



**CODE FOR SUSTAINABLE HOMES  
PRE-ASSESSMENT**

**For**

**7 FITZROY SQUARE  
LONDON  
W1T 5HL**

**PJ/3300-075**  
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Rev A

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**1 EXECUTIVE SUMMARY**

A code for sustainable homes pre-assessment has been carried out, and the development will achieve a Level 4 rating.

This assessment covers the block of 7 new build apartments at the rear of the existing building.

The development achieves a higher SAP rating than the Building regulations minimum.

The development includes a low energy user controlled lighting system.

Water saving appliances (taps, WC cisterns) to reduce overall water demand.

Measures to deal with surface water run-off and to avoid risk of flooding.

## 2 INTRODUCTION

It is proposed to build a new block of 7 apartments to the rear of an existing Georgian building in Fitzroy Square. The new building will provide 7 new dwellings, and will be as sustainable as possible.

The building will be designed to meet the following standards:

- 10% CO2 reduction by using renewable energy sources
- Code for Sustainable Homes Level 4
- SAP calculations & Part L 2010
- Low energy lighting design
- Water saving design
- Design to minimise Light pollution

CO2 emissions will be reduced by 10% by using PV panels. SAP calculations will be provided to show the reduced CO2 emissions.

The proposed dwellings will have a high level of sustainable design and will meet the Code for Sustainable homes Level 4.

The key categories of energy, water and materials will achieve an total of 61% of the available credits in their categories:

Energy	Proportion of available credits achieved:	58%
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Water	Proportion of available credits achieved:	67%
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Materials	Proportion of available credits achieved:	75%
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The key categories of energy, water and materials will contribute 32.40 to the total score:

Energy	Contribution to total:	21.00
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Water	Contribution to total:	6.00
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Materials	Contribution to total:	5.40
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Water conservation is an important part of the proposals, including rainwater harvesting and water conservation measures such as low flow taps and showers.

Lighting uses a large proportion of the energy for a site, and this will be minimised by using low energy light fittings in all the dwellings. Light pollution will also be prevented by the careful design of site lighting and selection of fittings.

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Code For Sustainable Homes 2010 Pre Assessment Estimator						
Issue		Weight	Available Credits	Target Credits	Score	Mandatory elements
<b>Energy</b>						
ENE 1	Dwelling Emission Rate	1.17%	10	4	4.67	YES
ENE 2	Fabric energy efficiency	1.17%	9	3	3.50	YES
ENE 3	Energy display devices	1.17%	2	2	2.33	No
ENE 4	Drying space	1.17%	1	1	1.17	No
ENE 5	Energy Labelled white goods	1.17%	2	2	2.33	No
ENE 6	External Lighting	1.17%	2	2	2.33	No
ENE 7	Zero or Low Carbon Technology	1.17%	2	1	1.17	No
ENE 8	Cycle Storage	1.17%	2	2	2.33	No
ENE 9	Home Office	1.17%	1	1	1.17	No
Total Number of Energy Credits Achieved			31	18	21.00	
<b>Water</b>						
WAT 1	Indoor water use	1.50%	5	3	4.50	YES
WAT 2	External water use	1.50%	1	1	1.50	No
Total Number of Water Credits Achieved			6	4	6.00	
<b>Materials</b>						
MAT 1	Environmental Impact of Materials	0.30%	15	12	3.60	YES
MAT 2	Responsible sourcing of Materials: Basic Building Elements	0.30%	6	4	1.20	No
MAT 3	Responsible sourcing of Materials: Finishing Elements	0.30%	3	2	0.60	No
Total Number of Materials Credits Achieved			24	18	5.40	
<b>Surface Water Run-off</b>						
SUR 1	Reduction Of Surface Water Run-off	0.55%	2	0	0.00	YES
SUR 2	Flood Risk	0.55%	2	2	1.10	No
Total Number of Surface Water Run-Off Credits Achieved			4	2	1.10	
<b>Waste</b>						
WAS 1	Household Waste Storage and Recycling facilities	0.80%	4	4	3.20	YES
WAS 2	Construction Site Waste Management	0.80%	3	2	1.60	No
WAS 3	Composting	0.80%	1	1	0.80	No
Total Number of Waste Credits Achieved			8	7	5.60	
<b>Pollution</b>						
POL 1	Global Warming Potential (GWP) of insulants	0.70%	1	1	0.70	No
POL 2	NOx emissions	0.70%	3	2	1.40	No
Total Number of Pollution Credits Achieved			4	3	2.10	

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Health and Well Being						
HEA 1	Daylighting	1.17%	3	0	0.00	No
HEA 2	Sound Insulation	1.17%	4	3	3.50	No
HEA 3	Private space	1.17%	1	1	1.17	No
HEA 4	Lifetime Homes	1.17%	4	4	4.67	YES
Total Number of Health and Well Being Credits Achieved			12	8	9.33	

