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SOUTH EAST WOODSTOCK

Code for Sustainable Homes Strategy

20/11/2014

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South East Woodstock

Code for Sustainable Homes Strategy

20/11/2014

Client: Pye Homes and Vanbrugh Unit Trust (acting on behalf of Blenheim Estates)

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Executive Summary

WSP (Code for Sustainable Homes Assessment Team) has undertaken an evaluation to consider the application of the Code for Sustainable Homes (CfSH) to the residential element of the proposed masterplan development at South East Woodstock. This report outlines the strategy agreed to target credits that will be incorporated into the proposed development in order to achieve the requisite CfSH ratings.

West Oxfordshire District Council and Cherwell District Council's local planning policy in conjunction with the *National Planning Policy Framework (NPPF)* requires residential units to be delivered between 2013 – 2015 to meet CfSH level 4 as a minimum.

The evaluation undertaken and presented in the report comprised the following components:

1. An appraisal of the development proposal against the CfSH criteria;
2. Identification of the mandatory credits (CfSH performance standards) which are essential to be included within the development;
3. Identification and agreement of a targeted set of scores to attain the overall CfSH level 4.

Scoring scenario	Score	Rating
Mandatory	68.00%	Level 4
Targeted	68.85%	Level 4

The provisional strategy presented within this report demonstrates a scenario of achieving a score of 68.85% with all mandatory compliancy criteria satisfied. This is equivalent to Code Level 4.

Certification to this standard at both the Design and Construction Stage Assessments will be subject to receiving information from the design team and construction team to demonstrate compliance with the CfSH requirements. The production of this material and the verification by the assessor usually commences once planning permission has been agreed and the detailed design commences.

The Code for Sustainable Homes is an Environmental assessment scheme by which developers demonstrate the environmental performance of their building designs through the production of documentary evidence, an independent licensed assessor verifies performance and submits a certification recommendation to the governing body. At early stages of design a CfSH Pre-Assessment/ Strategy such as this is used to steer the design and to inform the stakeholders of the direction needed to achieve the required CfSH Level during formal assessment.

Through consultation with the design team the above scoring scenario within CfSH is predicted based on the incorporation of key design features which contribute to the overall sustainability of the project, these include:

- A firm ambition to incorporate the various design requirements to attain a CfSH level 4 on each unit during formal assessment stage. The detailed site area has been the test bed for reviewing the feasibility of achieving this and it can be demonstrated with the strategy herewith that this ambition can be achieved. It is the intention that this will be rolled out (in various permutations) across the larger site but shall reflect this ambition.
- Orientations and layouts have been carefully considered with regard to the required levels of daylighting in key rooms as stipulated by CfSH criteria.
- In recognition of the mandatory aspects of CfSH level 4, development of Energy Efficient dwellings incorporating Low/ Zero Carbon Technologies to reduce overall CO₂ emissions and energy efficient features such as efficient lighting and energy monitoring.
- Promotion of alternative methods of working/ travel, including the provision of features to enable home working and cycle storage.

-
- An aim to source materials from suppliers with Responsible Sourcing credentials and to minimise the embodied impact of materials.
 - Actively promoting the opportunities offered by the existing waste management services operated by Cherwell and West Oxfordshire District Council by providing composting and recyclable waste separation facilities
 - An aim to better the acoustic standards of dwellings as required under the Building Regulations Part E.
 - An aim to ensure the on-site construction activities will be coordinated to minimise the impact to existing wildlife, minimise waste going to landfill and to employ solid procedures and targets for monitoring site impacts in terms of energy and water consumption, pollution management and material procurement and through the use of the Considerate Constructors Scheme.

1. Introduction

WSP has been commissioned by Pye Homes and Vanbrugh Unit Trust (acting on behalf of Blenheim Estates) to prepare a Code for Sustainable Homes Statement for the residential element of the proposed masterplan development at South East Woodstock.

The purpose of this statement is to provide an indicative summary of the CfSH requirements and a recommended strategy in order to achieve the required CfSH ratings for the residential element of the proposed development.

A summary of the indicative requirements and recommendations for each credit can be found in Appendix A. It should be noted that the achievement of the targeted credits is subject to the compilation of compliant evidence submitted by the design team.

2. The Code for Sustainable Homes: Code Addendum (2014) England [November 2010]

2.1 Background

The CfSH is a tool for assessing the environmental performance of new build homes. Whilst the CfSH is owned by the Department of Communities and Local Government (DCLG), BRE Global manage and implement the CfSH Standard and consequently perform the QA and certification of submitted assessments. The current version of the CfSH is *2014 Code Addendum England* which should be read in conjunction with the *Code Technical Guide, November 2010*.

Registration

The South East Woodstock project will need to be registered for assessment with BRE Global once the detailed design progresses.

Coverage

The CfSH measures the sustainability of a home against nine design categories, rating the 'whole home' as a complete package. The design categories are:

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

Each category includes a number of environmental matters which are assessed against a performance target and one or more credits are achieved. The performance targets within the Code are more demanding than the minimum standard 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.

Stages of Assessment

The CfSH covers many differing aspects each with multiple auditable requirements: the indicative strategy (Appendix A) does not go into the detail of the requirements as these will be conveyed during the formal assessment stages. Greater detail and further information on the compliance requirements can be provided during these formal assessment stages.

