



RIDGE

**50 FOUNTAIN STREET,
MANCHESTER**

**BREEAM 2018NC
PREASSESSMENT
REPORT**

13th August 2021

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BREEAM 2018NC PREASSESSMENT REPORT

13th August 2021

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1. INTRODUCTION

Ridge and Partners LLP has been appointed to undertake a BREEAM Pre-assessment of the redevelopment of 50 Fountain Street, Manchester.

The development must achieve a BREEAM Excellent rating and will be assessed under BREEAM 2018 New Construction, Offices, Shell and Core.

The purpose of this report is to identify the costs and issues associated with targeting Excellent Rating and to provide the design team with information relating to the key actions that should be carried out to ensure successful certification.

The team should take cognisance of the information and guidance provided within this report and associated documentation, to assist them in ensuring that the design accounts for the full BREEAM requirements.

2. MEETINGS AND ATTENDEES

A BREEAM workshop was held via video conference on 04.03.21. The meeting was attended by:

- Chris Smith – Chroma Consulting Ltd
- Matthew Hayward – Jon Matthews Architects
- Colin Eldridge – Gardiner
- Chris Bradburn – Ridge and Partners (MEP)
- Yasser Eljajeh – Renaissance
- Wendy Broomhead – Ridge & Partners (BREEAM)

3. PROJECT DESCRIPTION

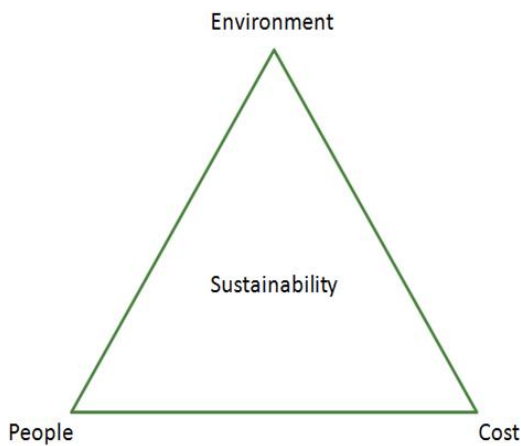
The project will comprise re-development of an existing inner city listed office block. The intention is to retain the listed façade and construct a new building within the footprint. The current scheme has a mixed-use ground floor including office reception, bin storage, plant and cycle storage. There is provision to convert the ground floor open plan office unit into a retail or restaurant tenancy unit. The upper floors provide a landlord stair lift and toilet facility with open plan speculative office space. The floors step back above the existing listed façade level creating terraces. There is no external space provision at ground level and no associated car parking.

4. PROJECT PROGRAMME

The project is currently in RIBA Stage 2 progressing to Stage 3 and a planning application at the end of August 2021 and stage 3 completed by the end of October 2021. It is hoped that the contract will start on site towards the end of January 2022 with handover of the building by August 2023.

5. BACKGROUND TO SUSTAINABLE DESIGN & BREEAM

Sustainability is defined as the ability to meet the needs of today, without compromising the ability of future generations to provide for the needs of tomorrow. It can be described as the equilibrium between environmental and financial considerations, and the needs of the community. A truly sustainable development will achieve a balance between fitness-for-purpose, value-for-money and environmental impact and will achieve this via integration as part of a larger, sustainable community.



BREEAM (Building Research Establishment's Environmental Assessment Method) is a voluntary scheme that can be used to assess the environmental life cycle of new non-domestic buildings at the design and construction stages.

BREEAM assessments can be either undertaken in two stages: Firstly, the design stage, which leads to an Interim BREEAM certified rating; Secondly, the post construction stage, which leads to a final BREEAM certified rating or as a single Post Construction Assessment which leads to a final BREEAM certified rating.

Buildings are assessed using a system of credits. The credits are grouped within the following categories: Within each of the

BREEAM categories outlined above, there are a number of credit requirements that reflect the options available to designers and managers of buildings.

An environmental weighting is applied to the scores achieved under each category, as shown in the table above, in order to calculate the final BREEAM score. The weighting factors have been derived from consensus-based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue. The weighting factors vary depending on whether the project is fully fitted, shell & core or shell only, and on the answers to a number of set up questions.

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of PASS (at least 30%), GOOD (at least 45%), VERY GOOD (at least 55%), EXCELLENT (at least 70%) and OUTSTANDING (at least 85%). A score of less than 30% is UNCLASSIFIED.

BREEAM Section	% Weighting (Shell & Core)
Management	11%
Health and Wellbeing	8%
Energy	14%
Transport	11.5%
Water	7%
Materials	17.5%
Waste	7%
Land Use & Ecology	15%
Pollution	9%

6. BREEAM STRATEGY & TARGETS

It is understood that the end client will require a minimum of a BREEAM 'Excellent' rating noting that Manchester City Council will require a minimum of a BREEAM 'Very Good' rating as a condition of planning. The following report therefore outlines how this can be achieved.

In all assessments we recommend a score buffer of between 5 and 7% to allow for unexpected changes or compliance issues as the project progresses. The development will be assessed using BREEAM 2018 New Construction, Office- Shell & Core to facilitate flexibility for the speculative nature of the office accommodation - (see <https://www.breeam.com/NC2018>).

The assessment can only cover areas with a common function and level of fit-out therefore it may prove necessary to omit the ground floor commercial unit if it is delivered to a Shell only. It would also be necessary to omit, or certify separately under the Retail BREEAM scheme, the ground floor unit if it changed to restaurant or retail usage and was operated and accessed independently to the office accommodation.

Within the preassessments there may be issues which are outside of the current scope of works/specification. Attention must be paid to ALL credits listed within this report, to ensure the necessary measures required to achieve the associated credits are feasible, and if so, incorporated within specifications. It is sometimes the case that achievement of a particular BREEAM credit comes with a disproportionately increased cost, without offering equivalent advantages in functionality or sustainability. We would recommend

that any such issues are identified early and that these issues are only incorporated within the design once a cost-benefit analysis has been carried out.

It is important to build a robust strategy for the BREEAM certification process into the project programme to ensure that the client's requirements can be achieved. It is recommended that a 'managed' post construction assessment is undertaken. A single report will be submitted to the BRE following completion of the building, rather than a separate interim (design stage) and final (post construction) submission. This option provides a more streamlined approach to assessment. It has the benefit of continual assessment throughout the design and construction phases and allows changes to be picked up as they occur.

For the certification to be a smooth process for all concerned, an Information Required Schedule (IRS) will be issued, depicting all the required information with an indication of when it should be issued for assessment. It is by this approach that we ensure a constant flow of information and avoid credit time deadlines being missed and the BREEAM rating jeopardised.

7. TIME DEPENDENT ACTIONS

There are various key actions that are time dependant. These are listed in Table 1.

Table 1. Time Dependent Actions

Credit		Time requirements	Comment / Action
RIBA Stage 1			
Mat 03 Req 2	Enabling Sustainable Procurement	A BREEAM compliant Sustainable Procurement Plan must be used by the design team to guide specification towards sustainable construction products in Briefing stage (RIBA Stage 1).	M&G/ Chroma- initial information provided
RIBA Stage 2			
Man 01 Req 1-3	Project Delivery Planning	Prior to the end of RIBA Stage 2 all the project delivery stakeholders will meet, identify and define roles, responsibilities & contributions during each key phase. Requires a Project Brief, Communications Strategy & Project Execution Plan	Chroma - completed
Man 01 Req 4-7	Stakeholder Consultation (Interested Parties)	Prior to the end of RIBA Stage 2 consultation must have occurred with all interested parties on all applicable elements. The consultation must influence the Project Brief, and Concept Design. Prior to the end of RIBA Stage 4, all interest parties give and receive feedback.	Chroma- guidance sent
Man 01	Pre-Requisite BREEAM AP	- The project team and client will formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process.	M&G/Chroma
Man 01	BREEAM AP (Concept Design)	A BREEAM AP is appointed and works with the team during Concept Design.	Ridge (Sust) ongoing mtg attendance stage 2 evidence review and support to design

Credit			Time requirements	Comment / Action
Man 02	Elemental Life Cycle Cost		Prior to the end of RIBA Stage 2, a competent person carried out an elemental life cycle costing analysis together with elemental options appraisals in accordance with PD 156865:2008 which shows future replacement costs over 20, 30, 50 or 60 years and include service life, maintenance, and operation cost estimates. The LCC must be used to influence design and specification. In addition to achieve Mat 01 innovation options appraisal will need to be extended to also cover the Mat 01 LCA options	Ridge (Sust) - completed
Hea 06	Security of Site and Building		Prior to the end of RIBA Stage 2, a Security Needs Assessment (SNA) must be undertaken by a suitably qualified security specialist and any recommendations are implemented.	JMA/ Chroma to organise consultation with ALO
Ene 01	Operational Energy		Strategy review meeting to be held to discuss needs and options and set up modelling inputs for next stage of design.	Ridge (MEP)
Ene 04	Passive Design Analysis		A Passive Design Analysis (PDA) is undertaken during Concept Design stage (RIBA Stage 2) which identifies opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services. (Passive design measures must be implemented to reduce energy demand).	Ridge (MEP) - completed
Ene 04	Low Zero Carbon		Prior to the end of RIBA Stage 2, an energy specialist must produce a BREEAM compliant Low Zero Carbon feasibility study. (A LZC technology must be implemented in line with the findings of the study which reduces CO ₂ emissions)	Ridge (MEP) – report provided
Tra 01	Transport Assessment & Travel Plan		Requires that during Concept Design Stage (RIBA Stage 2) it is assumed that a BREEAM compliant Transport Assessment and draft travel plan will be produced.	Vectos - completed
Mat 01	Environmental Impact		Requires Life Cycle Assessment of building superstructure, sub structure, and hard landscaping options, which is third party verified is carried out during RIBA Stage 2 and submitted prior to submission of the planning application	Ridge (Sust) - completed
Wst 05	Adaption to Climate Change		Requires production of a Climate Change Adaptation Strategy Appraisal using a risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. And to develop recommendations to mitigate the identified impact before the end of RIBA Stage 2.	JMA/REN/ Ridge (M&E)
Wst 06	Design for disassembly and adaptability Recommendations		Requires production of a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design (RIBA Stage 2) and to develop recommendations or solutions based on the study that aim to enable and facilitate disassembly and functional adaptation.	JMA/REN/ Ridge (M&E)- draft adaptability report provided

