



21-31 Ysgol Yr Hafod Extension
BREEAM Pre-Assessment Summary Report

Pre-assessment

Uncontrolled revision

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Ecoteric

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1.0 Introduction

This report is intended as a summary of the BREEAM pre-assessment review for the following project:

Project Name	21-31 Ysgol Yr Hafod Extension
BREEAM Version	BREEAM 2018 NC
Assessment Stage	Pre-Assessment Stage
Lead Assessor	Karen Elliott
Target Rating	Good (45%)
Downloaded By	Karen Elliott
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2.0 Scoring scenarios

It should be noted that the pre-assessment scores have been based on the following scoring scenarios;

- Current - The number currently achieved.
- Scenario 1 - Current, plus credits which can be easily gained.
- Scenario 2 - Scenario 1, plus credits which can be won but not so easily.

On this basis, the following scores are considered achievable under each scenario;

Scenario	Score	BREEAM Rating
Current	0	Unclassified
Scenario 1	39.61	Pass
Scenario 2	54.05	Good

2.1 Minimum Standards

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

Issue	Current	Scenario 1	Scenario 2
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	✓	✓	✓

If the required minimum standards are not met then the target rating will not be achieved regardless of overall score.

3.0 - Credits and Comments Table

		Available	Current	Scenario 1	Scenario 2	Comments
Management						
Man 01	Project brief and design	4	0	3	3	Credit 1 <i>Project delivery planning</i> The credit can be achieved for setting goals and responsibilities. A template will be provided to the team, and a timeline provided for the project Credit 2 <i>Stakeholder consultation (interested parties)</i> Third party formal and recorded consultation would have been required prior to this point. Richard to check with client if adequate consultation has been undertaken. Note that a consultation plan and feedback evidence will be required. Credit 3 <i>BREEAM AP (concept design)</i> Ecoteric will fulfil this part of the credit Credit 4 <i>BREEAM AP (developed design)</i> A BREEAM AP could be appointed to undertake the work, however this will be an additional cost for credit 4 past Stage 2 (planning). Credit 4 has been assumed for all scenarios. Ecoteric to be invited to DTMs.
Man 02	Life cycle cost and service planning	4	0	4	4	Credit 1 <i>Elemental LCC</i> Life Cycle Costing on the project must be undertaken pre planning. Wynne to undertake this. Credit 2 <i>Component level LCC options appraisal</i> For one credit, Wynne would be required to undertake component level LCC on items such as envelope, services, fencing and hard landscaping. The credit has been targeted in all scenarios. Credit 3 <i>Capital cost reporting</i> This requires reporting capital cost for the refurbishment works in £ per square metre £k/m². Note: This data will be used to inform future BREEAM performance bench-marking and the client will remain anonymous. The credit has been targeted in all scenarios.

