sourced:

· Frame
· Ground floor
· Upper floors (including separating floors)
· Roof
· External walls
· Internal walls (including separating walls)
· Foundation/substructure (excluding sub-base materials)
· Staircase

Responsible sourcing is demonstrated through third party certification schemes such as;
Timber - FSC, CSA, SFI, CoC, PEFC, MTCC, TFT (see page 120 of code technical guide for definitions)
Other materials - BES 6001:2008 (see <http://www.greenbooklive.com/page.jsp?id=169> for an up to date list of certified products) and EMS (Environmental Management System)

Once a breakdown of volumes and/or percentages of materials for each element present is provided and the responsible sourcing certification is established, the code assessor performs a MAT2 calculation to establish the number of credits achieved.

DEVELOPMENT DESIGN REQUIREMENTS
It is advisable to not target this issue unless it is necessary to pick up extra credits. This is due to the amount of administration required in order to provide evidence for compliance. Also the weighting of the Materials category is the lowest at 0.3 points per credit. Evidence for MAT 3 (Responsible Sourcing (Finishing Elements)) - Block 1

Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))
Zero credits or credits not sought
STANDARD ASSESSMENT CRITERIA Credits are awarded where 80% of the assessed materials in the following finishing Elements are responsibly sourced: · Stair · Window · External & internal door · Skirting · Panelling · Furniture · Fascias · Any other significant use Once a breakdown of volumes and/or percentages of materials for each element present is provided and the responsible sourcing certification of each material is established, the code assessor performs a MAT3 calculation to establish the number of credits achieved. DEVELOPMENT DESIGN REQUIREMENTS It is advisable to not target this issue unless it is necessary to pick up extra credits. This is due to the amount of administration required in order to provide evidence for compliance. Also the weighting of the Materials category is the lowest at 0.3 points per credit.

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.
No discharge to watercourse(s) for rainfall depth up to 5mm.
Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.

STANDARD ASSESSMENT CRITERIA - MANDATORY ELEMENT (NO CREDITS)

1. PEAK RATE OF RUN-OFF
If there is no increase in the man-made impermeable area as a result of the new development, then the peak rate of run-off criterion does not apply.
Where there is an increase in impermeable area, ensure that the peak rate of run-off over the development lifetime, allowing for climate change, will be no greater for the developed site than it was for the pre-development site. This should comply at the 1 year and 100 year return period events.
Where the pre-development peak rate of run-off for the site would result in a requirement for the post-development flow rate to be less than 5 l/s at a discharge point, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage.

2. VOLUME OF RUN-OFF
If there is no increase in the man made impermeable area as a result of the new development, then the volume of run-off criteria does not apply.
If the developed site would otherwise discharge, over the development lifetime allowing for climate change, a greater volume of rainwater run-off than the pre-development site for the 100 year 6 hour event, then criterion A applies. If A cannot be satisfied then B applies:

A: Ensure that the post development volume of run-off, allowing for climate change over the development lifetime, is no greater than it would have been before the development. The additional predicted volume of run-off for the 100 year 6 hour event must be prevented from leaving the site by using infiltration or other SUDS techniques.

OR

B: If A cannot be satisfied (full justification must be provided) then reduce the post development peak rate of run-off to the limiting discharge.

The limiting discharge is the pre-development flow rate equivalent to the 1 year peak flow rate, mean annual flood flow rate (Qbar) or 2 l/s/ha, whichever is the highest flow rate.

For the 1 year peak flow rate the 1 year return period event criterion in section 1 above, applies. For all other events up to the 100 year return period event, the peak rate of run-off for the developed site must not exceed the limiting discharge.

Where the limiting discharge flow rate would require a flow rate of less than 5 l/s at a discharge point, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage.

3. DESIGNING FOR LOCAL DRAINAGE SYSTEM FAILURE
Demonstrate that the flooding of property would not occur in the event of local drainage system failure (caused by either extreme rainfall or a lack of maintenance).

WATER QUALITY CRITERIA (CREDITS AVAILABLE)
1. One credit can be awarded by ensuring there is no discharge from the developed site for rainfall depths up to 5mm.
2. One credit can be awarded by ensring that the run-off from all hard surfaces shall receive an appropriate level of treatment in accordance with the SUDS Manual to minimise the risk of pollution.