- DESIGN (Design and Procurement) – Environmental performance of design. Resulting in Interim Certification. Typical evidence at this stage comprises drawings, specifications, letters of commitment, meeting minutes, programme of works, calculations and modelling results.
- CONSTRUCTION (Post Construction Review) – “As Built” performance compared to design. Resulting in Full Certification. Typical evidence includes the updated design stage evidence to reflect the as built performance of the project in addition to the assessor’s site inspection and photographic evidence.

The following flow diagram shows the key stages of a CfSH assessment for the scheme. This document is the first step and shows the early indicative considerations of the assessment. The Design and Procurement (D&P) assessment will commence during detailed design. This statement, the Pre-Assessment and advice provided by the assessor during the Design Stage assessment will allow the design team to produce the required design and corresponding auditable material to comply with the CfSH requirements.

Upon completion of the D&P assessment the assessor will submit a certification recommendation report to BRE, who will undertake an independent quality check on that recommendation and if deemed appropriate will issue an Interim (design stage) certificate showing the rating achieved. In order to complete the assessment and achieve a full CfSH certificate, the assessor will be required to verify performance of the scheme throughout construction and once again submit to BRE recommending full certification.

Both the Design and Construction Stage Assessments are based on information provided by the design team and construction team to demonstrate compliance with the CfSH requirements. The production of this material and the verification by the assessor usually commences once planning permission has been agreed and the detailed design commences.

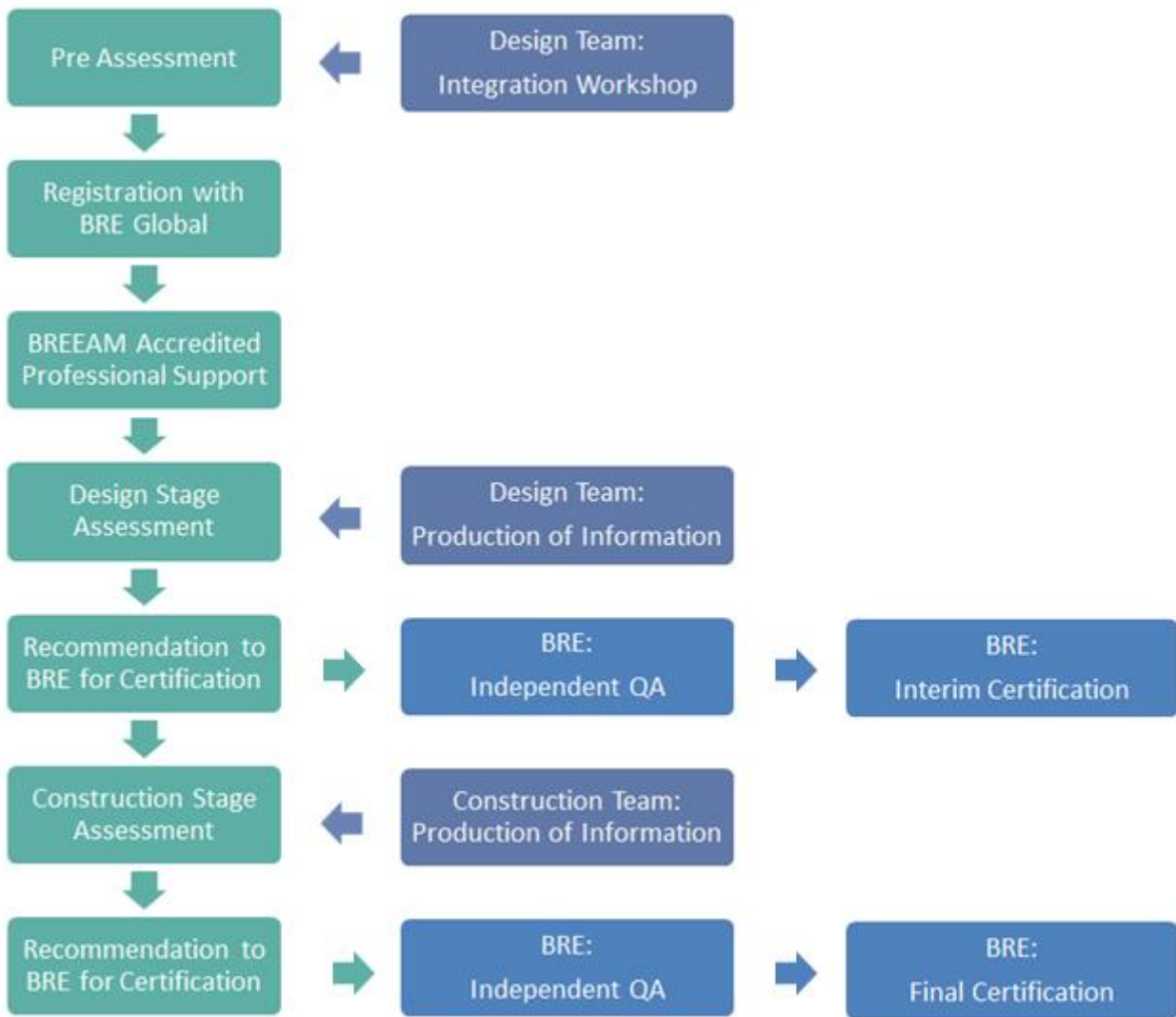


Figure 1: Code for Sustainable Homes Assessment Process

2.2 Code Level 4 Requirements

In order to achieve a Code Level 4, the development will need to achieve a total of 68 percentage points or more, as illustrated below:

Levels	Percentage Required
Level 1	36%
Level 2	48%
Level 3	57%
Level 4	68%
Level 5	84%
Level 6	90%

Figure 2: Percentage Ratings Associated with Each Code Level

In addition a number of mandatory requirements will need to be satisfied as follows:

Issue	Requirement
Ene 1 – Dwelling Emission Rate	A 19% or more improvement of the Dwelling Emission Rate over the Target Emission Rate as calculated using SAP 2012. This is equivalent to 3 credits.
Wat 1 – Indoor Water Use	Water consumption at a notional 105 litres/person/day (as measured on a specific CfSH water consumption calculator). This is equivalent to 3 credits.
Mat 1 – Environmental Impact of Materials	At least three of the five key building elements achieve a Green Guide 2008 Rating of A+ to D.
Sur 1 - Management of Surface Water Run-Off from Developments	The peak rate of run-off into watercourses to be no greater for the application site than it was for the pre-development site.
Was 1 - Storage of non-recyclable waste and recyclable household waste	The space provided for waste storage to be sized to hold the largest of either all external containers provided by the Local Authority or the minimum capacity calculated from BS 5906.

Figure 3: Mandatory Requirements Associated with Code Level 4

3. Notes and Limitations

WSP Environmental has based this document on the current information available for the scheme and our knowledge of applying the CfSH to similar schemes, with various design team members.

Appendix A is a high level document prepared by WSP to support the brief and to highlight that which may be possible under the CfSH.

This cover statement and the recommended strategy in Appendix A should not be considered a formal Pre-Assessment. We recommend a Pre-Assessment is conducted for the scheme as the design progresses.

4. Copyright

The Code for Sustainable Homes name and logo are registered trademarks of the Department of Communities and Local Government. Copyright exists on the Code and it may not be used or reproduced in any form or for any purpose without prior written consent of BRE.

5. Proposed Strategy and Conclusion

An indicative strategy for the residential development to achieve Code Levels 4 is outlined in Appendix A of this statement. The strategy summarises the CfSH (version Code Addendum 2014 [November 2010]) criteria and provides a commentary of the requirements to be incorporated in the building design and construction processes. Based on this strategy, the proposed development is capable of achieving a score of **68.85%** equivalent to **Code Level 4**, if all items shown in the recommended set of targets (including the mandatory requirements highlighted) are met on the basis of early considerations and the design team's detailed work.

It should be noted that this is an indicative set of credits to be targeted and this is likely to change as the design progresses.

5.1 Sustainability Features

Sustainability features likely to be incorporated into the development proposals, in order to achieve Code Level 4 are as follows:

- Compliance with the mandatory aspects relating to Energy Use (Carbon Emissions), through;
 - Good thermal fabric details; and
 - Energy efficient systems.
- Compliance with the mandatory aspects relating to Water Use, through;
 - Water efficient sanitary fittings
- Energy efficient light fittings;
- Drying space and fittings;
- Specification of building elements in accordance with the Green Guide to Specification (Embodied Impact);
- Code compliant cycle storage;
- Good daylight factors in key rooms;
- Recyclable waste storage;
- Ecological protection, planting and enhancement;
- Sustainable drainage; and
- Sustainable construction practices.

5.2 Proposed Assessment Process

In order to achieve the aforementioned score, certain assumptions have been made about the extent of opportunity to incorporate features or to adopt process. For example, there are multiple credits shown as targeted which are associated with the contractor's environmental management during site activities and their procurement mechanisms (demonstration of sustainable sourcing). This would have to be managed through tender requirements. In addition, in order to achieve those items shown as 'targeted' certain additional CfSH specific studies will need to be implemented, including but not limited to:

- Acoustics,
- Ecology, and
- Surface water runoff.

In order to maximise opportunities for the achievement of a Code Level 4, with efficiency of effort and cost; integration of the CfSH requirements should be undertaken at the outline and detailed design stages. The design process should ensure the essential consideration of the various aspects as the scheme develops, especially with respect to those criteria which are to be mandatory for the required rating.

The assessment process would be as follows:

- The CfSH method allows dwellings to score differently and therefore achieve different ratings during formal assessment stages. A CfSH strategy and advice would be provided on a worst case basis to ensure that all dwellings achieve the target Code Level. Following this, separate assessments will need to be undertaken for each dwelling requiring certification.
- The assessor will provide support to the team throughout the detailed design and based on auditable information produced will present a recommendation to BRE for Design Stage (Interim) certification (ideally prior to the commencement of site works).
- Following the above the assessor will provide support to the team throughout the construction phase and based on auditable information produced, will present a recommendation to BRE for Construction Stage (Full) certification.

This report sets out a strategy for the residential element of the proposed development to achieve the required Code Levels 4 in accordance with the Planning Authority conditional requirements. A number of sustainability credentials have been outlined which should be considered and incorporated as the design progresses. The proposed procedure for undertaking the Code assessment would allow for opportunities to be maximised and an efficient assessment process.

