BREEAM NC 2018

Pre-Assessment Estimate

Dukes Education

FOR THE SITE AT:

Kneller Hall

Twickenham

TW2 7DU

SRE

Version	Revision	Date	Author	Reviewer	Project Manager
1	A	01.02.2022	OM	GB	HN
1	B	16.02.2022	OM	GB	HN
1	C	23.06.2022	BY	-	BY
1	D	02.09.2022	BY	GB	BY
1	E	15.09.2022	BY	GB	BY

SRE Main Office | Greenforde Farm

Stoner Hill Road | Froxfield

Petersfield | Hampshire | GU32 1DY

01730 710044

info@sre.co.uk

www.sre.co.uk

Executive Summary

This BREEAM[1] Pre-Assessment has been prepared by SRE Ltd for the New Construction development of the development at Kneller Hall, Twickenham within the London Borough of Richmond upon Thames. The estimate has been based on the details supplied to SRE and reports with certain credits assessed on best practice and historical data.

Project Name	Kneller Hall
Lead Assessor	Malcolm Maclean
Target Rating	Excellent – 70%
BREEAM Version	NC 2018
Assessment Type	Education
BREEAM Type	Fully Fitted

Scoring Scenarios

The pre-assessment has been based on the following score scenario:

Scenario	Min Standards met	Score	BREEAM Rating
SRE Proposed Target	Yes	78.08%	Excellent

This Pre-Assessment is an indication of how the desired rating may be achieved. Changes from the outline specification given below may result in changes to the final BREEAM Design and/or PCR assessment rating.

Detailed project information should be provided at the earliest date to enable prompt incorporation of design changes into the BREEAM NC 2018 assessment.

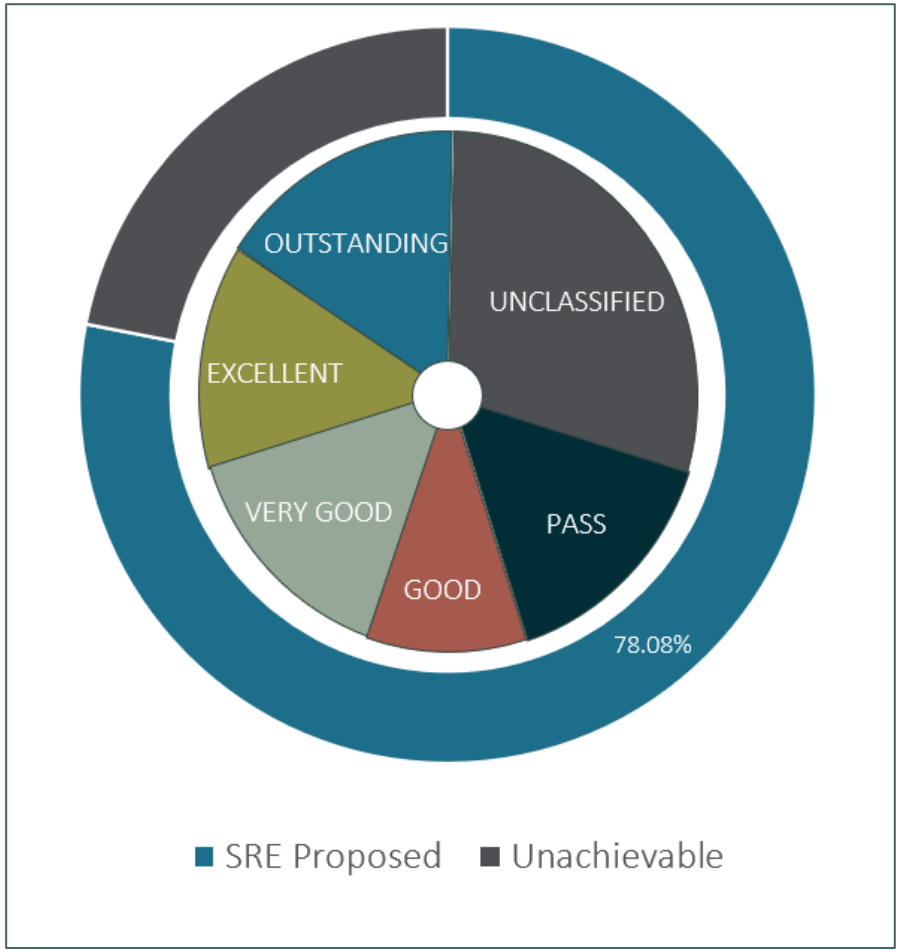

Figure 1 - BREEAM Score Chart

[1] Copyright exists on the BREEAM and BRE Global name and logo and these are registered trademarks of BRE Global Ltd (BREG) and it may not be used or reproduced in any form for any purpose without prior written consent of BRE.

1.0 Assessment Overview

1.1 Development Overview

The Proposed Development is part of a wider development at the site and there is an RFO 2014 scheme running alongside this NC2018 assessment. Within this assessment there will be the school hall (extension part), teaching building, sports centre with the swimming pool, sports pavilion & energy centre (TBC). These separate buildings can all be assessed under the same scheme under Section 8 of GN10 as they all these buildings have the same overarching function of school.

Please refer to the RFO pre-assessment for more details relating to the adjacent scheme.

1.2 Assessment Criteria

The BREEAM Pre-Assessment has shown that the Proposed Development can currently just achieve an 'Excellent' rating under BREEAM New Construction 2018 (SRE Proposed) based on the assumptions and information agreed to date.

The BREEAM Pre-Assessment has been undertaken as a 'Fully Fitted' assessment to reflect the scope of the works to be undertaken by the Client. The credits contained within the assessment are therefore those relevant to the scope of a 'Fully Fitted' assessment.

This pre-assessment highlights those credits which are likely to be achievable (SRE 'Targeted' score) and those that will require additional input (SRE 'Potential' score).

1.3 BREEAM Score

The project's overall target score is currently 78.08%, which will deliver an 'Excellent' BREEAM rating. The credits targeted are considered by SRE and the design team to be realistic and deliverable on-site.

London Borough of Richmond Upon Thames requires that all major new developments, be built to BREEAM 'Excellent' standard. The pre-assessment demonstrates that this rating is technically deliverable for this site.

Potential credits are highlighted within the following section, some of which should be adopted to improve the current score and provide a sufficient 'buffer' to protect against the loss of any credits throughout the construction phase.

BREEAM standards can be challenging to achieve, and the pre-assessment report should be carefully reviewed by the design and construction teams to ensure all targeted credits are delivered as the project is progressed. Sections 2.0 and 3.0 list the specific credits proposed as part of the BREEAM 'Excellent' rating.

1.4 BREEAM Phasing

The BREEAM assessment will be undertaken for the whole site at the Design Stage but will be phased in the Post Construction Stage as each building is completed.

Figure 2 - Site plan of the Proposed Development. Buildings included in the New Construction 2018 assessment have been labelled with blue numbering.

1.5 Potential and Unachievable Credits

The following are credits that have been identified as those that are *potentially achievable* if high benchmarks and/or third-party reports or assessments are undertaken for the site:

BREEAM Credit		Potential credits	Summary of credit requirements
Man 02	Life cycle cost and service planning	1	CLCC requires a report that is not thought to be within the current scope of the project.
Tra 02	Sustainable transport measures	2	See comments under credit section. 6 measures are assumed with the 2 additional potentials based on design team discussion.
Wat 04	Water efficient equipment	1	There is no irrigation to be provided, but confirmation is required from the MEP as to whether the swimming pool water will be used and whether 1 credit can be achieved or not.
LE 04	Ecological change and enhancement	1	2 credits are assumed at present based on current information, but this is subject to change.
Pol 01	Impact of refrigerants	1	Due to the type of refrigerant being used on site, this credit is high risk.

Table 1 - Potential credits

The following credits have been identified as *unachievable* on the site. An explanation has been given for each:

BREEAM Credit		Unachievable credits	Summary of credit requirements
Man 02	Life cycle cost and service planning	2	CLCC requires a report that is not thought to be within the current scope of the project.
Hea 01	Visual comfort	1	View out credit not achievable.
Hea 02	Indoor air quality	1	Ventilation credit not achievable.
Ene 01	Reduction of energy use and carbon emissions	2	Based on the current BRUKLs produced by SRE, 7 out of a possible 9 credits can be achieved.
Ene 04	Low carbon design	1	Free cooling is not included or applicable for the B8 Space, therefore this credit cannot be included.
Mat 02	Mat02 Environmental impacts from Construction	1	Due to technical difficulty with the supply chain, and the high benchmark required for this credit, it has been removed from the scope.
Mat 03	Responsible sourcing of construction products	1	Difficulty with attaining EPDs for materials used makes it unlikely that the required amount of 'points' will be achieved to allow these credits to be awarded.
Wst 01	Construction waste management	1	2 out of 3 credits have been targeted for construction resource efficiency – Main Contractor to confirm within the RMP.
Wst 02	Use of recycled and sustainably sourced aggregates	1	High benchmarks and requirements make this credit difficult to achieve.
LE 01	Site selection	2	The site being used has not previously been developed on and the land is not contaminated, so no credits are achievable.
Pol 01	Impact of refrigerants	2	Based on the refrigerant specified for the site and high benchmarks, 2 credits have been assumed as unachievable. MEP to confirm by providing refrigerant details.
Pol 03	Flood and surface water management	1	Despite the site being in an area of low flood risk, it does not appear possible to meet the requirements for the 'minimising water course' pollution credit due to limitations in area and natural drainage options.