DEVELOPMENT DESIGN REQUIREMENTS
The code requires a report from an appropriately qualified professional (engineer, hydrologist) who understands the site's particular surface water management needs and has knowledge and experience in using SUDS to influence the development's drainage design.
The report needs to contain the following information to demonstrate compliance with the peak rate of run-off and volume of run-off requirements:

- Areas of permeable and impermeable surfaces on the site pre and post development.
Where the impermeable area has increased post development the report should also include:
- details of the permeability characteristics of the site pre and post development (e.g. infiltration tests etc)
- Peak rates of run-off (l/s) calcs for the 1 year and 100 year events, pre and post development, including an allowance for climate change over the development lifetime.
- Evidence showing the methods used to reduce the peak rate of run-off to pre development rates.
- The pre development volume of run-off (m3) for the 100 year 6 hour event.
- The additional volume of run-off (m3) for the 100 year 6 hour event caused by the development without mitigation measures.
- The additional volume of run-off (m3) with the proposed mitigation.
- Information to demonstrate that the hierarchical approach to reducing the additional volume of run-off was followed.
- Information on the calculation methods used, as well as summary results.
- Drawings showing the pre-development drainage for the site (natural or constructed)
- Drawings showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels.
- confirmation that local drainage system failure would not cause an increase in the risk of flooding within dwellings either on or off site.

Where credits are sought:
- The report also must contain the design specifications, calculations and drawings to support the awarding of the credits.
A Flood Risk Assessment (in accordance with PPS25) confirming the risk of flooding from all sources must also be prepared. This may be contained within the above report.
Looking at the site on Google maps it appears that the impermeable area will increase post development therefore the peak rate and volume of run-off requirements described above will need to be satisfied. I have assumed that no credits will be achieved. However, this will need confirming once advice from an appropriately qualified professional has been received and the code compliant drainage design has been resolved.

Evidence for SUR 2 (Flood Risk)

Low flood risk - zone 1

STANDARD ASSESSMENT CRITERIA
Two credits are available for developments situated in Zone 1 - low annual probability of flooding and where the site specific flood risk assessment (FRA) indicates that there is a low risk of flooding from all sources.

OR

One credit is available for developments situated in Zones 2 and 3a - medium and high annual probability of flooding where the finished ground floor level of all habitable parts of dwellings and access routed to the ground level and the site, are placed at least 600mm above the design flood level of the flood zone.

DEVELOPMENT DESIGN REQUIREMENTS
From searching the Environment Agency's flood maps it appears that the site is located in a low flood risk zone, therefore 2 credits should be awarded in this issue. However a Flood Risk Assessment (prepared according to good practice guidance as outlined in Development and Flood Risk: A practice guide companion to PPS25) which shows that there is a low risk of flooding from all sources is required to prove compliance. This is because the Environment Agency's flood maps only cover flooding from rivers and the sea. Flooding can occur at any time and in any place from sources such as rising ground water levels, burst water mains, road drains, run-off from hillsides, sewer overflows etc.

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
For developments situated in Zone 1:
• A Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 Development and Flood Risk) which shows that there is a low risk of flooding from all sources.
For medium (Zone 2) or high (Zone 3a) flood risk areas:
• A Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 Development and Flood Risk) which shows there is a medium or high risk of flooding
AND
• Site plans indicating the design flood level, the range of ground levels of the dwellings, car parking areas and site access (lowest to highest), showing that the criteria (finished floor levels of all habitable rooms and access routes being at least 600 mm above the design flood level) are met, along with any notes explaining the function of any areas lying below the design flood level
AND
• Confirmation from the local planning authority that the development complies with PPS25 and is appropriately flood resilient and resistant, and has managed any residual risk safely.

Where the site is under the protection of flood defences and the flood risk category of the site is reduced:
• Written confirmation from the Environment Agency of the reduction in flood risk category *.
*Note: There are many defences, owned by third parties, which, owing to their location, act as a defence by default, e.g. motorway and railway embankments, walls. Confirmation is required that these defences will remain in place for the lifetime of the development if a significant risk is predicted.

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

STANDARD ASSESSMENT CRITERIA - MANDATORY ELEMENT

STORAGE OF HOUSEHOLD WASTE - MANDATORY (NO CREDITS)
An adequate external space should be allocated for waste storage and sized to accomodate containers according to the largest of the following two volumes:

- The minimum volume recommended by BS 5906: 100 litres for a single bed dwelling with a further 70 litres for each additional bedroom.

- The total volume of the external waste containers provided by the Local Authority.