Appendix A: CfSH Scoring Strategy

Appendix A: Code for Sustainable Homes Scoring Strategy

Mandatory levels for Code Level 4

WSP Review: October 2014

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments																																		
Category 1 Energy																																									
Ene 1	Dwelling Emission Rate	<p>Credits are awarded based on the percentage improvement of the Dwelling Emissions Rate (DER) over the Target Emission Rate (TER) as calculated using SAP 2012. Minimum standards for each Code level apply.</p> <table border="0"> <tr><td>≥ 6%</td><td>1</td></tr> <tr><td>≥ 12%</td><td>2</td></tr> <tr><td>≥ 19%</td><td>3 Level 4</td></tr> <tr><td>≥ 32%</td><td>4</td></tr> <tr><td>≥ 44%</td><td>5</td></tr> <tr><td>≥ 56%</td><td>6</td></tr> <tr><td>≥ 70%</td><td>7</td></tr> <tr><td>≥ 84%</td><td>8</td></tr> <tr><td>≥ 100%</td><td>9 Level 5</td></tr> <tr><td>Zero Net CO₂</td><td>10 Level 6</td></tr> </table> <p>AD L1A 2013 TER should be used as the baseline.</p>	≥ 6%	1	≥ 12%	2	≥ 19%	3 Level 4	≥ 32%	4	≥ 44%	5	≥ 56%	6	≥ 70%	7	≥ 84%	8	≥ 100%	9 Level 5	Zero Net CO ₂	10 Level 6	10	11.74%	3	3	<p>The Design Team stated at the meeting (07/10/14) that 2013 Part L Building Regulations will be met as standard but there will be a potential to adopt appropriate LZC technologies in order to achieve a 19% improvement as required for Code Level 4 (if required).</p> <p>In order to achieve any credits under this issue, the buildings must perform a percentage better than Part L Building Regulations 2013. A minimum of three credits are required for a Code Level 4 rating. On this basis it is recommended that at least 3 credits are investigated, based upon a DER 19% better than the TER. Good fabric details and low carbon energy supply options should be investigated and included.</p> <p>3 credits targeted.</p>														
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Ene 2	Fabric Energy Efficiency	<table border="1"> <thead> <tr> <th colspan="2">Dwelling Type</th> <th rowspan="2">Credits</th> <th rowspan="2">Mandatory Levels</th> </tr> <tr> <th>Apartments / Mid terrace</th> <th>Semi and Detached</th> </tr> </thead> <tbody> <tr><td><48</td><td><60</td><td>3</td><td></td></tr> <tr><td><45</td><td><55</td><td>4</td><td></td></tr> <tr><td><43</td><td><52</td><td>5</td><td></td></tr> <tr><td><41</td><td><49</td><td>6</td><td></td></tr> <tr><td><39</td><td><46</td><td>7</td><td>Levels 5 and 6</td></tr> <tr><td><35</td><td><42</td><td>8</td><td></td></tr> <tr><td><32</td><td><38</td><td>9</td><td></td></tr> </tbody> </table>	Dwelling Type		Credits	Mandatory Levels	Apartments / Mid terrace	Semi and Detached	<48	<60	3		<45	<55	4		<43	<52	5		<41	<49	6		<39	<46	7	Levels 5 and 6	<35	<42	8		<32	<38	9		9	10.57%	-	7	<p>The fabric energy efficiency standard is difficult to predict at this early stage, however it was stated (07/10/14) that the semi and detached properties proposed will be specified to <46 kWh/m²/yr, and 7 credits can be achieved.</p> <p>7 credits targeted.</p>
Dwelling Type		Credits	Mandatory Levels																																						
Apartments / Mid terrace	Semi and Detached																																								
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<35	<42	8																																							
<32	<38	9																																							

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Ene 3	Energy Display Device	<p>One credit where current electricity OR primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device.</p> <p>Two credits where current electricity AND primary heating fuel consumption data are displayed to occupants by a correctly specified energy display device</p>	2	2.35%	-	2	<p>The Design Team stated (07/10/14) that dwellings will be specified to include Energy Display Devices displaying both current electric and primary heating fuel consumption data.</p> <p>'In order to achieve two credits each unit should be provided with a real time display showing electricity usage and space fuel consumption.</p> <p>The requirements of the visual display can be provided upon request prior to specification.</p> <p>2 credits targeted.</p>
Ene 4	Drying Space	<p>One credit is awarded for the provision of either internal or external secure drying space with posts and footings or fixings capable of holding 4m+ line for 1-2 bed dwellings and 6m+ for dwellings with 3 bedrooms or greater.</p>	1	1.17%	-	1	<p>Adequate fixtures and fittings should be provided in the garden or internally in each dwelling, in order to achieve this credit. If the drying space is internal, adequate ventilation will be required (in accordance with Approved Doc F).</p> <p>The Design Team stated (07/10/14) that dwellings will feature adequate rear garden space to facilitate drying lines of sufficient length and specification.</p> <p>Credit targeted.</p>