Table 2 - Unachievable credits

2.0 Minimum Standards

In addition performance against the minimum standards (required for the specified target rating) under each scenario is summarised below:

Issue	Target	Potential
Man 03 - Responsible construction practices	✔	✔
Man 04 - Commissioning and handover	✔	✔
Man 04 - Commissioning and handover	✔	✔
Man 05 - Aftercare	✔	✔
Ene 01 - Reduction of energy use and carbon emissions	✔	✔
Ene 02 - Energy monitoring	✔	✔
Wat 01 - Water consumption	✔	✔
Wat 02 - Water monitoring	✔	✔
Mat 03 - Responsible sourcing of construction products	✔	✔
Wst 01 - Construction waste management	✔	✔
Wst 03 - Operational waste	✔	✔

Table 3 – BREEAM Minimum Standards

3.0 Summary score sheet

		Available	Current	Target	Potential
Management					
Man 01	Project brief and design	4	0	4	4
Man 02	Life cycle cost and service planning	4	0	1	2
Man 03	Responsible construction practices	6	0	5	5
Man 03 – Exemplary (1)	Responsible construction practices	1	0	1	1
Man 04	Commissioning and handover	4	0	4	4
Man 05	Aftercare	3	0	3	3
	Standard Management Credit Total:	**21**	**0**	**17**	**18**
	Exemplary Management Credit Total:	**1**	**0**	**1**	**1**
	% Management Total (Standard + Exemplary):	**11.92**	**0**	**9.84**	**10.36**
Health & Wellbeing					
Hea 01	Visual comfort	5	0	4	4
Hea 01 – Exemplary (1)	Visual comfort	1	0	0	0
Hea 01 – Exemplary (2)	Visual comfort	1	0	0	0
Hea 02	Indoor air quality	4	0	2	2
Hea 02 – Exemplary (1)	Indoor air quality	1	0	0	0
Hea 04	Thermal comfort	3	0	3	3
Hea 05	Acoustic performance	3	0	3	3
Hea 06	Security	1	0	1	1
Hea 06 – Exemplary (1)	Security	1	0	0	0
Hea 07	Safe and healthy surroundings	2	0	2	2
	Standard Health & Wellbeing Credit Total:	**18**	**0**	**15**	**15**
	Exemplary Health & Wellbeing Credit Total:	**4**	**0**	**0**	**0**
	% Health & Wellbeing Total (Standard + Exemplary):	**17.86**	**0**	**11.55**	**11.55**
Energy					
Ene 01	Reduction of energy use and carbon emissions	13	0	11	11
Ene 01 – Exemplary (1)	Reduction of energy use and carbon emissions	3	0	0	0
Ene 01 – Exemplary (2)	Reduction of energy use and carbon emissions	2	0	0	0

Ene 02	Energy monitoring	2	0	2	2
Ene 03	External Lighting	1	0	1	1
Ene 04	Low carbon design	3	0	1	1
Ene 06	Energy efficient transportation systems	2	0	2	2
Ene 07	Energy efficient laboratory systems	1	0	1	1
Ene 08	Energy efficient equipment	2	0	2	2
	Standard Energy Credit Total:	**24**	**0**	**20**	**20**
	Exemplary Energy Credit Total:	**5**	**0**	**0**	**0**
	% Energy Total (Standard + Exemplary):	**20.84**	**0**	**13.20**	**13.20**
Transport					
Tra 01	Transport assessment and travel plan	2	0	2	2
Tra 02	Sustainable transport measures	10	0	6	8
	Standard Transport Credit Total:	**12**	**0**	**8**	**10**
	Exemplary Transport Credit Total:	**0**	**0**	**0**	**0**
	% Transport Total (Standard + Exemplary):	**9.96**	**0**	**6.64**	**8.30**
Water					
Wat 01	Water consumption	5	0	3	3
Wat 01 – Exemplary (1)	Water consumption	1	0	0	0
Wat 02	Water monitoring	1	0	1	1
Wat 03	Water leak detection	2	0	2	2
Wat 04	Water efficient equipment	1	0	0	1
	Standard Water Credit Total:	**9**	**0**	**6**	**7**
	Exemplary Water Credit Total:	**1**	**0**	**0**	**0**
	% Water Total (Standard + Exemplary):	**7.93**	**0**	**4.62**	**5.39**
Materials					
Mat 01	Environmental impacts from construction products - Building life cycle assessment (LCA)	7	0	5	5
Mat 01 – Exemplary (1)	Environmental impacts from construction products - Building life cycle assessment (LCA)	1	0	1	1
Mat 01 – Exemplary (2)	Environmental impacts from construction products - Building life cycle assessment (LCA)	1	0	0	0
Mat 01 – Exemplary (3)	Environmental impacts from construction products - Building life cycle assessment (LCA)	1	0	0	0
Mat 02	Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)	1	0	0	0
Mat 03	Responsible sourcing of construction products	4	0	3	3

Mat 03 – Exemplary (1)	Responsible sourcing of construction products	1	0	0	0
Mat 05	Designing for durability and resilience	1	0	1	1
Mat 06	Material efficiency	1	0	1	1
	Standard Materials Credit Total:	**14**	**0**	**10**	**10**
	Exemplary Materials Credit Total:	**4**	**0**	**1**	**1**
	% Materials Total (Standard + Exemplary):	**18.98**	**0**	**11.70**	**11.70**
Waste					
Wst 01	Construction waste management	5	0	4	4
Wst 01 – Exemplary (1)	Construction waste management	1	0	0	0
Wst 02	Use of recycled and sustainably sourced aggregates	1	0	0	0
Wst 02 – Exemplary (1)	Use of recycled and sustainably sourced aggregates	1	0	0	0
Wst 03	Operational waste	1	0	1	1
Wst 05	Adaptation to climate change	1	0	1	1
Wst 05 – Exemplary (1)	Adaptation to climate change	1	0	0	0
Wst 06	Design for disassembly and adaptability	2	0	2	2
	Standard Waste Credit Total:	**10**	**0**	**8**	**8**
	Exemplary Waste Credit Total:	**3**	**0**	**0**	**0**
	% Waste Total (Standard + Exemplary):	**9**	**0**	**4.80**	**4.80**
Land Use & Ecology					
LE 01	Site selection	2	0	0	0
LE 02	Ecological risks and opportunities	2	0	2	2
LE 02 – Exemplary (1)	Ecological risks and opportunities	1	0	0	0
LE 03	Managing impacts on ecology	3	0	3	3
LE 04	Ecological change and enhancement	4	0	3	4
LE 04 – Exemplary (1)	Ecological change and enhancement	1	0	0	0
LE 05	Long term ecological management and maintenance	2	0	2	2
	Standard Land Use & Ecology Credit Total:	**13**	**0**	**10**	**11**
	Exemplary Land Use & Ecology Credit Total:	**2**	**0**	**0**	**0**
	% Land Use & Ecology Total (Standard + Exemplary):	**15**	**0**	**10**	**11**
Pollution					
Pol 01	Impact of refrigerants	3	0	0	1

Pol 02	Local air quality	2	0	2	2
Pol 03	Flood and surface water management	5	0	4	4
Pol 04	Reduction of night time light pollution	1	0	1	1
Pol 05	Reduction of noise pollution	1	0	1	1
	Standard Pollution Credit Total:	**12**	**0**	**8**	**9**
	Exemplary Pollution Credit Total:	**0**	**0**	**0**	**0**
	% Pollution Total (Standard + Exemplary):	**7.92**	**0**	**5.28**	**5.94**
Innovation					
AI	Approved Innovation	1	0	0	0
	AI - Innovation Credit Total:	**0**	**0**	**0**	**0**
	% Innovation Total (Standard + Exemplary):	**1**	**0**	**0**	**0**
	OVERALL TOTALS		0	102	108
	% OVERALL SCORE TOTALS		0	78.08	82.24

4.0 Detailed Assessment

Management						
Man 01 - Project brief and design						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Project delivery planning	1	0	1	1	**Project Delivery Planning** **Completed BEFORE end of RIBA Stage 2 (1 credit)** **Targeted - Yes** Notes from stakeholders meeting which identify and define each key phase of the project delivery (including, roles, responsibilities and contributions). The following should be considered when defining the above: end-user requirements, aims of the design and design strategy, installation and construction requirements or limitations, budget and technical expertise, maintainability and adaptability of the proposal, operational energy, requirements for the production of project and end-user documentation, and for commissioning, training and aftercare support. The project team should also demonstrate how stakeholders contributions have influenced Initial Project Brief, Project Execution Plan, Communication Strategy and Concept Design. **Actions:** *Stakeholder consultation notes and minutes required* *Comments 11.02.22* Credit can be challenging to achieve will ensure attention is paid SRE (23/06/2022): Design Team to complete the SRE consultation template and send early-stage meeting notes. Communication Strategy and Project Execution Plan are also required. SRE (12/07/2022): Man01 schedule is completed and early-stage meeting notes along with drafts of some reports are received. Completed Project Execution Plan, Statement of Community Involvement, Design and Access Statement, Landscape Design Statement and Planning Statement will be provided for the planning submission.
2	Stakeholder consultation (interested parties)	1	0	1	1	**Stakeholder Consultation (interested parties) (1 credit)** **Targeted - Yes** **Complete by end of RIBA Stage 2** Prior to completion of the Concept Design, the design team should consult with all interested parties on matters that cover the minimum consultation content. They should demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties should give and receive consultation feedback. **Actions:** *Stakeholder consultation if required see SRE schedule* *Comments 11.02.22* Credit can be challenging to achieve will ensure attention is paid SRE (23/06/2022): Design Team to complete the SRE consultation template, provide early-stage report demonstrating third party consultation completed and showing how the early-stage design affected by consultation feedback. The consulted parties should receive feedback from the project team by the end of RIBA Stage 4.

