Intended for
LMO Overseas Investments Limited

Document type
Report

Date
May, 2025

Project number
1620017845

HORTON ROAD, WEST DRAYTON
BREEAM PRE-ASSESSMENT

RAMBOLL Bright ideas. Sustainable change.

HORTON ROAD, WEST DRAYTON
BREEAM PRE-ASSESSMENT

Project name	**Horton Road, West Drayton**
Project no.	**1620017845**
Document type	**BREEAM Pre-Assessment**
Version	**0.1**
Date	**2025/05/23**
Prepared By	**Rachael Barber**
Checked by	**Joanne Thetford**
Approved by	**Jac Yarwood**
Description	**BREEAM Pre-Assessment Report**

Ramboll
240 Blackfriars Road
London
SE1 8NW
United Kingdom

T +44 20 7631 5291
https://uk.ramboll.com

Ramboll UK Limited
Registered in England & Wales
Company No: 03659970
Registered office:
240 Blackfriars Road
London
SE1 8NW

CONTENTS

EXECUTIVE SUMMARY

This report provides a BREEAM New Construction V6.1 pre-assessment for the proposed industrial units at Horton Road, West Drayton. This BREEAM pre-assessment has been prepared to support the planning application and determine the feasibility of achieving a BREEAM rating for the development.

In line with client aspirations the BREEAM target for the development is to achieve a minimum BREEAM 'Excellent' rating.

This report details the outcomes of a pre-assessment workshop carried out with the design team on 18 March 2025, and additional follow up workshops on 26 March and 22 April 2025. The proposed development includes the construction of two new speculative industrial units, including ancillary offices supported by car parking, services yards with loading docks, and landscaping. The building was assessed as a shell and core industrial building type under the BREEAM New Construction V6.1 scheme.

The initial pre-assessment review indicates that an 'Excellent' rating is achievable for the Horton Road, West Drayton industrial units and a summary of the results is provided in Table 1 below and Figure 1.

Table 1: BREEAM Score Summary

	Overall targeted score	Minimum score for 'Excellent' Rating	Buffer over the minimum score
Targeted Score	73.56%	70%	3.56%
Potential Score	79.59%	70%	9.59%

Figure 1: Targeted and potential scores for The Horton Road, West Drayton units

An overview of the targeted credits that require actions to be carried out during RIBA Stages 1 and 2 has been included in **Appendix 1**, to ensure that the appropriate requirements are actioned during the early stages of the design process. **Appendix 2** provides a detailed summary of the credits that have been selected to achieve the targeted scores and additional potential credits that may be achieved as the design progresses.

1. INTRODUCTION

1.1 Site location

Ramboll has been commissioned by LMO Overseas Investments Limited to carry out a BREEAM Pre-Assessment for the planning application for the Horton Road, West Drayton industrial units, as shown in Figure 2. The proposal involves the demolition of existing units and the construction of two new commercial units, including ancillary offices supported by car parking, services yards with loading docks, and landscaping.

Figure 2: Horton Road, West Drayton industrial units site location

1.2 Approach

A BREEAM pre-assessment has been carried out by a BREEAM qualified assessor and accredited professional with the involvement of the design team to set out a strategy to achieve a BREEAM 'Excellent' rating.

The New Construction V6.1 scheme has been used for the pre-assessment. The buildings have been assessed as a shell and core industrial building type.

The targeted score seeks to include a margin of 3.56% to minimise the risk of achieving the target rating by including contingency for design changes and potential constraints identified during the design and construction stages.

To maximise sustainable design and achieve the highest possible rating for the development, several potential credits were identified by the design team to consider as the design progresses. As the current margin is below the recommended 5% level, it is recommended that the design team explore the identified 'potential' credits identified in Appendix 2 with the aim of boosting the target score.

2. BREEAM

2.1 What is BREEAM?

BREEAM is the Building Research Establishment's Environmental Assessment Method and is a widely used and recognised standard to describe a building's environmental performance.

The scheme aims to mitigate the life cycle impacts of buildings on the environment in a robust and cost-effective manner through integration and use of the scheme at key stages in the design and construction process. The performance of a building is quantified by individual measures and associated criteria stretching across a range of environmental issues and expressed as a single certified BREEAM rating.

A BREEAM assessment can be used to assess a building at the following life cycle stages:

- Design stage (DS) - occurs during the design development of a scheme and therefore, does not represent a building's final performance against the BREEAM criteria, as this may change as construction is undertaken. The BREEAM certificate at this stage is labelled interim.
- Post-construction stage (PCS) – occurs during the construction stage of the scheme and confirms that the building's 'as-built' performance and rating are in accordance with that certified at the Design stage. A final BREEAM certificate is issued once the Post-Construction stage assessment is complete.

For a specific BREEAM rating to be achieved, the minimum percentage score and the minimum standards applicable to that rating need to be met. Additional information on ratings and scoring is provided in the sections below.

2.2 BREEAM ratings

BREEAM ratings range between 'Pass' and 'Outstanding'. The rating is achieved based on the percentage score and the required minimum standards appropriate to each rating level. The ratings thresholds for BREEAM New Construction V6.1 are shown in Table 2 below.

Table 2: BREEAM rating benchmarks

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

2.3 BREEAM scoring

The BREEAM New Construction V6.1 credits are divided into nine issue categories addressing the different environmental impacts arising from a building's construction and fit out. These include Management, Health and Wellbeing, Energy, Transport, Water, Materials, Waste, Land Use and Ecology and Pollution. In addition, 'innovation credits' can be awarded for exemplary level performance across several issue categories.

To calculate an assessment score, the percentage of the credits achieved is calculated for each of the BREEAM categories. The percentage of credits achieved in each category is then multiplied by the corresponding environmental weighting to give the section score.

Category weightings provide a means of defining and ranking the relative impact of environmental issues. Different categories will also be weighted differently depending on whether a building is fully fitted, shell and core, shell only or meets BREEAM's definition of a simple building.

Consequently, not all credits are worth the same as can be shown in the graph in Figure 3 below. As an example, for a shell and core building assessed under BREEAM NC V6.1, an energy credit will be worth 0.67%, whilst a credit in the management section will be worth 0.61%.

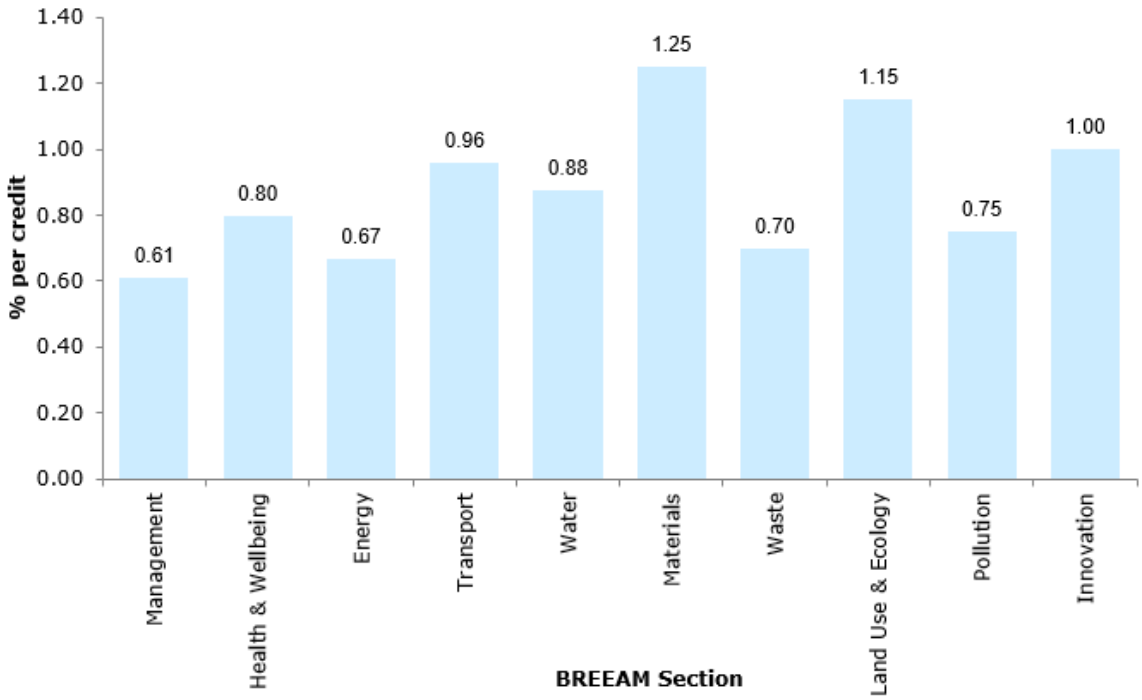

Figure 3: Section credit scores for a shell and core building under BREEAM New Construction V6.1

2.4 Minimum standards

BREEAM sets minimum standards of performance in key areas to ensure performance against fundamental environmental issues is not overlooked in pursuit of a specific rating. To achieve a particular rating, the minimum overall percentage score must be achieved as well as the minimum standards detailed in Table 3 below.

Table 3: Minimum standards by rating level for a building under BREEAM New Construction V6.1

BREEAM issue	Pass	Good	Very Good	Excellent	Outstanding
Man 03 Responsible construction practices	None			One credit (responsible construction management)	Two credits (responsible construction management)
Man 04 Commissioning and handover	None		One credit (commissioning-test schedule and responsibilities)		
Man 04 Commissioning and handover	None		Criterion 11 (Building User Guide)		
Man 05 Aftercare	None			One credit (commissioning-implementation)	
Ene 01 Reduction of energy use and carbon emissions	None			Four credits (Energy performance or Prediction of operational energy consumption)	Six credits (Energy performance) and four credits (Prediction of operational energy consumption)
Ene 02 Energy monitoring	None		One credit (First sub-metering credit)		
Wat 01 Water consumption	None	One credit			Two credits
Wat 02 Water monitoring	None	Criterion 1 only: Specify a water meter on the mains water supply to each building.			
Mat 03 Responsible sourcing of construction products	Criterion 1 only: 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy				
Wst 01 Construction waste management	None				One credit
Wst 03 Operational waste	None			One credit	

3. PRE-ASSESSMENT OVERVIEW

3.1 Pre-assessment scores

The following section summarises the outcomes of the BREEAM pre-assessment workshop carried out by a qualified BREEAM assessor in collaboration with the design team on the 28 April 2025. The pre-assessment sets out a strategy for the proposed development to achieve a BREEAM 'Excellent' rating under the BREEAM New Construction V6.1 scheme.

All minimum standards for the BREEAM 'Excellent' rating have been targeted within the assessment strategy. The credits targeted for the industrial building type are shown in Table 4 and Figure 4 below.

Table 4: BREEAM New Construction V6.1 Pre-assessment credit summary for Horton Road, West Drayton

BREEAM Section	Credits available	Credits targeted	Potential credits	Section weighting	Targeted section score
Management	18.0	14.0	18.0	11.00%	8.56%
Health & Wellbeing	10.0	8.0	9.0	8.00%	6.40%
Energy	21.0	14.0	16.0	14.00%	9.33%
Transport	12.0	7.0	7.0	11.50%	6.71%
Water	8.0	7.0	7.0	7.00%	6.13%
Materials	14.0	6.0	6.0	17.50%	7.50%
Waste	10.0	8.0	9.0	7.00%	5.60%
Land Use & Ecology	13.0	12.0	12.0	15.00%	13.85%
Pollution	12.0	10.0	11.0	9.00%	7.50%
Innovation	10.0	2.0	2.0	10.00%	2.00%
Final Targeted Score					**73.56%**
Final Potential Score					**79.59%**
BREEAM Rating					**Excellent**

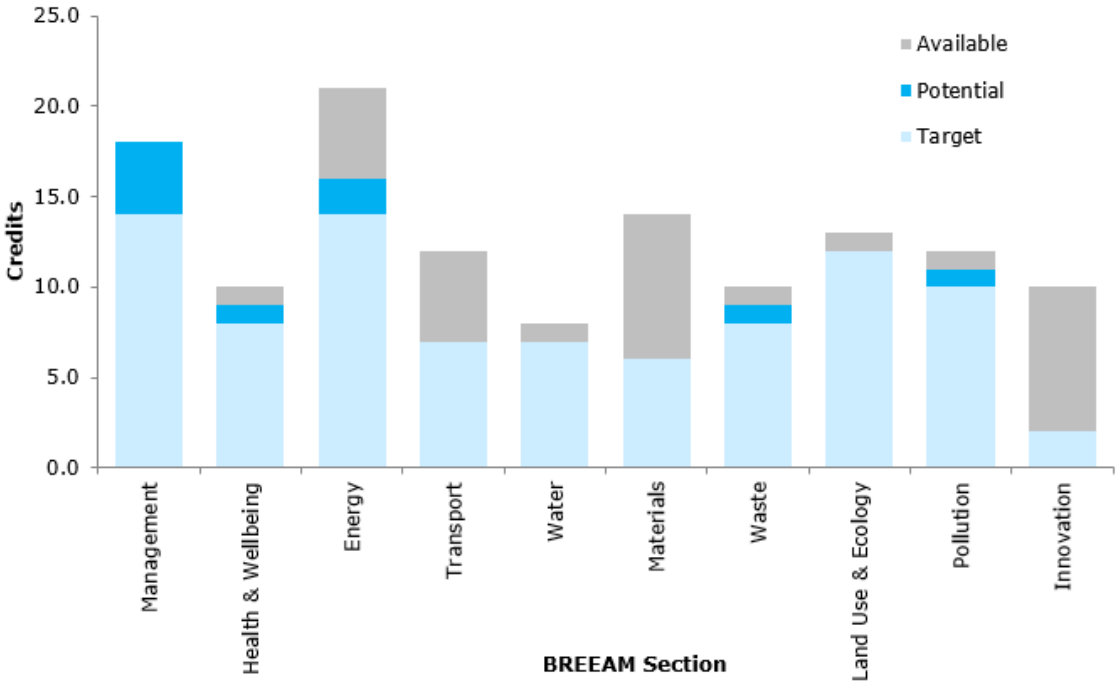

Figure 4: BREEAM credit performance for Horton Road, West Drayton.

The BREEAM pre-assessment results show that The Horton Road, West Drayton industrial units have targeted a BREEAM 'Excellent' rating and a buffer of 3.56% above the minimum 70% score.

3.2 Potential credits

Several potential credits have been identified by the design team to consider as the design progresses. As additional information becomes available, these will be reviewed and analysed to determine if they can be achieved to increase the targeted score.

The potential credits are identified in the comments column in the table in Appendix 2.

3.3 Next steps

The next step in the BREEAM process is for each member of the design team to review the 'targeted' credits for the scheme, alongside any potential credits. Each member of the design team is expected to provide feedback regarding the credits under their responsibility in both the targeted and potential sections. Any credits that are perceived to be at risk should be identified and communicated to the BREEAM assessor.

Furthermore, all targeted credits that require actions to be carried out during RIBA Stage 1 and 2 should be assessed during and at the end of these Stages. The targeted key early action credits are shown in **Appendix 1**.

The BREEAM New Construction V6.1 manual should be consulted for the detailed requirements that need to be met to achieve the targeted credits for the building type being assessed as set out in section 1.3 of this report.

The manual can be found here: BREEAM UK New Construction Version 6.1

APPENDIX 1 – EARLY ACTION CREDITS

Under BREEAM New Construction V6.1 there are several credits which are time critical and require early action by the design team in order to be achieved. Table 5 shows those that need to be actioned or achieved prior to the completion of RIBA Stage 1 and/or RIBA Stage 2.

Table 5: BREEAM Early Action Requirements

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Man 01 **Project delivery planning**	Project manager	1	Prior to completion of the Concept Design, the project delivery stakeholders meet to identify and define roles, responsibilities & contributions for each key phase of project delivery. Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project: • End user requirements • Aims of the design and design strategy • Particular installation and construction requirements or limitations • Occupiers' budget and technical expertise in maintaining any proposed systems • Maintainability and adaptability of the proposals • Operational energy • Requirements for the production of project and end user documentation • Requirements for commissioning, training and aftercare support. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the project brief, execution plan, communication strategy and concept design.	Project documentation including project execution plan, project directory, reports, programme, meeting minutes, etc.
Man 01 **Stakeholder consultation**	Consultation consultant	1	Prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content (see definitions in the manual). Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Prior to completion of the detailed design (RIBA Stage 4), all interested parties give and receive consultation feedback.	Consultation plan, list of consultees, statement of community involvement (if produced), meeting minutes, etc

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Man 01 **BREEAM AP (Concept Design)**	BREEAM AP	1	Involve a BREEAM AP in the project at an appropriate time and level to: a) Work 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, from their appointment and throughout **Concept Design**. b) Monitor progress against the performance targets throughout all stages after their appointment where decisions critically impact BREEAM performance. c) Proactively identify risks and opportunities related to the achievement of the targets agreed. d) Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. e) Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	BREEAM AP meeting attendance and Stage 2 report
Man 01 **BREEAM AP (Developed Design)**	BREEAM AP	1	Involve the BREEAM AP in the project at an appropriate time and level to: a) Work with the project team, including the client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout **Developed Design**. b) Monitor progress against the performance targets agreed throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. c) Proactively identify risks and opportunities related to the achievement of the targets. d) Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. e) Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	BREEAM AP meeting attendance and Stage 4 report
Man 02 **Elemental Life Cycle Cost (LCC)**	LCC consultant and Project Team	2	**Potential Credit.** A competent person carries out an outline, entire asset LCC plan at Process **Stage 2** together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008 in line with BREEAM requirements. Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	Elemental LCC report, evidence of how this has been used to maximise critical value and that the report was prepared by a competent person

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Man 02 Component Level LCC options appraisal	LCC consultant and Project Team	1	**Potential credit** A competent person develops a component level LCC options appraisal by the end of Process **Stage 4** (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865: 2008. The component level LCC includes (where present): a) Envelope, e.g. cladding, windows, or roofing b) Services, e.g. heat source, cooling source, or controls c) Finishes, e.g. walls, floors or ceilings d) External spaces, e.g. alternative hard landscaping, boundary protection. Demonstrate, using appropriate examples provided by the design team, how the component level LCC options appraisal has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	Component level LCC report, evidence of how this has been used to maximise critical value and that the report was prepared by a competent person
Man 04 Commissioning - design and preparation	MEP Consultant	1	**Potential credit** During the design stage, the client or the principal contractor appoints an appropriate project team member, provided they are not involved in the general installation works for the building services systems, with responsibility for: a) Undertaking design reviews and giving advice on suitability for ease of commissioning. b) Providing commissioning management input to construction programming and during installation stages. c) Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager	Evidence of design reviews, design input and management of commissioning

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Hea 06 **Security of site and building**	Security consultant	1	A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security needs assessment (SNA) during or prior to **Concept Design**. Details of the requirements of the SNA can be provided to the security consultant. 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 shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.	Security needs assessment, security specialist credentials, drawings
Ene 04 **Passive design analysis**	Energy specialist	1	**Potential credit** Undertake thermal modelling in line with credit Hea 04. The project team analyses the proposed building design and development during **Concept Design** to identify opportunities for the implementation of passive design. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings. Quantify the reduced total energy demand and carbon dioxide (CO_2-eq) emissions resulting from the passive design measures.	Passive design analysis report, drawings
Ene 04 **Low zero carbon technologies**	Energy specialist	1	**Potential credit** An energy specialist conducts a feasibility study by the end of Concept Design in accordance with BREEAM requirements, to establish the most appropriate local low and zero carbon technology (LZC) for the development. The LZC is specified for the development in line with the recommendations.	LZC report, energy specialist qualifications, drawings and specifications

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Tra 01 **Transport Assessment and Travel Plan**	Transport consultant	2	No later than **Concept Design**, undertake a site-specific travel assessment (or statement) covering: • Travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. • Predicted travel patterns and transport impact of future building or site users. • Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. • Reporting of the number and type of existing accessible amenities, within 500m of the site. • Disabled access accounting for varying levels and types of disability/ visual impairment. • Calculation of the existing public transport Accessibility Index (AI). • Current facilities for cyclists. • Develop a site-specific travel plan that provides a long-term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation.	Transport assessment and travel plan
Mat 03 **Enabling sustainable procurement**	Architect/Client	1	A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: a) Be in place before **Concept Design**. b) Include 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. c) Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. d) Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: e) Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017.	Sustainable procurement plan
Mat 06 **Material efficiency**	Architect/Structural Engineer/Drainage Consultant/MEP Consultant	1	At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each RIBA Stage along with developing and recording the implementation of material efficiencies.	Material efficiency report

Credit Reference	Responsibility	Credits Available	RIBA Stage 1/2 Criteria	Evidence Required
Wst 01 **Pre-demolition audit**	Waste consultant	1	Complete a pre-demolition audit (details of what this should cover can be provided) at **Concept Design**, of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications.	Pre-demolition audit
Wst 05 **Adaptation to Climate Change**	Architect/Structural Engineer/Drainage Consultant/MEP Consultant	1	Conduct a climate change adaptation strategy appraisal using 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. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during **Concept Design**, that aim to mitigate the identified impact. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.	Completed Wst 05.1 Template and documentation used to complete this
Wst 06 **Design for Disassembly and Adaptability**	Architect/Structural Engineer/Drainage Consultant/MEP Consultant	2	Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of **Concept Design**. Develop recommendations or solutions based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	Completed Wst 06.1 Template and documentation used to complete this
LE 02 – LE 05 **Ecology**	Ecologist	Up to 11	Appoint an Ecologist at **Stage 1** to carry out a survey and evaluation for the site to determine the site's ecological baseline and provide recommendations to mitigate any ecological damage and improve site ecology.	Ecological survey, ecologist qualifications, evidence showing involvement in the design and cooperation with the design team

APPENDIX 2 – DETAILED CREDIT SUMMARY

Management					
Man 01 - Project brief and design					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Project delivery planning	1	1	1	Credit requirements Prior to completion of **Concept Design,** project delivery stakeholders (i.e. architect, M&E, PM etc) have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery considering the following items: • End user requirements • Aims of the design and design strategy • Particular installation and construction requirements or limitations • Occupiers' budget and technical expertise in maintaining any proposed systems • Maintainability and adaptability of the proposals • Operational energy • Requirements for the production of project and end user documentation • Requirements for commissioning, training and aftercare support. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the following: the initial project brief, Project Execution Plan, communications strategy and concept design. Pre-assessment comments Project team confirmed this is viable to target: Client to provide project sustainability brief and meeting minutes. **Responsibility - Project Manager/Client/Architect**
2	Stakeholder consultation (interested parties)	1	1	1	Credit requirements Prior to completion of the Concept Design, all relevant third-party stakeholders have been consulted by the design team. The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design. Prior to completion of the detailed design consultation feedback has been given to, and received by, all relevant parties.

					Pre-assessment comments Project team confirmed this credit is viable to target: Statement of Community Involvement, meeting minutes & presentation material to be provided. **Responsibility - Project Manager/Client/Architect**
3	BREEAM AP (concept design)	1	1	1	Credit requirements BREEAM AP is appointed to work with the team, monitor progress and identify risks and opportunities throughout Concept Design. Pre-assessment comments Ramboll has been appointed as BREEAM AP. Joanne Thetford has inputted at the concept design stage. **Responsibility - Ramboll BREEAM AP**
4	BREEAM AP (developed design)	1	1	1	Credit requirements BREEAM AP is appointed to work with the team, monitor progress and identify risks and opportunities throughout Developed Design. Pre-assessment comments Appointment to be made for Developed Design stage. **Responsibility - BREEAM AP**
Man 02 - Life cycle cost and service planning					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Elemental LCC	2	0	2	Credit requirements A competent person (experienced in life cycle costing) to prepare a BREEAM compliant elemental LCC assessment according to PD 156865: 2008. Report needs to be prepared ***prior to completion of Stage 2***. This plan is used to influence building and systems design and specification to minimise life cycle costs and maximise critical value. Pre-assessment comments Not currently targeted - the design team has confirmed there are no plans to undertake a compliant LCC at RIBA Stage 2.

					These credits have been identified as "potential" credits to be explored further by the design team once the BREEAM Design stage assessment commences. **Responsibility - Project Manager/Cost Consultant**
2	Component level LCC options appraisal	1	0	1	Credit requirements A competent person develops a component level LCC options appraisal **by the end of RIBA Stage 4** in line with PD 156865: 2008. The component level LCC includes (where present): 1. Envelope, e.g. cladding, windows, or roofing 2. Services, e.g. heat source cooling source, or controls 3. Finishes, e.g. walls, floors or ceilings 4. External spaces, e.g. alternative hard landscaping, boundary protection. Pre-assessment comments Not currently targeted - the design team has confirmed there are no plans to undertake a compliant LCC at RIBA Stage 2. Credit has been identified as "potential" to be explored further by the design team once the BREEAM Design stage assessment commences. **Responsibility - Cost Consultant**
3	Capital cost reporting	1	1	1	Credit requirements Report the capital cost for the building in pounds per square metre (£k/m). The capital cost for the building includes the expenses related to the initial construction of the building: • Construction, including preparatory works, materials, equipment and labour • Site management • Construction financing • Insurance and taxes during construction • Inspection and testing Costs related to land procurement, clearance, design, statutory approvals and post occupancy aftercare are not included. Pre-assessment comments Project team confirmed this is viable to target.

					Responsibility - Project Manager/Cost Consultant
Man 03 - Responsible construction practices					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req 1	Prerequisite - Legally harvested and traded timber		✔	✔	Credit requirements All timber-based products and timber used during the construction are legally sourced and sustainable. Requirements need to be incorporated within contractor"s preliminaries. Pre-assessment comments Project team confirmed this is viable to target. **Responsibility - Principal Contractor/Project Manager**
1	Environmental management	1	1	1	Credit requirements All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations, e.g. ISO 14001 EMAS certification or BS 8555: 2016 and implements best practice pollution prevention policies and procedures on-site in accordance with PPG6. Pre-assessment comments Project team confirmed this is viable to target. **Responsibility - Principal Contractor/Project Manager**
2	BREEAM AP (site)	1	1	1	Credit requirements The client and contractor formally agree BREEAM performance targets. A BREEAM Advisory Professional (AP) is involved throughout construction, handover and close out stages to monitor progress against performance targets and proactively identify risks and opportunities related to procurement and construction process to meet the BREEAM requirements. Insert in contract prelims. Pre-assessment comments Project team confirmed this is viable to target. Appointment to be made for BREEAM AP for Construction stage. **Responsibility - Project Manager/Client/Principal Contractor**

3	Responsible construction management	2	2	2	**Mandatory reqs: Excellent - 1 credit | Outstanding - 2 credits** Credit requirements Achieve mandatory items listed as required as well as six additional items in Table 4.1 - Responsible construction management items. Considerate Construction Scheme monitors reports and certificates can be used as evidence to demonstrate that the relevant items in the criteria have been achieved as follows: One credit - 9 points per section - 27 points overall Two credits - 11 points per section - 35 points overall Pre-assessment comments Project team has confirmed 2 credits viable to target. Criteria to be included in contractor requirements. **Responsibility - Principal Contractor/Project Manager**
4	Monitoring of construction site impacts	2	2	2	Credit requirements Targets are set for energy and water consumption and transportation movements throughout the construction period. Assign responsibility to an individual with an appropriate authority for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. Insert in contract prelims. This monitoring data shall be used to present summarised figures for Energy consumption in kWh and total kgCO2/project value (and litres of fuel used where applicable), net water consumption (minus any recycled water usage) in m3 and transport-related carbon dioxide emissions (kgCO2e) and total distance travelled separately recorded for materials delivery and waste removal. Pre-assessment comments Project team has confirmed credit viable to target. Criteria to be included in contractor requirements. **Responsibility - Principal Contractor/Project Manager**
e1	Responsible construction management	1	1	1	Credit requirements Achieve all items in table 4.1 on page 52 (BREEAM NC 2018 technical guide). Considerate Construction Scheme monitors reports and certificates can be used as evidence to demonstrate that the relevant items in the criteria have been achieved as follows: Exemplary credit - 13 points per section - 39 points overall

					Pre-assessment comments Project team have identified credit feasible to target. To be included in the Contractor requirements. **Responsibility - Principal Contractor/Project Manager**
Man 04 - Commissioning and handover					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite (Very Good to Outstanding)		✔	✔	
1	Commissioning - testing schedule and responsibilities	1	1	1	**Mandatory reqs: Very Good - 1 credit | Excellent - 1 credit | Outstanding - 1 credit** Credit requirements Prepare a schedule of commissioning and testing for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric, in accordance with the relevant standards. Insert within contract prelims. Pre-assessment comments Project team has confirmed credit viable to target. Criteria to be included in contractor requirements. **Responsibility - Principal Contractor/Project Manager**
2	Commissioning - design and preparation	1	0	1	Credit requirements Can only be achieved if the first commissioning credit is awarded. During design stage the client/contractor appoint an appropriate individual (Specialist commissioning manager) to carry out commissioning tasks: • Undertaking design reviews and giving advice on suitability for ease of commissioning. • Providing commissioning management input to construction programming and during installation • stages. • Management of commissioning, performance testing and handover or post-handover stages. Pre-assessment comments Project team have identified credit as a potential credit. To be reviewed by the Client. **Responsibility - Project Manager/Specialist Commissioning Manager**

3	Testing and inspecting building fabric	1	1	1	Credit requirements Requires the first commissioning credit to be achieved. Complete post-construction testing and inspection to the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths and rectify any defects prior to handover and close-out. Air tightness testing and a Thermographic survey. Remedial works required for any encountered issues. Pre-assessment comments Project team have identified credit feasible to target - Criteria to be included in contractor requirements. **Responsibility - Project Manager/Principal Contractor**
4	Handover	1	1	1	**Mandatory reqs: Very Good - 1 credit (BUG) | Excellent - 1 credit (BUG) | Outstanding - 1 credit (BUG)** Credit requirements Prior to handover two building user guides are developed and two training schedules. Firstly, non-technical for building occupiers to inform on operation of services and a provision of contacts. Secondly, technical for facilities managers for cleaning, servicing and removal of services. Insert within contract prelims. Pre-assessment comments Project team has confirmed credit is viable to target. **Responsibility - Project Manager/Client/Contractor**
		18	14	18	**Standard Management Credit Total**
		1	1	1	**Exemplary Management Credit Total**
		11.98	9.54	11.98	**% Management Total (Standard + Exemplary)**
Health & Wellbeing					
Hea 01 - Visual comfort					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
2	Daylighting (building type dependent)	1	0	0	Credit requirements Achieve the good practice daylighting factors and other criteria for the relevant building areas.

					Industrial Buildings - 2% Daylight Factor for at least 80% of the building area (m2). Average daylight illuminance at least 300 lux for 2000 hours per year or more. A uniformity ratio of at least 0.3 OR a minimum point daylight factor of at least 0.3 times the relevant average daylight factor value in Table 5.1. Spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7 OR a minimum point daylight factor of at least 0.7 times the relevant average daylight factor. Pre-assessment comments Not currently targeted - the design team has confirmed there are no plans to undertake a daylight assessment for the proposed development. Based on the depth of the project floorplates, it is considered unlikely that the building would achieve the daylight factors and percentage area compliance required by the BREEAM criteria. **Responsibility - Project Manager/Client**
3	View out	1	1	1	Credit requirements 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out. *Adequate view out* Where relevant building areas are within 8m of an external wall which has a window or permanent opening, and the window or opening is >=20% of the surrounding wall area. Where the room depth is greater than 8m, the percentage of window or opening must instead be the same as, or greater than, the values in Table 1.0 BS8206: Part 2. The view out must be a view of a landscape or buildings (rather than just the sky) at seated eye level (1.2-1.3m) within the relevant building areas and should ideally be through an external window. A view into an internal courtyard or atrium will comply provided the distance from the opening to the back wall of the courtyard or atrium is at least 10m (therefore allowing enough distance for the eyes to refocus). The view cannot be an internal view across the room, as this is likely to become obstructed by partitions, filing cabinets etc. In addition to this, an external view out can offer positive effects on health and wellbeing that cannot be offered by an internal view. Pre-assessment comments Design team has confirmed that credit is viable to target - Architect to confirm glazing ratios. **Responsibility - Architect**
4	Internal and external lighting levels, zoning and control	1	1	1	Credit requirements Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7

					sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of workplaces - Part 2: Outdoor workplaces. Internal lighting is zoned to allow for occupant control. Zoning is in accordance with the criteria below for relevant areas present within the building: • In office areas, zones of no more than four workplaces • Workstations adjacent to windows or atria and other building areas separately zoned and controlled • Seminar and lecture rooms: zoned for presentation and audience areas • Library spaces: separate zoning of stacks, reading and counter areas • Teaching space or demonstration area • Whiteboard or display screen • Auditoria: zoning of seating areas, circulation space and lectern area • Dining, restaurant, cafe areas: separate zoning of servery and seating or dining areas • Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces • Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff. Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5 and manual lighting controls are easily accessible for the teacher while teaching and on entering or leaving the teaching space. Manual lighting controls need only be provided for staff. <u>Pre-assessment comments</u> Design team has confirmed that the lighting specification will comply with the BREEAM requirements. Credit viable to target. **Responsibility - MEP**
e1	Daylighting (building type dependent)	1	0	0	<u>Credit requirements</u> Relevant building areas meet exemplary daylight factors and the relevant criteria.

					Pre-assessment comments Not currently targeted - the design team has confirmed there are no plans to undertake a daylight assessment for the proposed development. Based on the depth of the project floorplates, it is considered unlikely that the building would achieve the exemplary daylight factors and percentage area compliance required by the BREEAM criteria. **Responsibility - MEP**
Hea 02 - Indoor air quality					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite - Indoor air quality (IAQ) plan		✔	✔	Credit requirements A site specific indoor air quality plan is prepared to minimise indoor air pollution during occupation of the building, covering the following as a minimum: • Removal of contaminant sources • Dilution and control of contaminant sources. Where present, consideration is given to the air quality requirements of specialist areas such as laboratories • Procedures for pre-occupancy flush out • Third party testing and analysis • Maintaining good indoor air quality in-use. Pre-assessment comments IAQP to be completed. **Responsibility - Architect/MEP/Principal Contractor**
1	Ventilation	1	1	1	Credit requirements Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution. Occupied spaces have carbon dioxide (CO_2) sensors in line with building Regulations ADF2 and: • In mechanically ventilated buildings or spaces, sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.

					• In naturally ventilated buildings or spaces, sensors either have the ability to alert the building owner or manager when CO? levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, e.g. automatic opening windows or roof vents. • The total number of sensors, and the net internal area of relevant areas covered by the sensors, is reported via the BREEAM Scoring and Reporting Tool The ventilation strategy provides adequate ventilation rates throughout the year, including sufficient airflow rates in summer to prevent overheating and maintain required thermal comfort conditions, in accordance with: • CIBSE AM10 (for naturally ventilated buildings) • CIBSE AM13 (for mixed-mode buildings) <u>Pre-assessment comments</u> Project team have identified credit feasible to target. **Responsibility - MEP**
Hea 04 - Thermal comfort					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Thermal modelling	1	1	1	<u>Credit requirements</u> CIBSE AM11 compliant thermal modelling is carried out using full dynamic thermal analysis. This demonstrates the following compliance: • Air-conditioned buildings - summer and winter temperature ranges to CIBSE Guide A. • Naturally ventilated buildings - winter temperature ranges to CIBSE Guide A with overheating risk to CIBSE TM52 or TM59. <u>Pre-assessment comments</u> Project team have identified credit feasible to target. **Responsibility - Thermal modelling specialist**
2	Design for future thermal comfort	1	1	1	<u>Credit requirements</u> Achieve the first thermal modelling credit. The thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment.

					Pre-assessment comments Project team have identified credit feasible to target. **Responsibility - Thermal modelling specialist**
Hea 05 - Acoustic performance					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Acoustic performance	1	1	1	Acoustic Performance - 1/1 credits targeted The building meets the appropriate acoustic performance standards and testing requirements for the acoustic principle of: • Indoor ambient noise level (requirements below) OR • A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building, setting out the performance requirements and the testing regime required. **Criteria** Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014. **Testing requirement** A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures by the BREEAM New Construction V6.1 standard. Pre-assessment comments Sharps Acoustics have confirmed the credit feasible to target. **Responsibility - Acoustician**
Hea 06 - Security					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Security of site and building	1	1	1	Credit requirements A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) **during or prior to Concept Design**. This will identify attributes of the proposal, site and surroundings which may

					influence the approach to security for the development. The SQSS will develop a set of security controls and recommendations for incorporation into the proposals that directly relate to the threats and assets identified in the SNA. The control measures and recommendations are incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS. Pre-assessment comments Project team have identified credit as feasible to target - awaiting confirmation of third party appointment. **Responsibility - Project Manager/Security Specialist/Architect**
e1	Security of site and building	1	0	0	Credit requirements A compliant risk based security rating scheme has been used (SABRE). The performance against the scheme has been confirmed by independent assessment and verification. Pre-assessment comments Not currently targeted - the design team has confirmed the SABRE security rating scheme will not be used to assess the security performance of the development design. **Responsibility - Project Manager/Security Specialist/Architect**
Hea 07 - Safe and healthy surroundings					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Safe access	1	0	1	Credit requirements Dedicated cycle paths are provided from site entrance to cycle parking and connect to offsite cycle paths. Footpaths connect to offsite footpaths and provide links between: • Site entrance and building entrance • Car parks and building entrance • Building to outdoor space Deliveries do not cross or share pedestrian and cyclist paths. A waiting area is provided away from car parking and manoeuvring areas. Pre-assessment comments

					Project team have identified credit as a potential credit. Client has confirmed safe access to the site for building users - MSA to provide a marked up site plan confirming safe access routes. **Responsibility - Landscape Architect / Architect**
2	Outside space	1	1	1	Credit requirements Outside space is provided and includes appropriate seating, is non-smoking and away from noisy areas (busy roads, car parks, building services, etc.) Pre-assessment comments Design team has confirmed credit is viable to target. Seating area to be located so as to minimise noise impact. **Responsibility - Architect/Landscape Architect**
		10	8	9	**Standard Health & Wellbeing Credit Total**
		2	0	0	**Exemplary Health & Wellbeing Credit Total**
		10	6.40	7.20	**% Health & Wellbeing Total (Standard + Exemplary)**
Energy					
Ene 01 - Reduction of energy use and carbon emissions					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Energy performance	9	9	9	**Mandatory reqs: Excellent - 4 credits | Outstanding - 6 credits** Credit requirements An energy performance ratio EPR_{NC} is calculated via National Calculation Method (NCM) compliant energy modelling for the building and resulting BRUKL output. Pre-assessment comments The client is keen to develop a sustainable building, with 9/9 credits targeted based on early stage analysis of anticipated building energy performance. This has been detailed within the Energy Strategy. **Responsibility - Energy Specialist**
2	Prediction of operational energy consumption	4	0	0	**Mandatory reqs: Outstanding - 4 credits** Credit requirements Involve relevant members of the design team in an energy design workshop focusing on operational energy

					performance. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures. Report predicted energy consumption targets by end use, design assumptions and input data. Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process. Pre-assessment comments Not currently targeted. The design team has confirmed that additional operational energy modelling is unlikely to be undertaken due to the nature of the building. **Responsibility - Energy Specialist**
e1	Beyond zero net regulated carbon - - Exemplary level criteria	3	0	0	Credit requirements The building achieves an EPR_{NC} 0.9 and zero net regulated CO-eq emissions. Energy generation from on-site and near-site LZC sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use. Pre-assessment comments Not currently targeted - the design team has confirmed that based on early stage analysis of building energy performance, the development will likely not be able to achieve an EPRNC of 0.9. In addition, the specified low and zero carbon technologies will not be capable of fully offsetting the carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use. **Responsibility - Energy Specialist**
e2	Post-occupancy evaluation of operational energy consumption - Exemplary level criteria	2	0	0	Credit requirements The building is deemed carbon negative where > 100% of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZC sources. Pre-assessment comments Not currently targeted - the design team has confirmed that the building will not be able to achieve carbon negative design. **Responsibility - Energy Specialist**
Ene 02 - Energy monitoring					

	Credit	Available	Targeted	Potential	Comments
1	Sub-metering of end use categories	1	1	1	**Mandatory reqs: Very Good - 1 credit | Excellent - 1 credit | Outstanding - 1 credit (all first sub-metering credit)** Credit requirements Install energy meters so that at least 90% of the estimated annual energy consumption of each fuel type is assigned to the following end-use categories for monitoring purposes: 1. Space heating 2. Domestic hot water heating 3. Humidification 4. Cooling 5. Ventilation, i.e. fans (major) 6. Pumps 7. Lighting 8. Small power 9. Renewable or low carbon systems (separately) 10. Controls 11. Other major energy consuming systems or plant If the area is greater than 1,000m², by end-use category with an appropriate energy monitoring and management system. Building users can identify the energy consuming end uses, for example through labelling or data outputs. Pre-assessment comments The design team has confirmed that the credit is viable to target. All required end uses will be metered according to the BREEAM requirements. **Responsibility - MEP**
2	Sub-metering of high energy load and tenancy areas	1	1	1	Credit requirements Install monitored sub metering for: • Tenanted areas OR • Function areas or departments for single occupancy buildings

					Pre-assessment comments The design team has confirmed that the credit is viable to target. All separately tenanted areas will be separately sub-metered. **Responsibility - MEP**
Ene 03 - External Lighting					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	External lighting	1	1	1	Credit requirements External light fittings within the construction zone must have; An average initial luminous efficacy of no less than 70 luminaire lumens per circuit Watt, automatic control to prevent operation during daylight hours and presence detection in areas of intermittent pedestrian traffic. Pre-assessment comments Design team has confirmed credit is viable to target. **Responsibility - MEP**
Ene 04 - Low carbon design					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Passive design	2	0	1	**Passive design** Credit requirements Achieve the first credit Hea 04 Thermal comfort. Undertake a passive design analysis **during Concept Design** to identify opportunities for the implementation of passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption. **Free cooling** Credit requirements Achieve the passive design analysis credit. Include a free cooling analysis in the passive design analysis to identify opportunities for the implementation of free cooling solutions. The credit is awarded where one of the following is included: 1. Night time cooling (which could include the use of a high exposed thermal mass) 2. Ground coupled air cooling

					3. Displacement ventilation (not linked to any active cooling system) 4. Ground water cooling 5. Surface water cooling 6. Evaporative cooling, direct or indirect 7. Desiccant dehumidification and evaporative cooling, using waste heat 8. Absorption cooling, using waste heat. Pre-assessment comments The credit for a Passive Design Analysis has been identified as potential dependant on the team producing a suitable report during the Concept Design stage. The credit for free cooling has not been targeted - the design team has confirmed that the above free cooling methods will not be suitable for the development design. **Responsibility - Energy Specialist**
2	Low and zero carbon technologies	1	0	1	Credit requirements An energy specialist completes a feasibility study **by the end of Concept Design**. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. Pre-assessment comments The credit for a Low and Zero Carbon Feasibility study has been identified as potential dependant on the team producing a suitable report during the Concept Design stage. **Responsibility - Energy Specialist**
Ene 06 - Energy efficient transportation systems					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Energy consumption	1	1	1	Credit requirements Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks. Compare at least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine roomless (MRL)) OR at least two options considering different system arrangements and control strategies. Consider the use of regeneration drives. Specify the system with the lowest energy consumption. Pre-assessment comments The design team has confirmed that the credit is viable to target, based on a transport demand analysis being

					conducted for any applicable systems. **Responsibility - Lift Consultant**
3	Energy efficient features	1	1	1	
		21	13	16	**Standard Energy Credit Total**
		5	0	0	**Exemplary Energy Credit Total**
		19.07	9.38	10.72	**% Energy Total (Standard + Exemplary)**
Transport					
Tra 01 - Transport assessment and travel plan					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Travel plan	2	2	2	<u>Credit requirements</u> No later than **Concept Design (RIBA Stage 2)**, undertake a site-specific transport assessment (or develop a travel statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form, covering the below BREEAM requirements as a minimum: • If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. • Predicted travel patterns and transport impact of future building or site users. • Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. • Reporting of the number and type of existing accessible amenities, within 500m of the site. • Disabled access accounting for varying levels and types of disability, including visual impairment. • Calculation of the existing public transport Accessibility Index (AI). • Current facilities for cyclists. If the occupier is known, involve them in the development of the travel plan. <u>Pre-assessment comments</u> The design team has confirmed that the credit is viable to target. A Travel Plan is to be produced as part of the planning submission.

					Responsibility - Transport Consultant
Tra 02 - Sustainable transport measures					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Pre-requisite		✔	✔	Credit requirements Tra 01 credits to be achieved.
1	Transport options implementation	10	5	5	Credit requirements Credits are awarded on the implementation of the following sustainable transport measures dependent upon the AI of the site. 1. Existing Accessibility Index (AI) greater than 8 - 1 point 2. AI increase: ○ Increase in AI through public transport company negotiation - 2 points ○ Increase in AI through diverted bus route or a new enhanced bus stop - 3 points ○ Provide a dedicated bus service - 3 points 3. **Provide a public transport information system in a publicly accessible area - 1 point** 4. **At least 7kW EV charging points available for >10% of the total parking area - 1 point** 5. Car sharing group that is marketed and has priority car parking spaces - 1 point *6.* Local Authority consultation takes place at Stage 1 to assess local pedestrian and cyclist network with implementation of improvements - 2 points 7. **BREEAM compliant cycle parking spaces (1 per 10 staff) - 1 point** 8. **Two BREEAM compliant cyclist facilities (showers, changing facilities, lockers, drying spaces) - 1 point** 9. **Three existing accessible amenities (food outlet, cash machine, outdoor space, leisure facility, post box, community facility, pharmacy, GP, child care facility or school) - 1 point** 10. Enhanced amenities: ○ One new accessible amenity (food outlet, cash machine, outdoor space, leisure facility, post box, community facility, pharmacy, GP, child care facility or school) is provided - 2 points ○ More than one new accessible amenity (food outlet, cash machine, outdoor space, leisure facility, post box, community facility, pharmacy, GP, child care facility or school) is provided - 3 points Pre-assessment comments 5 points targeted as **outlined** above. Client to confirm feasibility of installing compliant cyclist facilities. **Responsibility - Transport Consultant/Architect/MEP/Project Manager**

	12	7	7	**Standard Transport Credit Total**
	0	0	0	**Exemplary Transport Credit Total**
	11.52	6.72	6.72	**% Transport Total (Standard + Exemplary)**

Water

Wat 01 - Water consumption

	Credit	Available	Targeted	Potential	Comments
1	Water consumption	5	4	4	**<u>Mandatory reqs: Good - 1 credit | Very Good - 1 credit | Excellent - 1 credit | Outstanding - 2 credits</u>** Sanitary fittings are selected to achieve a % improvement over the BREEAM baseline for water consumption. 1 credit - 12.5% improvement 2 credits - 25% improvement 3 credits - 40% improvement **4 credits - 50% improvement** 5 credits - 55% improvement The specification listed below provides indicative, non-exhaustive, flow rates for fitted components to achieve the required 50% reduction over baseline water consumption: WCs - 3.5 effective flush volume (litres) (4/2.6L dual flush cisterns achieve an effective flush volume of 2.95L) WHBs - 4 (litres/min) Showers - 5 (litres/min) Urinals - 0.75 (litres/bowl/hour) Kitchen tap - 5 (litres/min) Servery pre-rinse nozzles - 6.3 (litres/min) Domestic sized dishwasher - 11 (litres/cycle) Domestic sized washing machines - 35 (litres/use) <u>Pre-assessment comments</u> A 50% improvement has currently been targeted for the development. Rainwater harvesting is unlikely to be installed, however this will be investigated as the design progresses and sanitaryware provision is confirmed. **Responsibility - Architect/MEP**

e1	Water consumption	1	0	0	Credit requirements At least a 65% reduction over baseline water consumption. Pre-assessment comments Project team confirm this is unlikely to be achievable. **Responsibility - Architect/MEP**
Wat 02 - Water monitoring					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite (Good to Outstanding)		✔	✔	
1	Water monitoring	1	1	1	**Mandatory reqs: Good - Criterion 1 | Very Good - Criterion 1 | Excellent - Criterion 1 | Outstanding - Criterion 1** Credit requirements Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. For water-consuming plant or building areas consuming 10% or more of the buildings total water demand, fit easily accessible sub-meters OR install water monitoring equipment integral to the plant or area. For each meter (main and sub): • Install a pulsed or other open protocol communication output AND • Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at post-construction stage, award credits provided that the system used enables connection when the BMS becomes operational. Pre-assessment comments Design team has confirmed that the credit is viable to target - a pulsed water meter will be specified on the incoming supply, with appropriate sub-metering as required. **Responsibility - MEP**
Wat 03 - Water leak detection					

	Credit	Available	Targeted	Potential	Comments
1	Leak detection system	1	1	1	Credit requirements Install or have a leak detection system capable of detecting a major water leak (connected to BMS if supplied). One between local utilities main supply and building, a second on the water supply within the assessed building. This must be: • A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks • Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. • Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set • time periods. • Programmable to suit the owner's or occupier's water consumption criteria • Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers. Pre-assessment comments Project team have identified credit feasible to target. **Responsibility - MEP**
2	Flow control devices	1	1	1	Credit requirements Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework (i.e. solenoid valves). Pre-assessment comments The design team has confirmed that the credit is viable to target - PIR sensors connected to solenoid valves are likely to be installed within sanitary areas. **Responsibility - MEP**
		8	7	7	**Standard Water Credit Total**
		1	0	0	**Exemplary Water Credit Total**
		8.04	6.16	6.16	**% Water Total (Standard + Exemplary)**
Materials					

Mat 01 - Environmental impacts from construction products - Building life cycle assessment (LCA)					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Superstructure	6	0	0	0/6 credits targeted. Credit requirements **Superstructure during Concept Design (Simplified Building LCA Tool OR IMPACT compliant LCA Tool)** Materials quantities for the building are input to the Simplified Building LCA Tool which calculates Ecopoints. Then input to MAT01/02 results tool and would need to be submitted to the BRE at the end of **Concept Design**, and before planning permission is applied for (includes external material or product specifications) OR Undertake LCA using IMPACT compliant software to demonstrate the environmental performance of the building. **Superstructure during Technical Design (IMPACT compliant LCA Tool)** Undertake LCA using IMPACT compliant software to demonstrate the environmental performance of the building. **Options appraisal during Concept Design** Office, industrial and retail buildings must achieve the Concept Design criteria above. Carry out a building IMPACT compliant LCA options appraisal of 2-4 significantly different superstructure design options. Options must fulfil the same functional requirements and be integrated into the design decision making process. **Options appraisal during Technical Design** Office, industrial and retail buildings must achieve the Concept Design criteria above. Carry out a building IMPACT compliant LCA options appraisal of 2-3 significantly different superstructure design options based on Concept Design options. Pre-assessment comments LCA is not being undertaken. **Responsibility - LCA Consultant/Architect/Structural Engineer**
2	Substructure and hard landscaping options appraisal during Concept	1	0	0	Credit requirements Carry out IMPACT compliant LCA options appraisal at **Concept Design** of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping). Options must fulfil the same functional requirements and be integrated into the design decision making process.

	Design (all building types)				Pre-assessment comments LCA is not in scope. **Responsibility - LCA Consultant/Landscape/Structural Engineer**
e1	Core building services options appraisal during Concept Design (all building types)	1	0	0	Credit requirements Carry out building IMPACT compliant LCA options appraisal of at least 3 significantly different core building services design options. Options must fulfil the same functional requirements and be integrated into the design decision making process. Pre-assessment comments LCA is not in scope. **Responsibility - LCA Consultant/MEP**
e2	LCA and LCC alignment (all building types)	1	0	0	Credit requirements Achieve both LCC credits under Man 02. Include design options appraised for LCA during Concept Design within the elemental LCC as well as the design options appraised for LCA during Technical Design within the component level LCC. Ensure the aligned LCA and LCC options appraisal is integrated into the design decision making process, including costs. Pre-assessment comments Not targeted - the design team has confirmed there are no plans to align the LCC and LCA report for the development. **Responsibility - LCA Consultant/LCC Consultant**
e3	Third party verification (all building types) - Exemplary level criteria	1	0	0	Credit requirements 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/Technical Design**. Pre-assessment comments Not currently targeted - third party verification of the building LCA will not be undertaken.

					Responsibility - LCA Consultant/Third Party Verifier
Mat 02 - Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Specification of products with a recognised environmental product declaration (EPD)	1	1	1	Credit requirements Specify construction products with EPD that achieve a total EPD points score of at least 20. This typically needs a minimum of 15 EPDs for timber or timber based products, concrete of cementitious, metal, stone or aggregate, clay based, gypsum, glass, plastic, polymer, resin, paint, chemicals and bituminous, animal fibre and cellulose fibre. Pre-assessment comments Project team have identified credit feasible to target. **Responsibility - Architect/Principal Contractor**
Mat 03 - Responsible sourcing of construction products					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite		✔	✔	**Mandatory reqs: Pass - Criterion 1 | Good - Criterion 1 | Very Good - Criterion 1 | Excellent - Criterion 1 | Outstanding - Criterion 1** Credit requirements 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy. Pre-assessment comments Project team confirmed this is viable and will be included within the contractor requirements. **Responsibility - Project Manager/Principal Contractor**
1	Enabling sustainable procurement	1	1	1	Credit requirements A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must be in place **before Concept Design (RIBA Stage 2)**. The plan incorporates the following criteria as a minimum:

					• Include 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. • Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. • Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017. <u>Pre-assessment comments</u> Project team have identified credit feasible to target. A compliant SPP will be produced. **Responsibility - Project Manager/Client**
2	Measuring responsible sourcing	3	2	2	<u>Credit requirements</u> Specify construction products that are covered by responsible sourcing (RSCS) certification or environmental management system (EMS) certification. 1 credit is available for a score >10% for superstructure materials only. 2 credits available for >20% superstructure, substructure and hard landscaping and internal finishes materials. 3 credits available for >30% superstructure, substructure and hard landscaping and internal finishes materials. <u>Pre-assessment comments</u> Project team have identified 2 credits as feasible to target. To be included within the Contractor requirements. **Responsibility - Architect/Structural Engineer/MEP/Landscape Architect/Principal Contractor**
e1	Measuring responsible sourcing	1	0	0	<u>Credit requirements</u> Specify construction products that are covered by responsible sourcing (RSCS) certification or environmental management system (EMS) certification. An exemplary level credit is available for a score of >50% superstructure, substructure and hard landscaping and internal finishes materials. <u>Pre-assessment comments</u> Not currently targeted - Once the principal contractor is onboard they will confirm if they can achieve the potential credit for achieving > 50% of points in line with achieving additional credits.

					Responsibility - Architect/Structural Engineer/MEP/Landscape Architect/Principal Contractor
Mat 05 - Designing for durability and resilience					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Protecting vulnerable parts of the building from damage/material degradation	1	1	1	Credit requirements **Protection vulnerable parts of the building from damage** Protection measures have been discussed and are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must protect against: • Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). • Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. • External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building facade and where delivery areas or routes are within 2 metres of the facade, i.e. specifying bollards or protection rails. • Potential malicious damage to building materials and finishes, in public and common areas where appropriate. **Protection exposed parts of the building from material degradation** Key exposed building elements have been designed and specified to limit long and short-term degradation due to environmental factors. This should include convenient access to the roof and facade for cost-effective cleaning, replacement and repair in the building's design and in designing the roof and facade to prevent water damage, ingress and detrimental ponding. Either: • The element or product/s in situ achieve an appropriate quality or durability standard or design guide. If none are available, use BS 7543:2015 as the default appropriate standard OR • A detailed assessment is conducted of the element's resilience when exposed to the applicable material degradation and environmental factors. Pre-assessment comments Design Team confirmed credit is viable to target. Architect to confirm specified durability measures.

					Responsibility - Architect
Mat 06 - Material efficiency					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Material efficiency	1	1	1	Credit requirements At **Preparation and Brief (RIBA stage 1)** and **Concept Design (RIBA Stage 2)**, set targets and report on opportunities and methods to optimise the use of materials. This report should be updated at **Developed Design (RIBA Stage 3)**, **Technical Design (RIBA stage 4)** and **Construction (RIBA Stage 5)** stages. The actual material efficiencies should be calculated, and records of these methods being implemented at RIBA stages 3, 4 and 5 should be reported. Pre-assessment comments Team confirmed credit is viable to target. Design team to complete templates provided to outlined early stage recommendations for incorporating material efficiency initiatives within the developed design. **Responsibility - Architect/Structural Engineer**
		14	6	6	**Standard Materials Credit Total**
		4	0	0	**Exemplary Materials Credit Total**
		21.50	7.50	7.50	**% Materials Total (Standard + Exemplary)**
Waste					
Wst 01 - Construction waste management					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Pre-demolition audit	1	1	1	**Mandatory reqs: Outstanding - 1 credit** Credit requirements Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of pre-demolition audit scope below: 1. Identification and quantification of the key materials where present on the project (BREEAM NC 2018 Table 10.3)

					2. Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy 3. Opportunities for reuse and recycling within the same development 4. Identification of local reprocessors or recyclers for recycling of materials 5. Identification of overall recycling targets where appropriate 6. Identification of reuse targets where appropriate 7. Identification of overall landfill diversion rate for all key materials. The audit must be carried out **at Concept Design stage** by a competent person prior to strip-out or demolition works, guide the design, consider materials for reuse and set targets for waste management and engage all contractors in the process of maximising high grade reuse and recycling opportunities. Reference to the audit must be made in the Resource Management Plan (RMP). <u>Pre-assessment comments</u> Client to ensure pre-demolition audit is undertaken prior to activities commencing on site. Demolition contractor has not been appointed yet. **Responsibility - Waste Consultant/Project Manager**
2	Construction resource efficiency	3	2	2	<u>Credit requirements</u> Prepare a compliant Resource Management Plan (RMP) which includes: 1. A target benchmark for resource efficiency, i.e. m of waste per 100m or tonnes of waste per 100m 2. Procedures and commitments to minimise non-hazardous waste in line with the target benchmark 3. Procedures to minimise hazardous waste 4. A waste-minimisation target and details of waste minimisation actions to be undertaken 5. Procedures to estimate, monitor, measures and report on hazardous and non-hazardous site waste and demolition waste, where relevant, arising from work carried out by the principal contractor and all subcontractors. Waste data obtained from licensed external waste contractors needs to be reliable and verifiable, e.g. using data from EA/SEPA/EA Wales/NIEA waste return forms or from a PAS402 compliant company 6. Monthly reporting of all construction waste data throughout the project checked against what would be expected based on the stage of the project, invoices, etc., to validate completeness of waste reporting data 7. Procedures to sort, reuse and recycle construction waste into defined waste groups, either on site or through a licensed external contractor 8. Procedures to review and update the plan 9. The name or job title of the individual responsible for implementing the above.

					Achieve credits based on the amount of waste produced per 100m^2 of GIFA: One credit - <=13.3 m^3 or <=11.1 tonnes Two credits - <=7.5 m^3 or <=6.5 tonnes Three credits - <=3.4 m^3 or <=3.2 tonnes Pre-assessment comments The contractor will be required to implement a Resource Management Plan and target waste quantities to achieve 2 credits. Once the principal contractor is appointed, they will be able to confirm whether additional credits are considered feasible. To be included in contractor requirements **Responsibility - Project Manager/Principal Contractor**
3	Diversion of resources from landfill	1	1	1	Credit requirements Meet the diversion from landfill benchmarks below for non-hazardous construction waste and demolition and excavation waste generated and sort waste materials into separate key waste groups. Non-demolition - 70% volume or 80% tonnage Demolition - 80% volume or 90% tonnage Excavation - not assessed Pre-assessment comments The contractor will be required to divert materials from landfill in line with the BREEAM criteria. To be included in contractor requirements. **Responsibility - Project Manager/Principal Contractor**
e1	Construction resource efficiency/Diversion of resources from landfill	1	0	0	Credit requirements Meet the exemplary level benchmarks detailed below. Ensure all key waste groups from the EWC are included in the Resource Management Plan. 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. Amount of waste produced per 100m^2 of GIFA - <=1.6m^3 or <=1.9 tonnes Waste diverted from landfill: Non-demolition - 85% volume or 90% tonnage Demolition - 85% volume or 95% tonnage Excavation - 95% volume or 95% tonnage

					Pre-assessment comments Not currently targeted - Once the principal contractor is appointed, they will be able to confirm whether additional credits are considered feasible. **Responsibility - Project Manager/Principal Contractor**
Wst 02 - Use of recycled and sustainably sourced aggregates					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite		✔	✔	Credit requirements Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of pre-demolition audit scope below: 1. Identification and quantification of the key materials where present on the project (BREEAM NC 2018 Table 10.3) 2. Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy 3. Opportunities for reuse and recycling within the same development 4. Identification of local reprocessors or recyclers for recycling of materials 5. Identification of overall recycling targets where appropriate 6. Identification of reuse targets where appropriate 7. Identification of overall landfill diversion rate for all key materials. The audit must be carried out **at Concept Design stage** by a competent person prior to strip-out or demolition works, guide the design, consider materials for reuse and set targets for waste management and engage all contractors in the process of maximising high grade reuse and recycling opportunities. Reference to the audit must be made in the Resource Management Plan (RMP). Pre-assessment comments Client to ensure pre-demolition audit is undertaken prior to activities commencing on site. Demolition contractor has not been appointed yet. **Responsibility - Waste Consultant/Project Manager**

1	Project Sustainable Aggregate points	1	0	1	Credit requirements Identify all aggregate uses and types on the project and determine the quantity in tonnes for each identified use and aggregate type. Identify the region in which the aggregate source is located and Calculate the distance in kilometres travelled by all aggregates by transport type. One credit can be achieved where the project sustainable aggregate points achieved are between 3.5 and 6 once entered into the Wst 02 calculator. Pre-assessment comments This credit has not been targeted at this stage however has been identified as potential - the design team has confirmed that the availability of local aggregate sources is currently unknown and would require additional input from the principal contractor once appointed. **Responsibility - Structural Engineer**
e1	Project Sustainable Aggregate points	1	0	0	Credit requirements An exemplary credit can be achieved where the project sustainable aggregate points achieved are greater than 6 once entered into the Wst 02 calculator. Pre-assessment comments This credit has not been targeted at this stage - additional input required from the principal contractor once appointed. **Responsibility - Structural Engineer**
Wst 03 - Operational waste					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Operational waste	1	1	1	**Mandatory reqs: Excellent - 1 credit | Outstanding - 1 credit** Credit requirements Provide a dedicated space for the segregation and storage of operational recyclable waste generated that is clearly labelled, accessible to both facilities managers and for collection and removal, and of a capacity appropriate to building type, size and predicted volumes of waste. The specified or installed operational waste facilities are compliant in area for the size of the building ($2m^2$ for general waste and $2m^2$ for recyclable waste per $1000m^2$ NIA). Where there are large consistent waste streams anticipated, the follow would be required where applicable (If they are not required, this should be confirmed in writing);

					• Static waste compactors or balers; situated in a service area or dedicated waste management space • Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility • A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site. Pre-assessment comments The design team has confirmed that the credit is viable to target. Architect to confirm location and size of specified area, and to ensure suitable space is provided for the future inclusion of waste compactor(s) or baler(s) as required. **Responsibility - Architect/Client**
Wst 05 - Adaptation to climate change					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Resilience of structure, fabric, building services and renewables installation	1	1	1	Credit requirements Climate change adaptation strategy appraisal required before end of **RIBA Stage 2**. Conduct a climate change adaptation strategy appraisal using a systematic risk assessment and develop recommendations during **Concept Design** to mitigate potential climate risk. 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. Provide an update during **Technical Design** demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Pre-assessment comments The design team has confirmed that the credit is viable to target. Design team to complete templates provided to outlined early stage recommendations for incorporating adaptation to climate change initiatives within the developed design.

					Responsibility - Architect/MEP/Project Manager
e1	Responding to climate change	1	0	1	Credit requirements Demonstrate a holistic approach to the design and construction of the building's life cycle to mitigate against the impacts of climate change. Achieve the first credit plus: Hea 04 Thermal comfort - Criterion 6 - Prevent increasing risks of overheating. Ene 01 Reduction of energy use and carbon emissions - A minimum of six credits - Maximise energy efficiency to tackle likely energy demand and minimise resultant carbon emissions. Ene 04 Low carbon design - The passive design analysis credit - Maximise opportunities to avoid unnecessary carbon emissions. Wat 01 Water consumption - A minimum of three credits - Minimise water demand in periods of drought. Mat 05 Designing for durability and resilience - Criteria 2-4 - Avoid increased risks of deterioration and higher maintenance demands. Pol 03 Flood and surface water management - Flood resilience: a minimum of one credit and Surface water runoff: two credits - Minimise the risks of increased flood risk and surface water run-off affecting the site or others. Pre-assessment comments Identified as a potential credit, the surface water run-off volume credit is to be confirmed as feasible under credit issue Pol 03. **Responsibility - Architect/MEP/Project Manager/Structural Engineer/Drainage Engineer**
Wst 06 - Design for disassembly and adaptability					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Design for disassembly and functional adaptability - recommendations	1	1	1	Credit requirements Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the **end of Concept Design**. Develop recommendations or solutions based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation. Pre-assessment comments The design team has confirmed that the credit is viable to target. Design team to complete templates provided to outlined early stage recommendations for incorporating future disassembly and functional adaptation initiatives within the developed design.

					Responsibility - Architect/MEP/Structural Engineer
2	Disassembly and functional adaptability â€“ implementation	1	1	1	Credit requirements Provide an update, during **Technical Design**, on how the recommendations or solutions proposed by Concept Design have been implemented, where practical and cost effective. The implementation will be specific to the building and scope of the project, but may include: • Options for multiple building uses and area functions based on design details, e.g. modularity. • Routes and methods for major plant replacement, e.g. networks and connections have flexibility and capacity for expansion. • Accessibility for local plant and service distribution routes, e.g. detailed information on building conduits and connections infrastructure. • The potential for the building to be extended, horizontally or vertically. Develop and produce a **Building Adaptability and Disassembly Guide** to communicate the characteristics allowing functional adaptability and disassembly to prospective occupiers. Pre-assessment comments Team confirmed credit is viable to target. To be included in contractors' requirements. **Responsibility - Architect/MEP/Structural Engineer**
		10	8	9	**Standard Waste Credit Total**
		3	0	0	**Exemplary Waste Credit Total**
		10	5.60	6.30	**% Waste Total (Standard + Exemplary)**
Land Use & Ecology					
LE 01 - Site selection					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Previously occupied land	1	1	1	Credit requirements Demonstrate that >75% of the building footprint is developed on previously occupied land (non-greenfield). Pre-assessment comments This credit is viable to target - the proposed development will sit on previously developed, brownfield land.

					Responsibility - Architect
2	Contaminated land	1	0	0	Credit requirements A contaminated land professional undertakes a site investigation, risk assessment and appraisal, which deems that land within the development footprint to be affected by contamination. This report identifies: • The degree of contamination • The contaminant sources or types • The options for remediating sources of contamination which present an unacceptable risk. The client or principal contractor confirms that a remediation strategy will be implemented, in line with the report. Pre-assessment comments Credit not targeted - pending confirmation of site contamination. **Responsibility - Geo-environmental Consultant/Project Manager**
LE 02 - Ecological risks and opportunities					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite - Statutory obligations		✔	✔	Credit requirements The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Pre-assessment comments Project team confirm credit is viable to target. **Responsibility - Ecologist/Project Manager/Principal Contractor**
1	Survey and evaluation/Determining ecological outcomes	2	2	2	Credit requirements **Route 1** The site is evaluated using the BREEAM Ecological Risk Evaluation Checklist (Guidance Note 34) confirming that the Foundation route can be used. **Route 2** A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site at **RIBA Stage 1** to influence

					site preparation works, layout and, where necessary, strategic planning decisions. This survey will establish the ecological baseline and examine risks and enhancement opportunities. Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features. Achieve Survey and evaluation credit. The project team liaise and collaborate with representative stakeholders early enough to influence key planning decisions, and follow a mitigation and enhancement hierarchy as follows: • Avoidance • Protection • Reduction or limitation of negative impacts • On site compensation and • Enhancement, considering the capacity and feasibility within the site, or where viable, off-site. <u>Pre-assessment comments</u> Project team confirmed credit is viable to target. Preliminary Ecological Appraisal will be conducted. **Responsibility - Ecologist/Project Manager**
e1	Wider site sustainability - Exemplary level criteria	1	0	0	<u>Credit requirements</u> Wider sustainability related activities and potential ecosystem service benefits are considered as part of determining the optimal ecological outcomes for the site. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; economic value such as tourism, and cultural and social services such as health and wellbeing, recreational, spiritual, religious and other non-material benefits. Achieve the credits of the assessment issues outlined below: 1. Hea 07 Safe and healthy surroundings - Both credits 2. Pol 03 Flood and surface water management - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' 3. Pol 05 Reduction of noise pollution.

					Pre-assessment comments Not currently targeted - this will be discussed further with the project ecologist once the associated works have been progressed. **Responsibility - Ecologist/Landscape Architect/Drainage Engineer**
LE 03 - Managing impacts on ecology					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite â€“ Ecological risks and opportunities		✔	✔	Credit requirements LE 02 credits have been achieved.
1	Planning and measures on-site	1	1	1	Credit requirements Further planning to avoid and manage negative ecological impacts on-site is carried out at **RIBA Stage 2** to influence the concept design and design brief as well as site preparation planning. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features). This is based upon the input from the project team in collaboration with representative stakeholders and data collated as part of LE 02. Pre-assessment comments Team confirmed credit is viable to target. Client to confirm once preliminary ecology appraisal and supporting information is available. Meeting minutes required confirming that ecology was considered within planning decisions. **Responsibility - Ecologist/Project Manager**
2	Managing negative impacts	2	2	2	Credit requirements Achieve Planning and measures on site credit above. **Route 1** Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy so that there is no overall loss of ecological value as a result of the development. **Route 2** Negative impacts from site preparation and construction works have been managed according to the mitigation

					hierarchy, in line with the ecologists recommendations so that there is no overall loss (two credits) or loss has been minimised (one credit) of ecological value as a result of the development. The mitigation hierarchy is: 1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, off-site. Pre-assessment comments Team confirmed credit is viable to target. Preliminary ecological appraisal will be produced **Responsibility - Ecologist**
LE 04 - Ecological change and enhancement					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite - Managing negative impacts on ecology		✔	✔	Credit requirements At least one credit has been achieved for LE 03 - Managing negative impacts.
1	Change and enhancement of ecology / Ecological enhancement	1	1	1	Credit requirements **Route 1** Locally relevant ecological measures have been implemented that enhance the site's ecological value. The measures adopted are based on: • Recommendations from recognised "local" ecological expertise and specialist input and guidance. • Input from the project team in collaboration with representative stakeholders and data collated as part of "Determining ecological outcomes" in LE 02. **Route 2** Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the "Determining ecological outcomes" in LE 02. Measures are implemented in the following order: • On site, and where this is not feasible,

					• Off site within the Zone of Influence. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site. <u>Pre-assessment comments</u> Team confirmed credit is viable to target. Project team to confirm BNG target once this has been developed for the scheme. **Responsibility - Ecologist**
2	Change and enhancement of ecology	3	3	3	<u>Credit requirements</u> Up to three credits are awarded based on the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - Calculation Methodology Route 2 by completing the Change in ecological value calculator. Credits available are: 1 credit - 75% and 94% - Minimising loss 2 credits - 95% and 104% - No net loss for the habitats assessed 3 credits - 105% and 109% - Net gain for the habitats assessed <u>Pre-assessment comments</u> Team confirmed credit is viable to target. 3 credits currently targeted - dependent on BNG outcomes **Responsibility - Ecologist**
e1	Change and enhancement of ecology - Exemplary level criteria	1	1	1	<u>Credit requirements</u> Requires a significant net gain (>110% change) in ecological value to be confirmed by the ecologist, in compliance with GN34. <u>Pre-assessment comments</u> >110% change in ecological value is deemed to be feasible based on BNG >10% for planning. **Responsibility - Ecologist**
LE 05 - Long term ecological management and maintenance					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Prerequisite - Statutory obligations,		✔	✔	<u>Credit requirements</u> The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and

	planning and site implementation				international standards relating to the ecology of the site. Route 1- Criterion 6 in LE 03 has been achieved. Route 2 - Criterion 8 in LE 03 has been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded. Pre-assessment comments Project team confirm credit is viable to target. **Responsibility - Ecologist/Project Manager/Principal Contractor**
1	Management and maintenance throughout the project / Landscape and ecology management plan	2	2	2	**Management and maintenance throughout the project** Measures have been implemented to manage and maintain ecology throughout the project based on input from the project team in collaboration with representative stakeholders and data collated as part of the "Determining ecological outcomes" in LE 02. These measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented. A section on Ecology and Biodiversity will be included as part of the tenant or 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. **Landscape and ecology management plan** A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1 covering at least the **first five years** after project completion as a minimum, including • Actions and responsibilities of relevant individuals prior to handover • 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 beyond the development project • Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts • Clearly defined and allocated roles and responsibilities for delivering the plan The landscape and management plan will be updated to support maintenance of the ecological value of the site. Pre-assessment comments

					Team confirmed credits are viable to target. **Responsibility - Ecologist/Landscape Architect/Project Manager/Principal Contractor**
		13	12	12	**Standard Land Use & Ecology Credit Total**
		2	1	1	**Exemplary Land Use & Ecology Credit Total**
		16.95	14.80	14.80	**% Land Use & Ecology Total (Standard + Exemplary)**
Pollution					
Pol 01 - Impact of refrigerants					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Impact of refrigerants	3	2	3	Credit requirements **Pre-requisite** 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. **Impact of refrigerant** Calculate the direct effect life cycle CO_2 equivalent emissions (DELC) for heating and cooling systems. One credit - DELC of <=1000kgCO?-eq/kW cooling and heating capacity Two credits - DELC of <=100kgCO?-eq/kW cooling and heating capacity OR refrigerant GWP <=10 **Leak detection** All systems are hermetically sealed or only use environmentally benign refrigerants. Systems that are not hermetically sealed have a permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks OR automated diagnostic procedure. Pre-assessment comments 2 credits deemed achievable for impact of refrigerant. Ramboll to provide calculator tool to confirm. Another credit has been identified for refrigerant leak detection. **Responsibility - MEP**

Pol 02 - Local air quality					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Local air quality	2	2	2	Credit requirements All heating and hot water is supplied by non-combustion systems (electrical heating and hot water) for 2 credits. Where combustion systems *are* installed emissions from these systems are not to exceed the levels set in Table 12.4 and Table 12.5.2 of the BREEAM NC V6 technical guide. Pre-assessment comments Team confirmed credit is viable to target - electric systems will be specified rather than combustion based systems. **Responsibility - MEP**
Pol 03 - Flood and surface water management					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Flood resilience	2	2	2	Credit requirements **Pre-requisite** An appropriate drainage consultant is appointed to carry out and demonstrate the development's compliance with all criteria. **Flood resilience** As part of the initial masterplan a flood Risk Assessment has been prepared (which must not pre-date initial site construction works by greater than 5 years) that confirms the risk of flooding from all sources, for the site (1 credit for medium/high, 2 credits for low risk). An updated FRA is produced at a later stage or the flood risk should be confirmed to have not changed. Measures to mitigate flood risk shall be implemented should it be confirmed there is a medium/high flood risk. Pre-assessment comments Site located in Flood Zone 1 according to EA Flood Risk map. Compliant Flood Risk Assessment is required. **Responsibility - Flood Risk Consultant**
2	Surface water run-off	2	2	2	Credit requirements **Pre-requisite**

					Surface water drainage is bespoke, by the Drainage consultant, and takes account of specific site requirements and man-made environment. **Surface water run-off - rate** The change in impermeable area should be identified and drainage measures are identified accordingly to ensure that the peak rate of run-off and run-off volume achieves the BREEAM requirements. For brownfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events. For Greenfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. Calculations made should provide an allowance for climate change and ensure a provision of a local drainage system whereby flooding will not occur in the event of failure. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) should all be put in place. **Surface water run-off - volume** 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 are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site"s development. This must be for the 100-year 6-hour event, including an allowance for climate change • Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques **OR** (only where this 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 so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: • The pre-development one-year peak flow rate • The mean annual flow rate (Qbar)

					• 2L/s/ha. For the one-year peak flow rate, the one-year return period event criterion applies. 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. <u>Pre-assessment comments</u> Project team have confirmed 2 credits are viable to target. **Responsibility - Flood/Drainage Consultant**
3	Minimising watercourse pollution	1	0	0	<u>Credit requirements</u> There is no discharge from the developed site for rainfall up to 5 mm. In areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shut-off valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.

					Pre-assessment comments Not currently targeted **Responsibility - Flood/Drainage Consultant**
Pol 04 - Reduction of night time light pollution					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Reduction of night time light pollution	1	1	1	Credit requirements The external lighting strategy is designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (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. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements. Pre-assessment comments Team confirmed credit is viable to target. **Responsibility - MEP**
Pol 05 - Reduction of noise pollution					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Reduction of noise pollution	1	1	1	Credit requirements There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014 is carried out by a suitably qualified acoustician to determine existing background noise levels.

					Proposed noise levels must be at least 5dB lower than the background noise throughout the day and night. Where this cannot be achieved, attenuation measures will be provided. Pre-assessment comments Team confirmed credit is viable to target. **Responsibility - Acoustician/MEP**
		12	10	11	**Standard Pollution Credit Total**
		0	0	0	**Exemplary Pollution Credit Total**
		9	7.50	8.25	**% Pollution Total (Standard + Exemplary)**
Innovation					
AI - Approved Innovation					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
e1	Approved innovations	1	0	0	
		0	0	0	**Standard Innovation Credit Total**
		1	0	0	**Exemplary Innovation Credit Total**
		1	0	0	**% Innovation Total (Standard + Exemplary)**