Storage space must provide inclusive access and usability (checklist IDP). Containers must not be stacked.

STORAGE OF RECYCLABLE HOUSEHOLD WASTE (CREDITS AVAILABLE)
Where there is no (or insufficient) dedicated external storage capacity for recyclable waste and no Local Authority collection scheme 2 credits are available where:

• At least 3 internal storage bins are provided and located in an adequate internal space
• With a minimum total capacity of 60 litres

Where there is a Local Authority Collection Scheme (with a collection frequency of at least fortnightly), 4 credits are available where at least one of the following is met:

• where recyclable household waste is sorted AFTER collection and at least a single 30 litre bin is provided in an adequate internal space.
• where materials are sorted BEFORE collection and at least 3 separate bins are provided with 30 litres total capacity. Every bin must have a capacity of at least 7 litres and be located in an adequate internal space.
• an automated waste collection system which collects at least 3 different type of recyclable waste.
Where there is no Local Authority collection scheme but adequate external storage capacity is provided, 4 credits are available providing that:

• For houses and flats, there is at least 3 identifiably different internal storage bins for recyclable waste, located in an adequate internal space:
- with a minimum total capacity of 30 litres
- where every bin has at least 7 litres capacity

AND

• For houses, an adequate external space must be provided for storing, at least, three external bins for recyclable waste:
- with a minimum total capacity of 180 litres
- with no bin smaller than 40 litres

Internal recycling bins should be fitted inside a kitchen/utility cupboard close to the non-recyclable waste bin. Free standing recycling bins placed directly on the floor or in a cupboard do not comply.

DEVELOPMENT DESIGN REQUIREMENTS
Enfield Council run a refuse and recycled waste collection scheme and provide the following bins to each dwelling:
- 140 litre grey lidded wheelie bin for non recyclable waste which is collected weekly
- 240 litre blue lidded wheelie bin for recyclable waste which is collected weekly
- 240 litre green lidded wheelie bin for garden and food waste which is collected weekly

To satisfy the mandatory requirement in this category, adequate external space needs to be provided to accomodate the above bins/containers. Also accessibility and usage needs to be in accordance with checklist IDP.

As the council operate a recycling collection scheme which is post collection sorting, 4 credits can be achieved by providing a recycling bin in the kitchen with a minimum capacity of 30 litres. Please note this bin needs to be securely fitted inside a kitchen or utility room cupboard to achieve the credits.

DESIGN STAGE EVIDENCE REQUIREMENTS
Mandatory element:
Provide table: Cat 5.1 – Supplementary Information Sheet for Was 1 and Checklist IDP

Where 2 credits are sought:
Detailed documentary evidence stating:
• the location of internal storage
• the number, types and sizes of internal storage

Where 4 credits are sought:
Detailed documentary evidence stating:
• the location of internal and external storage
• the number, types and sizes of internal and external storage
AND
A letter, leaflet, website or other published information from the Local Authority/waste scheme provider* describing;
• the types of waste collected
• the frequency of collection
• if there will be pre or post collection sorting
* In the case of an automated collection system, the waste scheme operator will only need to confirm the types of waste collected and if there will be pre or post collection sorting

Evidence for WAS 2 (Construction Site Waste Management)

Credit not sought

STANDARD ASSESSMENT CRITERIA

MINIMISING CONSTRUCTION WASTE
1 credit is awarded where there is a compliant SWMP that contains:

- Target benchmarks for resource efficiency, i.e. m3 of waste per 100m2 of tonnes of waste per 100m2 set in accordance with best practice.
- Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating toat 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 works)

DIVERTING WASTE FROM LANDFILL
Where there is a compliant SWMP including procedures and commitments to sort and divert waste from landfill, through either:

- Re-use on site (in situ or for new applications)
- Re-use on other sites
- Salvage/reclaim for re-use
- Return to the supplier via a take back scheme
- Recovery and recycling using an approved waste management contractor
- Compost

according to the defined waste groups (see page 164 of the Code Technical Guide Nov 2010)

AND One of the following has been achieved:

- 2 credits where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.

OR

- 3 credits where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that the developer will not wish to target the credits in this category - subject to confirmation.