						SRE (12/07/2022): Man01 schedule is completed and early-stage meeting notes along with drafts of some reports are received. Completed Project Execution Plan, Statement of Community Involvement, Design and Access Statement, Landscape Design Statement and Planning Statement will be provided for the planning submission.
3	BREEAM AP (concept design)	1	0	1	1	**BREEAM AP - (Concept Design) + Prerequisite (1 credit)** **Targeted - Yes** **Complete by RIBA Stage 2** The prerequisite: the project team, including the client, formally agree on the strategic performance targets early in the design process. A BREEAM AP (SRE can provide this service) has been appointed prior to the close of RIBA Stage 2, with the role formally recognised for the remainder of the Concept & Developed Design Stage. The role encompasses assisting with any BREEAM related issues the design team may have in order to maximise the chances of achieving the earlier formally agreed BREEAM target score. Feedback will be provided based upon the monitoring of the project's development along with the collating of evidence for use within the assessment. **Actions:** SRE (23/06/2022): SRE will provide the Stage 1~2 BREEAM AP report. SRE (13/09/2022): RIBA Stage 1 & 2 BREEAM AP report has been provided by SRE.
4	BREEAM AP (developed design)	1	0	1	1	**BREEAM AP - Developed Design) (1 credit)** **Targeted - Yes** **Complete by RIBA Stage 4** The prerequisite: the project team, including the client, formally agree on the strategic performance targets early in the design process. A BREEAM AP (SRE can provide this service) has been appointed prior to the close of RIBA Stage 2, with the role formally recognised for the remainder of the Concept & Developed Design Stage. The role encompasses assisting with any BREEAM related issues the design team may have in order to maximise the chances of achieving the earlier formally agreed BREEAM target score. Feedback will be provided based upon the monitoring of the project's development along with the collating of evidence for use within the assessment. **Actions:** SRE (23/06/2022): SRE will provide the Stage 3 BREEAM AP report. BREEAM AP to be appointed at RIBA Stage 4 and will need to provide Stage 4 report. SRE (13/09/2022): RIBA Stage 3 BREEAM AP report has been provided by SRE. BREEAM AP to be appointed at RIBA Stage 4 and will need to provide Stage 4 report.
Man 02 - Life cycle cost and service planning						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Elemental LCC	2	0	0	0	**Elemental Life Cycle Costing (ELCC) (2 credits)** **Targeted - No** **Complete by RIBA Stage 2** An ELCC must be completed at RIBA Stage 2 and provide an analysis of future replacement costs over a period of 20, 30, 50 or 60 years (to be chosen by the client).

2	Component level LCC options appraisal	1	0	0	1	**Component level Life Cycle Costing (CLCC) (1 credit)** **Complete by RIBA Stage 4** **Targeted - Potential** A CLCC must be completed by the end of RIBA Stage 4. Written examples of how this has influenced the final outcome of the design are to be provided.
3	Capital cost reporting	1	0	1	1	**Capital cost reporting (1 credit)** **Targeted - Yes** The capital cost of the project will be formally stated by the project team and included within the BREEAM assessment, measured in £k/m^2. **Actions**: Project team to supply written confirmation of the capital cost of the project (£k/m^2).
Man 03 - Responsible construction practices						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req 1	Prerequisite - Legally harvested and traded timber		✗	✓	✓	**Prerequisite - All timber and timber-based products used on the project to be 'Legally harvested and traded timber'.**
1	Environmental management	1	0	1	1	**Environmental Management (1 credit)** **Targeted - Yes** The Main Contractor and demolition contractor must have a **certified Environmental Management System** (ISO 14001/EMS) and implement best practice pollution prevention policies and procedures on-site in accordance with PPG6. **Actions:** Appoint a Main Contractor & Demolition Contractor with a valid EMS certificate.
2	BREEAM AP (site)	1	0	1	1	**BREEAM AP (Site) (1 credit)** **Targeted - Yes** A BREEAM AP is to have been appointed, ensuring ongoing compliance during the construction, handover and close out stages. Support and corrective actions will be provided to the project team in order to achieve the targeted BREEAM score. **Actions**: Main Contractor to appoint on-site BREEAM AP.
3	Responsible construction management	2	0	2	2	**Responsible construction management (2+1 credits)** **Targeted - Yes - 2 credits + 1 credit (innovation)** The Main Contractor must achieve the minimum 9 requirements in the *SRE BREEAM NC 2018 - Man03 RCM Assessment* (or BREEAM Table 4.1) for 1 credit. 6 additional items are required to achieve the second credit. If all items are completed the exemplary credit can also be awarded. The Considerate Constructors Scheme (CCS), or equivalent, can be used in support of the delivery of the above measures, however, this is in addition to the site-specific evidence detailed above.

						Actions: Main Contractor to follow all items listed in the BREEAM Table 4.1 Evidence of all measures met within SRE BREEAM NC 2018 - Man03 RCM Assessment (BREEAM Table 4.1) must be provided.
4	Monitoring of construction site impacts	2	0	1	1	**Site monitoring of utilities and transport of construction and waste materials (2 credits)** **Targeted - Yes** The Main Contractor is to assign an individual with the appropriate authority with the responsibility of monitoring, reporting and setting performance targets against the following: - Energy consumption (kWh and litres of fuel used) and CO_2 emissions (total $kgCO_2$/project value); - Water (potable) (m^3) minus any recycled water use; and - Transport of materials from factory gate to site including transport, intermediate storage and distribution. Total fuel consumption and total carbon dioxide equivalent plus total distance travelled (km). **Actions:** Main Contractor to assign an individual responsible for ensuring that monitoring records are maintained throughout construction.
e1	Responsible construction management	1	0	1	1	As above
Man 04 - Commissioning and handover						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite (Very Good to Outstanding)		✗	✓	✓	**Prerequisite - Commissioning schedule and responsibilities and BUG credits required for Excellent.**
1	Commissioning - testing schedule and responsibilities	1	0	1	1	**Commissioning - testing and responsibilities (1 credit)** **Mandatory - Credit is achieved; Targeted - Yes** An appropriate project team member is appointed as responsible for creating a full **commissioning and testing schedule** for all complex and non-complex systems and services, ensuring they are commissioned and tested to the appropriate standards (Building Regulations, BSRIA, CIBSE, etc.). **Actions:** Main Contractor / M&E Consultant to provide a commissioning and testing schedule.
2	Commissioning - design and preparation	1	0	1	1	**Commissioning - design and preparation (1 credit)** **Mandatory - Credit is achieved; Targeted - Yes** An appropriate project team member is appointed as responsible for creating a full **commissioning and testing schedule** for all complex and non-complex systems and services, ensuring they are commissioned and tested to the appropriate standards (Building Regulations, BSRIA, CIBSE, etc.). **Actions**: Main Contractor / M&E Consultant to provide a commissioning and testing schedule.
3	Testing and inspecting building fabric	1	0	1	1	**Testing and inspecting building fabric (1 credit)** **Targeted - Yes** The building fabric commissioning credit, requiring **airtightness testing** and a **thermographic survey** to confirm the continuity of insulation. Defects must be remediated to achieve the credit.

						Actions: Main Contractor to account for airtightness and thermographic surveys within the project programme and budget.
4	Handover	1	0	1	1	**Handover (1 Credit)** **Mandatory - Credit is achieved; Targeted - Yes** Two **Building User Guides** are to be developed prior to handover, one technical and one non-technical, in addition to an on-site **training schedule** for the building occupiers and/or premises manager. **Actions:** Evidence of testing, commissioning and both BUGs & training schedules are required at Post-Construction.
Man 05 - Aftercare						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Aftercare support	1	0	1	1	**Aftercare Support (1 credit)** **Targeted - Yes** • Provide aftercare support to the building occupiers through having in place operational infrastructure and resources. • Establish operational infrastructure and resources to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is substantially occupied. This facilitates analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and user behaviours accordingly. **Actions**: Above to be confirmed by the design team and written into the M&E specification and the contractor's programme of works and schedule.
2	Commissioning - implementation	1	0	1	1	**Commissioning Implementation (1 credit)** **Targeted - Yes** Complete the commissioning activities (detailed in the manual), over a minimum 12-month period, once the building becomes substantially occupied. **Actions**: Above to be confirmed by the design team and written into the M&E specification and the contractor's programme of works and schedule.
3	Post occupancy evaluation (POE)	1	0	1	1	**Post-occupancy evaluation (POE) (1 credit)** **Targeted - Yes** • The client or building occupier commits to carry out a POE exercise one year after the building is substantially occupied. This gains comprehensive in-use performance feedback and identifies gaps between design intent and in-use performance. The aim is to highlight any improvements or interventions that need to be made and to inform operational processes.

						• An independent party carries out the POE and provides a report with lessons learned to the client and building occupiers. • The client or building occupier commits funds to pay for the POE in advance. This requires an independent party to be appointed to carry out the POE as described above. Evidence of the appointment of the independent party and schedule of responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance. **Actions**: Above to be confirmed by the client
		21	0	17	18	**Standard Management Credit Total**
		1	0	1	1	**Exemplary Management Credit Total**
		11.92	0	9.84	10.36	**% Management Total (Standard + Exemplary)**
Health & Wellbeing						
Hea 01 - Visual comfort						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Control of glare from sunlight	1	0	1	1	**Glare Control (1 credit)** **Targeted - Yes** A glare control assessment is to be undertaken to aid in identifying and justifying areas where glare control measures have/haven't been included. Glare control measures should maximise daylight levels in all-weather whilst simultaneously ensuring that artificial lighting control systems are not interrupted. **Actions**: Design team to confirm which areas are at risk and the subsequent control strategy (e.g., blinds), assumed from current drawings and educational buildings building regulations.
2	Daylighting (building type dependent)	2	0	2	2	**Daylighting (2 credit)** **Targeted - Yes** All areas of the building occupied for a period of >30 consecutive minutes must achieve the minimum daylight requirements (2% daylight factor over 80% of floor area). There should be a uniformity ratio of at least 0.3 or, a minimum point daylight factor of at least 0.3 times the average daylight factor value. Alternative to this criteria the Education and Skills Funding Agency (ESFA) framework can be adopted and adhered to where at least 80% of all relevant room time meet the criteria the credits can be awarded. **Actions**: Design team to confirm, assumed from current drawings and educational buildings building regs. Will require a daylighting modelling to confirm. SRE can provide this service if required. SRE (31/08/2022): SRE has completed the daylighting modelling and 2 credits can be achieved.
3	View out	1	0	0	0	**View Out (1 credit)** **Targeted - No** 95% of the floor area in 95% of spaces for each relevant building area (those spaces occupied continuously for 30 minutes or more) achieves adequate view out. Building areas within 8m of an external wall which has a window/opening of 20% of the surrounding wall area and at a seated eye level, the view out should be of a

						landscape or buildings (rather than just the sky). **Actions**: Design team to confirm, assumed from current drawings and educational buildings building regulations. SRE (31/08/2022): SRE has completed the daylighting modelling and this one credit cannot be achieved.
4	Internal and external lighting levels, zoning and control	1	0	1	1	**Internal/External lighting and zoning controls (1 credit)** **Targeted - Yes** All internal lighting to be designed to provide illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. For areas where computer screens will be regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. External lighting to be provided in accordance with BS 5489-1:2013 and BS EN 12464-2:2014. Internal lighting is zoned to allow for occupant control. (light switches or controls for a particular area or zone of the building that can be accessed and operated by the individuals occupying that area or zone. Such controls will be located within, or within the vicinity of, the zone or area they control.) **Actions**: M&E Consultant to confirm lighting requirements via specification and lighting designs.
e1	Daylighting (building type dependent)	1	0	0	0	Not Targeted
e2	Internal and external lighting levels, zoning and control	1	0	0	0	Not Targeted
Hea 02 - Indoor air quality						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite - Indoor air quality (IAQ) plan		✗	✓	✓	**Prerequisite - An IAQP is to be provided by the Design Team prior to the end of RIBA Stage 2 only if office space is included within the assessed floor area;** **Targeted Yes (pre-requisite)** The purpose of the plan is to minimise internal air pollution during the building's occupation and must, therefore, cover the following: • Removal of contaminant sources; • Dilution and control of contaminant sources; • Procedures for pre-occupancy flush out; • Third party testing and analysis; and • Maintaining good indoor air quality in-use. **Actions:** Design team to produce, SRE can provide this service if required
1	Ventilation	1	0	0	0	**Ventilation; (1 credit)** **Targeted - No** If a naturally ventilated building, openable windows/ventilators are to be located >10m from sources of

						external pollution. If air-conditioned, air intakes are to be >10m from sources of external pollution and >10m from the building's exhaust and where present, HVAC systems must incorporate filtration systems in accordance with BS EN 13779:2007 Annex A3. If the Proposed Development is a naturally ventilated or mixed mode building, cross ventilation should be provided to allow thermal comfort compliance in line with CIBSE AM10. Areas of large or variable occupancy are to be fitted with air quality sensors that are linked to the appropriate controls. **Actions**: From initial drawings this appears feasible given rural location and window spec, design team (MEP) to confirm.
2	Emissions from building products	2	0	1	1	**VOCs (Products) - (2 credits)** **Targeted - Yes (1 credit)** Three of the following categories must achieve the standards set out in the BREEAM NC 2018 Technical Manual (Table 5.11) in addition to all wood-based products being classified as formaldehyde E1: Interior paints and coatings; wood-based products; flooring materials; ceiling, wall, acoustic and thermal insulation materials; and interior adhesives and sealants. **Actions**: Design Team (Architect) to confirm the above
3	Post-construction indoor air quality measurement	1	0	1	1	**VOCs (Testing); (1 credit)** **Targeted - Yes** The credit targeting the VOC testing being undertaken prior to occupation to confirm that the VOC levels within the building meet the WHO and Building Regulation standards has not been targeted due to the cost implications. **Actions**: Main Contractor to complete the post construction VOC testing to comply with relevant BREEAM benchmarks.
e1	Minimising sources of air pollution - Emissions from building products	1	0	0	0	Not Targeted.
Hea 04 - Thermal comfort						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Thermal modelling	1	0	1	1	**Thermal modelling (1 credit)** **Targeted - Yes** Modelling must be undertaken using compliant software in accordance with CIBSE AM11 Building Energy and Environmental Modelling. The simulation must provide full dynamic thermal analysis, whilst also meeting the criteria set out in CIBSE Guide A Environmental design if the building is to be mechanically/naturally ventilated in addition to CIBSE TM52 & TM59 if naturally ventilated (note: this is also linked to Ene04). **Actions:** SRE (13/09/2022): SRE has completed the TM52 modelling check for the teaching building. This one credit can be targeted.
2	Design for future thermal comfort	1	0	1	1	**Design for future comfort (1 credit)** **Targeted - Yes**

						The above modelling criteria must be achieved. Where this is not possible, it should be demonstrated how the building has been adapted using passive design solutions to achieve compliance. **Actions:** SRE (13/09/2022): SRE has completed the TM52 modelling check for the teaching building. This one credit can be targeted.
3	Thermal zoning and controls	1	0	1	1	**Thermal zoning and controls (1 credit)** **Targeted - Yes** The above thermal modelling is to inform the temperature zoning and control strategy for the building. A control strategy is to be based on appropriate zoning, occupant control based on discussion with the end-user and system interaction. **Actions:** MEP consultant to ensure the thermal control strategy comply with the TM52 report provided by SRE.
Hea 05 - Acoustic performance						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Acoustic performance	3	0	3	3	**Acoustic performance for education buildings (3 credits)** **Targeted - Yes** **Sound insulation** - Achieve the performance standards set out in Section 1 of Building Bulletin 93: Acoustic design of schools: performance standards, February 2015 (BB93)1relating to airborne sound insulation between spaces and impact sound insulation of floors. **Indoor ambient noise levels -** Achieve the indoor ambient noise level standards set out within Section 1 of BB93 for all room types. • **Room acoustics** (Control of reverberation, sound absorption and speech transmission index (STI)): • - Teaching and study spaces achieve the requirements relating to reverberation time for teaching and study spaces set out within Section 1 of BB93. • - Open plan teaching spaces achieve the performance requirements relating to reverberation time and STI set out within Section 1 of BB93. • - Corridor and stairwells, for those that give direct access to teaching and study spaces, achieve the performance requirements relating to sound absorption. **Actions**: Acoustician to be appointed on site, conduct initial study and provide confirmation of the likelihood of the above standards being met. A specification should be provided to the Architects and other members of the design team for them to build towards, to ensure the post-construction testing can confirm.
Hea 06 - Security						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**

1	Security of site and building	1	0	1	1	**Security; Input by RIBA Stage 2 (1 credit)** **Targeted - Yes** A Suitably Qualified Security Specialist (SQSS/ALO) must conduct an evidence-based Security Needs Assessment (SNA) prior to RIBA Stage 2 and issue recommendations during Stage 2, which must be implemented within the project design. This has not occurred so credit cannot be targeted. An Exemplary Credit can also be achieved where a compliant risk-based security rating scheme is used. The performance against the scheme must have been confirmed by independent assessment and verification. **Actions**: Client to appoint an SQSS and complete DS letter. Architect to provide drawings showing SNA recommendations. To be reviewed by the design team to confirm possibility. SRE (16.02.22): Dukes to check if their internal Security specialist is qualified SRE (05/08/2022): SQSS appointed. Waiting for SNA
e1	Security of site and building	1	0	0	0	
Hea 07 - Safe and healthy surroundings						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Safe access	1	0	1	1	**Safe Access (1 credit)** **Targeted - Yes** Safe access must be provided for pedestrians and cyclists, with dedicated paths and crossing points where paths cross vehicle access routes (with crossings raised to the pavement level). Where pedestrian paving cannot be provided, signage should clearly dictate the area as pedestrian friendly with speed and cycle restrictions. A change in paving, such as permeable paving, to clearly define the zone boundary, should also be considered. Restrictions to vehicular access such as delivery or waste collection will also be required. **Actions**: Design Team to supply a marked up and annotated site plan showing safe access for building users.
2	Outside space	1	0	1	1	**Outside Space (1 credit)** **Targeted - Yes** Outside space for the use of the building user can be seen on drawings as part of the Proposed Development. **Actions**: Design Team to supply a marked up and annotated site plan showing outside space, not visible on current drawings.
		18	0	15	15	**Standard Health & Wellbeing Credit Total**
		4	0	0	0	**Exemplary Health & Wellbeing Credit Total**
		17.86	0	11.55	11.55	**% Health & Wellbeing Total (Standard + Exemplary)**
Energy						
Ene 01 - Reduction of energy use and carbon emissions						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**

1	Energy performance	9	0	7	7	**Energy Performance modelling (9 credits)** **Targeted - Yes (7 credits)** Energy modelling must be undertaken by SRE to confirm the number of credits, 4 currently assumed **Actions:** SRE to conduct energy modelling and produce BRUKL to confirm the credits. SRE (31/08/2022): Based on the current BRUKLs produced by SRE, 7 credits can be achieved.
2	Prediction of operational energy consumption	4	0	4	4	**Prediction of Operational Energy Consumption (4 credits)** **Targeted - Yes** **Prerequisite** - Prior to completion of the Concept Design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance. **Energy Modelling and Reporting** - Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures and report predicted energy consumption targets by end use, design assumptions and input data (with justifications). A risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process. **Actions**: SRE to arrange the energy workshop and provide summary and notes
e1	Beyond zero net regulated carbon	3	0	0	0	Not targeted.
e2	Post-occupancy stage - Exemplary level criteria	2	0	0	0	Not targeted.
Ene 02 - Energy monitoring						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Sub-metering of end use categories	1	0	1	1	**Sub-metering by end-use (1 credit)** **Targeted - Yes (Mandatory)** Energy Metering should be installed that enables 90% of the estimated Energy Consumption to be assigned to an end-use category. Major energy-consuming systems include (where present): a. Space Heating, b. Domestic Hot Water, c. Humidification, d. Cooling, e. Fans (major), f. Lighting, g. Small Power (lighting and small power can be on the same sub-meter where supplies are taken on each floor), h. Other major energy-consuming items (e.g. lifts). Energy consumption should be metered by end-use category with an appropriate energy monitoring and management system and end-uses made identifiable with labelling. **Actions:** M&E Consultant to supply specification and design drawings clearly highlighting the metering strategy.
2	Sub-metering of high energy load and tenancy areas	1	0	1	1	**Sub-metering by end-use (1 credit)** **Targeted - Yes (Mandatory)** Energy Metering should be installed that enables 90% of the estimated Energy Consumption to be assigned to an end-use category. Major energy-consuming systems include (where present): a. Space Heating, b. Domestic Hot Water, c. Humidification, d. Cooling, e. Fans (major), f. Lighting, g. Small

						Power (lighting and small power can be on the same sub-meter where supplies are taken on each floor), h. Other major energy-consuming items (e.g. lifts). Energy consumption should be metered by end-use category with an appropriate energy monitoring and management system and end-uses made identifiable with labelling. **Actions:** M&E Consultant to supply specification and design drawings clearly highlighting the metering strategy.
Ene 03 - External Lighting						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	External lighting	1	0	1	1	**External Lighting (1 credit)** **Targeted - Yes** BREEAM compliant and energy-efficient external lighting to be specified in compliance with the criteria set out in *Hea01*. Lighting to have a luminous efficacy of 70 lumens per circuit watt, controlled through a time-switch or daylight sensor to prevent operation during daylight hours, and presence detection in areas of intermittent pedestrian traffic. **Actions**: M&E Consultant to supply drawings, specification and calculations to confirm lighting luminous efficacy and control method.
Ene 04 - Low carbon design						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Passive design	2	0	1	1	**Passive Design (1 credit)** **Targeted - Yes** The first credit within Hea04 must be achieved but as this is not being assessed due to no office space included, the modelling would need to be standard TM52. The project team must undertake analysis of the proposed building design and development during RIBA Stage 2 to identify opportunities for the implementation of passive design measures. These will reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings - these findings must also be quantified. **Free Cooling (1 credit)** **Targeted - No** The Passive Design credit must be achieved. A free cooling analysis must be undertaken, identifying opportunities for the implementation of free cooling solutions. The building must ultimately be naturally ventilated or use any combination of the free cooling solutions listed in the BREEAM technical guidance. **Actions:** SRE to complete the passive design analysis. SRE (08.09.22): Energy statement has been completed, containing the passive design analysis results.
2	Low and zero carbon technologies	1	0	0	0	**LZC Feasibility Study (1 credit)** **Targeted - Yes**

						A study must be undertaken by an Energy Specialist and completed prior to the end of RIBA Stage 2 which includes LZCs being specified to provide a meaningful reduction in CO_2 emissions. **Actions:** SRE to supply a LZC confirming which green energy will be installed.
Ene 06 - Energy efficient transportation systems						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Energy consumption	1	0	1	1	**Energy consumption (1 credit)** **Targeted - Yes** Transportation demand and usage patterns for the building should be analysed to determine the optimum number and size of lifts. The energy consumption in accordance with BS EN ISO 25745 Part 2 or 3 should be calculated. Regenerative drives should be considered. The transportation system with the lowest energy consumption should be specified. **Actions**: Lift company to provide lift calculations report to comply the above BREEAM benchmark. Design team to provide the relative information regarding the above lift specifications used within the building.
2	Energy efficient features	1	0	1	1	**Energy efficient features (1 credit)** **Targeted - Yes** Lifts - the first credit is achieved, and regenerative drives are specified where their use is demonstrated to save energy. The following should also be specified: • A standby period for off-peak periods. • The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of >70 luminaire lumens per circuit Watt. • use of a drive controller capable of variable speed, variable-voltage, and variable-frequency control of the drive motor. **Actions**: Lift company to provide lift calculations report to comply the above BREEAM benchmark. Design team to provide the relative information regarding the above lift specifications used within the building.
Ene 07 - Energy efficient laboratory systems						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Design specification	1	0	1	1	**This credit will only be applicable is the science labs have a research function. This is not assumed to be the case at present** **Actions**

						SRE (11.02.22): Laboratories confirmed to be in the new connection between sites, their scale to be confirmed at a later date. SRE (23/06/2022): Design Team to confirm the above and also what % of total building area do laboratories represent (i.e. < 10% of total area; >10% but25%)
Ene 08 - Energy efficient equipment						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Energy efficient equipment	2	0	2	2	**Energy efficient equipment;** **Targeted - Yes** An assessment must be undertaken of the building's unregulated energy demands and measures identified to reduce energy consumption for a significant proportion of the unregulated energy uses. The main contributors of unregulated energy within the building are likely to be: 1. Small power and plug in equipment - includes office IT equipment such as PCs, printers etc. All small power and plug-in equipment must be awarded an Energy Star Rating or have been procured in accordance with the Government Buying Standards. 4. Domestic scale appliances should have the following EU Energy Efficiency Labels: Fridges, fridge-freezers = A+ Washing machines = A++ Dishwashers = A+ Washer-dryers and tumble dryers = A **Action:** Design team to confirm the equipment to be installed in the building and provide an assessment of their energy demands.
		24	0	20	20	**Standard Energy Credit Total**
		5	0	0	0	**Exemplary Energy Credit Total**
		20.84	0	13.20	13.20	**% Energy Total (Standard + Exemplary)**
Transport						
Tra 01 - Transport assessment and travel plan						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Travel plan	2	0	2	2	**Pre-requisite A Travel plan must be undertaken to achieve any credits within this section (2 credits)** **Targeted - Yes** A Travel Plan based upon the findings from a Transport Assessment/Statement is required for ANY transport section credits to be awarded. The **Transport Assessment/Statement** must assess the following as a minimum: Existing and future travel patterns of the site; The local walking and cycling environment; Disabled access; The number and type of existing (BREEAM) amenities within 500m of the site;

						Calculation of the current Accessibility Index; Current cyclist facilities. The **Travel Plan** is intended to promote sustainable patterns of travel during the building's operation and use and should be prepared in collaboration with the building end-user/ occupant. **Actions:** Design Team to supply a copy of a compliant Travel Plan and Transport Assessment/Statement by Concept Design stage. SRE (11.02.22): Caneparo appointed and OM contacted. SRE (12/07/2022): Transport assessment to be revised (amenities within 500 m and disabled access should be included). Still need draft travel plan by the end of Stage 2. SRE (12/07/2022): Transport consultant confirmed the formal transport assessment and travel plan would be provided before the planning. Transport report has been completed in Stage 1 & 2 so meet the criteria. SRE (08.09.22): Travel plans and transport assessment have been completed.
Tra 02 - Sustainable transport measures						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Pre-requisite		✗	✓	✓	**Pre-requisite – Tra 01 has been achieved.**
1	Transport options implementation	10	0	6	8	**Transport options implementation (10 credits)** **Targeted - Yes - 1 credit per point** Credits are awarded based upon the site's Accessibility Index (AI) and the implementation of any of the following: 1. Existing AI = 5.03 - Therefore AI < 25 and each point is one credit 2. **Demonstrate an increase over the existing AI (calculated in *Hea01*) through either negotiating with transit companies for an increase in frequency OR provision of a diverted bus route/enhanced bus stop OR provide a dedicated bus service. *new bus route assumed*** 3. **Provide a public transport information system in a publicly accessible area to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities.- *information can be added*** 4. **Provide electric recharging stations for a minimum of 3kW for at least 10% of the total car parking capacity for the development. *yes in line with GLA*** 5. Set up a car-sharing group or facility to facilitate and encourage building users to car share, raise awareness of the sharing scheme with marketing and communication materials, provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development and locate priority parking spaces nearest the development entrance used by the sharing scheme participants. *more challenging* 6. During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA

						deems most relevant to the project, and how to improve it and agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public. *conversations taking place, ensure compliance.* 7. **Install compliant cycle storage spaces to meet the minimum levels set out in the BREEAM NC 2018 technical manual (Table 7.5). - *possible*** 8. **Provide at least two compliant cyclists' facilities for the building users for the scope of each compliant facility: - *possible*** a. **Showers** b. **Changing facilities** c. **Lockers** d. **Drying spaces.** 9. **At least three existing accessible amenities are present. - *Can confirm from initial desk study that this is possible*.** 10. Ensure a minimum of one new accessible amenity is provided OR ensure more than one new accessible amenity is provided. - *potential target* • **Design team to review 5, 6 and 10 for additional credits** • **2, 3, 4, 7, 8, 9 currently targeted** **Actions:** Design team to review the list above and detail which of these points can continue to be targeted to achieve the credits.
		12	0	8	10	**Standard Transport Credit Total**
		0	0	0	0	**Exemplary Transport Credit Total**
		9.96	0	6.64	8.30	**% Transport Total (Standard + Exemplary)**
Water						
Wat 01 - Water consumption						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Water consumption	5	0	3	3	**Water consumption (5 credits)** **Targeted - Yes - 3 credits** Performance approximately equivalent to Level 3 has been targeted and as there are no new facilities being built as part of the Proposed Development, these flow rates will need to be achieved within the existing facilities used by the B8 staff in the adjacent building. A typical specification is as follows: - WC Dual flush achieving 3.75 litres effective flush volume; - Wash hand basin taps 5 litres per min; - Kitchenette Taps - 6 litres per min - Domestic sized dishwashers - 12 litres/cycle If Installed:

						- Showers 6 litres per min - Urinal/s 1 urinal @ 2 litres per bowl per hour OR 2+ urinals @ 1.5 litres per bowl per hour (incl. 25% of water from grey or rainwater harvesting); **Actions**: Developer/M&E Consultant to confirm water specification.
e1	Water consumption	1	0	0	0	Not targeted.
Wat 02 - Water monitoring						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite (Good to Outstanding)		✗	✓	✓	
1	Water monitoring	1	0	1	1	**Water monitoring (1 credit)** **Targeted - Yes** **Mandatory - A water** meter **is fitted to the mains supply on each building (Criterion 1).** A water meter is to be fitted on the mains supply to each building, with additional sub-meters or water monitoring equipment fitted to water-consuming plant areas and/or building areas consuming 10% of the building's total water demand. All meters should have a pulsed output and connectable to any BMS or utility monitoring system. **Actions:** M&E Consultant to supply specification of water meters. M&E Consultant to supply schematics highlighting the position of mains and sub-meters at appropriate locations.
Wat 03 - Water leak detection						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Leak detection system	1	0	1	1	**Leak detection system (1 credit)** **Targeted - Yes** A BREEAM Compliant leak detection system is to be installed on the mains water supply to each building to detect major leaks on the water supply within the buildings and between the buildings and water supply. The system must be: a. A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks; b. Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flow rates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system; c. Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low-level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns; d. Programmable to suit the owner's or occupier's water consumption criteria; and

						e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers. **Actions**: M&E Consultants to confirm.
2	Flow control devices	1	0	1	1	**Flow control devices** **Targeted - Yes** Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. **Actions:** M&E Consultant to supply drawings and specification to confirm the location and specification of the leak detection and prevention systems.
Wat 04 - Water efficient equipment						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Water efficient equipment	1	0	0	1	**Water efficient equipment** **Targeted - Potential** Any unregulated water demands that could be realistically mitigated or reduced should be identified. Systems/processes should be identified to reduce the unregulated water demand and demonstrate a meaningful reduction in the total water demand of the building. **Actions:** From initial drawings this appears to apply in relation to irrigation systems which will require a manual shut-off. M&E to confirm this and any other potential areas. SRE (23/06/2022): As there is a swimming pool in the sport centre, MEP to confirm whether this one credit can be achieved or not - potential now. SRE (31/08/2022): No irrigation to be provided. still need MEP to confirm the swimming pool water used.
		9	0	6	7	**Standard Water Credit Total**
		1	0	0	0	**Exemplary Water Credit Total**
		7.93	0	4.62	5.39	**% Water Total (Standard + Exemplary)**
Materials						
Mat 01 - Environmental impacts from construction products - Building life cycle assessment (LCA)						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Superstructure	6	0	4	4	**Superstructure Life Cycle Assessment (LCA) (Up to 6 credits)** **Targeted - Yes - 4 credits** **Complete by RIBA Stage 2 and again at Stage 4** Carry out an LCA of 2-4 significantly different superstructure options, of which the options selected must not

						hinder the functional requirements previously specified by the client. This must be undertaken within an IMPACT Compliant LCA tool. The following must also be recorded in an 'Option Appraisal Summary Document': • Differences between the design options; • Reasons for selecting the chosen options; and • Reasons for not selecting the discarded options. Reasons must be given for selecting the chosen design option, with the results submitted to BRE prior to the end of the RIBA Stage 2 AND prior to planning submission. This MUST be achieved in order to gain any credits within Mat01. During RIBA Stage 4, carry out an LCA of 2-3 significantly different superstructure options, based on that selected during Stage 2. Results must explore the same issues as those presented at RIBA Stage 2 with the 'Option Appraisal Summary Document' updated and submitted to BRE prior to the end of Stage 4. **Actions**: LCA assessment for the superstructure required and to be reported within an 'Option Appraisal Summary Document' **prior to the end of RIBA Stage 2 and prior to planning submission**. SRE will complete to confirm credits 11.02.22 OM stressed need for this prior to the end of planning and Nicola to ensure images sent SRE (08/09/2022): Mat 01 LCA has been completed by SRE, and 5+1 credits have been achieved in total.
2	Substructure and hard landscaping options appraisal during Concept Design (all building types)	1	0	1	1	**Substructure and hard landscaping Life Cycle Assessment (LCA) (1 credit)** **Complete by RIBA Stage 2;** **Targeted - Yes (1 credit)** Carry out an LCA of 6 significantly different substructure and hard landscaping options (min 2 substructure & 2 hard landscaping). Results must explore the same issues as those presented for the Superstructure, with the 'Option Appraisal Summary Document' updated and submitted to BRE at the end of RIBA Stage 2. **Actions**: LCA assessment for the substructure and hard landscaping required and to be reported within an 'Option Appraisal Summary Document' **prior to the end of RIBA Stage 2 prior to planning submission**. SRE will complete to confirm credits SRE (08/09/2022): Mat 01 LCA has been completed by SRE, and 5+1 credits have been achieved in total.
e1	Core building services options appraisal during Concept Design (all building types)	1	0	1	1	**Core building services options appraisal (1 exemplary credit)** **Complete by RIBA Stage 2;** **Targeted - Yes (1 credit)** Undertake LCA options appraisal of at least 3 significantly different core building services using an IMPACT Compliant LCA tool and submit to BRE prior to the end of Stage 2. **Actions:** SRE will complete the stage 2 LCA modelling to confirm the credits. SRE (08/09/2022): Mat 01 LCA has been completed by SRE, and 5+1 credits have been achieved in total.

e2	LCA and LCC alignment (all building types)	1	0	0	0	Not targeted.
e3	Third party verification (all building types) - Exemplary level criteria	1	0	0	0	Not targeted.
Mat 02 - Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Specification of products with a recognised environmental product declaration (EPD)	1	0	0	0	**Environmental impacts from construction products (1 credit)** **Targeted - No** To achieve the credit available, the materials listed in *Mat01* are assessed depending upon their EPDs (Environmental Product Declarations). Based upon the type of EPD, a score is given with a single credit awarded if 20 points are scored.
Mat 03 - Responsible sourcing of construction products						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite		✗	✓	✓	**Prerequisite - All timber and timber-based products used on the project to be 'Legally harvested and traded timber'.**
1	Enabling sustainable procurement	1	0	1	1	**Sustainable Procurement Plan (1 credit)** **Targeted - Yes** The Client/Design Team are also required to create and implement a Sustainable Procurement Plan by RIBA Stage 2 which sets out a clear framework for the responsible sourcing of materials to guide procurement throughout a project. The plan can be adopted at an organisational level or alternatively, it can be site/project specific. **Actions**: A copy of the site/contractor/developer Sustainable Procurement Policy to be provided - this can be undertaken by SRE. Dukes to confirm if they have an SPP - Client confirmed and provided the SPP
2	Measuring responsible sourcing	3	0	2	2	**Measuring Responsible sourcing (3 credits)** **Targeted - Yes - 2 credits** A target score of 10% of the available points will be achieved regarding the superstructure as well as >20% for internal finishes and >30% of substructure and hard landscaping. This will require the use of the Mat03 Calculator tool and methodology to determine the number of credits. **Actions**: All materials specified to have ISO14001 or BES 6001 certification as a minimum. Certification for all materials to be collated and provided within the SRE Mat03 tool.
e1	Measuring responsible sourcing	1	0	0	0	Not targeted.
Mat 05 - Designing for durability and resilience						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**

1	Protecting vulnerable parts of the building from damage/material degradation	1	0	1	1	**Designing for durability and resilience (1 credit)** **Targeted - Yes** Areas of the building fabric are to be identified which are potentially vulnerable to vehicular, trolley and pedestrian movement in addition to malicious damage, with suitable design measures to be included for protection and damage prevention. Key exposed building elements that may be subject to environmental degradation are also to be identified, with either a detailed assessment of the element's resilience or an appropriate durability standard (in line with BS 7543:2015) being installed. Convenient roof access should also be included within the plans in addition to a fabric design that prevents water damage, ingress and detrimental ponding. **Actions:** Architect to supply: - Design drawings illustrating vulnerable areas/parts of the building; - Design drawings and/or relevant section/clauses of the building specification or contract confirming the durability measures specified; and - Written specification confirming how measures have been implemented to limit material degradation due to environmental factors.
Mat 06 - Material efficiency						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Material efficiency	1	0	1	1	**Material efficiency; Input from RIBA Stage 1 (1 credit)** **Targeted - Yes** Opportunities should be identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. This should be carried out at each of the RIBA stages, 1,2,3,4 and 5. **Actions:** Architect to confirm the above and provide a report evidencing early RIBA stage reports. - completed
		14	0	10	10	**Standard Materials Credit Total**
		4	0	1	1	**Exemplary Materials Credit Total**
		18.98	0	11.70	11.70	**% Materials Total (Standard + Exemplary)**
Waste						
Wst 01 - Construction waste management						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Pre-demolition audit	1	0	1	1	**Pre-demolition audit (1 credit)** **Targeted - Yes** A pre-demolition/strip-out audit of any existing buildings, structures or hard surfaces should also be completed by RIBA Stage 2 in order to identify opportunities to reuse and recycle existing materials. This should be made reference to within the RMP. One credit has been assumed. **Actions:** Demolition Contractor to supply a copy of the pre-demolition waste audit before the demolition starts on-site.

2	Construction resource efficiency	3	0	2	2	**Resource Management Plan (RMP) and construction resource efficiency (4 credits)** **Targeted - Yes - 3 credits** A BREEAM compliant RMP must be developed covering non-hazardous waste relating to construction (including dedicated off-site manufacture), demolition and excavation. A nominated person should be identified to take responsibility for the plan and collection of data, confirming that the following targets have been met: **Construction resource efficiency:** **One credit** awarded where the amount of waste generated per 100m^2 is < or equal to 13.3 (m^3) or 11.1 (tonnes) **Two credits** awarded where the amount of waste generated per 100m^2 is < or equal to 7.5 (m^3) or 6.5 (tonnes) **Three credits** awarded where the amount of waste generated per 100m^2 is < or equal to 3.4 (m^3) or 3.2 (tonnes) **Exemplary level** awarded where the amount of waste generated per 100m^2 is < or equal to 1.6 (m^3) or 1.9 (tonnes) **Current targets:** **Two credits -** construction waste generated should be less than the target benchmarks which are assumed for this project at 7.5m^3 or 6.5 tonnes of waste per 100m^2 (GIFA). **Actions**: Main Contractor to supply a copy of a compliant Resource Management Plan that gives reference to the pre-demolition audit.
3	Diversion of resources from landfill	1	0	1	1	**Diversion of resources from landfill** **Targeted - Yes:** *Criteria for 1 credit* Type of Waste — Volume — Tonnage Non-demolition — *70%* — *80%* Demolition — *80%* — *90%* Excavation — *N/A* — *N/A* **Current targets:** **One credit** is targeted for diverting waste from landfill - demolition 80% by volume (90% by tonnage); non-demolition 70% by volume (80% by tonnage), with all waste sorted into the key EU waste groups. **Actions:** Main Contractor to give written confirmation that the above benchmarks for waste generation, and waste diversion from landfill will be achieved. Design team to review.
e1	Construction resource efficiency/Diversion of resources from landfill	1	0	0	0	Not targeted.
Wst 02 - Use of recycled and sustainably sourced aggregates						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**

Pre-req	Prerequisite		✗	✗	✗	**Pre-requisite; Targeted - No** The reuse of site-won material on site should be encouraged and a pre-demolition audit should be carried out in accordance with Wst 01.
1	Project Sustainable Aggregate points	1	0	0	0	**Project Sustainable Aggregate Points (1 credit)** **Targeted - No** All aggregate uses, types of quantities and sources should be identified. The distance (km) travelled by all aggregates by transport type should be calculated and all this information should be entered into the Wst 02 calculator. 3.5-6 points will equate to one credit. More than 6 points will achieve an exemplary credit. It has been assumed that this credit will not be achieved due to the limited amount of existing hard standing on site that could potentially be recycled into recycled aggregate and the cost implications of sourcing it from external sources.
e1	Project Sustainable Aggregate points	1	0	0	0	
Wst 03 - Operational waste						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Operational waste	1	0	1	1	**Mandatory - credit must be achieved for Excellent.** **Operational Waste (1 credit)** **Targeted - Yes** Bin-store to be appropriately sized, clearly labelled and dedicated space for the segregation and storage of operational recyclable waste is to be provided within the bin store. The store must be clearly labelled, lockable and accessible only to the building occupants and/or staff. This area should also include a drain and tap for general washing purposes. **General rule for the size of the space -** $2m^2$ for recyclable waste storage must be provided for buildings per $1000m^2$. Plus an additional $2m^2$ per $1000m^2$ of net floor area where catering is provided. **Alternatively -** provide evidence that confirms recyclable waste storage is suitably sized, based on the estimated likely waste streams for the building. **Actions**: Architect to supply: - Drawings showing dedicated space for waste storage, adequately sized for recyclable waste storage. - Space to be labelled to assist with segregation of waste, accessible in communal spaces. - OR demonstrate that the waste storage provided suits the building type and likely waste streams.
Wst 05 - Adaptation to climate change						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Resilience of structure, fabric, building services and renewables installation	1	0	1	1	**Completed by RIBA Stage 2 (1 credit)** **Targeted - Yes** A climate change adaptation strategy appraisal for structural and fabric resilience is required to have been completed by the end of RIBA Stage 2. **Actions:**

						Design Team to supply a copy of a report confirming the above has been undertaken by RIBA Stage 2 - completed
e1	Responding to climate change	1	0	0	0	Not targeted.
Wst 06 - Design for disassembly and adaptability						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Design for disassembly and functional adaptability - recommendations	1	0	1	1	**Design for disassembly and functional adaptability (recommendations) (1 credit)** **Targeted Yes** **Input required from RIBA stage 2** The Design Team must undertake a study to explore the ease of disassembly and the functional adaption potential of different design scenarios by the end of RIBA Stage 2. **Actions**: Design Team to supply a copy of the above confirming it was undertaken by RIBA Stage 2. - completed
2	Disassembly and functional adaptability â€“ implementation	1	0	1	1	**Design for disassembly and functional adaptability (implementation) (1 credit)** **Targeted - Yes** **Input required from RIBA stage 2** The above MUST be achieved; the Design Team must also (during Technical Design) provide an update on- a) How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. b) Changes to the recommendations and solutions during the development of the Technical Design c) A building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants. **Actions:** Design Team to conduct initial report and implement recommendations at Stage 4.
		10	0	8	8	**Standard Waste Credit Total**
		3	0	0	0	**Exemplary Waste Credit Total**
		9	0	4.80	4.80	**% Waste Total (Standard + Exemplary)**
Land Use & Ecology						
LE 01 - Site selection						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Previously occupied land	1	0	0	0	**Previously Occupied Land (1 credit)** **Targeted - No** In order to achieve the credit, 75% of the Proposed Development's footprint must be on previously occupied land/hard standing. It has been assumed that, due to the construction of much of the Proposed Development being on previously occupied land, this credit will be achievable. **Actions**: Architect to confirm, nut land unlikely to be previously occupied

2	Contaminated land	1	0	0	0	**Contaminated Land (1 credit)** **Targeted - No** A contaminated land professional's report must confirm that the site is significantly contaminated prior to implementing the recommended remediation measures. As the site is currently located in a largely residential area, it has been assumed that no contamination will be found and that therefore, no credits can be awarded. **Actions**: Land unlikely to be contaminated
LE 02 - Ecological risks and opportunities						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite - Statutory obligations		✗	✓	✓	**Prerequisite - The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.**
1	Survey and evaluation/Determining ecological outcomes	2	0	2	2	**Survey and Evaluation (1 credit)** **Targeted - Yes** **Complete by RIBA Stage 1** An appropriate individual is to have been appointed to ensure early involvement in site configuration and influence strategic planning decisions. An appropriate survey and evaluation must have taken place at RIBA Stage 1. A Preliminary Ecological Appraisal must be undertaken. **Determining the Ecological Outcomes (1 credit)** **Targeted - Yes** **Complete by RIBA Stage 2** During RIBA Stage 2, the Design Team should have met to discuss the ecological outcomes of the Proposed Development. The Ecological Assessment must outline the ecological outcomes of the assessment, making recommendations in line with the BREEAM hierarchy. One credit has therefore been awarded. **Actions:** Design Team to appoint Ecologist and provide initial report. Design Team to demonstrate discussions/plans for the ecological outcomes for the Proposed Development. Design Team to confirm the Ecologist's Recommendations are to be adhered to. SRE (10/08/2022): Ecologist confirmed these two credits.
e1	Wider site sustainability - Exemplary level criteria	1	0	0	0	Not targeted.
LE 03 - Managing impacts on ecology						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite Ecological risks and opportunities		✗	✓	✓	**Prerequisite – Le 02 is achieved.**
1	Planning and measures on-site	1	0	1	1	**Planning, liaison, implementation and data (1 credit)** **Targeted - Yes - 1 credit** **Complete by RIBA Stage 3** Roles and responsibilities must have been clearly identified to ensure the implementation of the ecological outcomes. Site works and preparations are to have been planned and implemented at an early stage to

						optimise the potential benefits prior to liaising with the representative stakeholders to share data, solutions and the measures implemented. One credit has been targeted. **Actions**: Design Team to provide evidence of interactions and discussions, identifying responsibility and control measures for achieving the ecological outcomes. Design Team to appoint an Ecology Champion to ensure the delivery of outcomes. Design Team to provide evidence of site works and preparations having been undertaken at an early project stage. Ecologist to provide BREEAM GN stating the existing and proposed site ecological value. SRE (10/08/2022): Ecologist confirmed this one credit.
2	Managing negative impacts	2	0	2	2	**Managing negative impacts of the project (2 credits)** **Targeted - Yes - 2 credits** For Route 2, two credits may be achieved where no overall loss of ecological value has occurred **Actions**: Ecologist to confirm. SRE (30/08/2022): Ecologist confirmed no overall loss of ecological values so 2 credits can be targeted.
LE 04 - Ecological change and enhancement						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite - Managing negative impacts on ecology		✗	✓	✓	**Prerequisite – LE 03 is achieved whereby the roles and responsibilities have been clearly defined and site preparation and construction works have been planned for and implemented at an early stage to optimise benefits and outputs.**
1	Change and enhancement of ecology / Ecological enhancement	1	0	1	1	**Liaison, implementation and data collation (1 credit)** **Targeted - Yes** Route 2 - Ecology Champion liaises with the representative stakeholders to share data, solutions and the measures implemented to enhance data on site. Where this is not possible, measures are implemented to be implemented that enhance the ecological value of the off-site area within the zone of influence. One credit has been targeted. **Actions**: Ecology Champion to provide evidence of liaising with representative stakeholders. SRE (10/08/2022): Ecologist confirmed this would be the schools responsibility to appoint an Ecology Champion.
2	Change and enhancement of ecology	3	0	2	3	**Enhancement of Ecology (3 credits)** **Targeted - Yes - 2 credits** Route 2 - Credits are awarded based upon the enhancement in ecological value: • Minimising loss of ecological value (one credit - percentage score of 75-94) • **No net loss of ecological value (two credits - percentage score of 95-104)**

						• Net gain of ecological value (three credits - percentage score of 105-109) **Actions:** Ecology report to confirm any changes in ecological value. SRE (30/08/2022): Ecologist confirmed the net gain of the ecological value would be about 0.5% to 1% so 2 credits can be targeted.
e1	Change and enhancement of ecology - Exemplary level criteria	1	0	0	0	Not targeted.
LE 05 - Long term ecological management and maintenance						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
Pre-req	Prerequisite - Statutory obligations, planning and site implementation		✗	✓	✓	**Prerequisite – *LE 04* is achieved whereby the roles and responsibilities have been clearly defined and site preparation and construction works have been planned for and implemented at an early stage to optimise benefits and outputs.**
1	Management and maintenance throughout the project / Landscape and ecology management plan	2	0	2	2	**Planning, liaison, data, monitoring and review management and maintenance (1 credit)** **Targeted - Yes** Ecology Champion liaises with the representative stakeholders to share data, solutions and the measures implemented to enhance data on site. Discussions must also be made with regards to the monitoring and reporting of successes and the site's continued maintenance and ecological value. **Landscape and ecology management plan (or similar) development (1 credit)** **Targeted - Yes** A five-year landscape and ecology management created in accordance with BS 42020:2013. One credit has been targeted under the SRE Proposed scenario. **Actions:** Ecologist to produce landscape and ecology management plan and liaise with stakeholders. SRE (10/08/2022): Ecologist confirmed these two credits. LEMP will be provided by the landscaping Architect.
		13	0	10	11	**Standard Land Use & Ecology Credit Total**
		2	0	0	0	**Exemplary Land Use & Ecology Credit Total**
		15	0	10	11	**% Land Use & Ecology Total (Standard + Exemplary)**
Pollution						
Pol 01 - Impact of refrigerants						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Impact of refrigerants	3	0	0	1	**Impact of refrigerant (2 credits)** **Targeted - No** For two credits: The direct effect life cycle CO_2 equivalent emissions (DELC) of 100 CO-eq/kW OR all refrigerants used have a global warming potential (GWP) 10.

						For one credit: Systems using refrigerants have a DELC of 1000kgCO-eq/kW cooling and heating capacity. **Leak detection (1 credit)** **Targeted - Potential** All systems are hermetically sealed or only use environmentally benign refrigerants. OR An inbuilt automated diagnostic procedure for detecting leakage is enabled. In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant. **Actions**: M&E consultant to specify the refrigerants used in the building or the associated reception DOES NOT use AC or VRV systems. If no refrigerants used credits can be awarded by default natural cooling assumed at this stage. M&E to confirm leak detection. SRE (23/06/2022): MEP confirm active cooling will be required in the sports centre. MEP to confirm the refrigerants details and leak detection.
Pol 02 - Local air quality						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Local air quality	2	0	2	2	**Local air quality (2 credits)** **Targeted - Yes** To confirm whether site is in high or low pollution zone. It has been assumed that this will be in a high area, assuming a gas boiler is used, NO_x emissions from all installed combustion plants that provide space heating and domestic hot water must not exceed 24 mg/kWh to achieve 2 credits. For one credit to be achieved, the gas boiler must not emit more than 27 mg/kWh. Alternatively, where an all-electric system is proposed 2 credits can be awarded by default. **Actions**: M&E consultants to confirm the boiler type and that the boiler NO_x emissions do not exceed the above maximum values. ASHP assumed at present
Pol 03 - Flood and surface water management						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Flood resilience	2	0	2	2	**Flood resilience (2 credits)** **Targeted - Yes** Initial desk study undertaken by SRE (Preliminary Drainage and Flood Risk analysis based on the Environmental Agency mapping) suggests that the site should be in a low flood risk area (zone 1). A detailed flood risk analysis is required to confirm this. **Actions**: Drainage Engineer to supply FRA to confirm SRE (31/08/2022): Planning consultant confirmed the FRA would be provided (low risk of flooding).

2	Surface water run-off	2	0	2	2	**Surface water run-off (2 credits)** **Targeted - Yes** Where the area of impermeable run-off is set to increase, SuDs will need to be implemented to ensure that the rate of run-off remains the same as was measured prior to development. The credits are only achievable following further input. **Actions:** Drainage Engineer to supply FRA and Drainage Strategy Report & calculations clearly confirming the BREEAM credits that can be awarded. Drawings to be provided confirming the drainage design / SUDs solution.
3	Minimising watercourse pollution	1	0	0	0	**Minimising watercourse pollution (1 credit)** **Targeted - No** Confirmation there is no discharge from the developed site for rainfall up to 5mm. For areas with a low-risk source of watercourse pollution, an appropriate level of pollution prevention treatment must be provided (such as SuDS). Areas with a high risk of contamination or spillage of substances (oil or petrol) must have separators (or equivalent) installed in surface water drainage systems. Chemical or liquid gas storage areas have a means of shut off to the site drainage system. Any water pollution prevention systems must be installed and designed in accordance with the recommendation of documents, such as the SuDs manual (or other relevant industry best practice). They must also be bespoke solutions which consider the specific site requirements and natural/man-made environment of and surrounding the area. Additionally, a comprehensive and up to date drainage plan for the site must be made available, and any relevant maintenance agreements for the ownership (long term operation and maintenance) for all specified SuDS must be in place. Finally, all external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.
Pol 04 - Reduction of night time light pollution						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Reduction of night time light pollution	1	0	1	1	**Reduction of night-time light pollution (1 credit)** **Targeted - Yes** Lighting to be designed in compliance to ILP Guidance note for the reduction of obtrusive light, 2011. All external lighting to be switched off between 2300hrs and 0700hrs (security/safety lighting used between these times to comply with the lower levels of light as in the ILP's guidance. Illuminated advertisements, where specified, must be compliant with ILP Technical Report 5 - The Brightness of Illuminated Advertisements **Actions:** M&E Consultant to supply marked-up design drawings, relevant sections of the building specification and/or calculations.
Pol 05 - Reduction of noise pollution						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
1	Reduction of noise pollution	1	0	1	1	**Reduction of noise pollution (1 credit)** **Targeted - Yes** A noise impact assessment compliant with BS 4142:2014 should be commissioned. Noise levels must be

						measured or determined for existing background noise levels at the most sensitive area and noise rating level from the assessed building. This must be carried out by a suitably qualified acoustic consultant. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise-sensitive development, must be at least 5dB lower than the background noise throughout the day and night. If the noise sources from the assessed building are greater than the levels described, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion. **Actions**: Noise level survey to be carried out by the end of stage 2 – completed Noise assessment to be carried out at post-construction stage.
		12	0	8	9	**Standard Pollution Credit Total**
		0	0	0	0	**Exemplary Pollution Credit Total**
		7.92	0	5.28	5.94	**% Pollution Total (Standard + Exemplary)**
Innovation						
AI - Approved Innovation						
	Credit	**Available**	**Current**	**Target**	**Potential**	**Comments**
e1	Approved innovations	1	0	0	0	
		0	0	0	0	**Standard Innovation Credit Total**
		1	0	0	0	**Exemplary Innovation Credit Total**
		1	0	0	0	**% Innovation Total (Standard + Exemplary)**

SRE Main Office:
Greenforde Farm
Stoner Hill Road
Froxfield
Petersfield
Hampshire
GU32 1DY
United Kingdom

T: +44 (0)1730 710044
F: +44 (0)1730 710043
E: info@sre.co.uk
W: www.sre.co.uk