

City Airport Development Programme (CADP1)

Condition 63: BREEAM





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EXECUTIVE SUMMARY

RPS Consulting Services (RPS) was commissioned by London City Airport (the Airport) to prepare a BREEAM Pre-Assessment for the City Airport Development Programme (CADP1).

Condition 63 of the CADP1 permission requires that the development is registered with a BREEAM certification body and a pre-assessment report carried out for the relevant phase of the CADP1 development before construction starts. It then requires that phase to achieve a rating of 'Very Good'.

This report is based on the approved CADP1 design and has accounted for the subsequent non-material amendments pursuant to S96A of the Town and Country Planning Act 1990 (as amended) (16/03797/NONMAT and 17/02865/NONMAT).

BREEAM project team workshops were held between the Airport, designers and BREEAM assessment team to ensure the BREEAM assessment comprehensively addresses each required aspect of the CADP1 development.

This report confirms that CADP1 has been registered with the BRE and a BREEAM pre-assessment has been carried out. It outlines the credit strategy to be followed in order to achieve the required BREEAM rating of Very Good.

If the strategy presented in this report is adopted, it is considered that the development will achieve the required 'Very Good' BREEAM rating.

1 INTRODUCTION

1.1. The City Airport Development Programme (CADP1) planning application (ref.13/01228/FUL) was granted planning permission by the Secretaries of State for Communities and Local Government and Transport in July 2016 following an appeal and public inquiry which was held in March/April 2016.

1.2. Condition 63 requires that:

“No Phase of the Development shall take place until evidence that the relevant Phase of the Development is registered with a BREEAM certification body and a pre-assessment report (or design stage certificate with interim rating if available) has been submitted indicating that the relevant Phase of the Development can achieve the stipulated final BREEAM level.

Prior to occupation of the relevant Phase of the Development hereby permitted a Building Research Establishment (BRE) certificate confirming that the development design for the relevant part of that building/buildings in that Phase achieves a minimum BREEAM rating of Very Good shall be provided to the Local Planning for approval in writing.”

1.3. On 5th January 2017, the London Borough of Newham (LBN) approved some non-material design changes (16/03797/NONMAT) to the appearance of the western and southern elevations of the Western Terminal Extension (WTE). [A further non-material amendment \(17/02865/NONMAT\) to the Planning Permission was approved on 27 September 2017 for minor amendments to the terminal buildings and associated service yard, East Pier, forecourt and decked car park. The approved minor amendments have been incorporated into the details provided to satisfy this condition.](#)

1.4. The Airport submitted a Construction Phasing Plan to LBN pursuant to Condition 4 of the CADP1 permission in February 2017. It was proposed to build out CADP1 as a single uninterrupted period of construction over 5 years split into two distinct phases. Consistent with terminology used in the UES, the two phases were referred to as the ‘Interim Works’ and the ‘Completed Works’ – each delivering different parts of the CADP infrastructure. The Interim Works would be delivered first and would be immediately followed by the Completed Works. This Construction Phasing Plan was approved by LBN in March 2017 (ref. 17/00500/AOD) and the details pursuant to Condition 63 for the ‘Interim Works’ were also approved at the same time (ref. 17/00958/AOD).

1.5. Ahead of the commencement of construction of CADP1, the Airport’s Delivery Partner have identified a number of programme efficiencies and improvements to the 5 year build which would

reduce the duration of the construction programme by around 12 months and deliver the full CADP1 infrastructure in an accelerated single phase (*Accelerated Construction Phasing Plan*).