Management						
MAN 1	Home User Guide	1.11%	3	3	3.33	No
MAN 2	Considerate Constructors	1.11%	2	2	2.22	No
MAN 3	Construction Site Impacts	1.11%	2	2	2.22	No
MAN 4	Security	1.11%	2	2	2.22	No
Total Number of Management Credits Achieved			9	9	10.00	

Land Use and Ecology						
ECO 1	Ecological value of site	1.33%	1	1	1.33	No
ECO 2	Ecological enhancement	1.33%	1	0	0.00	No
ECO 3	Protection of ecological features	1.33%	1	1	1.33	No
ECO 4	Change of ecological value of site	1.33%	4	2	2.67	No
ECO 5	Building footprint	1.33%	2	2	2.67	No
Total Number of Land Use and Ecology Credits Achieved			9	6	8.00	

Total in all Sections (max 100.00)

107	75	68.53	
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Target for Code Level 4

		68.00	
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3 **CODE FOR SUSTAINABLE HOMES**

The CSH Pre-Assessment details the expected performance of the building against the Code criteria defined in the Technical Guide November 2010. The proposed development currently achieves Code Level 4 scoring 68.53%. The threshold for reaching Code Level 4 is 68.00%.

This Pre-Assessment has been prepared for submission to the local authority.

The pre-assessment has been carried out on the basis of the worst performing dwelling in the development. This approach means that if the dwelling with the least points can achieve Code 4, then all other dwellings will be above the Code 4 threshold.

### 3.1 INTRODUCTION AND CONTEXT

The Code for Sustainable Homes is an environmental assessment for rating and certifying the performance of new homes. It is a national standard and was released by the Department for Communities and Local Government in December 2006. From April 2007, the CSH replaced EcoHomes. The Building Research Establishment (BRE) are responsible for administering and monitoring the scheme and are also responsible for all certification and quality assurance of this national environmental standard for housing.

The Code is based on EcoHomes so there are similarities across the two standards; however they are not directly comparable for a number of reasons. For example, the Code has mandatory elements that must be achieved to qualify for any level of the Code, there are also higher minimum standards and it is applied at the individual dwelling level rather than on the site wide basis.

The Code measures the sustainability of a new home against 9 categories of sustainable design, rating the 'whole home' as a complete package. The Code uses a 1 to 6 star rating system to communicate the overall level of the environmental performance of the new home. Points in each category are weighted and therefore individual credits across the categories score differently. For example credits available in energy have a far heavier weighting than those in surface water run-off.

Table 1.6: Relationship Between Total Percentage Points Score and Code Level	
Total Percentage Points Score (equal to or greater than)	Code Levels
36 Points	Level 1 (★)
48 Points	Level 2 (★★)
57 Points	Level 3 (★★★)
68 Points	Level 4 (★★★★)
84 Points	Level 5 (★★★★★)
90 Points	Level 6 (★★★★★★)

The Code assessment is completed in two phases – the Design Stage and the Post Construction Stage (PCS). Only after the PCS assessment has been completed and all the evidence for achieving the target level has been submitted will the final certification for the dwelling be issued by BRE.

For the purposes of planning, a CSH Pre-Assessment is required. This process allows the design team to set the strategy for achieving the target Code level and it demonstrates to the Local Planning Authority that the scheme is able to achieve the specified level of the Code. Achieving Code level 4 is the current mandatory requirement for all Housing Corporation homes.

The Code is an important new standard that will help the development and construction industry adapt to the real challenges that the industry faces in terms of reducing its environmental impact and importantly, in driving down carbon emissions to help stop climate change.



3.2 MANDATORY STANDARDS AND TRADABLE CREDITS

This section of the report details the mandatory standards and tradable credits of the Code for Sustainable Homes. Firstly, there are two types of mandatory elements in the Code. There are mandatory elements that are the same across all levels of the Code (non-credit scoring), and there are elements that increase with each level of the Code (credit scoring).

Table 1 below depicts both the different types of mandatory elements and how they interact with the tradable credits to arrive at a given Code level. Mandatory standards are very important factors in achieving the desired (or any level) of the Code.

