SYNTEGRA CONSULTING

BREEAM 2014
UK Non-Domestic
New Construction Scheme
Pre-assessment Report

All Saints Church,
The Avenue
Hampton,
TW12 2RG

Dec 2016

Ref: 16-2800

Quality Standards Control

The signatories below verify that this document has been prepared in accordance with our quality control requirements. These procedures do not affect the content and views expressed by the originator.

Revision	*Planning*	*Rev A*	*Rev B*	*Rev C*
Date	08/12/2016			
Prepared by (BREEAM Assessor)	U.Uzair			
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The methodology adopted and the sources of information used by SC in providing its services are outlined in this report. The work described in this report was undertaken in **December 2016** and is based on the conditions encountered and the information available during the said period of time. The scope of this report and the services are accordingly factually limited by these circumstances.

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Forecast cost estimates do not include such costs associated with any negotiations, appeals or other non- technical actions associated with the agreement on measures to meet the requirements of the authorities, nor are potential business loss and interruption costs considered that may be incurred as part of any technical measures.

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3. Executive Summary

Syntegra Consulting Ltd has been commissioned to undertake the Building Research Establishment Environmental Assessment Method (BREEAM) for All Saints Church in The Avenue, Hampton, Middlesex TW12 2RG. The BREEAM pre-assessment aims to provide the outline sustainability strategy and act as a sustainable design guide for the construction works to be performed. In accordance with Richmond Borough Council's planning requirements and as derived from local policy, the proposed developments will be expected to meet a minimum BREEAM rating of 'Good' demonstrating that the project is designed and built to minimise greenhouse gas emissions across their lifetime and incorporate sustainable design and construction measures.

The building is to be classified as a new construction under BREEAM UK Non-domestic New Construction 2014 for which the pre-assessment shows that by achieving the minimum standard requirements together the most feasible credits; the proposed project could achieve an overall score of 45% leading to a BREEAM rating of 'Good'.

It should be noted that the Richmond Planning policy requires all commercial developments to achieve BREEAM "Excellent", however due to the nature of this development i.e. Church Community Hall, it would be technically very difficult to achieve certain BREEAM points and also this will cause an uncertainty across the scheme to become financially viable. There are many BREEAM credits which require specialist appointment in order to gain credits but does not provide any environmental benefits to the project. Table 1 below provides brief details of unachievable/ extremely difficult/ additional extra cost credits and their requirements,

BREEAM Credit Reference	Credit Requirements	Feasibility for this project
Man 3 – Responsible Construction Practices	Considerate Contractors Scheme	In order to secure 2 credits in this section, contractor needs to register the site with Considerate Contractors Scheme. This cause additional cost implication to overall construction budget. Furthermore, the CCS can be subjective to the site inspection and therefore the required score is not guaranteed.
Hea 01 – Visual Comfort	Daylighting Assessment	The proposed design is meeting the daylighting provisions across the scheme however BREEAM Daylighting criteria for community hall will not be satisfied due to lack of natural light. The provision of natural lighting is through the aid of roof light which will not meet 80% of the room daylighting criteria, room depth and angle to the sky criteria. Hence, this made this credit unachievable.
Hea 4 – Thermal Comfort	Thermal Comfort Analysis	The development will be designed to maintain the thermal comfort levels, however in order to verify that the 3D thermal model is required by BREEAM which adds additional cost to the overall design.
Hea 5 – Acoustics Performance	Acoustics Report completed by Suitably Qualified Acoustician	The appointment of a Suitably Qualified Acoustician will be required at design stage as well as acoustic performance testing for each room at the end of the scheme in order to verify that the development meets BREEAM acoustics criteria. This will cause additional costs to the development.