- 1.6. The new *Accelerated Construction Phasing Plan* has been submitted to London Borough of Newham pursuant to Condition 4 under separate cover.
- 1.7. This submission seeks approval of details pursuant to Condition 63 for the entire approved CADP1 infrastructure to be delivered by the new *Accelerated Construction Phasing Plan*.
- 1.8. At the request of LBN Officers, new text added to the previously approved details (17/00958/AOD) has been distinguished in blue text in this document.
- 1.9. RPS Consulting Services (RPS) was commissioned by the Airport to produce a BREEAM Pre-Assessment (Bespoke) for CADP1. This Pre-Assessment report confirms that the CADP1 development has been registered with Building Research Establishment's (BRE) Bespoke BREEAM 2014 version (ref. BREEAM-0056-2660) and demonstrates that the development can achieve the necessary BREEAM 'Very Good' rating.
- 1.10. As required by Condition 63, a final BREEAM certificate will be secured and issued to LBN prior to occupation of CADP1.
- 1.11. Only certain elements of the CADP1 are required to be included within the scope of a BREEAM New Construction assessment. These include:
 - Western Terminal Extension (WTE);
 - Eastern Terminal Extension (ETE); and
 - New Eastern Pier (NEP).
- 1.12. The reason for excluding the remaining parts of the CADP1 from the BREEAM assessment is because they are either infrastructure works (not buildings) that will not be occupied or minor reconfiguration works. For clarity, the elements of the CADP1 that are excluded from the BREEAM assessment are as follows:
 - Noise Barrier;
 - Taxilane extensions;
 - New runway exist/entry taxiway;
 - 8 additional aircraft stands (over water);
 - 4 reconfigured aircraft stands (mostly over water);
 - Western Energy Centre (WEC);
 - Western Service Yard;

- Dockside development (including multiple car parks and small buildings);
- Eastern Energy Centre (EEC); and
- RVP Pontoon.

- 1.13. CADP1 will be assessed under the Bespoke BREEAM 2014 scheme due to the non-standard nature of the project which doesn't fall into the standard BREEAM building types. The process involves requesting BRE to develop bespoke project criteria and procedures for an individual project. This process has been undertaken for the CADP1 and although minor criteria have been tailored there are no major deviations from a standard BREEAM 2014 New Construction assessment. These minor criteria alterations relate to the applicability of certain spaces/rooms within the proposed works including; internal acoustic performance, energy metering and sub-metering, boundary protection enhancing site ecology, full details of which can be found in Appendix A.
- 1.14. BRE were approached on the 25th July 2016, to clarify if the bespoke scheme with the tailored criteria was still applicable to the overall CADP1 development. BRE have confirmed that only one minor alteration to criteria appendix (Ene 02) and that the BREEAM Bespoke assessment remains applicable to the project. This email chain can be found in Appendix B.
- 1.15. BREEAM assessment also measures the sustainability of a development against design categories, rating the design and construction process as a whole package. The categories included within a BREEAM assessment are:
- Management;
 - Health and Wellbeing;
 - Energy;
 - Transport;
 - Water;
 - Materials;
 - Waste;
 - Land Use and Ecology; and
 - Pollution.
- 1.16. BREEAM has a scoring system of six levels. The different levels are made up by achieving both the appropriate mandatory minimum standards together with a proportion of the other credits so that a score is achieved. The scores required for the corresponding ratings are summarised in the Table 1 below.

Table 1: BREEAM rating scoring system

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

- 1.17. BREEAM assessment and certification is generally carried out in three phases:
- A preliminary assessment to set up the strategy to meet the BREEAM target;
 - An initial assessment and interim certification is carried out at the design stage; and
 - Final assessment and certification is carried out after construction.

BREEAM Pre-Assessment

- 1.18. This Pre-Assessment follows the guidance set out in the BREEAM New Construction 2014 technical manual, and thus the resulting score is based on the BREEAM scheme version SD5076:1.0-2014.
- 1.19. The issues under each BREEAM category are presented in the completed Pre-Assessment in Section 2 along with details of how the development intends to achieve the corresponding criteria. This BREEAM pre-assessment has been completed based on information provided by the client team and assumptions made by the BREEAM assessor. This also includes attendance at the following specific BREEAM workshops as well as design team meetings:
- BREEAM specific workshop was held on the 8th September 2014 covering the initial scope of the scheme; a workshop was carried on the 20th July 2016 based upon the approved design as per the CADP1 permission to ensure the project accounted for the BREEAM criteria. Attendees at these workshops included; the Airport, Pascall +Watson, Atkins and Bickerdike Allen and Partners;
 - Design team meetings were attended on the 4th and 13th February 2015 where updates on the BREEAM assessment were provided; and
 - BREEAM Stage 2 workshop was held on the 12th October 2017 reviewing the Stage 2 design proposals against the BREEAM criteria to ensure the CADP1 was still on course to meet Condition 63.

Design Stage Review

- 1.20. Following the Pre-Assessment Stage, design specifications and technical reports are reviewed before construction begins. A rating is determined, and (subject to quality assurance) a Design Stage or Interim Certificate is awarded for the development.