Evidence for WAS 3 (Composting)

Individual compositing facility/facilities

STANDARD ASSESSMENT CRITERIA
1 credit is awarded where one of the following criteria is satisfied:

• Individual home composting facilities: Space for a kitchen waste container (7 litres min) in the home and for an exterior composter.
OR
• A local communal or community composting service, which the Local Authority runs or where there is a management plan in place. Space for a container in the home (7 litres min) and for an exterior composter.
OR
• A Local Authority green/kitchen waste collection system (this can include an automated waste collection system). Space for a container in the home (7 litres min) and external storage space, with a local/green kitchen waste collection scheme in operation.

External composting facilities and storage need to be located within a maximum distance of 30m from the entrance door of the dwelling or building (if block of flats).

All facilities must:
• be in a dedicated position
• meet the requirements of Checklist IDP
• have a supporting information leaflet provided to each dwelling

The leaflet must provide information on:
• how composting works and why it is important
• the materials that can be composted (e.g. raw vegetable peelings and fruit, shredded paper, teabags etc.)
AND
• Where home composting facilities are provided, troubleshooting information (e.g. what to do if the compost gets too dry or too wet)
AND
• for communal schemes, details of the operation and management plan for the scheme
• where a green / kitchen waste collection scheme is in operation, the information leaflet provided by the Local Authority is sufficient to meet the information leaflet criteria

DEVELOPMENT DESIGN REQUIREMENTS
Since the Local Authority operate a kitchen waste collection scheme with green lidded wheelie bins (see Waste 1) the credit should be achieved in this category. Space for a kitchen waste container (7 litres minimum) will be required inside the property. A leaflet on composting containing the items described above is required to be provided to all homes and can be contained in the home user guide (see MAN1).

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence stating:
• the location and size of internal and external storage
• that an information leaflet will be supplied
• distance of storage from dwelling
AND
Completed Checklist IDP

For communal/community composting schemes, detailed documentary evidence stating;
• distance of storage from dwelling
• management arrangements
• location and size of storage
• details of the scheme including opening times and access restrictions
• confirmation that an information leaflet will be supplied
AND
Completed Checklist IDP

Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

STANDARD ASSESSMENT CRITERIA
1 credit where all foamed thermal and acoustic insulating materials in the elements of the dwelling listed below use blowing agents that have a GWP (global warming potential) of less than 5 for their 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

Insulation materials that aren't manufactured or installed using blowing agents e.g. mineral wool do not need to be assessed in this issue.

Examples of compliant blowing agents are: air, Carbon Dioxide, Isobutene, Pentane (iso-pentane, cyclopentane, n-pentane)

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that all insulation used in the elements above will have a GWP of less than 5. Most large insulation manufacturers/suppliers use blowing agents that have a GWP of less than 5 e.g. Kingspan, Celotex.

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Completed Checklist Pol 1 showing the proposed insulation materials (or none) for each element and whether they are foamed using blowing agents or are unfoamed (from table Cat 6.1)

Evidence for POL 2 (NOx Emissions)

Class 5 boiler

STANDARD ASSESSMENT CRITERIA
Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for each dwelling, as follows:

- 1 credit where the boiler has NOx emissions of less than or equal to 100 mg/kWh (this is equivalent to boiler class 4).
- 2 credits where the boiler has NOx emissions of less than or equal to 70 mg/kWh (this is equivalent to boiler class 5).
- 3 credits where the boiler has NOx emissions of less than or equal to 40 mg/kWh.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that the boiler will emmit less than or equal to 40mg/kWh of dry NOx emissions at 0% oxygen. This equates to 3 credits in this category.

DESIGN STAGE EVIDENCE REQUIREMENTS
Detailed documentary evidence describing:
- The primary and any secondary heating systems and flue type
- Dry NOx levels and/or boiler of the primary and any secondary heating systems

Where NOx averaging is required due to multiple heating systems within the dwelling:
Copy of calculations as detailed in the methodology based on design stage SAP outputs

Where detailed documentary evidence is not available at this stage;
A letter of instruction to a contractor/ supplier or a formal letter from the developer to the Code assessor giving the specific undertaking

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%
All rooms (kitchen, living, dining and where applicable the home office) have 80% of the working plane with direct light from the sky

STANDARD ASSESSMENT CRITERIA
Credits are awarded for the dwelling meeting the criteria below:
• 1 credit where kitchens achieve a minimum average daylight factor of at least 2%.
• 1 credit where all living rooms, dining rooms and studies achieve a minimum average daylight factor of at least 1.5%
• 1 credit where 80% of the working plane in each kitchen, living room, dining room and study receives direct light from the sky

DEVELOPMENT DESIGN REQUIREMENTS
Average daylight calculations are required to confirm how many credits are acheived in this section, however based on the plans provided I have assumed that 3 credits will be achieved in this category.