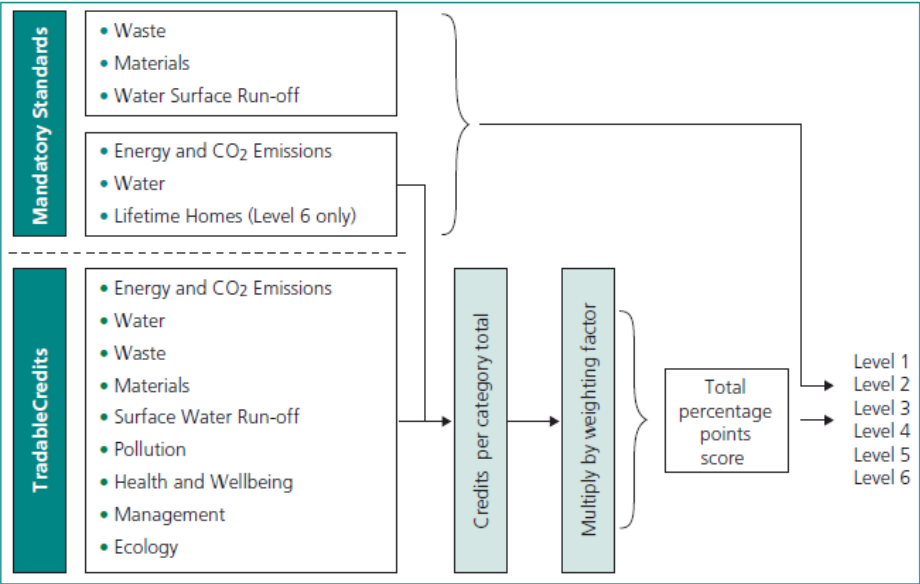


Table 1 Mandatory Standards and Tradable Credits

Tradable credits make up the flexible element of the Code. Once the mandatory elements have been met, the developer may then choose which credits are sought in order to meet the desired level of the Code. At increasing levels of the Code virtually all tradable credits must be met to achieve these higher environmental standards.

**3.3 CSH PRE-ASSESSMENT RESULTS SUMMARY**

This section of the report describes how credits are achieved in each of the nine Code categories. It is important to note that as the project progresses some of these scores may change, however the design team will ensure that at all times the proposed residential scheme will remain above the threshold for Code level 4.

The percentage score shows the proportion of credits that each category has contributed to the overall score of 68.53%. The Pre-Assessment is contained in Appendix B of this report.

### 3.3.1 Energy and Carbon Emissions

**Aims:** 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. To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling. To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use. To promote a reduced energy means of drying clothes. To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling. To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling. 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. 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. To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.



Contribution to total:	21.00
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The Energy category is arguably one of the most important impact areas of the Code. The mandatory element requires an improvement of Dwelling Emission Rate (DER) over Target Emission Rate when calculated according to Building Regulations Part L1A 2010. SAP worksheets will be provided as evidence of the improvement.

Credits in this section have been awarded for improving the energy performance of the building. This includes minimising the potential for carbon emissions through good performance of the building fabric and services.

The fabric energy efficiency will be calculated, and an improvement will be made. The improvement in DER/TER will be better than 36%. SAP worksheets will be provided as evidence of the improvement.

The fabric energy efficiency is a measure of the combined efficiency of the building fabric and plant, and will be calculated on an average basis per square metre for the development.

Energy display devices will be provided to each dwelling so that occupants can monitor their energy use. Electricity is the primary heat source, so electricity meters only will be provided.

Suitable drying areas will be provided.

All units are to be provided with A-rated fridge/freezers, washing machines and dishwashers.

All Space lighting will be provided with low energy lamps. All security lighting will be provided with appropriate control gear.

Low or zero carbon technologies will be employed: PV panels will reduce CO2 emissions by at least 10%.

Secure cycle storage will be provided. 1 cycle space for each 1 bed flat, and two spaces for each two bed flat.

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All units are thought to have sufficient space to allow a home office to be set up within a bedroom. Sufficient power and telephone points will be provided to facilitate this.

Proportion of available credits achieved:	58%
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Overall 18 of the available 31 credits will be achieved, which as a result of the weighting factors will deliver 21.00 points to the scheme in total.

### 3.3.2 Water

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



Contribution to total:	6.00
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Achieving the mandatory element of the Water category is a challenging area of the Code. A Code 4 dwelling must achieve a water consumption rate of 105 litres pp/day for Issue WAT 1, which is significant reduction on current building regulations that would allow for 125 litres pp/day.

**Table 1.3: Code Levels for Mandatory Maximum Standards in Indoor Water Consumption**

Code Level	Maximum Indoor Water Consumption in Litres per Person per Day
Level 1 (★)	120
Level 2 (★★)	120
Level 3 (★★★)	105
Level 4 (★★★★)	105
Level 5 (★★★★★)	80
Level 6 (★★★★★★)	80

Water category credits reward designs and measures that reduce water consumption. Various water efficient technologies will be specified including:

- Showers – flow rate 6 litres / minute
- WCs – 4/2 litre dual flush
- Wash hand basin with low flow taps (2 litres/minute)
- Washing machine (10 litres per kg dry load)
- Kitchen Sink and taps (2 litres/minute)
- Bath 100 litres capacity to overflow

These specifications equate to internal potable water consumption of less than 105 litres/person/day including the normalisation factor now applied which is also in compliance with Building Regulations Part G.