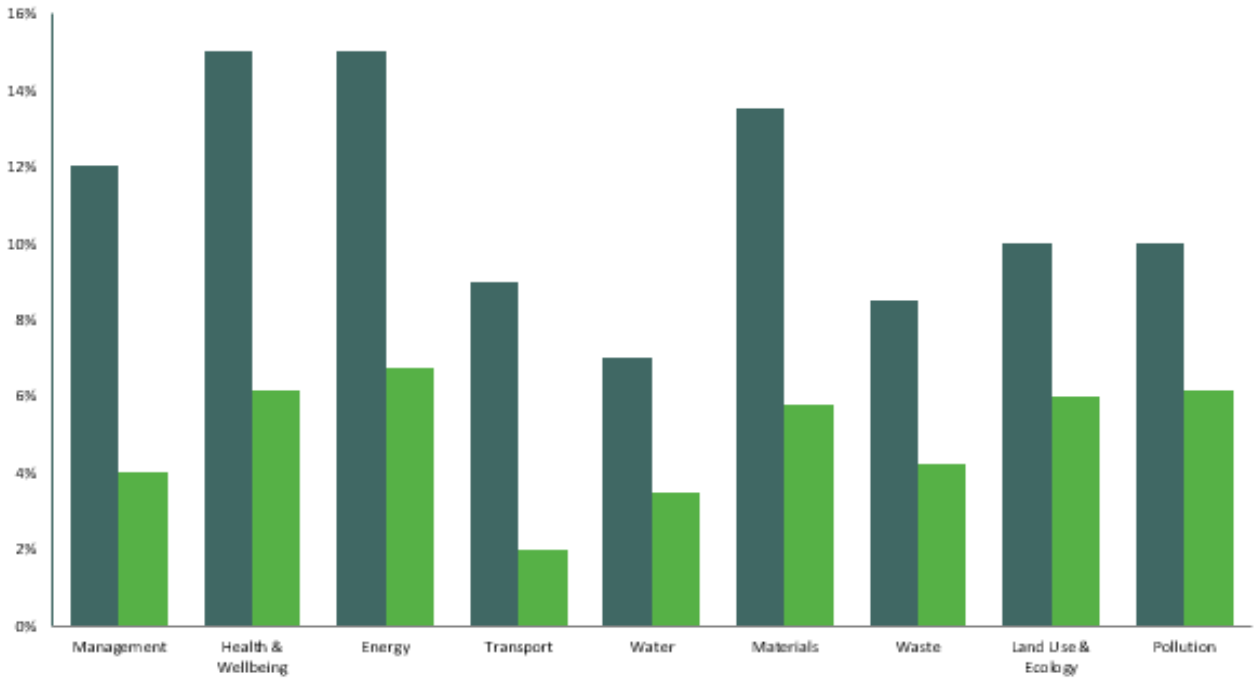
Ene 1 – Reduction of Energy and Carbon Emissions	Energy Performance of the development	In order to achieve Energy Performance criteria for BREEAM the development needs to achieve 50% CO_2 emissions improvement over the Part L 2013 baseline. This is mandatory criteria to achieve "Excellent" rating and regardless if the whole development will achieve required 70% credit the overall score is unachievable if 9 credits hasn't been achieved in this section.
Tra 1 – Public Transport Accessibility	Transport Links to & from the development	This credit is only achievable on the basis of PTAL (Public Transport Accessibility Link) rating. There are three credits available in this section however, only 1 is achievable as the development falls under PTAL rating of 1b, therefore only 1 credit is achievable.
Tra 3 – Cyclist Facility	Provision of Cycle Storage	In order to secure this credit the development needs to provide a covered weather protected cycle storage. This is beyond planning requirements which just requires a cycle store. It also requires a shower, changing room and locker facility as well which is currently not included within the proposed design.
Tra 5 – Travel Plan	Travel Plan Assessment Report	A site specific Travel plan report will be required in order to secure this credit. A transport assessment has been commissioned for planning however the travel plan needed for BREEAM requires a lot of additional information which is beyond a transport assessment.
LE1 to LE 5 – Land Use & Ecology	Suitably Qualified Ecologist Report	A Suitably Qualified Ecologist report will be required by BREEAM to satisfy the credits requirements. At present there aren't many Ecological features present on site and the development does not fall under Ecological interest site. However, the design will incorporate planting where possible however an appointment of Ecologist and development of the required recommendations will be a huge additional cost burden to the site.
Pol 3 – Surface Water Run Off	Flood Risk Assessment Report	We understand from the Environmental Agency Flood map that the development has low level of Flooding and falls under Zone 1, however in order to satisfy the BREEAM criteria a Flood Risk Assessment report could need to be completed by a Suitably Qualified Professional.

Table 1 – Outline of unfeasible credits for the proposed development

Although some of the above credits are extremely difficult, with the additional consultant appointments the realistic achievable target for this development will be "Good" with 45% weighted credits. Table below provides the breakdown of each section and the weighted achievable credits for the development,

Environmental Section	Weighting	Credits Available	Credits Targeted	Weighted Score
Management	12.00%	21	7	4.00%
Health & Wellbeing	15.00%	17	7	6.17%
Energy	15.00%	20	9	6.75%
Transport	9.00%	9	2	2.00%
Water	7.00%	8	4	3.50%
Materials	13.50%	14	6	5.78%
Waste	8.50%	8	4	4.25%
Land Use & Ecology	10.00%	10	6	6.00%
Pollution	10.00%	13	8	6.15%
Innovation	-	10	1	1.00%
Indicative BREEAM Score	46.60% 'Good' Rating			

The current BREEAM strategy may be subject to change and therefore cannot be subjected to a specific score in order to ensure future flexibility with respect to third party verification by the BRE and any changes necessitated.



Electrical, Mechanical and Fabric requirements will need to confirm compliance with the standards and requirements highlighted in this pre-assessment note in order to achieve the estimated rating. The final score may change if during the project process it is confirmed that some of the 'Target' credits won't be achievable, however the overall target of BREEAM Good rating will be maintained throughout the design.

4. Introduction

This BREEAM Pre-assessment report will be included as part of the planning application and addresses the environmental impact of the development. This report focuses on the environmental strategy for the proposed scheme and how BREEAM measurements will be targeted to achieve the sustainability aspirations of this project as well as meet the planning policy requirements.

The development is to be located in the **London Borough of Richmond** and it is in close proximity to Hampton Station (approximately 0.6miles from the site). The proposal is to create a community hall space at the All Saints Church, The Avenue, Hampton, Middlesex TW12 2RG**.**

Figure 1 Site Location

The detailed existing and proposed floor plan layouts have been provided under appendix B of this Report.

5. Planning Policy – London Borough of Richmond Upon Thames

1. Planning Policy

1.1. National Planning Policy Framework (March 2012)

The National Planning Policy Framework is a key part of our reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

1.2. The London Plan Renewable Energy Policy 2015 (Policy 5.2, 5.6, 5.7 & 5.9)

The Mayor and boroughs should in their DPDs adopt a presumption that developments will achieve a reduction in carbon dioxide emissions of 20% from onsite renewable energy generation according to paragraph 5.42 of Policy 5.7 Renewable Energy (which can include sources of decentralised renewable energy). According to Policy 5.2 (clause B) all major residential and non-residential buildings should show an improvement of 40% BER/TER from 2013 to 2016 over 2010 Building Regulations, unless it can be demonstrated that such provision is not feasible. Furthermore, intent must be shown for connecting to a Decentralised Energy Network and utilizing a Combined Heat & Power according to Policy 5.6 and reducing the potential for overheating and reliance on air conditioning systems according to Policy 5.9.