Man 03	Responsible construction practices	6 (+1)	0	5	5	Credit 0.1 Prerequisite - Legally harvested and traded timber The certified sustainable timber described below should be applied to all temporary timber as this is pre requisite for any BREEAM rating. All parties must ensure that all timber used on site (temporary or permanent) must be FSC/PEFC/SFI certified. All timber invoices must be checked to ensure that they state each timber item is certified, number which scheme and the CoC number it has been sold under. Credit 1 Environmental management All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS (such as ISO14001) covering their main operations. Wynne have this accreditation - no other contractor involved. Assumed for all scenarios. Credit 2 BREEAM AP (site) This would be possible but at additional cost and is targeted. The BREEAM assessor needs to visit site periodically and monitor progress. The credit has not been targeted. Credit 3 Responsible construction management This requires adherence and evidence against a list of processes and management which are potentially difficult to provide but represent good practice. Targeted, and would need comprehensive monitoring. The credit has been targeted in all scenarios Credit 4 Monitoring of construction site impacts Wynne will be required to undertake monitoring, recording and reporting energy use, water consumption and transportation data resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. The first credit for energy and water use is targeted, and the second credit would be possible with control and monitoring of the origin (factory gate) of major materials. The credit has been targeted in all scenarios. Credit e1 Responsible construction management There is an exemplary credit available where all measures within credit 3 are implemented but this is not targeted as some are extremely difficult to evidence.
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Man 04	Commissioning and handover	4	0	3	3	Credit 1 <i>Commissioning - testing schedule and responsibilities</i> This credit should be targeted in both scenarios and a template can be provided to set out the requirements. This is a minimum standard. The credit has been targeted in all scenarios. Credit 2 <i>Commissioning - design and preparation</i> This credit will require the mechanical sub contractor to appoint a specialist commissioning manager therefore additional cost will be incurred, however the specialist manager can be from the appointed commissioning company rather than a separate consultant. The credit has been targeted in all scenarios. Credit 3 <i>Testing and inspecting building fabric</i> This can be considered an onerous credit associated with remedial action often required post testing. Has not been targeted at this stage. Credit 4 <i>Handover</i> This is a minimum standard for Very Good and requires two building user guides to be developed - technical and non-technical. The credit has been targeted in all scenarios.
Man 05	Aftercare	3	0	2	2	Credit 1 <i>Aftercare support</i> This requires the Main Contractor to provide aftercare support and training and is targeted. It also requires the client to have in place a process to collect energy and water data, but this is required anyway for energy and water credits. The credit has been targeted in all scenarios. Credit 2 <i>Commissioning - implementation</i> This is the seasonal commissioning credit and is targeted, note that there is a requirement for monthly energy reports. The credit has been targeted in all scenarios. Credit 3 <i>Post occupancy evaluation (POE)</i> The client or building occupier needs to commit funds to pay for the POE in advance. This requires an independent party to be appointed to carry out the POE. The credit has not been targeted due to cost but could be adopted at the end of the project if credits are lost.
Management Totals: (+exemplary)		21 (+1)	0	17	17	
Management score totals:		11	0	8.9	8.9	
Health & Wellbeing						

Hea 01	Visual comfort	5 (+2)	0	1	2	Credit 1 <i>Control of glare from sunlight</i> Identify areas at risk of glare using a glare control assessment. The glare control assessment also justifies any areas deemed not at risk of glare. The glare control strategy must not increase energy consumption used for lighting. This is achieved by: Maximising daylight levels in all weather, cloudy or sunny AND ensuring the use or location of shading does not conflict with the operation of lighting control systems. Blinds to be provided. Glare control strategy to be undertaken - advise who will undertake this. Credit 2 <i>Daylighting</i> Although there are windows, it is unlikely that the average daylight will meet the required criteria due to depth of the building, plus occupied areas without windows. The credit is not targeted. Credit 3 <i>View out</i> Due to the depth of the building it is likely that there will be work areas that are too far from windows, so the credit is not currently targeted. Credit 4 <i>Internal and external lighting levels, zoning and control</i> As Internal and External lighting will be provided and can be specified to meet the levels required by BREEAM, this credit would be possible and has been targeted. Credit e1 <i>Daylighting</i> As the main credit is not targeted, the exemplary cannot be targeted. Credit e2 <i>Internal and external lighting levels, zoning and control</i> Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations. Dimming and control gear should avoid flicker and noise. This could be possible and may be advantageous for the rooms. Discussed and considered to costly.
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Hea 02	Indoor air quality	4 (+1)	0	0	1	Credit 0 Prerequisite - Indoor air quality (IAQ) plan A site-specific indoor air quality plan needs to be produced and implemented for any credits in this section. Credit 1 Ventilation The credit requires: - Fresh air rates in accordance with the criteria of the relevant standard for ventilation. - Designing to minimise the ingress and build-up of air pollutants. - HVAC systems incorporate suitable filtration, for areas with large and unpredictable occupancy patterns have carbon dioxide (CO₂) sensors. - Mechanically ventilated spaces have sensors that provide demand-controlled ventilation to the space. - Naturally ventilated spaces have sensors either have the ability to alert the building owner or manager when CO₂ levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air. - Naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10. Assuming the building is naturally ventilated, openable windows appear to be away from areas that would cause pollution, as long as it is possible to separate any ventilation intake and exhaust air by 12m, this credit could be targeted. Credit 2 Emissions from building products Not many manufacturers have tested products to the new standards, although there is a list of compliant schemes, this is considered very restrictive in terms of specification. Could be reviewed if internal finishes are limited. Not targeted at this time. Credit 3 Post-construction indoor air quality measurement This is possible at a cost and is targeted for action at the end of the project, although low VOC products should be specified to avoid gross failure to meet the emissions. Not targeted at this time. Credit e1 Minimising sources of air pollution - Emissions from building products As the main credit is not targeted, the exemplary credit cannot be targeted.
Hea 04	Thermal comfort	3	0	2	3	Credit 1 Thermal modelling This credit has been assumed to be possible, dynamic modelling would be required and reporting of the PMV/PPD for the occupied areas. The credit has been targeted in all scenarios. Credit 2 Design for future thermal comfort In addition to the above credit, the modelling is undertaken using future predicted weather files and PMV/PPD reported - discussed and modelling to be undertaken. Considered possible with passive design measures to prevent overheating. Credit 3 Thermal zoning and controls In addition to the first credit, the M&E consultant provides a controls strategy meeting the BREEAM criteria. The credit has been targeted in all scenarios.