There will be a provision for watering gardens and landscaping areas using a rainwater collection system (e.g. water storage tank) in accordance with the Guidance criteria.

Proportion of available credits achieved:	67%
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Overall 4 of the available 6 credits will be achieved, which as a result of the weighting factors will deliver 6.00 points to the scheme in total.

### 3.3.3 Materials

Aim: To specify materials with lower environmental impacts over their life-cycle. To promote the specification of responsibly sourced materials for the basic building elements. To promote the specification of responsibly sourced materials for the finishing elements.



Contribution to total:	5.40
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Responsible sourcing of materials which have a lower environmental impact is rewarded in this category. Materials that are specified for the development will be assessed against the Green Guide; this ensures that the insulation, major building and finishing elements are sustainable.

Key elements of the building envelope will achieve a Green Guide rating of A+ to D in the 2008 version of the guide.

The assessed materials will be responsibly sourced, and 100% of timber in these elements will be legally sourced.

Finishing materials will be responsibly sourced, and 100% of timber in these elements will be legally sourced.

Proportion of available credits achieved:	75%
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Overall 18 of the available 24 credits will be achieved, which as a result of the weighting factors will deliver 5.40 points to the scheme in total.

### 3.3.4 Surface Water Run-Off

**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. 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.



Contribution to total:	1.10
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Surface Water Run-Off deals with the risk of flooding from new developments and addresses wider issues of flood risk associated with climate change.

The Flood Risk Assessor will be issued with the relevant Code guidelines and report template. Code compliant Sustainable Urban Drainage techniques will be included to ensure that the peak rate run-off into watercourses is no greater for the developed site than it was for the pre-developed site, therefore meeting the mandatory requirement for this category and scoring the available credits.

Proportion of available credits achieved:	50%
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Overall 2 of the available 4 credits will be achieved, which as a result of the weighting factors will deliver 1.10 points to the scheme in total.

### 3.3.5 Waste

**Aim:** To provide adequate internal and external storage space for non-recyclable waste and recyclable household waste. To promote resource efficiency via the effective and appropriate management of construction site waste. To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.



Contribution to total:	5.60
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This category of the Code deals with waste and recycling issues for both the construction stage and the occupation stage of the development ensuring the waste hierarchy is addressed.

The mandatory requirements for this category of the Code will be met through providing the correct amount of space for external waste and recycling facilities. In addition to this, credits will be scored by the scheme through the provision of dedicated internal recycling facilities.

A private recycling scheme operator will be appointed to maintain bins and collect recyclable waste regularly.

A Site Waste Management Plan (SWMP) including the monitoring of waste generated on site and the setting of targets to promote resource efficiency will also be produced and implemented.

A communal composting facility will be provided in the rear garden area.

Proportion of available credits achieved:	88%
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Overall 7 of the available 8 credits will be achieved, which as a result of the weighting factors will deliver 5.60 points to the scheme in total.



### 3.3.6 Pollution

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



Contribution to total:	2.10
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The Pollution section of the Code deals with insulation materials and with Nitrogen Oxide (NOx) emissions.

All insulating materials will have a Global Warming Potential of less than 5 scoring 1 credit.

The proposed heat source is gas, and it would be possible to achieve NOx emissions of 70mg/kWh or less.

Proportion of available credits achieved:	75%
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Overall 3 of the available 4 credits will be achieved, which as a result of the weighting factors will deliver 2.10 points to the scheme in total.

### 3.3.7 Health and Wellbeing

Aim: To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home. To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours. To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private. To promote the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.



Contribution to total:	9.33
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Sound insulation will be provided so that performance standards exceed building regulations by 5dB or better.

Communal outdoor space has been allocated for all residents of the proposed development. The residents of the apartments will have access to a private rear garden.

The dwellings will be designed to meet the Lifetime Homes standard

Proportion of available credits achieved:	67%
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At minimum 8 of the available 12 credits will be achieved, which as a result of the weighting factors will deliver 9.33 points to the scheme in total.

### 3.3.8 Management

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



Contribution to total:	10.00
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The Management section of the Code targets both the construction stage and the way the dwellings are used during occupation. The proposed development scores highly in this section by committing to best practice standards covering the issues in this category.

Educating tenants on the sustainable features of their dwellings and their surrounding area is an important element of delivering sustainable housing and as such all credits for the Home User Guide will be achieved.

It is a pre-requisite of the contract that the main contractor is a member of the Considerate Constructors scheme.

Construction site impacts will be minimized by the main contractor by monitoring or reporting CO2 emissions or water use, or adopting best practice policies in respect of air or water.