1.3. London Borough of Richmond Upon Thames

LONDON BOROUGH OF RICHMOND UPON THAMES

Core Strategy (Adopted in April 2009)

CP1 - Sustainable Development

1.A The policy seeks to maximise the effective use of resources including land, water and energy, and assist in reducing any long term adverse environmental impacts of development. Development will be required to conform to the Sustainable Construction checklist, including the requirement to meet the Code for Sustainable Homes level 3 (for new homes), Ecohomes “excellent” (for conversions) or BREEAM “excellent” for other types of development. This requirement will be adjusted in future years through subsequent DPDs, to take into account the then prevailing standards in the Code for Sustainable Homes and any other National Guidance, and ensure that these standards are met or exceeded.

CP2 - Reducing Carbon Emissions

2.A The Borough will reduce its carbon dioxide emissions by requiring measures that minimise energy consumption in new development and promoting these measures in existing development, particularly in its own buildings.

2.B The Council will require the evaluation, development and use of decentralised energy in appropriate development.
2.C The Council will increase the use of renewable energy by requiring all new development to achieve **a reduction in carbon dioxide emissions of 20% from on-site renewable energy generation** unless it can be demonstrated that such provision is not feasible, and by promoting its use in existing development.

Development Management Plan (Adopted November 2011)

Policy DM SD 1 - Sustainable Construction
All development in terms of materials, design, landscaping, standard of construction and operation should include measures capable of mitigating and adapting to climate change to meet future needs.
New buildings should be flexible to respond to future social, technological and economic needs by conforming to the Borough's Sustainable Construction Checklist SPD.

New homes will be required to meet or requirements of the Code for Sustainable Homes Level 3.

They also must achieve a minimum 25 per cent reduction in carbon dioxide emissions over Building Regulations (2010) in line with best practice from 2010 to 2013, **40 percent improvement from 2013 to 2016**, and 'zero carbon' standards from 2016. It is expected that efficiency measures will be prioritised as a means towards meeting these targets. These requirements may be adjusted in future years to take into account the then prevailing standards and any other national guidance to ensure the standards are met or exceeded.

New non-residential buildings over 100sqm will be required to meet the relevant BREEAM 'excellent' standards. For conversions see Policy DM SD 3 'Retrofitting'.

Policy DM SD 2 - Renewable Energy and Decentralised Energy Networks

New development will be required to conform with the Sustainable Construction Checklist SPD and:

(a) Maximise opportunities for the micro-generation of renewable energy. Some form of low carbon renewable and/or de-centralised energy will be expected in all new development, and
(b) Developments of 1 dwelling unit or more, or 100sqm of non-residential floor space or more will be required to reduce their total carbon dioxide emissions by following a hierarchy that first requires and efficient design to minimize the amount of energy used, secondly, by using low carbon technologies and finally, where feasible and viable, including a contribution from renewable sources.
(c) Local opportunities to contribute towards decentralized energy supply from renewable and low-carbon technologies will be encouraged where there is no over-riding adverse local impact.
(d) All new development will be required to connect to existing or planned decentralized energy networks where one exists. In all major developments and large Proposals Sites Identified in the (forthcoming) Site Allocations DPD, provision should be made for future connection to a local energy network should one become available.

NB: The Code for Sustainable Homes Scheme has now been removed from national policy, therefore a CfSH pre-assessment has not been produced for this report.

6. BREEAM 2014 New Construction

6.1. Introduction

This project falls under the scope of a New Construction scheme and comes under BREEAM 2014 UK Non-domestic NC. The scheme is a performance based assessment method and certification scheme for new buildings.

The primary aim of BREEAM UK New Construction 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 construction process.

The scheme is split into the following environmental categories and sub sections which will allow the scheme to reflect the aspects of a building that are tenant or landlord responsibilities, as well as the varied life cycle stages that each building and construction element.

Management	Health and Wellbeing
Project brief and design	Visual comfort
Life cycle cost and service life planning	Indoor air quality
Responsible construction practices	Safe containment in laboratories
Commissioning and handover	Thermal comfort
Aftercare	Acoustic performance
	Safety and security

Water	Materials
Water consumption	Life cycle impacts
Water monitoring	Hard landscaping and boundary protection
Water leak detection	Responsible sourcing of materials
Water efficient equipment	Insulation
	Designing for durability and resilience
	Material efficiency

Energy	Transport
Reduction of energy use and carbon emissions	Public transport accessibility
Energy monitoring	Proximity to amenities
External lighting	Cyclist facilities
Low carbon design	Maximum car parking capacity
Energy efficient cold storage	Travel plan
Energy efficient transportation systems	
Energy efficient laboratory systems	
Energy efficient equipment	
Drying space	

Waste	Land Use and Ecology
Construction waste management	Site selection
Recycled aggregates	Ecological value of site and protection of ecological features
Operational waste	Minimising impact on existing site ecology
Speculative floor and ceiling finishes	Enhancing site ecology
Adaptation to climate change	Long term impact on biodiversity
Functional adaptability	

Pollution	Innovation
Impact of refrigerants	Innovation
NO_x emissions	
Surface water run-off	
Reduction of night time light pollution	
Reduction of noise pollution	

6.2. Mandatory Credit Issues

There are mandatory credits set which must be achieved in order to achieve the difference performance ratings. These must be achieved in addition to the optional credits to achieve the targeted ratings.

Failure to meet the mandatory criteria may restrict a development to an UNCLASSIFIED rating, regardless of the overall percentage achieved.