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Ene 5	Energy Labelled White Goods	Credits are awarded where each dwelling is provided with either information about the EU Energy Labelling Scheme (1 credit) or White Goods as follows: - Fridges & Freezers A+ rated (1 credit) - Washing machines and dishwashers A rated (1 credit) & - Tumble dryers or washer dryers B rated or EU Energy Efficiency Labelling Scheme Information where a tumble dryer or washer dryer is not provided.	2	2.35%	-	1	In order to achieve 2 credits the following should be provided in all dwellings: A+ rated fridges/freezers, A rated washing machines & dishwashers and B rated tumble dryers or washer dryers. Where white goods are not being provided, 1 credit can be achieved for the provision of information regarding the EU Energy Efficiency Labelling Scheme. Please note that where white goods are not provided, only 1 credit is available. The Design Team stated at the meeting (07/10/14) that it is unlikely that the developer will provide White goods and therefore, only information leaflets will be distributed. 1 credit targeted.
Ene 6	External Lighting	Space lighting (1 credit) - external space lighting, including lighting in common areas is provided with dedicated energy efficient fittings (statutory safety lighting is not covered) Security lighting (1 credit) - security lighting designed for energy efficiency and adequately controlled. Burglar lights are 150W max, incorporate movement detectors, daylight cut-off or timers. All other security lights are dedicated energy efficient and have daylight control or time switch. <i>Dual lamp luminaires with both space and security lamps compliant with the above energy efficiency requirements will achieve 2 credits.</i>	2	2.35%	-	2	The Design Team stated (07/10/14) that external lighting will be specified to the required standards and it is unlikely that security lighting will be provided. External space lighting associated with the residential units, should be dedicated energy efficient types. Security lighting, where provided, should be <150W and controlled for daylight. 2 credits targeted.
Ene 7	Low or Zero Carbon (LZC) Technologies	Credits are awarded where either there is a 10% (1 credit) or 15% (2 credits) reduction in total carbon emissions that result from using low or zero carbon technologies.	2	2.35%	-	1	The Design Team stated (07/10/14) that a feasibility study is to be completed to establish the most appropriate LZC technology that will be provided. Various technologies are under consideration including Air Source Heat Pumps which is anticipated could provide a 10% reduction in Carbon Emissions. 1 credit targeted.

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Ene 8	Cycle Storage	<p>Credits are awarded where adequate, safe, secure and weather proof cycle storage is provided according to the Code requirements.</p> <p>1 Credit Studio or 1 bedroom - storage for every two dwellings 2 and 3 bedroom - storage for 1 cycle per dwelling 4 bedroom - storage for 2 cycle per dwelling</p> <p>2 Credits Studio or 1 bedroom - storage for 1 cycle per dwelling 2 and 3 bedroom - storage for 2 cycles per dwelling 4 bedroom and above - storage for 4 cycles per dwelling</p> <p>Storage as follows: - 1 cycle: 2m x 0.75m - 2 cycles: 2m x 1.5m - 4 cycles: 2m x 2.5m</p> <p>Where a proprietary storage or hanging system is provided, the space requirements are flexible but the system will allow for each cycle to be removed independently. Other requirements relating to convenient access, locking in line with BS 3621:2004 and allowing for secure fixing along with being weather proof will be met.</p>	2	2.35%	-	2	<p>The Design Team stated that cycle storage will be provided, however it was unknown to what quantities this would be. It was agreed that there should be an ambition to target 2 credits.</p> <p>In order to achieve credits, sufficient storage should be provided for each dwelling. The storage should be covered, secure, well lit and adequately spaced.</p> <p>2 credits targeted.</p>

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Ene 9	Home Office	A credit is awarded for the provision of space for a home office. The location, space and service provided must meet the Code requirements defined as: - two double power sockets - two telephone points, or broadband service - window (the room chosen must have a daylight factor of 1.5%) - adequate ventilation - space (1.8m wall length)	1	1.17%	-	1	The Design Team stated (07/10/14) that until the detailed design stage and calculations have been completed, it is unknown whether all properties will achieve the daylight factor requirement. Credit to be targeted and reviewed at the detailed design stage. A home office will need to be provided in each dwelling in order to achieve one credit. The requirements of the home office are outlined in the 'Code for Sustainable Homes Criteria column'. A suitable room is considered a room other than the kitchen, living room, master bedroom or bathroom. Credit targeted.
Category 2 Water							
Wat 1	Indoor Water Use	Credits are awarded based on the predicted average household water consumption, calculated using the Code Water Calculator Tool. Minimum standards for each code level apply. 1 credit for less than or equal to 120 l/p/d 2 credits for less than or equal to 110 l/p/d 3 credits for less than or equal to 105 l/p/d 4 credits for less than or equal to 90 l/p/d 5 credits for less than or equal to 80 l/p/d 3 credits are mandatory for a Code Level 3 & 4	5	7.50%	3	3	The Design Team stated (07/10/14) at the meeting that the mandatory requirement of 105 litres/person/day for Code Level 4, will be satisfied. As an example, the following solution would equate to 3 credits: - WC 4/2.5 litres dual flush - 3 litres/min taps on the Hand Wash Basins. - 4.5 litres/min taps on the Kitchen Sink. - Shower with flow rate less than 7 litres/min. - Bath Standard size 140-litres to overflow - Washing machine 8 litres - Dishwasher 13 litres 3 credits targeted.
Wat 2	External Water Use	A credit is awarded where a compliant system is specified for collecting rainwater for external irrigation purposes. 1 litre/m ² is required for communal areas, with a minimum of 20 litres per garden. Where no outdoor space is provided the credit can be achieved by default.	1	1.50%	-	1	The Design Team stated (07/10/14) that sufficiently sized rainwater butts can be provided in order to achieve the credit. 'This credit can be achieved where a sufficiently sized system is installed in each garden to collect rainwater for external/internal irrigation/use (e.g. rainwater butts or a central rainwater collection systems) Three+ bedroom homes with a private garden must have a minimum water storage of 200 litres per dwelling. Where planting requiring little water has been specified (following the recommendations from a suitably qualified ecologist, see Eco 1 and 2), the above requirements can be halved subject to written confirmation from the suitably qualified ecologist. Credit targeted.
Category 3 Materials							

