WHITE PEAK Planning

Energy and Sustainability Statement

Sandleford Park, Newbury

Bloor Homes and Sandleford Farm Partnership

December 2019

Ref: 2017.013.011b

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Authorised for and on behalf of White Peak Planning Ltd.

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1.0 Introduction

1.1 Sandleford Park Planning Application

1.1.1 White Peak Planning has been commissioned by Bloor Homes and the Sandleford Farm Partnership to provide an Energy and Sustainability Statement in support of an outline planning application for a proposed residential-led mixed-use development at Sandleford Park, Newbury, West Berkshire.

1.1.2 The description of development, as included on the application form, comprises:

'Up to 1,000 new homes; 80 extra care housing units (Use Class C3) as part of the affordable housing provision; a new 2 form entry primary school (D1); expansion land for Park House Academy School; a local centre to comprise flexible commercial floorspace (A1-A5 up to 2,150sq m, B1a up to 200sq m) and D1 use (up to 500sq m); the formation of new means of access onto Monks Lane; new open space including the laying out of a new country park; drainage infrastructure; walking and cycling infrastructure and other associated infrastructure works.'

1.1.3 The site location is shown in *Figure 1.1*, with the planning application boundary shown in *Figure 1.2*.

1.1.4 Further information on the development proposals is provided in the accompanying Planning Statement and Design and Access Statement.

1.2 Purpose of This Document

1.2.1 This document provides details of the proposed energy and sustainability strategy, in response to the local planning policy requirements set out in Policy CS15 of the West Berkshire Core Strategy.

1.2.2 The planning policy requirements are reviewed further in *Section 2*.

1.3 Report Structure

1.3.1 Section 2 provides an outline of the local planning policy requirements relating to energy provision and sustainability.

1.3.2 Section 3 presents a site-wide energy and sustainability strategy for both the residential and non-residential elements of the proposed development.

1.3.3 Section 4 summarises and concludes the report.

2.0 The Development Plan and Material Considerations

2.1 The Development Plan

2.1.1 For the Sandleford Park planning application, the development plan comprises the West Berkshire Core Strategy (adopted July 2012).

2.1.2 As this Statement is related to energy use and sustainability, the development plan policy to be considered in detail here is 'Policy CS15 – Sustainable Construction and Energy Efficiency', which requires:

Residential Development

New residential development will meet the following minimum standards of construction:

- *Minor development - Code for Sustainable Homes Level 3*
- *Major development - Code for Sustainable Homes Level 4*
- *From 2013: All development - Code for Sustainable Homes Level 4*
- *From 2016: All development - Code for Sustainable Homes Level 6*

Non-Residential Development

- *New non-residential development will meet the following minimum standards of construction:*
- *Minor development - BREEAM Very Good*
- *Major development - BREEAM Excellent*
- *From 2013: All development - BREEAM Excellent*

Renewable energy

Major development shall achieve the following minimum reductions in total CO_2 emissions (regulated and unregulated energy use) from renewable energy or low/zero carbon energy generation on site or in the locality of the development as long as a direct physical connection is used, unless it can be demonstrated that such provision is not technically or economically viable.

The percentage reductions in CO_2 emissions should be based on the estimated CO_2 emissions of the development after the installation of energy efficiency measures related to either the Code for Sustainable Homes, BREEAM or equivalent method has been applied.

Residential Development:

- *A 10% reduction in CO_2 emissions;*
- *from 2014: A 20% reduction in CO_2 emissions;*
- *from 2016: Zero Carbon.*

Non-Residential Development:

- *A 10% reduction in CO_2 emissions;*
- *from 2014: A 20% reduction in CO_2 emissions;*
- *from 2019: Zero Carbon.*

2.2 Material Considerations

2.2.1 The material considerations relating to energy use and supply are:

- Sandleford Park Supplementary Planning Document (SPD);
- Written Ministerial Statement and accompanying note titled 'Building Regulations' dated 13th March 2014 (statement and note included in *Appendix A*);
- Queen's Speech (June 2014) (extract included in *Appendix B*);
- Section 43 of the Deregulation Act 2015;
- Written Ministerial Statement titled 'Planning update March 2015' by Eric Pickles MP on 25th March 2015 (extract included in *Appendix C*);
- Report titled 'Fixing the foundations: Creating a more prosperous nation' (July 2015);
- Housing and Planning Act 2016;
- West Berkshire Council Officer's Reports for Applications 15/02300/OUTMAJ, 16/00106/OUTMAJ, and 16/03309/OUTMAJ; and
- Other recent planning decisions in West Berkshire.

Sandleford Park SPD

2.2.2 The Sandleford Park SPD includes the following three 'Design Principles' which relate to the use of renewable energy:

*'**R1.** The development at Sandleford Park will be expected to fully exploit the latest sustainable construction techniques together with 'building embedded' technology (such as photo-voltaic roof panels) in order to minimise the use of resources, maximise efficiency and reduce both carbon emissions and energy consumption, whilst delivering a high quality development that meets the policies (specifically CS15) and objectives of the West Berkshire Core Strategy.*

***R2.** There may be opportunities for the development to contribute towards decentralised renewable energy and heat generation as the Local Authority progresses its own work on this subject.*

***R3.** A Design Code/Design Principles will be established through the planning application to embody sustainable design and construction principles, including the Code for Sustainable Homes requirement.'*

Written Ministerial Statement (13th March 2014)

2.2.3 In a written ministerial statement made on 13th March 2014, the then Parliamentary Under Secretary of State for Communities and Local Government (Stephen Williams) set out the Government's aim of simplifying standards relating to the design and construction of new housing.

2.2.4 The note supporting the written ministerial statement set out how each of the themes covered in the Housing Standards Review would be taken forward and in terms of energy, stated that the Government proposed a "Building Regulations only" approach with no optional additional local standards in excess of the provisions set out in Part L of the Building Regulations.

2.2.5 The final paragraph of the written statement highlighted that many of the requirements of the Code for Sustainable Homes (CfSH) would be consolidated into the Building Regulations and that the CfSH would be 'wound down' following a reconsideration of its role and substantial changes to its content.

Queen's Speech (June 2014)

2.2.6 The Queen's speech on 4th June 2014 included a section titled 'New homes built to a zero carbon standard'.

2.2.7 This section of the speech stated that the Government remained committed to implementing a zero carbon standard for new homes from 2016. The zero carbon standard would be set equivalent to Code Level 5 in energy terms, but the legislation will allow developers to build to Code Level 4 in energy terms as long as they offset the remaining carbon dioxide emissions through Allowable Solutions in order to achieve Code Level 5 in energy terms only.

2.2.8 The energy requirements of Code Level 4 are equivalent to an average 19% improvement against 2013 Building Regulations Part L and an average 44% improvement on the 2006 Part L standard across the build mix.

2.2.9 The Infrastructure Act came into force on 12th February 2015 and made the legislative changes necessary to enable the use of Allowable Solutions.

Section 43 of the Deregulation Act 2015

2.2.10 Section 1 of the of the Planning and Energy Act 2008 states:

'A local planning authority in England may in their development plan documents, and a local planning authority in Wales may in their local development plan, include policies imposing reasonable requirements for -

(a) a proportion of energy used in development in their area to be energy from renewable sources in the locality of the development;

(b) a proportion of energy used in development in their area to be low carbon energy from sources in the locality of the development;

(c) development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations.'

2.2.11 Section 43 of the Deregulation Act 2015 amends Section 1 of the Planning and Energy Act 2008 in the following way:

In the Planning and Energy Act 2008, in section 1 (energy policies), after subsection (1) insert -

"(1A) Subsection (1)(c) does not apply to development in England that consists of the construction or adaptation of buildings to provide dwellings or the carrying out of any work on dwellings."

2.2.12 This amendment, once in effect, will remove an LPA's power to set local energy targets that go beyond the requirements of Building Regulations, Part L.

Written Ministerial Statement (March 2015)

2.2.13 The written ministerial statement by the then Secretary of State for Communities and Local Government Eric Pickles in March 2015 (*Appendix C*) included the following text that is considered relevant to Policy CS15:

2.2.14 In relation to plan making, the statement includes:

'From the date the Deregulation Bill 2015 is given Royal Assent, local planning authorities and qualifying bodies preparing neighbourhood plans should not set in their emerging Local Plans, neighbourhood plans, or supplementary planning documents, any additional local technical standards or requirements relating to the construction, internal layout or performance of new dwellings. This includes any policy requiring any level of the Code for Sustainable Homes to be achieved by new development; the government has now withdrawn the code, aside from the management of legacy cases.

Local planning authorities should consider their existing plan policies on technical housing standards or requirements and update them as appropriate, for example through a partial Local Plan review, or a full neighbourhood plan replacement in due course. Local planning authorities may also need to review their local information requirements to ensure that technical detail that is no longer necessary is not requested to support planning applications.

For the specific issue of energy performance, local planning authorities will continue to be able to set and apply policies in their Local Plans which require compliance with energy performance standards that exceed the energy requirements of Building Regulations until commencement of amendments to the Planning and Energy Act 2008 in the Deregulation Bill 2015.

This is expected to happen alongside the introduction of zero carbon homes policy in late 2016. The government has stated that, from then, the energy performance requirements in Building Regulations will be set at a level equivalent to the (outgoing) Code for Sustainable Homes Level 4. Until the amendment is commenced, we would expect local planning authorities to take this statement of the government's intention into account in applying existing policies and not set conditions with requirements above a Code level 4 equivalent' [emphasis added].

2.2.15 It should be noted that the government has since stated in July 2015 that it no longer intends to proceed with the zero carbon homes target in 2016 (see following section). However, at the time of writing there has been no

announcement regarding the commencement of amendments to the Planning and Energy Act 2008.

2.2.16 In terms of decision taking, the written statement includes the following:

'From the date the Deregulation Bill 2015 is given Royal Assent until 30 September 2015: The government's policy is that planning permissions should not be granted requiring, or subject to conditions requiring, compliance with any technical housing standards other than for those areas where authorities have existing policies on access, internal space, or water efficiency.

Where there is an existing plan policy which references the Code for Sustainable Homes, authorities may continue to apply a requirement for a water efficiency standard equivalent to the new national technical standard, or in the case of energy a standard consistent with the policy set out in the earlier paragraph in this statement, concerning energy performance.'

'Fixing the Foundations' Report (July 2015)

2.2.17 The report was presented to Parliament in July 2015 by the then Chancellor of the Exchequer George Osbourne.

2.2.18 Section 9 of the report includes several measures to tackle the shortage and cost of new homes and includes changes aimed at streamlining the planning system.

2.2.19 In particular, in paragraph 9.17 the report states:

'The government will therefore: repeat its successful target from the previous Parliament to reduce net regulation on housebuilders. The government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established [emphasis added].'

2.2.20 Although there is no specific reference in 'Fixing the Foundations' to the zero carbon policy on non-residential buildings, it is widely interpreted by the industry that this policy was also scrapped.

Housing and Planning Act 2016

2.2.21 The Housing and Planning Act 2016 continues the Government's direction of travel set out in the previous section whereby in clause 165 it does not commit to the introduction of Zero Carbon Homes or Allowable Solutions.

2.2.22 Instead, it includes the following amendment to the Building Act 1984:

After section 2B of the Building Act 1984 insert—

"Duty to review minimum energy performance requirements

2C Review of minimum energy performance requirements

The Secretary of State must carry out a review of any minimum energy performance requirements approved by the Secretary of State under building regulations in relation to dwellings in England."

West Berkshire Council Officer's Report for Applications 15/02300/OUTMAJ, 16/00106/OUTMAJ and 16/03309/OUTMAJ

2.2.23 We have previously submitted Energy and Sustainability Statements on behalf of Bloor Homes for applications 15/02300/OUTMAJ,16/00106/OUTMAJ and 16/03309/OUTMAJ at Sandleford Park.

2.2.24 The Statements for these applications proposed a similar site-wide energy and sustainability strategy to that in *Section 3* and this was accepted by West Berkshire Council's (WBC) Planning Officer.

2.2.25 Regarding residential development, the Planning Officer's report (application ref: 15/02300/OUTMAJ) states:

'On balance, whilst the proposals run contrary to the Development Plan and SPDs, the Government's intentions are clear in that improvement in energy efficiency is to be controlled through Building Regulations only. Therefore, the material considerations identified are considered to outweigh the requirements of the Development Plan and SPDs in this instance.'

2.2.26 Furthering this, the Planning Officer's report (application ref: 16/03309/OUTMAJ) states:

'On balance, whilst the proposals are contrary to the Development Plan and SPDs, the Government's current intentions are clear in that improvement in energy efficiency is to be controlled through Building Regulations only. Therefore, the material considerations currently identified are considered to outweigh the requirements of the Development Plan and SPDs in this instance and the strict contravention does not warrant a reason for refusing the development.'

2.2.27 This consistent view of WBC demonstrates that the requirements of CS15 relating to residential development, i.e. meeting Code for Sustainable Homes Level 6 and a 20% reduction in CO_2 emissions, will no longer be applied by WBC.

2.2.28 For non-residential development, the Planning Officer's report (application ref: 15/02300/OUTMAJ) states:

'It is proposed that 'a feasibility study will be undertaken by completion of the Concept design stage (RIBA Stage 2) in accordance with 'Ene 04 Low carbon design'. This will identify which low and zero carbon technologies would be suitable for the non-residential buildings at Sandleford Park.'

As the non-residential development does not form part of the detailed application, it is considered that this approach to achieving the requirements of Policy CS15 in respect of non-residential development is acceptable. The necessary details will be expected to be submitted with the relevant reserved matters applications for those parts of the site that propose non-residential development.'

Furthering this, the Planning Officer's report (application ref: 16/03309/OUTMAJ states:

'It is therefore proposed that 'a feasibility study will be undertaken by completion of the Concept design stage (RIBA Stage 2) in accordance with 'Ene 04 Low carbon design'. This will identify which low and zero carbon technologies would be suitable for the non-residential buildings at Sandleford Park.

As the application is in outline form only, it is considered that this approach to achieving the requirements of Policy CS15 in respect of non-residential development is acceptable. Details of low and zero carbon technologies to be employed would be required as appropriate as part of any necessary future application for those parts of the site that propose non-residential development.'

Other Recent Planning Decisions in West Berkshire

2.2.29 The Delegated Report for Land at Brookhouse Farm (16/03638/OUTMAJ) included the following:

'According to Core Strategy Policy CS15, new residential development from 2016 will achieve Code for Sustainable Homes Level 6. The Code for Sustainable Homes has, however, been withdrawn, and so this policy no longer applies to this extent. Similarly the policy requirement for major developments to achieve minimum reductions in carbon dioxide emissions is no longer technically possible. Material considerations indicate that the relevant parts of Policy CS15 should no longer apply.'

2.2.30 In addition, the appeal decision (APP/W0340/W/16/3159722) dated 15th March 2017 in relation to application 15/02842/OUTMAJ does not include a condition requiring compliance with Policy CS15.

Summary

2.2.31 The material considerations listed in the previous sections include new legislation and details of the Government's direction of travel in relation to energy and sustainability requirements for new residential development.

2.2.32 As an overview, the material considerations set out the following:

- The abolishment of the Code for Sustainable Homes;
- A Building Regulations only approach to energy standards adopted by Government;
- The Zero Carbon Homes standard and Allowable Solutions will not be adopted;
- It is widely accepted that the Zero Carbon standard for non-residential buildings will also not be adopted and there are no current plans to amend Part L of the Building Regulations to apply this standard;
- The amendment to the Planning and Energy Act 2008 set out in the Deregulation Act 2015 prevents local authorities setting energy standards beyond the requirements of Building Regulations;
- Government has a legal duty to review minimum energy performance standards relating to residential development.

2.2.33 Recent planning decisions for applications at Sandleford Park and elsewhere in West Berkshire demonstrate that WBC is not applying the requirements of Policy CS15 in relation to new residential development.

2.2.34 The Officer's Reports for the previous applications at Sandleford Park demonstrate that the proposed site-wide energy and sustainable strategy set out in *Section 3* has already been accepted as appropriate by WBC.

3.0 Site-wide Energy and Sustainability Strategy

3.1 Introduction

3.1.1 This section provides details of the overarching energy and sustainability strategy for the residential and non-residential elements of the proposed Sandleford Park development.

3.2 Proposed Residential Development

3.2.1 As shown in *Section 2.2*, since 2014 the Government has stated its intention to withdraw the Code for Sustainable Homes (CfSH) and remove the ability for local planning authorities to apply locally-derived technical standards that go beyond the requirements of Building Regulations.

3.2.2 This will be delivered through the amendment to the Planning and Energy Act 2008 as set out in the Deregulation Act 2015, but in the meantime, transitional arrangements for technical standards, as well as the withdrawal of the CfSH, have been set out in the 2015 written ministerial statement (*Appendix C*).

3.2.3 From 1st October 2015, there is no provision in the statement that allows local planning authorities to apply energy performance standards based on an existing CfSH-based policy.

Code for Sustainable Homes

3.2.4 Policy CS15 of the Core Strategy requires all new residential dwellings to meet the requirements of the CfSH Level 4 from 2014 and Level 6 from 2016.

3.2.5 However, as local planning authorities can no longer apply policies requiring that new dwellings meet a particular level of the CfSH, except for legacy cases and the local planning authority cannot impose requirements relating to the water and energy elements of the CfSH.

3.2.6 **On this basis it is proposed that the dwellings at Sandleford Park are designed to meet the requirements of prevailing Building Regulations only and will not be certified to a level of the CfSH, or designed to meet the requirements of particular elements of the CfSH.**

Renewable Energy

3.2.7 Policy CS15 requires all new residential dwellings to meet the zero carbon standard from 2016.

3.2.8 The zero carbon homes standard was due to set the energy performance level for new dwellings at the equivalent of CfSH Level 5. However, the dwelling itself could meet the energy equivalent of CfSH Level 4 only, with the additional

reduction in CO_2 emissions delivered through alternative methods such as on-site and off-site renewable energy generation and/or an Allowable Solutions payment.

3.2.9 However, the 'Fixing the Foundations' report published on 10th July 2015 stated that the Government no longer wishes to progress with the proposed energy efficiency improvements in 2016 (i.e. zero carbon homes) or with the proposed Allowable Solutions offsetting scheme and therefore, this policy requirement cannot be applied. The final content of the Housing and Planning Act 2016 confirms that zero carbon homes and Allowable Solutions will not be progressed.

3.2.10 The Government's written statement in March 2015 suggested that the amendment to the Planning and Energy Act 2008, which will not allow local authorities to require energy performance standards beyond the requirements of Building Regulations, was likely to be commenced alongside the adoption of the zero carbon homes standard in late 2016. However, now that the zero carbon standard will not be adopted, it is likely that the amendment to the Planning and Energy Act 2008 will be commenced independently.

3.2.11 Therefore, once commenced, the requirement under Policy CS15 for a 20% reduction in CO_2 emissions from 2014 cannot be applied by the local planning authority as a fall-back position.

3.2.12 In the meantime, until the amendment to the Planning and Energy Act is commenced, the 2015 ministerial statement makes it clear that although local planning authorities can continue to apply locally-derived targets, these cannot be set above the CfSH Level 4 equivalent in energy terms.

3.2.13 CfSH Level 4 requires an average 19% improvement upon Building Regulations in terms of CO_2 reduction (Issue Ene 1).

3.2.14 However, Policy CS15 requires a 20% improvement against Building Regulations, which goes beyond the mandatory requirement of CfSH Level 4 and therefore, cannot be applied by the local planning authority as there is no policy-based justification for an alternative level of CO_2 reduction.

3.2.15 **Based on the estimated timescales for development, it is likely that the amendments to the Planning and Energy Act 2008 will have commenced prior to construction and that future requirements for improvements in energy efficiency will be introduced through revisions to Building Regulations rather than planning policy. As a result, all dwellings at Sandleford Park will be designed to meet the requirements of Building Regulations only.**

3.3 Proposed Non-Residential Development

3.3.1 Policy CS15 requires that all non-residential buildings meet the requirements of the Building Research Establishment's Environmental Assessment Method (BREEAM) 'Excellent' rating.

BREEAM

3.3.2 BREEAM is the world's leading and most widely used environmental assessment method for buildings. BREEAM New Construction is an environmental assessment method and certification scheme specifically for new build non-domestic buildings to demonstrate the environmental credentials of a project.

3.3.3 The BREEAM New Construction (2018) assessment method is used to improve, measure and certify the social, environmental and economic sustainability of new buildings.

3.3.4 It consists of 49 individual assessment issues spanning the following nine environmental categories:

- Management;
- Health and Wellbeing;
- Energy;
- Transport;
- Water;
- Materials;
- Waste;
- Land Use and Ecology;
- Pollution; and,
- Innovation.

Methodology

3.3.5 The proposals, along with site details will be reviewed and details entered within the BREEAM New Construction Pre-Assessment calculator tool. This tool provides an initial estimation of the scheme's performance under the assessment methodology.

3.3.6 The BREEAM rating benchmarks for non-domestic new construction projects assessed using the 2018 version are presented in see *Table 3.1*.