Category	BREEAM Rating	Pass	Good	Very Good	Excellent	Outstanding
	Minimum Score	**<30%**	**<45%**	**<55%**	**<70%**	**<85%**
Management	Man 03 – Responsible Construction Practices	-	None	None	1 credit (Considerate construction)	2 credits
	Man 04 – Commissioning and Handover	-	None	None	Criterion 10 (Building User Guide)	1 credit
	Man 05 – Aftercare	-	None	None	1 credit (Seasonal commissioning)	1 credit
Energy	Ene 01 – Reduction in CO_2 Emissions	-	None	None	5 Credits	8 credits
	Ene 02 – Energy Monitoring	-	None	1 credit (First sub-metering credit)	1 credit (First sub-metering credit)	1 credit
Water	Wat 01 – Water Consumption	-	1 credit	1 credit	1 credit (where applicable)	2 credits
	Wat 02 – Water Metering	-	Criterion 1	Criterion 1	Criterion 1	Criterion 1
Materials	Mat 03 – Responsible Sourcing	Criterion 1	Criterion 1	Criterion 1	Criterion 1	Criterion 1

Category	BREEAM Rating	Pass	Good	Very Good	Excellent	Outstanding
	Minimum Score	<30%	<45%	<55%	<70%	<85%
Waste	Was 01 – Construction Waste Management	None	None	None	None	1 credit
	Was 03 – Operational Waste	None	None	None	1 credit	1 credit
Ecology	LE 03 – Minimising impact on existing Site Ecology	None	None	1 credit	1 credit	

6.3. BREEAM 2014 Credit Weightings

BREEAM 2014 also introduces different credit weightings, i.e. relative scale of importance to various credit issues depending on the assessment route adopted. Environmental weightings are fundamental to any building environmental assessment method as they provide a means of defining, and therefore ranking, the relative impact of environmental issues. The outputs from this exercise are then used to determine the relative value of the environmental sections used in BREEAM and their contribution to the overall BREEAM score.

The table below outlines the weightings for each of the nine environmental sections included in the BREEAM UK New Construction 2014 scheme.

Table 2.2: BREEAM Environmental section weightings for common project types

Environmental Section	Environmental Weightings		
	Fully Fitted Out	Shell Only	Shell & Core Only
Management	12%	12.50%	11.00%
Health and Wellbeing	15%	10.00%	10.50%
Energy	15%	14.50%	15.00%
Transport	9%	11.50%	10.00%
Water	7%	4.00%	7.50%
Materials	13.50%	17.50%	14.50%
Waste	8.50%	11.00%	9.50%
Land Use and Ecology	10%	13.00%	11.00%
Pollution	10%	6.00%	11.00%
Total	100%	100%	100%
Innovation (additional)	10%	10%	10%

7. Credits Requiring Early Actions

Under the BREEAM 2014 UK New Construction criteria, there are a number of credits which require early action by the design team in order for the credits to be awarded. The relevant credits, the actions which need to be carried out and when these would be executed are listed below in Table 2.3.

Table 2.3: BREEAM 2014 Early Stage credits (RIBA Stage 1, 2 & 3)

Credit Issue	RIBA Stage 1 Action Required	RIBA Stage 2 & 3 Actions Required
Man 01: Project Brief and Design	-	**One Credit – Stakeholder Consultation**: Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders should have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery. **One Credit – Stakeholder Consultation**: By completion of Concept Design Stage **One Credit – Sustainability Champion**: the defined performance targets must be formally agreed between the client and design/project team
Man 02: Life Cycle Costing and Service Life Planning	-	An elemental level Life Cycle Cost (LCC) analysis has been carried out based on the proposals developed during RIBA Stage 2
Mat 06: Material Efficiency	Consult with relevant design team members to identify and implement measures for efficient use of materials.	-
Hea 06: Safety and Security	-	Appoint security specialist to conduct a Security Needs Assessment (SNA) or consult with an Architectural Liaison office (ALO)

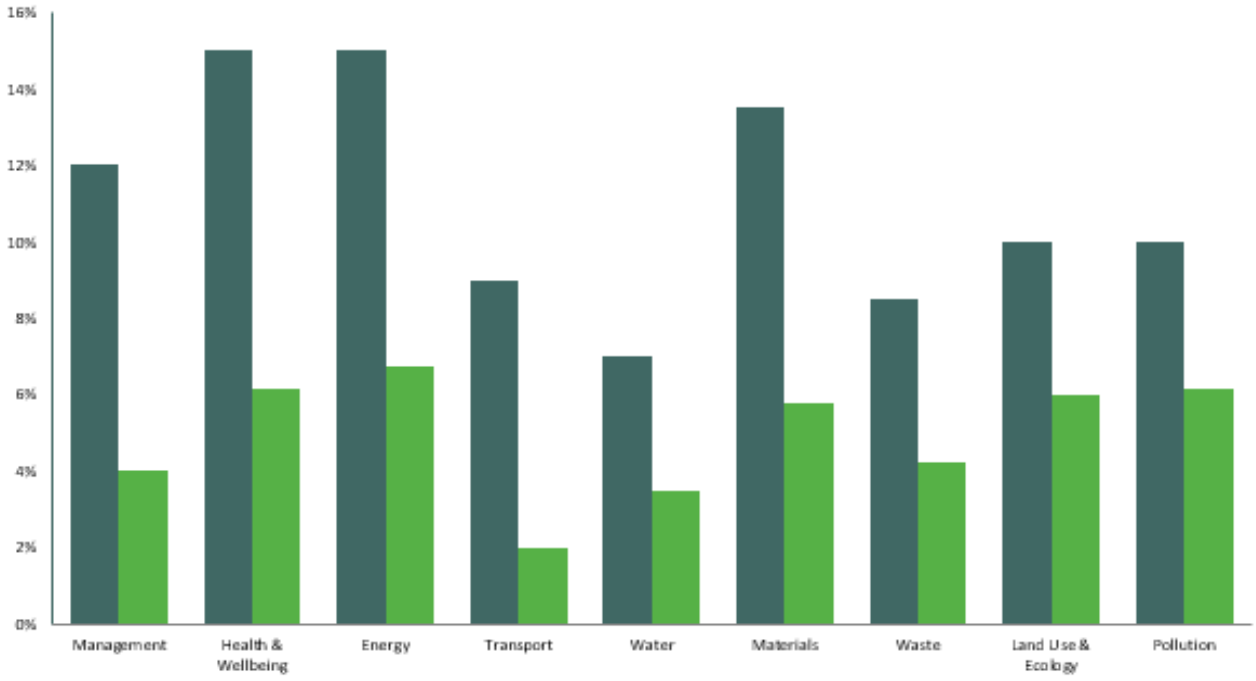
Table 2.3: BREEAM 2014 Early Stage credits (RIBA Stage 1, 2 & 3)		
Credit Issue	**RIBA Stage 1 Action Required**	**RIBA Stage 2 & 3 Actions Required**
Ene 04: Low Carbon Design	-	Carry out a passive design analysis and a renewables feasibility study
Wst 05: Adaption to Climate Change	-	Conduct a climate change adaption strategy appraisal for structural and fabric resistance
Wst 06: Functional Adaptability	-	Undertake a building specific functional adaption strategy study. Incorporate adaption measures into the design where practical and cost effective.
Le 04: Enhancing Site Ecology	The ecologist must be appointed by RIBA Stage 1 to carry out surveys and provide recommendations	-
Le 05: Long Term Impact on Biodiversity	-	The Ecology Report must be available at Stage 2 (following the appointment of the ecologist at Stage 1)