The recommendations of a police architectural liaison officer have been adopted so that the scheme is secured by design.

Proportion of available credits achieved:	100%
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Overall all of the available 9 points will be achieved, which as a result of the weighting factors will deliver 10.00 points to the scheme in total.

### 3.3.9 Ecology

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



Contribution to total:	8.00
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Ecology is a heavily weighted category of the Code and for this reason; the points are invaluable to the scheme, especially to reach Code Level 3.

The land has been determined as having low ecological value; therefore a credit can be awarded for ECO 1.

Ecological features on site will be protected from construction site impacts.

The overall ecological value of the site, as measured in change in species per hectare will be neutral.

Proportion of available credits achieved:	67%
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Overall 6 of the available 9 points will be achieved, which as a result of the weighting factors will deliver 8.00 points to the scheme in total.

### 3.4 ASSESSMENT SCORE AND CONCLUSIONS

The Code for Sustainable Homes Pre-Assessment has shown that the proposed development at 7 Fitzroy Square is on track to achieve Code Level 4 with a score of 68.53%. Credits have been allocated where it is highly likely that criteria will be satisfied during Design Stage of the CSH process. If any credits are expected to be lost, they need to be regained elsewhere to ensure the Code Level 4 target will still be achieved.

The client and the design team are satisfied with this approach to designing and constructing a sustainable development that is attractive, efficient and which meets the needs of the occupants.

4 **EVIDENCE**

Information in the form of drawings, specifications, correspondence and certificates will be provided by the following design team members:

Architect

Details of cycle storage

Certificate of Secure by Design (discussion ongoing with SBD Officer)

Sanitaryware specification

Details of materials:

- a) Staircase
- b) Windows
- c) External & internal doors
- d) Skirting
- e) Panelling
- f) Furniture
- g) Fascias
- h) Any other significant use

Details of home office

Building materials sourced from Green Guide

Details of sound insulation better than Part E (Robust Details)

Details of private space (Communal garden)

Details of lifetime homes compliance

Structural Engineer

Details of rainwater harvesting

Details of materials:

- a) Frame
- b) Ground floor
- c) Upper floors (including separating floors)
- d) Roof
- e) External walls
- f) Internal walls (including separating walls)
- g) Foundation/substructure (excluding sub-base materials)
- h) Staircase

Main contractor

Site Waste Management Plan

Sign up to Considerate Constructor Scheme

Construction method statements which:

- Protects quality and availability of ground, surface & drinking water.
- Prevents/reduces land contamination
- Prevents/reduces air and noise pollution.

Home User guide

Ecologist / architect

Evidence and report showing that:

- Ecological value of site
- Ecological enhancement
- Protection of ecological features
- Change of ecological value of site

Kitchen Installer / architect

Details of Energy labeled white goods

Flood risk assessor / architect

Site is in area of low flood risk

**APPENDIX A**

**CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT**



## Category 1: Energy

ENE 1	Dwelling Emission Rate		Available Credits	Target Credits	Score
			10	4	4.67

Criteria	Available credits	Mandatory requirements
% improvement 2010 DER/TER		
8%	1	
16%	2	
25%	3	Level 4
36%	4	
47%	5	
59%	6	
72%	7	
85%	8	
100%	9	Level 5
Zero net CO2 emissions	10	Level 6

ENE 2	Fabric energy efficiency		Available Credits	Target Credits	Score
			9	3	3.50

Criteria	Available credits	Mandatory require- ments
Fabric Energy Efficiency Apartment blocks, mid terrace	End terrace, semi det & det	
=< 48	=< 60	3
=< 45	=< 55	4
=< 43	=< 52	5
=< 41	=< 49	6
=< 39	=< 46	7
		Level 5 & 6
=< 35	=< 42	8
=< 32	=< 38	9

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ENE 3	Energy display devices		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where current electricity OR primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.	1	
Where current electricity AND primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.	2	
Default Cases		
Where electricity is the primary heating fuel and current electricity consumption data are displayed to occupants by a correctly specified energy display device.	2	

ENE 4	Drying space		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where space and equipment are provided for drying clothes:		
For 1 – 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line	1	
For 3+ bedroom dwellings, the drying equipment must be capable of holding 6m+ of drying line	1	
The drying space (internal or external) must be secure		

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ENE 5	Energy Labelled white goods		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where the following appliances are provided and have an A+ rating under the EU Energy Efficiency Labelling Scheme:		
Fridges and freezers or fridge-freezers	1	
Where the following appliances are provided and have an A rating under the EU Energy Efficiency Labelling Scheme:		
Washing machines and dishwashers		
AND EITHER		
Tumble dryers or washer dryers have a B rating (where a washer dryer is provided, it is not necessary to also provide a washing machine)		
OR		
EU Energy Efficiency Labelling Scheme Information is provided to each dwelling in place of a tumble dryer or a washer dryer	1	
Where no white goods are provided but EU Energy Efficiency Labelling Scheme Information is provided to each dwelling	1	
Note: To obtain this credit, any white goods available to purchase from the developer must be compliant with the above criteria.		