Table 3.1 – BREEAM Rating Benchmarks

BREEAM Rating	% score
Outstanding	≥85%
Excellent	≥70
Very Good	≥55
Good	≥45
Pass	≥30
Unclassified	<30

Minimum Standards

3.3.7 To maintain a flexible system, BREEAM adopts a 'balanced score-card' approach to the assessment and rating of buildings performance. This means that, to

achieve a particular level of performance the majority of BREEAM credits are traded i.e. non-compliance in one area can be offset through compliance in another to achieve the target BREEAM rating.

3.3.8 However, to ensure that performance against fundamental environmental issues is not overlooked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas. These are minimum acceptable levels not targets.

3.3.9 Policy CS15 requires non-residential buildings within major developments to achieve BREEAM 'Excellent'. By achieving the BREEAM New Construction 'Excellent' rating the buildings will be in the top 10% of UK new non-domestic buildings (best practice).

3.3.10 *Table 3.2* details the minimum standards for BREEAM 'Excellent':

Table 3.2 – Minimum Standards for BREEAM 'Excellent'

BREEAM Issue	Minimum Standards
Man 03 – Responsible construction practices	One credit (responsible construction management)
Man 04 – Commissioning and handover	One credit (commissioning test schedule and responsibilities)
Man 04 – Commissioning and handover	Criterion 11 (Building User Guide)
Man 05 – Aftercare	One credit (commissioning-implementation)
Ene 01 – Reduction of energy use and carbon emissions	Four credits (Energy performance or Prediction of operational energy consumption*)
Ene 02 – Energy monitoring	One credit (First submetering credit)
Wat 01 – Water consumption	One credit
Wat 02 – Water monitoring	Criterion 1 only
Mat 03 – Responsible sourcing of construction products	Criterion 1 only
Wst 3 – Operational Waste	One credit

Approach to BREEAM at Sandleford Park

3.3.11 It is proposed that the appropriate non-residential buildings at Sandleford Park will be certified to BREEAM 'Excellent'.

3.3.12 To provide the local planning authority with comfort that this rating can be achieved for appropriate buildings, BREAAM pre-assessment estimators have been completed by an independent, qualified BREEAM Assessor for example education and retail buildings (*Appendix D*). The Pre-assessment estimators demonstrate how the requisite BREEAM target could be achieved.

3.3.13 As the planning application is currently in outline, the detailed design of these buildings has not yet been produced. Therefore, the BREEAM pre-assessment estimators have been prepared based on a set of assumptions.

3.3.14 These assumptions are necessary within this initial appraisal process and will require confirmation by means of further technical input during the formal assessment, once the design and specifications are finalised. The proposed approach to achieving the target BREEAM rating may therefore, be subject to change further into the development cycle.

3.3.15 As a full BREEAM assessment for a particular building will be undertaken at the Reserved Matters stage (for the relevant phase), the following draft condition is proposed to secure this requirement:

'The non-residential buildings hereby permitted shall be constructed in accordance with the appropriate Building Research Establishment Environmental Assessment Method (BREEAM) assessment methodology and shall achieve a post construction rating of at least 'Excellent'. No part of an appropriate non-residential building hereby permitted shall be occupied until a copy of a post-construction completion report, verifying that the building has achieved an 'Excellent' rating, has been submitted to the Local Planning Authority.'

Renewable Energy

3.3.16 As the Zero Carbon standard for non-residential buildings is no longer being adopted, the requirement in Policy CS15 for all non-residential buildings to be Zero Carbon from 2019 cannot be applied.

3.3.17 To achieve BREEAM 'Excellent' rating, at least 4 credits are required under 'Ene 01 Reduction of energy use and carbon emissions'. At present, 5 credits are assumed in the pre-assessment estimators shown in *Appendix D*.

3.3.18 It is expected that this reduction in CO_2 emissions will be achieved in part through the use of low and zero carbon energy sources, however, it is not possible at this outline stage to identify what technologies would be most appropriate and the level of CO_2 reduction that will be achieved.

3.3.19 A feasibility study will be undertaken by completion of the Concept design stage (RIBA Stage 2) in accordance with 'Ene 04 Low carbon design'. This will identify which low and zero carbon technologies would be suitable for the non-residential buildings at Sandleford Park.

3.4 Consideration of District Heating

3.4.1 Bloor Homes has considered the potential for Sandleford Park to contribute towards decentralised renewable energy and heat generation.

3.4.2 However, as the planning application is in outline and at the time of writing there remains uncertainty regarding the Government's proposed future plans for the Zero Carbon standard and Allowable Solutions offsetting scheme, the potential for Sandleford Park to contribute to decentralised renewable energy and heat generation has not been considered further at this stage.

4.0 Conclusion

4.1.1 This Energy and Sustainability Statement has been prepared to set out how the proposed Sandleford Park development will address the requirements of West Berkshire Core Strategy Policy CS15 – Sustainable Construction and Energy Efficiency.

4.1.2 The Government has now withdrawn the Code for Sustainable Homes (CfSH) and the amendment to the Planning and Energy Act 2008 contained in the Deregulation Act 2015, does not allow local authorities to impose energy performance requirements that go beyond Building Regulations.

4.1.3 In the meantime, prior to the amendment coming into effect, the Government expects that where local planning authorities impose energy performance improvements for residential dwellings beyond Building Regulations, that these are only equivalent to Level 4 of the CfSH (i.e. a 19% improvement).

4.1.4 The Government's 'Fixing the Foundations' report published on 10th July 2015 clearly states that the Government no longer wishes to progress with the proposed energy efficiency improvements in 2016 (i.e. zero carbon homes) or with the proposed Allowable Solutions offsetting scheme. This was confirmed by its non-inclusion in the Housing and Planning Act 2016.

4.1.5 On this basis, the proposed residential dwellings at Sandleford Park will be designed to meet the requirements of prevailing Building Regulations only, as the CfSH has been withdrawn, the amendment to the Planning and Energy Act 2008 is likely to be brought forward prior to the construction of the new dwellings, the zero carbon homes and Allowable Solutions offsetting scheme is no longer being progressed and the requirement for a 20% reduction in CO_2 emissions is above the mandatory CfSH Level 4 equivalent.

4.1.6 This strategy has been accepted by WBC for previous applications at Sandleford Park and WBC are not applying the requirements of Policy CS15 in relation to applications for residential development elsewhere in West Berkshire.

4.1.7 The appropriate non-residential buildings at the site will be designed to meet the requirements of the BREEAM 'Excellent' rating. Examples of how this could be achieved are included within this statement and will likely include the use of low and zero carbon energy sources.

4.1.8 Full BREEAM assessments will be undertaken at the Reserved Matters stage for the relevant phase of development, as part of the detailed design of the buildings.

Figures

WHITE PEAK Planning

Key

Application Boundary

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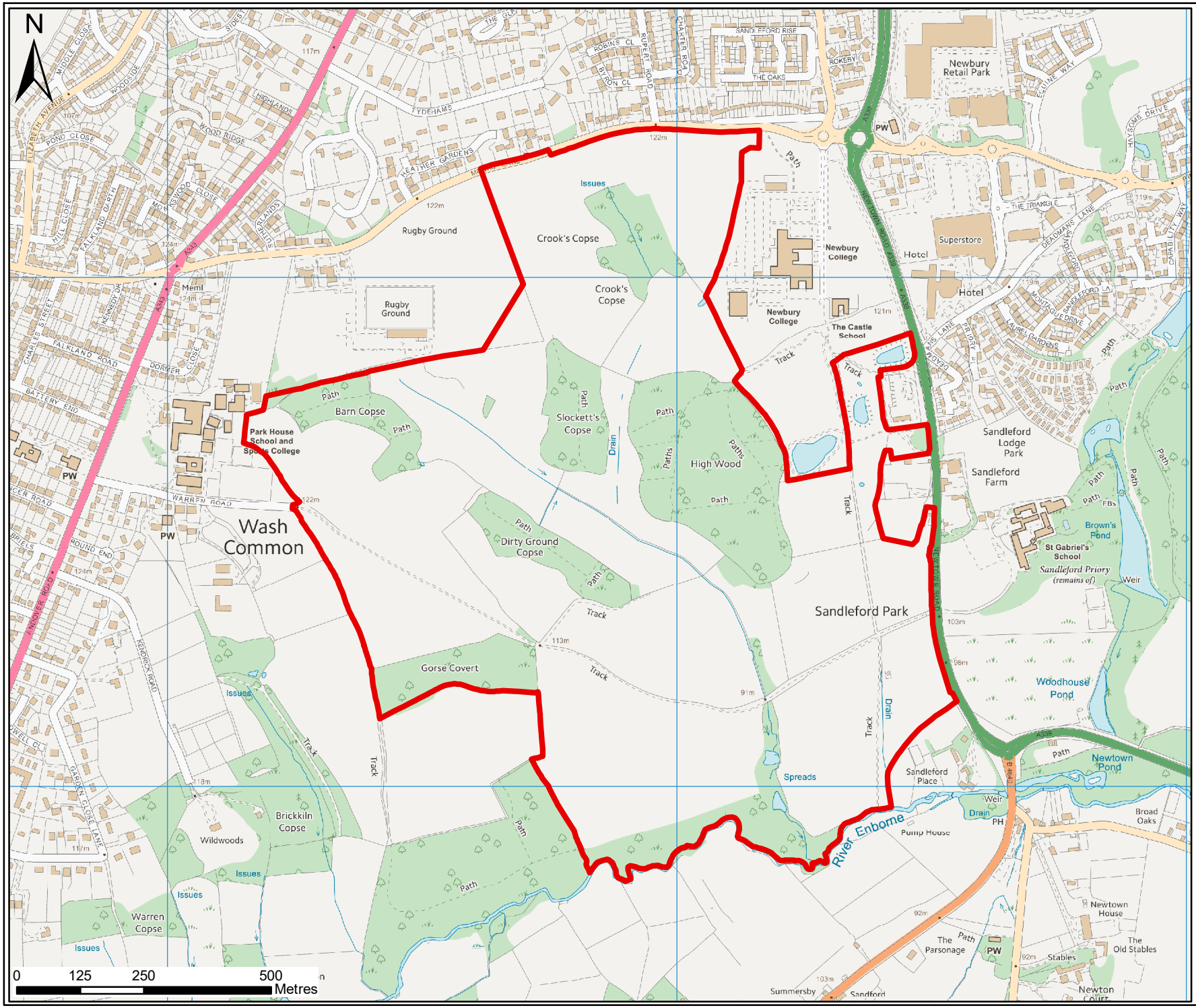
Client: Bloor Homes and Sandleford Farm Partnership

Project: Sandlford Park, Newbury

Title: Figure 1.1 - Site Location

Scale	Drawn	Checked	Authorised
1:50,000 at A4	CG	RW	RW
	Date 19/12/19	Date 19/12/19	Date 19/12/19

Drawing Number: 2017.013.006b



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Client
Bloor Homes and Sandleford Farm Partnership

Project
Sandlford Park, Newbury

Title
Figure 1.2 - Application Boundary

Scale	Drawn	Checked	Authorised
1:10,000 at A4	CG	RW	RW
	Date 19/12/19	Date 19/12/19	Date 19/12/19

Drawing Number
2017.013.007b

Appendix A – 2014 Written Ministerial Statement

Building Regulations

The Parliamentary Under-Secretary of State for Communities and Local Government (Stephen Williams): New homes need to be high quality, accessible and sustainable. To achieve this, the Government are today setting out a road map delivering a radically simplified system for setting standards in the design and construction of new homes by the end of this Parliament. This represents the outcome of a significant and ambitious drive to reduce the regulatory burden on the housing industry, and will save money and time for industry and authorities. The road map will involve consolidating essential requirements in to a national framework centred on the building regulations, reducing substantially the number of technical standards applying to the construction of new homes.

These changes will hugely improve the situation for all involved in this sector, by rationalising and simplifying the many overlapping and confusing standards currently in operation. We are also able to do this while improving quality, safeguarding environmental protections, and protections for disabled people. We consulted on the housing standards review proposals in the second half of last year, which set out proposals to rationalise the proliferation of housing related standards, guidance and codes above those required by building regulations. The Government are today also publishing the summary analysis of the responses to the 2013 housing standards review consultation.

Taking account of the responses to the consultation, an outcome of the housing and construction red tape challenge, the Government have decided that the most sensible way forward is for any necessary technical standards as far as possible to be consolidated into the building regulations and the accompanying approved documents, and to make significant progress on this over the rest of this Parliament. A note is being placed in the Library of the House, setting out how the Government intend to proceed with each of the standards examined in the consultation.

The Government recognise that it is not always possible or desirable to require a single national standard for all new development, and that local discretion is in some circumstances sensible. To facilitate this, the consultation proposed the introduction of new powers in the Building Act which would enable different levels of performance where these were necessary to meet certain local circumstances. These requirements would be triggered by conditions set in a local plan, subject to the normal plan-making process of evidencing need and testing viability. So today I can announce we are introducing measures to ensure that the system includes new flexibility to respond to local circumstances where needed.

There are significant benefits to this arrangement. Building regulations apply nationally across England and provide a clear and consistent set of requirements for home builders to meet, and for building control bodies to apply. Checking compliance will in the future be undertaken through building control, removing the current maze of compliance regimes and systems and reducing costs not only to developers but to local authorities. The Government will work with local authority building control bodies and approved inspectors on putting this approach into practice.

Setting requirements solely in building regulations will help to provide the certainty needed to ensure that home builders know what they need to do, and can deliver high quality new homes which meet local community's needs. Implementing this approach will reduce over 100 standards to fewer than 10, and will provide significant cost savings for industry.
The Government will press ahead with the work to consolidate necessary standards into the regulations during this Parliament. Draft regulations and technical standards will be published in the summer, with necessary statutory regulations and supporting approved documents coming into force at the turn of the year. The Government have also today tabled

amendments to the Deregulation Bill currently before the House, to make necessary changes to existing legislation to enable this approach.

The consultation made clear the Government's intention that planning authorities should only use the standards emerging from the review process. The Government will issue a statement later this year when the new standards are published, which will explain how this policy will be implemented.

This means that many of the requirements of the code for sustainable homes will be consolidated into building regulations, which would require substantial changes to the content of the current code, as well as a reconsideration of its role. In the light of this, the Government think that the current code will need to be wound down to coincide with the changes incorporating the new standards coming into force. The Government will make further announcements on the transitional arrangements, and the handling of legacy developments being built out to current code requirements. The Government are also interested in hearing from industry as to the value of elements of the code being taken forward on a voluntary basis.

Appendix B – Extract from Queen's Speech (June 2014)

New homes built to a zero carbon standard

The Government is committed to implementing a zero carbon standard for new homes from 2016. But it is not always technically feasible or cost effective for house builders to mitigate all emissions on-site.

The Government would set a minimum energy performance standard through the building regulations. The remainder of the zero carbon target can be met through cost effective off-site carbon abatement measures – known as 'allowable solutions'. These provide an optional, cost-effective and flexible means for house builders to meet the zero carbon homes standard, as an alternative to increased on-site energy efficiency measures or renewable energy (such as solar panels). Small sites, which are most commonly developed by small scale house builders, will be exempt. The definition of a small site will be consulted on shortly, and set out in regulation.

The Zero Carbon Home standard will be set at Level 5 of the Code for Sustainable Homes, but the legislation will allow developers to build to Level 4 as long as they offset through the allowable solutions scheme to achieve Code 5.

Energy efficiency requirements for homes are set in the Building Regulations 2010 and are made under powers in the Building Act 1984. But there are insufficient powers in the Building Act to introduce off-site allowable solutions, so the Government will now bring forward enabling powers for this.

Appendix C – Extract from 2015 Written Ministerial Statement

Housing standards: streamlining the system

New homes need to be high quality, accessible and sustainable. To achieve this, the government has created a new approach for the setting of technical standards for new housing. This rationalises the many differing existing standards into a simpler, streamlined system which will reduce burdens and help bring forward much needed new homes.

The new system will comprise new additional optional Building Regulations on water and access, and a new national space standard (hereafter referred to as "the new national technical standards"). This system complements the existing set of Building Regulations, which are mandatory.

To implement this new regime, this written ministerial statement sets out the government's new national planning policy on the setting of technical standards for new dwellings. This statement should be taken into account in applying the National Planning Policy Framework, and in particular the policies on local standards or requirements at paragraphs 95, 174, and 177, in both plan making and decision-taking.

Plan making

From the date the Deregulation Bill 2015 is given Royal Assent, local planning authorities and qualifying bodies preparing neighbourhood plans should not set in their emerging Local Plans, neighbourhood plans, or supplementary planning documents, any additional local technical standards or requirements relating to the construction, internal layout or performance of new dwellings. This includes any policy requiring any level of the Code for Sustainable Homes to be achieved by new development; the government has now withdrawn the code, aside from the management of legacy cases. Particular standards or requirements for energy performance are considered later in this statement.

Local planning authorities and qualifying bodies preparing neighbourhood plans should consider their existing plan policies on technical housing standards or requirements and update them as appropriate, for example through a partial Local Plan review, or a full neighbourhood plan replacement in due course. Local planning authorities may also need to review their local information requirements to ensure that technical detail that is no longer necessary is not requested to support planning applications.

The optional new national technical standards should only be required through any new Local Plan policies if they address a clearly evidenced need, and where their impact on viability has been considered, in accordance with the National Planning Policy Framework and Planning Guidance. Neighbourhood plans should not be used to apply the new national technical standards.

For the specific issue of energy performance, local planning authorities will continue to be able to set and apply policies in their Local Plans which require compliance with energy performance standards that exceed the energy requirements of Building Regulations until commencement of amendments to the Planning and Energy Act 2008 in the Deregulation Bill 2015.

This is expected to happen alongside the introduction of zero carbon homes policy in late 2016. The government has stated that, from then, the energy performance requirements in Building Regulations will be set at a level equivalent to the (outgoing) Code for Sustainable Homes Level 4. Until the amendment is commenced, we would expect local planning authorities to take this statement of the government's intention into account in applying

existing policies and not set conditions with requirements above a Code level 4 equivalent. This statement does not modify the National Planning Policy Framework policy allowing the connection of new housing development to low carbon infrastructure such as district heating networks.

Measures relating to flood resilience and resistance and external noise will remain a matter to be dealt with through the planning process, in line with the existing national policy and guidance. In cases of very specific and clearly evidenced housing accessibility needs, where individual household requirements are clearly outside the new national technical standards, local planning authorities may ask for specific requirements outside of the access standard, subject to overall viability considerations.

Decision taking, transition and compliance:

From the date the Deregulation Bill 2015 is given Royal Assent until 30 September 2015: The government's policy is that planning permissions should not be granted requiring, or subject to conditions requiring, compliance with any technical housing standards other than for those areas where authorities have existing policies on access, internal space, or water efficiency.

Planning permission may still be granted on the basis of existing Local Plan and neighbourhood plan policies on access, internal space, and water efficiency, even though they may have a degree of conflict with the new national technical standards.

Where there is an existing plan policy which references the Code for Sustainable Homes, authorities may continue to apply a requirement for a water efficiency standard equivalent to the new national technical standard, or in the case of energy a standard consistent with the policy set out in the earlier paragraph in this statement, concerning energy performance.

From 1 October 2015: Existing Local Plan, neighbourhood plan, and supplementary planning document policies relating to water efficiency, access and internal space should be interpreted by reference to the nearest equivalent new national technical standard. Decision takers should only require compliance with the new national technical standards where there is a relevant current Local Plan policy.

Planning policies relating to technical security standards for new homes, such as door and window locks, will be unnecessary because all new homes will be subject to the new mandatory Building Regulation Approved Document on security (Part Q). Policies relating to the external design and layout of new development, which aim to reduce crime and disorder, remain unaffected by this statement.

Where policies relating to technical standards have yet to be revised, local planning authorities are advised to set out clearly how the existing policies will be applied in decision taking in light of this statement.

If, in the light of experience in implementing this policy statement, the government considers that it is not being accorded sufficient weight by planning authorities, we will consider bringing forward new legislation to secure implementation.

Appendix D – BREEAM Pre-assessment Estimators

ELEMENT SUSTAINABILITY

SANDLEFORD PARK, NEWBURY

BREEAM 2018 NEW CONSTRUCTION PRE-ASSESSMENT REPORT

JULY 2018

REF: 2018.128

ELEMENT SUSTAINABILITY – ISSUE NOTES

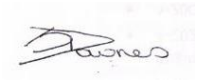
Project No: 2018.128

Title: BREEAM New Construction 2018 Pre-Assessment Report

Client: Bloor Homes

Status: Initial Issue

Issue Date: July 2018

Project No: 2017.046	Signed	Name & Position	Date
Author(s)		Stacey Downes Sustainability Consultant	12th July 2018
Reviewed by		Laurie Wills Director	12th July 2018
Approved by		Caroline Wills Director	12th July 2018

ELEMENT SUSTAINABILITY

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Disclaimer

CONTENTS

1. INTRODUCTION

The purpose of this report is to evaluate the potential rating achievable under a formal BREEAM New Construction 2018 assessment for the non-domestic uses included within the Sandleford Park outline proposals and demonstrate a commitment to the principles of quality construction, design and sustainability.

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings. BREEAM New Construction 2018 is an environmental assessment method and certification scheme specifically for new build non-domestic buildings.

The BREEAM UK New Construction 2018 scheme may be used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages. 'New Construction' is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation or use for the first time upon completion of the works.