8. Conclusion

In summary the project aims to achieve highest sustainability standards and would adopt features to enhance the environmental performance of the proposed scheme. As can be seen in the table below, the proposed development can achieve Good rating under BREEAM 2014 New Construction scheme, but will not be able to fully satisfy the planning policy requirements. Table below provides the breakdown of each section and the weighted achievable credits for the development,

Environmental Section	Weighting	Credits Available	Credits Targeted	Weighted Score
Management	12.00%	21	7	4.00%
Health & Wellbeing	15.00%	17	7	6.17%
Energy	15.00%	20	9	6.75%
Transport	9.00%	9	2	2.00%
Water	7.00%	8	4	3.50%
Materials	13.50%	14	6	5.78%
Waste	8.50%	8	4	4.25%
Land Use & Ecology	10.00%	10	6	6.00%
Pollution	10.00%	13	8	6.15%
Innovation	-	10	1	1.00%
Indicative BREEAM Score	46.60% 'Good' Rating			

The current BREEAM strategy may be subject to change and therefore cannot be subjected to a specific score in order to ensure future flexibility with respect to third party verification by the BRE and any changes necessitated.



7. Appendix A – BREEAM Pre Assessment Report

8. Appendix B – Existing & Proposed Floor Layout

BREEAM®

BREEAM UK New Construction 2014 Pre-Assessment Estimator

General information

BRE Assessment reference no.	BREEAM - 16-2800
Client name	All Saints Church
Building end user/occupier	All Saints Church
Assessor name	Umer Uzair
Assessor organisation	Syntegra Consulting Group

Building details

Building name	all saints church
Country	England
Building type (main description)	Other
Building type (sub-group)	Non-Residential Institution - Place of worship
Building floor area (GIA) m^2	560
Building floor area (NIFA) m^2	456
BREEAM scheme	New Construction
BREEAM version	2014 (SD5076)
BREEAM UK 2014 technical manual issue number	SD5076 Issue 4.0
Project type	New Construction (Fully fitted)
Assessment stage	Pre-Assessment
Location type	London Borough
If applicable, does this industrial building have a heated or cooled operational area?	Option not applicable to building type
Does water heating contribute less than 10% of the buildings total energy consumption?	No
Commercial/industrial refrigeration and storage systems	No
Building user transportation systems (lifts and/or escalators)	No
Laboratory function/area and size category	No laboratory
Laboratory containment level	No laboratory
Fume cupboard(s) and/or other containment devices	No
Unregulated water uses present? (e.g. vehicle wash system, irrigation)	No
If applicable, will this healthcare building house inpatients?	Option not applicable to building type
If applicable, does this industrial building have an office area?	Option not applicable to building type
If applicable, does this building contain areas requiring SAP assessment?	Option not applicable to building type
If SAP used, what proportion of the building's total floor area (GIA) does it apply to?	Option not applicable to building type

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Assessment Issue Scoring

Building name	all saints church
Building score (%)	45.60%
Building rating	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	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	Yes	1	1
Will a sustainability champion (design) be assigned?	No	1	0
Will a sustainability champion (monitoring progress) be assigned?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.14%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

1. Prior to completion of RIBA Stage 2 the project delivery stakeholders have met to identify and define their roles, responsibilities and contribution (meeting notes required). The consultation has to cover:
a. Functionality, build quality and impact (including aesthetics).
b. Provision of appropriate internal and external facilities (for future building occupants and visitors/users).
c. Management and operational implications.
d. Maintenance resources implications.
e. Impacts on the local community, e.g. local traffic/transport impact.
f. Opportunities for shared use of facilities and infrastructure with the community/appropriate stakeholders, if relevant/appropriate to building type.
g. Compliance with statutory (national/local) consultation requirements.h. Inclusive and accessible design.

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC)analyses be carried out?		2	0
Will a component level LCC plan be developed?		1	0
Will the predicted capital cost be reported?		1	0
Expected capital cost of the project (if available)		£/m^2	

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

Comments/notes:

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	No	1	0
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	No	1	0
Will transport of construction materials and waste be metered/monitored?	No	1	0
Will exemplary level criteria be met?		1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) -waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

1. All site timber used on the project is sourced in accordance with the UK Government’s Timber Procurement Policy.
2. The Contractor has to significantly exceed ‘compliance’ with the criteria of a compliant scheme (i.e. CCS score between 35 and 39)
3. Energy and water will be metered and monitored during the construction process.
4. Monitor and record data on transport resulting from delivery of the majority of construction materials to site and construction waste from site.
5. A sustainability champion (BREEAM AP Assessor) will be assigned prior to construction stage.
6. There will be operational infrastructure to co-ordinate (in quarterly intervals for the first 3 years): collection of occupant satisfaction, analysis of the data of building performance, setting targets for water and energy reduction, providing feed back any 'lessons learned' to the design team, provision of actual energy annual building energy and water consumption
7. The Contractor will operate under an EMS Scheme such as ISO9001.