Hea 05	Acoustic performance	3	0	3	3	Credit 1 <i>Acoustic performance</i> The ERs require adherence to BB93 and testing therefore the three credits have been assumed. Sound insulation Achieve the performance standards set out in Section 1 of Building Bulletin 93: Acoustic design of schools: performance standards, February 2015 (BB93) relating to airborne sound insulation between spaces and impact sound insulation of floors. Plus a programme of pre-completion acoustic testing is carried out by a compliant test body. The credit should be targeted. Indoor ambient noise level Achieve the indoor ambient noise level standards set out within Section 1 of BB93 for all room types. Plus a programme of pre-completion acoustic testing is carried out by a compliant test body. The credit should be targeted. Room acoustics. 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. Plus a programme of pre-completion acoustic testing is carried out by a compliant test body. The credit can be much harder to achieve, but has been targeted as it is in ERs.
Hea 06	Security	1 (+1)	0	1	1	Credit 1 <i>Security of site and building</i> This credit would require the appointment of a security consultant to prepare a report at stage 2. The requirement is in the ERs therefore targeted. Please note the report requirements - need to ensure if local police undertake the work, that all issues are covered. Credit e1 <i>Security of site and building</i> The exemplary credit required the first to be achieved and then to gain SABRE accreditation which will be costly. Not targeted.
Hea 07	Safe and healthy surroundings	2	0	2	2	Credit 1 <i>Safe access</i> From the site plan, the access appears to be compliant with gated access to the extension, and access direct from public paths not crossing any delivery routes or parking. Credit 2 <i>Outside space</i> There appears to be adequate outside space although the details of the shielding and furniture need to be resolved.
Health & Wellbeing Totals: (+exemplary)		18 (+4)	0	9	12	
Health & Wellbeing score totals:		14	0	7	9.33	
Energy						