The outline proposals for Sandleford Park, Newbury include the following non-domestic building functions:

- Primary School;
- Offices;
- Community Uses (e.g. public hall); and,
- Retail Uses.

Four BREEAM UK New Construction 2018 Pre-Assessment reports have therefore been completed to determine the feasible credits and potential BREEAM rating for each of the building types.

2. METHOD

2.1 BREEAM

The proposals, along with site details, have been reviewed and entered within the latest BREEAM New Construction 2018 Pre-Assessment calculator tool. This tool provides an initial estimation of the scheme's potential performance under the current BREEAM assessment methodology.

The BREEAM rating benchmarks for non-domestic projects assessed using the 2018 version of BREEAM New Construction are presented in Table 3.1.

Table 3.1 – BREEAM Rating Benchmarks

BREEAM Rating	Minimum Score Level (%)
Outstanding	≥85
Excellent	≥70
Very Good	≥55
Good	≥45
Pass	≥30

The buildings' environmental performance is assessed under a number of categories, including:

- Energy;
- Water;
- Transport;
- Materials;
- Land use and ecology;
- Pollution;
- Health and wellbeing; and
- Management

To ensure that performance against fundamental environmental issues are not over-looked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas e.g. energy, water, materials etc. A BREEAM 'Excellent' rating (as targeted for Sandleford Park) requires the minimum performance standards set out in Table 3.2.

Table 3.2 – Minimum 'Excellent' Standards

Minimum Standards for BREEAM for 'Excellent' rating	Credits
Man 03 Responsible Construction Practices	One credit (responsible construction practices)
Man 04 Commissioning and handover	One credit (commissioning testing schedule)
Man 04 Commissioning and handover	One credit (building User Guide)
Ene 01 Reduction of energy use and carbon emissions	Four credits (energy performance)
ENE 02: Energy Monitoring	One credit (first submetering credit)
WAT 01: Water Consumption	One credit
WAT 02: Water Monitoring	Criterion 1 only
Mat 03 Responsible Construction Practices	Criterion 1 only
Wst 03 Operational waste	One credit

The target BREEAM rating for this outline scheme is BREEAM 'Excellent'. This broadly represents the top 15% of UK new non-domestic buildings (best practice).

2.2 BREEAM 2018 New Construction Update

The BREEAM New Construction 2018 update includes a substantial rewrite of the BREEAM 2014 methodology and changes to the assessment criteria to achieve existing credits as well as the introduction of new credits.

A general theme to the proposed changes is bringing forward actions required to obtain many credits into earlier stages of the project development cycle. While the intent of this is to ensure that credits are awarded for actions that can (and do) impact on the design considerations of a project, this could add significant challenges to projects where BREEAM has not been genuinely considered during the early stages of the project. The significant updates are as follows:

The New Verification Stage

This is an optional new stage following design and post construction stages that aims to close the performance gap (the difference between modelled performance and actual performance). It is a data collection exercise and requires actual building consumptions for electricity, gas and water for its first year of habitation, along with occupancy information.

Energy

The most significant change in this category is to issue Ene 01 (reduction of energy use and carbon dioxide emissions). Extensive energy modelling is likely to be required, beyond that currently produced for building regulation compliance. Ene 01 requires accurate estimations of both regulated and unregulated energy demands, along with; occupancy hours, weather, operating hours for systems and management factors.

The minimum standards have also changed. The energy issue now requires 4 credits for an Excellent rating (previously 5) and 6 credits for an Outstanding rating (previously 8).

Ecology

The new ecology section focuses on evaluating risks and opportunities of each development following more of an Ecological Impact Assessment (EcIA) approach.

Transport

This section is based on an evaluation of the 'baseline' transport provisions and their improvements. Developments in built-up areas have credits awarded by default, negatively impacting developments in rural areas. Minimum numbers of cycle parking and cyclist facilities are still relevant, but it includes possible improvements to transport, such as: improve local cycling, sign posting, public transport, electric charging stations and car sharing.

As with every update, the latest BREEAM methodology is more onerous and pushes development beyond industry standards.

3. BREEAM PERFORMANCE

Four BREEAM UK New Construction Pre-Assessment reports have been completed to determine the feasible credits and potential BREEAM rating of the main non-domestic building functions at Sandleford Park, Newbury. In reviewing and assessing the feasibility of the BREEAM credit award and the overall BREEAM performance of this scheme, financial viability has been considered along with constraints arising from the proposed development and site.

Please note that due to the outline status of this application, many details of the proposed scheme are yet to be determined. This pre-assessment demonstrates that the non-domestic elements of the proposals are, in principle, able to accord with local planning policies relating to sustainability performance. All credits allocated within this BREEAM Pre-Assessment will require further technical verification during the formal Design Stage and Post Construction BREEAM assessment.

This BREEAM assessment criteria appraises forty-six assessment issues, categorised into nine environmental categories of sustainability. An overview of the BREEAM credit award for each issue is presented below. The BREEAM 2018 Pre-Assessment reports are presented in the appendices of this document and contains a full commentary on the individual credit award and specification requirements.

3.1 BREEAM Credit Award Review

Management

Project Brief and Design -

- Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Construction Site Impacts -

- All timber and timber-based products used on the project will be 'legally harvested and traded timber';
- The principal contractor will operate an Environmental Management System;
- Responsible construction management will be carried out by the principal contractor; and
- Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Life cycle cost and service life planning –

- Recognising and encouraging the use of life cycle costing and service life planning and the sharing of data to raise awareness and understanding; and,
- Report the capital cost for the building in pounds per square metre (£k/m²).

Commissioning and Handover -

- A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems and building fabric in line with best practice will be undertaken;

- Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,

- Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.

Aftercare (applicable to the community centre and primary school only) –

- Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s);

- Seasonal commissioning activities will be completed over a minimum twelve month period, once the building becomes substantially occupied; and,

- The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance.

Health and Wellbeing

Visual Comfort -

- Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out;

- Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,

- Internal lighting will be zoned to allow for occupant control.

Indoor Air Quality –

- An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building; and,

- The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building.

Thermal Comfort -

- Thermal modelling will be carried out to appropriate standards;

- Projected climate change scenario(s) will be considered as part of the thermal model; and

- The thermal modelling analysis will informed the temperature control strategy for the building and its users.

Acoustic Performance –

- The building will meet the appropriate acoustic performance standards and testing requirements in terms of:

    - Sound insulation
    - Indoor ambient noise level
    - Reverberation times.

Safety and Security -

- Secure By Design - Security needs will be understood and taken into account in the design and specification;

- Safe access for pedestrians and cyclist will be provided; and

- The provision of outdoor space amenity space for the building users.

Energy

Reduction of CO_2 Emissions –

- The proposed energy strategy will provide improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide; and,

- Low or Zero Carbon technologies will form part of the energy strategy.

Energy Monitoring -

- Energy metering systems will be installed to enable energy consumption to be assigned to end users;

External Lighting –

- All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,

- External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Energy Efficient Transportation Systems (not applicable to retail assessment) -

- An analysis of the transport demand and usage patterns will be undertaken to determine the optimum number and size of lifts, and

- Energy efficient installations will be specified.

Energy Efficient Equipment –

- The identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand; and,

- A meaningful reduction in the total unregulated energy demand of the building will be demonstrated.

Transport

- A site specific travel plan based on the needs of the site will be undertaken to promote sustainable reductions in transport burdens; and;

- Sustainable transport measure across the site will be maximised through the development, such as: such as: improve local cycling, sign posting, public transport, possible electric charging stations and car sharing.

Water

Water Consumption and Monitoring –

- The buildings will be specified with efficient water fixtures and controls. This will result in a 25% improvement over the BRE's baseline performance of water consumption for the internal water sanitary fittings is targeted;

- The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply;

- Flow control devices will be used to regulate the supply of water to each WC area/facility to reduce water wastage; and,

- A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Materials -

Materials Life Cycle Impacts –

- Materials will be selected which have a low environmental impact throughout their life cycle for the main building elements, through conducting a through conducting a life cycle assessment and integrating its outcomes in the design decision-making process.

Responsible Sourcing of Materials -

- Materials will be sourced in accordance with a sustainable procurement plan;

- Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;

- Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard; and,

- Consideration will be given to local sourcing of construction materials where feasible.

Designing for Robustness and Resilience -

- Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,

- Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Waste

Construction Waste -

Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:

- Procedures to reduce construction waste related to on-site construction and offsite manufacture/fabrication; and

- Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Operational Waste -

- Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Adaptation to climate change –

- Credits awarded for the creation of a climate change adaptation strategy appraisal which will consider the mitigation measures for more extreme weather events arising from climate change over the lifespan of the building.

Functional adaptability –

- Credits awarded where a building specific adaptation strategy will be undertaken to encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

Land Use and Ecology

- A Suitably Qualified Ecologist will be appointed to identify and understand the ecological risks and opportunities associated with the site to inform the landscaping and protection of existing ecological features.

- Credits have been awarded as it is not anticipated that there will be a negative change in plant species richness.

- Credits have been awarded where the proposals increase the ecological value of the site; and,

- Long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive.

Pollution

Pol 1 - Impact of Refrigerants –

- No refrigerant specified at this stage, therefore the default credits have been awarded.

Pol 2 Local Air Quality –

- The heating and hot water will have, under normal operating conditions, low dry NOx levels. Credits have been awarded where the system proposed will target a maximum of 40mg/kWh. The heating system at this stage is assumed to be gas fired.

Surface Water Management -

- The site location has a low annual probability of flooding (flood risk zone 1);

- The drainage strategy will comply with the BREEAM criteria, where the peak rate of run-off from the site to the watercourse is no greater for the develop site than it was for the pre-development site. This should comply with the 1 year and 100-year return period events;

- The site is greenfield, the expectation is that on site attenuation or SUDs may be implemented as the proposed development will result in an increase of the impermeable surfacing; and,

- Credits have been awarded where measures to minimise watercourse pollution will take place.

Reduction of night time light pollution -

- External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Reduction of noise pollution -

- Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

4. POTENTIAL BREEAM RATING

Four BREEAM Pre-Assessment reports have been prepared by a qualified BREEAM Assessor. These determine the feasible credits and potential BREEAM rating for the non-domestic building functions of the Sandleford Park, Newbury outline proposals. This serves to demonstrate a commitment to the principles of good construction, design and sustainability.

BREEAM Assessment Classification

The BREEAM assessment methodology applicable to this development is as follows:

- BREEAM 2018 UK Non-Domestic New Construction fully fitted Pre-Assessment (Other building: Non Residential Institution – Community Centre);
- BREEAM 2018 UK Non-Domestic New Construction fully fitted Pre-Assessment (Education building: Primary School)
- BREEAM 2018 UK Non-Domestic New Construction Shell and Core Pre-Assessment (Commercial - Retail); and
- BREEAM 2018 UK Non-Domestic New Construction Shell and Core Pre-Assessment (Commercial - Office).

Potential BREEAM Score and Rating

The BREEAM Pre-Assessments (presented in the Appendices this Statement) show that the building functions are expected to performs as follows (minimum required = 70% for BREEAM Excellent):

- BREEAM 2018 UK New Construction Community Centre = 70.94 %
- BREEAM 2018 New Construction Retail = 72.63%
- BREEAM 2018 New Construction Office = 71.03%
- BREEAM 2018 New Construction Primary School = 71.84%
- Overall BREEAM rating = Potential for BREEAM 'Excellent' rating.

Working alongside the qualified BREEAM assessor, the technical design team has reviewed the individual credit criteria and award of credits within the Pre-Assessments in order to optimise the building's BREEAM performance.

In reviewing and assessing the feasibility of the BREEAM credit award and the overall BREEAM performance of this scheme, constraints arising from the nature of the proposed development site and location have been considered. All credits allocated within this BREEAM Pre-Assessment will require further technical verification and additional feasibility assessment during the formal Design Stage and Post Construction BREEAM assessment.

Following an initial review of the outline proposed masterplan the BREEAM New Construction Pre-Assessment reports demonstrates that the new non-domestic functions are able, in principle, to meet all mandatory credit requirements (see Table 4.1) and achieve an overall BREEAM Excellent rating.

Table 4.1 – Minimum Standards Achieved

Minimum Standards for BREEAM for 'Excellent' rating	Targeted
Man 03 Responsible Construction Practices	One credit (responsible construction practices)
Man 04 Commissioning and handover	One credit (commissioning testing schedule and responsibilities)
Man 04 Commissioning and handover	One credit (building User Guide)
Ene 01 Reduction of energy use and carbon emissions	Four credits (energy performance)
ENE 02: Energy Monitoring	One credit (first submetering credit)
WAT 01: Water Consumption	One credit
WAT 02: Water Monitoring	Criterion 1 only
Mat 03 Responsible Construction Practices	Criterion 1 only
Wst 03 Operational waste	One credit

Note that a number of assumptions have been made within this initial appraisal process which will require confirmation by means of further technical input during the formal assessment, once the design and specifications are finalised. The approach to achieving the target BREEAM rating may therefore, be subject to change further into the development cycle.

Figure 4.1 to 4.4 shows the estimated relative performance in each of the BREEAM New Construction environmental sections of sustainability for the four non-domestic building functions.

Figure 4.1 - Sustainability Performance Overview (Community Centre)

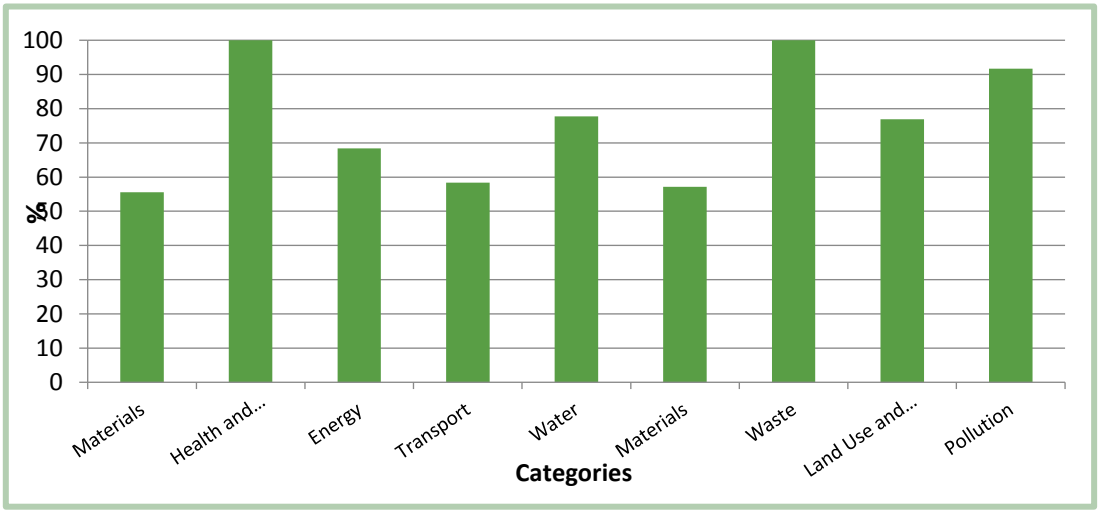


Figure 4.2 - Sustainability Performance Overview (Retail)

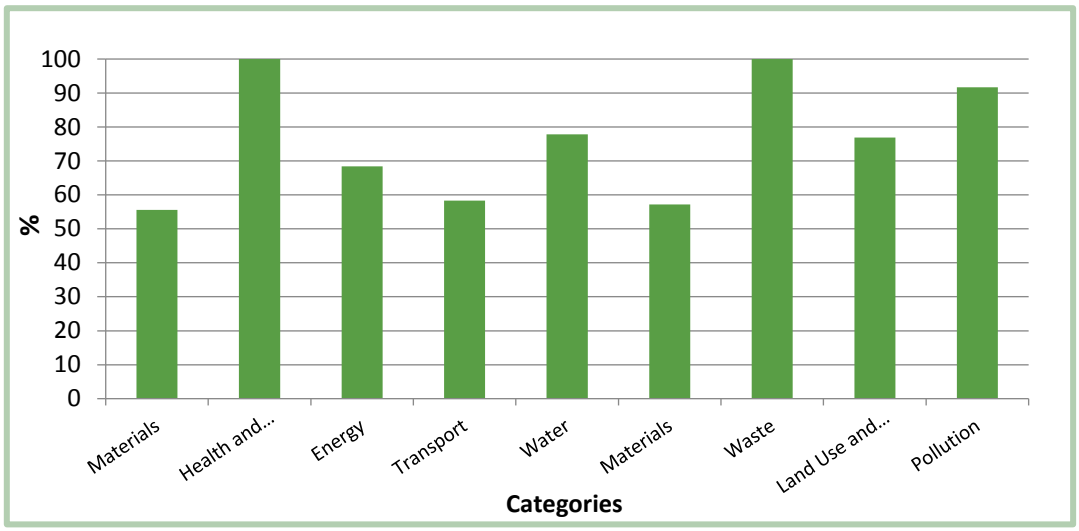


Figure 4.3 - Sustainability Performance Overview (Office)

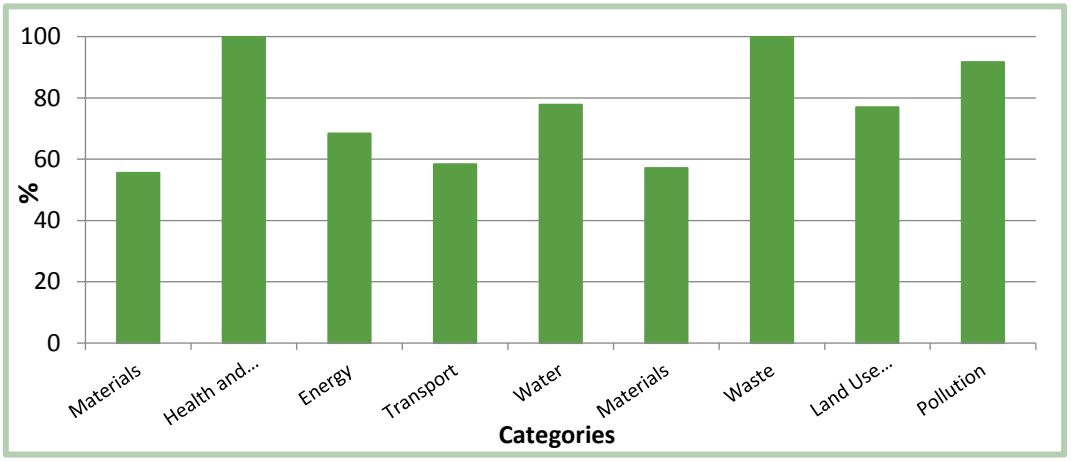
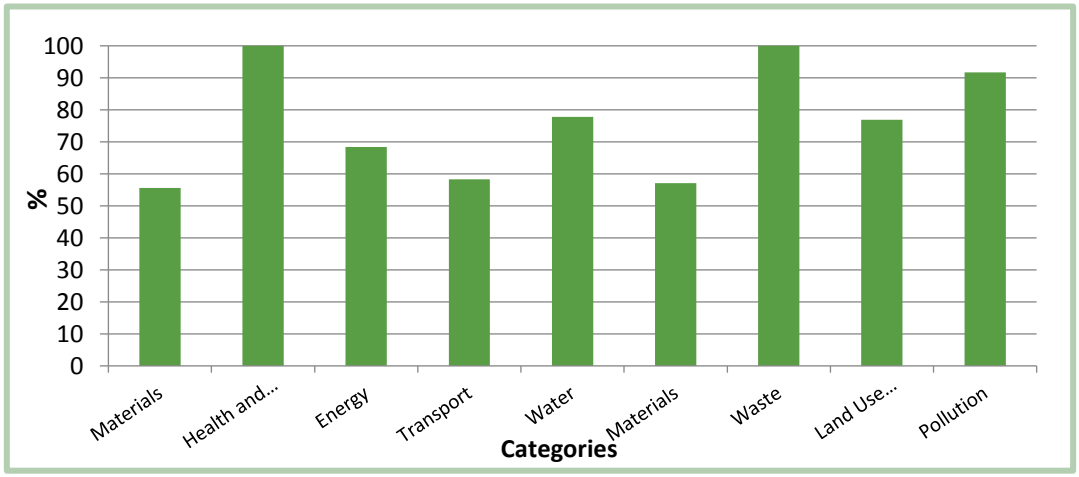


Figure 4.4 - Sustainability Performance Overview (Primary School)



Appendix A – BREEAM Pre-Assessments

Assessment report: Sandleford Park - Primary School

Pre-assessment

Site name:

Client name:

Date: 12/7/2018

Assessment ref: 2018.128

Assessment details

Assessment references

Registration number:	2018.128	**Date created:**	12/7/2018
Created by:	Stacey Downes {Element Sustainability Ltd}		
Architect name:			
Developer name:			
Property owner			

Site details

Site name:

Address:

Town:

County:

Post code:

Country:

Certificate details

The certificate will have the name of the architect (if entered above) and the name of the developer (from above).