Man 04 Commisioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?		1	0
Will the building fabric be commissioned?		1	0
Will a building user guide be developed prior to handover?	Yes	1	0
Will a training schedule be prepared for building occupiers/managers?			

Total BREEAM credits achieved	1
Total contribution to overall building score	0.57%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

1. An appropriate project team member has to undertaking design reviews of building services and give advice on suitability for ease of commissioning. He needs to provide commissioning management input to construction programming and during installation stages . In his responsibilities is also to manage the commissioning process, performance testing and handover/post-handover stages.
2. A schedule of commissioning and testing is prepared where all commissioning activities will be carried out in line with BSRIA and CIBSE guidelines. The appropriate team member is appointed to monitor and program commissioning and testing. Commissioning has to be finished prior to handover.
3. Building User Guides are to be provided and are appropriate to all users of the building. The document must describe the facilities to be shared and how access to them will be arranged for potential users.
4. A compliant training schedule will be prepared and implemented.

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.71%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will aftercare support be provided to building occupiers?	No	1	0
Will seasonal commissioning occur over 12months once substantially occupied?	No	1	0
Will a post occupancy evaluation be carried out 1 year after occupation?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.57%

Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Very Good level

Comments/notes:

A post Occupancy Evaluation needs to be undertaken after project completion and handover for the period of 1 year after completion on site by an independent BREEAM assessor. This feasibility study will review the design and construction against the operation consumptions and will provide report on differences and approach to improve the performance.

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.53%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	Yes	1	1
How many credits will be targeted for the daylighting criteria?	0	1	0
Will the design provide adequate view out for building users?	No	1	0
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?		1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.76%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

1. Electrical Engineer to provide lighting specification and to ensure that the proposed internal and external lighting complies with: -SLL Code for Lighting 2012; -CIBSE Lighting Guide 7 Sections 3.3, 4.6, 4.7, 4.8 and 4.9.; -BS5489-1:2013 Lighting of roads and public amenity areas; -BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.
2. Building light zoning is in line with BREEAM requirements ie.: Auditoria: zoning of seating areas, circulation space and lectern area4.All fluorescent and compact fluor escent lamps are fitted with high frequency ballasts.

Hea 02 Indoor Air Quality

No. of BREEAM credits available	5	Available contribution to overall score	4.41%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an air quality plan be produced and building designed to minimise air pollution?	Yes	1	1
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	No	1	0

Will the relevant products be specified to meet the VOC testing and emission levels required?	Yes	1	1
Will formaldehyde and total VOC levels be measured post construction?	No	1	0
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level VOCs (products)criteria be met?	0	2	0

Key Performance Indicators: Indoor air quality

Concentration levels of formaldehyde	INA	Information not available at design stage
Total volatile organic compound (TVOC) concentration	INA	Information not available at design stage

Total BREEAM credits achieved	2
Total contribution to overall building score	1.76%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

1. BREEAM compliant indoor air quality plan will be prepared by an independent consultant.
2. All decorative paints and varnishes specified meet the BREEAM VOC requirements and at least 5 from 7 product categories listed in BREEAM manual meet the testing requirement and emission levels criteria for VOC emission.

Hea 03 Safe containment in laboratories

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an objective risk assessment of proposed laboratory facilities' design be completed?			
Will the manufacture & installation of fume cupboards and containment devices meet best practice standards?			
Will containment level 2 & 3 labs meet best practice safety & performance criteria?			

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

Comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the building design be adapted for a projected climate change scenario?	No	1	0
Will the modelling inform the development of a thermal zoning and control strategy?	No	1	0

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	INA
Predicted Percentage Dissatisfied (PPD)	INA

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Thermal modelling to be carried out in accordance with CIBSE Guide AM11 to develop the strategy to avoid Overheating Risk.

Hea 05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	2.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	1	3	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

1. The sound insulation between acoustically sensitive rooms and other occupied areas complies with the performance criteria given in Section 7 of BS 8233:2014
2. Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.
3. Acoustic environment (control of reverberation, sound absorption and speech transmission index):Achieve the requirements relating to sound absorption and reverberation times, where applicable, set out in Section 7 of BS 8233:2014.This will require Sound Testing at Post Construction Stage.

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.76%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	No	1	0
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

A secure by Design Certification will be required to demonstrate the compliance for this credit.

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	9.00%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue:	4

Ene 01 Calculator

Country of the UK where the building is located		Confirm building regulation and version to be used:	

New Construction (Fully fitted)

Building floor area		m2
Notional building heating and cooling energy demand		MJ/m2yr
Actual building heating and cooling energy demand		MJ/m2yr
Notional building primary energy consumption		kWh/m2yr
Actual building primary energy consumption		kWh/m2yr
Target emission rate (TER)		kgCO2/m2yr
Building emission rate (BER)		kgCO2/m2yr
Building emission rate improvement over TER		
Heating & cooling demand energy performance ratio (EPR_{ED})		
Primary consumption energy performance ratio (EPR_{PC})		
CO_2 Energy performance ratio (EPR_{CO2})		
Overall building energy performance ratio (EPR_{NC})		

Where specified, please confirm the energy production from onsite or near site energy generation technologies	
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
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?	

Total BREEAM credits achieved	4
Total contribution to overall building score	3.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Very Good level

Comments/notes:

The Energy Strategy report will be compeleted by an independent Energy assessor in order to secure targetted credits.

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

1. Energy metering systems will be installed to enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems (e.g. in line with CIBSE TM39 Building energy metering. 2009).
2. The energy meters needs pulsed output and will be properly labelled.
3. Each tenant will be separatly metered and each building functional area will be additionally submetered (office and operational areas)

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

1. The average initial luminous efficiency of the external lighting will be less than 60 lumens per circuit Watt.
2. External lighting will be automatically controlled for prevention of operation during daylight hours
3. In areas with intermittent pedestrians traffic, presence detection sensors will be installed.