Credit		Time requirements	Comment / Action
LE 02 Req 4-6	Ecological Survey & Evaluation	A Suitably Qualified Ecologist (SQE) must carry out a survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions.	Penny Anderson Associates- Survey carried out
LE 02 Req 7-10	Determining Ecological Outcome	Requires that pre-planning, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the site & project, and optimal ecological outcomes for the site are selected after liaising with representative stakeholders and the project team.	Ridge (Sust)/ PAA/ Design team- RIBA Stage 2 meeting to and E-PEP issued
LE03 Req 2-4	Managing negative impacts on ecology - Planning, Liaison, Implementation & Data	RIBA Stage 2- define & allocate the roles and responsibilities to support successful delivery of project outcomes and consider site preparation and construction works to optimise benefits and outputs.	Ridge (Sust)/ PAA/ Design team – as above
RIBA Stage 3-4			
Man 01	BREEAM AP (Developed Design)	A BREEAM AP is appointed and works with the team during Developed Design.	Ridge (Sust) to be appointed for stage 3
Man 02	Component Life Cycle Cost	Prior to the end of RIBA Stage 4, a competent person will carry out a component level LCC plan in line with PD 156865:2008 including: Envelope; Finishes; Services and External Spaces. In addition, Stage 4 Mat 01 options must be modelled	Ridge (Sust)to be appointed for RIBA Stage 4
Man 04 Req 6-7	Commissioning – Design & Preparation	Requires a team member, not involved in installation works, to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages. Additionally, a specialist commissioning manager must be appointed.	Ridge (M&E)
Mat 01	Environmental Impact	Requires Life Cycle Assessment of further superstructure options which is third party verified during RIBA Stage 4.	Ridge (Sust) to be appointed for RIBA Stage 4
Wst 05	Adaption to Climate Change	Requires that an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor	JMA/REN/ Ridge (M&E)
Wst 06	Design for disassembly and adaptability Implementation	Requires that an update, during Technical Design (Stage 4), on how the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective and that omissions have been justified.	JMA/REN/ Ridge (M&E)

8. KEY ISSUES TO ACHIEVE AN 'EXCELLENT' CERTIFICATION

Credits have been identified worth 78.25% which would achieve an 'Excellent' rating with just over 5% margin of safety. Appendix A provides detail on the specification targeted to achieve the above score and assumptions made.

The tables within the following pages provide a brief summary of the issues required to achieve the rating. These should be read in conjunction with Appendix A and the current BRE Manual (see link below) which provides more detail on the requirements. Please note not all items are listed below

<https://www.breeam.com/NC2018/>

8.1.1. Client/Project Manager Issues

Credit		Requirements
Man 01 Req 1-3	Project Delivery Planning	Prior to the end of RIBA Stage 2 all the project delivery stakeholders (client/developer, contractor, design team) meet, identify and define roles, responsibilities & contributions during each key phase. The project team demonstrates stakeholder contributions and consultation processes influence the: Initial Project Brief; Communications Strategy; Project Execution Plan and Concept Design
Man 01 Req 4-7	Stakeholder Consultation (Interested Parties)	Prior to the end of RIBA Stage 2 consultation must have occurred with all interested parties on all applicable elements. The consultation must influence the Project Brief, and Concept Design. Prior to the end of RIBA Stage 4, all interest parties give and receive feedback.
Man 01 Req 8	Pre-Requisite BREEAM (Design)	- The project team and client will formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process.
Man 01 Req 9-12	BREEAM (Design)	A BREEAM AP is appointed to work with the team during Concept and Developed Design. RIBA Stage 2& 3 appointments confirmed (Ridge appointed for Stage 2 currently)
Man 03 Req 5	Pre-Requisite BREEAM AP (Site)	- The client and the contractor will formally agree performance targets.
Man 03 Req 6	BREEAM AP (Site)	A BREEAM AP is appointed to work with the team throughout construction works. (within Ridge Quotation for construction stage support)
Mat 03	Sustainable Procurement	Requires that a BREEAM compliant Sustainable Procurement Plan has been used by the design team to guide specification towards sustainable construction products (RIBA Stage 1).
Wst 03	Operational Waste	Requires confirmation that there will be no requirement for composting facilities and confirmation if expected waste streams will need a compactor / baler.
Wst 04	Speculative office finishes	Requires carpets & other floor or ceiling finishes to be installed, in a limited to a show area only (either a floor plate or an individual office but < 25% of net lettable floor area) or only installed once end user has agreed to floor

Credit		Requirements
		and ceiling finishes or if only ceiling finishes installed then limited replacement clause to be added to lease agreement.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance and ongoing use of the landscape.
Pol 03	Surface Water Run-Off	Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS/attenuation tanks are in place.

8.1.2. Architectural Issues

Credit		Requirements
Man 02	Elemental Life Cycle Cost	Confirm that the Life Cycle Costing exercise has influenced design and specification.
Hea 01 Req 5-7	View Out	A compliant view out is provided for 95% of relevant areas.
Hea 05	Acoustic Performance	Requires implementation of recommendations from acoustician to ensure the required standards for indoor ambient noise levels will be met.
Hea 06	Security	The controls and recommendations identified in the Security Needs Assessment are incorporated into the proposals and implemented into the as-built development.
Hea 07 Req 1-3	Safe Access	Requires cycle facilities to be accessed directly off back of public highway, direct pedestrian access. Also, any pedestrian drop-off areas provide direct access to other footpaths and that any delivery areas/access do not cross pedestrian / cycle routes, amenity areas or pass-through parking areas and have an adequate waiting area with turning and parking space. Finally, waste storage is away from any delivery manoeuvring area or car parking.
Hea 07	Outdoor Space	Requires an appropriately sized outside space providing building users with an external amenity area with seating and away from/shielded from road, car parks etc (not part of public highway)
Tra 02	Sustainable Transport Measures	Implement any design measures listed in the Travel Plan and provide cycle facilities and cycle stores on site for users (1 covered rack per 20 Staff, plus changing rooms for male and female and lockers or showers)
Wat 01	Water Consumption	Requires careful specification of water consuming equipment to achieve a 25% betterment on industry standards
Mat 01	Environmental Impact	Requires provision of information to enable Life Cycle Assessment to be undertaken.
Mat 05	Designing for Durability and Resilience	Requires that the building incorporates suitable measures to prevent damage to vulnerable parts of the internal and external building and landscaping. Requires that key exposed building elements have been designed and specified to limit long and short-term degradation due to environmental factors. Requires convenient access to the roof and façade for cost-effective cleaning, replacement, and repair in the building's design, and that the

Credit		Requirements
		design of the roof and façade prevents water damage, ingress and detrimental ponding.
Wst 03	Operational Waste	Requires that a local, dedicated recycling area, adequately sized to serve the development and accessible to building occupiers and waste contractors will be provided. (2m2 per 1000m2 GIFA) and provision of infrastructure for installation of a compactor baler if appropriate.
Wst 04	Speculative office finishes	Requires carpets & other floor or ceiling finishes to be installed, in a limited to a show area only (either a floor plate or an individual office but < 25% of net lettable floor area) or only installed once end user has agreed to floor and ceiling finishes or if only ceiling finishes installed then limited replacement clause to be added to lease agreement.
Wst 05	Adaption to Climate Change	Produce a study into the effects, risk and mitigation strategies for accommodating Climate Change to the building fabric during Concept Design, RIBA Stage 2 & updated at RIBA Stage 4
Wst 06	Functional Adaptability Design for disassembly	Produce a compliant 'Design for Disassembly and Functional Adaptation & Study' during Concept Design (RIBA Stage 2) that is updated and implemented at RIBA Stage 4.
LE 01 Req 1	Previously Developed land	Requires that at least 75% of the development's footprint (including building, hard landscaping, and temporary works) is on previously developed land ie was previously hard standings or building rather than soft landscaping.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance and ongoing use of the landscape.
LE 03 Req 8	Managing negative impacts of the project	Requires working with the ecologist to ensure that a minimum loss in biodiversity is achieved by landscaping specified and a biodiversity index of >75% is achieved.
LE04 4 Req 6	Enhancement of ecology	

8.1.3. Landscape Architect's issues

Credit		Requirements
Wat 04	Water Efficient Equipment	External landscaping and planting will rely solely on precipitation, during all seasons of the year or use of manual watering.
LE 02 Req 7-10)	Determining Ecological Outcome	Requires input into liaison & collaboration with representative stakeholders to identify and consider ecological outcomes for the sites using Route 2 methodology & the hierarchy of ecological actions.
LE 03 Req 2-4 LE 04 Req 5	Planning, Liaison, implementation and data collation	Requires input into the continued liaison and collaboration with stakeholders & in implementation of the selected solutions & measures during design, procurement, site preparation & construction to enhance the ecological value. AND: 1. Agreeing to allocation & implementation of roles & responsibilities to support the agreed ecological outcomes At RIBA Stage 2. 2. Planning site preparation and construction works to optimise benefits and outputs.
LE 03 Req 8 LE 04 Req 6	Managing negative impacts Enhancement of ecology	Requires working with the ecologist to ensure that a minimum loss in biodiversity is achieved by landscaping specified and that the landscaping demonstrate a biodiversity index of >75%
LE 05 Req 3-4	Management and maintenance throughout the project	Requires input into: Monitoring and reviewing implementation and the effectiveness of the ecological solutions; developing and reviewing management and maintenance solutions, actions or measures and Including a section on Ecology and Biodiversity to inform of local ecological features, value & biodiversity on or near the site in the building owner information supplied.
LE 05 Req 6-7	Landscape and ecology management plan (or similar) development	Requires input into a landscape and ecology management plan, which will be developed in accordance with BS 42020:2013 covering at least the first five years after project and must include: handover responsibilities; ecological value and condition of the site; opportunities for alignment with external activities; remedial actions for unforeseen impacts and allocated roles and responsibilities.