Any other names to appear on the certificate are listed below:

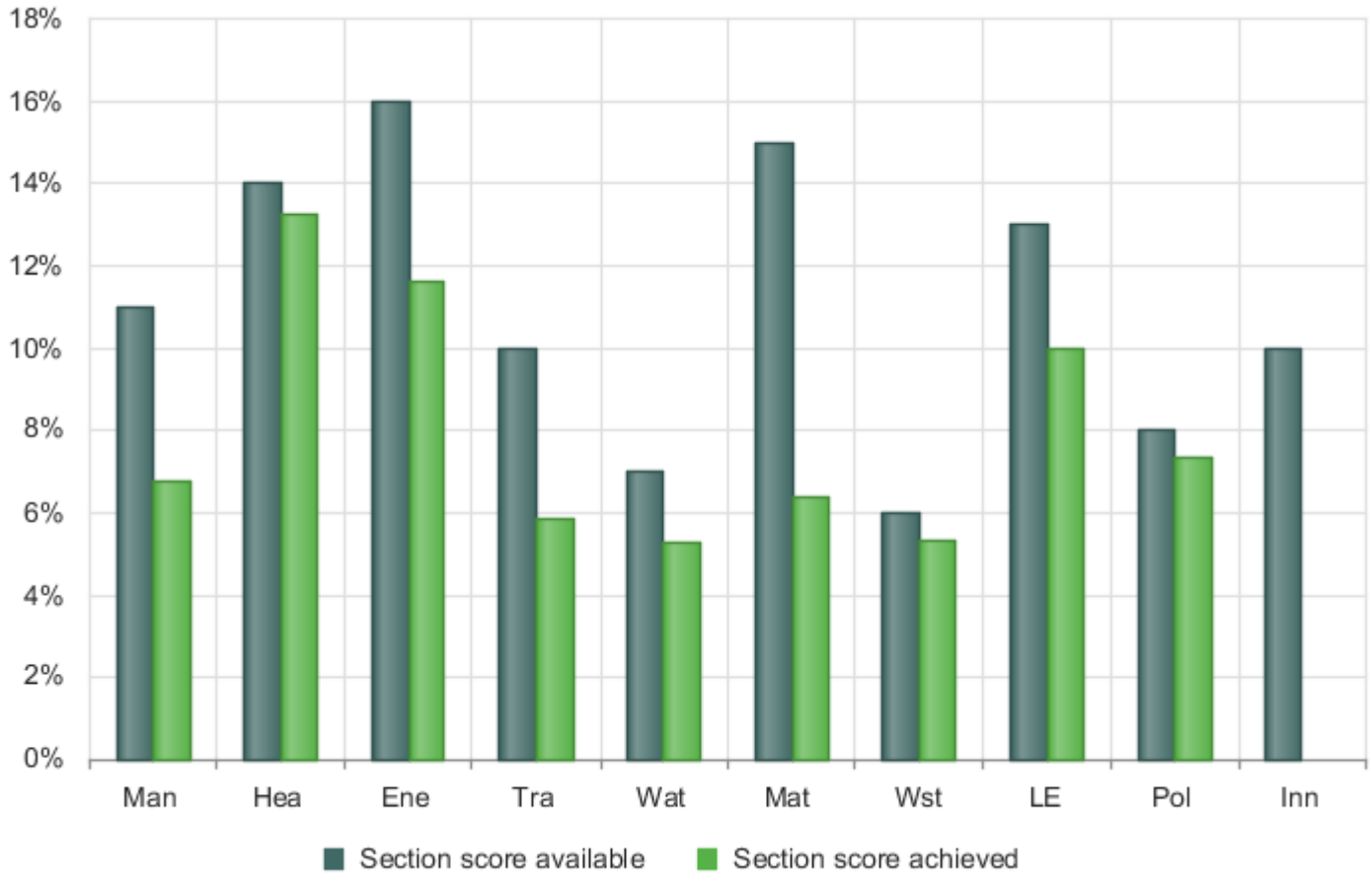
Name	Label

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	21.0	13.0	61.90%	11.00%	6.80%
Hea	18.0	17.0	94.44%	14.00%	13.22%
Ene	22.0	16.0	72.73%	16.00%	11.63%
Tra	12.0	7.0	58.33%	10.00%	5.83%
Wat	8.0	6.0	75.00%	7.00%	5.25%
Mat	14.0	6.0	42.86%	15.00%	6.42%
Wst	9.0	8.0	88.89%	6.00%	5.33%
LE	13.0	10.0	76.92%	13.00%	10.00%
Pol	12.0	11.0	91.67%	8.00%	7.33%
Inn	10.0	0.0	0.00%	10.00%	0.00%
Total	139.0	94.0	67.63%	-	71.84%
Rating	-	-	-	-	Excellent

Performance by environmental category



Issue scores

Please Note: X means the exemplary credit for the relevant issue

Management

Man 01 Project Brief and design	Man 02 Life cycle cost and service life planning	Man 03 Responsible construction practices	Man03X	Man 04 Commissioning and handover	Man 05 Aftercare
2 / 4	1 / 4	3 / 6	0 / 1	4 / 4	3 / 3

Health and Wellbeing

Hea 01 Visual comfort	Hea01X	Hea 02 Indoor air quality	Hea02X	Hea 04 Thermal comfort	Hea 05 Acoustic performance	Hea 06 Security	Hea06X	Hea 07 Safe and Healthy Surroundings
5 / 5	0 / 2	3 / 4	0 / 1	3 / 3	3 / 3	1 / 1	0 / 1	2 / 2

Energy

Ene 01 Reduction of energy use and carbon emissions	Ene01X	Ene 02 Energy monitoring	Ene 03 External lighting	Ene 04 Low carbon design	Ene 05 Energy efficient cold storage	Ene 06 Energy efficient transportation systems	Ene 07 Energy efficient laboratory systems	Ene 08 Energy efficient equipment
9 / 13	0 / 5	1 / 1	1 / 1	1 / 3	N/A	2 / 2	N/A	2 / 2

Transport

Tra 01 Transport assessment and travel plan	Tra 02 Sustainable transport measures
2 / 2	5 / 10

Water

Wat 01 Water consumption	Wat01X	Wat 02 Water monitoring	Wat 03 Water leak detection	Wat 04 Water efficient equipment
3 / 5	0 / 1	1 / 1	2 / 2	N/A

Materials

Mat 01 Life cycle impacts	Mat01X	Mat 02 Environmental impacts from construction products	Mat 03 Responsible sourcing	Mat03X	Mat 05 Designing for durability and resilience	Mat 06 Material efficiency
2 / 7	0 / 3	1 / 1	2 / 4	0 / 1	1 / 1	0 / 1

Waste

Wst 01 Construction waste management	Wst01X	Wst 02 Use of recycled and sustainably sourced aggregates	Wst02X	Wst 03 Operational waste	Wst 04 Speculative	Wst 05 Adaptation to climate change	Wst05X	Wst 06 Design for

					finishes (Offices only)			disassembly and adaptability
4 / 4	0 / 1	1 / 1	0 / 1	1 / 1	N/A	1 / 1	0 / 1	1 / 2

Land use and ecology

LE 01 Site selection	LE 02 Identifying and understanding the risks and opportunities for the site	LE02X	LE 03 Managing negative impacts on ecology	LE 04 Change and enhancement of ecological value	LE 05 Long term impact on biodiversity
0 / 2	2 / 2	0 / 1	3 / 3	3 / 4	2 / 2

Pollution

Pol 01 Impact of refrigerants	Pol 02 Local air quality	Pol 03 Flood risk management and reducing surface water run-off	Pol 04 Reduction of Night Time Light Pollution	Pol 05 Noise attenuation
3 / 3	1 / 2	5 / 5	1 / 1	1 / 1

Innovation

Inn 01 Innovation	Inn01X
N/A	0 / 10

Initial details

Initial details

Technical manual issue number : Issue 1.0

Project scope : Fully fitted

Building type (main description) : Education

Sub-group : Primary schools

Assessment stage :

Building floor area (GIA) : 2000 m^2

Building floor area (NIFA) : 1999 m^2

Is the building designed to be untreated? : No

Building services - heating system type : Wet system

Building services - cooling system type : Comfort cooling

Are commercial or industrial-sized refrigeration and storage systems specified? : No

Are building user lifts present? : Yes

Are building user escalators or moving walks present? : No

Are laboratories present? : No

Are there fume cupboard(s) and/or other containment devices present? : No

Are there any water demands present other than those assessed in Wat 01? : No

Does the building have external areas within the boundary of the assessed development? : Yes

Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space : No

Are there any systems specified that contribute to the unregulated energy load? : Yes

Are the Post-occupancy stage credits targeted in Ene 01 issue? : No

Category assessment

Management | Man

Man 01 Project Brief and design

To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.

Site :

ASSESSMENT CRITERIA	
Project delivery planning :	Yes
Stakeholder consultation (interested parties) :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	

Credits awarded : 2.0

Comments :
Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Man 02 Life cycle cost and service life planning

To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.

Site :

ASSESSMENT CRITERIA	
Elemental LCC :	
Component level LCC options appraisal :	
Capital cost reporting :	Yes
Capital cost of the project :	1000 Â£k/m^2

Credits awarded : 1.0

Comments :
Capital Cost is to be reported for the development (£/m2)

Man 03 Responsible construction practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'? :	Yes
Environmental management :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	Yes
BREEAM Advisory Professional (site) :	No
Responsible construction management :	2

Monitoring of construction site impacts :	Yes
Utility consumption :	Yes
Transport of construction materials and waste :	Yes

Exemplary level criteria - Responsible construction management :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE ENERGY USE

Energy consumption (total) - site processes :

Energy consumption (intensity) - site processes :

Distance (total) - materials transport to site :

Distance (total) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE GREENHOUSE GAS EMISSIONS

Process greenhouse gas emissions (total) - site processes :

Carbon dioxide emissions (intensity) - site processes :

Carbon dioxide emissions (total) - materials transport to site :

Carbon dioxide emissions (total) - waste transport from site :

Carbon dioxide emissions (intensity) - materials transport to site :

Carbon dioxide emissions (intensity) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE USE OF POTABLE WATER RESOURCES:

Use of potable water resource (total) - site processes :

Use of potable water resource (intensity) - site processes :

Credits awarded : 3.0

Comments :
All timber and timber-based products used on the project will be 'Legally harvested and traded timber';
The principal contractor will operate an Environmental Management System;
Responsible construction management will be carried out by the principal contractor; and
Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Man 04 Commissioning and handover

To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.

Site :

ASSESSMENT CRITERIA

Commissioning testing schedule and responsibilities :	Yes
Commissioning - design and preparation :	Yes
Testing and inspecting building fabric :	Yes
Handover - have a technical and a non-technical building user guide been developed prior to handover? :	Yes
Handover - have a technical and a non-technical training schedule been prepared around handover? :	Yes

Credits awarded : 4.0

Comments :
A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems

and building fabric in line with best practice will be undertaken;
Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,
Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.

Man 05 Aftercare

To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.

Site :

ASSESSMENT CRITERIA	
Aftercare support :	Yes
Commissioning - implementation :	Yes
Post occupancy evaluation :	Yes
The client or building occupier commits funds to pay for the POE in advance. :	Yes

Credits awarded : 3.0

Comments :
Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s);
Seasonal commissioning activities will be completed over a minimum twelve month period, once the building becomes substantially occupied; and,
The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the buildingÂs post occupancy performance.

Hea 01 Visual comfort

To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.

Site :

ASSESSMENT CRITERIA	
Control of glare from sunlight :	Yes
Daylighting (building type dependent) :	2
View Out :	Yes
Internal and external lighting levels, zoning and controls :	Yes
Exemplary level criteria - Daylighting :	
Exemplary level criteria- Internal and external lighting levels, zoning and control :	

Credits awarded : 5.0

Comments :
Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out.
Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,
Internal lighting will be zoned to allow for occupant control.

Hea 02 Indoor air quality

To encourage and support healthy internal environments with good indoor air quality.

Site :

ASSESSMENT CRITERIA	
Pre requisite: Indoor air quality (IAQ) plan :	Yes
Ventilation :	Yes
Emissions from building products :	2
Post-construction indoor air quality measurement :	Yes
Exemplary level criteria- Emissions from building products :	

KEY PERFORMANCE INDICATORS	
Formaldehyde concentration :	
Total volatile organic compound (TVOC) concentration :	

Credits awarded : 3.0

Comments :
An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building; and,
The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building.
The concentration of VOCs in paints and varnishes will be monitored and reduced.

Hea 04 Thermal comfort

To ensure the building is capable of providing an appropriate level of thermal comfort.

Site :

ASSESSMENT CRITERIA	
Thermal modelling :	Yes
Design for future thermal comfort :	Yes
Thermal zoning and controls :	Yes

KEY PERFORMANCE INDICATORS
PMV and PPD Indices :

Credits awarded : 3.0

Comments :
Thermal modelling will be carried out to appropriate standards;
Projected climate change scenario(s) will be considered as part of the thermal model; and
The thermal modelling analysis will informed the temperature control strategy for the building and its users.

Hea 05 Acoustic performance

To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.

Site :

ASSESSMENT CRITERIA	
Criteria performance requirements or SQA bespoke requirements? :	Criteria performance requirements
Sound insulation :	1
Indoor ambient noise level :	Yes
Room acoustics :	Yes

Credits awarded : 3.0

Comments :
The building will meet the appropriate acoustic performance standards and testing requirements in terms of:
- Sound insulation
- Indoor ambient noise level
- Reverberation times.

Hea 06 Security

To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

Site :

ASSESSMENT CRITERIA	
Security of site and building :	Yes
Exemplary level criteria :	No

Credits awarded : 1.0

Comments :
Secure By Design - Security needs will be understood and taken into account in the design and specification

Hea 07 Safe and Healthy Surroundings

To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users. .

Site :

ASSESSMENT CRITERIA	
Safe Access :	Yes
Outside Space :	Yes

Credits awarded : 2.0

Comments :
Safe access for pedestrians and cyclist will be provided; and
The provision of outdoor space amenity space for the building users.

Ene 01 Reduction of energy use and carbon emissions

To minimise operational energy demand, primary energy consumption and CO2 emissions.

Site :

ASSESSMENT CRITERIA	
Country :	England
Actual building energy demand :	260 MJ/m^2 yr
Notional building energy demand :	328 MJ/m^2 yr
Actual building primary energy consumption :	115 kWh/m^2 yr
Notional building primary energy consumption :	131 kWh/m^2 yr
Actual building CO_2 emissions (BER) :	13 KgCO_2/m^2 yr
Notional building CO_2 emissions (TER) :	23 KgCO_2/m^2 yr

BUILDING SCORE	
Total BREEAM credits achieved :	5.0
Heating and cooling demand energy performance ratio (EPRdem) :	0.154
Primary consumption energy performance ratio (EPRpc) :	0.133
CO_2 energy performance ratio (EPRco2) :	0.253
Overall building energy performance ratio (EPRnc) :	0.54
% improvement BER/TER :	43.5 %
Calculate score :	

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Zero net CO_2 emissions :	No
Equivalent % of additional emissions from unregulated energy that are offset by LZC sources :	
Is the building designed to be carbon negative? :	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported? :	

ASSESSMENT CRITERIA	
Prerequisite - Has a design workshop focusing on operational energy performance been carried out? :	Yes
Additional energy modelling to generate predicted operational energy consumption figures carried out? :	Yes
Predicted energy consumption targets by end use, design assumptions and input data reported? :	Yes
Risk assessment to highlight any significant design, technical, and process risks? :	Yes

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	
The energy model is submitted to BRE and retained by the building owner? :	

Credits awarded : 9.0

Comments :
Representative data used to demonstrate credit allocation - 5no. credits awarded for improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide.
4no. credits awarded for completing additional energy models during the design stages.

Ene 02 Energy monitoring

To encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.

Site :

ASSESSMENT CRITERIA	
Sub-metering of end use categories :	Yes

Credits awarded : 1.0

Comments :
Energy metering systems will be installed to enable energy consumption to be assigned to end users and function areas.

Ene 03 External lighting

To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Is external lighting specified in accordance with the relevant criteria? :	

Credits awarded : 1.0

Comments :
All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,
External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Ene 04 Low carbon design

To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.

Site :

ASSESSMENT CRITERIA	
Has the first credit within Hea 04 been achieved? :	Yes
Passive design analysis :	No
Free cooling :	No
Low and zero carbon technologies :	Yes

KPI	
Total on-site and/or near-site LZC energy generation :	

Expected energy demand and CO2 emissions reduction resulting from passive design measures :

Energy demand :

CO2 emissions :

Expected energy demand and CO2 emissions reduction resulting from passive design measures as a percentage :
Energy demand :

CO2 emissions :

Expected reduction in CO2 emissions resulting from the LZC technologies :

Expected reduction in CO2 emissions resulting from the LZC technologies as a percentage :

Credits awarded : 1.0

Comments :
Low or Zero Carbon technologies to form part of the energy strategy

Ene 05 Energy efficient cold storage

To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.

Site :

Credits awarded : 0.0

Ene 06 Energy efficient transportation systems

To encourage the specification of energy efficient transport systems within buildings.

Site :

ASSESSMENT CRITERIA	
Energy consumption :	Yes
Energy efficient features - Lifts :	Yes

Credits awarded : 2.0

Comments :
The identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand; and,
A meaningful reduction in the total unregulated energy demand of the building will be demonstrated.

Ene 07 Energy efficient laboratory systems

To encourage laboratory areas that are designed to minimise their operational energy consumption and associated CO2 emission

Site :

Credits awarded : 0.0

Ene 08 Energy efficient equipment

To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation

Site :

ASSESSMENT CRITERIA	
Swimming pool present? :	No
Major impact? :	
Laundry facilities with commercial-sized appliances present? :	No
Major impact? :	
Data centre present? :	No
Major impact? :	
IT-intensive operating areas present? :	Yes
Major impact? :	No
Domestic scale appliances (individual and communal facilities) present? :	Yes
Major impact? :	No
Healthcare equipment present? :	No
Major impact? :	
Kitchen and catering facilities present? :	Yes
Major impact? :	Yes
Other contributors :	
Significant majority contributors BREEAM compliant :	Yes

Credits awarded : 2.0

Tra 01 Transport assessment and travel plan

To reward awareness of existing local transport and identify improvements to make it more sustainable.

Site :

ASSESSMENT CRITERIA	
Travel plan :	Yes

Credits awarded : 2.0

Comments :
A site specific travel plan based on the needs of the site will be undertaken to promote sustainable reductions in transport burdens;

Tra 02 Sustainable transport measures

To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Issue Tra 01 'Transport assessment and travel plan' credits achieved :	Yes
Location type (based on existing AI) :	AI <25
Number of points achieved overall :	5

Credits awarded : 5.0

Comments :
Sustainable transport measure across the site will be maximised through the development, such as: such as: improve local cycling, sign posting, public transport, possible electric charging stations and car sharing.

Wat 01 Water consumption

To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

Site :

ASSESSMENT CRITERIA

Please select the calculation procedure used :	Standard approach
Credits awarded :	3
Exemplary performance :	

KEY PERFORMANCE INDICATORS

Standard approach data: :

Water Consumption from building micro-components :

Water demand met via greywater/rainwater sources :

Total net water consumption :

Improvement on baseline performance :

Key Performance Indicator - use of freshwater resource: :

Total net Water Consumption :

Default building occupancy :

Credits awarded : 3.0

Comments :
The buildings will be specified with efficient water fixtures and controls. This will result in over a 40% improvement over the BREÂs baseline performance of water consumption for the internal water sanitary fittings is targeted;

Wat 02 Water monitoring

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Site :

ASSESSMENT CRITERIA

Water meter on the mains water supply to each building :	Yes
Sub-metering/monitoring equipment on supply to plant/building areas :	Yes
Pulsed output or other open protocol communication output and BMS connection :	Yes
The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (L/person/day) :	No

Credits awarded : 1.0

Comments :
A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Wat 03 Water leak detection

To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.

Site :

ASSESSMENT CRITERIA	
Leak detection system :	Yes
Flow control devices :	Yes

Credits awarded : 2.0

Comments :
Â The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply;

Â Flow control devices will be used to regulate the supply of water to each WC area/facility to reduce water wastage

Wat 04 Water efficient equipment

To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Site :

Credits awarded : 0.0

Comments :
Landscaping will be watered soley by precipitation throughout all seasons on the year.

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Site :

ASSESSMENT CRITERIA	
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool :	2
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool :	0

Credits awarded : 2.0

Comments :
Materials will be selected which have a low environmental impact throughout their life cycle for the main building elements, through conducting a through conducting a life cycle assessment and integrating its outcomes in the design decision-making process.

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Site :

ASSESSMENT CRITERIA	
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. :	1

Credits awarded : 1.0

Comments :
Collection of robust and comparable data on the impacts of construction products through the provision of EPD.