WSP Review: October 2014

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Mat 1	Environmental Impact of Materials	Mandatory Requirement: At least three of the five key building elements must achieve a Green Guide 2008 Rating of A+ to D.	Yes/ No	-	Yes	Yes	The Design Team stated (07/10/14) that the likely score for this credit cannot be ascertained until all elements are finalised and the areas of each confirmed, however it is recommended that a number of elements are A rated. The design team are advised to use the Green Guide to identify higher performing elements where possible. 5 credits targeted.
		Key Building Elements: - Roof - External Walls - Internal Walls (including separating walls) - Upper and Ground Floors (including separating floors) - Windows Points are awarded on a scale based on the Green Guide Rating of specifications. The Code Materials Calculator can be used to predict a potential score.	15	4.50%	-	5	

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Mat 2	Responsible Sourcing of Materials - Basic Building Elements	<p>Credits are awarded where materials used in the basic building elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score.</p> <p>Basic building elements include:</p> <ul style="list-style-type: none"> - Frame - Ground floor - Upper floors - Roof - External walls - Internal walls - Foundations/ substructure (excluding sub-base materials) - Staircase <p>Note: all timber must be legally sourced.</p>	6	1.80%	-	3	<p>These credits require the incorporation of materials from responsible suppliers and manufactures, such as those with an ISO 14001 Environmental Management System and FSC timber etc.</p> <p>This would require careful consideration and engagement with the contractor. The Design Team stated that at this stage three credits should be targeted.</p> <p>3 credits targeted.</p>
Mat 3	Responsible Sourcing of Materials - Finishing Elements	<p>Credits are awarded where materials used in the finishing elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score.</p>	3	0.90%	-	2	<p>Similarly to the above, these credits require finishing elements to incorporate materials from responsible suppliers and manufactures are incorporated, such as those with an ISO 14001 Environmental Management System and FSC timber etc. This would require careful consideration and engagement with the contractor. The Design Team stated that at this stage two credits should be targeted.</p> <p>2 credits targeted.</p>
Category 4 Surface Water Run-Off							
Sur 1	Management of Surface Water Run-Off from Developments	<p>Mandatory Requirement: Peak rate and volume of run-off into watercourses is no greater for the developed site than it was for the pre-development site and will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance).</p>	Yes/ No	-	Yes	Yes	<p>Tim Trotman (Infrastruct CS Ltd) confirmed via email (02/10/14) that the mandatory requirement will be met.</p> <p>Mandatory requirements to be met.</p>
		<p>Where SUDS are used to improve water quality of the rainwater discharged or for protecting the quality of receiving waters.</p> <ul style="list-style-type: none"> - 1 credit where there is no discharge from the site for rainfall depth up to 5mm - 1 credit where the runoff from all hard surfaces shall receive appropriate treatment in accordance with the SUDS manual. 	2	1.10%	-	2	<p>Tim Trotman (Infrastruct CS Ltd) confirmed via email (02/10/14) that the credit for limited discharge from the site (5mm) can possibly be achieved but this will be subject to the final surface water design which is currently being investigated as the recent SI info demonstrates no permeable conditions across the whole site.</p> <p>'In order to achieve the mandatory requirements the rate of run-off post development should not exceed the pre-development rate.</p> <p>In order to achieve two credits, attenuation measures should be included to minimise the risk of localised flooding. The SUDS will need to include measures to improve the water quality of the discharge, in addition to the rates of runoff. It is expected that the first credit of the two credits will be targeted with an ambition to achieve both.</p> <p>2 credits targeted.</p>