DESIGN STAGE EVIDENCE REQUIREMENTS
Copy of calculations as detailed in the methodology to demonstrate:
• Average daylight factor using the formula described in the definitions section (method described in Littlefair (1998) as set out in BS 8206–2) or computer simulation or scale model measurements
• Position of the no-sky line and percentage of area of the working plane that receives direct light from the sky
Confirmation from the developer that the calculations accurately reflect the dwelling as designe

Evidence for HEA 2 (Sound Insulation)

Detached property

STANDARD ASSESSMENT CRITERIA
Credits are awarded for achieving higher standards of sound insulation than those given in Approved Document E of the Building Regulations and demonstrating it by either using pre-completion testing or Robust Details as follows:

• 1 credit where airbourne and impact sound insulation values are at least 3dB better than Building Regulations
• 3 credits where airbourne and impact sound insulation values are at least 5dB better than Building Regulations
• 4 credits where airbourne and impact sound insulation values are at least 8dB better than Building Regulations
• 4 credits by default for detached dwellings
• 3 credits by default where separating walls or floors only occur between non habitable rooms.

Where sound testing will be carried out this has to be done by organisations/individuals who have UKAS accreditation or are registered with the Association of Noise Consultants (ANC) Registration Scheme.

For a list of Robust Details and their corresponding code credits please see <http://www.robustdetails.com/index.php?id=4904>

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
NONE

Evidence for HEA 3 (Private Space)

Individual private space provided.

STANDARD ASSESSMENT CRITERIA
1 credit is achieved where outdoor space (private or semi-private) has been provided that is:
· of a minimum size that allows all occupants to sit outside
· provided with inclusive access and usability (Checklist IDP)
· accessible only to occupants of designated dwellings

Outdoor space:
• a private garden
• a communal garden or courtyard
• balconies
• roof terraces
• patios

Minimum space requirements:
• Private space: 1.5 m2/bedroom
• Shared space: minimum 1m2/bedroom

Accessible only to occupants of Designated dwellings:
• The space must be designed in a way that makes it clear that the space is only to be used by occupants of designated dwelling(s). This could be achieved by using the buildings themselves, fencing, planting or other barrier to seal off the space.

DEVELOPMENT DESIGN REQUIREMENTS
Individual private space will provide 1 credit

DESIGN STAGE EVIDENCE REQUIRED (SUPPLIED BY UKBC)
Detailed documentary evidence confirming:
• The number of bedrooms served by the outdoor space
• That the outdoor space meets the minimum size requirements
AND
Completed Checklist IDP

Where detailed documentary evidence is not available at this stage;
A letter of instruction to a contractor/ supplier or a formal letter from the developer to the assessor giving a specific undertaking

Evidence for HEA 4 (Lifetime Homes)

Credits not sought

STANDARD ASSESSMENT CRITERIA
- 4 credits are awarded where all 16 principles of Lifetime Homes, applicable to the dwelling being assessed, have been complied with.
- 3 credits are awarded where an exemption from Lifetime Homes criteria 2 and/or 3 is applied to selected pathways subject to a steeply sloping plot gradient, but all other principles of Lifetime Homes, applicable to the dwelling being assessed, have been complied with.

Useful guidance can be found on www.lifetimehomes.org.uk/codeassessors <http://www.lifetimehomes.org.uk/codeassessors>

DEVELOPMENT DESIGN REQUIREMENTS
I have assmued that the dwellings haven't been designed to satisfy the 16 Lifetime Homes criteria.

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

STANDARD ASSESSMENT CRITERIA
Credits are awarded for the provision of a simple user guide which covers information relevant tenant/owner on the operation and environmental performance of their home, as follows:

· 2 credits where the Home User Guide is compiled using Checklist Man 1 Part 1 (operational issues) together with information that the guide is available in alternative accessible formats.
· 1 additional credit where the guide also covers information relating to the site and its surroundings, complied using Checklist Man 1 Part 2.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that a home user guide will be provided to the dwellings and that it will cover items in checklist MAN 1 part 1 and 2. See checklists for what items need to be covered to achieve the full 3 credits in this issue.