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ENE 6	External Lighting		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Space Lighting		
Where all external space lighting, including lighting in common areas, is provided by dedicated energy efficient fittings with appropriate control systems.	1	
Note: Statutory safety lighting is not covered by this requirement		
Security Lighting		
Where all security lighting is designed for energy efficiency and is adequately controlled	1	

ENE 7	Zero or Low Carbon Technology		Available Credits	Target Credits	Score
			2	1	1.17

Criteria	Available credits	Mandatory requirements
Where energy is supplied by low or zero carbon technologies		
AND		
There is a 10% reduction in CO2 emissions as a result	1	
OR		
There is a 15% reduction in CO2 emissions as a result	2	

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ENE 8	Cycle Storage		Available Credits	Target Credits	Score
			2	2	2.33

Criteria	Available credits	Mandatory requirements
Where individual or communal cycle storage is provided, that is adequately sized, secure and convenient, for the following number of cycles:		
Studios or 1 bedroom dwellings – storage for 1 cycle for every two dwellings	1	
2 and 3 bedroom dwellings – storage for 1 cycle per dwelling	1	
4 bedrooms and above – storage for 2 cycles per dwelling	1	
OR		
Studios or 1 bedroom dwellings – storage for 1 cycle per dwelling	2	
2 and 3 bedroom dwellings – storage for 2 cycles per dwelling	2	
4 bedrooms and above – storage for 4 cycles per dwelling	2	
Note: The requirements for secure cycle storage are met where compliance with clause 35 of Secured by Design (SBD) New Homes 2010 is achieved.		

ENE 9	Home Office		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where sufficient space and services have been provided which allow occupants to set up a home office in a suitable room.		
The space dedicated for use as a home office must have adequate ventilation and achieve an average daylight factor of 1.5%.	1	

Category 2: Water
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WAT 1	Indoor water use		Available Credits	Target Credits	Score
			5	3	4.50

Criteria	Available credits	Mandatory requirements
Water consumption (litres/person/day)		
120 l/p/day	1	Levels 1 and 2
110 l/p/day	2	
105 l/p/day	3	Levels 3 and 4
90 l/p/day	4	
80 l/p/day	5	Levels 5 and 6

WAT 2	External water use		Available Credits	Target Credits	Score
			1	1	1.50

Criteria	Available credits	Mandatory requirements
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)	1	
Default Cases		
If no individual or communal garden spaces are specified or if only balconies are provided, the credit can be awarded by default	1	

## Category 3: Materials

MAT 1	Environmental Impact of Materials		Available Credits	Target Credits	Score
			15	12	3.60

Criteria	Available credits	Mandatory requirements
Where at least three of the following five key elements of the building envelope achieve a rating of A+ to D in the 2008 version of The Green Guide:		All Levels
• Roof		
• External walls		
• Internal walls (including separating walls)		
• Upper and ground floors (including separating floors)		
• Windows		
Where the Code Mat 1 Calculator Tool is used to assess the number of credits awarded for the five key elements described above	1-15	3

MAT 2	Responsible sourcing of Materials: Basic Building Elements		Available Credits	Target Credits	Score
			6	4	1.20

Criteria	Available credits	Mandatory requirements
Where 80% of the assessed materials in the following Building Elements are responsibly sourced:		
a) Frame		
b) Ground floor		
c) Upper floors (including separating floors)		
d) Roof		
e) External walls		
f) Internal walls (including separating walls)		
g) Foundation/substructure (excluding sub-base materials)		
h) Staircase		

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Additionally, 100% of any timber in these elements must be legally sourced 1-6

MAT 3	Responsible sourcing of Materials: Finishing Elements		Available Credits	Target Credits	Score
			3	2	0.60

Criteria	Available credits	Mandatory requirements
Where 80% of the assessed materials in the following Finishing Elements are responsibly sourced:		
a) Staircase		
b) Windows		
c) External & internal doors		
d) Skirting		
e) Panelling		
f) Furniture		
g) Fascias		
h) Any other significant use		
Additionally, 100% of any timber in these elements must be legally sourced	1-3	



## Category 4: Surface Water Run-off

SUR 1	Reduction Of Surface Water Run-off		Available Credits	Target Credits	Score
			2	0	0.00