8.1.4. Acoustician

Credit		Requirements
Hea 05 Req 1b	Indoor Ambient Noise levels	Requires a design stage acoustic report to demonstrate that with a generic office fit out the indoor ambient noise levels will be within the suggested range stated in section 7 of BS8233:2014.
Pol 05	Noise attenuation	Requires a noise impact assessment to BS 4142:2014 and for noise levels to be at least 5dB lower than the background noise throughout the day and night.

8.1.5. Civil & Structural Engineer's Issues

Credit		Requirements
Mat 01	Environmental Impact	Requires provision of information to enable Life Cycle Assessment to be undertaken.
Wst 05	Adaption to Climate Change	Requires input into a study into the effects, risk and mitigation strategies for accommodating Climate Change to the building fabric during Concept Design, RIBA Stage 2 and updated at RIBA Stage 4
Wst 06	Functional Adaptability & Disassembly	Requires input into a compliant 'Design for Disassembly and Functional Adaptation Study' during Concept Design. RIBA Stage 2 updated at RIBA Stage 4
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape.
Pol 03 Req 2	Flood Risk	A site-specific Flood Risk Assessment which confirms the flood risk to the development is low for all types of flooding.
Pol 03 Req 5-8	Surface Water Run-Off – Rate	Requires that drainage measures are specified to ensure that, as the site is brownfield, a 30% improvement for developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events and account for climate change.
Pol 03 Req 9-16	Surface Water Run-Off – Volume	Requires that flooding of property will not occur in the event of local drainage system failure and that where infiltration or other SuDS techniques are not technically viable options, that the post development peak rate of run-off is reduced to the limiting discharge, ie the highest flow rate from the following options: a. The pre-development 1-year peak flow rate. b. The mean annual flow rate Qbar c. 2L/s/ha.

8.1.6. Quantity Surveyor's Issues

Credit		Requirements
Man 02	Elemental Level Life Cycle Costing – we have already been appointed for this	Required that in RIBA Stage 2 an elemental LCC analysis with options appraisals (co-ordinated with Mat 01 Stage 2 LCA Options) is produced to PD 156865:2008 with replacement costs over 20, 30, 50 or 60 years including service life, maintenance and operation cost estimates and that this is used to influence design and specification.
Man 02	Component Level Life Cycle Costing	Required that in RIBA Stage 4 a component level LCC plan (co-ordinated with Mat 01 Stage 4 LCA Options) is produced to PD 156865:2008 including: Envelope; Services; Finishes & External Spaces. This is used to influence design and specification
Man 02 Req 6	Capital Cost Reporting	The capital cost for the building will be reported in £k/m2.
Man 02 Req 1-3 & Mat 01	Environmental Impact	Requires provision of information to enable Life Cycle Assessment and Life Cycle Costing to be undertaken.

8.1.7. Ecologist's Issues

Credit		Requirements
LE 02, 03, 04 & 05	Pre-requisite	Requires confirmation of compliance against all relevant UK and EU or international legislation relating to the ecology of the site.
LE 02 Req 3-5	Ecological Survey & Evaluation	Requires that pre-planning, a suitably qualified ecologist produces a survey and evaluation report to determine the ecological baseline of the site and that data is collated and shared with project team to inform the site preparation, design or construction works.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance and ongoing use of the landscape and to agree ecological outcomes and roles and responsibilities and consultations.
LE 03 Req 8	Managing negative impacts of the project	Requires input into demonstrating that negative impacts from site preparation and construction works have been managed according to the hierarchy (see LE 02) and loss of ecological value is minimised.
LE 04 Req 4-5	Ecological Enhancement	Requires that in addition collaboration with representative stakeholders, where potentially valuable, data is provided to the local environmental records centres nearest to, or relevant for, the site.
LE 04 Req 6	Enhancement of ecology	Requires calculations to show the change in biodiversity is between >75% and 94% using either the Defra 2.0 methodology or BREEAM Ecology Calculator. Note additional credits possible if there is inclusion of a linear habitat and habit area exceeds 5% of site area
LE 05 Req 3-4	Management and Maintenance	Requires input into identifying measures to be implemented to manage and maintain ecology throughout the project. Requires input into the building owner info on Ecology and Biodiversity to inform about local ecological features, value and biodiversity on or near the site.
LE 05 Req 5-6	Landscape and ecology management plan	Requires production of a Landscape and Ecology Management Plan, to BS42020:2013 Section 11.1 covering at least the first five years after project completion.

8.1.8. Building Services Consultant and Subcontractor's Issues

Credit		Requirements
Man 04 Req 1-5	Commissioning and Testing Schedule and Responsibilities	A 'schedule of commissioning' needs to be developed, with a commissioning monitor appointed.
Man 04 Req 6-7	Commissioning Design & Preparation	Requires a team member, not involved in installation works, to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages. Additionally, a specialist commissioning manager must be appointed.
Hea 01 Req 8-14	Internal and External Lighting Levels, Zoning and Control	Requires external lighting within the construction zone to comply with BS5489-1:2013 & BS12464-2:2014 Part 2.

Credit		Requirements
Hea 04 Req 1-4	Thermal Modelling	This requires dynamic thermal modelling to be carried out to meet requirements of CIBSE Guide A table 1.5 Additionally, for air-conditioned buildings the PMV and PPD will need to be reported. In naturally ventilated building areas, the overheating meets the recommendations of TM52 or TM59.
Hea 04 Req 5-8	Design for Future Thermal Comfort	Requires thermal modelling to demonstrate compliance (as above) when run for a projected climate change environment or has potential to adapt using passive measures.
Hea 05	Acoustic Performance	Requires implementation of recommendations from acoustician to ensure the required standards for indoor ambient noise levels will be met.
Ene 01 Req 1	Energy Performance	An Energy Performance Ratio of 0.5 or greater will be achieved.
Ene 01 Req 2-5	Operational Energy-prediction, modelling & reporting	Requires an early operational energy workshop & predicted operational energy modelling by end use at design stage and post construction & risk assessment.
Ene 02 Req 1-4	Sub-metering of Major Energy Consuming Systems	Requires that energy metering systems are installed that 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 and an accessible energy monitoring and management system.
Ene 02 Req 5	Sub-metering of High Energy Load	Requires energy sub-meters with pulsed outputs are installed covering each tenancy plus any other healthcare specific functional area as required by BREEAM.
Ene 03	External lighting efficiency	The average initial luminous efficacy of the external light fittings within the construction zone (including any existing fittings) is not less than 70 luminaire lumens per circuit Watt. All external lights have daylight sensors and PIRs in areas of intermittent pedestrian traffic.
Ene 04	Passive Design Analysis	A PDA is undertaken at RIBA Stage 2, identifying opportunities to implement passive design solutions to reduce energy demands. Measures must be implemented & shown to reduce energy demand and emissions
Ene 04	Low Zero Carbon	Prior to the end of RIBA Stage 2, an energy specialist must produce a BREEAM compliant Low Zero Carbon feasibility study. LZC technology must be implemented in line with the findings of the study which reduces CO ₂ emissions.
Wat 01	Water Consumption	Requires careful specification of water consuming equipment to achieve a betterment of 25% on current industry standards.
Wat 02	Water sub meter	The main supply to the new building will be fitted with a pulsed water meter and additional sub meters to each tenancy area and any other areas highlighted in the credit criteria for healthcare that have significant water usage.
Wat 03 Req 1-2	Water leak Detection	Requires a BREEAM compliant leak detection system will be specified and installed on the buildings water supply.

Credit		Requirements
Wat 03 Req 3	Flow Control Devices	Requires flow control devices to be installed on the cold water supply to taps, WCs and urinals but must not allow the CWS to automatically switch off in showers while hot water is still running.
Wst 03	Operational Waste	Requires the provision of infrastructure or a compactor baler in the bin store if appropriate
Wst 05	Adaption to Climate Change	Requires input into a study into the effects, risk and mitigation strategies for accommodating Climate Change to the building fabric during Concept Design (RIBA Stage 2) and reviewed at RIBA Stage 4.
Wst 06	Functional Adaptability	Requires input into a compliant 'Design for Disassembly and Functional Adaptation Study' during Concept Design (RIBA Stage 2) and reviewed at RIBA Stage 4.
LE 02- LE 05	Land use and Ecology	Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance, and ongoing use of the landscape.
Pol 02	Local Air Quality	Requires either ALL hot water and heating to be powered by electricity OR emissions do not exceed 27 mg/kWh for gas boilers.
Pol 04	Reduction of Night-Time Light Pollution	Requires that all illuminated advertisements comply with ILP PLG05 and all external lighting with Table 2 ILP:2011 Additionally, lighting can be automatically switched off between 23:00 and 07:00, excluding for safety and security lighting which complies with the lower lighting levels in Table 2 ILP:2011
Pol 05	Reduction of Noise Pollution	Requires acoustic attenuation measures as required by NIA.

8.1.9. Main Contractor's Issues

Issues for Main Contractor*		
Credit		Requirements
Man 03	Responsible Construction Practices	Requires any party, who, manages the construction site: - Uses Legally harvested and traded timber'. - Operates an Environmental Management System which is third party certified. - Implements best practice pollution prevention policies. - Uses a BREEAM AP. (within Ridge appointment) - Achieves two credits for 'Responsible Construction Management'. - Monitors & reports construction site impacts including energy, water and transportation of construction materials and waste
Man 04 Req 1-5	Commissioning - Testing and Schedule Responsibilities	The contractor accounts for commissioning, testing, responsibilities and standards within budget and programme of works.
Man 04 Req 8-10	Testing and Inspecting Building Fabric	Requires that an air tightness survey, and thermographic survey is undertaken to QA integrity of the building fabric, continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects found are rectified.

Issues for Main Contractor*		
Credit		Requirements
Man 04 Req 11-12	Handover	Requires production (prior to handover) of two building user guides (a non-technical guide for building occupiers and a technical guide for FM). Also, that a draft is developed and discussed with users (where known) and two training schedules are prepared, one (non-technical) for the building occupiers, and a second, (technical version) for the FM team
Ene 06 Req 1-4	Energy Efficient Transportation Systems	Requires lifts to include energy efficient features and a regen unit.
Wat 02	Water sub meter	The main supply to the new building will be fitted with a pulsed water meter.
Mat 03	Responsible Sourcing	Requires that all timber used within the project will be legally harvested and traded timber.
Mat 03	Measuring Responsible Sourcing	Requires that materials will be sourced from suppliers with appropriate responsible sourcing certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.) and 20% of available points will be achieved for the Superstructure, substructure, hard landscaping and finishes elements.
Wst 01	Construction Resource Efficiency	Requires that a Resource Management Plan (RMP) is developed, and that non-hazardous construction waste is less than 7.5 m ³ or 6.5 tonnes per 100m ² GIFA. The RMP references the pre-demolition audit that has been undertaken by the demolition contractor.
Wst 01	Diversion of resources from landfill	Requires that 70% (by volume) of non-hazardous waste generated by the project is diverted from landfill. Requires that 80% (by volume) of non-hazardous demolition waste generated by the project is diverted from landfill.
LE 02-05	Land use and Ecology	Requires that the contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Requires attendance at coordination environmental workshops to discuss ecological issues associated with the design, construction, maintenance and ongoing use of the landscape and implementation of all recommended ecological solutions and monitoring of construction impacts.

9. SUMMARY AND RECOMMENDATIONS

In the preassessment meeting a target was identified to achieve an Excellent BREEAM rating with a reasonable contingency. The results have been summarised in the sections above to highlight the credits where there is a time constraint, by discipline showing the requirements to reach excellent. A more detailed breakdown is provided in Appendix A.

It is recommended that each discipline review the suggested targets and ensure that the necessary elements are incorporated into the design documentation. Any additional uplifts shown in in section 9.0 should be costed and identified as soon as possible.

Please note that for any particular rating there are mandatory credits that need to be achieved within the targeted percentage score. These are also highlighted in Appendix A

APPENDIX A- DETAILED ASSESSMENT REPORT



Stage 2 BREEAM Pre Assessment report

RIDGE

5014515 - 55 Fountain Street

Rev 3.0

PASS	30
GOOD	45
VERY GOOD	55
EXCELLENT	70
OUTSTANDING	85

Report Prepared By: Lydia Perry
Report Checked By: Wendy Broomhead
Date: 12.08.21

BRE Registration

BREEAM-0088-9691

Results Summary			
Sector	Total Available	Weighting (Shell & Core)	Excellent Target
Management	18	11.0%	11.00%
Health & Wellbeing	11	8.0%	5.81%
Energy	21	14.0%	11.33%
Transport	12	11.5%	9.58%
Water	9	7.0%	4.66%
Materials	14	17.5%	11.25%
Waste	11	7.0%	5.09%
Land Use & Ecology	13	15.0%	11.53%
Pollution	12	9.0%	6.00%
Total Predicted Score			76.25%
Innovation	10	10.0%	2.00%
Total Score			78.25%
BREEAM Rating			EXCELLENT

Key to Responsibilities		
Role	Company	Ref
Client	ASK/M&G	Client
Project Manager	Chroma	Chroma
QS	Gardiner	Gardiner
Architect	Jon Matthews Architects	JMA
M&E Consultant	Ridge and Partners	Ridge(M&E)
Structural & Civil Eng	Renaissance	Renaissance
Acoustician		Acoustician
Ecologist	Penny Anderson Associates Ltd	PAA
BREEAM/WELL Assessor BREEAM AP, LCA & LCC	Ridge and Partners	Ridge(Sust)
Main Contractor	TBC	Contractor
M&E Sub Contractor	TBC	M&E Sub

Notes:

1) Shading Denotes Mandatory Credit for Excellent

This document is to be read in conjunction with the current BREEAM Manual available online, which gives full details of credit requirements -

<https://www.breeam.com/NC2018/>

3) Yellow/green shading shows changes from previous issue

BREEAM 2018 New Construction, Commercial, office

Shell & Core

Belvedere House, 5th Floor, 12 Booth Street
Manchester. M2 4AW

www.ridge.co.uk

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
MANAGEMENT						
Man01 Project Brief and Design						
Req 1-3	Project Delivery Planning	1	0.61	1	Medium	Chroma
Prior to the end of RIBA Stage 2 all the project delivery stakeholders (client/developer, contractor, design team) meet, identify and define roles, responsibilities & contributions during each key phase. The project team demonstrates how the stakeholder contributions and consultation process influences the following: - Initial Project Brief - Project Execution Plan - Communications Strategy - Concept Design Please note all documents above need to be present even if they are combined into a single document All information received.				1	Medium	Chroma
Req 4-7	Stakeholder Consultation (Interested Parties)	1	0.61	1	High	Chroma
Prior to the end of RIBA Stage 2 consultation will have occurred with all interested parties. It must be demonstrated that the consultation has influenced the Project Brief and Concept Design. Prior to the end of RIBA Stage 4, all interest parties give and receive feedback. See guidance sent email 15.03.21 Evidence of community & Minimum consultation content required.				1	High	Chroma
Req 8	Pre-Requisite - BREEAM AP	X	0.61	X	Medium	Ridge(Sust)/Chroma
The project team and client formally agree (contract or letters of appointment) strategic performance targets, including the BREEAM rating, early in the design process. Please ensure that target is stated as BREEAM Excellent				X	Medium	Ridge(Sust)/Chroma
Req 9	BREEAM AP (Concept Design)	1	0.61	1	Low	Ridge (Sust)
R&P has been appointed as BREEAM AP during RIBA Stage 1 / 2 and: - Works with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM throughout Concept Design (Stage 2) - Monitor progress against the performance targets throughout all stages - Identify risks and opportunities related to the achievement of the targets agreed - Provide feedback to the project team as appropriate - Monitor and coordinate the generation of appropriate evidence by the project team. Ongoing support will be provided with meetings attended by BREEAM AP plus guidance and reports highlighting risks, opportunities and targets and stage evidence assessed.				1	Low	Ridge (Sust)
Req 11-12	BREEAM AP (Developed Design)	1	0.61	1	Low	Ridge(Sust)/Contractor
Criteria 8 & 9 are achieved and the appointed BREEAM AP: - Works with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM throughout Developed Design (RIBA Stage 3) - Monitor progress against the performance targets throughout all stages - Identify risks and opportunities related to the achievement of the targets agreed - Provide feedback to the project team as appropriate - Monitor and coordinate the generation of appropriate evidence by the project team. Requires R&P ongoing BREEAM AP Appointment for Stage 3 & 4				1	Low	Ridge(Sust)/Contractor
Man02 Life Cycle Cost and Service Life Planning						
Req 1-3	Elemental Life Cycle Cost	2	0.61	2	Low	Ridge (Sust)
It is assumed that, prior to the end of RIBA Stage 2, a competent person carries out an elemental life cycle costing analysis together with elemental options appraisals in accordance with PD 156865:2008. The LCC should show future replacement costs over 20, 30, 50 or 60 years and include service life, maintenance and operation cost estimates and be used to influence design and specification. Ridge modelling completed.Final reports to be issued.				2	Low	Ridge (Sust)
Req 4-5	Component Level LCC Plan	1	0.61	1	Low	Ridge (Sust)
It is assumed that, prior to the end of RIBA Stage 4 a competent person carries out a component level LCC plan in line with PD 156865:2008. Where present, the LCC plan should include: Envelope; Services; Finishes & External Spaces. The component level LCC must be used to influence design and specification.				1	Low	Ridge (Sust)
Req 6	Capital Cost Reporting	1	0.61	1	Low	Gardiner
Report the capital cost for the building in £k/m2 to the Assessor for reporting to the BRE via the BREEAM Spreadsheet				1	Low	Gardiner

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Man03	Responsible Construction Practices		Minimum standard: Req 7 for Excellent, Req 8-9 for Outstanding			
Req 1	Pre-requisite: Timber	X	It is assumed that all timber and timber based products used on the project are 'Legally harvested and traded timber'.	X	Low	Cont'
Req 2-4	Environmental Management	1	0.61 It is understood that all demolition/site preparation works will be undertaken by the main contractor. It is assumed that the main contractor will: - Operate an EMS e.g. ISO14001. (mandatory for healthcare projects) - Implement best practice pollution prevention policies and procedures.	1	Medium	Contractor
Req 5	Pre-requisite for BREEAM AP	X	The client and contractor formally agree BREEAM Rating required (Excellent).	X	Low	Cont'
Req 6	BREEAM AP (Site)	1	0.61 It is assumed that Ridge will be appointed as BREEAM AP for RIBA Stage 4-6: - Works with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving the project's performance targets throughout the Construction, Handover and Close Out stages. - Monitors construction progress against the performance targets agreed - Identifies risks and opportunities related to the procurement and construction process - Provides feedback to the contractor and the project team - Monitors and coordinates the generation of appropriate evidence by the project team	1	Medium	Ridge(Sust)/Contractor
Req 7	Responsible Construction Management (Credit 1)	1	0.61 It is understood that all demolition/site preparation works will be undertaken by the main contractor. It is assumed that the main contractor will achieve the requirements of the 9no. ticked items within Table 4.1 of the BREEAM 2018 manual. Note achieving a score of 35 using the Considerate Constructors Scheme will achieve 8no. of the ticked requirements by default: see GN22 for further information	1	Low	Cont'
Req 8-9	Responsible Construction Management (Credit 2)	1	0.61 In addition to Req. 7 (above), it is assumed that the contractor will achieve an additional 6no. items from the remaining 10no. unticked items in Table 4.1. Note achieving a score of 35 using the Considerate Constructors Scheme will achieve 8no. of the 10no. unticked requirements by default: see GN22 for further information.	1	Medium	Contractor
Req 10	Monitoring of Construction- Site Impacts- Pre-requisite	X	0.61 It is assumed that responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data throughout the build programme.	X	Low	Contractor
Req 11 - 18	Monitoring of Construction- Site Impacts (Energy and Water)	1	0.61 It is assumed that the appointed individual sets targets for, and monitors site energy consumption in kWh and also reports kgCO ₂ , and kgCO ₂ /project value. Targets are set for potable water consumption (m3) usage on site, and this is monitored throughout the programme.	1	Low	Contractor
Req 19-22	Monitoring of Construction- Site Impacts (Transport)	1	0.61 It is assumed that the appointed individual will set targets for, and monitor data on transport of construction materials and waste. KgCO ₂ eq, km should be reported separately for materials and waste.	1	Medium	Contractor
Man04	Commissioning and Handover		Minimum Standard: Req 1-5 & 11 for Very Good & Above			
Req 1-5	Commissioning - Testing Schedule and Responsibilities	1	0.61 Appoint an appropriate team member to monitor and programme pre-commissioning, commissioning and testing. A schedule of commissioning is prepared, identifying appropriate timescales and standards e.g. CIBSE, BSRIA. Where a BMS is installed, carry out commissioning and training as per the BREEAM criteria (req 3). The contractor accounts for commissioning, testing, responsibilities and standards within budget and programme of works.	1	Low	Ridge(M&E)/ M&E Sub/ Contractor
Req 6-7	Commissioning - Design and Preparation	1	0.61 The above credit is achieved and an appropriate team member, not involved in installation works, is appointed during design to undertake design reviews, provide commissioning management input and manage commissioning performance testing and handover / post-handover stages. For a building with complex systems, a specialist commissioning manager must be appointed.	1	Low	Ridge(M&E)/ M&E Sub
Req 8-10	Testing and Inspecting Building Fabric	1	0.61 Criteria 1-5 is achieved. It is assumed that: An air tightness survey, and thermographic survey are undertaken to QA integrity of the building fabric, continuity of insulation, avoidance of thermal bridging and air leakage paths. Any defects found are rectified.	1	High	Contractor

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Req 11-12	Handover	1	0.61	Prior to handover, two building user guides are developed - a non technical guide for building occupiers and a technical guide for FM. A draft copy is developed and discussed with users first, where building occupiers are known. Two training schedules are prepared, one as a non-technical training schedule for the building occupiers, and a technical version for FM team.	1	Medium	Contractor
HEALTH & WELLBEING							
Hea01 Visual Comfort							
Req 4	Daylighting	2	0.73	The following will NOT be achieved due to the presence of internal or deep plan rooms: -For 2 credits: Average daylight factor in the occupied areas of least 2% in 80% of floor area, with uniformity criteria as table 5.2 in the 2018 BREEAM Manual OR median daylight factor of 2% AND minimum daylight factor of 0.6% in 80% of floor area. This credit can be reviewed as the design progresses.	0	Possible	Ridge(M&E)/ JMA
Req 5-7	View Out	1	0.73	An adequate view out is provided for 95% of each relevant area. To achieve this credit, relevant areas must be within 8m to a window with rooms having >20% of the external wall made up of windows. If over 8m from a window, the window area should comply with table 1.0 BS 8206. (8-11m 25%; 11-14m 30% or 14m+ 35%)	1	High	JMA
Req 8-14	Internal and External Lighting Levels, Zoning and Control	1	0.73	For External lighting: - Areas within the construction zone comply with BS5489-1:2013 & BS12464-2:2014 Part 2.	1	Low	Ridge(M&E)
Hea02 Indoor Air Quality							
Req 1	Pre-Requisite - Indoor Air Quality Plan	X	X	If the credit below is sought an indoor air quality plan will need to be produced and implemented in accordance with Guidance Note GN06.	X	possible	Cont
Req 2	Ventilation	1	0.73	The building will not be designed to minimise the concentration and recirculation of pollutants by: 1. Providing fresh air into the building in accordance with the criteria of the relevant standard for ventilation. 2. Designing ventilation pathways to minimise build-up of air pollutants as follows: a. In air conditioned and mixed mode buildings, the air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution. OR the air intakes and exhausts location are designed in accordance with BS EN 13779:2007 Annex A2. b. In naturally ventilated buildings: openable windows/ventilators are over 10m from sources of external pollution. 3. HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3. 4. Areas subject to large/unpredictable/variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and: a. In mechanically ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. b. In naturally ventilated buildings/spaces: sensors either alert the building owner/manager when CO2 levels exceed the recommended set point, or are linked to controls to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents. JCP need to confirm whether this criteria is achievable.	0	Possible	Ridge(M&E)
Hea04 Thermal Comfort							
Req 1-4	Thermal Modelling	1	0.73	It is assumed that full dynamic thermal modelling will be carried out in accordance with CIBSE AM11. The study will demonstrate that the building design and services strategy can deliver thermal comfort levels in accordance with the criteria set out in CIBSE Guide A Table 1.5. In addition for naturally ventilated buildings overheating meets the recommendations of TM52 or TM59. For air conditioned buildings the PMV (predicted mean vote) and PPD (percentage people dissatisfied) is reported.	1	Medium	Ridge(M&E)

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Req 5-8	Design for Future Thermal Comfort	1	0.73	It is assumed that the dynamic thermal modelling will demonstrate compliance for the above criteria when run for a projected climate change environment (see Relevant definitions in the BREEAM 2018 Manual), however this credit will be investigated by the M&E Consultant. Note that if the thermal comfort criteria are not met, the credit may still be achieved where a report is produced demonstrating how the building has been or can be easily adapted in future using passive design solutions in order to meet the requirements above. For air conditioned buildings/areas, the PMV and PPD indices based on the above modelling must be reported via the BREEAM assessment scoring and reporting tool.	1	Medium	Ridge(M&E)
Hea05 Acoustic Performance							
	Indoor Ambient Noise level	1	0.73	It is assumed that a design stage acoustic report will demonstrate that with a generic office fit out the indoor ambient noise levels will be within the suggested range stated in section 7 of BS8233:2014. Cundall report received. Confirmation of compliance with BS8233 required.	1	Medium	Cundall/ JMA/ Ridge(M&E)
Hea06 Security							
Req 1-3	Security of Site and Building	1	0.73	It is assumed that: - A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). - The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA. - The controls and recommendations are incorporated into the proposals and implemented into the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.	1	Medium	JMA/ Chroma
Hea07 Safe and Healthy Surroundings							
Req 1-6	Safe Access	1	0.73	It is assumed that the following are all present: - Cycle storage is accessed directly from the back of footpath - Footpaths provide direct access from: Site entrance to building entrance; Car parks to building entrance; Building to outdoor space and Connecting off-site to on-site paths - Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths where provided. - Delivery access does not cross pedestrian / cycle routes, amenity areas or pass through parking areas. - Where there are delivery areas there is a waiting area adequate turning and parking space for the appropriate delivery vehicles. - There is a dedicated waste storage area away from the delivery manoeuvring area or car parking.	1	Low	JMA
Req 7	Outside Space	1	0.73	It is assumed that there will be an appropriately sized outside space providing building users with an external amenity area. The outside space must be an outdoor landscaped area open to the sky with appropriate seating areas. It must also be accessible to all building users and away from areas which may cause noise pollution e.g. building services, car parks, busy roads and delivery areas and be non-smoking.	1	Low	JMA
ENERGY							
Ene01	Reduction of Energy Use and Carbon Emissions	Minimum standard: 4 Credits for Excellent, 6 for Outstanding+ 4 credits for Energy modelling & performance					
Req 1	Energy Performance	9	0.67	An Energy Performance Ratio of 0.6 can be achieved to award 6 credits . Note that a minimum of 4 credits is required for an Excellent certification. Ridge provided design stage BRUKL that demonstrated 6 credits.	6	Medium	Ridge(M&E)
Req 2	Pre-requisite - Prediction of Operational Energy Consumption			It is assumed that relevant members of the design team will hold a preliminary design workshop focusing on operational design performance, however this credit is to be investigated.		Medium	Ridge(M&E)
Req 3-5	Energy Modelling and Reporting	4	0.67	It is assumed that the following will be required: -The team undertakes additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures.(CIBSE TM54 Study) -Predicted energy consumption targets by end use, design assumptions & input data will be reported. -Undertake a risk assessment to highlight any significant design, technical & process risks that should be monitored & managed throughout the construction & commissioning process.	4	Medium	Ridge(M&E)

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Ene02	Energy Monitoring	Minimum Standard: Req 1-4 (first credit) for Very Good and above					
Req 1-4	Sub-metering of Major Energy Consuming Systems	1	0.67	Energy metering systems are installed that 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. - The energy consuming systems in buildings with a total useful floor area greater than 1,000m2 are metered using an appropriate energy monitoring and management system. - The systems in smaller buildings are metered either with an energy monitoring/ management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system. - The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.	1	Medium	Ridge(M&E)
Req 5	Sub-metering of High Energy Load and Tenancy Areas	1	0.67	It is assumed that, an accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed outputs is required, covering a significant majority of the energy supply to relevant function areas or departments or tenancies within the building.	1	High	Ridge(M&E)
Ene03	External lighting						
	External lighting	1	0.67	It is assumed that: - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit Watt. - All external lights have daylight sensors & PIRs in areas of intermittent pedestrian traffic. The external lighting criteria apply to external new and existing lighting within the construction zone of the assessed building.	1	Medium	Ridge(MEP)
Ene04	Low Carbon Design						
Req 1-4	Passive Design Analysis	1	0.67	It is assumed that the first credit of Hea 04 Thermal comfort has been achieved, AND the following has been achieved: - The project team carries out a Passive Design Analysis (PDA) during Concept Design stage (RIBA Stage 2) which identifies opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services. - The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the PDA. There is a quantified total reduction in energy demand and CO2 emissions as a result of implementing passive design strategies. Ridge provided compliant PDA report.	1	Medium	Ridge(M&E)
Req 5-8	Free Cooling	1	0.67	It is assumed that free cooling strategies will not be used exclusively.	0		
Req 9-12	Low Zero Carbon Feasibility Study	1	0.67	It is assumed that the following will be achieved: - A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2) by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building/development. - Local LZC technology have been specified in line with the recommendations of the feasibility study and there is a quantified reduction in regulated CO2 emissions. Ridge provided LZC report, see email 12.08.21	1	High	Ridge(M&E)
Ene06	Energy Efficient Transportation Systems						
Req 1	Energy Consumption	1	0.67	It is assumed that: - An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of transport systems. (Ridge) - The energy consumption has been calculated in accordance with BS EN ISO 25745 Part 2. - The analysis includes one of the following: At least two types of system; An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less); or A system strategy which is 'fit for purpose'. - The use of regenerative drives should be considered, where it produces an energy saving greater than the additional standby energy used to support the drives. - The transportation system with the lowest energy consumption is specified.	1	Medium	Contractor/ Ridge(M&E)

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Req 3-4	Energy Efficient Features (Lifts)	1	0.67	It is assumed for each lift, the following three energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. For example the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time. b. The lift car lighting & display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. - Where the use of regenerative drives is demonstrated to save energy, they are specified.	1	Medium	Contractor
TRANSPORT							
Tra01	Transport Assessment and Travel Plan						
	Travel Plan	2	0.96	During Concept Design Stage (RIBA Stage 2) a draft travel plan will be created based on a site specific travel assessment . Note that all the points under criterion 2 need to be covered as minimum, including Accessibility Index and Local Amenities - see BREEAM 2018 NC Manual for more details. The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building operation and use. The travel plan is implemented post construction and supported by the building's management in operations. Vectos draft Travel Plan received.	2	Medium	Vectos
Tra02	Sustainable Transport Measures						
Req 1	Pre-requisite			Produce a Tra 01 compliant travel plan during design stage.		Medium	Vectos
Req 2	Sustainable Transport Measures	10	0.96	It is assumed that 4 points will be achieved by implementing Sustainable Transport Measures as per Table 7.4 within the BREEAM Manual. With AI of >40 (AI =144.87)will achieve 8 credits. The points are awarded 1 No for each of the items below: - AI > 8 (1 point) -provision of compliant covered cycle storage (1 space per 10 staff using sliding scale or 1:20)(reduction for AI>8 taken) (1 point) -provide 2 of 4 compliant cycle facilities (showers, changing rooms, lockers, drying space)(i point) - location of core amenities (1 point)	8	Medium	JMA
WATER							
Wat01	Water Consumption Minimum Standard: One credit for Good and above, Two credits for Outstanding						
	Water Consumption	5	0.78	It is assumed that a 25% improvement in water consumption over the notional baseline will be achieved. An example of a specification to achieve this is shown below assuming 16 WCs, 4 showers, kitchenettes with dishwashers : ◦ 4.25 l single flush WCs ◦ wash hand basin taps flow rate limited to 4.75l/min ◦ kitchen taps flow rate limited to 6 l/min ◦ shower flow rate limited to 8 l/min ◦ no urinals / baths / kitchen pre-rinse nozzles / waste disposal unit / washing machines ◦ domestic sized dishwashers max 13 l per cycle ◦ no grey water / rainwater system	2	Medium	JMA/ M&E Sub
Wat02	Water Monitoring Minimum Standard: Criterion 1 for Good and above						
Req 1	Water Sub Meters			The main supply to the building will be fitted with a pulsed water meter.		Low	Contractor
Req 2-6	Water Sub Meters	1	0.78	The main supply to the building will be fitted with a pulsed water meter. Additionally: - Sub-meters will be provided for any water consuming plant or building areas consuming 10% or more of the building's total water consumption . - Each water meter will have a pulsed output for connection to a BMS. - The sub meters are connected to any existing or proposed BMS - Sub meters are fitted to large water tanks separate to associated changing areas and sanitary areas irrespective of their water consumption levels.	1	Low	M&E Sub

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Wat03	Water Leak Detection and Prevention						
Req 1-2	Leak Detection System	1	0.78	It is assumed that a BREEAM compliant leak detection system will be specified or installed on the buildings water supply.	1	Medium	M&E Sub
Req 3	Flow Control Devices	1	0.78	It is assumed that flow control devices that regulate the water supply to each WC area or sanitary facility according to demand will be installed, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. The devices should be installed on the cold water supply to taps, WCs and urinals but must not allow the CWS to automatically switch off in showers while hot water is still running.	1	Medium	M&E Sub
Wat04	Water Efficient Equipment						
	Water Efficient Equipment	1	0.78	It is assumed that the design team has identified all unregulated water demands that could be realistically mitigated or reduced. System(s) or processes have been identified to reduce the unregulated water demand a meaningful reduction in the total water demand of the building can be demonstrated. Some examples would be: 1. Reclaimed/recovered water from a rainwater collection or waste water recovery system, with appropriate storage, i.e. grey water collection from building functions or processes that use potable water, e.g. vehicle wash, training water in fire stations, sanitary facilities, irrigation etc. 2. External landscaping and planting that relies solely on precipitation, during all seasons of the year.	1	Low	Planet
MATERIALS							
Mat01	Environmental impacts from construction products - Building life cycle assessment (LCA)						
Req 3-5	Superstructure	6	1.25	It is assumed that an IMPACT Life Cycle Assessment will be carried at RIBA Stage 2 and will consider LCA options for 4 substantially different superstructure elements followed by a Stage 4 more detailed LCA review on a further 3 options based on the Stage 2 choice. The Mat 01 calculator will need to be submitted to BRE at Stage 2 & 4. The 2 credits that have not been targeted are available for meeting the BREEAM benchmark but are unlikely to be achieved with the current construction Ridge modelling completed.	4	Low	Ridge(Sust)/Gardiner/JMA/Ren
Req 6-7	Substructure and Hard Landscaping Options Appraisal	1	1.25	It is assumed that an IMPACT Life Cycle Assessment will be carried out at RIBA Stage 2 and will consider LCA options for 6 substantially different substructure or hard landscaping elements (at least 2 being sub structure and 2 being hard landscaping. The Mat 01 calculator will need to be submitted to BRE at Stage 2.	1	Low	Ridge(Sust)/Gardiner/JMA/Ren
Mat02	Environmental impacts from construction products -Environmental Product Declarations (EPD)						
	Specification of products with a recognised environmental product declaration (EPD)	1	1.25	It is assumed that there will NOT be sufficient construction products specified with an Environmental Product Declaration (EPD) to achieve a total EPD points score of at least 20. See BREEAM manual for further details.	0	Possible	Contractor
Mat03	Responsible Sourcing Minimum standard: Req 1 for all BREEAM assessments						
Req 1	Pre Requisite			All timber used within the project will be legally harvested and traded timber.		Low	Cont'
Req 2	Enabling Sustainable Procurement	1	1.25	It is assumed that a sustainable procurement plan was used by the design team to guide specification towards sustainable construction products before Concept Design (i.e. during RIBA Stage 1).The following should be covered: 1. Sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. 2. A requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. 3. Details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. Guidance sent 15.03.21 Sustainable development and refurbishment framework received.	1	Low	M&G

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information	Excellent Target	Risk	Responsibility
				Full details available at - https://www.breeam.com/NC2018/			
Req 3	Measuring Responsible Sourcing	3	1.25	It is assumed that materials will be sourced suppliers with appropriate responsible sourcing certification (e.g. BES6001 / ISO14001 / FSC / CSA / MTCC / PEFC / SFI etc.). 2 credits have been targeted requiring 20% of available points to be achieved for Superstructure, substructure, hard landscaping and finishes.	2	High	Cont'
Mat05 Designing for Durability and Resilience							
	Protecting vulnerable parts of the building from damage	1	1.25	It is assumed that the building will be designed to incorporate suitable durability / protection measures / designed features / solutions to prevent damage to vulnerable parts of the internal & external building & landscaping, including: - Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). - Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. - Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring - Protection from malicious damage to building materials and finishes, in public and common areas where appropriate.	1	Medium	JMA
	Protecting exposed parts of the building from material degradation		1.25	It is assumed that: a) key exposed building elements will be designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through either: the element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 in BREEAM 2018 NC Manual for more details. OR by carrying out a detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. b) the building includes convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. c) the roof and façade will be designed to prevent water damage, ingress and detrimental ponding.		Medium	JMA
Mat06 Material Efficiency							
	Material Efficiency	1	1.25	As no action was undertaken at Stage 1, the full requirements at ALL RIBA stages have not been met in order for this credit to be targeted.	0		
WASTE							
Wst01 Construction Site Waste Management				Minimum standard: One Credit for Outstanding			
Req 1-2	Pre-demolition audit	1	0.64	It is assumed that the requirements of this credit cannot be satisfied due to the appropriate 'Competent' person NOT being appointed at Stage 2 and with the site currently in lockdown due to Coronavirus, the requirements cannot be met.	0		
Req 3-4	Construction Resource Efficiency	3	0.64	It is assumed that: - Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. The RMP also covers accurate data records on waste arisings and waste management routes. - Non hazardous construction waste will be less than 7.5m³ or 6.5 tonnes per 100m² GIFA. targets increased in line with M&G commercial targets (6.5t/100m2)	2	High	Contractor
Req 5-6	Diversion of resources from Landfill	1	0.64	It is assumed that the following percentages of non-hazardous construction (on-site and off-site manufacture / fabrication in a dedicated facility), demolition waste generated by the project have been diverted from landfill: - Non Demolition - 70% by Volume or 80% by tonnage - Demolition - 80% by Volume or 90% by tonnage	1	Low	Contractor
Wst02 Use of Recycled and Sustainably Sourced Aggregates							
Req 1	Pre-requisite	✕	✕	As the demolition credit for Wst 01 cannot be sought this credit is also forfeited.	✕		
Req 2-6	Project Sustainable Aggregate Points	1	0.64	As the demolition credit for Wst 01 cannot be sought this credit is also forfeited.	0		

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Wst03	Operational Waste	Minimum standard: One Credit for Excellent & Outstanding				
Req 1	Dedicated space for recyclables	1	0.64	1	Medium	Vectos
Req 2	Compactor / Baler / Composting					
			It is assumed that a dedicated recycling area, adequately sized to serve the office development and accessible to building occupiers and waste contractors will be provided. This space will be sized to meet the client's requirements (as a guide 2m ² per 1000m ² net floor area). Note that separate waste facilities for the commercial unit may need to be provided within the unit if it changes to a restaurant or retail unit. In this case this area would be excluded from the BREEAM assessment.			
			It is assumed that a static compactor / baler infrastructure but not a compliant vessel for composting organic waste will BE REQUIRED for this development.			
Wst04	Speculative office finishes					
		1	0.64	1	Low	JMA/M&G
			It is assumed that: - for tenanted areas, where the future occupant is not known and carpets or other floor or ceiling finishes are installed, these must be limited to a show area only (either a floor plate or an individual office but < 25% of net lettable floor area). - Only install floor and ceiling finishes selected by the known occupant of a development. Alternatively, - where only ceiling finishes and no carpets are installed, the building owner confirms that the first tenants will not be permitted to make substantial alterations to the ceiling finishes.			
Wst05	Adaptation to Climate Change					
	Resilience of structure, fabric, building services and renewables installation	1	0.64	1	Low	JMA/REN/ Ridge(M&E)
			It is assumed that the team will conduct a Climate Change Adaptation Strategy Appraisal using: 1. A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes: - Hazard identification - Hazard assessment - Risk estimation - Risk evaluation - Risk management 2 Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design (Stage 2) , that aim to mitigate the identified impact. 3 Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.			
Wst06	Design for Disassembly and Adaptability					
Req 1-2	Design for disassembly and adaptability - Recommendations	1	0.64	1	Medium	JMA/REN/ Ridge(M&E)
Req 3-5	Design for disassembly and adaptability - Implementation	1	0.64	1		
			It is assumed that the team will: 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design (Stage 2) . See full credit guidance within BREEAM 2018 NC manual for the minimum considerations within the report. 2. Develop recommendations or solutions based on the study during or prior to Concept Design (Stage 2) that aim to enable and facilitate disassembly and functional adaptation. Functional Adaption Strategy Study: Stage 2 received. Ease of disassembly strategy required.			
			It is assumed that the team will: 1. Achieve the above credit. 2. During Technical Design Stage, provide an update on how the recommendations or solutions have been implemented where practical & cost effective.(Omissions must be justified) and on any changes to the recommendations/solutions. 3. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective users.			
LAND USE & ECOLOGY						
LE01	Site Selection					
Req 1	Previously Developed land	1	1.15	1	Low	JMA
Req 2-3	Contaminated land	1	1.15	0		
			It is unlikely that the site can be classed as contaminated or requiring remediation to enable development. Renaissance report recommends gas monitoring to confirm risk.			

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
LE02 Identifying and understanding the risks and opportunities for the project						
Req 1-2	Pre-requisite		It is assumed that there will be remodelling of some external areas as part of this contract and that assessment route 2 is chosen. It is assumed that the client or contractor will confirm compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.		Low	PAA/Ridge(sust)
Req 4-6	Ecological Survey & Evaluation	1	1.15 It is assumed that a Suitably Qualified Ecologist has been appointed at a project stage that ensures early involvement in site configuration & can influence planning decisions AND prior to planning application (ideally RIBA Stage 1/2), an appropriate level of survey and evaluation has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: - Current and potential ecological value and condition of the site, and related areas within the zone of influence. - Direct and indirect risks to current ecological value - Capacity and feasibility for enhancement of the ecological value of the site Data are collated and shared with project team to inform the site preparation, design or construction works. PAA has undertaken survey.	1	Low	PAA
Req 7-10	Determining Ecological Outcome	1	1.15 It is assumed that prior to planning application, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites (appropriate to the scale and type of development) for the project, taking into account the Route 2 hierarchy of actions listed in the table in the BREEAM 2018 Manual. CS from Chroma will act as Environmental champion, coordination meetings and manage E-PEP throughout. Stage 2 mtg held 25.06.21. Project PEP to be reissued containing ecology section. Stage 3/4 environmental meeting to be held post planning.	1	Medium	Ridge(Sust)/ ALL
LE03 Managing negative impacts on ecology						
Req 1	Pre-requisite		It is assumed that LE02 will be achieved (see above).		Medium	PAA/ Ridge (sust)
Req 2-4	Planning, Liaison, Implementation & Data	1	1.15 It is assumed that roles and responsibilities will be clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief. Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs. The project team has been liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected, during site preparation and construction works. this is Lead by the Environmental Champion and demonstrated by E-PEP and environmental meetings at RIBA Stages 2, 4, 5 & 6. Stage 2 meeting held. PEP to be reissued confirming roles and responsibilities.	1	Medium	Ridge(Sust)/ALL
Req 8 (Route 2)	Managing negative impacts of the project	2	1.15 It is assumed that: - negative impacts from site preparation and construction works have been managed according to the BREEAM hierarchy (see Assessment route 2) - the ecologist confirms an increase of ecological value is planned occurred. Demonstrated and recorded in the mins of environmental meeting and GN40 report to substantiate. Stage 2 mtg confirmed minimum loss occurred and further calculations show a net gain. TBC at RIBA Stage 4 and 5 mtgs.	2	Medium	PAA
LE04 Change and Enhancement of Ecological Value						
Req 1-2	Pre-requisite		It is assumed that LE03 Req 8 has been achieved & the client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. This is Lead by the Environmental Champion and demonstrated by E-PEP and environmental meetings at RIBA Stages 2, 4, 5 & 6		Medium	PAA/ Ridge (sust)
Req 5 (Route 2)	Liaison, implementation and data collation	1	1.15 It is assumed the project team have been liaising and collaborating with representative internal & external stakeholders, taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: - On site, and where this is not feasible, - Off site within the zone of influence. This is Lead by the Environmental Champion and demonstrated by E-PEP and environmental meetings at RIBA Stages 2, 4, 5 & 6	1	Medium	PAA/ Planet/ Ridge(Sust)

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Req 6 (Route 2)	Enhancement of ecology	3	1.15	It is assumed that credits can be awarded based on the calculation of the change in ecological value occurring as a result of the project. This is calculated in accordance with the process set out in GN 36 using the BREEAM LE04 calculator or DEFRA 2.0 . To achieve 1 credit the change in biodiversity needs to be between 75% and 94%) Note: to achieve 2 credits the change in biodiversity needs to be between 95% and 104% and the resultant habits need to be >2.5% of the GIFA of the building and includes a new linear habitat (e.g. hedge) This is unlikely to be achieved with the small area of habitat on the roof. Current calculations (270721) show >600% therefore with 15% habitat, so if a new linear habitat can be added then 3 credits plus the innovation credit can be achieved adding 3.3% to the target	1	Possible additional credits	PAA/Planet
LE05 Long Term Ecology Management and Maintenance							
Req 1-2	Pre-requisite			It is assumed that the client or contractor will confirm that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. LE03 criteria 8 is achieved and at least 1 credit is achieved against LE04 Req 6 calculation of change in ecological value. Lead by environmental champion		High	PAA/ Ridge (sust)
Req 3-4	Management and maintenance throughout the project	1	1.15	It is assumed that the ecological outcomes defined in LE 02,03 & 04 will be monitored and the effectiveness of the mitigation and enhancement measures will be reviewed to ensure they are implemented. A section on Ecology and Biodiversity will be included as part of the building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours. Lead by environmental champion and contractor	1	High	Ridge(Sust)/ Contractor/ALL
Req5-6	Landscape and ecology management plan	1	1.15	A landscape and ecology management plan, or similar, will NOT be developed in accordance with BS 42020:2013 section 11.1 covering at least the first five years after project completion & includes: - Actions and responsibilities, prior to handover, to give to relevant individuals - The ecological value and condition of the site at handover and how this is expected to develop and change over time - Identification of opportunities for ongoing alignment with activities external to the development project & which supports the aims of BREEAM's Strategic Ecology Framework - Identification and guidance's to trigger appropriate remedial actions to address previously unforeseen impacts - Clearly defined and allocated roles and responsibilities. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	1	Possible	PAA/ Planet
POLLUTION							
Pol01 Impact of Refrigerants							
Req 2	Buildings With Refrigerants Prerequisite			If credits below are targeted it is assumed that: All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice.			
Req 3-5	Impact of Refrigerant	2	0.75	It is currently assumed that the refrigerants specified will NOT achieve Direct Effect Life Cycle CO ₂ equivalent emissions of ≤1000kg CO ₂ e/kW cooling capacity.(note: both credits can be achieved if systems with refrigerants having GWP<10 can be specified) the above is unlikely to be achieved because of the use of the existing systems.	0	Possible	Ridge(M&E)/ M&E Sub
Req 6-7	Leak Detection System	1	0.75	Credit not sought due to practicality and cost. To achieve the credit the following must be demonstrated: All systems are hermetically sealed or only use environmentally benign refrigerants OR, where the systems are not hermetically sealed, they have: - A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. - OR - An inbuilt automated diagnostic procedure for detecting leakage is enabled. - In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigeration.	0	Possible	Ridge(M&E)/ M&E Sub

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Pol02	Local Air Quality						
	Local Air Quality	2	0.75	It is assumed that either ALL hot water and heating is supplied by non-combustion systems e.g. powered by electricity OR that the emissions do not exceed the levels in table 12.4 of the BREEAM 2018NC Manual (e.g. 27 mg/kWh for gas boilers, 34 mg/kWh gas CHP with external combustion, 56mg/kWh gas CHP with internal combustion engine).	2	Low	Ridge(M&E)/ M&E Sub
Pol03	Flood and Surface Water Management						
Req 1	Pre-requisite	X	X	An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with all the criteria.	X	Low	REN
Req 2	Low Flood Risk	2	0.75	It is assumed that a site specific Flood Risk Assessment will be produced which confirms that the building is situated in a low flood risk area for all of the following: - Fluvial - Surface Water - Sewers - Tidal - Groundwater - Reservoirs, canals or other artificial sources.	2	Low	
Req 5	Pre-requisite	X	X	Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site.	X	Low	
Req 6-8	Surface Water Run-Off - Rate	1	0.75	It is assumed that: - Drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) shows, where brownfield, a 30% improvement for developed site compared with the pre-developed site. Where greenfield, the pre-developed site run-off should be no greater than pre-developed site. This should comply at the 1-year and 100-year return period events. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. - Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	1	Medium	REN
Req 9-15	Surface Water Run-Off - Volume	1	0.00	It is assumed that: - Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND EITHER - Drainage design measures ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the development for the 100-year 6-hour event, including an allowance for climate change. - Any additional predicted run-off is prevented from leaving the site using infiltration or other (SuDS) techniques. OR (only where the above cannot be achieved): - Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. - Drainage design measures are specified to ensure that the post development peak rate of run-off is reduced to the limiting discharge. This is defined as the highest flow rate from the following options: a. The pre-development 1-year peak flow rate; b. The mean annual flow rate Qbar c. 2L/s/ha. - Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. - For either option above, calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	1	High	REN
Req 17-24	Minimising water course pollution	1	0.75	It is assumed that the drainage engineer will not be able to confirm that there will be zero discharge from the site for up to 5mm of rainfall.	0		

Assessment Issue	Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Poi04	Reduction of Night Time Light Pollution					
	Reduction of Night Time Light Pollution	1	0.75	1	Medium	M&E Sub
			ALL the external lighting within the construction zone (including any existing lighting) complies with the following: - Complies with Table 2 of the ILP Guidance notes for the reduction of obtrusive light, 2011 - All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. - Any safety or security lighting which is used between 23:00 & 07:00, complies with the lower levels of lighting recommended in Table 2 of the ILP's Guidance notes. - Illuminated advertisements must be designed in compliance with ILP PLG05.			
Poi05	Reduction of Noise Pollution					
	Reduction of Noise Pollution	1	0.75	1	Low	Acoustician/Ridge (M&E)
			It is assumed that: - A noise impact assessment in compliance with BS 4142:2014 will be carried out by a suitably qualified acoustician and the following noise levels measured/determined: i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar. ii. The rating noise level resulting from the new noise source. - The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development must be at least 5dB lower than the background noise throughout the day and night. - Where the noise source(s) from the proposed site/building is greater than above, measures have been installed to attenuate the noise at its source to a level where it will comply with the above. Cundall report received. Criteria considered achievable. Confirmation of compliance with BS4142 required.			
INNOVATION CREDITS						
Man 03 Req 23	Responsible Construction Management	1	1.00	0	Possible	Cont'
Hea 01 Req 15	Daylighting	1	1.00	0		
Hea 01 Req 16	Internal and External Lighting Zones & Controls	1	1.00	0		
Hea 02 Req 11	Minimising sources of air pollution	1	1.00	0		
Hea 06 Req 4	Security of Site and Building	1	1.00	0		
Ene 01 Req 6-7	Beyond Zero Net Regulated Carbon	2	1.00	0		
Ene 01 Req 9	Carbon Negative Req 9	1	1.00	0		
Ene 01 Req 10-12	Post Occupancy Stage	2	1.00	0		
Wat 01 Req 7-8	Water Consumption	1	1.00	0		
Mat01 Req 8-9	LCA -Core Building Services Options	1	1.00	0		

Assessment Issue		Credits Available	Weighted worth of 1 credit	Credit Information Full details available at - https://www.breeam.com/NC2018/	Excellent Target	Risk	Responsibility
Mat01 Req 11-14	LCA & LCC Alignment	1	1.00	It is assumed that the following will be achieved: - LCA credits for superstructure @ Concept & Technical Design stages achieved. - Elemental LCC plan and Component Level LCC options appraisal credits (Man 02 Life cycle cost and service life planning on page 45) achieved. - Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process - Record results in an Options Appraisal Summary Report. Stage 2 LCA & LCC optioneering completed.	1	Low	Ridge (Sust)/ Gardiner
Mat01 Req 15-18	LCA - Third party verification	1	1.00	It is assumed that: - LCA credits for superstructure @ Concept & Technical Design Stages - LCA credits for Substructure & landscaping options have been achieved. - A suitably qualified third party either carries out the building LCA work or verifies the building LCA work (if by others), and produces a report describing how they have checked the building LCA work accurately represent the designs under consideration during Concept Design and Technical Design with reference to the requirements of all relevant BREEAM criteria. Stage 2 verification underway.	1	Low	Ridge(Sust)
Mat 03 Req 3	Measuring Responsible Sourcing	1	1.00	It is assumed that using the manufacturers with appropriate responsible sourcing certification for Superstructure, internal finishes, substructure, hard landscaping and core building services <50% of available points will be achieved	0		
Wst 01 Req 3-4	Construction Waste Management	1	1.00	As per criteria for Wst 01 Construction Resource Efficiency and Diversion of Resources from Landfill, the following benchmarks are achieved: -Non hazardous construction waste will NOT be less than 1.6m³ or 1.9 tonnes per 100m² GIFA. -Diversion from landfill targets may not be met for Non Demolition & Demolition (85% by Volume or 90% by tonnage) & Excavation(95% by Volume or 90% by tonnage) -Additionally all key waste groups in Table 10.3 for diversion from landfill are covered in the RMP. Waste data obtained from licensed external waste contractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms or from a PAS 402:2013 compliant company.	0		
Wst 02 Req 7	Project Sustainable Aggregate Points	1	1.00	Achieve less than 6 points using the Wst 02 calculator, based on: - Identifying all aggregate uses and types on the project - The quantity in tonnes for each identified use and aggregate type. - The region in which the aggregate source is located. - The distance in kilometres travelled by all aggregates by transport type.	0		
Wst 05 Req 4-5	Responding to Climate Change	1	1.00	Not ALL of the following credits are achieved: - Hea 04 - Criterion 6 - Ene 04 - Passive Design Analysis credit - Mat 05 - Criteria 2-4 - Pol 03 - 1 credit for flood resilience plus 2 credits for surface water run-off - Ene 01 - 6 credits - Wat 01 - 3 credits - Wst 05 - Req 1-3 (full credit)	0		
LE 02 Req 11-13	Determine the Ecological Outcomes for the Site	2	1.00	When determining the optimal ecological outcome for the site, sustainability-related activities and the potential for ecosystem service related benefits for the wider site will NOT necessarily be considered. And not all of the following credits will be achieved: Hea 07 - Safe Access ; Hea 07 - Outdoor Space; Pol 03 - Surface water run-off & minimising water course pollution; Pol 05 - Reduction of Noise Pollution	0		
LE 04 Req 7	Change and enhancement of Ecology	1	1.00	Achieve significant net gain >110%	0	Possible	PPA
Unlisted, BRE Approved Innovations		10	1.00	No unlisted innovation credits will be sought	0		



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