DESIGN STAGE EVIDENCE REQUIRED (SUPPLIED BY UKBC)
Where a home user guide will be supplied covering operational issues only:
Confirmation in the form of a letter from the developer or in the specification that the guide will be:
• Supplied to all dwellings within the development
• Be developed to the required standards (as a minimum including a list of contents showing that the guide will cover all of the issues required in Checklist Man 1 Part 1)

Where a home user guide covering operational issues and issues relating to the site and surroundings will be supplied:
As above and including information covered in Checklist Man 1 Part 2

Evidence for MAN 2 (Considerate Constructors Scheme)

Credits not sought

STANDARD ASSESSMENT CRITERIA
· 1 credit where there is a commitment to meet Best Practice (24 to 31.5 points with at least 3 points in every section) under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme.

· 2 credits where there is a commitment to go significantly beyond Best Practice (32 to 40 points with at least 4 points in every section) under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme.

DEVELOPMENT DESIGN REQUIREMENTS
It is advisable to not target this issue unless it is necessary to pick up extra credits

Evidence for MAN 3 (Construction Site Impacts)

Credit(s) not sought

STANDARD ASSESSMENT CRITERIA
Credits are awarded where there is a commitment and strategy to operate site management procedures on site as follows:

· 2 credits where there are site procedures that cover 2 or more of the following items:

1. Monitor, report and set targets for CO2 production or energy use arising from site activities (monthly electricity meter readings from site)
2. Monitor and report CO2 or energy use arising from commercial transport to and from site
3. Monitor, report and set targets for water consumption from site activities (monthly water meter readings from site)
4. Adopt best practice policies in respect of air (dust) pollution arising from site activities (e.g. dust sheets, regular damping down in dry weather, skip covers etc)
5. Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site (e.g. PPG1, PPG5 and PPG6)
6. 80% of site timber (formwork, site hoardings etc) is reclaimed, re-used or responsibly sourced

· 4 credits where there are site procedures that cover 4 or more of the items listed above.
A MAN3 checklist will be provided at the next assessment stage which highlights the detailed requirements of this issue.

DEVELOPMENT DESIGN REQUIREMENTS
Credits not sought.

Evidence for MAN 4 (Security)

Secure by design section 1 & 2 compliant

STANDARD ASSESSMENT CRITERIA
Credits are achieved by complying with Section 2 - Physical Security from 'Secured by Design New Homes', as follows:

· Where an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force is consulted at the design stage and their recommendations are incorporated into the design of the dwelling.

AND

Section 2 - Physical Security from 'Secured by Design - New Homes' is complied with (Secured by Design Certification is not required).

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that the client/Architect will consult with an ALO or CPDA at design stage and incorporate their recommendations into the design of the dwelling. Either this or the dwelling will achieve secured by design certification.

DESIGN STAGE EVIDENCE REQUIRED
Detailed documentary evidence showing:
• That an ALO/CPDA has been consulted with to ensure that the requirements of Section 2 – Physical Security from 'Secured by Design – New Homes' are met
• A commitment to follow the advice provided by the ALO/CPDA

Evidence for ECO 1 (Ecological Value of Site)

Credit not sought

STANDARD ASSESSMENT CRITERIA
1 Credit is awarded where the site is confirmed as land of inherently low ecological value either:

· By meeting the criteria for low ecological value using checklist Eco 1
· Or by being confirmed by a suitably qualified ecologist
· Or where an ecology report, prepared by a suitably qualified ecologist, confirms that the construction zone is of low or insignificant value
· AND any land of ecological value outside the construction zone (but within the development site) will remain undisturbed by the construction works.

For definitions, please see page 245 of the code for sustainable homes technical guide.

DEVELOPMENT DESIGN REQUIREMENTS
Looking at the development site on an aerial map on the internet it appears that there are some trees located on the site boundary. It would therefore not be possible to confirm the site is of low ecological value using checklist ECO1. In order potentially obtain the credit in this issue an ecologist would need to be instructed to carry out a code for sustainable homes ecology report.

DESIGN STAGE EVIDENCE REQUIRED
It is advisable to not target this issue unless it is necessary to pick up extra credits.

Evidence for ECO 2 (Ecological Enhancement)

Credit not sought or no compliant enhancement

STANDARD ASSESSMENT CRITERIA
1 credit where a Suitably Qualified Ecologist has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site AND where the developer adopts all key recommendations and 30% of additional recommendations. Examples of measures that may be recommended are:

· The planting of native species.
· The adoption of horticultural good practice.
· The installation of bird, bat and/or insect boxes.
· Development of a full Biodiversity Management Plan.

DEVELOPMENT DESIGN REQUIREMENTS
If this credit was sought I would advise and have assumed that a suitably qualified ecologist will be appointed to recommend appropriate features that will positively enhance the ecology of the site

DESIGN STAGE EVIDENCE REQUIRED
None. It is advisable to not target this issue unless it is necessary to pick up extra credits.

Evidence for ECO 3 (Protection of Ecological Features)

Land of low ecological value as identified under ECO 1

STANDARD ASSESSMENT CRITERIA
1 credit where all existing features of ecological value on the development site are maintained and adequately protected during site clearance, preparation and construction works. The credit can be awarded by default where the site has been classified as having low ecological value in ECO1 AND no features of ecological value have been identified.

If an ecologist has confirmed a feature can be removed due to insignificant ecological value or where an aboriculturalist has confirmed a feature can be removed due to poor health/condition, the credit can be achieved provided all other features are adequately protected in accordance with the ecologist's recommendations.

Ecological features include:
Trees, hedges, ponds, streams, rivers, marshes, wetlands, meadows, species rich grassland, heathland and heather.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that the credit in this issue will be achieved either by default (ECO 1 credit awarded) or that any identified ecological features will be maintained and adequately protected during site clearance, preparation and construction.

DESIGN STAGE EVIDENCE REQUIREMENTS (SUPPLIED BY UKBC)
Detailed documentary evidence* confirming ecological features present and how they will be protected
*Where compliance with the criteria is demonstrated by the relevant documents submitted to the Planning Authority which gained planning approval, these can be used as evidence

Where ecological features are being removed for health and safety and/or conservation reasons;
Written evidence from an appropriate statutory body / arboriculturalist confirming the requirement to remove any features

Where ecological features are being removed and are of low ecological value;
A copy of the ecologist's report highlighting the information required as set out in the Code for Sustainable Homes Ecology Report Template

Where using Checklist Eco 1, to demonstrate that there are no features to protect provision of:
• Site visit report from the design team/ assessor confirming details adequate to meet Checklist Eco 1 based on plans of the site and surrounding area prior to the commencement of construction works/site clearance

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

Neutral: Greater than -3 and less than or equal to +3

STANDARD ASSESSMENT CRITERIA
Credits are awarded where the resulting change in ecological value is as follows:

· 1 credit for minor negative change (between -9 and less than or equal to -3)
· 2 credits for neutral (greater than -3 and less than or equal to +3)
· 3 credits for minor enhancement (greater than 3 and less than or equal to 9)
· 4 credits for major enhancement (greater than +9)

It is advisable to instruct a suitably qualified ecologist who is experienced in preparing ecology reports in the code for sustainable homes ecology report template format.

DEVELOPMENT DESIGN REQUIREMENTS
I have assumed that 2 credits will be awarded in this issue. This is an estimate and will need to be confirmed with the ECO 4 calculator tool which is contained within the code for sustainable homes ecology report template.

DESIGN STAGE EVIDENCE REQUIRED (SUPPLIED BY UKBC)
Copy of the calculations completed by the assessor and supported by the following detailed documentary evidence:
• Proposed site layout
• The pre-development site survey, clearly indicating natural and built features on both the site and land surrounding the site before the proposed development
• Landscape and plot categories (in accordance with the Assessment Methodology) with a list of site areas provided for both before and after development

Where the advice of an ecologist is sought, the following detailed documentary evidence must be provided:
Code for Sustainable Homes Ecology Report Template completed by the ecologist
AND
Written confirmation from the developer confirming how the ecologist's recommendations will be implemented including a planting schedule.

Evidence for ECO 5 (Building Footprint)

Credit not sought

STANDARD ASSESSMENT CRITERIA
This issue is assessed on a site wide basis. Credits are awarded where the ratio of combined net internal floor area to footprint area (as measured by the total net internal ground floor area of all dwellings on the site) meets the requirements defined below:

FOR HOUSES
· 1 credit where the ratio is 2.5:1
· 2 credits where the ratio is 3:1

FOR FLATS
· 1 credit where the ratio is 3:1
· 2 credits where the ratio is 4:1

DEVELOPMENT DESIGN REQUIREMENTS
NONE. Credit not sought

Assessor Declaration

I James Hunt, 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:



James Hunt
Uk Building Compliance
Friday, September 21, 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

- 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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