Criteria	Available credits	Mandatory requirements
1) Peak Rate of Run-off		
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.	0	Yes
2) Volume of Run-off		
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	0	Yes
3) Designing for local drainage system failure.		
Demonstrate that the flooding of property would not occur in the event of local drainage system failure	0	Yes
Water Quality Criteria		
1. One credit can be awarded by ensuring there is no discharge from the developed site for rainfall depths up to 5 mm (see Calculation Procedures).	1	
2. One credit can be awarded by ensuring 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.	1	
Note: The SuDS Manual best practice recommendations should be followed where there is a risk to groundwater from infiltration (for example contaminated land, developments with high risk of pollution incidents)		

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SUR 2	Flood Risk		Available Credits	Target Credits	Score
			2	2	1.10

Criteria	Available credits	Mandatory requirements
EITHER		
Two credits are available for developments situated in Zone 1 – low annual probability of flooding (as defined in PPS25 Development and Flood Risk) and where the site-specific Flood Risk Assessment (FRA) indicates that there is low risk of flooding from all sources.	2	
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 routes to the ground level and the site, are placed at least 600 mm above the design flood level of the flood zone.	1	

Category 5: Waste
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WAS 1	Household Waste Storage and Recycling facilities		Available Credits	Target Credits	Score
			4	4	3.20

Criteria	Available credits	Mandatory requirements
<b>Storage of household waste</b>	0	All Levels
An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:		
The minimum volume in BS 5906 based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom 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. Containers must not be stacked.		
<b>Storage of recyclable household waste</b>	2	
Dedicated internal storage for recyclable household waste can be credited where there is no (or insufficient) dedicated external storage capacity for recyclable material, no Local Authority collection scheme and where the following criteria are met:		
At least three internal storage bins:		
all located in an adequate internal space		
with a minimum total capacity of 60 litres.		
<b>Storage of recyclable household waste</b>	4	
A combination of internal storage capacity provided in an adequate internal space, with either:		
a Local Authority collection scheme, or		

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no Local Authority collection scheme but adequate external storage capacity.

WAS 2	Construction Site Waste Management		Available Credits	Target Credits	Score
			3	2	1.60

Criteria	Available credits	Mandatory requirements
<b>Minimising Construction Waste</b>	1	
Where there is a compliant Site Waste Management Plan (SWMP) that contains:		
a. Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice		
b. Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste.		
c. Procedures for minimising hazardous waste		
d. Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)		
<b>Diverting Waste from Landfill</b>		
Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either;		
a. Re-use on site (in situ or for new applications)		
b. Re-use on other sites		
c. Salvage/reclaim for re-use		
d. Return to the supplier via a 'take-back' scheme		
e. Recovery and recycling using an approved waste management contractor		
f. Compost		

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according to the defined waste groups (in line with the waste streams generated by the scope of the works).	
<b>AND</b>	
One of the following has been achieved:	
Where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.	2
<b>OR</b>	
Where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.	3

WAS 3	Composting		Available Credits	Target Credits	Score
			1	1	0.80

Criteria	Available credits	Mandatory requirements
Individual home composting facilities.	1	
<b>OR</b>		
A local communal or community composting service, which the Local Authority runs or where there is a management plan in place.		
<b>OR</b>		
A Local Authority green/kitchen waste collection system (this can include an automated waste collection system).		
All facilities must also:		
be in a dedicated position		
provide inclusive access and usability (Checklist IDP)		
have a supporting information leaflet provided to each dwelling.		

Category 6: Pollution
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POL 1	Global Warming Potential (GWP) of insulants		Available Credits	Target Credits	Score
			1	1	0.70

Criteria	Available credits	Mandatory requirements
Credits are awarded where all insulating materials in the elements of the dwelling only use substances that have a GWP < 5 (in manufacture AND installation):	1	

POL 2	NOx emissions		Available Credits	Target Credits	Score
			3	2	1.40

Criteria	Available credits	Mandatory requirements
Dry NOX Level (mg/kWh)	Boiler Class (BS EN 297: 1994)	Credits
100	4	1
70	5	2
40	-	3
Default Cases		
Where all space heating and hot water energy requirements are fully met by systems which do not produce NOX emissions.		3

Category 7: Health
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HEA 1	Daylighting		Available Credits	Target Credits	Score
			3	0	0.00

Criteria	Available credits	Mandatory requirements
Kitchens must achieve a minimum Average Daylight Factor of at least 2%	1	
All living rooms, dining rooms and studies (including any room designated as a home office under Ene 9 – Home Office) must achieve a minimum Average Daylight Factor of at least 1.5%	1	
80% of the working plane in each kitchen, living room, dining room and study (including any room designated as a home office under Ene 9 – Home Office) must receive direct light from the sky	1	

HEA 2	Sound Insulation		Available Credits	Target Credits	Score
			4	3	3.50

Criteria	Available credits	Mandatory requirements
Where:		
• airborne sound insulation values are at least 3dB higher	1	
• impact sound insulation values are at least 3dB lower		
<b>OR</b>		
• airborne sound insulation values are at least 5dB higher	3	
• impact sound insulation values are at least 5dB lower		
<b>OR</b>		
• airborne sound insulation values are at least 8dB higher	4	
• impact sound insulation values are at least 8dB lower		

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than the performance standards set out in the Building Regulations approved for England and Wales, Approved Document E (2003 Edition, with amendments 2004).