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Site :

ASSESSMENT CRITERIA	
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	Yes
Percentage of available for percentage of RSM points achieved :	18 %

Credits awarded : 2.0

Comments :
Materials will be sourced in accordance with a sustainable procurement plan;
Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;
Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Site :

ASSESSMENT CRITERIA	
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation :	Yes

Credits awarded : 1.0

Comments :
Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,
Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Site :

ASSESSMENT CRITERIA	
Material optimisation measures investigated and implemented at all relevant stages :	No

Credits awarded : 0.0

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practicesto minimise waste going to landfill.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :	No
Compliant Resource Management Plan :	Yes
Have waste materials been sorted into separate key waste groups? :	Yes
Exemplary level criteria :	No

KPI	
Measure/units for the data being reported :	m^3
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :	3.2 m3/100m2
Total non-hazardous construction waste generated :	3.2 m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous non-demolition construction waste diverted from landfill :	3.2 m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous demolition waste generated :	0 m3
Total non-hazardous demolition waste to disposal :	3.2 m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit :	80 %
Material for reuse :	0 m3
Material for recycling :	0 m3
Material for energy recovery :	0 m3
Hazardous waste to disposal :	0 m3

Credits awarded : 4.0

Comments :
Representative data used to allocate credits
Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:
Â Procedures to reduce construction waste related to on-site construction and off site manufacture/fabrication; and
Â Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed	No

development? :
Projects Sustainable Aggregate points : 3.5

KPI

Total quantity of aggregate :

% of high - grade aggregate that is recycled/ secondary aggregate by application :

Credits awarded : 1.0

Comments :
The use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Site :

ASSESSMENT CRITERIA

Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	Yes
Vessel(s) for composting suitable organic waste and water outlet :	Yes

Credits awarded : 1.0

Comments :
Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Site :

Credits awarded : 0.0

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.

Site :

ASSESSMENT CRITERIA

Resilience of structure, fabric, building services and renewables installation :	Yes
Exemplary level - responding to climate change :	No

Credits awarded : 1.0

Comments :
Credits awarded for the creation of a climate change adaptation strategy appraisal which will consider the mitigation measures for more extreme weather events arising from climate change over the lifespan of the building.

Wst 06 Design for disassembly and adaptability

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

Site :

ASSESSMENT CRITERIA

Design for disassembly and functional adaptability - recommendations : Yes

Disassembly and functional adaptability - implementation :

Credits awarded : 1.0

Comments :
Credits awarded where a building specific adaptation strategy will be undertaken to encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

LE 01 Site selection

To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.

Site :

ASSESSMENT CRITERIA	
Percentage of proposed development's footprint on previously occupied land: :	0 %
Contaminated land :	No

Credits awarded : 0.0

Comments :
A Suitably Qualified Ecologist will be appointed to identify and understand the ecological risks and opportunities associated with the site to inform the landscaping and protection of existing ecological features.

LE 02 Identifying and understanding the risks and opportunities for the site

To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Assessment route selection :	Route 2
Prerequisite - The client or contractor confirms monitoring of compliance with all Relevant UK and EU or international legislation :	Yes
Survey and Evaluation :	Yes
Determining the ecological outcomes of the site :	Yes
Exemplary level - Determining the ecological outcomes of the site :	No

Credits awarded : 2.0

LE 03 Managing negative impacts on ecology

To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Planning, liaison and implementation :	Yes
Managing negative impacts of the project :	2

Credits awarded : 3.0

Comments :
Credits have been awarded as it is not anticipated that there will be any negative change in plant species richness.

LE 04 Change and enhancement of ecological value

To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Liaison, implementation and data (Route 2 only) :	Yes
Enhancement of ecology (route 2 only) :	2

Credits awarded : 3.0

Comments :
Credits have been awarded where the proposals increase the ecological value of the site

LE 05 Long term impact on biodiversity

To secure ongoing monitoring, management and maintenance of the site and, its habitats ecological features to ensure intended outcomes are realised for the long term.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Roles and responsibilities, implementation, statutory obligations :	Yes
Liaison, monitoring implementation, evolving management and maintenance solutions :	Yes
Landscape and management plan :	Yes

Credits awarded : 2.0

Comments :
Long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive

Pol 01 Impact of refrigerants

To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.

Site :

ASSESSMENT CRITERIA	
Refrigerant containing systems installed in the assessed building? :	No

Credits awarded : 3.0

Comments :
No refrigerant specified at this stage, therefore the default credits have been awarded.

Pol 02 Local air quality

To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.

Site :

ASSESSMENT CRITERIA	
How many credits have been achieved? :	1

Credits awarded : 1.0

Comments :
The heating and hot water will have, under normal operating conditions, low dry NOx levels. Credits have been awarded where the system proposed will target a maximum of 40mg/kWh. The heating system at this stage is assumed to be gas.

Pol 03 Flood risk management and reducing surface water run-off

To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	Yes
Flooding of property will not occur in the event of local drainage system failure :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	Yes

Credits awarded : 5.0

Comments :
The site location has a low annual probability of flooding (flood risk zone 1);
The drainage strategy will comply with the BREEAM criteria, where the peak rate of run-off from the site to the watercourse is no

greater for the develop site than it was for the pre-development site. This should comply with the 1 year and 100 year return period events;
The site is greenfield, the expectation is that on site attenuation or SUDs may be implemented as the proposed development will result in an increase of the impermeable surfacing; and,
Credits have been awarded where measures to minimise watercourse pollution will take place.

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Does external lighting meet all relevant criteria? :	

Credits awarded : 1.0

Comments :
External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Site :

ASSESSMENT CRITERIA	
Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1.0

Comments :
Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Site :

ASSESSMENT CRITERIA	
Number of 'approved' innovation credits achieved? :	0

Credits awarded : 0.0

Assessment report: Sandleford Park - Office

Pre-assessment

Site name:

Client name:

Date: 12/7/2018

Assessment ref: 2018.128

Assessment details

Assessment references

Registration number:	2018.128	**Date created:**	12/7/2018
Created by:	Stacey Downes {Element Sustainability Ltd}		
Architect name:			
Developer name:			
Property owner			

Site details

Site name:

Address:

Town:

County:

Post code:

Country:

Certificate details

The certificate will have the name of the architect (if entered above) and the name of the developer (from above).

Any other names to appear on the certificate are listed below:

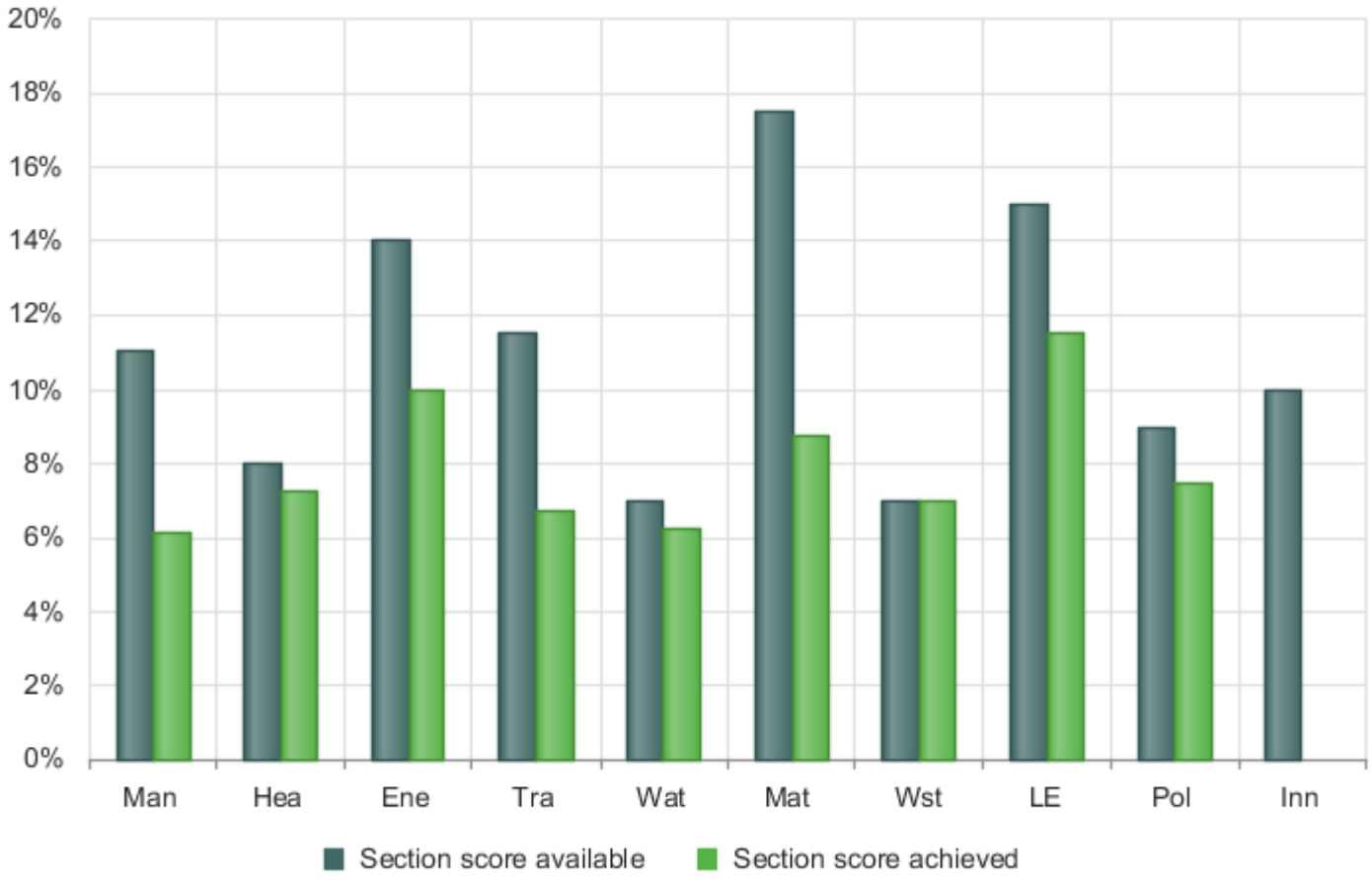
Name	Label

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	18.0	10.0	55.56%	11.00%	6.11%
Hea	10.0	9.0	90.00%	8.00%	7.20%
Ene	21.0	15.0	71.43%	14.00%	10.00%
Tra	12.0	7.0	58.33%	11.50%	6.70%
Wat	9.0	8.0	88.89%	7.00%	6.22%
Mat	14.0	7.0	50.00%	17.50%	8.75%
Wst	10.0	10.0	100.00%	7.00%	7.00%
LE	13.0	10.0	76.92%	15.00%	11.53%
Pol	12.0	10.0	83.33%	9.00%	7.50%
Inn	10.0	0.0	0.00%	10.00%	0.00%
Total	129.0	86.0	66.67%	-	71.03%
Rating	-	-	-	-	Excellent

Performance by environmental category



Issue scores

Please Note: X means the exemplary credit for the relevant issue

Management

Man 01 Project Brief and design	Man 02 Life cycle cost and service life planning	Man 03 Responsible construction practices	Man03X	Man 04 Commissioning and handover	Man 05 Aftercare
2 / 4	1 / 4	3 / 6	0 / 1	4 / 4	N/A

Health and Wellbeing

Hea 01 Visual comfort	Hea01X	Hea 02 Indoor air quality	Hea 04 Thermal comfort	Hea 05 Acoustic performance	Hea 06 Security	Hea06X	Hea 07 Safe and Healthy Surroundings
3 / 4	0 / 1	1 / 1	2 / 2	1 / 1	1 / 1	0 / 1	1 / 1

Energy

Ene 01 Reduction of energy use and carbon emissions	Ene01X	Ene 02 Energy monitoring	Ene 03 External lighting	Ene 04 Low carbon design	Ene 05 Energy efficient cold storage	Ene 06 Energy efficient transportation systems	Ene 07 Energy efficient laboratory systems	Ene 08 Energy efficient equipment
9 / 13	0 / 5	2 / 2	1 / 1	1 / 3	N/A	2 / 2	N/A	N/A

Transport

Tra 01 Transport assessment and travel plan	Tra 02 Sustainable transport measures
2 / 2	5 / 10

Water

Wat 01 Water consumption	Wat01X	Wat 02 Water monitoring	Wat 03 Water leak detection	Wat 04 Water efficient equipment
4 / 5	0 / 1	1 / 1	2 / 2	1 / 1

Materials

Mat 01 Life cycle impacts	Mat01X	Mat 02 Environmental impacts from construction products	Mat 03 Responsible sourcing	Mat03X	Mat 05 Designing for durability and resilience	Mat 06 Material efficiency
3 / 7	0 / 3	1 / 1	2 / 4	0 / 1	1 / 1	0 / 1

Waste

Wst 01 Construction waste management	Wst01X	Wst 02 Use of recycled and sustainably sourced aggregates	Wst02X	Wst 03 Operational waste	Wst 04 Speculative	Wst 05 Adaptation to climate change	Wst05X	Wst 06 Design for

					finishes (Offices only)			disassembly and adaptability
4 / 4	0 / 1	1 / 1	0 / 1	1 / 1	1 / 1	1 / 1	0 / 1	2 / 2

Land use and ecology

LE 01 Site selection	LE 02 Identifying and understanding the risks and opportunities for the site	LE02X	LE 03 Managing negative impacts on ecology	LE 04 Change and enhancement of ecological value	LE 05 Long term impact on biodiversity
0 / 2	2 / 2	0 / 1	3 / 3	3 / 4	2 / 2

Pollution

Pol 01 Impact of refrigerants	Pol 02 Local air quality	Pol 03 Flood risk management and reducing surface water run-off	Pol 04 Reduction of Night Time Light Pollution	Pol 05 Noise attenuation
3 / 3	1 / 2	4 / 5	1 / 1	1 / 1

Innovation

Inn 01 Innovation	Inn01X
N/A	0 / 10

Initial details

Initial details

Technical manual issue number : Issue 1.0

Project scope : Shell and core

Building type (main description) : Office

Sub-group : General office buildings

Assessment stage :

Building floor area (GIA) : 2000 m^2

Building floor area (NIFA) : 1999 m^2

Is the building designed to be untreated? : No

Building services - heating system type : Wet system

Building services - cooling system type : Comfort cooling

Are commercial or industrial-sized refrigeration and storage systems specified? : No

Are building user lifts present? : Yes

Are building user escalators or moving walks present? : No

Are laboratories present? : No

Are there fume cupboard(s) and/or other containment devices present? : No

Are there any water demands present other than those assessed in Wat 01? : Yes

Does the building have external areas within the boundary of the assessed development? : No

Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space : No

Are there any systems specified that contribute to the unregulated energy load? : No

Are the Post-occupancy stage credits targeted in Ene 01 issue? : No

Category assessment

Management | Man

Man 01 Project Brief and design

To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.

Site :

ASSESSMENT CRITERIA	
Project delivery planning :	Yes
Stakeholder consultation (interested parties) :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	

Credits awarded : 2.0

Comments :
Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Man 02 Life cycle cost and service life planning

To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.

Site :

ASSESSMENT CRITERIA	
Elemental LCC :	
Component level LCC options appraisal :	
Capital cost reporting :	Yes
Capital cost of the project :	1111 Â£k/m^2

Credits awarded : 1.0

Comments :
Capital Cost is to be reported for the development (£/m2)

Man 03 Responsible construction practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'? :	Yes
Environmental management :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	Yes
BREEAM Advisory Professional (site) :	
Responsible construction management :	2

Monitoring of construction site impacts : Yes

Utility consumption : Yes

Transport of construction materials and waste : Yes

Exemplary level criteria - Responsible construction management :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE ENERGY USE

Energy consumption (total) - site processes :

Energy consumption (intensity) - site processes :

Distance (total) - materials transport to site :

Distance (total) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE GREENHOUSE GAS EMISSIONS

Process greenhouse gas emissions (total) - site processes :

Carbon dioxide emissions (intensity) - site processes :

Carbon dioxide emissions (total) - materials transport to site :

Carbon dioxide emissions (total) - waste transport from site :

Carbon dioxide emissions (intensity) - materials transport to site :

Carbon dioxide emissions (intensity) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE USE OF POTABLE WATER RESOURCES:

Use of potable water resource (total) - site processes :

Use of potable water resource (intensity) - site processes :

Credits awarded : 3.0

Comments :
All timber and timber-based products used on the project will be 'Legally harvested and traded timber';
The principal contractor will operate an Environmental Management System;
Responsible construction management will be carried out by the principal contractor; and
Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Man 04 Commissioning and handover

To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.

Site :

ASSESSMENT CRITERIA

Commissioning testing schedule and responsibilities : Yes

Commissioning - design and preparation : Yes

Testing and inspecting building fabric : Yes

Handover - have a technical and a non-technical building user guide been developed prior to handover? : Yes

Handover - have a technical and a non-technical training schedule been prepared around handover? : Yes

Credits awarded : 4.0

Comments :
A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems

and building fabric in line with best practice will be undertaken;
Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,
Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.

Man 05 Aftercare

To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.

Site :

Credits awarded : 0.0

Comments :
Credit Not Sought

Hea 01 Visual comfort

To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.

Site :

ASSESSMENT CRITERIA	
Daylighting (building type dependent) :	1
View Out :	Yes
External lighting for Shell and core, and Shell only assessments :	Yes
Exemplary level criteria - Daylighting :	No

Credits awarded : 3.0

Comments :
Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out.
Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,
Internal lighting will be zoned to allow for occupant control.

Hea 02 Indoor air quality

To encourage and support healthy internal environments with good indoor air quality.

Site :

ASSESSMENT CRITERIA	
Pre requisite: Indoor air quality (IAQ) plan :	Yes
Ventilation :	Yes

Credits awarded : 1.0

Comments :
An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building; and,
The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building.

Hea 04 Thermal comfort

To ensure the building is capable of providing an appropriate level of thermal comfort.

Site :

ASSESSMENT CRITERIA	
Thermal modelling :	Yes
Design for future thermal comfort :	Yes

KEY PERFORMANCE INDICATORS
PMV and PPD Indices :

Credits awarded : 2.0

Comments :
Thermal modelling will be carried out to appropriate standards;
Projected climate change scenario(s) will be considered as part of the thermal model; and
The thermal modelling analysis will informed the temperature control strategy for the building and its users.

Hea 05 Acoustic performance

To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.

Site :

ASSESSMENT CRITERIA	
Criteria performance requirements or SQA bespoke requirements? :	Criteria performance requirements
Indoor ambient noise level :	Yes

Credits awarded : 1.0

Comments :
The building will meet the appropriate acoustic performance standards and testing requirements in terms of:
- Indoor ambient noise level

Hea 06 Security

To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

Site :

ASSESSMENT CRITERIA	
Security of site and building :	Yes
Exemplary level criteria :	No

Credits awarded : 1.0

Comments :
Secure By Design - Security needs will be understood and taken into account in the design and specification

Hea 07 Safe and Healthy Surroundings

To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users. .

Site :

ASSESSMENT CRITERIA	
Outside Space :	Yes

Credits awarded : 1.0

Comments :
The provision of outdoor space amenity space for the building users.

Ene 01 Reduction of energy use and carbon emissions

To minimise operational energy demand, primary energy consumption and CO2 emissions.

Site :

ASSESSMENT CRITERIA	
Country :	England
Actual building energy demand :	260 MJ/m^2 yr
Notional building energy demand :	328 MJ/m^2 yr
Actual building primary energy consumption :	115 kWh/m^2 yr
Notional building primary energy consumption :	131 kWh/m^2 yr
Actual building CO_2 emissions (BER) :	13 KgCO_2/m^2 yr
Notional building CO_2 emissions (TER) :	23 KgCO_2/m^2 yr

BUILDING SCORE	
Total BREEAM credits achieved :	5.0
Heating and cooling demand energy performance ratio (EPRdem) :	0.154
Primary consumption energy performance ratio (EPRpc) :	0.133
CO_2 energy performance ratio (EPRco2) :	0.253
Overall building energy performance ratio (EPRnc) :	0.54
% improvement BER/TER :	43.5 %
Calculate score :	

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Zero net CO_2 emissions :	No
Equivalent % of additional emissions from unregulated energy that are offset by LZC sources :	
Is the building designed to be carbon negative? :	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported? :	

ASSESSMENT CRITERIA	
Prerequisite - Has a design workshop focusing on operational energy performance been carried out? :	Yes
Additional energy modelling to generate predicted operational energy consumption figures carried out? :	Yes
Predicted energy consumption targets by end use, design assumptions and input data reported? :	Yes
Risk assessment to highlight any significant design, technical, and process risks? :	Yes

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	
The energy model is submitted to BRE and retained by the building owner? :	

Credits awarded : 9.0

Comments :
Representative data used to demonstrate credit allocation - 5no. credits awarded for improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide.
4no. credits awarded for completing additional energy models during the design stages.

Ene 02 Energy monitoring

To encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.

Site :

ASSESSMENT CRITERIA	
Sub-metering of end use categories :	Yes
Sub-metering of high energy load and tenancy areas :	Yes

Credits awarded : 2.0

Comments :
Energy metering systems will be installed to enable energy consumption to be assigned to end users and function areas.

Ene 03 External lighting

To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Is external lighting specified in accordance with the relevant criteria? :	

Credits awarded : 1.0

Comments :
All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,
External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Ene 04 Low carbon design

To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.

Site :

ASSESSMENT CRITERIA	
Has the first credit within Hea 04 been achieved? :	Yes
Passive design analysis :	No
Free cooling :	No
Low and zero carbon technologies :	Yes

KPI

Total on-site and/or near-site LZC energy generation :

Expected energy demand and CO2 emissions reduction resulting from passive design measures :

Energy demand :

CO2 emissions :

Expected energy demand and CO2 emissions reduction resulting from passive design measures as a percentage :
Energy demand :

CO2 emissions :

Expected reduction in CO2 emissions resulting from the LZC technologies :

Expected reduction in CO2 emissions resulting from the LZC technologies as a percentage :

Credits awarded : 1.0

Comments :
Low or Zero Carbon technologies to form part of the energy strategy

Ene 05 Energy efficient cold storage

To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.

