RIDGE

HILLINGDON HOSPITAL NEW BUILDING

BREEAM PRE-ASSESSMENT REPORT

24 JANUARY 2022

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BREEAM PRE-ASSESSMENT REPORT
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24 January 2022

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VERSION CONTROL

Project Name Hillingdon Hospital New Building

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CONTENTS

1. INTRODUCTION

Ridge and Partners LLP were appointed in Q3 2020 to provide BREEAM assessment services for the proposed new hospital building at the Hillingdon Hospital site.

The aim of this appointment was to provide guidance to the project design team and demonstrate the project's commitment to the issues of sustainable building design, construction, and operation.

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

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

The author of this report is Abby Bartlett, Associate Sustainability Consultant (BRE Reg. RIPA – AB41).

The development consists of a new hospital building, energy centre and goods yard to be constructed for the first phase of wider redevelopment works on the site. Only the new hospital building will require assessment under BREEAM.

In line with the NHS requirements for major developments a score of BREEAM Excellent has been targeted for the new hospital building under the current version of BREEAM New Construction 2018. It should be noted that the BREEAM pre assessment does not discuss the route to Net Zero Carbon which is being reviewed and developed by others, however there is a great deal of cross over with both the energy and materials categories of the BREEAM Assessment which has informed the number of credits currently assumed for these parts of the assessment.

Figure 1 – BREEAM Categories

2. BREEAM

2.1. Project Details

Project:	New Hospital Building, Hillingdon Hospital
Project type:	BREEAM UK New Construction (2018)
Building type:	Healthcare
Building subtype:	General acute hospitals
Assessment type:	Fully fitted

2.2. Overview

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

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

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

Table 1 – BREEAM Rating Benchmarks

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

The assessor's role will typically include the following;

- Provision of a Pre-assessment Report with input from the design team which will summarise the anticipated approach for achieving the targeted rating
- Register the project with the Building Research Establishment (BRE) who administers the scheme
- Assess evidence provided by the client and design team to validate targeted BREEAM criteria
- Collate a Design Stage Assessment Report for submission to BRE, feeding back to the team any QA issues that arise
- Issue Interim Certificate and report on completion of QA

- Assess evidence provided by the construction team to validate targeted BREEAM criteria
- Visit the completed site and collate photographic and other evidence to show that the building has been built to incorporate those features that were agreed as part of the design stage assessment
- Collate a Post Construction Assessment Report for submission to BRE, feeding back to the team any QA issues that arise
- Issue Final Certificate and report on completion of QA.

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

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

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

2.3. Assessment Timeline

Figure 2 below provides a comparison of the RIBA outline plan of work with the BREEAM assessment stages.

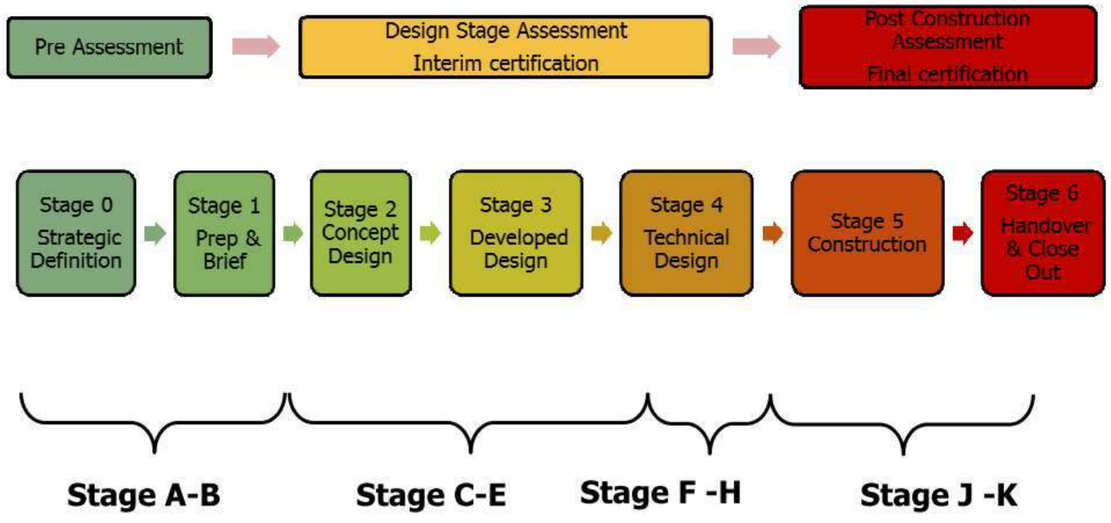

Figure 2 – BREEAM assessment and certification stages and the RIBA Outline plan of works

2.4. Scoring

The BREEAM assessment is made up of a total of 9 separate categories as summarised in Figure 1 on the previous page, each containing a variety of different environmental issues. Although some of the issues are mandatory for specific scores, as summarised in the next section, the majority are tradable i.e. the team can choose to target them or not depending on their suitability and achievability for the assessed building.

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

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

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

Therefore, when design teams are considering tradable credits it is important to remember that the loss of a single credit in the energy or health and wellbeing category is likely to have a different impact on the overall score than the loss of a water or waste credit.

2.5. Mandatory Requirements

Whilst most BREEAM credits are tradable and can be targeted in various configurations to achieve the required overall score, there are minimum requirements set to achieve certain BREEAM ratings. For example, to achieve a BREEAM 'Excellent' rating the following credits must be achieved, in addition to achieving a score of >70% overall. Table 2 below highlights the mandatory requirements to achieve a 'Excellent' rating in green:

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

Table 2 – BREEAM New Construction 2018 Minimum Standards

2.6. Evidence

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

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

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

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

2.7. Early-Stage Actions

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

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

RIBA Stage	Credit Reference	Notes
Stage 01	Tra 02 Sustainable Transport Options	During preparation of Project Brief the design team consult with local authority about local cycling network and publicly available pedestrian routes
	Mat 03 Responsible Sourcing of Construction Products	Company/Site Wide Sustainable Procurement Plan to be in place before Concept Design
	Mat 06 Material Efficiency	Set targets and report on opportunities and methods to optimise the use of materials
	Le 02 Ecological Risks & Opportunities	For Route 2 - Suitably Qualified Ecologist (SQE) appointed prior to completion of Preparation & Brief stage to undertake survey of site and evaluate its current ecological baseline.
Stage 02	Man 01 Project brief and design	Project delivery stakeholders to meet and discuss all relevant items prior to completion of Concept Design
		Design team to consult with all interested parties prior to completion of Concept Design – these discussions should influence the Initial Project Brief and Concept Design
		A BREEAM AP is appointed at Concept Design stage to work with the design team to facilitate the BREEAM assessment. This is a separate role to BREEAM assessor but can be carried out by the same person if they are suitably qualified.
	Man 02 Life cycle cost and service life planning	Elemental Life Cycle Cost (LCC) analysis to be completed at this stage
	Hea 06 Safety and Security	Suitably Qualified Security Specialist to conduct an evidence-based Security Needs Assessment of the site prior to the end of Concept Stage.
	Ene 04 Low carbon design	Passive design and free cooling options to be analysed at Concept Stage to identify opportunities for implementing measures.
		An accredited energy assessor to complete an LZC feasibility study and specify technologies for implementation
	Mat 01 Environmental Impact	Team to demonstrate environmental performance of the building at Concept Design by carrying out LCA on 2-4 different superstructure options and submit results to BRE before end of Concept Design. Covers superstructure, substructure, hard landscaping and building services.
	Wst 01 Construction Waste Management	Where relevant a pre-demolition audit must be undertaken at Concept Design by a competent person.
Stage 02	Wst 05 Adaption to climate change	Climate Change Adaptation Strategy Appraisal to be produced providing recommendations or solutions to mitigate possible future impacts.
	Wst 06 Functional adaptability	Building specific Functional Adaptation Strategy Study to be developed by the end of Concept Stage to include recommendations or solutions for the design to incorporate.
	Le 02 Ecological Risks & Opportunities	Project team liaise and collaborate with representative stakeholders to consider ecological outcome for site.
	Le 03 Managing Negative Impacts on Ecology	Roles and responsibilities to be clearly defined and implemented to support successful delivery of project outcomes to influence Concept Design or Design Brief

Table 3 – Early RIBA stages summary

2.8. Requirements for Specialist Consultants

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

BREEAM Advisory Professional / Sustainability Champion

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

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

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

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

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

Acoustician

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

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

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

Energy Specialist

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

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

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

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

Thermographic Survey & Airtightness Testing Specialist

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

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

Security Consultant

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

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

Ecologist

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

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

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

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

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

Civil Engineer

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

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

Contaminated Land Specialist

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

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

Other Consultants

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

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

2.9. BREEAM Pre-Assessment

Abby Bartlett, licensed BREEAM assessor and AP, has conducted a desk-based study to review the potential score that the new building could achieve under BREEAM 2018. This has been reviewed with the project team in various meetings over the past year as follows;

- 03/03/2020 – BREEAM Introduction meeting with early project team
- 15/04/2020 – BREEAM Review meeting with Hillingdon Hospital Sustainability Lead - Hyder Mohammad
- 28/04/2020 – BREEAM Review meeting with BYUK
- 17/11/2020 – BREEAM Review with project team to consider timebound criteria
- 19/11/2021 – BREEAM Review with project team

The BREEAM Schedule included in Appendix A indicates that a potential score of 77.12% is currently assumed which would achieve a BREEAM Excellent which requires a score of at least 70% to be achieved. We would usually recommend at least a 5% buffer over the targeted score pursued, as this provides some flexibility as the scheme design evolves and works commence on site therefore a target of 77.12% is a sensible starting point for BREEAM Excellent.

The graph below is extracted from the BREEAM Schedule available in Appendix A and indicates the number of credits targeted for each of the nine categories therefore highlighting where additional credits could be considered in order to boost the score further.

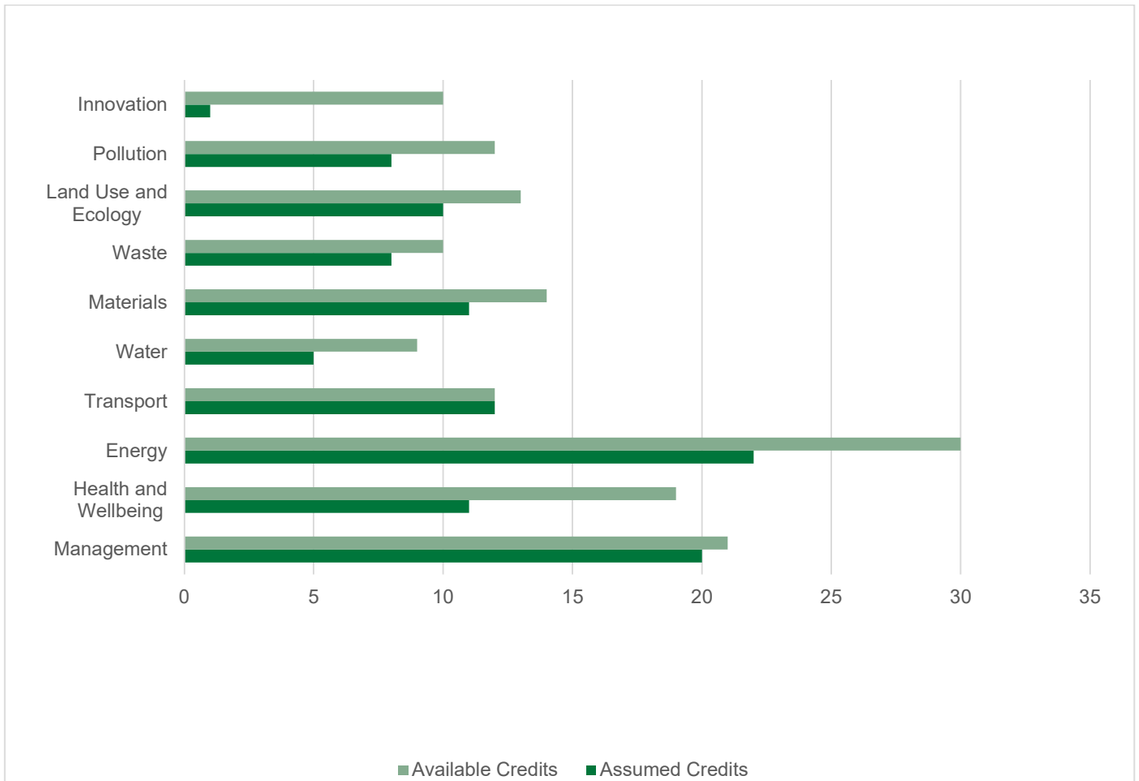

Figure 2 - Building Performance by Environment Section – Hillingdon Hospital

The table below is an extract from the Ridge BREEAM Schedule which is provided in Appendix A, this confirms the value of each credit in terms of contribution to the overall percentage score. The total number of potential credits for each of the various categories are also summarised together with the overall section weighting. This schedule allows the assessor to assign responsibilities for the various BREEAM targets which steers the design teams review to the areas that are relevant to their specific discipline.

Section	Per Credit	% Credits Assumed	Assumed Credits	Potential Credits	Available Credits	% Weighting
Management	0.52%	95.24%	20	1	21	11.00%
Health and Wellbeing	0.74%	57.89%	11	6	19	14.00%
Energy	0.53%	73.33%	22	6	30	16.00%
Transport	0.83%	100.00%	12	0	12	10.00%
Water	0.78%	55.56%	5	0	9	7.00%
Materials	1.07%	78.57%	11	3	14	15.00%
Waste	0.60%	80.00%	8	1	10	6.00%
Land Use and Ecology	1.00%	76.92%	10	2	13	13.00%
Pollution	0.67%	66.67%	8	4	12	8.00%
Innovation	1.00%	10.00%	1	3	10	10.00%
Total		**77.12%**	**108**	**26**	**150**	

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

2.10. Next Steps

This report has demonstrated that a score of BREEAM Excellent should be achievable for the proposed building if all of the assumptions outlined in the appendices are demonstrate by detailed documentary information as the scheme progresses.

As the scheme moves forwards it will be essential for the relevant members of the project team to keep the assumptions under review and provide the relevant documentary evidence to confirm achievability for their particular disciplines, highlighting any areas of concern so that these can be considered further. We would recommend that the time bound items are considered in the first instance.

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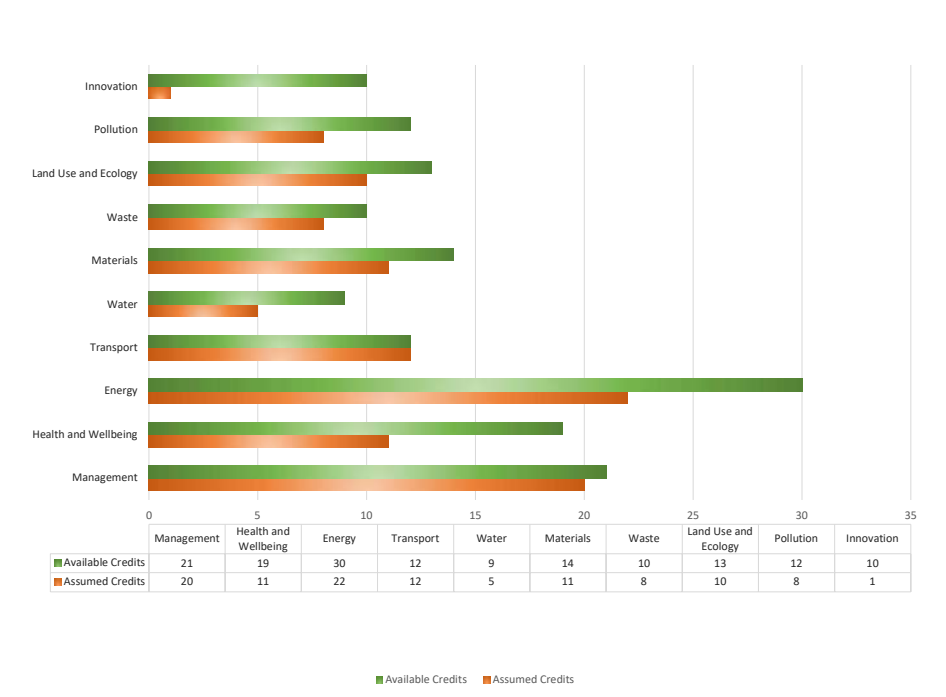
APPENDIX A – RIDGE BREEAM SCHEDULE

Version control

Project	5013113
Issue date	07/01/2022
Originator	XK
Checked	AB
Version	P16

Section	Per Credit	% Credits Assumed	Assumed Credits	Potential Credits	Available Credits	% Weighting	Credits proven	Percentage proven
Management	0.52%	95.24%	20	1	21	11.00%	0	0.00%
Health and Wellbeing	0.74%	57.89%	11	6	19	14.00%	0	0.00%
Energy	0.53%	73.33%	22	6	30	16.00%	0	0.00%
Transport	0.83%	100.00%	12	0	12	10.00%	0	0.00%
Water	0.78%	55.56%	5	0	9	7.00%	0	0.00%
Materials	1.07%	78.57%	11	3	14	15.00%	0	0.00%
Waste	0.60%	80.00%	8	1	10	6.00%	0	0.00%
Land Use and Ecology	1.00%	76.92%	10	2	13	13.00%	0	0.00%
Pollution	0.67%	66.67%	8	4	12	8.00%	0	0.00%
Innovation	1.00%	10.00%	1	3	10	10.00%	0	0.00%
Total		**77.12%**	**108**	**26**	**150**		**0**	0.00%



	Management	Health and Wellbeing	Energy	Transport	Water	Materials	Waste	Land Use and Ecology	Pollution	Innovation
Available Credits	21	19	30	12	9	14	10	13	12	10
Assumed Credits	20	11	22	12	5	11	8	10	8	1

This Schedule should be read in conjunction with the BREEAM New Contruction 2018 Manual which you can access by clicking the link below.

Please refer to the BREEAM Manual for the full description of each issue and any additional information such as assessment methodology, relevant definitions and tables. Please note that this schedule is only a brief overview of the criteria and is used for the purpose of tracking the targeted score.

The Schedule operates in a simple traffic light system as outlined in the key below. If you have any queries please call 01962 834400 and ask to speak to a member of the Ridge Sustainability Team.

BREEAM NC 2018 Manual

Schedule Key	
	Evidence Outstanding
	Some evidence received - being assessed or further details required
	Evidence submitted is compliant
	Mandatory requirements

Assessment Assumptions

This tool has been set up based on **Hillingdon Hospital** building being assessed under BREEAM NC 2018 V3. BREEAM issues have been filtered in/out based on discussion with the early design team, these may change as the scheme evolves so this document should be seen as a live document for the purpose of tracking the assessment. **The target for the scheme is currently BREEAM Excellent (score of at least 70) following discussions with the design team.**

Responsibilities noted in this schedule represent areas for preliminary comments at RIBA Stage 2, the parties currently listed are only appointed to RIBA 2+ therefore these responsiblites will need to be updated in due course

Important Dates

Pre Assessment Comments	The team have agreed to provide initial comments on the pre-assessment assumptions by **1st December 2020**
Design Stage Assessment Submission	A preliminary target date for the design stage assessment submission is the end of RIBA Stage 3.
Post Construction Assessment Submission	To be defined as scheme evolves.

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Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by		Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Man 01	Project Brief & Design	**Project Delivery Planning**												
		1 to 2	Meeting minutes or other documentary evidence confirming that all relevant parties (**1a - 1c**) have met and discussed **points 2.a to 2.h)** prior to the end of RIBA Stage 2.	RIBA Stage 2	1	1	0	0.52%	PM - Aecom					
		3	Documentation confirming defined roles, responsibilities and contributions and how they have influenced/ changed project brief, PEP, Communications Plan and Concept Design (**3.a to 3.d**)						PM - Aecom					
		Stakeholder Consultation (Interested Parties)												
		4	Documentation confirming that all interested parties (**view definitions)** have been consultated by the design team. This must cover as a minimum content in **Methodology in the manual.**	RIBA Stage 2	1	1	0	0.52%	Archus				Team confirmed 17/11/2020 that DQI is being undertaken by Connor Ellis - he confirmed 27/11/2020 that this is part of process, estimated timescale requested 21/12/2020, chased 23/02/2021. DQI Report 1 obtained from Asite but does not confirm sufficient detail for credits to be awarded, DQI 2 due to be issued prior to submission of OBC (confirmed by IBI 29/06/2021)	
		5 to 6	Documentation demonstrating how the stakeholder contributions and consultation exercise outcomes have influenced the initial project brief and concept design						Archus					
		BREEAM Advisory Professional Credits		**Pre Requisite**					Client	PM - Aecom				
		8	The project team including the client agree performance targets (**view definitions**) during early stages.											
		BREEAM AP (Concept Design)												
		9	Confirmation of appointment of BREEAM AP, must confirm stage of appointment (appointment letter and copy of project programme would be ideal)	RIBA Stage 1	1	1	0	0.52%	PM - Aecom	Assessor - Ridge			Ridge's appointment covers this area so assumed. How will BREEAM target be captured formally within the contract? Need to ensure that sufficient detail is included to allow this to be demonstrated.	
			Formal confirmation of BREEAM target - contract or letter of appointment with project team defining target can be used for this	RIBA Stage 2										
		BREEAM AP (Developed Design)												
		11	Confirmation that BREEAM AP has been appointed to monitor progress throughout design process and formally report on progress This could be the AP reports		1	1	0	0.52%	Assessor - Ridge					
			Meeting minutes confirming BREEAM AP's attendance at key project meetings at Concept Design, Developed Design and Technical Design stages											
			Man 01 Total		4	4	0	2.10%						0
Man 02	Life Cycle Cost & Service Life Planning	**Elemental Life Cycle Cost (LCC)**												
		1 to 3	Elemental life cycle cost plan carried out by competent person in line with PD 156865:2008 including: - future replacement costs over an analysis period - service life, maintenance and operation cost estimates.	RIBA Stage 2	2	2	0	1.05%	Cost Consultant - Ridge				Ridge Cost Consultants have provided a fee for this element of work - to be confirmed.	
			Provides examples of how the above has influenced the design/ specification to minimise life cycle costs.											
		Component Level LCC Option Appraisal												
		4	Component level life cycle cost plan in line with PD 156865:2008 covering all elements where applicable listed in the manual (**4.a to 4.d**).		1	1	0	0.52%	Cost Consultant - Ridge					
		5	Documentary evidence demonstrating examples of how LCC has influenced design/ specification of building and systems											
		Capital Cost Reporting												
		6	Documentary evidence indicating capital cost in pounds per square meter		1	1	0	0.52%	Cost Consultant - Ridge					
			Man 02 Total		4	4	0	2.10%						0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Man 03	Responsible Construction Practices	1	Documentary evidence confirming that all timber will be legally harvested and traded sourced from suppliers capable of providing certification required - a policy document or letter of confirmation is acceptable at design stage but not post construction (view relevant definitions in manual)			**Pre Requisite**			QS - Ridge				
		Environmental Management											
		3	Confirmation that principal contractor will have 14001 certification or equivalent. A copy of the principal contractors EMS/ EMAS certificate will be required for final assessment. Note requirement covers all parties that at any stage manage the site e.g. demolition contractor may be applicable.		1	1	0	0.52%	QS - Ridge				
		4	Confirmation that principal contractor will implement best practice pollution prevention policies in line with PPG6. As above this requirement covers all parties that at any time manage the site e.g. demo contractor.						QS - Ridge				
		BREEAM Advisory Professional Credits											
		5	The Client and the Contractor formally agree performance targets. Meeting minutes.			**Pre Requisite**			QS - Ridge / Client				
		BREEAM AP (Site)											
		6	Confirmation Advisory Professional appointed to monitor BREEAM throughout Construction, Handover & Close Out. Documentary evidence will be required that AP makes frequent site visits and has authority to require actions to be taken to tackle any compliance issues.		1	1	0	0.52%	QS - Ridge / Client				
			Meeting minutes confirming Advisory Professional present at relevant project meetings						QS - Ridge / Client				
		Responsible Construction Management											
		7 to 9	Documentary evidence confirming responsible construction management requirements for the site. **View Table 4.1 in the Manual** For **one** credit: Considerate Constructors Scheme (CCS) score of >25 plus prove items a), f), g), h), n), o), r) For **two** credits: CCS score of >35 plus prove item g) Note: CCS scheme does not have to be used but will facilitate the production of evidence for this issue.		2	2	0	1.05%	QS - Ridge				
		Monitoring of Construction-Site Impacts											
		10	Documentary evidence confirming who will be / is responsible for monitoring construction site impacts		2	2	0	1.05%	QS - Ridge				
		11 to 14	Confirmation that the relevant person will set targets, monitor and record energy consumption in kWh										
		16 to 18	Confirmation that the relevant person will set targets, monitor and record water consumption m3										
		20 to 22	Confirmation that the relevant person will set targets, monitor and record transport movements and impacts. View manual for minimum content.										
			Man 03 Total		6	6	0	3.14%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Man 04	Commissioning & Handover	**Commissioning and Testing Schedule & Responsibilities**			1	1	0	0.52%	M&E - Aecom				
		1	Schedule of commissioning and testing in line with **2.a to 2.d** or for design stage confirmation that this will be required.										
		2 to 3	Confirmation that the commissioning schedule is / will be in line with Building regulations, BSRIA and CIBSE. Refer to **3.a to 3.e** for BMS requirements.						M&E - Aecom				
		4	Confirmation of who is / will be appointed to monitor and programme commissioning works on behalf of the client						M&E				
		5	Principal contractors programme of works and budget indicating that commissioning and testing activities have been allowed for or for design stage confirmation that this will be required						M&E - Aecom				
		Commissioning Design and Preparation		Design Stage	1	1	0	0.52%	M&E - Aecom				
		7	Confirmation of who is responsible for managing the commissioning of the building services and summary of their responsibilities (these should include items **7.a to 7.c**)										
		Testing and Inspecting Building Fabric			1	0	1	0.00%				Currently, the credit available for testing and inspecting the building fabric is not targeted; as it can be challenging to achieve. This would involve conducting an air tightness test and thermographic survey and then rectifying any issues that are identified. This should be reviewed if achievable.	
		9	Confirmation that a thermographic survey and air tightness test and inspection will be or has been carried out by a suitably qualified professional										
		10	Confirmation that any defects identified in the thermographic survey/ air testing will be / have been rectified prior to building handover.										
		Handover			1	1	0	0.52%	QS - Ridge				
		11	Confirmation that 2no. Building User Guides are provided and the scope of the Guide's content (see **Methodology** in the manual). Confirmation that the draft will be developed and discussed with users first										
		12	Confirmation that a training schedule will be prepared (and appropriately timed) and will include required criteria (View **Methodology**)						QS - Ridge				
			Man 04 Total		4	3	1	1.57%					0
Man 05	Aftercare	**Aftercare Support**			1	1	0	0.52%	M&E - Aecom				
		1	Confirmation that appropriate aftercare will be in place and will cover BREEAM requirements **1.a to 1.d in the Manual.**										
		2	Confirmation of how energy and water consumption data for a minimum of 12 months will be collected and monitored once building is occupied with reference to adjustments as necessary.						M&E - Aecom				
		Commissioning Implementation			1	1	0	0.52%	M&E - Aecom				
		3	Confirmation that seasonal commissioning activities will be completed for 12 month period after occupation for simple / complex systems as appropriate criteria **3a i) to vii) and 3b i) to iii)**.										
		Post Occupancy Evaluation			1	1	0	0.52%	QS - Ridge				
		4 to 5	Confirmation that a post occupancy evaluation will be undertaken by an independent third party one year after occupation and will cover all criteria **5.a to 5.b**.										
		6 to 7	Confirmation of commitment to disseminate relevant information about buildings post occupancy performance to necessary stakeholders and commitment to pay for POE in advance						Client				
			Man 05 Total		3	3	0	1.57%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Hea 01	Visual Comfort	All	Design plans for each floor in the building with each room / area appropriately labelled for use		1	1	0	0.74%	Architect - IBI				
		Control of Glare from Sunlight							M&E - Aecom			Please confirm where the glare control responsibility will sit - can be undertaken as part of the building modelling for BRUKL so sometimes an M&E item but in some instances architects address this requirement. IBI have confirmed that they are not undertaking glare control study - this will be by Aecom or Point 2.Left as Aecom action until this is confirmed.	
		1 to 3	Production of glare control assessment which identifies areas at risk of glare and details measures that will be put in place. It must be demonstrated that does not increase energy for lighting. Applicable spaces and measures found under **Definitions**.										
		Daylighting			2	0	2	0.00%				Not targeted currently, but could be considered	
		4	Daylight calculations confirming: - Building areas assessed - Average daylight factor for each area OR - Average and minimum point daylight illuminance for each area. NOTE: please indicate the position of the 2% daylight factors ioslux contours in each of the room assessed **View Table 5.1, 5.2 and 5.3**										
		View Out			2	0	2	0.00%				No longer targeted following feedback from IBI 18/11/2020 - deep plan of some acute care spaces means unlikely to be achievable.	
		5 to 7	Confirmation that view out criteria is achieved for 95% of floor area in occupied spaces - mark ups are acceptable as evidence.										
		Internal and External Lighting Levels, Zoning and Control			1	1	0	0.74%	M&E - Aecom				
		8 to 10	A copy of the specification, relevant room schedules and other confirmation confirming; a) the internal / external maintained illuminance levels and b) the standards that the illuminance levels are specified to										
		11 to 13	Confirmation of how the internal lighting is zoned and controlled in line with criteria **12.a to 12.l**.										
			Hea 01 Total		6	2	4	1.47%					0
Hea 02	Indoor Air Quality	**Indoor Air Quality Plan**			**Pre Requisite**				M&E - Aecom			Will this be picked up as part of the wider review?	
		1	Copy of site specific Indoor Air Quality Plan covering as a minimum **1.a to 1.e** in the **Manual**										
		Ventilation			1	0	0	0.00%	M&E - Aecom			Not targeted	
		2	Confirmation of ventilation strategy for the building to include (**2.a to 2.e**); a) relevant standards, b) design ventilation pathways, c) HVAC filtration d) CO2 / air quality sensors where required										
		Emissions from Construction Products			2	1	1	0.74%	Architect - IBI			Only 1 credit targeted as 2 can be very challenging to achieve	
		3	Confirmation of VOC standards that construction products will meet – the following are applicable; paint and varnishes, wood based products, floor materials, ceiling, wall, acoustic and thermal insulation materials, interior adhesives and sealants. View **Table 5.11** in the **Manual**.										
		Post-construction Indoor Air Quality Measurement			1	1	0	0.74%	QS - Ridge				
		5 to 10	Confirmation of targeted formaldehyde and VOC levels and that this will be / has been proven by appropriate post construction testing with remediation measures if necessary, view criteria in manual.										
			Hea 02 Total		4	2	1	1.47%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Hea 04	Thermal Comfort	**Thermal Modelling**		RIBA Stage 3-4	1	1	0	0.74%	M&E - Aecom				
		1 to 4	Confirmation that appropriate thermal modelling has been carried out and demonstrates internal temperatures in compliance with relevant standards (CIBSE AM11). Thermal modelling results should be provided – specifically for air conditioned buildings the PMV and PPD must be provided. **In line with criteria 1 to 4 in the Manual.**									
		Design for Future Thermal Comfort			1	1	0	0.74%	M&E - Aecom			Achieving this will facilitate achievement of Wst 05 exemplary	
		6 to 8	Confirmation that thermal model demonstrates requirements for criteria 3 are achieved for the projected climate change environment, or can be easily adapted with passive measures to meet these requirements. For air conditioned buildings the PMV and PPD must be provided.										
		Thermal Zoning and Controls			1	1	0	0.74%	M&E - Aecom				
		10 to 11	Confirmation that the thermal modelling analysis has informed the temperature control strategy and the strategy addresses all of the listed criteria **11.a to 11.d** in the **Manual**.										
			Hea 04 Total		3	3	0	2.21%					0
Hea 05	Acoustic Performance	All	Confirmation from a suitably qualified acoustician that the building meets or has the potential to meet the required acoustic performance standards and testing requirements for indoor ambient noise level – professional report and calculations from the acoustician should be provided View **Tables 5.14 to 5.19** for criteria for different buildings. Acoustician can define bespoke set of performance requirements using BREEAM principles.		3	3	0	2.21%	PM - Aecom / Acoustician - Aecom			Aecom acoustic team have been appointed to undertake external acoustics required for planning, this does not currently cover internal acoustics which will need to be reviewed for BREEAM compliance. This will need to be picked up if these credits are to be achieved but can be undertaken later on. It would be better to capture at RIBA 3 if possible. To be considered further and approach to be confirmed.	
			Hea 05 Total		3	3	0	2.21%					0
Hea 06	Security	**Security of Site and Building**		RIBA Stage 2	1	0	1	0.00%	PM - Aecom			Responsibilities TBC but typically architectural and M&E. Sarah at Aecom confirmed 09/12/2020 that this is not part of current scope therefore credit removed pending further review. Likely to be made up for with Ene 01 credits due to net zero carbon target. It has since been confirmed that there is a security lead at the Trust - Bob Street - seeking confirmation as to whether he will be covering this or not - chased 29/06/2021	
		1 to 3	Security Needs Assessment and associated recommendations from a suitably qualified security consultant confirming a) the scope of their advice, b) the stage of design their advice was sought and c) summary of their recommendations										
			Confirmation that recommendations will be implemented / how they are implemented - ideally this should be manufacturer's literature / marked-up copy of site / design plans highlighting examples						Architect - IBI / M&E - Aecom				
			Hea 06 Total		1	0	1	0.00%					0
Hea 07	Safe and Healthy Surroundings	**Safe Access**			1	0	1	0.00%	Landscape Architect - IBI			It is not currently assumed that the safe access criteria will be met, however this should be reviewed in detail as the design of the scheme develops	
		1 to 6	A marked up site plan / other documentary evidence highlighting footpath and highway / car park criteria from **1 to 6** listed in the **Manual**.										
		Outside Space			1	1	0	0.74%	Landscape Architect - IBI				
		7	Drawing or other documentary evidence demonstrating provision of a compliant outdoor space (view **Definitions**)										
					2	1	1	0.74%					0
Ene 01	Reduction of Energy Use & Carbon Emissions	**Energy Performance**			9	4	5	2.13%	M&E - Aecom			4 credits mandatory for Excellent but likely many more will be achieved as part of net zero target - M&E to confirm with draft BRUKL Achieving 6 credits will facilitate achievement of Wst 05 exemplary	
		1	Copy of Building Regulations Output Document from approved software. Output must be based on 'as designed' or "as built" stage of analysis (BRUKL) as relevant to stage of assessment.										
		Prediction of Operational Energy Consumption			**Pre Requisite**								
		2	Meeting minutes showing that the relevant members of the design team have met to discuss operational energy performance									A preliminary design workshop focusing on operational energy performance must be undertaken early on to achieve these credits, this will need to be reviewed by the M&E team for achievability as will require additional modelling. Considered likely this will be happening as part of net zero discussions - N Shelley from Aecom confirmed that this would be taking place post planning therefore credits now assumed.	
		3 to 5	Additional modelling is undertaken to predict operational energy consumption and design stage and post construction. Report any targets and carry out a risk assessment. View **Methodology.**		4	4	0	2.13%	M&E - Aecom				
			Ene 01 Total		13	8	5	4.27%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Ene 02	Energy Monitoring	**Sub-metering of End-use Categories**			1	1	0	0.53%	M&E - Aecom				
		1	Confirmation that energy metering systems installed will enable at least 90% of estimated annual energy consumption of each fuel to be assigned to various end-use categories of energy consuming systems										
		2 to 3	Confirmation that areas greater than 1000m2 are metered, for smaller buildings, evidence of sub metering with pusled output to enable BMS connection. It must be clear that building users can identify the energy end uses e.g. via labelling or data outputs										
		Sub-metering of High Energy Load and Tenancy Areas			1	1	0	0.53%	M&E - Aecom				
		4 to 5	All areas that have high loads or separate tenancy areas are sub metered and these are connected to BMS or have potential to be in future as appropriate. There are specific function areas listed in the manual that should be sub-metered if present - see **Methodology**										
			Ene 02 Total		2	2	0	1.07%					0
Ene 03	External Lighting	All	Drawings and / or specification confirming the proposed external lighting and their controls and average initial luminous efficacy of 70 luminaire lumens per circuit Watt. View **Methodlogy**.		1	1	0	0.53%	M&E - Aecom				
			Ene 03 Total		1	1	0	0.53%					0
Ene 04	Low Carbon Design	**Passive Design Analysis**			1	1	0	0.53%	M&E - Aecom			Achieving this will facilitate achievement of Wst 05 exemplary. Aecom confirmed 09/04/2021 that this is not part of their current Stage 2 scope however will be testing model iterations after planning - this will be acceptable providing it can be demonstrated that the aims of this criterai have been achieved, it would be worth referencing pre-planning considerations in the write up to show how passive considerations informed the scheme that went to planning.	
		1	The first Hea 04 Credit is achieved										
		2 to 4	Design teams analysis of possible passive design solutions covering all required criteria in **the Methodology (1 to 12)** and confirmation of what solutions are selected and what the subsequent reduction in CO2 emissions is - this requires a calculation to be undertaken.	RIBA Stage 2					M&E - Aecom				
		Free Cooling			1	0	1	0.00%	M&E - Aecom			Not targeted but could be considered - AECOM Stage 1 report confirms that cooling will be required to some areas so this is unlikely to be achievable.	
		5 to 6	Criteria 1-4 must be achieved, then require confirmation of the free cooling strategies that are utilised and that no mechanical vent is used within the building (some exclusions apply) View **Methodology (1 to 8)**	RIBA Stage 2									
		Low Zero Carbon Feasibility Study			1	1	0	0.53%	M&E - Aecom			Understood that ASHPs are planned and they may be supplemented by GSHP.	
		7	Copy of feasibility study undertaken by Energy Specialist covering criteria **1 to 10 in Methodology.**	RIBA Stage 2									
		8	Confirmation that an LZC technology has been specified for the building in line with the findings of feasibility study and confirmation of what the subsequent reduction in CO2 emissions is.						M&E - Aecom				
			Ene 04 Total		3	2	1	1.07%					0
Ene 05	Energy Efficient Cold Storage	**Refrigeration Energy Consumption**			1	1	0	0.53%	M&E - Aecom			Only assessed if there are commercial or industrial sized refrigerant systems proposed e.g. cold rooms. Are there any included within proposals for this building? Aecom have confirmed that the evidence for this issue would not come from them but usually the specialist - this will be determined as part of discussions with user groups.	
		1	Detailed documentary evidence confirming the refrigeration system proposed and that it meets requirements and standards **1a and b**										
		2	Confirmation refrigeration plant will / has been commissioned to comply with commissioning criteria in Man 04										
		Indirect Greenhouse Gas Emissions			1	1	0	0.53%	M&E - Aecom				
		4	Calculation of indirect greenhouse gas emissions for refrigeration system carried out by appropriately qualified professional (e.g. building services engineer)										
			Ene 05 Total		2	2	0	1.07%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Ene 06	Energy Efficient Transportation System	**Energy Consumption**											
		1	Transportation demand study covering all required criteria from **1.a to 1.d** - at least two options should be considered		1	1	0	0.53%	M&E - Aecom			Only assessed where lifts with a rated speed of >0/15m/s are proposed. This is considered likely for the proposed building. Aecom confirmed that this is not part of their Stage 2 scope 09/12/2020. The details of this will not be required until later on in the design process so need to make sure it is part of somone's Scope at RIBA 3.	
		Energy Efficient Features											
		3 & 4	Confirmation of specified transportation system and the energy efficient features that are included – ideally manufacturer's product details however formal letter of commitment can be accepted at design stage		1	1	0	0.53%	M&E - Aecom				
			Ene 06 Total		2	2	0	1.07%					0
Ene 07	Energy Efficient Lab Systems	**Design Specification**		RIBA Stage 1									
		1 to 3	Confirmation that client has been engaged with from Stage 1 to determine requirements and performance criteria covering **1a to 1f**. Meeting minutes, reports etc can be used to confirm this.		1	1	0	0.53%	Architect - IBI / M&E - Aecom			Only assessed where labs are provided for research and development purposes. IBI / Aecom to review and confirm. Aecom have confirmed that the evidence for this issue would not come from them but usually the specialist - as Ene 05 will be determined as part of discussions with user groups.	
			Confirmation that the services system equipment have been sized in line with criteria and the energy demand is minimised.										
		4	Confirmation of specification of fume cupboards and other containment devices in line with criteria **4a to 4c** where applicable.										
		Best Practice Energy Efficient Measures											
		5 to 8	Confirmation that best practice energy efficient measures have been or will be implemented in line with criteria outlined in **Table 6.4** – including calculations or modelling outputs confirming reduction in total energy consumption as a result of measures. Must be able to confirm measures do not compromise performance or health and safety.		4	2	0	1.07%	Architect - IBI / M&E - Aecom				
			Ene 07 Total		5	3	0	1.60%					0
Ene 08	Energy Efficient Equipment	1	Design team confirmation of building's unregulated energy consuming loads and estimation of the total annual unregulated energy consumption (hand calculations are acceptable) **View Table 6.5 - link to Ene 01 Unregulated Energy**		2	2	0	1.07%	MTS / MTS / Client			Link to Ene 01 for a zero carbon building so likely this should be covered, TBC. MTS are doing this currently.	
		2 to 3	Design team confirmation of how this will be reduced - design team to justify how a meaningful reduction is demonstrated, examples of compliant solutions are provided in **Table 6.5** but other approaches can be taken so long as they are justified robustly.										
			Ene 08 Total		2	2	0	1.07%					0
Tra 01	Transport Assessment & Travel Plan	**Travel Plan**		Stage 2								Feedback sent to Mohammad on 17/08/2021 on outstanding items following the review of Transport Plan	
		1 to 5	Undertake a site specific Transport Assessment and develop a draft Travel Plan based on this (or Transport Statement) covering all criteria from **2.a to 2.g** and **Methodology. View Table 7.1 for applicable amenities**		2	2	0	1.67%	Transport Consultant - Mott MacDonald / Transport Consultant - Mott MacDonald / Client				
			Demonstrate that the Travel Plan will be implemented and supported by the building's management in operation. This may be the inclusion of physical items in line with recommendations e.g. cycle storage or the building operator confirming they will follow any "soft" recommendations e.g. appoint a Travel Plan Co-ordinator.										
			Tra 01 Total		2	2	0	1.67%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Tra 02	Sustainable Transport Measures	All	Confirmation that Tra 01 is achieved and the site's accessibility index has been calculated.		10	10	0	8.33%	Transport Consultant - Mott MacDonald				
		Option 1	The existing AI calculated in Tra 01 achieves the following: ≥ 4 for prison or MOD sites, rural location sensitive buildings, and other building group 3 ≥ 8 for all other building types						Transport Consultant - Mott MacDonald			TBC once the AI has been calculated.	
		Option 2	Confirmation that future accessibility index will be higher and evidence that services will be in place as applicable (bus, tram, train etc)									Not assumed that new bus services will be provided as part of the development scheme.	
		Option 3	Documentary evidence confirming the public transport information service that is proposed						Architect - IBI				
		Option 4	Documentary evidence confirming that sufficient number of compliant electric recharging stations will be provided						Architect - IBI				
		Option 5	Car share documentary evidence covering all requirements						Architect - IBI / Transport Consultant - Mott MacDonald				
		Option 6	Evidence that early consultation has taken place with local authority re pedestrian and cycle routes and confirmation that one proposition will be implemented by the scheme	Stage 1 (option 6 only)					Architect - IBI / Transport Consultant - Mott MacDonald			Aecom confirmed 17/11/2020 that this is likely to be achievable so is currently assumed.	
		Option 7	Documentary evidence confirming that compliant cycle storage will be provided						Architect - IBI				
		Option 8	Documentary evidence confirming that compliant cycle facilities will be provided (showers, change, lockers, drying space). Option 7 must be achieved for this to be awarded.						Architect - IBI				
		Option 9	Evidence confirming at least three existing compliant amenities (500m)						Transport Consultant - Mott MacDonald				
		Option 10 & 11	Evidence confirming provision of new compliant amenity(ies) (500m)						Architect - IBI				
		Option 12	Evidence confirming implementation of one site specific improvement measure not recognised under BREEAM in line with recommendations of Travel Plan. This must be reviewed by BRE.									Not currently assumed - could be considered if anything specifically is proposed	
			Tra 02 Total		10	10	0	8.33%					0
Wat 01	Water Consumption	All	Completed Wat 01 Calculator		5	2	0	1.56%	Assessor - Ridge				
			A copy of the relevant section of the M&E specification and/or manufacturer's details confirming the technical specification for sanitary fittings (flow rate) and controls to be installed. Design plan should also be provided showing the location within the building of the sanitary fittings						Architect - IBI / M&E - Aecom			For healthcare facilities where water components fall within clinical areas, these are not assessed. Any such components/areas would need to be clearly identified and justified. If 3 credits can be achieved could target Wst 05 exemplarly to be confirmed MTS are equipment specliaists looking to understand the kit that the Trust will want to use.	
		3 to 4	Technical details of any rainwater and grey water recycling systems confirming yield and system specified in accordance with relevant standards						M&E - Aecom				
			Wat 01 Total		5	2	0	1.56%					0
Wat 02	Water Monitoring	1	Documentary evidence (specification clause and/or design drawing or schematic) confirming the specification and type of **mains** water meter location. Including confirmation of connection to BMS where applicable.		1	1	0	0.78%	M&E - Aecom				
		2 to 5	Documentary evidence (specification clause and/or design drawing or schematic) confirming the specification and type of water meter(s) and sub-meter(s) and their locations. Including confirmation of connection to BMS where applicable. Sub-meters are required where any plant or building area will consume >10% of total demand.										
			Wat 02 Total		1	1	0	0.78%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Wat 03	Water Leak Detection	1 to 2	Documentary evidence (specification clause / design drawings / manufacturer's product information) confirming details of leak detection system. Leak detection to meet criteria **2a to 2e**.		1	1	0	0.78%	M&E - Aecom				
		3	Documentary evidence (specification clause / design drawings / manufacturer's product information) confirming details of flow control devices installed in WC area or sanitary facilities.		1	0	1	0.00%	M&E - Aecom			Early design team confirmed that due to regulations regarding Legionella disease the flow control element may not be achievable, this should be reviewed and confirmed but not currently assumed	
			Wat 03 Total		2	1	0	0.78%					0
Wat 04	Water Efficient Equipment	1	Confirmation from design team of all unregulated water demands that could realistically be mitigated or reduced. **View Definitions.**		1	1	0	0.78%	Ecologist - Aecom / M&E - Aecom				
		2	Details of systems or processes that will be implemented to achieve this – a meaningful reduction must be demonstrated						Ecologist - Aecom / M&E - Aecom				
			Wat 04 Total		1	1	0	0.78%					0
Mat 01	Environmental Impacts from Construction Products - Building Life Cycle Assessment		**Superstructure Comparison with Benchmark (offices, industrial & retail only)**	RIBA Stage 2 (for some)	6	6	0	6.43%	NZC - Aecom			Aecom NZC have confirmed that the scope of BREEAM and GLA are not exactly the same but are aligned so agreed 17/11/2020 it would make sense for this to be captured by same team. To be discussed offline but assessor can confirm that the options to be reviewed will need to be processed "building wide" although there is no reason that typical examples can't be worked through and fed into the building wide results. Further discussed Feb 2021 - details to be provided for review prior to the end of RIBA 2. 16/06/2021 N Shelley confirmed will be issued mid July.	
		1 to 2	Detailed documentary evidence confirming Life Cycle Assessment of super structure of building. This can be either BREEAM Simplified Tool or IMPACT compliant tool. Results to be submitted by assessor to BRE prior to end of Stage 2. Further credits are available for repeating this at Stage 4.										
			Superstructure Options Appraisal (all building types)						NZC - Aecom				
		3 to 5	Detailed documentary evidence demonstrating that 2 - 4 significantly different superstructure design options have been considered using an Life Cycle Assessment tool recognised by the BRE. These considerations should be shown to influence the wider design decision making e.g. described in an options appraisal summary report which explains the reasons for selecting the preferred option. Results to be submitted by assessor to BRE prior to end of Stage 2. Further credits are available for repeating this exercise at Stage 4.										
			Substructure and Hard Landscaping Options during Concept Design (all types)		1	1	0	1.07%	NZC - Aecom				
		7	Options appraisal must be complete as criteria 3-4 above, then further credit available for carrying out Life Cycle Assessment options appraisal of a combined total of 6 significantly different substructure or hard landscaping design options (at least 2 of each). Results to be submitted to BRE prior to end of RIBA Stage 2										
			Mat 01 Total		7	7	0	7.50%					0
Mat 02	Environmental Impacts from Construction Products - Environmental Product Declarations	1	Documentary evidence confirming the construction products that have Environmental Product Declarations (EPDs) together with a copy of their certificates. **View Methodology for points score.**		1	0	1	0.00%	Architect - IBI			Not currently targeted but could be considered - referenced in the Materials & Waste Plan discussed 30/03/2021	
			Mat 02 Total		1	0	1	0.00%					0
Mat 03	Responsible Sourcing of Construction Products	1	Copy of relevant responsible sourcing scheme certificate (for timber where certification not provided written confirmation from supplier that all timber is 'legally harvested and traded'), if these are not available then confirmation that products will be sourced from suppliers capable of providing certification can be used at design stage – include this as specific clauses if possible as more robust			**Pre Requisite**			Architect - IBI / QS - Ridge				
			Enabling Sustainable Procurement	RIBA Stage 1	1	1	0	1.07%	Client			THH have provided a detailed SPP which covers this other than risk and opportunities have to be identified in line with BS ISO 20400:2017 Materials & Waste Plan can be used for project specific one too.	
		2	Sustainable Procurement Plan covering criteria **2.a to 2.e.** This document should set targets and will need to be in line with BS ISO 20400 if it is adopted at organisation level.										
			Responsible Sourcing of Materials		3	1	2	1.07%	Architect - IBI / QS - Ridge			Discussed in Materials & Waste Plan and target set - can this be captured contracturally to allow achievement of intent for design stage?	
		3	Using the Materials categories in **Table 9.13,** compile a list of construction products used (**Table 9.11 and 9.12)** and categorise them accordingly. Following this, please provide the appropriate certification, this must match up to the product and the material category specified. If quantity information can be provided this will help to improve the acheived score.										
			Completed Mat 03 Calculator						Assessor - Ridge				
			Mat 03 Total		4	2	2	2.14%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Mat 05	Designing for Durability & Resilience		**Protecting Vulnerable Parts of the Building from Damage**		1	1	0	1.07%	Architect - IBI / Landscape Architect - IBI			Achieving this will facilitate achievement of Wst 05 exemplary	
		1	Design drawings marked up to illustrate vulnerable internal and external areas/ parts of the building (**Measures 1.a to 1.d**) See examples of protection measure under **Methodology** Design drawings and/ or specification confirming the durability measures specificed										
			Protecting Exposed Parts of the Building from Material Degradation						Architect - IBI / Structures - Aecom				
		2	Confirmation of applicable building elements and environmental factors from those listed View key exposed elements under **Definitions** Confirmation of design and specification measures put in place to limit degradation effects										
		3 to 4	Drawing or photos that show convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. Drawings and professional narrative show that the roof and façade is designed to prevent water damage, ingress and detrimental ponding.						Architect - IBI / Structures - Aecom				
			Mat 05 Total		1	1	0	1.07%					0
Mat 06	Material Efficiency	1	Set targets and report on opportunities and approaches to optimise the use of materials. This must initially be done at Preparation & Brief and Concept Design. Examples are provided in **Table 9.15.**	RIBA Stages 1 & 2	1	1	0	1.07%	Project team			Captured in Materials & Waste Workshop - recommendations to be tracked throughout. Circular Economy Statement will also be produced by Aecom which can be used as further evidence here (confirmed 09/04/2021) To be updated based on RIBA 2 reports	
		2	Review the original targets and update the report with input from all relevant members of the project team at each RIBA Stage up to and including construction. Where deviations occur record why and provide documentary evidence to support this e.g. meeting minutes.	Throughout					Architect - IBI / QS - Ridge				
			Mat 06 Total		1	1	0	1.07%					0
Wst 01	Construction Waste Management		**Pre-demolition Audit**		1	1	0	0.60%	Project team			Pre Demo Audit confirms 98% of waste diverted from landfill, raw data requested - to achieve the credit will need to be referenced in the Resource Management Plan for the site at a later stage. Jackie confirmed that further buildings are to be demolished to facilitate the new hospital building. Pre-demo audit to be forwarded for these too, as and when available.	
		1 to 3	Copy of the pre demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. The audit must cover criteria **1.a to 1.d** and be carried out by a suitably qualified person prior to the end of RIBA Stage 2. **View Methodology** for the scope of the audit.	RIBA Stage 2									
			Construction Resource Efficiency		3	2	0	1.20%	QS - Ridge			Targets set in Materials & Waste Plan - capture contractually to prove intent for design stage - Will Aecom report cover this too? Email exchange 16/06/2021	
		4 to 5	Copy of the Resource Management Plan (RMP) covering **3.a and 3.b.** **View Definitions** for requirements of a compliant RMP. The Resource Management Plan MUST reference the pre-demo audit. Confirmation of targeted / achieved resource efficiency for the site - please refer to **Table 10.1**.										
			Diversion of Resources from Landfill		1	1	0	0.60%	QS - Ridge			As above, will Aecom report cover this?	
		6 to 7	Confirmation of the amount of waste that will be diverted from landfill (refer to table 10.2) and waste materials will be sorted into key waste groups. View **Definitions**										
			Wst 01 Total		5	4	0	2.40%					0
Wst 02	Use of Recycled and Sustainably Sourced Aggregates	1	Copy of pre demolition audit of any existing buildings, structures or hard surfaces (refer to guidance in Wst 01)	Stage 2	**Pre Requisite**							Not targeted currently, could be considered pending further confirmation from the design team	
		2 to 5	Identification of all aggregate uses, types and quantities then calculate the distance travelled by all aggregates by transport type. Provide data to assessor so Wst 02 calculator tool can be completed.		1	0	1	0.00%					
		6	Completed Wst 02 calculator tool										
			Wst 02 Total		1	0	1	0.00%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Wst 03	Operational Waste	All	Documentary evidence confirming the types of waste that will be generated by the assessed building e.g. will large amounts of compostable or packing / compactable waste be generated?		1	1	0	0.60%	Waste Management - Aecom			Aecom report to cover this - email exchange 16/06/2021 Need confirmation the specified or installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK.	
		All	Documentary evidence confirming: -The location of the dedicated recyclable storage area; -Storage area for general waste; -The area (m2) of the storage space(s); - Description of the labelling - Provision of composting facilities / compactor if required View **Criteria 1.a to 2.c, additional requirements for healthcare and multi residential units**						Waste Management - Aecom				
			Wst 03 Total		1	1	0	0.60%					0
Wst 04	Speculative Floor & Ceiling Finishes	1 to 2	Confirmation that floor and ceiling finishes will only be installed in a show area or will be agreed with the specific occupant – this could be drawings / specification or a letter at design stage.		0	0	0	0.00%				Not applicable to this building	
			Wst 04 Total		0	0	0	0.00%					0
Wst 05	Adaptation to Climate Change	1 to 3	Copy of Climate Change Adaptation Strategy Appraisal detailing recommendations / solutions that aim to mitigate identified impacts. Original report to be produced during RIBA Stage 2 and then up dated at RIBA Stage 4 with any omissions justified to assessor. Cross reference elements in the **Methodology; Hazard Identification with Risk Estimation, then Evaluation and Management**	RIBA Stage 2	1	1	0	0.60%	Sustainability - Aecom			Understood from meeting 17/11/2020 that Aecom are undertaking a climate change risk assessment as part of the planning requirement, this may align with the BREEAM requirement - to be considered further as there is no point in duplicating work in this area. A Bartlett emailed Kristina 26/11/2020 who confirmed 27/11/2020 that these exercises will be aligned and should be undertaken March 2021, delayed until July 2021 - timescale TBC	
			Wst 05 Total		1	1	0	0.60%					0
Wst 06	Design for Disassembly and Adaptability	**Recommendations**											
		1 to 2	Copy of building specific study reviewing the ease of disassembly and functional adaptation potential of different design scenarios by end of Concept Stage - must include a set of recommendations **View Methodology**	RIBA Stage 2	1	1	0	0.60%	Project team			Materials & Waste Workshop covered this in detail - team asked for further comments 07/04/2021, this should satisfy design stage requirements. Circular Economy Statement will also be produced by Aecom which can be used as further evidence here (confirmed 09/04/2021) To be updated based on RIBA 2 reports	
		Implementation											
		3 to 5	Provide an update during RIBA Stage 4 that confirms how recommendations of study have been implemented, any omissions to be formally justified in writing to assessor. Provide a guide to communicate characteristics to prospective tenants / building users (include in BUG?) **View Methodology**	RIBA Stage 4	1	1	0	0.60%	Project team				
			Wst 06 Total		2	2	0	1.20%					0
Le 01	Site selection	**Previously Occupied Land**											
		1	Design drawings, report and/or photos or overlay confirming the type and duration of previous land use and the areas before and after development (including areas of any temporary works to facilitate the development) View **Definition**		1	1	0	1.00%	Architect - IBI				
		Contaminated Land											
		2	A copy of specialist land contamination report including drawings showing contaminated areas and areas that are to be remediated		1	0	1	0.00%	PM - Aecom			If any remediation is required in order for the development to go ahead then this credit would likely be achieved. Not currently assumed.	
		3	Confirmation of remediation strategy and implementation plan – if this is yet to be confirmed then a letter from client or representative confirming will be undertaken is acceptable at design stage.										
			Le 01 Total		2	1	1	1.00%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by		Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Le 02	Identifying and Understanding the Risks and Oppertunities for the Project	**Statutory obligations**		RIBA Stage 2	**Pre Requisite**				Client	Ecologist - Aecom			**TBC by client or contractor**	
		1	Confirmation from Client or Contractor that compliance is monitored against all relevant UK and EU or International legislation relating to ecology of site											
		Survey and Evaluation			1	1	0	1.00%	Ecologist - Aecom					
		3	**Route 2:** An appropriate ecologist is appointed early enough to ensure early involvement in site configuration and can influence strategy planning decisions											
		4	The ecologist determines the site's ecological baseline, including; Current and potential ecological value and condition of the site and related areas within the Zone of Influence. Direct and indirect risks to current ecological value from the project. Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence.						Ecologist - Aecom				**Ecologist to confirm:** CVs to be provided for Caitriona Fenton and Mike Padfield. TBC by ecologist that their late appointment (RIBA 2) did not impact their recommendations. Xeni contacted Aecom on 12/02/2021 for outstanding items	
		5	The data collated by ecologist is shared with the project team to inform the site preparation, design and construction works											
		Determining the Ecological Outcomes for the Site			1	1	0	1.00%	Ecologist - Aecom					
		6	Survey and evaluation criteria followed for the relevant route										**Project team to confirm:** Data and recommendations have been shared with them to inform site preparation, design and construction works. The project team liaised and collaborated with representative stakeholders to identify optimal ecological outcome, in line with mitigation hierarchy.	
		7	An optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team. The outcome should be in line with the mitigation hierarchy of action, **see Methodology**.											
			Le 02 Total		2	2	0	2.00%						0
Le 03	Managing Negative Impacts on Ecology	**Identification & Understanding the Risks and Opportunities for the Site**		RIBA Stage 2	**Pre Requisite**				Client	Ecologist - Aecom				
		1	Le 02 has been achieved											
		Planning, Liaison, Implementation and Data			1	1	0	1.00%	Ecologist - Aecom	Project Team			**Client or contractor to confirm:** Compliance with relevant UK and EU legislation **Project team to confirm:** Ecologist's recommendations will be implemented to mitigate negative impacts of the works 1.The use of low-level lighting during works and within final design to avoid disturbance to commuting and foraging bats 2.Vegetation and trees cleared to be checked during nesting season (March – September) by SQE 3.Avoidance of scrub and vegetation clearance during hedgehog hibernation period (Nov-March) 4.Undertake biosecurity measures to prevent the spread of invasive species 5.Implement a CEMP during the construction phases 6.Avoid works to the Tower Block (B6) during the peregrine nesting season (February – July)	
		2	Documentary evidence confirming roles and responsibilities for managing negative impacts on ecology have been clearly defined, allocated and implemented early enough to influence concept design or design brief.											
		3	Documentary evidence confirming that the potential impacts of site preparation and construction works on ecology have been identified at an early project stage to optimise benefits and outputs.											
		4	Project team have proposed solutions and selected measures to be implemented during site preparation and construction works. These should be based on the liaison and collaboration undertaken for Le 02.						Ecologist - Aecom	Project Team				
		Managing Negative Impacts of the Project			2	1	0	1.00%	Ecologist - Aecom	Project Team			**Ecologist to confirm:** Ecological value pre- and post development Xeni contacted Aecom on 12/02/2021 for outstanding items	
		5 to 8	Evidence to confirm that either there has been no loss in ecological value or that this has been limited as far as possible in accordance with hierarchy. View **Hierarchy in Methodology**											
			Le 03 Total		3	2	0	2.00%						0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by		Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Le 04	Change & Enhancement of Ecological Value	**Managing negative impacts on ecology**												
		1	Criterion 8 of Le 03 has been achieved			**Pre Requisite**			Ecologist - Aecom	Project Team				
		2	Confirmation from Client or Contractor that compliance is monitored against all relevant UK and EU or International legislation relating to ecology of site (as per criteria 1 of Le 02)						Client	Ecologist - Aecom				
		Enhancement of Ecology												
		4	Documentary evidence that the recommended solutions and measures (from Le 03) have been or will be implemented and this will result in an enhancement of the ecological value of the site.		1	1	0	1.00%	Ecologist - Aecom	Project Team			**Client or contractor to confirm:** Compliance with relevant UK and EU legislation **Project team to confirm:** Ecologist's enhancement recommendations will be implemented **Ecologist to confirm:** Ecological value pre- and post-development Xeni contacted Aecom on 12/02/2021 for outstanding items	
		5	Data collated are analysed and where potentially valuable be provided to the local environmental records centres nearest to, or relevant for, the site.						Ecologist - Aecom	Project Team				
		Change and Enhancement of Ecology												
		6	**Route 2** Ecologists confirmation of change in ecological value (should be done in line with **GN36**).		3	2	1	2.00%	Ecologist	Project Team				
			Le 04 Total		4	3	1	3.00%						0
Le 05	Long Term Ecology Management and Maintenance	**Roles & Responsibilities, Implementation & Stat Obligations**												
		1	Confirmation from Client or Contractor that compliance is monitored against all relevant UK and EU or International legislation relating to ecology of site (as per criteria 2 of Le 02 and criteria 1 of Le 04)			**Pre Requisite**			Client	Ecologist - Aecom				
		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.						Ecologist - Aecom	Landscape Architect - IBI				
		Planning, Liaison, Data, Monitoring and Review Management & Maintenance												
		3	Documentary evidence confirming that the solutions and measures developed by collaboration under previous issues have been implemented to: a) monitor and review effectiveness for implementation b) develop and review management and maintenance solutions, actions or measures Criteria **4a) - f)** should be considered as part of this		1	1	0	1.00%	Ecologist - Aecom	Project Team				
		4	The building owner information that is supplied should include a section on ecology and biodiversity to inform the owner of local ecological features, value and biodiversity on or near the site.						Ecologist - Aecom					
		Landscape and Ecology Management Plan Development			1	1	0	1.00%	Ecologist - Aecom	Client				
		5 to 6	A landscape and ecology management plan is produced in line with BS 42020:2013 and cover at least the first five years after project completion. View **5.a to 5.e -** Plan to be kept up to date to support maintenance of ecological value of the site.											
			Le 05 Total		2	2	0	2.00%						0
Pol 01	Impact of Refrigerants	1	Where relevant documentary evidence confirming the absence of refrigerant in the development		3	0	3	0.00%	M&E - Aecom				Not currently assumed, could be considered depending on feedback from M&E	
		3 to 5	Documentary evidence (specification or manufacturer's literature) confirming that systems comply with relevant standards and the refrigeration type and details specifically: -System capacity (kw); -Total refrigerant charge (kg); -Operational life (yrs.); -Refrigerant global warming potential; -Annual leakage rate (% refrigerant charge); -Annual purge release factor (% refrigerant charge); -Annual service release (% refrigerant charge); -Probability factor for catastrophic failure (%); -Refrigerant recovery efficiency (%). NOTE: where technical information is not available for all of the above some default figures can be used in some cases						M&E - Aecom					
		3 to 5	Copy of Pol 01 Calculator						Assessor - Ridge					
		6 to 7	Confirmation of details of leak detection system(s)						M&E - Aecom					
			Pol 01 Total		3	0	3	0.00%						0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Pol 02	Local Air Quality	1 to 2	Confirmation of the NOx, PM and VOC emission levels for all heating and hot water system(s) – can be specification or manufacturer's literature as appropriate to assessment stage. View **Table 12.4 and 12.5**		2	2	0	1.33%	M&E - Aecom			Assumed all electric scheme - is this the proposal? Confirmed in AECOM Stage 1 MEP Report is this still the case as was subject to ongoing review with the Trust.	
		3	Documentary evidence confirming whether the site is in a low or high pollution location (see **Methodology**)						M&E - Aecom				
			Pol 02 Total		2	2	0	1.33%					0
Pol 03	Flood & Surface Water Management	1	Documentary evidence from appropriately consultant confirming they are qualified in line with BREEAM requirements		**Pre Requisite**				Civils - Aecom			Report prepared by A Quigley – CV to be provided by Glanville	
		Flood Resilience											
		1 to 3	Copy of site specific Flood Risk Assessment and supporting documentation confirming flood risk and resilience and resistance of the development where applicable.		2	2	0	1.33%	Civils - Aecom				
		Surface Water Run-Off											
		5	Surface water run-off solutions must be bespoke i.e. take into account site specific requirements etc. Priority levels in methodology should be followed.		**Pre Requisite**				Civils - Aecom				
		6 to 9	Documentary evidence confirming peak rate of run-off requirements are met - typically included in consultant's report and appendices. Relevant maintenance agreements should also be provided to indicate long term operation and maintenance of all SUDs will be in place.		1	1	0	0.67%	Civils - Aecom			**TBC**: 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 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	
		10 to 15	Documentary evidence confirming volume of run-off requirements are met - this must also confirm no flooding of property in event of local drainage system failure. Relevant maintenance agreements are required for achievement of this credit too.		1	1	0	0.67%	Civils - Aecom				
			Pol 03 Total		5	4	1	2.67%					0
Pol 04	Reduction of Night Time Light Pollution	1	Design drawings and correspondence confirming that external lighting is not required for the site however does not adversely affect safety and security of site and users		1	1	0	0.67%	M&E - Aecom				
		2 to 5	OR External lighting design data / calculations / drawings confirming compliance with required standards, locations and controls. There is a specific requirement for illuminated advertisements that must be achieved.						M&E - Aecom				
			Pol 04 Total		1	1	0	0.67%					0
Pol 05	Reduction of Noise Pollution	1	Documentary evidence confirming all existing and proposed noise sensitive areas local to, and within, the site boundary (800m is the set distance).		1	1	0	0.67%	Acoustician - Aecom			Understood Aecom have been appointed to review this for planning, need to verify the BREEAM requirements are also included here.	
		2 to 5	Noise Impact Assessment carried out by suitably qualified acoustician which indicates the noise level from the development and, where required, the attenuation measures. At design stage actual measurements are unlikely to be possible however acoustician can use calculations or scale investigations to demonstrate compliance.						Acoustician - Aecom				
		2 to 5	Formal confirmation from the client or design team that where relevant attenuation measures recommended by acoustician will be installed – can be marked up design plan highlight attenuation measures where applicable for design stage, at post construction will need to be able to see in situ.						M&E - Aecom				
			Pol 05 Total		1	1	0	0.67%					0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
hn 02	Man 03 Responsible Construction Practices	Exemplary	Confirmation that a score of >40 is achieved for CCS, together with items g), p) and q).		1	1	0	1.00%	QS - Ridge				
													0
hn 04	Hea 01 Visual Comfort	Exemplary	Confirmation that the internal lighting can be manually dimmed in line with requirements. A separate credit is also available for meeting exemplary level daylighting criteria.		2	0	0	0.00%	M&E - Aecom				
													0
hn 05	Hea 02 Indoor Air Quality	Exemplary	Three of the product types listed in table 5.12 meet the requirements.		1	0	0	0.00%	Architect - IBI				
													0
hn 06	Hea 06 Security	Exemplary	Confirmation that a compliant risk based security rating system has been used and the performance of the scheme has been confirmed by an independent assessment and verification.		1	0	0	0.00%					
													0
hn 07	Ene 01 Reduction of Energy Use and Carbon Emissions	Exemplary	Up to 5 credits are available; 2 for demonstrating EPR_{NC} of >0.9 and zero net carbon emissions (criteria 6 to 8) this increases to 3 credits if demonstrate building is carbon negative (criteria 9) . There are two further credits available for achieving Ene 02 and client commits funds to pay for post occupancy stage assessment and energy model is submitted to the BRE		1	0	0	0.00%	M&E - Aecom				
													0
hn 08	Wat 01 Water Consumption	Exemplary	Detailed documentary evidence indicating a 65% improvement in water consumption against the basline performance.		1	0	0	0.00%					
													0

RIDGE

Issue ID	Issue name	Criteria	Credit summary	Time Bound?	Available Credits	Assumed Credits	Potential Credits	% Weighting	To be provided by	Design Stage Evidence Status	Final Evidence Status	Notes	Proven Score
Inn 09	Mat 01 Life Cycle Impacts	Exemplary	Up to 3 credits are available for undertaking additional LCA assessment for building services, aligning LCA and LCC (Man 02) in line with criteria 11 to 14 or having the LCA verified by a third party.		1	0	1	0.00%	NZC - Aecom			Assumed this is likely to take place as part of embodied carbon exercise - team to confirm	
													0
Inn 10	Mat 03 Responsible Sourcing of Materials	Exemplary	Completed Mat 03 calculator tool confirming exemplary level performance (at least 70% of RSM points achieved).		1	0	0	0.00%					
													0
Inn 11	Wst 01 Construction Site Waste Management	Exemplary	Confirmation that the amount of waste generated per 100m2 is less than or equal to 1.6m3; the percentage of non-hazardous waste diverted from landfill meets the exemplary level benchmark; all key waste groups are identified for diversion from landfill in the RMP.		1	0	0	0.00%					
													0
Inn 12	Wst 02 Recycled Aggregates	Exemplary	Confirmation that the project sustainable aggregate points score meets or exceeds the exemplary level performance benchmark in **Table 10.4**		1	0	0	0.00%					
													0
Inn 13	Wst 05 Adaptation to Climate Change	Exemplary	Confirmation that the criteria outlined in the manual are achieved with regards to Hea 04, Ene 01, Ene 04, Wat 01, Mat 05, and Pol 03.		1	0	1	0.00%	Project Team			Highlighted as a potential target by Kristina at Aecom - to be kept under review - overlaps noted in schedule above. Not currently assumed due to Wat 01.	
													0
Inn 14	Le 02 Ecology Risks & Opportunities	Exemplary	Confirmation that criteria 8 to 10 are achieved Confirmation that wider site sustainability related activities and the potential for ecosystem service related benefits have been considered. **See methodology.**		0	0	0	0.00%					
			Achieve both Hea 07 credits for safe access and outside space										
			Achieve Pol 03 credits for surface water run off and minimising watercourse pollution										
			Achieve Pol 05 reduction in noise pollution										
													0
Inn 15	Le 04 Ecology Risks & Opportunities	Exemplary	Documentary evidence confirming a significant gain in ecological value (percentage score of 110 or higher)		0	0	0	0.00%					
													0
Inn 16	Pol 03 Flood & Surface Water Management (Simple Buildings only)	Exemplary	Demonstrate compliance with criteria 5 - 16		0	0	0	0.00%					
													0

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