Ene 01	Reduction of energy use and carbon emissions	13 (+5)	0	1	3	Credit 1 Energy performance The ERs require Very Good Energy Credits however, this is not specified in BREEAM, the minimum standard cuts in at Excellent. Aim to target 3 credits if possible. No PV is shown on the roof plan. Discussed and likely to be self contained heating and hot water. Richard to check what client requires in terms of "very good " energy credits as there are no minimum standards for a Very Good BREEAM rating. Aim for good fabric insulation and airtightness as this will help BREEAM credits. Consider if PV possible. Note that Building Regulation compliance only will probably not achieve any credits so need to be better than this. Credit 2 Prediction of operational energy consumption These credits should be started prior to planning with a workshop and also require extensive detailed modelling. The credits have not been assumed. Credit e1 Beyond zero net regulated carbon The credit is archived if the BRUKL modelling goes beyond zero net regulated carbon. The exemplary is not targeted at this time. Credit e2 Post-occupancy stage - Exemplary level criteria The credit would be possible if both metering credits are achieved, plus, the client or building occupier needs to commit funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set on the previous page. The energy model is: a Submitted to BRE and b Retained by the building owner. The credit is not currently included.
Ene 02	Energy monitoring	1	0	1	1	Credit 1 Sub-metering of end use categories One credit is required as a minimum standard for energy metering by end use (lighting, heating, ventilation etc.) which is connected to an appropriate energy monitoring and management system. This is a minimum standard. The credit has been targeted in all scenarios.
Ene 03	External Lighting	1	0	1	1	Credit 1 External lighting It is necessary to provide external light fittings within the site which have: - Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt - Automatic control to prevent operation during daylight hours - Presence detection in areas of intermittent pedestrian traffic. The credit is targeted in all scenarios.

Ene 04	Low carbon design	3	0	0	2	Credit 1 <i>Passive design</i> One credit - Passive design analysis Passive design analysis This is possible for comprehensive modelling. It has been assumed for all scenarios. Needs to be completed at Stage 2. Could be of advantage to the project therefore targeted but needs modelling and report in line with credit requirements One credit - Free cooling Not targeted as there is no proposal for any of the listed techniques. Credit 2 <i>Low and zero carbon technologies</i> Could be of advantage to the project therefore targeted but needs modelling and report in line with credit requirements.
Ene 08	Energy efficient equipment	2	0	0	0	Credit 1 <i>Energy efficient equipment</i> 1. Identify the building's unregulated energy consuming loads. Estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical or standard specification. 2. Identify the systems or processes that use a significant proportion of the total annual unregulated energy consumption of the building. The building is likely to a number of unregulated uses, maybe IT-intensive operating areas, Domestic-scale appliances (individual and communal facilities) & maybe Kitchen and catering facilities. The credit should be targeted if possible. The credit is not currently targeted.
Energy Totals: (+exemplary)		20 (+5)	0	3	7	
Energy score totals:		16	0	2.4	5.6	
Transport						
Tra 01	Transport assessment and travel plan	2	0	2	2	Credit 1 <i>Travel plan</i> AI: 3.77 A transport assessment and travel plan must be developed to meet the BREEAM criteria. This is necessary to obtain any credits in Tra 02 following. Recommended for the rating therefore targeted. Note! travel plan and transport assessment needs to meet BREEAM requirements which is beyond that of a typical school travel plan. Richard to discuss with client.

Tra 02	Sustainable transport measures	10	0	1	2	Credit 1 <i>Transport options implementation</i> The site is not particularly well located for public transport with an accessibility index of 3.77. This would not earn a credit. Sustainable transport measures can be included to reduce car use. The points score is indicated in brackets. These include:- - Install compliant cycle storage spaces meaning a total of at least 5 per form entry, advised 1.5 forms entry therefore 8 spaces needed- covered spaces need to be provided. There may be existing spaces - after discussion considered possible (1) - Make allowance in building design for provision of showers and changing facilities - this would need to be a staff facility. Not considered viable and no existing compliant facilities available. - The site is located within 500m of at least 3 BREEAM compliant amenities.(1) - There does not appear to be scope for car sharing or EV charging - Richard to check if client requires EV - Real time transport information not considered viable. Amenities: 1. Food Outlet: Premier Store (Johnstown Village Convenience Store) 2. Access to cash: ATM at the post office (18 Merlin St, Johnstown, Wrexham LL14 1NL) 3. Access to an outdoor open space: Stryt Las Park 4. Publicly available postal facility: Post Box opposite the school 5. Pharmacy: Johnstown Pharmacy - Alphega Pharmacy
Transport Totals: (+exemplary)		12	0	3	4	
Transport score totals:		10	0	2.5	3.33	
Water						
Wat 01	Water consumption	5 (+1)	0	3	3	Credit 1 <i>Water consumption</i> For 3 credits out of 5, the typical specification would be:- - WC effective flush 3.75 litres or less - Basin taps including DDA 5lpm or less - Showers 6lpm or less - Urinal 1.5 l/bowl/hour or less - Kitchenette tap 6lpm or less - Domestic sized dishwashers if specified 12 litres/cycle or less - Washing machines (assumed domestic type) 40 litres per use or less, commercial no more than 7.5 litres/kg.
Wat 02	Water monitoring	1	0	1	1	Credit 0 <i>Prerequisite (Good to Outstanding)</i> A water meter on all incoming supplies needs to have a pulsed or other open protocol communication output AND be connected to an appropriate utility monitoring system. The pre-requisite is targeted in all scenarios. Note! for extensions, recommend new separate meter on cold water supply. Credit 1 <i>Water monitoring</i> As above, plus any water-consuming plant or building areas consuming 10% or more of the building's total water demand will need to be separately metered. There are no obvious areas requiring more metering.

Wat 03	Water leak detection	2	0	1	1	Credit 1 <i>Leak detection system</i> This could be complicated on an extension and could require retrofit so has not been targeted. Credit 2 <i>Flow control devices</i> Install flow control devices that regulate the water supply to each WC area or sanitary facility, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. The credit is targeted in all scenarios.
Wat 04	Water efficient equipment	1	0	1	1	Credit 1 <i>Water efficient equipment</i> This credit will be awarded where no irrigation is required to external areas.
Water Totals: (+exemplary)		9 (+1)	0	6	6	
Water score totals:		7	0	4.67	4.67	
Materials						
Mat 01	Environmental impacts from construction products - Building life cycle assessment (LCA)	7 (+3)	0	0	0	Credit 1 <i>Superstructure</i> The development may achieve up to 6 credits however, needs LCA exercise which is costly and therefore not targeted <u>For the concept stage credits, the information would have to be submitted to BRE pre planning.</u> Credit 2 <i>Substructure and hard landscaping options appraisal during Concept Design (all building types)</i> Not targeted. Credit e1 <i>Core building services options appraisal during Concept Design (all building types)</i> Not targeted. Credit e2 <i>LCA and LCC alignment (all building types)</i> Not targeted. Credit e3 <i>Third party verification (all building types) - Exemplary level criteria</i> Not targeted.
Mat 02	Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)	1	0	0	0	Credit 1 <i>Specification of products with a recognised environmental product declaration (EPD)</i> A credit would be possible here for specifying as many products as possible with Environmental Product Declaration (EPD). An EPD compliant with BREEAM is an independently verified environmental label (i.e. ISO Type III label) according to the requirements of ISO 14025. To get the credit, there would need to be tight control of products used as 15-30 products used (depends on type of EPD) would need to comply. Not targeted but could be considered.

Mat 03	Responsible sourcing of construction products	4 (+1)	0	2	2	Credit 0 Prerequisite 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy. Compliance is a minimum requirement for achieving any BREEAM rating. There are no prerequisite requirements for other materials. Credit 1 Enabling sustainable procurement A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must be in place before Concept Design. A template can be provided and the plan must be used to guide purchasing and procurement. This credit has been targeted and needs to be undertaken as soon as possible. Credit 2 Measuring responsible sourcing One credit will be achieved for the amount of construction products specified or procured which have responsible sourcing certification for example BES 6001. This will require care when purchasing products such as steel, concrete, cladding, windows etc and preference given to suppliers who have this certification.
Mat 05	Designing for durability and resilience	1	0	0	1	Credit 1 Protecting vulnerable parts of the building from damage/material degradation This credit requires measures such as protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails, convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design and conformance to a raft of design measures. Discussion considered this credit possible. Richard to check whether the design standards are acceptable.
Mat 06	Material efficiency	1	0	0	0	Credit 1 Material efficiency This credit has been included to consider how the scheme can minimise the use of materials. A template can be provided. The credit is not targeted but could be considered.
Materials Totals: (+exemplary)		14 (+4)	0	2	3	
Materials score totals:		15	0	2.14	3.21	
Waste						

Wst 01	Construction waste management	4 (+1)	0	4	4	Credit 1 Pre-demolition audit Assumed no demolition and filtered out. Credit 2 Construction resource efficiency A compliant Resource Management Plan (RMP) needs to be prepared covering Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication), including demolition and excavation waste. Accurate data records on waste arisings and waste management routes should be kept and the total arisings excluding demolition and excavation waste will NOT exceed 3.2 tonnes per 100m² GIFA. Further credits are possible with lower targets. Credit 3 Diversion of resources from landfill Waste to be sorted and diverted from landfill by at least the following:- Non-demolition 80% Demolition 90% The credit is targeted in all scenarios. An exemplary credit may be possible but has not been assumed at this time.
Wst 02	Use of recycled and sustainably sourced aggregates	1 (+1)	0	0	0	Credit 1 Project Sustainable Aggregate points This credit has not been targeted as the information on the quantity, source and use of each type of aggregate used must be obtained and the information required to calculate is difficult and restrictive in terms of product specification.
Wst 03	Operational waste	1	0	1	1	Credit 1 Operational waste The bin stores indicated must have dedicated labelled areas for storage of recyclable waste and must be big enough and have facilities for the likely waste streams (e.g cardboard, which would require a compactor). If organic waste is to be stored the team must include water outlet in bin area plus either vessels for composting suitable organic waste should be provided OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility.
Wst 05	Adaptation to climate change	1 (+1)	0	0	0	Credit 1 Resilience of structure, fabric, building services and renewables installation This credit requires extensive reporting and risk assessments which should be undertaken pre planning. The credit is not targeted in all scenarios. Credit e1 Responding to climate change The exemplary credit is not targeted.
Wst 06	Design for disassembly and adaptability	2	0	0	0	Credit 1 Design for disassembly and functional adaptability -recommendations This credit requires extensive study and reports which should be undertaken pre planning. The credit is not targeted in all scenarios. Credit 2 Disassembly and functional adaptability - implementation The first credit needs to be achieved, then the recommendations or solutions proposed by Concept Design need to be implemented where practical and cost effective. Omissions have been justified in writing to the assessor. Not targeted.
Waste Totals: (+exemplary)		9 (+3)	0	5	5	
Waste score totals:		6	0	3.33	3.33	

Land Use & Ecology					
LE 01	Site selection	2	0	1	1
					Credit 1 <i>Previously occupied land</i> The site appears to be a playground which would enable the credit to be achieved. Credit 2 <i>Contaminated land</i> No known contamination therefore not targeted.
LE 02	Ecological risks and opportunities	2 (+1)	0	2	2
					Credit 0 <i>Prerequisite - Statutory obligations</i> There is a PEA/extended survey undertaken by an SQA. This will need to be extended to address the BREEAM criteria. It is assumed that this will be possible in the credits in this section. Wynne will need to confirm compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Credit 1 <i>Survey and evaluation/Determining ecological outcomes</i> A Suitably Qualified Ecologist (SQE) needs to update survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions and the recommendations are implemented. 2 Credits targeted in both scenarios. Credit e1 <i>Wider site sustainability - Exemplary level criteria</i> Not targeted.
LE 03	Managing impacts on ecology	3	0	1	2
					Credit 0 <i>Prerequisite - Ecological risks and opportunities</i> LE02 has to be achieved as a pre requisite. Credit 1 <i>Planning and measures on-site</i> The ecologist then needs to determine planning and protection measures such as tree protection and any protected species such as bats and nesting birds. Two further credits would be possible where there is either no loss of ecological value, or one credit where it is minimised. It has been assumed at this time that there will be minimised loss of ecological value, although this will need to be confirmed by the ecologist's calculations. There is some tree removal. Richard to confirm with Gethin whether one credit for minimal loss is possible. If not possible 4% will be lost in following credits.
LE 04	Ecological change and enhancement	4 (+1)	0	0	2
					Credit 0 <i>Prerequisite - Managing negative impacts on ecology</i> 1. Criterion 8 LE 03 has been achieved - no, or minimal loss of ecological value 2. The client or contractor will confirm compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. Credit 1 <i>Change and enhancement of ecology / Ecological enhancement</i> This is for measures implemented which were identified in credit LE02 and should be targeted. Credit 2 <i>Change and enhancement of ecology</i> It is not clear if the ecology could be enhanced sufficiently for this credit. See note in LE03.

LE 05	Long term ecological management and maintenance	2	0	0	2	Credit 0 Prerequisite - Statutory obligations, planning and site implementation The prerequisite requires criterion 8 (for Comprehensive route) in LE 03 to be achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded. In addition the client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. As it is not clear if the ecology could be enhanced sufficiently for LE03, it is not clear if pre-requisite can be met. . See note in LE03 Credit 1 Management and maintenance throughout the project / Landscape and ecology management plan If prerequisite can be met, the following could be targeted:- Management and maintenance throughout the project Once the detailed list is of measures completed, ensure that it is included within project prelims, plus measures to monitor implementation. The landscape architect and SQE will work together to provide the information for the occupant. The credit should be targeted. Landscape and ecology management plan The credit requires the team to produce a landscape and ecology management plan.
Land Use & Ecology Totals: (+exemplary)		13 (+2)	0	4	9	
Land Use & Ecology score totals:		13	0	4	9	
Pollution						
Pol 01	Impact of refrigerants	3	0	1	3	Credit 1 Impact of refrigerants If the building is designed to avoid the need for refrigerant-containing building services, so no refrigerant use will be specified for the fit-out, the available 3 credits can be awarded by default. If there are heat pumps or any other form of refrigerant based system e.g splits or VRF, 1-2 credits possible as follows:- Credit 1 Impact of refrigerants All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Impact of refrigerant If the air heat pump system is R32, a credit is likely. Leak detection This credit has not been targeted as it is expensive but is a possible credit.
Pol 02	Local air quality	2	0	0	1	Credit 1 Local air quality Depends on proposed building services - if new gas plant, 2 credits possible as long as the gas boilers and water heaters are 24mg/kwh or less, 1 credit for 27mg/kwh. 1 credit assumed in best case.

Pol 03	Flood and surface water management	5	0	4	4	Credit 1 Flood resilience Flood map: Low risk Need site specific FRA but can assume 2 credits Credit 1 Flood resilience A flood /drainage specialist consultant needs to undertake a site specific flood risk assessment. The site is low risk. Credit 2 Surface water run-off Prerequisite Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The structural engineer needs to undertake bespoke solution therefore it is assumed the pre requisite will be satisfied. Surface Water Run-Off - Rate For brownfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the predeveloped site. To be confirmed. Surface Water Run-Off - Volume Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. To be confirmed. Credit 3 Minimising watercourse pollution There is no discharge from the developed site for rainfall up to 5 mm. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, will have separators (or an equivalent system) are installed in surface water drainage systems. There are no high risk areas on site therefore this credit can be targeted.
Pol 04	Reduction of night time light pollution	1	0	1	1	Credit 1 Reduction of night time light pollution The external lighting strategy to be designed for the reduction of obtrusive light, All external lighting (except for safety and security lighting) will be automatically switched off between 23:00 and 07:00. Safety or security lighting will have lower levels of lighting recommended by ILP. The credit has been targeted.
Pol 05	Reduction of noise pollution	1	0	1	1	Credit 1 Reduction of noise pollution One credit for a noise impact assessment compliant with BS 4142:2014 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. The credit has been targeted.
Pollution Totals: (+exemplary)		12	0	7	10	
Pollution score totals:		8	0	4.67	6.67	

Innovation						
AI	Approved Innovation	1	0	0	0	Credit 1 <i>Approved innovations</i> The credit is not targeted.
Innovation Totals: (+exemplary)		1	0	0	0	
Innovation score totals:		1	0	0	0	
OVERALL SCORE TOTALS:		101	0	39.61	54.05	