Site :

Credits awarded : 0.0

Ene 06 Energy efficient transportation systems

To encourage the specification of energy efficient transport systems within buildings.

Site :

ASSESSMENT CRITERIA	
Energy consumption :	Yes
Energy efficient features - Lifts :	Yes

Credits awarded : 2.0

Comments :
The identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand; and,
A meaningful reduction in the total unregulated energy demand of the building will be demonstrated.

Ene 07 Energy efficient laboratory systems

To encourage laboratory areas that are designed to minimise their operational energy consumption and associated CO2 emission

Site :

Credits awarded : 0.0

Ene 08 Energy efficient equipment

To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation

Site :

Credits awarded : 0.0

Tra 01 Transport assessment and travel plan

To reward awareness of existing local transport and identify improvements to make it more sustainable.

Site :

ASSESSMENT CRITERIA	
Travel plan :	Yes

Credits awarded : 2.0

Comments :
A site specific travel plan based on the needs of the site will be undertaken to promote sustainable reductions in transport burdens;

Tra 02 Sustainable transport measures

To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Issue Tra 01 'Transport assessment and travel plan' credits achieved :	Yes
Location type (based on existing AI) :	AI <25
Number of points achieved overall :	5

Credits awarded : 5.0

Comments :
Sustainable transport measure across the site will be maximised through the development, such as: such as: improve local cycling, sign posting, public transport, possible electric charging stations and car sharing.

Water | Wat

Wat 01 Water consumption

To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

Site :

ASSESSMENT CRITERIA	
Are all the components specified and installed by the tenant not the developer? :	Yes
Please select the calculation procedure used :	Standard approach
Credits awarded :	4
Exemplary performance :	No

KEY PERFORMANCE INDICATORS
Standard approach data: :
Water Consumption from building micro-components :
Water demand met via greywater/rainwater sources :
Total net water consumption :
Improvement on baseline performance :
Key Performance Indicator - use of freshwater resource: :
Total net Water Consumption :
Default building occupancy :

Credits awarded : 4.0

Comments :
The buildings will be specified with efficient water fixtures and controls. This will result in over a 40% improvement over the BREÂs baseline performance of water consumption for the internal water sanitary fittings is targeted;

Wat 02 Water monitoring

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Site :

ASSESSMENT CRITERIA	
Water meter on the mains water supply to each building :	Yes
Sub-metering/monitoring equipment on supply to plant/building areas :	Yes
Pulsed output or other open protocol communication output and BMS connection :	Yes

Credits awarded : 1.0

Comments :
A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Wat 03 Water leak detection

To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.

Site :

ASSESSMENT CRITERIA	
Leak detection system :	Yes
Flow control devices :	Yes

Credits awarded : 2.0

Comments :
Â The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply;

Â Flow control devices will be used to regulate the supply of water to each WC area/facility to reduce water wastage

Wat 04 Water efficient equipment

To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Site :

ASSESSMENT CRITERIA	
Water efficient consumption :	Yes

Credits awarded : 1.0

Comments :
Landscaping will be watered soley by precipitation throughout all seasons on the year.

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Site :

ASSESSMENT CRITERIA	
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool :	3
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool :	0

Credits awarded : 3.0

Comments :
Materials will be selected which have a low environmental impact throughout their life cycle for the main building elements, through conducting a through conducting a life cycle assessment and integrating its outcomes in the design decision-making process.

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Site :

ASSESSMENT CRITERIA	
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. :	1

Credits awarded : 1.0

Comments :
Collection of robust and comparable data on the impacts of construction products through the provision of EPD.

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Site :

ASSESSMENT CRITERIA	
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	Yes
Percentage of available for percentage of RSM points achieved :	18 %

Credits awarded : 2.0

Comments :
Materials will be sourced in accordance with a sustainable procurement plan;
Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;
Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Site :

ASSESSMENT CRITERIA	
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation :	Yes

Credits awarded : 1.0

Comments :
Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,
Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Site :

ASSESSMENT CRITERIA	
Material optimisation measures investigated and implemented at all relevant stages :	No

Credits awarded : 0.0

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practicesto minimise waste going to landfill.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :	No
Compliant Resource Management Plan :	Yes
Have waste materials been sorted into separate key waste groups? :	Yes
Exemplary level criteria :	No

KPI	
Measure/units for the data being reported :	m^3
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :	3.2 m3/100m2
Total non-hazardous construction waste generated :	3.2 m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous non-demolition construction waste diverted from landfill :	3.2 m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous demolition waste generated :	3.2 m3
Total non-hazardous demolition waste to disposal :	3.2 m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit :	80 %
Material for reuse :	0 m3
Material for recycling :	0 m3
Material for energy recovery :	0 m3
Hazardous waste to disposal :	0 m3

Credits awarded : 4.0

Comments :
Representative data used to allocate credits
Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:
Â Procedures to reduce construction waste related to on-site construction and off site manufacture/fabrication; and
Â Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed	No

development? :
Projects Sustainable Aggregate points : 3.5

KPI

Total quantity of aggregate :

% of high - grade aggregate that is recycled/ secondary aggregate by application :

Credits awarded : 1.0

Comments :
The use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Site :

ASSESSMENT CRITERIA

Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	N/A
Vessel(s) for composting suitable organic waste and water outlet :	N/A

Credits awarded : 1.0

Comments :
Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Site :

ASSESSMENT CRITERIA

Speculative floor and ceiling finishes :	Are specified by the building's occupant(s)/tenant(s)

Credits awarded : 1.0

Comments :
To reduce waste the building occupants will specify the floor and ceiling finishes.

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.

Site :

ASSESSMENT CRITERIA

Resilience of structure, fabric, building services and renewables installation :	Yes
Exemplary level - responding to climate change :	No

Credits awarded : 1.0

Comments :
Credits awarded for the creation of a climate change adaptation strategy appraisal which will consider the mitigation measures for more extreme weather events arising from climate change over the lifespan of the building.

Wst 06 Design for disassembly and adaptability

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

Site :

ASSESSMENT CRITERIA	
Design for disassembly and functional adaptability - recommendations :	Yes
Disassembly and functional adaptability - implementation :	Yes

Credits awarded : 2.0

Comments :
Credits awarded where a building specific adaptation strategy will be undertaken to encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

LE 01 Site selection

To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.

Site :

ASSESSMENT CRITERIA	
Percentage of proposed development's footprint on previously occupied land: :	0 %
Contaminated land :	No

Credits awarded : 0.0

Comments :
A Suitably Qualified Ecologist will be appointed to identify and understand the ecological risks and opportunities associated with the site to inform the landscaping and protection of existing ecological features.

LE 02 Identifying and understanding the risks and opportunities for the site

To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Assessment route selection :	Route 2
Prerequisite - The client or contractor confirms monitoring of compliance with all Relevant UK and EU or international legislation :	Yes
Survey and Evaluation :	Yes
Determining the ecological outcomes of the site :	Yes
Exemplary level - Determining the ecological outcomes of the site :	No

Credits awarded : 2.0

LE 03 Managing negative impacts on ecology

To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Planning, liaison and implementation :	Yes
Managing negative impacts of the project :	2

Credits awarded : 3.0

Comments :
Credits have been awarded as it is not anticipated that there will be any negative change in plant species richness.

LE 04 Change and enhancement of ecological value

To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Liaison, implementation and data (Route 2 only) :	Yes
Enhancement of ecology (route 2 only) :	2

Credits awarded : 3.0

Comments :
Credits have been awarded where the proposals increase the ecological value of the site

LE 05 Long term impact on biodiversity

To secure ongoing monitoring, management and maintenance of the site and, its habitats ecological features to ensure intended outcomes are realised for the long term.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Roles and responsibilities, implementation, statutory obligations :	Yes
Liaison, monitoring implementation, evolving management and maintenance solutions :	Yes
Landscape and management plan :	Yes

Credits awarded : 2.0

Comments :
Long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive

Pol 01 Impact of refrigerants

To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.

Site :

ASSESSMENT CRITERIA	
Refrigerant containing systems installed in the assessed building? :	No

Credits awarded : 3.0

Comments :
No refrigerant specified at this stage, therefore the default credits have been awarded.

Pol 02 Local air quality

To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.

Site :

ASSESSMENT CRITERIA	
How many credits have been achieved? :	1

Credits awarded : 1.0

Comments :
The heating and hot water will have, under normal operating conditions, low dry NOx levels. Credits have been awarded where the system proposed will target a maximum of 40mg/kWh. The heating system at this stage is assumed to be gas.

Pol 03 Flood risk management and reducing surface water run-off

To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	
Flooding of property will not occur in the event of local drainage system failure :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	Yes

Credits awarded : 4.0

Comments :
The site location has a low annual probability of flooding (flood risk zone 1);
The drainage strategy will comply with the BREEAM criteria, where the peak rate of run-off from the site to the watercourse is no

greater for the develop site than it was for the pre-development site. This should comply with the 1 year and 100 year return period events;
The site is greenfield, the expectation is that on site attenuation or SUDs may be implemented as the proposed development will result in an increase of the impermeable surfacing; and,
Credits have been awarded where measures to minimise watercourse pollution will take place.

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Does external lighting meet all relevant criteria? :	

Credits awarded : 1.0

Comments :
External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Site :

ASSESSMENT CRITERIA	
Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1.0

Comments :
Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Site :

ASSESSMENT CRITERIA	
Number of 'approved' innovation credits achieved? :	0

Credits awarded : 0.0

Assessment report: Sandleford Park - Community Centre

Pre-assessment

Site name:

Client name:

Date: 12/7/2018

Assessment ref: 2018.128

Assessment details

Assessment references

Registration number:	2018.128	**Date created:**	12/7/2018
Created by:	Stacey Downes {Element Sustainability Ltd}		
Architect name:			
Developer name:			
Property owner			

Site details

Site name:

Address:

Town:

County:

Post code:

Country:

Certificate details

The certificate will have the name of the architect (if entered above) and the name of the developer (from above).

Any other names to appear on the certificate are listed below:

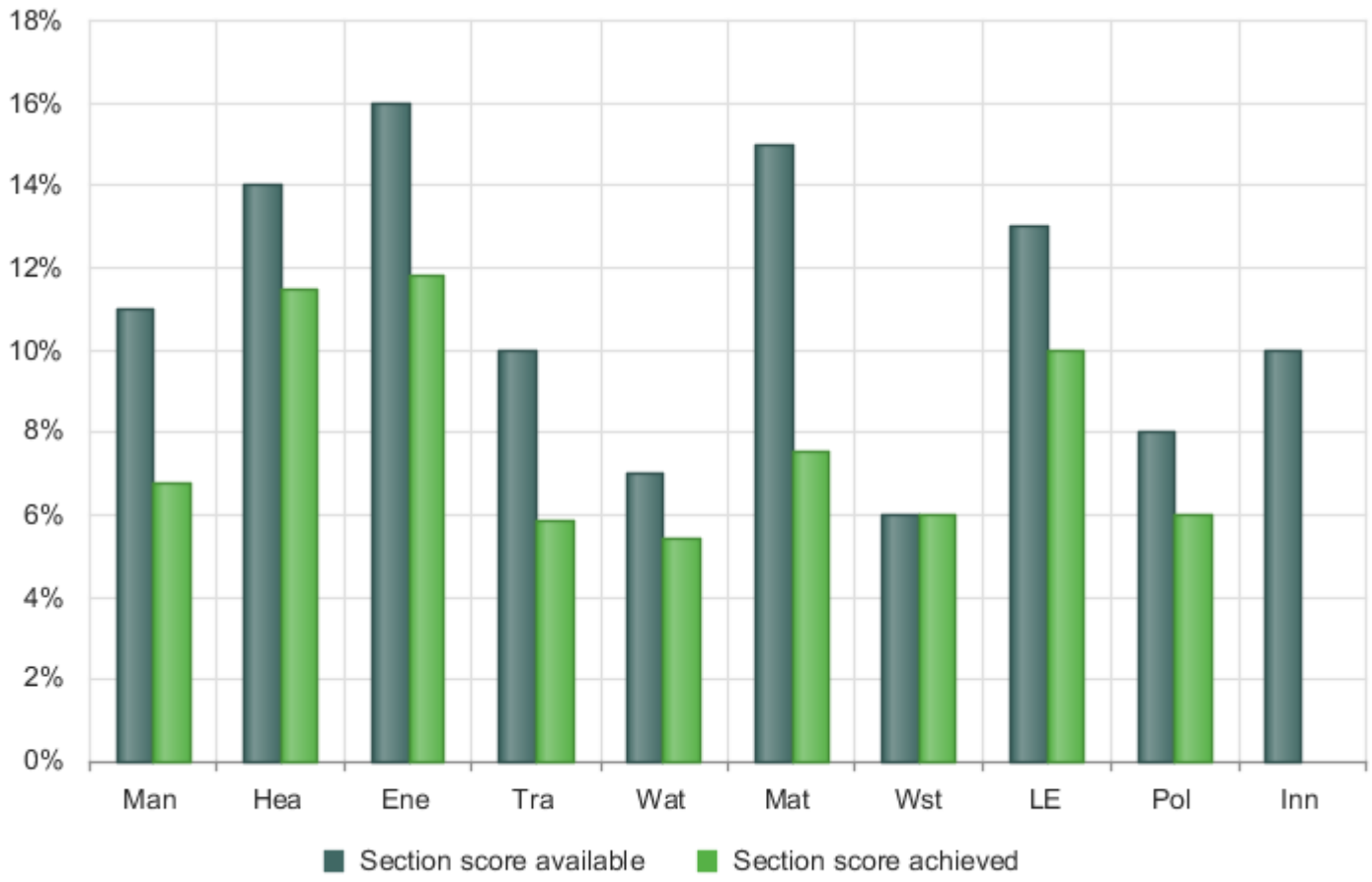
Name	Label

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	21.0	13.0	61.90%	11.00%	6.80%
Hea	17.0	14.0	82.35%	14.00%	11.52%
Ene	23.0	17.0	73.91%	16.00%	11.82%
Tra	12.0	7.0	58.33%	10.00%	5.83%
Wat	9.0	7.0	77.78%	7.00%	5.44%
Mat	14.0	7.0	50.00%	15.00%	7.50%
Wst	9.0	9.0	100.00%	6.00%	6.00%
LE	13.0	10.0	76.92%	13.00%	10.00%
Pol	12.0	9.0	75.00%	8.00%	6.00%
Inn	10.0	0.0	0.00%	10.00%	0.00%
Total	140.0	93.0	66.43%	-	70.94%
Rating	-	-	-	-	Excellent

Performance by environmental category



Issue scores

Please Note: X means the exemplary credit for the relevant issue

Management

Man 01 Project Brief and design	Man 02 Life cycle cost and service life planning	Man 03 Responsible construction practices	Man03X	Man 04 Commissioning and handover	Man 05 Aftercare
2 / 4	1 / 4	3 / 6	0 / 1	4 / 4	3 / 3

Health and Wellbeing

Hea 01 Visual comfort	Hea01X	Hea 02 Indoor air quality	Hea02X	Hea 04 Thermal comfort	Hea 05 Acoustic performance	Hea 06 Security	Hea06X	Hea 07 Safe and Healthy Surroundings
3 / 4	0 / 2	2 / 4	0 / 1	3 / 3	3 / 3	1 / 1	0 / 1	2 / 2

Energy

Ene 01 Reduction of energy use and carbon emissions	Ene01X	Ene 02 Energy monitoring	Ene 03 External lighting	Ene 04 Low carbon design	Ene 05 Energy efficient cold storage	Ene 06 Energy efficient transportation systems	Ene 07 Energy efficient laboratory systems	Ene 08 Energy efficient equipment
9 / 13	0 / 5	2 / 2	1 / 1	1 / 3	N/A	2 / 2	N/A	2 / 2

Transport

Tra 01 Transport assessment and travel plan	Tra 02 Sustainable transport measures
2 / 2	5 / 10

Water

Wat 01 Water consumption	Wat01X	Wat 02 Water monitoring	Wat 03 Water leak detection	Wat 04 Water efficient equipment
3 / 5	0 / 1	1 / 1	2 / 2	1 / 1

Materials

Mat 01 Life cycle impacts	Mat01X	Mat 02 Environmental impacts from construction products	Mat 03 Responsible sourcing	Mat03X	Mat 05 Designing for durability and resilience	Mat 06 Material efficiency
3 / 7	0 / 3	1 / 1	2 / 4	0 / 1	1 / 1	0 / 1

Waste

Wst 01 Construction waste management	Wst01X	Wst 02 Use of recycled and sustainably sourced aggregates	Wst02X	Wst 03 Operational waste	Wst 04 Speculative	Wst 05 Adaptation to climate change	Wst05X	Wst 06 Design for

					finishes (Offices only)			disassembly and adaptability
4 / 4	0 / 1	1 / 1	0 / 1	1 / 1	N/A	1 / 1	0 / 1	2 / 2

Land use and ecology

LE 01 Site selection	LE 02 Identifying and understanding the risks and opportunities for the site	LE02X	LE 03 Managing negative impacts on ecology	LE 04 Change and enhancement of ecological value	LE 05 Long term impact on biodiversity
0 / 2	2 / 2	0 / 1	3 / 3	3 / 4	2 / 2

Pollution

Pol 01 Impact of refrigerants	Pol 02 Local air quality	Pol 03 Flood risk management and reducing surface water run-off	Pol 04 Reduction of Night Time Light Pollution	Pol 05 Noise attenuation
3 / 3	0 / 2	4 / 5	1 / 1	1 / 1

Innovation

Inn 01 Innovation	Inn01X
N/A	0 / 10

Initial details

Initial details

Technical manual issue number : Issue 1.0

Project scope : Fully fitted

Building type (main description) : Non-residential institution

Sub-group : Day centre, hall, civic or community centre

Assessment stage :

Building floor area (GIA) : 2000 m^2

Building floor area (NIFA) : 1999 m^2

Is the building designed to be untreated? : No

Building services - heating system type : Wet system

Building services - cooling system type : Comfort cooling

Are commercial or industrial-sized refrigeration and storage systems specified? : No

Are building user lifts present? : Yes

Are building user escalators or moving walks present? : No

Are laboratories present? : No

Are there fume cupboard(s) and/or other containment devices present? : No

Are there any water demands present other than those assessed in Wat 01? : Yes

Does the building have external areas within the boundary of the assessed development? : Yes

Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space : No

Are there any systems specified that contribute to the unregulated energy load? : Yes

Are the Post-occupancy stage credits targeted in Ene 01 issue? : No

Category assessment

Management | Man

Man 01 Project Brief and design

To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.

Site :

ASSESSMENT CRITERIA	
Project delivery planning :	Yes
Stakeholder consultation (interested parties) :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	

Credits awarded : 2.0

Comments :
Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Man 02 Life cycle cost and service life planning

To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.

Site :

ASSESSMENT CRITERIA	
Elemental LCC :	
Component level LCC options appraisal :	
Capital cost reporting :	Yes
Capital cost of the project :	1111 Â£k/m^2

Credits awarded : 1.0

Comments :
Capital Cost is to be reported for the development (£/m2)

Man 03 Responsible construction practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'? :	Yes
Environmental management :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	Yes
BREEAM Advisory Professional (site) :	
Responsible construction management :	2

Monitoring of construction site impacts :	Yes
Utility consumption :	Yes
Transport of construction materials and waste :	Yes
Exemplary level criteria - Responsible construction management :	No

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE ENERGY USE

Energy consumption (total) - site processes :

Energy consumption (intensity) - site processes :

Distance (total) - materials transport to site :

Distance (total) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE GREENHOUSE GAS EMISSIONS

Process greenhouse gas emissions (total) - site processes :

Carbon dioxide emissions (intensity) - site processes :

Carbon dioxide emissions (total) - materials transport to site :

Carbon dioxide emissions (total) - waste transport from site :

Carbon dioxide emissions (intensity) - materials transport to site :

Carbon dioxide emissions (intensity) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE USE OF POTABLE WATER RESOURCES:

Use of potable water resource (total) - site processes :

Use of potable water resource (intensity) - site processes :

Credits awarded : 3.0

Comments :
All timber and timber-based products used on the project will be 'Legally harvested and traded timber';
The principal contractor will operate an Environmental Management System;
Responsible construction management will be carried out by the principal contractor; and
Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Man 04 Commissioning and handover

To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.

Site :

ASSESSMENT CRITERIA

Commissioning testing schedule and responsibilities :	Yes
Commissioning - design and preparation :	Yes
Testing and inspecting building fabric :	Yes
Handover - have a technical and a non-technical building user guide been developed prior to handover? :	Yes
Handover - have a technical and a non-technical training schedule been prepared around handover? :	Yes

Credits awarded : 4.0

Comments :
A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems

and building fabric in line with best practice will be undertaken;
Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,
Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.

Man 05 Aftercare

To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.

Site :

ASSESSMENT CRITERIA	
Aftercare support :	Yes
Commissioning - implementation :	Yes
Post occupancy evaluation :	Yes
The client or building occupier commits funds to pay for the POE in advance. :	Yes

Credits awarded : 3.0

Comments :
Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s);
Seasonal commissioning activities will be completed over a minimum twelve month period, once the building becomes substantially occupied; and,
The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the buildingÂs post occupancy performance.

Hea 01 Visual comfort

To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.