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	No	1	0
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	Yes	1	1

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation	INA	kWh/yr

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Renewable Energy Feasibility Study to confirm that LZC technologies have been considered and also ASHP is to be installed to achieve the required credits.

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 innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved

Will the refrigeration system be designed, installed & commissioned in accrodance with BREEAM criteria?	No	N/A	N/A
Will the refrigeration system demonstrate a saving in indirect greenhouse gas emissions?	No	N/A	N/A

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

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 innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?			
Will the relevant energy-efficient features criteria be met?			

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

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 innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Have the occupants' laboratory requirements & performance criteria been confirmed during the preparation of the initial project brief to minimise energy demand?			
Best Practice Energy Practices in Laboratories (table 27)			
Will the laboratory meet criteria item b) Fan power?			
Will the laboratory criteria item c) Fume cupboard volume flow rates?			
Will the lab meet item d) Grouping / isolation of high filtration/ventilation activities?			
Will the laboratory meet criteria item e) Energy recovery - heat?			
Will the laboratory meet criteria item f) Energy recovery - cooling?			

Will the laboratory meet criteria item g) Grouping of cooling loads?	
Will the laboratory meet criteria item h) Free cooling?	
Will the laboratory meet criteria item i) Load responsiveness?	
Will the laboratory meet criteria item j) Cleanrooms?	
Will the laboratory meet criteria item k) Diversity?	
Will the laboratory meet criteria item l) Room air-change rates?	

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

Comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use?	Present	Major impact
Ref A Small power and plug in equipment?	Yes	No
Ref B Swimming pool?	No	No
Ref C Communal laundry?	No	
Ref D Data centre?	No	
Ref E IT-intensive operation areas?	No	
Ref F Residential areas?	No	
Ref G Healthcare?	No	
Ref H Kitchen and catering facilities?	Yes	Yes

	Compliant	Credits available	Credits achieved
Will the significant majority contributor(s) to 'unregulated' energy use above meet the BREEAM criteria?	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.50%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Energy efficient equipments has been proposed for this development which will meet the above credit requirements

Ene 09 Drying space

Assessment issue not applicable

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

Assessment criteria Compliant? Credits available Credits achieved

Will internal/external drying space and fixings be provided?			

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

Comments/notes:

TRANSPORT

Tra 01 Public Transport Accessibility

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

Building type category (for purpose of Tra01 issue assessment)	Other Building Type 1

Assessment Criteria	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	3.18	3	1
Will the building have a dedicated bus service?			N/A

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

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

Comments/notes:

As per PTAL infromation, the AI rating is 3.18 which will give 1 credit.

Tra 02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1

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

Comments/notes:

Marked up map showing ATM machine, Post box and a sandwich shop within 500 meters from the main entry door through safe pedestrian routes. The church is located witin 500 meters from a local Sainsbury store which has all the required compliant facilities.

Tra 03 Cyclist facilities

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

Building type category (for purpose of Tra03 issue assessment)	Other Building - transport type 1
How many compliant cycle storage spaces will be provided?	10
What cyclist facilities will be provided?	Showers only

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	No	2	0
Cyclist facilities	No		

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

Comments/notes:

Tra 04 Maximum Car Parking Capacity

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

Building type category (for purpose of Tra04 issue)	Other Building - transport type 1
Building's indicative Accessibility Index (sourced from issue Tra01)	3.18

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will BREEAM's maximum parking capacity criteria for the building type/Accessibility Index be met?	No	2	0

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

Comments/notes:

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	No	1	0

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

Comments/notes:

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings
What is the target for % reduction in potable water consumption for sanitary use in the building?	25% - two credits
Please select the calculation procedure used	

Standard approach data

Water Consumption from building micro-components	

Water demand met via greywater/rainwater sources	
Total net water consumption	
Improvement on baseline performance	

Key Performance Indicator - use of freshwater resource

Total net Water Consumption	
Default building occupancy	

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

2 credits can be targeted in accordance with below water fittings:

- Flow Restricted Basin Taps
- Waterless Urinals
- Flow Restricted Showers
- Low Water Consumption WCs

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	0
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	No		
Will all specified water meters have a pulsed output?	No		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	Yes		

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

Comments/notes:

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

A flow control devices will be installed in each sanitary facility. Examples below:

- A time controller, i.e. an automatic time switch device to switch off the water supply after a predetermined interval
- A presence detector and controller, i.e. an automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed

Wat 04 Water Efficient Equipment

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Has a meaningful reduction in unregulated water demand been achieved?			

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

Comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.79%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define the number of Mat 01 credits achieved

Assessment Criteria

Predicted total Mat01 credits achieved	3
Predicted total Mat01 points achieved	
Number of building elements assessed	
Green Guide exemplary level compliant?	
Has IMPACT compliant software been used?	

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m^2	Total impact $kgCO_2$ eq.	Area of element impact data relevant to m^2
External walls			

Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	$kgCO_2$ eq.		$kgCO_2$ eq./m^2
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	3
Total contribution to overall building score	2.89%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Full Specification of Construction Elements to be provided at Construction Phase of project. It is anticipated that 3 credits will be achieved based off of similar constructions.

Mat 02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	No	1	0

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

Comments/notes:

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	1.00%	3	0

Please confirm the route used to assess Mat03	Route 3: Combination of routes

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

1.All timber used on the project will be sourced in accordance with the UK Government's Timber Procurement Policy.
2. All other construction material on this project will be responsibly sourced in accordance with BREEAM

Mat 04 Insulation

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved	
What is the building's targeted insulating index?	15.00	1	1	Note: An insulatio

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

The Green Guide rating for the insulation materials will be provided to achieve 1 credit and the target insulation index will be greater than 2.5.