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Sur 2	Flood Risk	Credits are awarded where developments are located in areas of low flood risk or where in areas of medium or high flood risk measures are taken to prevent damage to the property and its contents in accordance with the Code criteria in the technical guide.	2	1.10%	-	2	Tim Trotman (Infrastruct CS Ltd) confirmed via email (02/10/14) that the feasibility of achieving this credit is subject to knowing whether assessments will be undertaken as a whole development or on a phase by phase basis and whether the care home will be subject to CFHS or BREEAM. The Design Team stated (07/14/14) that both credits would be targeted at this stage. 2 credits targeted.
Category 5 Waste							
Was 1	Storage of non-recyclable waste and recyclable household waste	Mandatory Requirement: The space provided for waste storage should be sized to hold the larger of either all external containers provided by the Local Authority or the min capacity calculated from BS 5906.	Yes/ No	-	Yes	Yes	The Design Team stated (07/10/14) that all the available credits would be targeted. 'In order to achieve the mandatory requirements, the storage for waste should be in accordance with BS5906.
		Credits are awarded for adequate internal and/ or external recycling facilities - 2 credits where there are 3 internal storage bins with a total capacity of 60 litres. - 4 credits where the internal storage requirements are met and there is a local authority collection scheme or adequate external storage.	4	3.20%	-	4	To achieve all four credits the Local Authority will need to collect from the dwellings (with a collection frequency of at least fortnightly). In addition, at least one of the following requirements can be met: • Recyclable household waste is sorted after collection and a single bin of at least 30 litres is provided in an adequate internal space. • Materials are sorted before collection and at least three separate bins are provided with a total capacity of 30 litres. Each 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 three different types of recyclable waste. 4 credits targeted.
Was 2	Construction Site Waste Management	The SWMP should also include procedures and commitments for minimising waste and/ or commitments to sort, reuse and set waste targets in m ³ per 100m ² of building floor area. The second credit is available where >50% of construction waste is diverted from landfill. The third credit is available where >85% of construction waste is diverted from landfill.	3	2.40%	-	2	The Design Team stated that a Site Waste Management Plan was being prepared in accordance with best practice to include methods to reduce waste and recycle where possible. This is effectively covered by legislation. A target of >50% of waste to be diverted from landfill was considered achievable. 2 credits targeted.

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Was 3	Composting	A credit is awarded where individual home composting facilities are provided, or where a community/ communal composting service, either run by the Local Authority or overseen by a management plan is in operation.	1	0.80%	-	1	The Design Team stated (13/10/14) that both Cherwell and West Oxfordshire District Council operate green and kitchen waste collection schemes and that the credit should be targeted. Individual home or local community composting facilities are recommended to be provided. Credit targeted.
Category 6 Pollution							
Pol 1	Global Warming Potential (GWP) of Insulants	A credit is awarded where <u>all</u> insulating materials only use substances (in manufacture AND installation) that have a GWP of less than 5.	1	0.70%	-	1	The Design Team stated (07/10/14) that it will be ensured that all insulation, fabric and services have a GWP of less than five. This should be confirmed in the specification. Credit targeted.
Pol 2	NOx Emissions	Credits are awarded on the basis of NOx emissions arising from the operation of the space and water heating system within the dwelling. 1 credit for NOx emissions less than 100mg/kWh 2 credits for NOx emissions less than 70mg/kWh 3 credits for NOx emissions less than 40mg/kWh	3	2.10%	-	1	The credits likely to be achieved are dependent upon the energy strategy for the buildings. At this stage, it is not known what the strategy is likely to be and therefore, only 1 credit has been targeted. 1 credit targeted.
Category 7 Health & Wellbeing							
Hea 1	Day lighting	Credits are awarded for ensuring key rooms in the dwelling have high daylight factors (DF) and a view of the sky. 1 credit - kitchen: average DF of 2% 1 credit - Living room: average DF of 1.5% - Dining room: average DF of 1.5% - Study: average DF of 1.5% 1 credit - 80% of working plane in all above rooms receive direct light from the sky. Noting: any room used to achieve Ene 9 (Home Office) must also achieve a min DF of 1.5%	3	3.50%	-	1	It should be investigated whether the living rooms, dining rooms and studies have a daylight factor of at least 1.5%; whether kitchens will have a daylight factor of at least 2%, and whether all rooms have a view of the sky for 80% of the floor plan. The Design Team stated (07/10/14) at the meeting that 1 credit will be targeted until layouts are determined and daylight calculations can be undertaken. 1 credit targeted.

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Hea 2	Sound Insulation	<p>Credits are awarded where performance standards exceed those required in Building Regulations Part E. This can be demonstrated by carrying out pre-completion testing or through the use of Robust Details Limited.</p> <p>1 credit - airborne 3db higher, impact 3db lower</p> <p>3 credits - airborne 5db higher, impact 5db lower</p> <p>4 credits - airborne 8db higher, impact 8db lower</p> <p>Either through a commitment to undertake pre-completion testing to show construction in line with above, or through use of robust details to show compliance with the above.</p>	4	4.67%	-	3	<p>An Acoustic Consultant would need to advise on the design requirements to meet the credits.</p> <p>The criteria apply only to walls, floors and staircases that perform a dwelling to dwelling separating function. Internal partitions are not assessed. Therefore detached units would achieve four credits by default.</p> <p>The Design Team stated (17/10/14) that 3 credits should be targeted until the detailed specification is determined.</p> <p>3 credits targeted.</p>
Hea 3	Private Space	<p>A credit is awarded for the provision of an outdoor space that is at least partially private. The space must allow easy access to all occupants.</p> <p>For private space 1.5m² / bedroom For shared space minimum 1m²/ bedroom</p>	1	1.17%	-	1	<p>It should be ensured that each unit has access to private or semi private (shared) external space. The Design Team stated (07/10/14) that all dwellings will have sufficiently sized gardens/private spaces to achieve the credit.</p> <p>Credit targeted.</p>
Hea 4	Lifetime Homes	<p>Mandatory Requirement: Lifetime Homes is mandatory when a dwelling is to achieve a Code Level 6.</p> <p>Credits are awarded where the developer has implemented all of the principles of the Lifetimes Homes scheme.</p>	4	4.67%	-	4	<p>The Design Team stated that, whilst some dwellings will achieve the Lifetime Homes standards, a number will have parking spaces located too far from dwelling entrances. In order to achieve 4 credits, the dwellings will need to accord with the principles of the Lifetime Homes Standard.</p> <p>4 credits targeted.</p>

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Category 8 Management							
Man 1	Home User Guide	Credits are awarded where a simple guide is provided to each dwelling covering information relevant to the 'non-technical' home occupier, in accordance with the Code requirements. For full compliance the guide will need to cover: - Operational Issues - Site and Surroundings - and be available in alternative formats	3	3.33%	-	3	It was confirmed that a Home User Guide will be prepared for all dwellings, to include all issues required and will be available in alternative formats. 3 credits targeted.
Man 2	Considerate Constructors Scheme	Credits are awarded where there is a commitment to comply with best practice site management principles using either the Considerate Constructors Scheme or an alternative locally/ nationally recognised scheme. For 1 Credit: - Score between 25 and 34 and >5 in each section 2 Credits - Score between 35 and 50 and >7 in each section	2	2.22%	-	2	To achieve two credits the contractor should be required to register the development with the CCS scheme and a score of at least 35 points and 7 points in each section on each site visit. The Design Team stated (07/10/14) this will be required of the Contractor and 2 credits should be targeted. 2 credits targeted.
Man 3	Construction Site Impacts	Credits are awarded where there is a commitment and strategy to operate site management procedures on site. 1 credit for 2+ measures or 2 credits for 4+ measures. Monitor, report and set targets, where applicable for: a) CO ₂ / energy use from site activities b) CO ₂ / energy use from site related transport c) water consumption from site activities Adopt best practice policies in respect of: d) air (dust) pollution from site activities e) water (ground and surface) pollution on site 80% of site timber is reclaimed, re-used or responsibly sourced	2	2.22%	-	2	It is recommended that each of the construction site requirements are implemented (see 'Code for Sustainable Homes Criteria' column) and 80% of temporary site timber is obtained from a responsible source. The Design Team stated that there will be an ambition to achieve 2 credits. 2 credits targeted.
Man 4	Security	Credits are awarded for complying with Section 2 - Physical Security from Secured by Design - New Homes. An Architectural Liaison Officer (ALO), or alternative, needs to be appointed early in the design process and their recommendations incorporated.	2	2.22%	-	2	Consultation should be undertaken with an Architectural Liaison Officer and the principles of 'Secured by Design' should be incorporated within the design. In particular, the design will need to accord with section 2 of the Secured by Design. The Design Team stated (13/10/14) that a Security consultant should be appointed and consulted to identify any security concerns posed by the current design. 2 credits targeted.

Ref	Title	Code for Sustainable Homes Criteria	Max Available	% Worth (in total for each question)	Mandatory	Targeted	Comments
Category 9 Ecology							
Eco 1	Ecological Value of Site	One credit is awarded for developing land of inherently low value.	1	1.33%	-	-	A Suitably Qualified Ecologist (SQE) is required to be appointed and provide specific confirmation that the site is of low ecological value as defined in CfSH in order to achieve the credit. The Design Team stated (07/10/14) that it unlikely that this credit can be achieved as the site has features of ecological value. Credit not currently targeted.
Eco 2	Ecological Enhancement	A credit is awarded where there is a commitment to enhance the ecological value of the development site.	1	1.33%	-	1	The Design Team stated (07/10/14) that it should be possible to enhance the ecological value of the site and the credit is to be targeted. Recommendations provided by a suitably qualified ecologist should be implemented to enhance the ecological value of the site. Credit targeted.
Eco 3	Protection of Ecological Features	A credit is awarded where there is a commitment to maintain and adequately protect features of ecological value.	1	1.33%	-	1	The Design Team stated (07/10/14) that this credit would be targeted. In order to achieve this credit measures to protect the ecological value of the site, as advised by the Suitably Qualified Ecologist, would need to be implemented. Credit targeted.
Eco 4	Change of Ecological Value of Site	Credits are awarded where the change in ecological value has been calculated in accordance with the Code requirements. 1 credit for minor negative change (between -9 and -3 species) 2 credits for a neutral change (between -3 and 3 species) 3 credits for enhancement (between 3 and 9 species) 4 credits for enhancement (>9 species)	4	5.33%	-	3	The Design Team stated (13/10/14) that 3 credits could be feasibly achieved. The SQE's report should confirm the net change of species on the site, based on area weighted species calculations. 3 credit targeted.
Eco 5	Building Footprint	Credits are awarded where the ratio of combined floor area of all dwellings on the site to their footprint is in line with Code requirements. 1 credit - Houses 2.5:1 or flats 3:1 2 credits - Houses 3:1 or flats 4:1	2	2.67%	-	-	The Design Team stated (07/10/14) that this credit will be difficult to achieve with the proposed dwelling types. In order to achieve 2 credits, the development should have a building footprint in excess of 4:1. Credit not currently targeted.
						68.85%	Level 4

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