Site :

ASSESSMENT CRITERIA	
Control of glare from sunlight :	Yes
Daylighting (building type dependent) :	1
View Out :	No
Internal and external lighting levels, zoning and controls :	Yes
Exemplary level criteria - Daylighting :	No
Exemplary level criteria- Internal and external lighting levels, zoning and control :	No

Credits awarded : 3.0

Comments :
Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out.
Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,
Internal lighting will be zoned to allow for occupant control.

Hea 02 Indoor air quality

To encourage and support healthy internal environments with good indoor air quality.

Site :

ASSESSMENT CRITERIA	
Pre requisite: Indoor air quality (IAQ) plan :	Yes
Ventilation :	No
Emissions from building products :	2
Post-construction indoor air quality measurement :	Yes
Exemplary level criteria- Emissions from building products :	No

KEY PERFORMANCE INDICATORS	
Formaldehyde concentration :	
Total volatile organic compound (TVOC) concentration :	

Credits awarded : 2.0

Comments :
An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building; and,
The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building.
The concentration of VOCs in paints and varnishes will be monitored and reduced.

Hea 04 Thermal comfort

To ensure the building is capable of providing an appropriate level of thermal comfort.

Site :

ASSESSMENT CRITERIA	
Thermal modelling :	Yes
Design for future thermal comfort :	Yes
Thermal zoning and controls :	Yes

KEY PERFORMANCE INDICATORS
PMV and PPD Indices :

Credits awarded : 3.0

Comments :
Thermal modelling will be carried out to appropriate standards;
Projected climate change scenario(s) will be considered as part of the thermal model; and
The thermal modelling analysis will informed the temperature control strategy for the building and its users.

Hea 05 Acoustic performance

To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.

Site :

ASSESSMENT CRITERIA	
Criteria performance requirements or SQA bespoke requirements? :	Criteria performance requirements
Sound insulation :	1
Indoor ambient noise level :	Yes
Room acoustics :	Yes

Credits awarded : 3.0

Comments :
The building will meet the appropriate acoustic performance standards and testing requirements in terms of:
- Sound insulation
- Indoor ambient noise level
- Reverberation times.

Hea 06 Security

To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

Site :

ASSESSMENT CRITERIA	
Security of site and building :	Yes
Exemplary level criteria :	No

Credits awarded : 1.0

Hea 07 Safe and Healthy Surroundings

To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users. .

Site :

ASSESSMENT CRITERIA	
Safe Access :	Yes
Outside Space :	Yes

Credits awarded : 2.0

Comments :
Safe access for pedestrians and cyclist will be provided; and
The provision of outdoor space amenity space for the building users.

Ene 01 Reduction of energy use and carbon emissions

To minimise operational energy demand, primary energy consumption and CO2 emissions.

Site :

ASSESSMENT CRITERIA	
Country :	England
Actual building energy demand :	260 MJ/m^2 yr
Notional building energy demand :	328 MJ/m^2 yr
Actual building primary energy consumption :	115 kWh/m^2 yr
Notional building primary energy consumption :	131 kWh/m^2 yr
Actual building CO_2 emissions (BER) :	13 KgCO_2/m^2 yr
Notional building CO_2 emissions (TER) :	23 KgCO_2/m^2 yr

BUILDING SCORE	
Total BREEAM credits achieved :	5.0
Heating and cooling demand energy performance ratio (EPRdem) :	0.154
Primary consumption energy performance ratio (EPRpc) :	0.133
CO_2 energy performance ratio (EPRco2) :	0.253
Overall building energy performance ratio (EPRnc) :	0.54
% improvement BER/TER :	43.5 %
Calculate score :	

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Zero net CO_2 emissions :	No
Equivalent % of additional emissions from unregulated energy that are offset by LZC sources :	
Is the building designed to be carbon negative? :	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported? :	

ASSESSMENT CRITERIA	
Prerequisite - Has a design workshop focusing on operational energy performance been carried out? :	Yes
Additional energy modelling to generate predicted operational energy consumption figures carried out? :	Yes
Predicted energy consumption targets by end use, design assumptions and input data reported? :	Yes
Risk assessment to highlight any significant design, technical, and process risks? :	Yes

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	
The energy model is submitted to BRE and retained by the building owner? :	

Credits awarded : 9.0

Comments :
Representative data used to demonstrate credit allocation - 5no. credits awarded for improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide.
4no. credits awarded for completing additional energy models during the design stages.

Ene 02 Energy monitoring

To encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.

Site :

ASSESSMENT CRITERIA	
Sub-metering of end use categories :	Yes
Sub-metering of high energy load and tenancy areas :	Yes

Credits awarded : 2.0

Comments :
Energy metering systems will be installed to enable energy consumption to be assigned to end users and function areas.

Ene 03 External lighting

To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Is external lighting specified in accordance with the relevant criteria? :	

Credits awarded : 1.0

Comments :
All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,
External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Ene 04 Low carbon design

To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.

Site :

ASSESSMENT CRITERIA	
Has the first credit within Hea 04 been achieved? :	Yes
Passive design analysis :	No
Free cooling :	No
Low and zero carbon technologies :	Yes

KPI

Total on-site and/or near-site LZC energy generation :

Expected energy demand and CO2 emissions reduction resulting from passive design measures :

Energy demand :

CO2 emissions :

Expected energy demand and CO2 emissions reduction resulting from passive design measures as a percentage :
Energy demand :

CO2 emissions :

Expected reduction in CO2 emissions resulting from the LZC technologies :

Expected reduction in CO2 emissions resulting from the LZC technologies as a percentage :

Credits awarded : 1.0

Comments :
Low or Zero Carbon technologies to form part of the energy strategy

Ene 05 Energy efficient cold storage

To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.

Site :

Credits awarded : 0.0

Ene 06 Energy efficient transportation systems

To encourage the specification of energy efficient transport systems within buildings.

Site :

ASSESSMENT CRITERIA	
Energy consumption :	Yes
Energy efficient features - Lifts :	Yes

Credits awarded : 2.0

Comments :
An analysis of the transport demand and usage patterns will be undertaken to determine the optimum number and size of lifts, and Energy efficient installations will be specified.

Ene 07 Energy efficient laboratory systems

To encourage laboratory areas that are designed to minimise their operational energy consumption and associated CO2 emission

Site :

Credits awarded : 0.0

Ene 08 Energy efficient equipment

To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation

Site :

ASSESSMENT CRITERIA	
Swimming pool present? :	No
Major impact? :	
Laundry facilities with commercial-sized appliances present? :	No
Major impact? :	
Data centre present? :	
Major impact? :	
IT-intensive operating areas present? :	No
Major impact? :	
Domestic scale appliances (individual and communal facilities) present? :	Yes
Major impact? :	No
Healthcare equipment present? :	No
Major impact? :	
Kitchen and catering facilities present? :	Yes
Major impact? :	No
Other contributors :	
Significant majority contributors BREEAM compliant :	Yes

Credits awarded : 2.0

Comments :
The identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand; and,
A meaningful reduction in the total unregulated energy demand of the building will be demonstrated.

Tra 01 Transport assessment and travel plan

To reward awareness of existing local transport and identify improvements to make it more sustainable.

Site :

ASSESSMENT CRITERIA	
Travel plan :	Yes

Credits awarded : 2.0

Comments :
A site specific travel plan based on the needs of the site will be undertaken to promote sustainable reductions in transport burdens;

Tra 02 Sustainable transport measures

To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Issue Tra 01 'Transport assessment and travel plan' credits achieved :	Yes
Location type (based on existing AI) :	AI <25
Number of points achieved overall :	5

Credits awarded : 5.0

Comments :
Sustainable transport measure across the site will be maximised through the development, such as: such as: improve local cycling, sign posting, public transport, possible electric charging stations and car sharing.

Wat 01 Water consumption

To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

Site :

ASSESSMENT CRITERIA	
Please select the calculation procedure used :	Standard approach
Credits awarded :	3
Exemplary performance :	No

KEY PERFORMANCE INDICATORS

Standard approach data: :

Water Consumption from building micro-components :

Water demand met via greywater/rainwater sources :

Total net water consumption :

Improvement on baseline performance :

Key Performance Indicator - use of freshwater resource: :

Total net Water Consumption :

Default building occupancy :

Credits awarded : 3.0

Comments :
The buildings will be specified with efficient water fixtures and controls. This will result in over a 40% improvement over the BREÂs baseline performance of water consumption for the internal water sanitary fittings is targeted;

Wat 02 Water monitoring

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Site :

ASSESSMENT CRITERIA	
Water meter on the mains water supply to each building :	Yes
Sub-metering/monitoring equipment on supply to plant/building areas :	Yes
Pulsed output or other open protocol communication output and BMS connection :	Yes
The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (L/person/day) :	No

Credits awarded : 1.0

Comments :
A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Wat 03 Water leak detection

To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.

Site :

ASSESSMENT CRITERIA	
Leak detection system :	Yes
Flow control devices :	Yes

Credits awarded : 2.0

Comments :
Â The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply;

Â Flow control devices will be used to regulate the supply of water to each WC area/facility to reduce water wastage

Wat 04 Water efficient equipment

To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Site :

ASSESSMENT CRITERIA	
Water efficient consumption :	Yes

Credits awarded : 1.0

Comments :
Landscaping will be watered soley by precipitation throughout all seasons on the year.

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Site :

ASSESSMENT CRITERIA	
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool :	3
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool :	0

Credits awarded : 3.0

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Site :

ASSESSMENT CRITERIA	
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. :	1

Credits awarded : 1.0

Comments :
Collection of robust and comparable data on the impacts of construction products through the provision of EPD.

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Site :

ASSESSMENT CRITERIA	
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	Yes
Percentage of available for percentage of RSM points achieved :	18 %

Credits awarded : 2.0

Comments :
Materials will be sourced in accordance with a sustainable procurement plan;
Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;
Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Site :

ASSESSMENT CRITERIA	
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation :	Yes

Credits awarded : 1.0

Comments :
Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,
Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Site :

ASSESSMENT CRITERIA	
Material optimisation measures investigated and implemented at all relevant stages :	No

Credits awarded : 0.0

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practicesto minimise waste going to landfill.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :	No
Compliant Resource Management Plan :	Yes
Have waste materials been sorted into separate key waste groups? :	Yes
Exemplary level criteria :	No

KPI	
Measure/units for the data being reported :	m^3
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :	3.2 m3/100m2
Total non-hazardous construction waste generated :	3.2 m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous non-demolition construction waste diverted from landfill :	3.2 m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous demolition waste generated :	3.2 m3
Total non-hazardous demolition waste to disposal :	3.2 m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit :	80 %
Material for reuse :	0 m3
Material for recycling :	0 m3
Material for energy recovery :	0 m3
Hazardous waste to disposal :	0 m3

Credits awarded : 4.0

Comments :
Representative data used to allocate credits
Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:
Â Procedures to reduce construction waste related to on-site construction and off site manufacture/fabrication; and
Â Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed	No

development? :
Projects Sustainable Aggregate points : 3.5

KPI

Total quantity of aggregate :

% of high - grade aggregate that is recycled/ secondary aggregate by application :

Credits awarded : 1.0

Comments :
The use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Site :

ASSESSMENT CRITERIA

Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	N/A
Vessel(s) for composting suitable organic waste and water outlet :	N/A

Credits awarded : 1.0

Comments :
Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Site :

Credits awarded : 0.0

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.

Site :

ASSESSMENT CRITERIA

Resilience of structure, fabric, building services and renewables installation :	Yes
Exemplary level - responding to climate change :	

Credits awarded : 1.0

Comments :
Credits awarded for the creation of a climate change adaptation strategy appraisal which will consider the mitigation measures for more extreme weather events arising from climate change over the lifespan of the building.

Wst 06 Design for disassembly and adaptability

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

Site :

ASSESSMENT CRITERIA	
Design for disassembly and functional adaptability - recommendations :	Yes
Disassembly and functional adaptability - implementation :	Yes

Credits awarded : 2.0

Comments :
Credits awarded where a building specific adaptation strategy will be undertaken to encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

LE 01 Site selection

To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.

Site :

ASSESSMENT CRITERIA	
Percentage of proposed development's footprint on previously occupied land: :	0 %
Contaminated land :	No

Credits awarded : 0.0

LE 02 Identifying and understanding the risks and opportunities for the site

To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Assessment route selection :	Route 2
Prerequisite - The client or contractor confirms monitoring of compliance with all Relevant UK and EU or international legislation :	Yes
Survey and Evaluation :	Yes
Determining the ecological outcomes of the site :	Yes
Exemplary level - Determining the ecological outcomes of the site :	No

Credits awarded : 2.0

Comments :
A Suitably Qualified Ecologist will be appointed to identify and understand the ecological risks and opportunities associated with the site to inform the landscaping and protection of existing ecological features.

LE 03 Managing negative impacts on ecology

To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Planning, liaison and implementation :	Yes
Managing negative impacts of the project :	2

Credits awarded : 3.0

Comments :
Credits have been awarded as it is not anticipated that there will be any negative change in plant species richness.

LE 04 Change and enhancement of ecological value

To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Liaison, implementation and data (Route 2 only) :	Yes
Enhancement of ecology (route 2 only) :	2

Credits awarded : 3.0

Comments :
Credits have been awarded where the proposals increase the ecological value of the site

LE 05 Long term impact on biodiversity

To secure ongoing monitoring, management and maintenance of the site and, its habitats ecological features to ensure intended outcomes are realised for the long term.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Roles and responsibilities, implementation, statutory obligations :	Yes
Liaison, monitoring implementation, evolving management and maintenance solutions :	Yes
Landscape and management plan :	Yes

Credits awarded : 2.0

Comments :
Long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive

Pol 01 Impact of refrigerants

To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.

Site :

ASSESSMENT CRITERIA	
Refrigerant containing systems installed in the assessed building? :	No

Credits awarded : 3.0

Comments :
No refrigerant specified at this stage, therefore the default credits have been awarded.

Pol 02 Local air quality

To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.

Site :

ASSESSMENT CRITERIA	
How many credits have been achieved? :	0

Credits awarded : 0.0

Comments :
The heating and hot water will have, under normal operating conditions, low dry NOx levels. Credits have been awarded where the system proposed will target a maximum of 40mg/kWh. The heating system at this stage is assumed to be gas.

Pol 03 Flood risk management and reducing surface water run-off

To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	
Flooding of property will not occur in the event of local drainage system failure :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	Yes

Credits awarded : 4.0

Comments :
The site location has a low annual probability of flooding (flood risk zone 1);
The drainage strategy will comply with the BREEAM criteria, where the peak rate of run-off from the site to the watercourse is no

greater for the develop site than it was for the pre-development site. This should comply with the 1 year and 100 year return period events;
The site is greenfield, the expectation is that on site attenuation or SUDs may be implemented as the proposed development will result in an increase of the impermeable surfacing; and,
Credits have been awarded where measures to minimise watercourse pollution will take place.

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Does external lighting meet all relevant criteria? :	

Credits awarded : 1.0

Comments :
External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Site :

ASSESSMENT CRITERIA	
Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1.0

Comments :
Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Site :

ASSESSMENT CRITERIA	
Number of 'approved' innovation credits achieved? :	0

Credits awarded : 0.0

Assessment report: Sandleford Park - Retail

Pre-assessment

Site name:

Client name:

Date: 12/7/2018

Assessment ref: 2018.128

Assessment details

Assessment references

Registration number:	2018.128	**Date created:**	12/7/2018
Created by:	Stacey Downes {Element Sustainability Ltd}		
Architect name:			
Developer name:			
Property owner			

Site details

Site name:

Address:

Town:

County:

Post code:

Country:

Certificate details

The certificate will have the name of the architect (if entered above) and the name of the developer (from above).

Any other names to appear on the certificate are listed below:

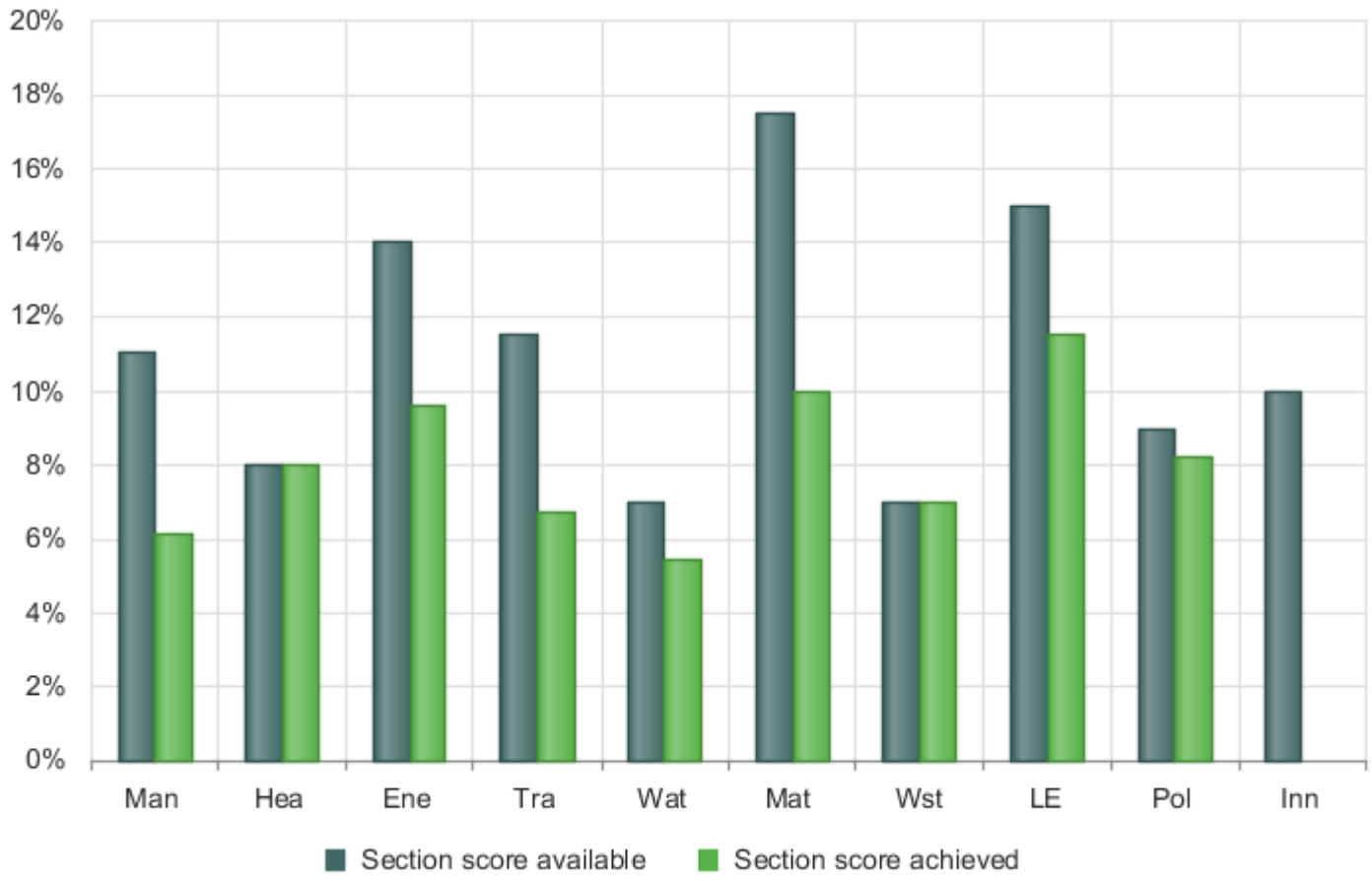
Name	Label

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	18.0	10.0	55.56%	11.00%	6.11%
Hea	11.0	11.0	100.00%	8.00%	8.00%
Ene	19.0	13.0	68.42%	14.00%	9.57%
Tra	12.0	7.0	58.33%	11.50%	6.70%
Wat	9.0	7.0	77.78%	7.00%	5.44%
Mat	14.0	8.0	57.14%	17.50%	10.00%
Wst	9.0	9.0	100.00%	7.00%	7.00%
LE	13.0	10.0	76.92%	15.00%	11.53%
Pol	12.0	11.0	91.67%	9.00%	8.25%
Inn	10.0	0.0	0.00%	10.00%	0.00%
Total	127.0	86.0	67.72%	-	72.63%
Rating	-	-	-	-	Excellent

Performance by environmental category



Issue scores

Please Note: X means the exemplary credit for the relevant issue

Management

Man 01 Project Brief and design	Man 02 Life cycle cost and service life planning	Man 03 Responsible construction practices	Man03X	Man 04 Commissioning and handover	Man 05 Aftercare
2 / 4	1 / 4	3 / 6	0 / 1	4 / 4	N/A

Health and Wellbeing

Hea 01 Visual comfort	Hea01X	Hea 02 Indoor air quality	Hea 04 Thermal comfort	Hea 05 Acoustic performance	Hea 06 Security	Hea06X	Hea 07 Safe and Healthy Surroundings
4 / 4	0 / 1	1 / 1	2 / 2	1 / 1	1 / 1	0 / 1	2 / 2

Energy

Ene 01 Reduction of energy use and carbon emissions	Ene01X	Ene 02 Energy monitoring	Ene 03 External lighting	Ene 04 Low carbon design	Ene 05 Energy efficient cold storage	Ene 06 Energy efficient transportation systems	Ene 07 Energy efficient laboratory systems	Ene 08 Energy efficient equipment
9 / 13	0 / 5	2 / 2	1 / 1	1 / 3	N/A	N/A	N/A	N/A

Transport

Tra 01 Transport assessment and travel plan	Tra 02 Sustainable transport measures
2 / 2	5 / 10

Water

Wat 01 Water consumption	Wat01X	Wat 02 Water monitoring	Wat 03 Water leak detection	Wat 04 Water efficient equipment
3 / 5	0 / 1	1 / 1	2 / 2	1 / 1

Materials

Mat 01 Life cycle impacts	Mat01X	Mat 02 Environmental impacts from construction products	Mat 03 Responsible sourcing	Mat03X	Mat 05 Designing for durability and resilience	Mat 06 Material efficiency
4 / 7	0 / 3	1 / 1	2 / 4	0 / 1	1 / 1	0 / 1

Waste

Wst 01 Construction waste management	Wst01X	Wst 02 Use of recycled and sustainably sourced aggregates	Wst02X	Wst 03 Operational waste	Wst 04 Speculative	Wst 05 Adaptation to climate change	Wst05X	Wst 06 Design for

					finishes (Offices only)			disassembly and adaptability
4 / 4	0 / 1	1 / 1	0 / 1	1 / 1	N/A	1 / 1	0 / 1	2 / 2

Land use and ecology

LE 01 Site selection	LE 02 Identifying and understanding the risks and opportunities for the site	LE02X	LE 03 Managing negative impacts on ecology	LE 04 Change and enhancement of ecological value	LE 05 Long term impact on biodiversity
0 / 2	2 / 2	0 / 1	3 / 3	3 / 4	2 / 2

Pollution

Pol 01 Impact of refrigerants	Pol 02 Local air quality	Pol 03 Flood risk management and reducing surface water run-off	Pol 04 Reduction of Night Time Light Pollution	Pol 05 Noise attenuation
3 / 3	1 / 2	5 / 5	1 / 1	1 / 1

Innovation

Inn 01 Innovation	Inn01X
N/A	0 / 10

Initial details

Initial details

Technical manual issue number : Issue 1.0

Project scope : Shell and core

Building type (main description) : Retail

Sub-group : Shop or shopping centre

Assessment stage :

Building floor area (GIA) : 1000 m^2

Building floor area (NIFA) : 900 m^2

Is the building designed to be untreated? : No

Building services - heating system type : Wet system

Building services - cooling system type : Comfort cooling

Are commercial or industrial-sized refrigeration and storage systems specified? : No

Are building user lifts present? : No

Are building user escalators or moving walks present? : No

Are laboratories present? : No

Are there fume cupboard(s) and/or other containment devices present? : No

Are there any water demands present other than those assessed in Wat 01? : Yes

Does the building have external areas within the boundary of the assessed development? : Yes

Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space : No

Are there any systems specified that contribute to the unregulated energy load? : No

Are the Post-occupancy stage credits targeted in Ene 01 issue? : No

Category assessment

Management | Man

Man 01 Project Brief and design

To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.