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1
Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

1. Vulnerable areas of the building will be identified and the design will incorporate suitable durability measures or design features. This must include, but is not necessarily limited to:

-Protection from the effects of high pedestrian traffic
-Protection against any internal vehicular/trolley movement within 1m of the internal building fabric
-Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	No	1	0

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

Comments/notes:

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for issue Wst 01:	2	BREEAM Wst01 Innovation credits:	

Assessment Criteria	Compliant?
Construction resource management plan	
Compliant Pre-demolition audit	
Does the excavation waste meet the exemplary level requirements?	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported		
Non-hazardous construction waste (excluding demolition/excavation)		
Total non-hazardous construction waste generated		Note: At the pre-assessment stage this
Non-hazardous non-demolition const. waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous non-demolition const. waste diverted from landfill		Note: At the pre-assessment stage this
Total non-hazardous demolition waste generated		Note: At this stage this will be a target b
Non-hazardous demolition waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous demolition waste to disposal		Note: At the pre-assessment stage this
Material for reuse		Note: At this stage this will be a target b
Material for recycling		Note: At this stage this will be a target b
Material for energy recovery		Note: At this stage this will be a target b
Hazardous waste to disposal		Note: At this stage this will be a target b

Total BREEAM credits achieved	2
Total contribution to overall building score	2.13%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

1. The waste generated by the building's construction phase will not exceed 4.2 tonnes per 100m2 of gross internal floor area and 80% of non-hazardous non-demolition construction waste will be diverted from landfill.85% of non-hazardous waste will be recycled.

2. A SWMP will be produced including a Pre-Demolition Audit written in-line with WRAP Protocol.

Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	50%

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

Structural frame	46%
Bitumen/hydraulically bound base, binder and surface courses	N/A
Building foundations	N/A
Concrete road surfaces	N/A
Pipe bedding	N/A
Granular fill and capping	N/A

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	1
Minimum standard(s) level	N/A

Comments/notes:

Recycled aggregates will be sourced for this development.

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	N/A		
Will vessel(s) for composting suitable organic waste where appropriate?	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

One credit will be achieved by providing at least 2m2 per 1000 m2 of net floor area of storage space for recyclable materials. This dedicated space will be clearly labelled and accessible to building occupants.

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation 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 innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?	No	1	0
Will exemplary level criteria – Responding to adaptation to climate change be met?	No	1	0

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

Comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a building specific functional adaptation strategy appraisal be conducted by Concept Design (RIBA Stage 2 or equivalent) and will functional adaptation measures be implemented?	No	1	0

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

Comments/notes:

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	Yes	1	1
Is the site deemed to be significantly contaminated?	No	1	0

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

Comments/notes:

At least 75% of the development's footprint is located on previously developed land.

LE 02 Ecological Value of Site and Protection of Ecological Features

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

Ecological value of the land defined using	A Suitably Qualified Ecologist

Assessment Criteria	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

1. Land within the construction zone will be defined as 'land of low ecological value'

2. All existing features of ecological value surrounding the construction zone and site boundary area will be adequately protected from damage during clearance, site preparation and construction activities.

LE 03 Mitigating Ecological Impact

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

Data sourced for calculating the change in ecological value from	Suitably Qualified Ecologist site survey of plant species

Assessment Criteria		
What is the likely change in ecological value as a result of the sites development?	<0≥-9 species (i.e. minimal negative change)	Plant species richn

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%

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

Comments/notes:

Ecological Value of Site is to be improved by the Development. This will be confirmed by a Report written by a suitably qualified Ecologist.

LE 04 Enhancing Site Ecology

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

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	2	1	
Will the suitably qualified ecologist's general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	<6 species (small positive change)			Plant species richr

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

Comments/notes:

A Suitably Qualified Ecologist will be appointed and provide a BREEAM Ecology Report advising on Ecological Enhancements and Plant Species to achieve the above credits.

LE 05 Long Term Impact on Biodiversity

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

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes	2	1
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	Yes		
Number of applicable measures to improve biodiversity confirmed by SQE:	6		
Number of applicable measures implemented:	2		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%

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

Comments/notes:

A Suitably Qualified Ecologist is to be appointed to:1. Undertake a Landscape and Management Plan2. To recommend measures to improve Biodiversity in-line with the BREEAM Manual.

POLLUTION

Pol 01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	2
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the IoR Ammonia Refrigeration Systems Code of Practice?	Yes		
Global Warming Potential of the specified refrigerant(s) 10 or less?	Yes		
What is the target range Direct Effect Life Cycle CO2eq. emissions for the system?		kgCO2eq/kW coolth capacity	
Cooling/Heating capacity of the system		kW	
Will a refrigerant leak detection and containment system be specified/installed?		1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.54%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

A proposed cooling system will be in accordance with BREEAM requirements.

Pol 02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

NO_x emission level - space heating		mg/kWh
NO_x emission level - cooling		mg/kWh

NOx emission level - water heating		mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?		
Energy consumption: heating and hot water		kWh/m2 yr

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

Comments/notes:

Pol 03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes		
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	5
Total contribution to overall building score	3.85%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

1. A Flood Risk Assessment is required, confirming the Site is located in Zone 1.

2. A suitably qualified Drainage Consultant to confirm:- That the peak rate of run-off from the site to the water courses is no greater than pre-development run-off.- That the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development.

Pol 04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

All external lighting will be designed in accordance with BREEAM requirements

Pol 05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	0
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	No		

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

Comments/notes:

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 03 Responsible construction practices	No	1	0
Man 05 Aftercare	No	1	0
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0

Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	Yes	1	1
Wst 05 Adaption to climate change	No	1	0

Number of 'approved' innovation credits achieved?	

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

Comments/notes: