Gladstone Road, Exeter

BREEAM Pre-Assessment Report

to support

The Planning Application

Document Reference: 573/11.1

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Submitted and Prepared by:
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Date: 13/08/2020
Assessment Ref: -
Project No: 573
Revision: 0

Document History

Rev	Date	Purpose	Author
0	19th September 2019	Planning Issue	Adam Ingram

1.0 Outline of BREEAM Process

1.1 Introduction

This report has been produced to detail the method adopted in demonstrating that the aspects focused within a BREEAM Assessment are considered and incorporated into the design of the proposed new build accommodation block situated at Gladstone Road, Exeter.

For the layout and facilities included within the accommodation block, the appropriate scheme type is under 'Multi-Residential' and will extend to reflect the performance of the buildings up to be fully fitted out at completion.

1.2 BREEAM Rating

In line with the planning policy requirement (Core Strategy Policy CP15), the scheme is designed to obtain a 'Excellent' rating under the current BREEAM 2018 New Construction guidance. This rating level relates to a score of 70% (and above) when referring to the below rating table taken from the guidance.

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

1.3 Minimum Standards

Alongside achieving the above percentage level, a number of minimum standards / mandatory credit criteria exist as part of obtaining this rating level. These are outlined below and are incorporated into the targeted credits which are committed to via this report:

BREEAM Issue	Mandatory Criteria 'Excellent'
Man03 – Responsible Construction Practices	One credit (Responsible Construction Management)
Man04 – Commissioning & Handover	One credit (Test Schedule and Responsibilities)
Man04 – Commissioning & Handover	Criterion 11 (Building User Guide)
Man05 – Aftercare	One Credit (Commissioning Implementation)
Ene01 – Reduction of Energy Use and Carbon Emissions	Four Credits (Energy Performance or Operational Energy Consumption)
Ene02 – Energy Monitoring	One credit (First Sub-Metering Credit)

Wat01 – Water Consumption	One credit (Minimum of 12.5% Water Saving)
Wat02 – Water Monitoring	Criterion 1 only (Water Meter on Mains Supply)
Mat03 – Responsible Sourcing of Construction Products	Criterion 1 only (Legally Harvested & Sustainable Timber)
Wst03 – Operational Waste	One Credit

1.4 Section Weighting

A BREEAM Assessment is conducted over nine separate sections (plus an Innovation section) and each of these sections are weighted as a percentage of the overall 100% available in any one assessment. The weighting levels for a BREEAM New Construction scheme are highlighted below:

BREEAM Section	% Weighting
Management	11
Health & Wellbeing	14
Energy	16
Transport	10
Water	7
Materials	15
Waste	6
Land Use & Ecology	13
Pollution	8
Total	**100**
Innovation (additional)	10

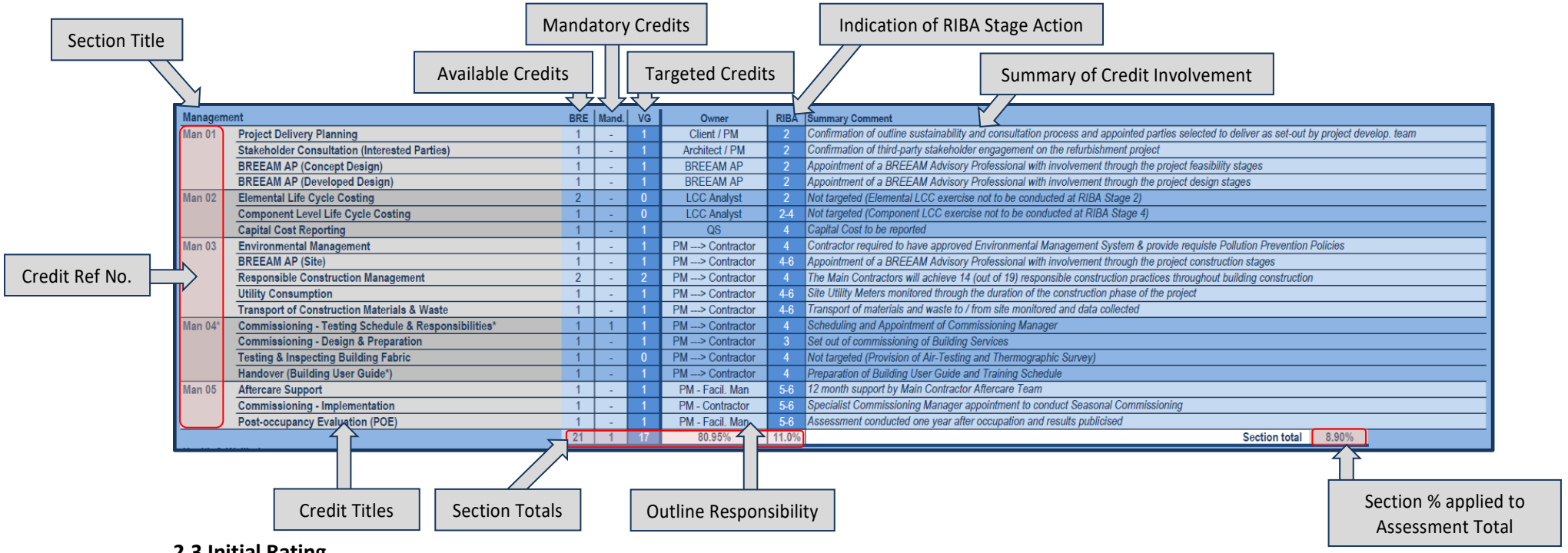
2.0 BREEAM Pre-Assessment Exercise

2.1 Introduction

As part of establishing a target score which meets the verifiable rating at the Pre-Assessment stage, questions regarding the category use type and intended design are answered to filter in and out the appropriate credit titles and sections. The applicable credits and their requirements are then considered against the scheme design criteria. This process is fundamental to the success of a BREEAM assessment.

2.2 Pre-Assessment Summary

The summary review exercise is provided to demonstrate this process having been undertaken to highlight credits available, where mandatory criteria is outlined and of the available credits which are targeted within this assessment. The following title headings shown within the Pre-Assessment are outlined as follows:



Management		BRE	Mand.	VG	Owner	RIBA	Summary Comment
Man 01	Project Delivery Planning	1	-	1	Client / PM	2	*Confirmation of outline sustainability and consultation process and appointed parties selected to deliver as set-out by project develop. team*
	Stakeholder Consultation (Interested Parties)	1	-	1	Architect / PM	2	*Confirmation of third-party stakeholder engagement on the refurbishment project*
	BREEAM AP (Concept Design)	1	-	1	BREEAM AP	2	*Appointment of a BREEAM Advisory Professional with involvement through the project feasibility stages*
	BREEAM AP (Developed Design)	1	-	1	BREEAM AP	2	*Appointment of a BREEAM Advisory Professional with involvement through the project design stages*
Man 02	Elemental Life Cycle Costing	2	-	0	LCC Analyst	2	*Not targeted (Elemental LCC exercise not to be conducted at RIBA Stage 2)*
	Component Level Life Cycle Costing	1	-	0	LCC Analyst	2-4	*Not targeted (Component LCC exercise not to be conducted at RIBA Stage 4)*
	Capital Cost Reporting	1	-	1	QS	4	*Capital Cost to be reported*
Man 03	Environmental Management	1	-	1	PM ---> Contractor	4	*Contractor required to have approved Environmental Management System & provide requiste Pollution Prevention Policies*
	BREEAM AP (Site)	1	-	1	PM ---> Contractor	4-6	*Appointment of a BREEAM Advisory Professional with involvement through the project construction stages*
	Responsible Construction Management	2	-	2	PM ---> Contractor	4	*The Main Contractors will achieve 14 (out of 19) responsible construction practices throughout building construction*
	Utility Consumption	1	-	1	PM ---> Contractor	4-6	*Site Utility Meters monitored through the duration of the construction phase of the project*
	Transport of Construction Materials & Waste	1	-	1	PM ---> Contractor	4-6	*Transport of materials and waste to / from site monitored and data collected*
Man 04*	Commissioning - Testing Schedule & Responsibilities*	1	1	1	PM ---> Contractor	4	*Scheduling and Appointment of Commissioning Manager*
	Commissioning - Design & Preparation	1	-	1	PM ---> Contractor	3	*Set out of commissioning of Building Services*
	Testing & Inspecting Building Fabric	1	-	0	PM ---> Contractor	4	*Not targeted (Provision of Air-Testing and Thermographic Survey)*
	Handover (Building User Guide*)	1	-	1	PM ---> Contractor	4	*Preparation of Building User Guide and Training Schedule*
Man 05	Aftercare Support	1	-	1	PM - Facil. Man	5-6	*12 month support by Main Contractor Aftercare Team*
	Commissioning - Implementation	1	-	1	PM - Contractor	5-6	*Specialist Commissioning Manager appointment to conduct Seasonal Commissioning*
	Post-occupancy Evaluation (POE)	1	-	1	PM - Facil. Man	5-6	*Assessment conducted one year after occupation and results publicised*
		21	1	17	80.95%	11.0%	Section total 8.90%

2.3 Initial Rating

On completion of this exercise, the target score has been set at **71.48%**. Accounting for all mandatory credits being completed and the score exceeding 70%, a suitable method is demonstrated for obtaining an 'Excellent' BREEAM rating in line with the project requirements. The full Pre-Assessment summary is shown on the following pages for context.

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Gladstone Road, Exeter - BREEAM New Construction 2018 - Pre-Assessment
573 Student Accommodation - Multi-Residential (Fully-fitted)
* Indicates Mandatory Standard for targeted BREEAM Rating

Rev.3	
Total	71.48%

Management		BRE	Mand.	Exc.	Owner	RIBA	Summary Comment
Man 01	Project Delivery Planning	1	-	1	Client / PM	2	*Confirmation of outline sustainability and consultation process and appointed parties selected to deliver as set-out by project develop. team*
	Stakeholder Consultation (Interested Parties)	1	-	1	Architect / PM	2	*Confirmation of third-party stakeholder engagement on the refurbishment project*
	BREEAM AP (Concept Design)	1	-	1	BREEAM AP	2	*Appointment of a BREEAM Advisory Professional with involvement through the project feasibility stages*
	BREEAM AP (Developed Design)	1	-	1	BREEAM AP	2	*Appointment of a BREEAM Advisory Professional with involvement through the project design stages*
Man 02	Elemental Life Cycle Costing	2	-	0	LCC Analyst	2	*Not targeted (Elemental LCC exercise not to be conducted at RIBA Stage 2)*
	Component Level Life Cycle Costing	1	-	0	LCC Analyst	2-4	*Not targeted (Component LCC exercise not to be conducted at RIBA Stage 4)*
	Capital Cost Reporting	1	-	1	QS	4	*Capital Cost to be reported*
Man 03*	Environmental Management	1	-	1	PM —> Contractor	4	*Contractor required to have approved Environmental Management System & provide requiste Pollution Prevention Policies*
	BREEAM AP (Site)	1	-	1	PM —> Contractor	4-6	*Appointment of a BREEAM Advisory Professional with involvement through the project construction stages*
	Responsible Construction Management*	2	1	2	PM —> Contractor	4	*The Main Contractors will achieve 14 (out of 19) responsible construction practices throughout building construction*
	Utility Consumption	1	-	1	PM —> Contractor	4-6	*Site Utility Meters monitored through the duration of the construction phase of the project*
	Transport of Construction Materials & Waste	1	-	1	PM —> Contractor	4-6	*Transport of materials and waste to / from site monitored and data collected*
Man 04*	Commissioning - Testing Schedule & Responsibilities*	1	1	1	PM —> Contractor	4	*Scheduling and Appointment of Commissioning Manager*
	Commissioning - Design & Preparation	1	-	1	PM —> Contractor	3	*Set out of commissioning of Building Services*
	Testing & Inspecting Building Fabric	1	-	0	PM —> Contractor	4	*Not targeted (Provision of Air-Testing and Thermographic Survey)*
	Handover (Building User Guide*)	1	-	1	PM —> Contractor	4	*Preparation of Building User Guide and Training Schedule*
Man 05*	Aftercare Support	1	-	1	PM - Facil. Man	5-6	*12 month support by Main Contractor Aftercare Team*
	Commissioning - Implementation*	1	1	1	PM - Contractor	5-6	*Specialist Commissioning Manager appointment to conduct Seasonal Commissioning*
	Post-occupancy Evaluation (POE)	1	-	1	PM - Facil. Man	5-6	*Assessment conducted one year after occupation and results publicised*
		21	3	17	80.95%	11.0%	Section total 8.90%

Health & Wellbeing							
Hea 01	Control of Glare from Sunlight	1	-	1	Architect	4	*Implementation of Glare Control systems - curtains not considered a suitable form of glare control*
	Daylighting	2	-	2	Architect	2	*Daylighting levels assumed to be sufficient*
	View Out	1	-	1	Architect	2	*View Out exercise to be conducted to confirm 95% of occupied space is within 8m of an opening*
	Internal & External Lighting Levels, Zoning & Control	1	-	1	Electrical	4	*Lighting levels to CIBSE and appropriate controlling systems for the space*
Hea 02	Indoor Air Quality (IAQ) Plan (Pre-requisite)	-	-	-	Client / Architect	2	*Preparation of Indoor Air Quality Plan*
	Ventilation	1	-	1	Mechanical	2	*Ventilation assessment to be conducted*
	Emissions from Construction Products	2	-	2	Architect	4	*Specification of low emission VOC products*
	Post-construction Indoor Air Quality Measurement	1	-	1	PM —> Contractor	4	*Measurement of VOC levels pre-completion*
Hea 04	Thermal Modelling	1	-	1	M&E	2	*Thermal Modelling in line with CIBSE AM11*
	Design for Future Thermal Comfort	1	-	1	M&E	2	*Thermal Modelling extended to demonstrate compliance with Climate Change Scenario*
	Thermal Zoning & Controls	1	-	1	M&E	3	*Thermal Strategy implemented in terms of zones and control systems in line with modelling result requirements*
Hea 05	Acoustic Performance	4	-	1	Acoustician	2-4	*Acoustic Performance in line with BS8233 (Sound Insulation, Indoor Ambient Noise Levels & Reverberation)*
Hea 06	Security of Site & Building	1	-	1	Architect / Electrical	2	*Provision of a Security Needs Assessment (SNA) by a Suitably Qualified Security Specialist*
Hea 07	Safe Access	1	-	1	Architect / Electrical	2	*Safe access path and roadways are provided across the site, gaining access to off-site areas with ease*
	Outside Space	1	-	1	Architect / Electrical	2	*Creation or reliance on suitable outside space*
		19	0	16	84.21%	14.0%	Section total 11.79%

Energy							
Ene 01*	Reduction of Energy Use & Carbon Emissions*	9	4	4	Architect / M&E	2-4	*Notional v Actual Energy Performance Ratio taken from Brukl worksheet information to confirm credit level*
	Prediction of Operation Energy Consumption	4	-	0	M&E	3-4	*Not targeted (Provide predicted energy performance for the building)*
Ene 02*	Sub-metering of End-use Categories*	1	1	1	M&E	4	*Sub-metering provided on major energy consuming systems*
	Sub-metering of High Energy Load & Tenancy Areas	1	-	1	M&E	4	*Sub-metering provided in all high load or tenanted area*
Ene 03	External Lighting	1	-	1	Electrical	4	*External Lighting at a 70 luminaire lumen per circuit watt level plus suitable control*
Ene 04	Passive Design Analysis	1	-	1	M&E	2	*Using the thermal model, demonstrate implementation of passive design measures to reduce energy consumption*
	Free Cooling	1	-	0	M&E	2	*Not targeted (free cooling measures not implemented)*
	Low & Zero Carbon Technologies	1	-	1	M&E	2	*Provision of a LZC feasibility study and implementation of suggested technology to make meaningful energy reduction*
Ene 06	Energy Consumption (Lifts, Escalators & Walkways)	1	-	1	Electrical	4	*Lift units meet the proposed developments demands*
	Energy Efficient Features	1	-	1	Electrical	4	*Lifts include relevant energy efficient measures*
Ene 08	Energy Efficient Equipment	2	-	2	Client / QS	4	*Specification / Selection of equipment that is energy efficient*
		23	5	13	56.52%	16.0%	Section total 9.04%

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573 Student Accommodation - Multi-Residential (Fully-fitted)
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Total	71.48%

		BRE	Mand.	Exc.	Owner	RIBA	Summary Comment		
Transport									
Tra 01	Transport Assessment & Travel Plan	2	-	2	Client / PM	1-2	*Provision of Transport Assessment & Travel Plan*		
Tra 02	Sustainable Transport Measures	10	-	4	Client / PM	1	*Include sustainable transport measures*		
		12	0	6	50.00%	10.0%		Section total	5.00%
Water									
Wat 01*	Water Consumption*	5	1	3	Architect / Mechanical	3-4	*Specification of low flow water fittings throughout, reducing overall usage by 40%*		
Wat 02*	Water Monitoring*	1	1	1	Mechanical	4	*Water Meter on Mains Water Supply to the building, linked to BMS*		
Wat 03	Leak Detection System	1	-	1	Mechanical	4	*Mains Water Supply leak detection system*		
	Flow Control Devices	1	-	1	Mechanical	4	*Specification of WC flow control devices (non-residential areas only)*		
		8	2	6	75.00%	7.0%		Section total	5.25%
Materials									
Mat 01	Life Cycle Impacts - Superstructure	6	-	0	Architect / IMPACT	2-4	*Not targeted (Implement LCA IMPACT Tool to analyse life cycle impacts of selected materials)*		
	Superstructure & Hard Landscaping Options Appraisal	1	-	0	Architect / Landscape	2-4	*Not targeted (Implement LCA Tool to analyse life cycle impacts of sub-structure & hard-landscaping materials)*		
Mat 02	Life Cycle Impacts - Environmental Product Declarations	1	-	0	Architect	3	*Not targeted (Use materials with recognition to the EPD certification process)*		
Mat 03*	Enabling Sustainable Procurement (Legally Harvest. Timber*)	1	-	1	Client / PM	1-2	*Selection of materials which have been responsibly sourced in connection with a Sustainable Procurement Plan*		
	Measuring Responsible Sourcing	3	-	2	Arch. / Struct. / M&E	3-4	*Measuring the level of responsible sourced material specified within the scheme*		
Mat 05	Designing for Durability & Resilience	1	-	1	Architect / Structural	4	*Provision of Robust features to suit development requirement*		
Mat 06	Material Efficiency	1	-	1	Architect	1-5	*Analysis of the material efficiency across the early and design stage phases of the project*		
		14	0	5	35.71%	15.0%		Section total	5.36%
Waste									
Wst 01	Pre-demolition Audit	1	-	1	PM --> Contractor	2	*Provision of a Pre-Demolition Audit (where applicable)*		
	Construction Resource Efficiency	3	-	2	PM --> Contractor	2	*Target low levels of on-site construction waste and diversion from landfill of resultant waste streams*		
	Diversion of Resources from Landfill	1	-	1	PM --> Contractor	2	*Target high levels of diversion of waste streams away from landfill*		
Wst 02	Project Sustainable Aggregate Points	1	-	0	Structural	3	*Not targeted (Recycled aggregate levels not guaranteed at this stage)*		
Wst 03*	Operational Waste*	1	1	1	Client / Architect	3-4	*Inclusion of appropriate waste collecting streams to suit development*		
Wst 05	Adaptation to Climate Change (Resilience of Installation)	1	-	1	Architect / Structural	2	*Adaptation to climate change assessment conducted on the scheme*		
Wst 06	Disassembly & Functional Adaptability - Recommendations	1	-	1	Architect / M&E	2&4	*Adaptability recommendations to be created to identify suitable future modification within the building*		
	Disassembly & Functional Adaptability - Implementation	1	-	1	Architect / M&E	2&4	*Implementation of the adaptability measures within the scheme*		
		10	1	8	80.00%	6.0%		Section total	4.80%
Land Use & Ecology									
LE 01	Previously Occupied Land	1	-	1	Architect	1	*Confirmation that at least 75% of the existing site footprint is classed as 'Previously Developed' land*		
	Contaminated Land	1	-	1	Site Investigation	1	*Remedial works required to solve an issue surrounding ground contamination on the scheme site area*		
LE 02	Ecology - Survey & Evaluation	2	-	2	Ecologist	2	*The Ecologist confirms by report the site ecology make-up via survey and evaluation*		
LE 03	Managing Negative Impacts on Ecology - Planning	1	-	1	Ecologist	2	*The Ecologist confirms that only 'minimal change' in species level occurs due to development*		
	Managing Negative Impacts of the Project	2	-	2	Ecologist	2	*Minimal change' implemented across the scheme*		
LE 04	Liaison, Implementation & Data Collection	1	-	1	Ecologist	3	*Early implementation of ecological benefits is credited*		
	Enhancement of Ecology	3	-	2	Ecologist	3	*Enhancement of ecological features within the scope of the scheme*		
LE 05	Long Term Ecology Management & Maintenance	2	-	2	Ecologist	4	*Implementing Ecology systems within EU/UK legislation plus incorporating Landscape & Habitat Management Plan*		
		13	0	12	92.31%	13.0%		Section total	12.00%
Pollution									
Pol 01	Impact of Refrigerant	2	-	2	Mechanical	3-4	*Either none or low level refrigerant used (below 1000kgCO_2-eq/kW)*		
	Leak Detection	1	-	1	Mechanical	3-4	*Where refrigerants are used, leak detection systems are implemented to reduce risk*		
Pol 02	Local Air Quality	2	-	2	Mechanical	3-4	*Electric Heating or Low Level NOx systems used to provide heating, cooling (where applicable) and hot water*		
Pol 03	Flood Resilience	2	-	2	Drainage	2	*Selection of land which is of 'Low Annual Probability of Flooding' confirmed via a Flood Risk Assessment*		
	Surface Water Run-off	2	-	2	Drainage	3-4	*Measurement of Surface Water Run-off pre and post site by limiting discharge (across various methods)*		
	Minimising Watercourse pollution	1	-	0	Drainage	3-4	*Not targeted (Surface & Ground Water pollution protected against and based on upto 5mm of rainfall not entering drainage system)*		
Pol 04	Reduction of Night-Time Light Pollution	1	-	1	Electrical	4	*External Lighting & Controls specified in line with the agreed Environmental Zone to reduce effects of providing light at night*		
Pol 05	Reduction of Noise Pollution	1	-	1	Acoustician	2	*Measurement of existing background noise levels and selection of any new plant to be installed*		
		12	0	11	91.67%	8.0%		Section total	7.33%
						100%			

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Innovation		BRE	Mand.	Exc.	Owner	RIBA	Summary Comment
Man 03	Responsible Construction Management	1	-	1	PM --> Contractor	4-6	*The Main Contractors will achieve 19 (out of 19) responsible construction practices throughout building construction*
Hea 01	Daylighting	1	-	0	Architect	2	*Not targeted*
Hea 02	Emissions from Construction Products	1	-	1	Architect	4	*Measurement of VOC levels pre-completion (to exemplar levels)*
Hea 06	Security of Site & Building (Compliant Risk Based Scheme)	1	-	0	Architect / Electrical	2	*Not targeted*
Ene 01	Beyond Zero Net Regulated Carbon & Carbon Negative	5	-	0	Architect / Mechanical	2-4	*Not targeted*
Wat 01	Water Consumption	1	-	0	Architect / Mechanical	3-4	*Not targeted*
Mat 01	Life Cycle Impacts - Core Building Services, LCA/LCC Alignment & Third Party Verification	3	-	0	Architect / IMPACT	2-4	*Not targeted*
Mat 03	Measuring Responsible Sourcing	1	-	0	Arch/Struct	3-4	*Not targeted*
Wst 01	Construction Resource Efficiency	1	-	0	PM --> Contractor	2	*Not targeted*
Wst 02	Project Sustainable Aggregate Points	1	-	0	Structural	3	*Not targeted*
Wst 05	Responding to Climate Change	1	-	0	Architect / Structural	2	*Not targeted*
		10	0	2	20.00%	10%	Section total 2.00%

Rating
"Excellent"

BREEAM 2018 Pre-Assessment Total (Approx.) 71.48%

Total result is an approximation to the official BREEAM spreadsheet

Assessment report: Gladstone Road

Site name: Gladstone Road Accommodation

Client name:

Date: 8/7/2019

Assessment ref: TBC

Assessment details

Assessment references

Registration number:	TBC	**Date created:**	8/7/2019
Created by:	Adam Ingram		

Site details

Site name:	Gladstone Road Accommodation
Address:	Gladstone Road
Town:	Exeter
County:	Devon
Post code:	EX1 2EB
Country:	United Kingdom

Certificate details

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

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

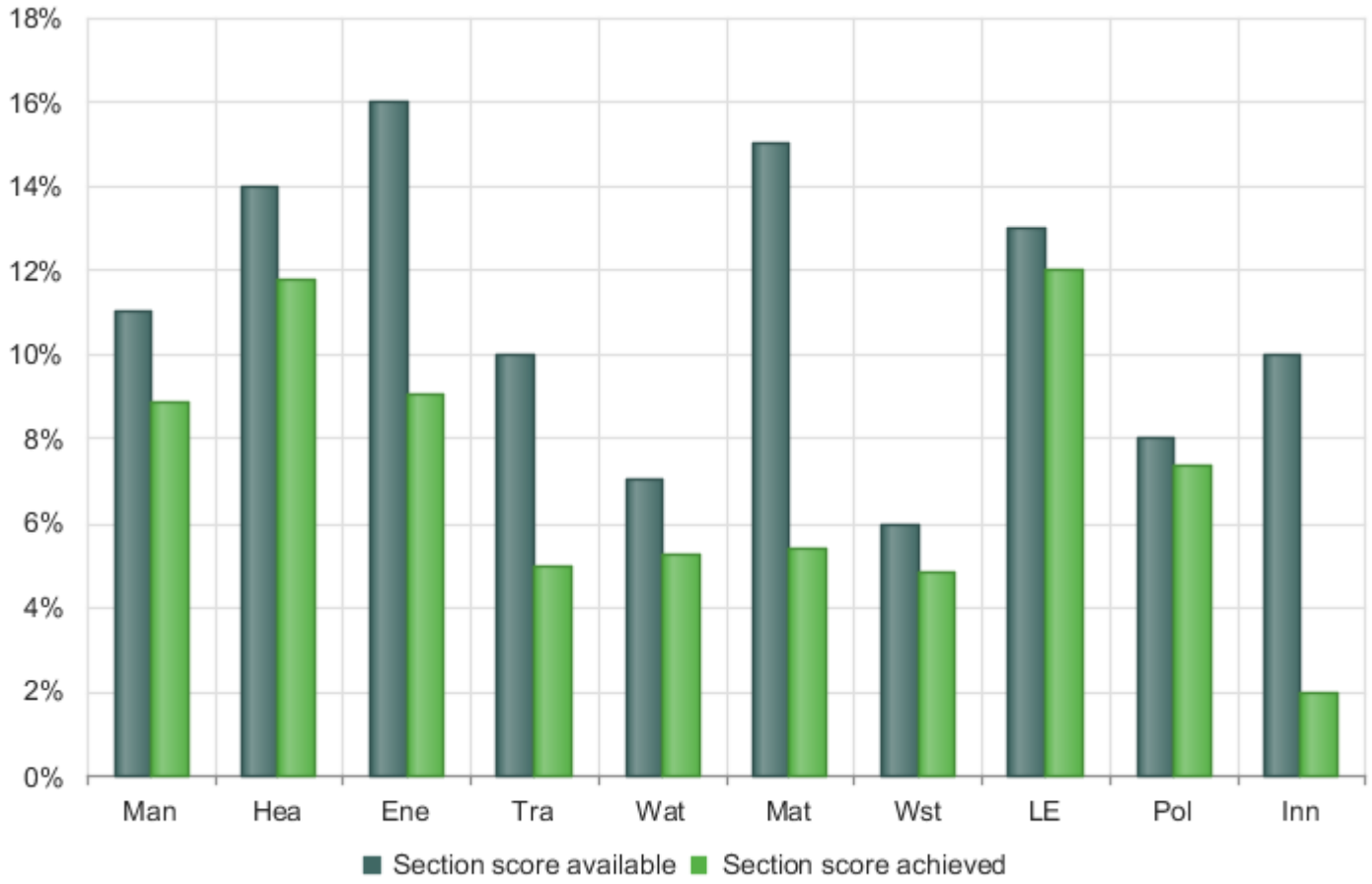
Name	Label
Consolux M&E Consulting	M & E Consultant

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	21.0	17.0	80.95%	11.00%	8.90%
Hea	19.0	16.0	84.21%	14.00%	11.78%
Ene	23.0	13.0	56.52%	16.00%	9.04%
Tra	12.0	6.0	50.00%	10.00%	5.00%
Wat	8.0	6.0	75.00%	7.00%	5.25%
Mat	14.0	5.0	35.71%	15.00%	5.35%
Wst	10.0	8.0	80.00%	6.00%	4.80%
LE	13.0	12.0	92.31%	13.00%	12.00%
Pol	12.0	11.0	91.67%	8.00%	7.33%
Inn	10.0	2.0	20.00%	10.00%	2.00%
Total	142.0	96.0	67.61%	-	71.47%
Rating	-	-	-	-	Excellent

Performance by environmental category



Issue scores

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

Management

Man01 Project Brief and design	Man02 Life cycle cost and service life planning	Man03 Responsible construction practices	Man04 Commissioning and handover	Man05 Aftercare
4 / 4	1 / 4	6 / 6 X: 1 / 1	3 / 4	3 / 3

Health and Wellbeing

Hea01 Visual comfort	Hea02 Indoor air quality	Hea04 Thermal comfort	Hea05 Acoustic performance	Hea06 Security	Hea07 Safe and Healthy Surroundings
5 / 5 X: 0 / 2	4 / 4 X: 1 / 1	3 / 3	1 / 4	1 / 1 X: 0 / 1	2 / 2

Energy

Ene01 Reduction of energy use and carbon emissions	Ene02 Energy monitoring	Ene03 External lighting	Ene04 Low carbon design	Ene05 Energy efficient cold storage	Ene06 Energy efficient transportation systems	Ene07 Energy efficient laboratory systems	Ene08 Energy efficient equipment
4 / 13 X: 0 / 5	2 / 2	1 / 1	2 / 3	N/A	2 / 2	N/A	2 / 2

Transport

Tra01 Transport assessment and travel plan	Tra02 Sustainable transport measures
2 / 2	4 / 10

Water

Wat01 Water consumption	Wat02 Water monitoring	Wat03 Water leak detection	Wat04 Water efficient equipment
3 / 5 X: 0 / 1	1 / 1	2 / 2	N/A

Materials

Mat01 Life cycle impacts	Mat02 Environmental impacts from construction products	Mat03 Responsible sourcing	Mat05 Designing for durability and resilience	Mat06 Material efficiency
0 / 7 X: 0 / 3	0 / 1	3 / 4 X: 0 / 1	1 / 1	1 / 1

Waste

Wst01 Construction waste management	Wst02 Use of recycled and sustainably sourced aggregates	Wst03 Operational waste	Wst04 Speculative finishes (Offices only)	Wst05 Adaptation to climate change	Wst06 Design for disassembly and adaptability
4 / 5 X: 0 / 1	0 / 1 X: 0 / 1	1 / 1	N/A	1 / 1 X: 0 / 1	2 / 2

Land use and ecology

LE01 Site selection	LE02 Ecological risks and opportunities	LE03 Managing impacts on ecology	LE04 Ecological change and enhancement	LE05 Long term ecology management and maintenance
2 / 2	2 / 2 X: 0 / 1	3 / 3	3 / 4 X: 0 / 1	2 / 2

Pollution

Pol01 Impact of refrigerants	Pol02 Local air quality	Pol03 Flood risk management and reducing surface water run-off	Pol04 Reduction of Night Time Light Pollution	Pol05 Noise attenuation
3 / 3	2 / 2	4 / 5	1 / 1	1 / 1

Innovation

Inn01
Innovation

0 / 0
X: 0 / 10

Initial details

Technical manual issue number : Issue 2.0

Project scope : Fully fitted

Building type (main description) : Residential institution (long term stay)

Sub-group : Residential college or school (halls of residence)

Assessment stage : Design (interim)

Building floor area (GIA) : 4800 m^2

Building floor area (NIFA) : 4500 m^2

Is the building designed to be untreated? : No

Building services - heating system type : Other type of heating system

Building services - cooling system type : Air-conditioning

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

Are building user lifts present? : Yes

Are building user escalators or moving walks present? : No

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

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

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

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

Are the Post-occupancy stage credits targeted in Ene 01 issue? : Yes

Laboratories

Are laboratories present? : No

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

Category assessment

Management | Man

Man 01 Project Brief and design

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

Site : Gladstone Road

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

Credits awarded : 4

Man 02 Life cycle cost and service life planning

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Elemental LCC :	No
Component level LCC options appraisal :	No
Capital cost reporting :	Yes
Capital cost of the project :	10 Â£k/m^2

Credits awarded : 1

Man 03 Responsible construction practices

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

Site : Gladstone Road

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

Utility consumption :	Yes
Transport of construction materials and waste :	Yes
Exemplary level criteria - Responsible construction management :	Yes

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE ENERGY USE	
Energy consumption (total) - site processes :	100 kWh
Energy consumption (intensity) - site processes :	100 kWh/project value

KEY PERFORMANCE INDICATORS: CONSTRUCTION SITE GREENHOUSE GAS EMISSIONS	
Process greenhouse gas emissions (total) - site processes :	100 $KgCO_2eq$
Carbon dioxide emissions (intensity) - site processes :	100 $KgCO_2eq$/project value

Credits awarded : 6
Exemplary credits awarded : 1

Man 04 Commissioning and handover

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Commissioning testing schedule and responsibilities :	Yes
Commissioning - design and preparation :	Yes
Testing and inspecting building fabric :	No
Handover - have a technical and a non-technical building user guide been developed prior to handover? :	Yes
Handover - have a technical and a non-technical training schedule been prepared around handover? :	Yes

Credits awarded : 3

Man 05 Aftercare

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Is this a speculative development? :	No
Aftercare support :	Yes
Commissioning - implementation :	Yes
Post occupancy evaluation :	Yes
The client or building occupier commits funds to pay for the POE in advance. :	Yes

Credits awarded : 3

Hea 01 Visual comfort

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Control of glare from sunlight :	Yes
Daylighting (building type dependent) :	2
View Out :	Yes
Internal and external lighting levels, zoning and controls :	Yes
Exemplary level criteria - Daylighting :	No
Exemplary level criteria- Internal and external lighting levels, zoning and control :	No

Credits awarded : 5

Hea 02 Indoor air quality

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

Site : Gladstone Road

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

KEY PERFORMANCE INDICATORS	
Formaldehyde concentration :	10 Î¼g/m^3
Total volatile organic compound (TVOC) concentration :	10 Î¼g/m^3

Credits awarded : 4
Exemplary credits awarded : 1

Hea 04 Thermal comfort

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

Site : Gladstone Road

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

Thermal zoning and controls :	Yes

KEY PERFORMANCE INDICATORS

PMV and PPD Indices :

Credits awarded : 3

Hea 05 Acoustic performance

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

Site : Gladstone Road

ASSESSMENT CRITERIA

Sound insulation :	1
Indoor ambient noise level :	No
Room acoustics :	No

Credits awarded : 1

Hea 06 Security

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

Site : Gladstone Road

ASSESSMENT CRITERIA

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

Credits awarded : 1

Hea 07 Safe and Healthy Surroundings

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

Site : Gladstone Road

ASSESSMENT CRITERIA

Safe Access :	Yes
Outside Space :	Yes

Credits awarded : 2

Ene 01 Reduction of energy use and carbon emissions

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Country :	England
Energy Production by Technology :	
Energy & CO_2 Emissions Summary :	
Actual building energy demand :	80 MJ/m^2 yr
Notional building energy demand :	100 MJ/m^2 yr
Actual building primary energy consumption :	80 kWh/m^2 yr
Notional building primary energy consumption :	100 kWh/m^2 yr
Actual building CO_2-eq emissions (BER) :	16 $KgCO_2$-eq/m^2 yr
Notional building CO_2-eq emissions (TER) :	20 $KgCO_2$-eq/m^2 yr
Does this building contain areas that require a SAP assessment? :	No
BUILDING SCORE	
Total BREEAM credits achieved :	4.0
Heating and cooling demand energy performance ratio (EPRdem) :	0.154
Primary consumption energy performance ratio (EPRpc) :	0.133
CO_2-eq energy performance ratio (EPRco2-eq) :	0.142
Overall building energy performance ratio (EPRnc) :	0.429
% improvement BER/TER :	20.0 %
ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Zero net CO_2-eq emissions :	No
ASSESSMENT CRITERIA	
Has a design workshop focusing on operational energy performance been carried out? :	No
ASSESSMENT CRITERIA (EXEMPLARY CREDITS)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	No
The energy model is submitted to BRE and retained by the building owner? :	No

Credits awarded : 4

Ene 02 Energy monitoring

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

Site : Gladstone Road

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

Credits awarded : 2

Ene 03 External lighting

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
External lighting has been designed out? :	No
Is external lighting specified in accordance with the relevant criteria? :	Yes

Credits awarded : 1

Ene 04 Low carbon design

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

Site : Gladstone Road

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

KPI
Total on-site and/or near-site LZC energy generation :
Expected energy demand and CO_2-eq emissions reduction resulting from passive design measures :
Expected energy demand and CO_2-eq emissions reduction resulting from passive design measures as a percentage :
Expected reduction in CO_2-eq emissions resulting from the LZC technologies :
Expected reduction in CO_2-eq emissions resulting from the LZC technologies as a percentage :

Credits awarded : 2

Ene 05 Energy efficient cold storage

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

Site : Gladstone Road

ASSESSMENT CRITERIA - N/A

Ene 06 Energy efficient transportation systems

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

Site : Gladstone Road

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

Credits awarded : 2

Ene 07 Energy efficient laboratory systems

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

Site : Gladstone Road

ASSESSMENT CRITERIA - N/A

Ene 08 Energy efficient equipment

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

Site : Gladstone Road

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

Credits awarded : 2

Tra 01 Transport assessment and travel plan

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Travel plan :	Yes

Credits awarded : 2

Tra 02 Sustainable transport measures

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Prerequisite :	Yes
Location type (based on existing AI) :	AI <25
Number of points achieved overall :	4

Credits awarded : 4

Wat 01 Water consumption

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

Site : Gladstone Road

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

KEY PERFORMANCE INDICATORS	
Alternative approach data: :	
Overall microcomponent performance level achieved :	Level 3

Credits awarded : 3

Wat 02 Water monitoring

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

Site : Gladstone Road

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

Credits awarded : 1

Wat 03 Water leak detection

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Leak detection system :	Yes
Are WC facilities only provided within the residential areas of a long-term residential accommodation? :	No
Flow control devices :	Yes

Credits awarded : 2

Wat 04 Water efficient equipment

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

Site : Gladstone Road

ASSESSMENT CRITERIA - N/A

Mat 01 Life cycle impacts

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

Site : Gladstone Road

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

Credits awarded : 0

Mat 02 Environmental impacts from construction products

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. :	0

Credits awarded : 0

Mat 03 Responsible sourcing

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	Yes
Mat 03 minimum scope level :	plus Core building services
Percentage of available for percentage of RSM points achieved :	25 %

Credits awarded : 3

Mat 05 Designing for durability and resilience

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

Site : Gladstone Road

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

Credits awarded : 1

Mat 06 Material efficiency

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Material optimisation measures investigated and implemented at all relevant stages :	Yes

Credits awarded : 1

Wst 01 Construction waste management

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

Site : Gladstone Road

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

KPI	
Measure/units for the data being reported :	m^3
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :	7.5 m3/100m2
Total non-hazardous construction waste generated :	100 m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :	95 %
Total non-hazardous non-demolition construction waste diverted from landfill :	100 m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :	90 %
Total non-hazardous demolition waste generated :	100 m3
Total non-hazardous demolition waste to disposal :	100 m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit :	100 %
Material for reuse :	
Material for recycling :	
Material for energy recovery :	
Hazardous waste to disposal :	

Credits awarded : 4

Wst 02 Use of recycled and sustainably sourced aggregates

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :	Yes
Pre-requisite: pre-demolition audit :	Yes
Projects Sustainable Aggregate points :	0

KPI	
Total quantity of aggregate :	100 tonnes
% of high - grade aggregate that is recycled/ secondary aggregate by application :	0 %

Credits awarded : 0

Wst 03 Operational waste

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	Yes
Vessel(s) for composting suitable organic waste and water outlet :	Yes
Multi-residential buildings with self-contained dwellings or bedsits only criteria achieved :	Yes
Multi-residential buildings with with individual bedrooms and communal facilities only criteria achieved :	Yes

Credits awarded : 1

Wst 04 Speculative finishes (Offices only)

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

Site : Gladstone Road

ASSESSMENT CRITERIA - N/A

Wst 05 Adaptation to climate change

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

Site : Gladstone Road

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

Credits awarded : 1

Wst 06 Design for disassembly and adaptability

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

Site : Gladstone Road

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

Disassembly and functional adaptability - implementation :	Yes

Credits awarded : 2

LE 01 Site selection

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Percentage of proposed development's footprint on previously occupied land: :	100 %
Contaminated land :	Yes

Credits awarded : 2

LE 02 Ecological risks and opportunities

To determine the existing ecological value associated with the site and surrounding areas, and the risks and opportunities for ecological protection and enhancement.

Site : Gladstone Road

ASSESSMENT CRITERIA	
Assessment route selection :	Comprehensive
Prerequisite - Statutory obligations :	Yes
Survey and Evaluation :	Yes
Determining ecological outcomes :	Yes
Exemplary level - Wider site sustainability :	No

Credits awarded : 2

LE 03 Managing impacts on ecology

To avoid, or limit as far as possible, negative ecological impacts associated with the site and surrounding areas resulting from the project.

Site : Gladstone Road

ASSESSMENT CRITERIA	
Assessment route :	Comprehensive
Prerequisite - Ecological risks and opportunities :	Yes
Planning and measures on-site :	Yes
Managing negative impacts :	2

Credits awarded : 3

LE 04 Ecological change and enhancement

To enhance ecological value of the area associated with the site in support of local, regional and national priorities.

Site : Gladstone Road

ASSESSMENT CRITERIA	
Assessment route :	Comprehensive
LE03 'Managing negative impacts' criteria achieved :	Yes
Prerequisite - Managing negative impacts on ecology :	Yes
Ecological enhancement (Comprehensive route only) :	Yes
Change and enhancement of ecology (Comprehensive route only) :	2

Credits awarded : 3

LE 05 Long term ecology management and maintenance

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Assessment route :	Comprehensive
LE03 'Managing negative impacts' criteria achieved :	Yes
At least one credit achieved in LE 04 :	Yes
Prerequisite - Statutory obligations, planning and site implementation :	Yes
Management and maintenance throughout the project :	Yes
Landscape and ecology management plan :	Yes

Credits awarded : 2

Pol 01 Impact of refrigerants

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

Site : Gladstone Road

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

Credits awarded : 3

Pol 02 Local air quality

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
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? :	2

Credits awarded : 2

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

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

Site : Gladstone Road

ASSESSMENT CRITERIA	
Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	No

Credits awarded : 4

Pol 04 Reduction of Night Time Light Pollution

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

Site : Gladstone Road

ASSESSMENT CRITERIA

External lighting has been designed out? :	No
Does external lighting meet all relevant criteria? :	Yes

Credits awarded : 1

Pol 05 Noise attenuation

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

Site : Gladstone Road

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

Credits awarded : 1

Inn 01 Innovation

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

Site : Gladstone Road

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

Credits awarded : 0