Site :

ASSESSMENT CRITERIA	
Project delivery planning :	Yes
Stakeholder consultation (interested parties) :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	Yes
BREEAM Advisory Professional (Concept Design) :	No
BREEAM Advisory Professional (Developed Design) :	No

Credits awarded : 2.0

Comments :
Stakeholder consultation will be undertaken covering project delivery and relevant third parties.

Man 02 Life cycle cost and service life planning

To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.

Site :

ASSESSMENT CRITERIA	
Elemental LCC :	No
Component level LCC options appraisal :	
Capital cost reporting :	Yes
Capital cost of the project :	1000 Â£k/m^2

Credits awarded : 1.0

Comments :
Capital Cost is to be reported for the development (£/m2)

Man 03 Responsible construction practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'? :	Yes
Environmental management :	Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :	Yes

BREEAM Advisory Professional (site) :	No
Responsible construction management :	2
Monitoring of construction site impacts :	Yes
Utility consumption :	Yes
Transport of construction materials and waste :	Yes
Exemplary level criteria - Responsible construction management :	No

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE ENERGY USE

Energy consumption (total) - site processes :

Energy consumption (intensity) - site processes :

Distance (total) - materials transport to site :

Distance (total) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE GREENHOUSE GAS EMISSIONS

Process greenhouse gas emissions (total) - site processes :

Carbon dioxide emissions (intensity) - site processes :

Carbon dioxide emissions (total) - materials transport to site :

Carbon dioxide emissions (total) - waste transport from site :

Carbon dioxide emissions (intensity) - materials transport to site :

Carbon dioxide emissions (intensity) - waste transport from site :

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE USE OF POTABLE WATER RESOURCES:

Use of potable water resource (total) - site processes :

Use of potable water resource (intensity) - site processes :

Credits awarded : 3.0

Comments :
All timber and timber-based products used on the project will be 'Legally harvested and traded timber';
The principal contractor will operate an Environmental Management System;
Responsible construction management will be carried out by the principal contractor; and
Site related energy, transport and water impacts are monitored and reported to ensure ongoing compliance during the Construction, Handover and Close Out stages to improve awareness and understanding for future projects.

Man 04 Commissioning and handover

To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.

Site :

ASSESSMENT CRITERIA

Commissioning testing schedule and responsibilities :	Yes
Commissioning - design and preparation :	Yes
Testing and inspecting building fabric :	Yes
Handover - have a technical and a non-technical building user guide been developed prior to handover? :	Yes
Handover - have a technical and a non-technical training schedule been prepared around handover? :	Yes

Credits awarded : 4.0

Comments :
A schedule of commissioning including optimal timescales, appropriate testing and commissioning of all building services systems and building fabric in line with best practice will be undertaken;
Inspecting, testing, identifying and rectifying defects via an appropriate method will be carried out; and,
Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation will enable building users to use and manage the building operations efficiently.

Man 05 Aftercare

To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.

Site :

Credits awarded : 0.0

Comments :
Credit Not Sought

Hea 01 Visual comfort

To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.

Site :

ASSESSMENT CRITERIA	
Daylighting (building type dependent) :	2
View Out :	Yes
External lighting for Shell and core, and Shell only assessments :	Yes
Exemplary level criteria - Daylighting :	No

Credits awarded : 4.0

Comments :
Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out.
Internal and external lighting systems will be designed to avoid flicker and provide appropriate illuminance (lux) levels. This will ensure best practice in visual performance and comfort for building occupants; and,
Internal lighting will be zoned to allow for occupant control.

Hea 02 Indoor air quality

To encourage and support healthy internal environments with good indoor air quality.

Site :

ASSESSMENT CRITERIA	
Pre requisite: Indoor air quality (IAQ) plan :	Yes
Ventilation :	Yes

Credits awarded : 1.0

Comments :
An indoor air quality plan will be produced, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building; and,
The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building.

Hea 04 Thermal comfort

To ensure the building is capable of providing an appropriate level of thermal comfort.

Site :

ASSESSMENT CRITERIA	
Thermal modelling :	Yes
Design for future thermal comfort :	Yes

KEY PERFORMANCE INDICATORS
PMV and PPD Indices :

Credits awarded : 2.0

Comments :
Thermal modelling will be carried out to appropriate standards;
Projected climate change scenario(s) will be considered as part of the thermal model; and
The thermal modelling analysis will informed the temperature control strategy for the building and its users.

Hea 05 Acoustic performance

To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.

Site :

ASSESSMENT CRITERIA	
Criteria performance requirements or SQA bespoke requirements? :	Criteria performance requirements
Indoor ambient noise level :	Yes

Credits awarded : 1.0

Comments :
The building will meet the appropriate acoustic performance standards and testing requirements in terms of:
- Indoor ambient noise level

Hea 06 Security

To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

Site :

ASSESSMENT CRITERIA	
Security of site and building :	Yes
Exemplary level criteria :	No

Credits awarded : 1.0

Comments :
Secure By Design - Security needs will be understood and taken into account in the design and specification

Hea 07 Safe and Healthy Surroundings

To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users. .

Site :

ASSESSMENT CRITERIA	
Safe Access :	Yes
Outside Space :	Yes

Credits awarded : 2.0

Comments :
Safe access for pedestrians and cyclist will be provided; and
The provision of outdoor space amenity space for the building users.

Ene 01 Reduction of energy use and carbon emissions

To minimise operational energy demand, primary energy consumption and CO2 emissions.

Site :

ASSESSMENT CRITERIA	
Country :	England
Actual building energy demand :	260 MJ/m^2 yr
Notional building energy demand :	328 MJ/m^2 yr
Actual building primary energy consumption :	115 kWh/m^2 yr
Notional building primary energy consumption :	131 kWh/m^2 yr
Actual building CO_2 emissions (BER) :	13 KgCO_2/m^2 yr
Notional building CO_2 emissions (TER) :	21 KgCO_2/m^2 yr

BUILDING SCORE	
Total BREEAM credits achieved :	5.0
Heating and cooling demand energy performance ratio (EPRdem) :	0.154
Primary consumption energy performance ratio (EPRpc) :	0.133
CO_2 energy performance ratio (EPRco2) :	0.253
Overall building energy performance ratio (EPRnc) :	0.54
% improvement BER/TER :	43.5 %
Calculate score :	

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Zero net CO_2 emissions :	No
Equivalent % of additional emissions from unregulated energy that are offset by LZC sources :	
Is the building designed to be carbon negative? :	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported? :	

ASSESSMENT CRITERIA	
Prerequisite - Has a design workshop focusing on operational energy performance been carried out? :	Yes
Additional energy modelling to generate predicted operational energy consumption figures carried out? :	Yes
Predicted energy consumption targets by end use, design assumptions and input data reported? :	Yes
Risk assessment to highlight any significant design, technical, and process risks? :	Yes

ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	No
The energy model is submitted to BRE and retained by the building owner? :	No

Credits awarded : 9.0

Comments :
Representative data used to demonstrate credit allocation - 5no. credits awarded for improvements in the energy performance of the building above national building regulations in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide.
4no. credits awarded for completing additional energy models during the design stages.

Ene 02 Energy monitoring

To encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.

Site :

ASSESSMENT CRITERIA	
Sub-metering of end use categories :	Yes
Sub-metering of high energy load and tenancy areas :	Yes

Credits awarded : 2.0

Comments :
Energy metering systems will be installed to enable energy consumption to be assigned to end users and function areas.

Ene 03 External lighting

To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Is external lighting specified in accordance with the relevant criteria? :	

Credits awarded : 1.0

Comments :
All new external light fittings, where provided, within the construction zone will be dedicated low energy; and,
External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours.

Ene 04 Low carbon design

To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.

Site :

ASSESSMENT CRITERIA	
Has the first credit within Hea 04 been achieved? :	Yes
Passive design analysis :	No
Free cooling :	No
Low and zero carbon technologies :	Yes

KPI

Total on-site and/or near-site LZC energy generation :

Expected energy demand and CO2 emissions reduction resulting from passive design measures :

Energy demand :

CO2 emissions :

Expected energy demand and CO2 emissions reduction resulting from passive design measures as a percentage :
Energy demand :

CO2 emissions :

Expected reduction in CO2 emissions resulting from the LZC technologies :

Expected reduction in CO2 emissions resulting from the LZC technologies as a percentage :

Credits awarded : 1.0

Comments :
Low or Zero Carbon technologies to form part of the energy strategy

Ene 05 Energy efficient cold storage

To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.

Site :

Credits awarded : 0.0

Ene 06 Energy efficient transportation systems

To encourage the specification of energy efficient transport systems within buildings.

Site :

Credits awarded : 0.0

Comments :
Credit Not Applicalbe

Ene 07 Energy efficient laboratory systems

To encourage laboratory areas that are designed to minimise their operational energy consumption and associated CO2 emission

Site :

Credits awarded : 0.0

Ene 08 Energy efficient equipment

To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation

Site :

Credits awarded : 0.0

Tra 01 Transport assessment and travel plan

To reward awareness of existing local transport and identify improvements to make it more sustainable.

Site :

ASSESSMENT CRITERIA	
Travel plan :	Yes

Credits awarded : 2.0

Comments :
A site specific travel plan based on the needs of the site will be undertaken to promote sustainable reductions in transport burdens;

Tra 02 Sustainable transport measures

To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Issue Tra 01 'Transport assessment and travel plan' credits achieved :	Yes
Location type (based on existing AI) :	AI <25
Number of points achieved overall :	5

Credits awarded : 5.0

Comments :
Sustainable transport measure across the site will be maximised through the development, such as: such as: improve local cycling, sign posting, public transport, possible electric charging stations and car sharing.

Wat 01 Water consumption

To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

Site :

ASSESSMENT CRITERIA	
Are all the components specified and installed by the tenant not the developer? :	Yes
Please select the calculation procedure used :	Standard approach
Credits awarded :	3
Exemplary performance :	No

KEY PERFORMANCE INDICATORS

Standard approach data: :

Water Consumption from building micro-components :

Water demand met via greywater/rainwater sources :

Total net water consumption :

Improvement on baseline performance :

Key Performance Indicator - use of freshwater resource: :

Total net Water Consumption :

Default building occupancy :

Credits awarded : 3.0

Comments :
The buildings will be specified with efficient water fixtures and controls. This will result in over a 40% improvement over the BREÂs baseline performance of water consumption for the internal water sanitary fittings is targeted;

Wat 02 Water monitoring

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Site :

ASSESSMENT CRITERIA	
Water meter on the mains water supply to each building :	Yes
Sub-metering/monitoring equipment on supply to plant/building areas :	Yes
Pulsed output or other open protocol communication output and BMS connection :	Yes

Credits awarded : 1.0

Comments :
A water meter on the mains water supply to the building will be specified to monitor and manage consumption and sub- metered to tenant areas.

Wat 03 Water leak detection

To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.

Site :

ASSESSMENT CRITERIA	
Leak detection system :	Yes
Flow control devices :	Yes

Credits awarded : 2.0

Comments :
Â The provision of a leak detection systems capable of detecting a major water leaks on the mains water supply;

Â Flow control devices will be used to regulate the supply of water to each WC area/facility to reduce water wastage

Wat 04 Water efficient equipment

To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Site :

ASSESSMENT CRITERIA	
Water efficient consumption :	Yes

Credits awarded : 1.0

Comments :
Landscaping will be watered soley by precipitation throughout all seasons on the year.

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Site :

ASSESSMENT CRITERIA	
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool :	4
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool :	0

Credits awarded : 4.0

Comments :
Materials will be selected which have a low environmental impact throughout their life cycle for the main building elements, through conducting a through conducting a life cycle assessment and integrating its outcomes in the design decision-making process.

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Site :

ASSESSMENT CRITERIA	
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. :	1

Credits awarded : 1.0

Comments :
Collection of robust and comparable data on the impacts of construction products through the provision of EPD.

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Site :

ASSESSMENT CRITERIA	
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	Yes
Percentage of available for percentage of RSM points achieved :	18 %

Credits awarded : 2.0

Comments :
Materials will be sourced in accordance with a sustainable procurement plan;
Suppliers and manufacturers who operate Environmental Management Systems will be prioritised;
Responsible sourcing of materials will be managed by the contractor. All timber used within the development will be responsibly sourced, verified by the FSC or PEFC standard

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Site :

ASSESSMENT CRITERIA	
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation :	Yes

Credits awarded : 1.0

Comments :
Adequate protection will be provided for exposed elements of the building and landscaped areas, therefore minimising the frequency of replacement materials; and,
Relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Site :

ASSESSMENT CRITERIA	
Material optimisation measures investigated and implemented at all relevant stages :	No

Credits awarded : 0.0

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practicesto minimise waste going to landfill.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :	No
Compliant Resource Management Plan :	Yes
Have waste materials been sorted into separate key waste groups? :	Yes
Exemplary level criteria :	No

KPI	
Measure/units for the data being reported :	m^3
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :	3.2 m3/100m2
Total non-hazardous construction waste generated :	3.2 m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous non-demolition construction waste diverted from landfill :	3.2 m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :	80 %
Total non-hazardous demolition waste generated :	3.2 m3
Total non-hazardous demolition waste to disposal :	0 m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit :	80 %
Material for reuse :	0 m3
Material for recycling :	0 m3
Material for energy recovery :	0 m3
Hazardous waste to disposal :	0 m3

Credits awarded : 4.0

Comments :
Representative data used to allocate credits
Prior to commencement of the construction phase, a construction resource management plan will be produced by the developer to limit the on and off site environmental impacts of construction. The waste management strategy will also include the following:
Â Procedures to reduce construction waste related to on-site construction and off site manufacture/fabrication; and
Â Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill.

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Site :

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed	No

development? :
Projects Sustainable Aggregate points : 3.5

KPI

Total quantity of aggregate :

% of high - grade aggregate that is recycled/ secondary aggregate by application :

Credits awarded : 1.0

Comments :
The use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Site :

ASSESSMENT CRITERIA

Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	N/A
Vessel(s) for composting suitable organic waste and water outlet :	N/A

Credits awarded : 1.0

Comments :
Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the building occupant(s) and activities will optimise recycling rates.

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Site :

Credits awarded : 0.0

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.

Site :

ASSESSMENT CRITERIA

Resilience of structure, fabric, building services and renewables installation :	Yes
Exemplary level - responding to climate change :	No

Credits awarded : 1.0

Comments :
Credits awarded for the creation of a climate change adaptation strategy appraisal which will consider the mitigation measures for more extreme weather events arising from climate change over the lifespan of the building.

Wst 06 Design for disassembly and adaptability

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

Site :

ASSESSMENT CRITERIA	
Design for disassembly and functional adaptability - recommendations :	Yes
Disassembly and functional adaptability - implementation :	Yes

Credits awarded : 2.0

Comments :
Credits awarded where a building specific adaptation strategy will be undertaken to encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan.

LE 01 Site selection

To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.

Site :

ASSESSMENT CRITERIA	
Percentage of proposed development's footprint on previously occupied land: :	0 %
Contaminated land :	No

Credits awarded : 0.0

Comments :
A Suitably Qualified Ecologist will be appointed to identify and understand the ecological risks and opportunities associated with the site to inform the landscaping and protection of existing ecological features.

LE 02 Identifying and understanding the risks and opportunities for the site

To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.

Site :

ASSESSMENT CRITERIA	
Prerequisite - Assessment route selection :	Route 2
Prerequisite - The client or contractor confirms monitoring of compliance with all Relevant UK and EU or international legislation :	Yes
Survey and Evaluation :	Yes
Determining the ecological outcomes of the site :	Yes
Exemplary level - Determining the ecological outcomes of the site :	No

Credits awarded : 2.0

LE 03 Managing negative impacts on ecology

To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Planning, liaison and implementation :	Yes
Managing negative impacts of the project :	2

Credits awarded : 3.0

Comments :
Credits have been awarded as it is not anticipated that there will be any negative change in plant species richness.

LE 04 Change and enhancement of ecological value

To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Identification and understanding the risks and opportunities for the site :	Yes
Liaison, implementation and data (Route 2 only) :	Yes
Enhancement of ecology (route 2 only) :	2

Credits awarded : 3.0

Comments :
Credits have been awarded where the proposals increase the ecological value of the site

LE 05 Long term impact on biodiversity

To secure ongoing monitoring, management and maintenance of the site and, its habitats ecological features to ensure intended outcomes are realised for the long term.

Site :

ASSESSMENT CRITERIA	
Which assessment route is being followed? :	Route 2
Prerequisite - Roles and responsibilities, implementation, statutory obligations :	Yes
Liaison, monitoring implementation, evolving management and maintenance solutions :	Yes
Landscape and management plan :	Yes

Credits awarded : 2.0

Pol 01 Impact of refrigerants

To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.

Site :

ASSESSMENT CRITERIA	
Refrigerant containing systems installed in the assessed building? :	No

Credits awarded : 3.0

Comments :
No refrigerant specified at this stage, therefore the default credits have been awarded.

Pol 02 Local air quality

To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.

Site :

ASSESSMENT CRITERIA	
How many credits have been achieved? :	1

Credits awarded : 1.0

Comments :
The heating and hot water will have, under normal operating conditions, low dry NOx levels. Credits have been awarded where the system proposed will target a maximum of 40mg/kWh. The heating system at this stage is assumed to be gas.

Pol 03 Flood risk management and reducing surface water run-off

To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.

Site :

ASSESSMENT CRITERIA	
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	Yes
Flooding of property will not occur in the event of local drainage system failure :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	Yes

Credits awarded : 5.0

Comments :
The site location has a low annual probability of flooding (flood risk zone 1);
The drainage strategy will comply with the BREEAM criteria, where the peak rate of run-off from the site to the watercourse is no

greater for the develop site than it was for the pre-development site. This should comply with the 1 year and 100 year return period events;
The site is greenfield, the expectation is that on site attenuation or SUDs may be implemented as the proposed development will result in an increase of the impermeable surfacing; and,
Credits have been awarded where measures to minimise watercourse pollution will take place.

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Site :

ASSESSMENT CRITERIA	
External lighting has been designed out? :	Yes
Does external lighting meet all relevant criteria? :	

Credits awarded : 1.0

Comments :
External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting.

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Site :

ASSESSMENT CRITERIA	
Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1.0

Comments :
Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development.

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Site :

ASSESSMENT CRITERIA	
Number of 'approved' innovation credits achieved? :	0

Credits awarded : 0.0