

RIDGE

GREYFRIARS CHURCH, READING
SUSTAINABILITY STATEMENT

27 March 2019



GREYFRIARS CHURCH, READING SUSTAINABILITY STATEMENT

Date: 27 March 2019

Prepared for

Greyfriars Church
Reading

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Project Name Greyfriars Church, Reading

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CONTENTS

Project Name	1
Project No.	1
1. INTRODUCTION	1
1.1. General	1
1.2. Project description	1
1.3. BREEAM New Construction Classification	1
2. BREEAM PROCESS	1
2.1. Overview	1
2.2. Assessment Timeline	2
2.3. Scoring	3
2.4. Mandatory Requirements	3
2.5. Evidence	4
3. EARLY STAGE ACTIONS	5
4. REQUIREMENTS FOR SPECIALIST CONSULTANTS	6
4.1. Sustainability Champion / BREEAM Advisory Professional	6
4.2. Acoustician	6
4.3. Energy Specialist	6
4.4. Thermographic Survey & Airtightness Testing Specialist	6
4.5. Security Consultant	6
4.6. Ecologist	7
4.7. Civil Engineer	7
4.8. Contaminated Land Specialist	7
4.9. Other Consultants	7
5. BREEAM PRE-ASSESSMENT	8
6. CONCLUSION	8
6.1. General	8
6.2. Next steps	8
APPENDIX A – BREEAM PRE-ASSESSMENT	1

1. INTRODUCTION

1.1. General

Ridge and Partners LLP have been appointed to provide BREEAM pre-assessment services for the proposed development at the Greyfriars Church, Reading.

The aim of this appointment is to provide guidance to the project design team and demonstrate the project’s commitment to the issues of sustainable building design, construction and operation. It is considered that the contents of this report and its associated appendices encompass the requirements of Table A5.2: BREEAM – Sustainable Design Checklist in Appendix 5 of Reading Borough Council’s adopted Revised Sustainable Design and Construction SPD.

This report has been written by a qualified Building Research Establishment Environmental Assessment Method (BREEAM) assessor to provide guidance and information on the following:

- An overview of the BREEAM process
- The mandatory credits that are required to achieve each BREEAM rating
- Early stage actions to be considered
- The requirements for specialist consultants

The author of this report is Abby Bartlett, Principal Sustainability Consultant and Advisory Professional (BRE Reg. RIPA-AB41).

1.2. Project description

The redevelopment of the site is proposed to be phased and will consist of the refurbishment of the residential properties on Sackville Street (no. 2 & 4) with a new atrium lobby and foyer being constructed linking both buildings to the Church. Following this the existing Greyfriars Centre is proposed to be demolished with a new centre constructed in its place. There will also be associated landscaping and planting to enhance the existing amenities.

It should be noted that BREEAM is an assessment methodology that is used to certify individual buildings, as the refurbishment of 2 & 4 Sackville Street and the construction of the new foyer and link lobby are likely to be constructed at the same time and under the same contract it is currently anticipated that they can be assessed under a single BREEAM New Construction assessment.

The construction of the new Greyfriars Centre will be undertaken at a later stage therefore it is assumed this will be assessed separately for the purpose of BREEAM and a separate report will be compiled at the appropriate stage to cover this assessment.

Early discussions with the team have confirmed that the target for the refurbished buildings and new build lobby and foyer (from here on referred to as the Greyfriars Church Development) will be to achieve a BREEAM New Construction 2018 ‘Very Good’ score.

1.3. BREEAM New Construction Classification

It should be noted that it is proposed to assess the refurbished office (circa 250m²), new build lobby (circa 30m²) and new build foyer (circa 300m²) under a single BREEAM New Construction 2018 assessment. This is supported by the BREEAM New Construction 2018 v2 Manual which confirms for part new built and part refurbishment projects with floor areas less than 1,000m², a single assessment is acceptable and the assessment scheme should be chosen based on whichever (new build or refurbishment) constitutes the majority of the assessed floor area. In this instance, the new

build element is larger so New Construction has been chosen with the building type of Non Residential Institution – day centre, hall, civic or community centre or place of worship as it is felt this best reflects the proposed use of this overall space. It is accepted that the space provision from the refurbishment of 2 & 4 Sackville Street will be providing a supporting function to the Church’s new foyer with the inclusion of WC facilities, prayer room and offices therefore a single registration should be acceptable. A formal query has been submitted to the BRE to confirm.

1.3.1. Project Details

Project:	Greyfriars Development, Reading
Project type:	BREEAM UK New Construction (2018)
Building type:	Non-residential institution
Building subtype:	Non-residential institution - Day centre, hall, civic or community centre, place of worship
Assessment type:	Fully fitted

2. BREEAM PROCESS

2.1. Overview

BREEAM is a performance based assessment method and certification scheme for new buildings. The primary aim of the BREEAM process is to mitigate the life cycle impacts of new buildings on the environment in a robust and cost effective manner. This is achieved through integration and use of the scheme by clients and their project teams at key stages in the design and procurement process. This enables the client, through the BREEAM Assessor and the BRE Global certification process, to measure, evaluate and reflect the performance of their building against best practice in an independent and robust manner. This performance is quantified by a number of individual measures and associated criteria stretching across a range of environmental issues which is ultimately expressed as a single certified BREEAM rating.

The potential BREEAM ratings for a building are as shown below:

Rating	Percentage Score	Equivalent performance
Outstanding	>85	Less than 1% of UK new non-domestic buildings
Excellent	>70	Top 10% of UK new non-domestic buildings
Very Good	>55	Top 25% of UK new non-domestic buildings
Good	>45	Top 50% of UK new non-domestic buildings
Pass	>30	Top 75% of UK new non-domestic buildings
Unclassified	<30	Failed to meet minimum BREEAM criteria

Table 1 – BREEAM Rating Benchmarks

In order to achieve a BREEAM rating for a building, the client must appoint an independent person, accredited by the BRE, to act as an assessor. A list of all accredited assessors is available on the Green Book Live (www.greenbooklive.com).

- The assessor’s role will typically include the following;
- Provision of a Pre-assessment Report with input from the design team which will summarise the anticipated approach for achieving the targeted rating
 - Register the project with the Building Research Establishment (BRE) who administers the scheme
 - Assess evidence provided by the client and design team to validate targeted BREEAM criteria
 - Collate a Design Stage Assessment Report for submission to BRE, feeding back to the team any QA issues that arise
 - Issue Interim Certificate and report on completion of QA
 - Assess evidence provided by the construction team to validate targeted BREEAM criteria
 - Visit the completed site and collate photographic and other evidence to show that the building has been built to incorporate those features that were agreed as part of the design stage assessment
 - Collate a Post Construction Assessment Report for submission to BRE, feeding back to the team any QA issues that arise
 - Issue Final Certificate and report on completion of QA.

Once the final certificate has been issued, the details of the building’s final BREEAM score will also be listed on GreenBook Live (www.greenbooklive.com) which is publically available.

It should be noted that where appointed as a BREEAM assessor Ridge will endeavour to guide the design team throughout the assessment process regarding the evidence requirements to ensure that the evidence provided is in a format that is acceptable by BRE. Please be aware that Ridge are bound by our licence with BRE to assess each item of evidence against the specified criteria; for a successful assessment, it is essential that the design team manage themselves to provide any and all evidence requested in a timely manner to validate the targeted credits.

Design teams should be aware that typically it takes approximately 8 weeks for the BRE to consider the evidence provided in assessment reports as part of their QA process, therefore there is frequently a substantial delay between submitting a report and achieving the certification, particularly if any QA issues are identified. There is an option to undertake fast track QA for an additional fee.

2.2. Assessment Timeline

Figure 1 below provides a comparison of the RIBA outline plan of work with the BREEAM assessment stages.

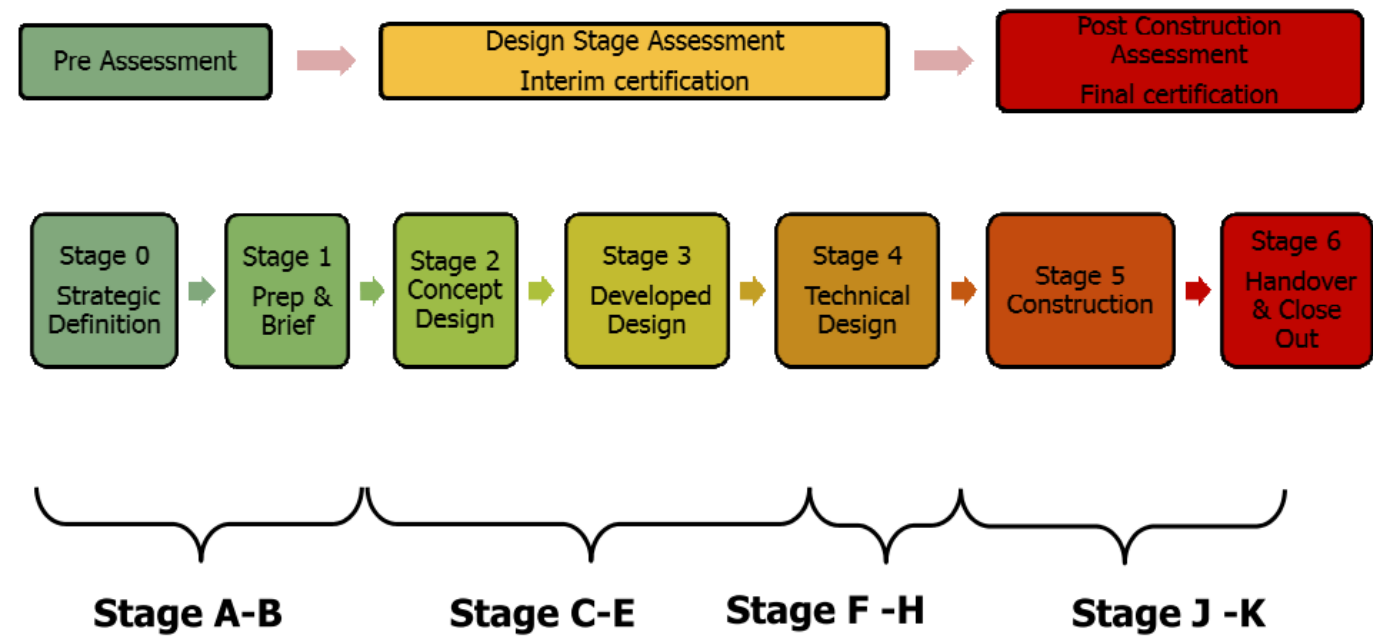


Figure 1 – BREEAM assessment and certification stages and the RIBA Outline plan of works

2.3. Scoring

The BREEAM assessment is made up of a total of 10 separate categories, each containing a variety of different environmental issues. Although some of the issues are mandatory for specific scores, as summarised in the next section, the majority are tradable i.e. the team can choose to target them or not depending on their suitability and achievability for the assessed building.