### Default cases

Detached dwellings	4
Attached dwellings where separating walls or floors occur only between non-habitable rooms	3

HEA 3	Private space		Available Credits	Target Credits	Score
			1	1	1.17

Criteria	Available credits	Mandatory requirements
Where outdoor space (private or semi-private) has been provided that is:	1	
• Of a minimum size that allows all occupants to use the space.		
• Provided with inclusive access and usability (Checklist IDP).		
• Accessible only to occupants of designated dwellings.		

HEA 4	Lifetime Homes		Available Credits	Target Credits	Score
			4	4	4.67

Criteria	Available credits	Mandatory requirements
Where all principles of Lifetime Homes, applicable to the dwelling being assessed, have been complied with.	4	Level 6



## Category 8: Management

MAN 1	Home User Guide		Available Credits	Target Credits	Score
			3	3	3.33

Criteria	Available credits	Mandatory requirements
Provision of a Home User Guide, compiled in accordance with Checklist Man 1, Part 1, together with confirmation that the guide is available in alternative formats.	2	
Where the guide includes additional information relating to the site and its surroundings and is compiled in accordance with Checklist Man 1, Part 2.	1	

MAN 2	Considerate Constructors		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
Where there is a commitment to meet best practice under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme	1	
Where there is a commitment to go significantly beyond best practice under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme	2	

MAN 3	Construction Site Impacts		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
Where there are procedures that cover two or more of the following items:	1	

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Monitor, report and set targets for CO2 production or energy use arising from site activities
Monitor and report CO2 or energy use arising from commercial transport to and from site
Monitor, report and set targets for water consumption from site activities
Adopt best practice policies in respect of air (dust) pollution arising from site activities
Adopt
best practice policies in respect of water (ground and surface) pollution occurring on the site
80% of site timber is reclaimed, re-used or responsibly sourced
<b>OR</b>
Where there are procedures that cover four or more of the items listed above.
2

MAN 4	Security		Available Credits	Target Credits	Score
			2	2	2.22

Criteria	Available credits	Mandatory requirements
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.	2	
<b>AND</b>		
Section 2 – Physical Security from ‘Secured by Design – New Homes’ is complied with (Secured by Design certification is not required).		

Category 9: Ecology
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ECO 1	Ecological value of site		Available Credits	Target Credits	Score
			1	1	1.33

Criteria	Available credits	Mandatory requirements
Where the development site is confirmed as land of inherently low ecological value	1	
<b>EITHER</b>		
By meeting the criteria for low ecological value (using Checklist Eco 1 – Land of Low Ecological Value under Checklists and Tables below)		
<b>OR</b>		
By being confirmed by a suitably qualified ecologist		
<b>OR</b>		
Where an independent ecological report of the site, prepared by a suitably qualified ecologist, confirms that the construction zone is of low or insignificant ecological value		
<b>AND</b>		
Any land of ecological value outside the construction zone but within the development site will remain undisturbed by the construction works.		

ECO 2	Ecological enhancement		Available Credits	Target Credits	Score
			1	0	0.00

Criteria	Available credits	Mandatory requirements
Where a suitably qualified ecologist has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site.	1	
<b>AND</b>		

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Where the developer adopts all key recommendations and 30% of additional recommendations.

ECO 3	Protection of ecological features		Available Credits	Target Credits	Score
			1	1	1.33

Criteria	Available credits	Mandatory requirements
Where all existing features of ecological value on the development site potentially affected by the works are maintained and adequately protected during site clearance, preparation and construction works.	1	

ECO 4	Change of ecological value of site		Available Credits	Target Credits	Score
			4	2	2.67

Criteria	Available credits	Mandatory requirements
The ecological value before and after development is measured, and the overall change in species per hectare is:		
• Minor negative change: between –9 and less than or equal to –3	1	
• Neutral: greater than –3 and less than or equal to +3	2	
• Minor enhancement: greater than 3 and less than or equal to 9	3	
• Major enhancement: greater than +9	4	

ECO 5	Building footprint		Available Credits	Target Credits	Score
			2	2	2.67

Criteria	Available credits	Mandatory requirements
For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 2.5:1	1	
<b>OR</b>		

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For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1

For houses, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 3:1 2

**OR**

For blocks of flats, where the net internal floor area: net internal ground floor area ratio is greater than or equal to 4:1