Each of the categories carries an associated weighting which is applied to credits achieved in that category to calculate the total score for the assessed building. The weightings vary depending on the type of building being assessed and whether certain elements are included or excluded from the scheme e.g. if a lift or escalator are not part of the proposals then Ene 06 – Energy Efficient Transportation Systems will be filtered out of the assessment and the weightings updated accordingly, similarly shell and core developments will have certain criteria filtered out as they are beyond the scope of the development.

As a summary, the fully fitted scheme weightings are typically as follows:

ENVIRONMENTAL CATEGORY	WEIGHTING
Management	11%
Health & Wellbeing	14%
Energy	16%
Transport	10%
Water	7%
Materials	15%
Waste	6%
Land Use & Ecology	13%
Pollution	8%
Innovation (additional)	10%

Therefore, when design teams are considering tradable credits it is important to remember that the credits are not all equal, with some carrying a greater influence on the overall score than others.

2.4. Mandatory Requirements

Whilst most BREEAM credits are tradable and can be targeted in various configurations to achieve the required overall score, there are minimum requirements set to achieve certain BREEAM ratings. For example, to achieve a BREEAM ‘Very Good’ rating the following credits must be achieved, in addition to achieving a score of >55% overall. Table 2 below highlights the mandatory requirements to achieve a ‘Very Good’ rating in green:

BREEAM issue	Pass	Good	Very Good	Excellent	Outstanding
Man 03: Responsible construction practices	None	None	None	One credit (Responsible Construction Management)	Two credits (Responsible Construction Management)
Man 04: Commissioning and handover	None	None	One credit (Commissioning test schedule and responsibilities)	One credit (Commissioning test schedule and responsibilities)	One credit (Commissioning test schedule and responsibilities)
Man 04: Commissioning and handover	None	None	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)
Man 5: Aftercare	None	None	None	One credit (Commissioning implementation)	One credit (Commissioning implementation)
Ene 01: Reduction of energy use and carbon emissions	None	None	None	Four credits (Energy performance)	Six credits (Energy performance) and Four credits (Energy modelling and reporting)
Ene 02: Energy monitoring	None	None	One credit (First sub-metering credit)	One credit (First sub-metering credit)	One credit (First sub-metering credit)
Wat 01: Water consumption	None	One credit	One credit	One credit	Two credits
Wat 02: Water monitoring	None	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Mat 03: Responsible sourcing of materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Wst 01: Construction waste management	None	None	None	None	One credit
Wst 03: Operational waste	None	None	None	One credit	One credit

Table 2 – BREEAM New Construction 2018 Minimum Standards

2.5. Evidence

Throughout a BREEAM assessment the appointed BREEAM Assessor will require evidence to validate the achievement of the various targeted criteria. There are a few issues where specific items are required and where this is the case these will be listed in the BREEAM technical manual, for example Ene 01 requires a copy of the Building Regulations Output Document from approved software. However, for the majority of issues the evidence requirements have been left as deliberately flexible to minimise the amount of documentation that must be produced to satisfy the BREEAM requirement only.

As part of the assessment process it is up to the project team to provide documentation that they believe confirms compliance with the specific criteria however generally speaking the following documents could be considered for submission as evidence;

- Meeting minutes and agendas
- Drawings
- Specifications
- Letters / email correspondence
- Project programmes
- Certificates
- Specialist reports – where necessary the author may need to confirm that they meet the BREEAM requirements of suitably qualified, this is outlined in more detail in a later section
- Specialist software outputs
- Confirmation of intent from client / developer if detailed information is not available due to the stage of the project

In all instances, it is important that there is a robust audit trail for the documentation provided i.e. it should be clear who it has come from and when, there should also be an obvious indication of the project it is referring to. If relevant the documentation should also be signed (for example if it is a BRE checklist or a letter of confirmation from a member of the team).

3. EARLY STAGE ACTIONS

It is recommended that the client and design team review all available credits as early as possible, as they can become difficult or indeed impossible to achieve if considered later in the design stages of the development as it is generally easier to incorporate changes into the design before it has developed too far.

The BRE recognise this within the BREEAM New Construction 2018 methodology and as such there are various time bound issues that can be targeted which are summarised in Table 3 below;

RIBA Stage	Credit Reference	Notes
Stage 02	Wst 01 Construction Waste Management	Where relevant a pre-demolition audit must be undertaken at Concept Design by a competent person.
	Wst 05 Adaption to Climate Change	Climate Change Adaptation Strategy Appraisal to be produced providing recommendations or solutions to mitigate possible future impacts.
	Wst 06 Functional adaptability	Building specific Functional Adaptation Strategy Study to be developed by the end of Concept Stage to include recommendations or solutions for the design to incorporate.
	Le 02 Ecological Risks & Opportunities	Project team liaise and collaborate with representative stakeholders to consider ecological outcome for site.
	Le 03 Managing Negative Impacts on Ecology	Roles and responsibilities to be clearly defined and implemented to support successful delivery of project outcomes to influence Concept Design or Design Brief

Table 3 – Early RIBA stages summary

RIBA Stage	Credit Reference	Notes
Stage 01	Tra 02 Sustainable Transport Options	During preparation of Project Brief the design team consult with local authority about local cycling network and publicly available pedestrian routes
	Mat 03 Responsible Sourcing of Construction Products	Sustainable Procurement Plan to be in place before Concept Design to be used by the design team to guide specification towards sustainable construction products.
	Mat 06 Material Efficiency	Set targets and report on opportunities and methods to optimise the use of materials, this requires a dedicated report
	Le 02 Ecological Risks & Opportunities	For Route 2 - Suitably Qualified Ecologist (SQE) appointed prior to completion of Preparation & Brief stage to undertake survey of site and evaluate its current ecological baseline.
Stage 02	Man 01 Project brief and design	Project delivery stakeholders to meet and discuss all relevant items prior to completion of Concept Design
		Design team to consult with all interested parties prior to completion of Concept Design – these discussions should influence the Initial Project Brief and Concept Design
		A BREEAM AP is appointed at Concept Design stage to work with the design team to facilitate the BREEAM assessment. This is a separate role to BREEAM assessor but can be carried out by the same person if they are suitably qualified.
	Man 02 Life cycle cost and service life planning	Elemental Life Cycle Cost (LCC) analysis to be completed at this stage
	Hea 06 Safety and Security	Suitably Qualified Security Specialist to conduct an evidence based Security Needs Assessment of the site prior to the end of Concept Stage.
	Ene 04 Low carbon design	Passive design and free cooling options to be analysed at Concept Stage to identify opportunities for implementing measures.
		An accredited energy assessor to complete an LZC feasibility study and specify technologies for implementation
	Mat 01 Environmental Impact	Team to demonstrate environmental performance of the building at Concept Design by carrying out LCA on 2-4 different superstructure options and submit results to BRE before end of Concept Design. Covers superstructure, substructure, hard landscaping and building services.

4. REQUIREMENTS FOR SPECIALIST CONSULTANTS

There are various BREEAM credits which require suitably qualified consultants to consider and report on specific elements of the project. This section identifies the specialist consultants that may be appointed and provides a summary of the current BREEAM related requirements with regards to the definition of “suitably qualified”:

4.1. Sustainability Champion / BREEAM Advisory Professional

The appointment of a Sustainability Champion (previously known as a BREEAM Advisory Professional) is not mandatory for BREEAM assessments, but will facilitate the assessment process. The BREEAM assessment methodology focuses very much on the importance of early involvement of the relevant specialists, as such there are additional credits available for the appointment of a BREEAM Sustainability Champion within BREEAM issues Man 01 and Man 03. It should be noted that although this is often provided as an optional extra service by BREEAM assessors, this is something that other appropriate professionals can offer, such as architects or engineers, if they have the relevant qualification.

Currently only members of the BREEAM Advisory Professional (AP) membership scheme are deemed to be suitably qualified for the purpose of this issue. This qualification indicates that the individual has been trained and qualified by BRE as a specialist in built environment sustainability, environmental design and assessment. This membership is subject to ongoing CPD in key relevant areas.

The appointment of a BREEAM Sustainability Champion can be recognised within the assessment as follows:

Man 01 - related to the design stage BREEAM Assessment. A BREEAM credit is available for the appointment of a BREEAM Sustainability Champion to facilitate the setting and achievement of BREEAM performance targets for the project. To achieve this criteria the BREEAM Sustainability Champion should be appointed during the Preparation and Brief stage (RIBA Stage 1 or equivalent). A further credit is also available under Man 01 if the BREEAM Sustainability Champion is appointed to monitor progress against agreed BREEAM performance targets throughout the design process.

Man 03 - related to the post construction stage BREEAM Assessment. A credit is available where a BREEAM Sustainability Champion is appointed to ensure ongoing compliance with relevant sustainability performance criteria, to confirm this they will need to visit site regularly at key stages to carry out spot checks and have the relevant authority to do so.

4.2. Acoustician

A suitably qualified acoustician can be used to provide evidence for both Hea 05 Acoustic Performance (related to internal acoustics) and Pol 05 Reduction of Noise Pollution (related to the proposed buildings impact on nearby areas with specific reference to proposed external building services installations).

To meet the requirements of suitably qualified the acoustician should meet all of the following criteria:

- Hold a degree, PhD or equivalent qualification in a relevant subject i.e. acoustics or sound testing
- Have at least 3 years work experience that is relevant to the project and this should be within the last 5 years. The experience should clearly demonstrate a practical understanding of factors affecting acoustics in construction and the built environment including acting in an advisory capacity to provide recommendations for suitable acoustic performance levels and mitigation measures
- Hold a recognised acoustic qualification and membership of an appropriate professional body e.g. the Institute of Acoustics

4.3. Energy Specialist

The use of a building energy specialist is applicable to several issues in BREEAM however the requirements do vary from issue to issue therefore for simplicity they are summarised for the various issues below.

Hea 04 Thermal Comfort – a thermal model of the proposed building should be built to allow full dynamic thermal analysis to be undertaken which should meet specific parameters and inform the buildings temperature control strategy. There are no specific requirements regarding qualifications or experience for the individual who undertakes this modelling exercise but the use of specific software will mean that only certain individuals will be able to offer this service.

Ene 01 – Reduction of energy use and carbon emissions – although not specifically stated in the manual, the definition of suitably qualified energy assessor is still provided, therefore the required model should be produced by a licensed energy assessor who has access to the relevant software via an accredited energy assessment scheme provider. For England accredited energy assessors are listed at www.ndepcregister.com for non-domestic properties.

Ene 04 – Low Carbon Design – This issue requires an energy specialist to review the low and zero carbon technologies applicable to the assessed building. For the purpose of this issue an energy specialist is defined as someone who has acquired substantial expertise or a recognised qualification for undertaking assessments, designs and installations of low or zero carbon solutions in the commercial building sector however they must not be professionally connected to a single LDC technology or manufacturer.

4.4. Thermographic Survey & Airtightness Testing Specialist

There is a credit available under Man 04 for the use of a suitably qualified professional to undertake a thermographic survey and air tightness test of the assessed building in line with appropriate standards. To be suitably qualified they should meet the following:

- Air tightness tests should be undertaken by professionals with membership of the Air Tightness Testing and Measurement Association (ATTMA) attained at organisational level and maintaining UKAS accreditation (ISO 17025)
- Thermographic surveys should be undertaken by a professional holding a valid Level 2 certificate in thermography as defined by the UKTA website

4.5. Security Consultant

There is a single credit available for Hea 06 if a suitably qualified security specialist (SQSS) undertakes a Security Needs Assessment of the assessed building / site. To meet the definition of “suitably qualified” this should be undertaken by someone who meets with one of the following:

- Crime Prevention Design Advisor (CPDA)
- Architectural Liaison Officer (ALO)
- Counter Terrorism Security Advisor (CTSA)
- A specialist registered with a BREEAM recognised third party accreditation scheme for security specialists
- A practising security consultant that meets the following requirements:
 - Minimum of three years relevant experience within the last five years. This experience must clearly demonstrate a practical understanding of factors affecting security in relation to construction and the built environment, relevant to the type and scale of the project being undertaken
 - Hold a suitable qualification relevant to security
 - Maintain (full) membership to a relevant professional body or accreditation scheme that meets the following:
 - Has a professional code of conduct to which members must adhere
 - Ongoing membership is subject to peer review

4.6. Ecologist

There are four issues under the land use and ecology category where the use of a suitably qualified ecologist (SQE) can assist with the achievement of credits whereby it is possible to achieve credits more credits through the appointment of a SQE.

To meet the definition of SQE the ecologist completing the survey and report for the site must meet the following criteria:

- Hold a degree or equivalent qualification in ecology or a related subject, acceptable subjects (depending on their ecological content) would be Ecology, Biological Sciences, Zoology, Botany, Countryside Management, Environmental Science, Marine and Freshwater Management, Earth Sciences, Agriculture, Forestry, Geography and Landscape Management
- Be a practising ecologist with at least 3 years relevant experience (within the last 5 years). This experience should demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment and should include acting in an advisory capacity to provide recommendations for ecological protection, enhancement and mitigation measures.
- Should be covered by a professional code of conduct and be subject to peer review. Full members of the following organisations would meet this criterion:
 - Chartered Institution of Water and Environmental Management (CIWEM)
 - Chartered Institute of Ecology and Environmental Management (CIEEM)
 - Institute of Environmental Management and Assessment (IEMA)
 - Landscape Institute (LI)
 - The Institution of Environmental Sciences (IES)

If the ecology report is undertaken by an ecologist who does not meet the above criteria then a Suitably Qualified Ecologist can verify them. In order for this to comply the SQE must confirm as a minimum that they have reviewed the report and have found it to:

- Represent sound industry practice
- Report and recommend correctly, truthfully and objectively
- Be appropriate given the local site conditions and scope of works proposed
- Avoid invalid, biased and exaggerated statements

4.7. Civil Engineer

BREEAM issue Pol 03 criteria 7-15 consider the surface water run-off from the site, to achieve maximum credits here it is necessary for an appropriate consultant to be appointed to undertake the necessary calculations. The BREEAM Manual recognises that the qualifications here will to an extent depend on the complexity of the site, however generally it is necessary for the engineer to be able to demonstrate that they have the following:

- An appropriate qualification
- Relevant experience i.e. designing SUDs and flood prevention measures and completing peak rate of run off calculations
- If complex flooding calculations and prevention measures are required, this must be done by a specialist hydrological engineer

4.8. Contaminated Land Specialist

BREEAM issue Le 01 offers a credit for developing on land that is deemed to be significantly contaminated and therefore requires remediation in order for the development to take place. The details of this must be confirmed by a suitably qualified contaminated land specialist who is required to meet the following criteria;

- Hold a degree or equivalent qualification in chemistry, environmental science / management, earth sciences, civil engineering or a related subject
- Have a minimum of 3 years relevant experience (within the last 5 years) in site investigation, risk assessment and appraisal – such experience must clearly demonstrate a practical knowledge of site investigation methodologies and understanding of remediation techniques and national legislation on the subject, as well as acting in an advisory capacity to provide recommendations for remediation

4.9. Other Consultants

This report has outlined the BREEAM requirements relating to qualifications where they are clearly stated within the BREEAM manual. There are other areas where a specialist could be used to assist with the production of the required evidence but no specific requirements regarding qualifications are stated within the BREEAM manual including;

- Man 01 – Third party consultation
- Man 02 – Cost consultant
- Man 04 – Specialist commissioning manager
- Man 05 – Post Occupancy Evaluation
- Transport category – Transport consultants
- Ene 06 – Lift consultant (sometimes offered by manufacturers)

5. BREEAM PRE-ASSESSMENT

Abby Bartlett, licensed BREEAM assessor, has conducted a desk based study using available information to complete the BRE Pre-Assessment Tool, this has been reviewed in detail with the design team and client and a copy is available in Appendix A. Following the reasonable assumptions for the project, an initial score of 60.30% is anticipated, which exceeds the requirement of 55% for BREEAM ‘Very Good’ and provides a sensible safety margin to make allowances for changes during the evolution of the project.

The graph and table below summarise the current assumed credits, indicating the percentage of credits achieved for each of the categories therefore highlighting where additional credits could be considered. Please refer to the BRE pre-assessment tool in Appendix A for the reasoning as to why these are not currently assumed.



Figure 2 - Building Performance by Environment Section (taken from BRE Pre-Assessment Tool)

The table below confirms the value of each credit in terms of contribution to the overall percentage score. The total number of potential credits for each of the various categories are also summarised together with the overall section weighting. The overall targeted score is also displayed.

Section	Per Credit	% Credits Assumed	Assumed Credits	Potential Credits	Available Credits	% Weighting
Management	0.52%	61.90%	13	0	21	11.00%
Health and Wellbeing	0.82%	64.71%	11	4	17	14.00%
Energy	0.76%	42.86%	9	1	21	16.00%
Transport	0.83%	75.00%	9	2	12	10.00%
Water	0.78%	66.67%	6	3	9	7.00%
Materials	1.07%	21.43%	3	11	14	15.00%
Waste	0.60%	70.00%	7	3	10	6.00%
Land Use and Ecology	1.00%	84.62%	11	2	13	13.00%
Pollution	0.67%	75.00%	9	3	12	8.00%
Innovation	1.00%	10.00%	1	0	10	10.00%
Total		60.30%	79	29	139	

Table 4 – Summary of Assumed Credits & Section Scores (taken from Ridge BREEAM Schedule)

6. CONCLUSION

6.1. General

This report aims to provide preliminary guidance to the design team throughout the early RIBA stages with regards to the BREEAM assessment methodology and process and as a part of this has identified the following:

- An overview of the BREEAM process
- The mandatory credits that are required to achieve a ‘Very Good’ BREEAM rating
- Early stage actions to be considered
- The requirements for specialist consultants

It should be noted that there are specific consultants and technical services required at different RIBA stages. The appointment of any of these services should be considered as early as possible to enable the project to achieve the required ratings as well as full design team engagement.

This report and the associated appendices demonstrate that all of the 31no. items identified in Table A5.2: BREEAM – Sustainable Design Checklist in Appendix 5 of Reading Borough Council’s adopted Revised Sustainable Design and Construction SPD have been considered by the design team and incorporated into the proposals where possible.

6.2. Next steps

The pre-assessment provides an overview of the proposed route to BREEAM ‘Very Good’, the next step would be for the formal design stage assessment process to commence.

It is recommended that the design team and client review the pre-assessment in detail and advise the assessor as soon as possible if there are any issues that are likely to become unachievable as the project develops, similarly if there are items that are not currently targeted that would be beneficial to the scheme or assist with the clients aspirations towards BREEAM ‘Very Good’ it would be useful to target them now to ensure sufficient evidence is available at the appropriate time, particularly with respect to the time bound criteria.



APPENDIX A – BREEAM PRE-ASSESSMENT

General information

BRE Assessment reference no.	Pre Assessment
Client name	Greyfriars Church
Building end user/occupier	Greyfriars Church
Assessor name	Abby Bartlett
Assessors role	Assessor only
Assessor organisation	Ridge & Partners LLP

Building details

Building name	Greyfriars Church Development
Building address	Friar Street
	Reading
County	Berkshire
Post code	RG1 1EH
Country	England
BREEAM scheme	New Construction
BREEAM version	2018 (SD5078)
BREEAM UK 2018 technical manual issue number	SD5078 Issue 2.0
Project scope	Fully fitted
Building type (main description)	Non-residential institution
Building type (sub-group)	Non-residential institution - Place of worship
Does this healthcare building have inpatient areas?	
Does this industrial building have an office area, or other occupied spaces?	
Assessment stage	Design (interim)
Building floor area (GIA) m ²	700
Building floor area (NIFA) m ²	700
Is the building designed to be untreated?	No
Building services - heating system type	Other type of heating system
Building services - cooling system type	Other type of 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
What percentage of total building area do laboratories represent?	No laboratory
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?	No

Project team details

Developer	
Principal contractor	
Architect	
Project management	
Building services	
BREEAM Accredited Professional	
Other project team member 1	
Other project team member 2	
Other project team member 3	
Other project team member 4	

BREEAM assessor declaration of assessment accuracy and quality

I, Abby Bartlett, a qualified BREEAM assessor working on behalf of Ridge & Partners LLP confirm that the content of this report is to the best of my knowledge a true and accurate reflection of the performance of the above named building, as measured against the assessment criteria and reporting requirements of the BREEAM Scheme Document (SD5078). Furthermore, I confirm that this assessment and the information on which it is based has been checked and verified in accordance with BRE Global Ltd's UKAS accredited BREEAM operating procedures for BREEAM assessments and assessors, as described in the technical scheme document (SD5078) and associated BREEAM operational documents.

BREEAM Assessor Signature:	Date
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Disclaimer

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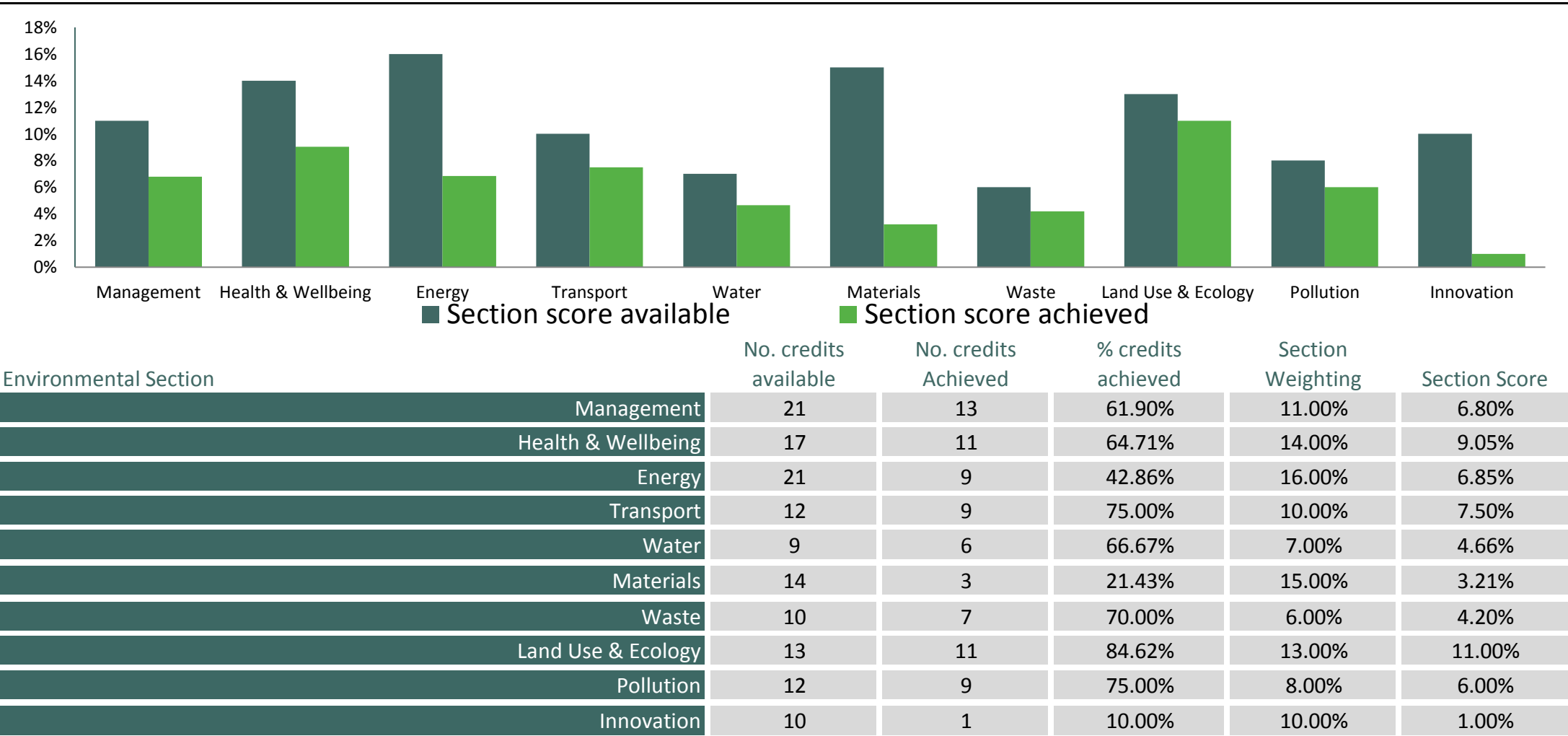
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Overall Building Performance

Building name	Greyfriars Church Development
BREEAM rating	Very Good
Total Score	60.30%
Min. standards level achieved	Very Good level

Building Performance by Environment Section



Building Performance by Key Environmental Performance Indicator

Energy (consumption/production)	Life cycle stage	Measurement	Intensity	Units	Total	Units
Building operation ^[1]	Use	Modelled	32.00	kWh/m ² /yr	22400	kWh/yr
Energy production ^[2]	Use	Modelled	INA	kWh/m ² /yr	INA	kWh/yr
Construction process ^[3]	INA	INA	INA	INA	INA	INA

Carbon dioxide Emissions

BREEAM UK 2018 technical manual issue number						
Building operation ^[1]	Use	Modelled	INA	kgCO ₂ eq/m ² /yr	INA	kgCO ₂ eq/yr
Construction process ^[3]	INA	INA	INA	INA	INA	INA
Transport ^[4]	INA	INA	INA	INA	INA	INA
Direct GHG emissions - Refrigerants ^[6]	Use	Modelled	0.00	KgCO ₂ eq/kW _{coolth}	0	KgCO ₂ eq

Use of freshwater resource

Building operation ^[8]	INA	INA	INA	INA	INA	INA
Construction process ^[9]	INA	INA	INA	INA	INA	INA

Construction waste and recovery

Construction waste ^[10]	Construction	Target	7.50	tonnes/100m2	0	tonnes
Construction waste diverted from landfill ^[10]	Construction	Target	70	%	0	tonnes
Demolition waste diverted from landfill ^[11]	Construction	Target	0	%	INA	INA
Demolition waste to disposal ^[11]	Construction	Target	1	%	INA	INA
Material for re-use ^[12]	Construction	Target	0.14	tonnes/100m2	95	tonnes
Material for recycling ^[12]	Construction	Target	0.00	tonnes/100m2	0	tonnes
Material for energy recovery ^[12]	Construction	Target	0.00	tonnes/100m2	0	tonnes
Hazardous waste to disposal ^[12]	Construction	Target	0.0000	tonnes/100m2	0.00	tonnes

Sourcing of materials

Materials responsibly sourced ^[13]	Construction	Measured	0.1	%	-	-
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Thermal comfort

Predicted Mean Vote (PMV)	Use	Modelled	INA	Index	-	-
Predicted Percentage Dissatisfied (PPD)	Use	Modelled	0.0%	%	-	-

Indoor Air Quality

Formaldehyde concentration level ^[14]	INA	INA	-	INA	INA	INA
Total volatile organic compound concentration ^[14]	INA	INA	INA	INA	INA	INA

Notes

- 1
- Modelled using approved software compliant with the UK's National Calculation Method which in turn is compliant with Article 3 of The Energy Performance of Buildings Directive (EPBD) 2002/91/EC. Modelling includes building energy consumption resulting from the specification of a ‘controlled’, ‘fixed building service’ (as defined in the relevant Approved Document or Guidance produced for each UK territory).
- 2
- The reported impact includes technologies that produce energy (on-site and/or near-site) as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.
- 3
- The reported impact includes energy consumption from construction plant, equipment and site accommodation. This KPI is not assessed/reported at the design stage of assessment/certification.
- 4
- The reported impact covers transport of the construction materials that make-up the main building elements and ground works and landscaping materials (from the factory gate to the site) and construction waste (from the construction gate to waste disposal processing / recovery centre gate). Main building elements are defined in the BREEAM 2018 New Construction Technical Guide (SD5076). This KPI is not assessed/reported at the design stage of assessment/certification.
- 5
- The reported impact covers the construction materials that make-up the main building elements (over a 60 year study period). Main building elements are defined in the BREEAM UK New Construction 2018 Technical Guide (SD5076). The data is quantified using BRE's Environmental Profiles Methodology. The Environmental Profiles Methodology has been peer reviewed to comply with BS ISO 14040 and represents the Product Category Rules for BRE Global's environmental labelling scheme (EPD - ISO 14025, Type III) for construction products and elements.
- 6
- The reported impact is for a 10 year study period. The calculation of the Direct Effect Life Cycle CO₂eq emissions used by BREEAM is based on the Total Equivalent Warming Impact (TEWI) calculation method for new stationary refrigeration and air conditioning systems, as described in Annex B of BS EN 378-1:2008.
- 7
- The reported impact covers emissions from either one or a combination of space heating, cooling and hot water heating (refer to Pol02 Assessment Issue for scope of emissions)
- 8
- The reported impact includes net water consumption from the micro-components utilised by building occupants for sanitary purposes. The impact accounts for water recycling/rainwater collection, where used for permissible non-potable water demands (For further detail refer to BREEAM UK New Construction 2018 Technical Guide (SD5076)).
- 9
- The reported impact is net water consumption i.e. accounts for any water recycling/rainwater collection used to off-set a potable site demand. This KPI is not assessed/reported at the design stage of assessment/certification.
- 10
- The reported impact covers non-hazardous waste from new construction materials, it therefore excludes hazardous and demolition and excavation waste. Where assessed and reported at the design stage of assessment this KPI is based on a target as reported in a compliant Resource Management Plan.
- 11
- The reported impact covers non-hazardous waste from site demolition. Where assessed and reported at the design stage at the design stage of assessment this KPI is based on the target demolition waste diverted from landfill, as reported in a compliant Site Waste Management Plan. If no demolition taking place on site this KPI is not applicable.

- 12 Where assessed and reported at the design stage of assessment this KPI is based on a target as reported in a compliant Site Waste Management Plan.
- 13 The reported impact covers the proportion of the key building elements present and assessed by BREEAM that are responsibly sourced. Responsibly sourced and key building elements are defined in the BREEAM UK New Construction 2018 Technical Guide (SD5076).
- 14 The total volatile organic compound (TVOC) concentration is measured post construction (but pre-occupancy) over 8 hours. Formaldehyde concentration level is measured post construction (but pre-occupancy) averaged over 30 minutes. Both KPI's are measured in accordance with European and/or ISO standards (refer to the BREEAM New Construction Technical Manual for relevant standard numbers). At the design stage of assessment no data is available for this KPI as they are both measured once the building has been constructed (but pre-occupancy) for the purpose of post construction assessment.

"INA" = Indicator Not Assessed. This will be the case where either the data required for the KPI is not gathered/measured by the building's project team or not assessed/quantified in BREEAM for a particular building
 "-" = KPI not applicable to building being assessed.

BREEAM UK New Construction 2018 Assessment Report: Assessment Issue Scoring

Building name	Greyfriars Church Development
Building score (%)	60.30%
Building rating	Very Good
Minimum standards level achieved	Very Good level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Project delivery planning	No	1	0
Stakeholder consultation (interested parties)	No	1	0
Prerequisite: Have the client and the contractor formally agreed performance targets?	No		
BREEAM Advisory Professional (Concept Design)		1	0
BREEAM Advisory Professional (Developed Design)		1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Project delivery and stakeholder consultation have not been assumed; project delivery planning requires a contractor's input from RIBA Stage 2 and the stakeholder consultation requires a variety of stakeholders to be consulted about many aspects of the project which it is considered will be challenging for this scheme, particularly as this would need to happen prior to the end of RIBA Stage 2 which will be soon. Jim Woodhams has confirmed that he has worked on some of these items previously so he will consider these further for achievability.

BREEAM AP credits haven't been targeted either however this is a service that Ridge are able to provide - a fee has been issued, in order for this to be achieved appointment must be prior to the completion of RIBA Stage 2.

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Elemental LCC	No	2	0
Component level LCC options appraisal	No	1	0
Capital cost reporting	Yes	1	1
Capital cost of the project	£0	£/m ²	

Total BREEAM credits achieved	1
Total contribution to overall building score	0.52%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Up to three credits are available if an elemental and component level life cycle cost appraisal is undertaken, this is not currently assumed but is something the team can consider for achievability - it should be noted that the elemental life cycle cost analysis must be undertaken at RIBA Stage 2. A final credit is available for reporting the capital cost of the project - this is currently assumed.

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.14%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved	
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	1	1	
Prerequisite: Have the client and the contractor formally agreed performance targets?	Yes			
BREEAM Advisory Professional (site)	Yes	1	1	
Responsible construction management	2	2	2	
Monitoring of construction site impacts	Yes			
Utility consumption	Yes	1	1	Note: The KPI data is not available
Transport of construction materials and waste	Yes	1	1	Note: The KPI data is not available
Exemplary level criteria - Responsible construction management	Yes	1	1	

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes	10	kWh
Energy consumption (intensity) - site processes	10	kWh/project value
Distance (total) - materials transport to site		km
Distance (total) - waste transport from site		km

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes	10	KgCO ₂ -eq
Carbon dioxide emissions (intensity) - site processes	10	KgCO ₂ -eq/project value
Carbon dioxide emissions (total) - materials transport to site		KgCO ₂ -eq
Carbon dioxide emissions (total) - waste transport from site		KgCO ₂ -eq
Carbon dioxide emissions (intensity) - materials transport to site		KgCO ₂ -eq/project value
Carbon dioxide emissions (intensity) - waste transport from site		KgCO ₂ -eq/project value

Key Performance Indicators: Construction site use of freshwater resources

Use of potable water resource (total) - site processes		m ³
Use of potable water resource (intensity) - site processes		m ³ /£100k

Total BREEAM credits achieved	6
Total contribution to overall building score	3.14%
Total BREEAM exemplary credits achieved	1
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Assumed that all site timber will meet BREEAM requirements and construction site managers (e.g. Main Contractor and Demolition Contractor) will be required to have ISO 14001 or similar accreditation and implement PPG6.

Use of site stage AP is assumed and it is assumed that Considerate Constructors score of >35 will be achieved in addition to carrying out tasks g,p,q within GN33.

Also assumed a specific individual will be assigned responsibility for monitoring site utility consumption and transport of construction materials and waste.

Man 04 Commissioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Commissioning and testing schedule and responsibilities	Yes	1	1
Commissioning - design and preparation	Yes	1	1
Testing and inspecting building fabric	No	1	0
Handover - Has a Building User Guide been developed prior to handover?	Yes		
Handover - Has a training schedule been prepared for building occupiers/managers?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	1.57%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that the BREEAM commissioning testing schedule and responsibilities will be achieved and that a member of the project team will be appointed to monitor and programme the commissioning, and additionally for criteria 4, undertake design reviews etc.

Currently it is not assumed that an air tightness and thermographic survey will be undertaken however these should be considered for a further credit, this could be particularly challenging for the refurbished element of the scheme.

It is assumed that a Building User Guide will be provided - now 2 versions are required, a technical and non technical. 2 training schedules are also required.

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.57%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Is this a speculative development?	No
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Assessment Criteria

	Compliant?	Credits available	Credits achieved
Aftercare support	Yes	1	1
Commissioning - implementation	Yes	1	1
Post occupancy evaluation	Yes	1	1
The client or building occupier commits funds to pay for the POE in advance	Yes		

Total BREEAM credits achieved	3
Total contribution to overall building score	1.57%

Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Assumed that a compliant short-term (1-month post-handover) and long-term (1 year post-handover) aftercare support will be provided and seasonal commissioning will be undertaken.
It is also assumed that a third party will be commissioned to undertake a Post Occupancy Evaluation, with the client committing funds to pay for this in advance.

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.29%
No. of BREEAM exemplary credits available	2	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Control of glare from sunlight	Yes	1	1
Daylighting (building type dependent)	0	1	0
View out	No	1	0
Internal and external lighting levels, zoning and controls	Yes	1	1

Exemplary level daylighting	No	1	0
Exemplary level criteria - Internal and external lighting levels, zoning and control	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.65%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a glare control assessment will be undertaken to determine the glare control strategy and sufficient control measures to be implemented where required.

Based on the proposed layouts and occupied rooms the view out criteria and daylighting criteria are not assumed - a detailed study will need to be undertaken to confirm the achievability of these.

The internal and external lighting criteria is also assumed. This includes specific requirements for zoning and controls that will need to be reviewed by the electrical team.

Hea 02 Indoor Air Quality

No. of BREEAM credits available	4	Available contribution to overall score	3.29%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Prerequisite: Indoor air quality (IAQ) plan	Yes		
Ventilation	No	1	0
Emissions from building products	0	2	0
Post-construction indoor air quality measurement	No	1	0

Exemplary level criteria - Emissions from building products	No	1	0
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Key Performance Indicators: Indoor air quality

Formaldehyde concentration	10	µg/m ³
Total volatile organic compound (TVOC) concentration	10	µg/m ³

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It's assumed that an Indoor Air Quality Plan will be produced and implemented as this is a pre-requisite of this issue.

It is not assumed that the ventilation criteria will be achieved due to the buildings location and adjacent car park.

It is not currently assumed that the listed product types will meet the emissions levels specified in the manual e.g. paints and coatings, flooring materials and wood based products. This could be targeted and confirmed in the materials specification. If all the materials meet these requirements up to two credits are available so should be considered.

There is a further credit available for undertaking post construction testing of indoor air quality management, this is not currently assumed but could be targeted for the scheme however it should be noted that this will require a pre-occupancy flush-out prior to testing taking place.

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.47%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Thermal modelling	Yes	1	1
Design for future thermal comfort	Yes	1	1
Thermal zoning and control	Yes	1	1

Key Performance Indicators	Thermal comfort	For a projected climate scenario
Predicted Mean Vote (PMV)		
Predicted Percentage Dissatisfied (PPD)		

Total BREEAM credits achieved	3
Total contribution to overall building score	2.47%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that a thermal model will be developed to inform the temperature zoning and controls strategy and demonstrate thermal comfort for the proposed building in line with the required standards. It is also assumed that this will be demonstrated for the projected climate change scenario. Where this is not possible, credits can still be achieved so long as the additional future measures are passive and easy to implement.

The resultant modelling will need to be used to inform the temperature control strategy for the Proposed Development and its users.

Hea 05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	2.47%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Criteria performance requirements or SQA bespoke requirements?	Criteria performance requirements
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Assessment Criteria

	Credits	Credits available	Credits achieved
Sound insulation	1	1	1
Indoor ambient noise level	Yes	1	1
Room acoustics	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	2.47%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

There are up to 3 credits available for the assessed building - these require a suitably qualified acoustician to be appointed to demonstrate that the building will achieve the acoustic performance standards, indoor ambient noise level and reverberation times as stated in the BREEAM criteria. All three credits are currently assumed but will require further confirmation from a suitably qualified acoustician.

Hea 06 Security

No. of BREEAM credits available	1	Available contribution to overall score	0.82%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Security of site and building	Yes	1	1
Exemplary level criteria	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.82%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a compliant Security Needs Assessment will be undertaken by a suitably qualified professional by RIBA Stage 2 and their recommendations will be incorporated into the design of the scheme. Where this is not possible within the specified timeframe, it must be confirmed that the suitably qualified professional's late appointment has not jeopardised the potential implementation of security measures.

Hea 07 Safe & Healthy Surroundings

No. of BREEAM credits available	2	Available contribution to overall score	1.65%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Safe Access	Yes	1	1
Outside Space	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.65%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that the safe access criteria will be achieved with dual paving leading from the building's main entrance, enveloping the car park and joining the main public highway however it is understood that cycle storage is proposed within the site boundary, therefore a cycle path will be required between the public highway and the cycle storage. It is anticipated that this may be relatively simple to achieve for this scheme therefore it is currently assumed pending confirmation from the team.

The team have confirmed that a courtyard is proposed as part of the scheme which should meet the criteria for an outdoor space as long as this is a non smoking space with seating provided.

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	13	Available contribution to overall score	9.90%
No. of BREEAM exemplary credits available	5	Minimum standards applicable	Yes

Country of the UK where the building is located	England	
Actual building energy demand	100.000	MJ/m ² yr
Notional building energy demand	140.000	MJ/m ² yr
Actual building primary energy consumption	130.000	kWh/m ² yr
Notional building primary energy consumption	131.000	kWh/m ² yr
Actual building CO ₂ -eq emissions (BER)	30.000	KgCO ₂ -eq /m ² yr
Notional building CO ₂ -eq emissions (TER)	32.000	KgCO ₂ -eq /m ² yr
Does this building contain areas that require a SAP assessment?		
What % of the building's total floor area (GIA) does it apply to?		
SAP Actual building energy demand		MJ/m ² yr

SAP Notional building energy demand		MJ/m ² yr
SAP Actual building primary energy consumption		kWh/m ² yr
SAP Notional building primary energy consumption		kWh/m ² yr
SAP Actual building CO ₂ -eq emissions (BER)		KgCO ₂ -eq /m ² yr
SAP Notional building CO ₂ -eq emissions (TER)		KgCO ₂ -eq /m ² yr

Building Score

Total BREEAM credits achieved	2
Heating and cooling demand energy performance ratio (EPRdem)	0.198
Primary consumption energy performance ratio (EPRpc)	0.010
CO ₂ -eq energy performance ratio (EPRCO ₂ -eq)	0.050
Overall building energy performance ratio (EPRnc)	0.257
% improvement over building regulations (CO2-eq)	6.25%

Assessment criteria (exemplary credits)

	Compliant?	Credits available	Credits achieved
Zero net CO ₂ -eq emissions	No	3	0
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?		kWh/yr	

Assessment criteria

	Compliant?	Credits available	Credits achieved
Has a design workshop focusing on operational energy performance been carried out?	No		
Additional energy modelling to generate predicted operational energy consumption figures carried out?		4	0
Predicted energy consumption targets by end use, design assumptions and input data reported?			
Risk assessment to highlight any significant design, technical, and process risks?			

Assessment criteria (exemplary credits)

	Compliant?	Credits available	Credits achieved
Maximum credits achieved in Ene 02 Energy monitoring?	Yes	2	0
The client or building occupier commits funds to pay for the post-occupancy stage?	Please select		
The energy model is submitted to BRE and retained by the building owner?	Please select		

Total BREEAM credits achieved	2
Total contribution to overall building score	1.52%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Very Good level

Assessor comments/notes:

This issue has changed under BREEAM 2018 - now up to 9 credits are available for an improvement of building emission rate over target emission rate as demonstrated by the BRUKL, taking into account the building's heating and cooling demand, primary energy consumption and CO2 emissions. For the purpose of this pre-assessment we have assumed that a total of 2no. credits will be achieved but this will need to be reviewed by the building services team for achievability.

There are 4 further credits available for predicting operational energy consumption and undertaking additional energy modelling during the design and post construction stage to predict and report operational energy including a risk assessment. This is not currently assumed but could be considered by the M&E team.

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.52%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment criteria

	Compliant?	Credits available	Credits achieved
Sub-metering of end use categories	Yes	1	1
Sub-metering of high energy load and tenancy areas	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.52%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that energy metering systems will be installed to allow at least 90% of the estimated annual energy consumption of each fuel to be assigned to the end use category with an appropriate energy monitoring and management system. It is also assumed that high energy load areas will be sub-metered and these will be connected into the same system.

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.76%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria

	Compliant?	Credits available	Credits achieved
External lighting has been designed out	No		
Is external lighting specified in accordance with the relevant criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.76%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Assumed that external lighting will have a luminous efficacy of no less than 70 luminaire lumens and will be automatically controlled to prevent operation during daylight hours and for presence detection in areas of intermittent pedestrian traffic.

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.29%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Has the first credit within Hea 04 been achieved?	Yes		
Passive design analysis	Yes	1	1
Free cooling	No	1	0
Low and zero carbon technologies	Yes	1	1

Key Performance Indicators - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation		kWh/yr
Expected energy demand and CO ₂ -eq emissions reduction resulting from passive design measures as a percentage	Energy	
		kWh/m ² yr
	CO2 emissions	
		KgCO ₂ -eq/m ² yr
Expected energy demand and CO ₂ -eq emissions reduction resulting from passive design measures as a percentage	Energy	
		%
	CO2 emissions	
		%
Expected reduction in CO ₂ -eq emissions resulting from the LZC technologies		KgCO ₂ -eq/m ² yr
Expected reduction in CO ₂ -eq emissions resulting from the LZC technologies as a percentage		%

Total BREEAM credits achieved	2
Total contribution to overall building score	1.52%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a passive design analysis will be undertaken and a meaningful reduction in energy will be demonstrated. It is also assumed that the available LZC technologies that would be appropriate to the site will be reviewed and one will be specified to allow this credit to be awarded.

Currently the free cooling has been deemed as unachievable due to the nature of the proposed development but should be considered as the details of the scheme develop.

Ene 05 Energy efficient cold storage

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM exemplary credits available	N/A	Minimum standards applicable	N/A

Assessment criteria		Compliant?	Credits available	Credits achieved
Refrigeration energy consumption Indirect greenhouse gas emissions			N/A	N/A
			N/A	N/A
Total BREEAM credits achieved	N/A			
Total contribution to overall building score	N/A			
Total BREEAM exemplary credits achieved	N/A			
Minimum standard(s) level	N/A			

Assessor comments/notes:

Ene 06 Energy efficient transportation systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM exemplary credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Energy consumption			
Energy efficient features - Lifts			
Energy efficient features - Escaltors or moving walks			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM exemplary credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Design specification			
Laboratory containment devices and containment areas			
Best practice energy efficient measures (table 33)			
Fume cupboard volume flow rates			
Grouping / isolation of high filtration/ventilation activities			
Energy recovery - heat			
Energy recovery - cooling			
Grouping of cooling loads			
Free cooling			
Load responsiveness			
Clean rooms			

	Diversity	
	Room air-change rates	
	Fan power	

Total BREEAM credits achieved	0
Total contribution to overall building score	N/A
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.52%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria	Present?	Major impact
Swimming pool present?	No	
Laundry facilities with commercial-sized appliances present?	No	
Data centre present?	No	
IT-intensive operating areas present?	No	
Domestic scale appliances (individual and communal facilities) present?	No	
Healthcare equipment present?	No	
Kitchen and catering facilities present?	Yes	Yes
Other contributors		

	Compliant	Credits available	Credits achieved
Significant majority contributors BREEAM compliant	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.52%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:
It is assumed that the buildings unregulated energy loads will be estimated and the highest loads identified. Following this there are suggested specification measures that can be followed to allow these credits to be achieved, e.g. for domestic white goods a requirement could be set that when these are procured they will have A+ ratings under the EU Energy Efficiency Labelling Scheme, alternatively the design team can demonstrate a meaningful reduction in a different way - as long as this is sensible and robust it should be acceptable.

TRANSPORT

Tra 01 Transport assessment and travel plan

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant	Credits available	Credits achieved
Travel plan	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It's assumed that a Transport Assessment will be undertaken and a Travel Plan developed based on this during the feasibility and design stages. Up to 2 credits are available if the recommendations of the Travel Plan are implemented. Note the manual lists specific measures that should be considered within the Travel Plan in order for it to be deemed to be compliant.

The team have confirmed that Helix are already involved with the scheme as transport consultants so this should be achievable.

Tra 02 Sustainable transport measures

No. of BREEAM credits available	10	Available contribution to overall score	8.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Prerequisite	Yes		
Location type (based on existing AI)	25 ≤ AI < 40 (urban centres)		
Number of points achieved overall	5	10	7

Total BREEAM credits achieved	7
Total contribution to overall building score	5.83%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is anticipated that the assessed building will have a high AI due to its central location. The number of credits achieved depends on the number of points achieved for implementing various transport measures.

It is considered likely that option 1, 3, 4, 5 and 9 will be possible for the proposed scheme which will award up to 7 credits - these are currently assumed for the purpose of this pre-assessment; however this could increase to 8 should the AI be calculated to be >40.

This will be confirmed by Helix. It is understood that there may be cycle storage proposed for the scheme now therefore criteria 7 may be achievable too depending on predicted occupancy levels of the building (staff and visitors) and the number of spaces provided.

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.89%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Compliant? Credits available Credits achieved

Please select the calculation procedure used	Standard approach		
Credits awarded	2	5	2
Exemplary performance		1	0

Standard approach data

Water Consumption from building micro-components		L/person/day
Water demand met via greywater/rainwater sources		L/person/day
Total net water consumption		L/person/day
Improvement on baseline performance		%

Key Performance Indicator - use of freshwater resource

Total net Water Consumption		m ³ /person/yr
Default building occupancy		

Alternative approach data

Overall microcomponent performance level achieved	
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Total BREEAM credits achieved	2
Total contribution to overall building score	1.56%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

2 credits are currently assumed as from experience this is typically achievable based on sanitary specification alone. It should be noted that the benchmarks for this issue have changed from 2014 therefore these credits will be harder to achieve but 2 credits should still be achievable without the implementation of grey water / rainwater harvesting. If these types of technologies are included for the scheme this is likely to improve credits for this area further.

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.78%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Water meter on the mains water supply to each building	Yes	1	1
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)	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.78%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that all metering will comply with BREEAM criteria with appropriate meters and sub meters with a pulsed output connected to any potential BMS. This would require sub-metering of any areas where the water consumption is likely to exceed >10% of the total water demand for the building - project team to confirm if this is likely for any areas e.g. the kitchen in the foyer or the WC area.

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.56%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Leak detection system	Yes	1	1
Flow control devices	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.56%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Assumed that a compliant leak detection system will be installed and that flow control devices will be installed on each WC area to regulate water to WC areas or sanitary facilities - note this includes single WCs.

Wat 04 Water Efficient Equipment

No. of BREEAM credits available	1	Available contribution to overall score	0.78%
No. of BREEAM exemplary credits available	No	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Water efficient consumption	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.78%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that there will be planting included within these proposals therefore potentially this will require irrigation. No other unregulated water use is currently assumed. If the planting is irrigated via rainwater collection then this criteria could be proven therefore it is assumed but this should be considered further by the team. If the planting will be specified to not need irrigation then it may be possible to achieve this criteria but would require confirmation from an ecologist.

MATERIALS**Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)**

No. of BREEAM credits available	7	Available contribution to overall score	7.50%
No. of BREEAM exemplary credits available	3	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool	0	7	0
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool	0	3	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

In order to achieve any credits for this type of building compliant third party LCA software must be used to review the following areas;

Superstructure Review - The first part requires the environmental performance of the superstructure of the building to be considered during Concept Stage. To claim credits here the Concept Stage review must be submitted to the BRE at the relevant stage. Further credits are available if this is then reviewed at Technical Design stage.

Options Appraisal - further credits are available if 2 to 4 significantly different superstructure design options are considered by the team at Concept Stage, again these must be submitted to the BRE at that stage. Further credits are available if this is then reviewed at Technical Design stage. Up to 6 credits are available for the above two studies (it is not currently clear how many are associated with each option, further clarity has been sought from the BRE). Substructure & Hard Landscaping - A single credit is available if at least 6 significantly different substructure or hard landscaping design options (at least 2 of each type) are reviewed at Concept Stage. No credits are currently assumed for the purpose of this pre-assessment but it is recommended that this is reviewed by the team soon as these credits carry a high weighting. If the Stage 2 deadline is missed we understand a total of 2 credits could be achieved for undertaking LCA during technical design stage - none of these credits are currently assumed.

Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool.	0	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A single credit is available for specifying materials with an EPD (environmental product declaration) - products must have a relevant EPD certificate so that a score is achieved in the calculator of at least 20. It is not currently known what products will be specified, therefore this credit has not been targeted, however this should be taken into consideration as the design develops and could be written into specification documentation although achievability should be reviewed.

Mat 03 Responsible sourcing of construction products

No. of BREEAM credits available	4	Available contribution to overall score	4.29%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

	Compliant	Credits available	Credits achieved
Prerequisite - All timber and timber based products are 'Legally harvested and traded timber'	Yes		
Has the enabling sustainable procurement credit been achieved?	Yes	1	1
Percentage of available for percentage of RSM points achieved	10.00%	3	1
Exemplary level performance		1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.14%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a Sustainable Procurement Plan will be in place prior to Concept Design. It is also assumed that all timber will be sourced in line with BREEAM requirements and that overall the material specifications will allow at least 10% of the responsible sourcing credits to be achieved.

Jim has confirmed that he has been involved with Sustainable Procurement Plans previously so will consider this in more detail.

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.07%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

To achieve this credit the design team must consider what design measures can be incorporated to protect vulnerable parts of the building, internally and externally. This includes protection measures for the first part of this issue i.e. kick plates, raised kerbs etc and also external parts of the building that might be subject to material degradation (BS 7543 is a default standard if no specific standard is listed for the element in question). Convenient access must also be provided to the roof and facade for cleaning, replacement and repair with specific information regarding prevention of water damage, ingress and detrimental ponding confirmed. It is currently assumed that this will be covered by the design team in order to allow this credit to be achieved.

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Compliant? Credits available Credits achieved

Material optimisation measures investigated and implemented at all relevant stages	No	1	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM exemplary credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

To achieve this criterion, material efficiency considerations need to be made and documented by the project team at each RIBA stage, starting at RIBA Stage 1 with the client or their agents setting this as a clear objective. Often a separate Material Efficiency schedule is maintained throughout a project in order for this credit to be awarded, this is not currently assumed for the proposed development but could be considered if relevant Stage 1 documentation is available.

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	5	Available contribution to overall score	3.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development?	Yes		
Pre-demolition audit	Yes	1	1
Compliant Resource Management Plan	Yes	3	2
Have waste materials been sorted into separate key waste groups?	Yes	1	1
Exemplary level criteria	No		
BREEAM exemplary level benchmark		1	0

Simple Buildings - Assessment Criteria

Simple Buildings - Assessment Criteria	Compliant?	Credits available	Credits achieved
Pre-demolition audit			
Construction resource efficiency - compliant Resource Management Plan			
RMP measurements and reporting			
Diversion of resources from landfill			
Exemplary level criteria			
BREEAM exemplary level benchmark			

Key Performance Indicators - Construction Waste

Measure/units for the data being reported	m3	
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award "Construction resource efficiency" credits	7.50	m3/100m2
Total non-hazardous construction waste generated	0.00	m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit	70.00	%
Total non-hazardous non-demolition construction waste diverted from landfill	0.00	m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion of landfill credit	85.00	%
Total non-hazardous demolition waste generated	0.00	m3
Total non-hazardous demolition waste to disposal	0.00	m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit	95.00	%
Material for reuse	0.00	m3
Material for recycling	0.00	m3
Material for energy recovery	0.00	m3
Hazardous waste to disposal	0.00	m3

Total BREEAM credits achieved	4
Total contribution to overall building score	2.40%

Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

A pre-demolition audit must be undertaken by a competent person prior to the end of Stage 2 in order for the first credit to be awarded. For construction resource efficiency, it is assumed that at least 7.5m3 of waste will be diverted from landfill per 100m2 GIA and targets for diversion of resources from landfill for waste will also be achieved. Targets could be set within the contract documentation as part of the design stage evidence but this will then need to be backed up with a Resource Management Plan (Site Waste Management Plan) and records from the appointed Contractor later on.

Wst 02 Use of recycled and sustainably sourced aggregates

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development?	Yes		
Pre-demolition audit	Yes		
Projects Sustainable Aggregate points	0	1	0
Exemplary performance credit		1	0

Key Performance Indicators

Total quantity of aggregate		Units - tonnes
% of high - grade aggregate that is recycled/ secondary aggregate by application		%

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

This credit has not currently been assumed as the source of building materials is currently not known. However, there is potential to achieve a single credit through the reuse of waste generated by the demolition of the existing building and grinding it into recycled aggregate for the Proposed Development. Other opportunities for the use of secondary aggregate should also be explored where possible.

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Compliant recycling and non-recyclable waste storage allocated	Yes	1	1
Static waste compactor(s) or baler(s)	N/A		
Vessel(s) for composting suitable organic waste and water outlet	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.60%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

This requires the provision of a dedicated and clearly labelled space to deal with recyclable and general waste.

It should be noted that should there be a consistent stream of organic waste generated then dedicated compostable waste storage should be provided with a suitable water outlet provided within its vicinity for hygiene purposes - this is possible as there are kitchen facilities provided. The project team should confirm if a consistent and large amount of compostable waste will be produced and if this is anticipated then it is assumed composting facilities will be provided to allow this credit to be achieved.

Wst 04 Speculative finishes (Offices only)

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM exemplary credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 05 Adaptation to climate change

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Resilience of structure, fabric, building services and renewables installation	No	1	0
Exemplary level - responding to climate change	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

These criteria has not currently been assumed as it requires a systematic risk assessment related to climate change to be undertaken by the project team. This will need to consider the impacts of flooding, storms, cold events, warmer summers etc on the building with respect to structure and fabric resilience. This should be completed prior to the end of RIBA Stage 2 which it is understood will be soon for the proposed development therefore this has not been assumed currently but should be considered for further credits.

Wst 06 Design for disassembly and adaptability

No. of BREEAM credits available	2	Available contribution to overall score	1.20%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Design for disassembly and functional adaptability - recommendations	Yes	1	1
Disassembly and functional adaptability - implementation	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.20%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a compliant Functional Adaptability Study will be undertaken at Concept Design which will develop a set of recommendations and/or solutions which will be revisited at Detailed Design. It is also assumed that a building adaptability and disassembly guide will be produced to inform future building users.

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Percentage of proposed development's footprint on previously occupied land:	100.00%	1	1
Contaminated land	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The Proposed Development is to be constructed on the site of the existing church foyer and the residential properties will be refurbished, therefore the first credit has been assumed.

It has been assumed that the site is unlikely to be contaminated and requiring remediation, therefore until a site investigation has been undertaken to prove otherwise, the credit has been withheld.

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

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
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	2	2
Determining the ecological outcomes of the site	Yes		
Exemplary level - Determining the ecological outcomes of the site	No	1	0
Total BREEAM credits achieved	2		
Total contribution to overall building score	2.00%		
Total BREEAM exemplary credits achieved	0		
Minimum standard(s) level	N/A		

Assessor comments/notes:

To achieve this credit it is assumed that an Ecologist will be appointed to undertake a site survey and evaluation to determine the ecological baseline. The requirements are that they are appointed prior to the completion of RIBA Stage 1 but so long as they can confirm that their late appointment has not impacted on their recommendations this should be acceptable. It will be important to ensure that it is documented how the ecological recommendations are implemented over the course of the project.

For the second credit it is assumed that during Concept Design the project team will liaise and collaborate with relevant stakeholders (such as the client, designers, facilities manager and possibly local government organisations and local wildlife groups) to identify and consider ecological outcomes for the site. Any existing trees that are deemed by the Ecologist to be 'ecologically valuable' will need to adequately protected throughout the course of the site works.

The team have confirmed that an ecologist has already been involved, ongoing involved to be determined.

LE 03 Managing negative impacts on ecology

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
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	1	1
Managing negative impacts of the project	2	2	2
Total BREEAM credits achieved	3		

Total contribution to overall building score	3.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that the pre-requisite will be met (Le 02 will be achieved). The first credit available for Planning, Liaison, Implementation and Data is assumed and requires action prior to the completion of Concept Design. Two credits are assumed for Route 2 whereby there is to be no loss of ecological value - this will need to be confirmed by a suitably qualified ecologist.

LE 04 Change and enhancement of ecological value

No. of BREEAM credits available	4	Available contribution to overall score	4.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Prerequisite - Assessment route selection	Route 2		
Prerequisite - Identification and understanding the risks and opportunities for the site	Yes		
Change and enhancement of ecology (Route 1 only)		0	0
Liaison, implementation and data collation (Route 2 only)	Yes	1	1
Change and enhancement of ecology (Route 2 only)	2	3	2
Exemplary level criteria (Route 2 only)	No	1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	3.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a suitably qualified ecologist will be involved with the scheme and their recommendations for enhancement of ecological value of the site will be implemented. It is also assumed that they will undertake a compliant calculation to quantify this enhancement that will allow at least two credits to be achieved, there are a total of three available for this element so it may be that further are achieved when the calculation is undertaken - this can only be confirmed once the calculation is completed.

LE 05 Long term ecology management and maintenance

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Prerequisite - Assessment route selection	Route 2		
Prerequisite - Roles and responsibilities, implementation, statutory obligations	Yes		
Liaison, monitoring implementation, evolving management and maintenance solutions	Yes	1	1
Landscape and ecology management plan development	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM exemplary credits achieved	N/A

Minimum standard(s) level	N/A
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Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that the team will review the implementation and effectiveness of ecological factors including a consideration of ongoing maintenance and monitoring and reporting of ecological outcomes of the site. It is also assumed that a compliant Landscape and Habitat Management Plan will be developed and this will include a requirement to be updated as appropriate to support maintenance of the ecological value of the site.

POLLUTION

Pol 01 Impact of refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	No	3	3
All systems (with electric compressors) comply with BS EN 378:2016 (parts 2 and 3) and (where applicable) Institute of Refrigeration Ammonia Refrigeration Systems code of practice?			
Total Direct Effect Life Cycle CO ₂ -eq/kW emissions from the system			
Global Warming Potential of the specified refrigerant(s) 10 or less?			

Leak Detection

Are all the systems hermetically sealed?			
BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge			

Total BREEAM credits achieved	3
Total contribution to overall building score	2.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that refrigerants are unlikely to be installed in the proposed building which means that these credits are likely to be achieved by default therefore these have been assumed.

There is a possibility that air conditioning may be proposed for the offices, if this is the case then the most common refrigerant currently in use is R410a which has a GWP 2088 therefore these credits would not be achievable.

This issue will have to be reviewed by the project team as the design evolves.

Pol 02 Local air quality

No. of BREEAM credits available	2	Available contribution to overall score	1.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant	Credits available	Credits achieved
Is the project required to connect to a District Heating system, and it supplies all heating and hot water demands to the building?	No		
How many credits have been achieved?	0	2	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that heating and hot water demand is likely to be met via a gas-fired boiler. For a single credit to be awarded, the boiler must achieve NOx levels of <27 mg/kWh. However, if all heating demands were to be met via electrical sources, 2no. credit would be able to be awarded by default. As the performance of the heating and hot water systems are to be confirmed no credits are currently assumed, pending confirmation from the team.

Pol 03 Flood and surface water management

No. of BREEAM credits available	5	Available contribution to overall score	3.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
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	2	2
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	1	1
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	1	1
Minimising watercourse pollution	No	1	0

Total BREEAM credits achieved	4
Total contribution to overall building score	2.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A preliminary review using the Environment Agency Flood Risk Map shows that the site is located in an area with a 'low' risk of flooding from all sources. This will need to be confirmed by a Suitably Qualified Professional undertaking a Flood Risk Assessment (FRA). Two credits have been assumed based on a low flood risk being confirmed.

Two further credits are available for meeting surface water run-off rate and volume requirements, based upon the current plans, it has been assumed that the impermeable area of the site is not set to increase as a result of the Proposed Plans. This will need to be confirmed but these credits are currently targeted.

The final credit available for minimising watercourse pollution is not targeted as this requires there to be no discharge from the site for rainfall up to 5mm which is often only achievable with onsite soakaways.

Pol 04 Reduction of night time light pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
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External lighting has been designed out	Yes	1	1
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Total BREEAM credits achieved	1
Total contribution to overall building score	0.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that external lighting will be designed in line with the requirements of the ILP Guidance Notes for the reduction of obtrusive light (2011). Also assumed that all external lighting will be switched off automatically between 23.00 and 07.00 - this includes an advertisements or feature lighting for the building. Note there is some flexibility for security and safety lighting.

Pol 05 Reduction of noise pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Noise-sensitive areas/buildings within 800m radius of the development	Yes		
Is the site compliant with all relevant criteria?	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.67%		
Total BREEAM exemplary credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a noise impact assessment will be undertaken by a suitably qualified acoustician to consider any external building services equipment and their acoustic impact on nearby residential properties. If required it is assumed that attenuation will be incorporated to ensure compliance with these requirements.

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 01 BREEAM AP - Simple Buildings only	N/A	N/A	N/A
Man 03 Responsible construction practices	Yes	1	1
Hea 01 Visual Comfort	No	2	0
Hea 02 Indoor Air Quality	No	1	0
Hea 06 Security	No	1	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat 01 Environmental impacts from construction products - Building LCA	No	3	0
Mat 03 Responsible Sourcing of Materials	No	1	0
Wst 01 Construction Waste Management	No	1	0

Wst 01 Construction Waste Management - Simple Buildings only	N/A	N/A	N/A
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaptation to climate change	No	1	0
LE 02 Identifying and understanding the risks and opportunities for the site	No	1	0
LE 04 Change and enhancement of ecological value (Route 2 only)	No	1	0
Pol 03 Flood and surface water management - Simple Buildings only	N/A	N/A	N/A

Number of 'approved' innovation credits achieved?	0
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Total BREEAM innovation credits achieved	1
Total contribution to overall building score	1.00%
Minimum standard(s) level	N/A

Assessor comments/notes:

A single credit has been targeted for Man03.

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