Post Construction Stage Review

- 1.21. The Post Construction Stage (PCS) assessment confirms that the development has either been built to the Design Stage specifications or to (documented) variations from the Design Stage. Variations must be re-assessed so that new scores and BREEAM levels can be calculated. Where a Design Stage assessment has been undertaken, it is used to inform the PCS assessment.

2 PREDICTED SCORE FOR CADP1

- 2.1 The tables in the following section set out the predicted BREEAM score likely to be achieved for CADP1.
- 2.2 Overall, it is predicted that CADP1 should achieve **a score of 62.10%**, thereby achieving the required **'Very Good'** rating (>55%). In addition all mandatory credits for this rating have also been achieved; as is summarised in Table 2 and Table 3 below:

Table 2: Predictive Score (62.10%)

	No. credits available	Indicative no. credits Targeted	Percentage credits Targeted	Section Weighting	Indicative Section Score
Management	21	15	71.43%	12.00%	8.57%
Health & Wellbeing	17	10	58.82%	15.00%	8.82%
Energy	23	17	73.90%	15.00%	11.09%
Transport	8	6	75.00%	9.00%	6.75%
Water	8	5	62.50%	7.00%	4.38%
Materials	14	7	50.00%	13.50%	6.75%
Waste	8	2	25.0%	8.50%	2.10%
Land Use & Ecology	10	8	80.00%	10.00%	8.00%
Pollution	13	6	46.15%	10.00%	4.62%
Innovation	10	1	10.00%	N/A	1.00%
Total	132	79	-	-	62.10%

- 2.3 Performance against the minimum standards, required for the specified BREEAM 'Very Good' target, is summarised below in Table 3. If the required minimum standards are not met then the target rating will not be achieved regardless of overall score.

Table 3: Minimum/ mandatory requirements for BREEAM (Very Good)

Issue	Description	Minimum/ Mandatory Requirements Met
Ene 02 - Energy Monitoring	Installation of energy sub-metering that facilitates the monitoring of operational energy consumption.	Yes
Wat 01 - Water Consumption	Installation of efficient water-consuming components that result in a 12.5% improvement over baseline building water consumption.	Yes
Wat 02 - Water Monitoring	Installation of a water meter on the mains water supply to each building.	Yes
Mat 03 - Responsible Sourcing of Materials	All timber and timber-based products used on the project are to be legally harvested and traded timber.	Yes
LE 03 - Mitigating Ecological Impact	There is no change in the site's ecological value (plant species).	Yes

- 2.4 It is considered that the CADP1 will achieve the required BREEAM 'Very Good' rating. A brief outline of some of the elements to be included within CADP1 is detailed below and the full credit strategy for the report is detailed within Appendix C of this report.

Management

2.5 This category encourages the adoption of sustainable management practices in connection with design, construction, commissioning, handover and aftercare activities. Table 4 details the BREEAM strategy of the management category related to the CADP1. This category is relevant to other CADP1 pre-commencement conditions including:

- Condition 87: Construction Design and Method Strategy
- Condition 88: Construction Environmental Management Plan

Table 4: BREEAM management category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Man01: Project brief and design	4	4	<ul style="list-style-type: none"> - An extensive stakeholder consultation exercise involving both the project delivery team and the third parties has been undertaken. - The other two credits are targeted because RPS has been appointed to fulfil the BREEAM sustainability Champion/Accredited Professional (AP) role. 	87
Man02: Life cycle cost (LCC) and service life planning	4	0	<ul style="list-style-type: none"> - A Life Cycle Cost analysis (LCC) has not been undertaken as part of the CADP1. 	
Man03: Responsible construction practices	6	5	<ul style="list-style-type: none"> - The Managing Contractor will operate a certified environmental management system (ISO14001). - The Considerate Constructors Scheme (CCS) will be applied to the site with a score of > 35 targeted. - The Managing Contractor will monitor and record consumption of energy, water and the transportation of materials and waste to and from site. 	88
Man 04: Commissioning and handover	4	3	<ul style="list-style-type: none"> - Commissioning and specialist commissioning responsibilities will be clearly defined and programmed. - An in depth handover strategy will be in place and this will include the development of a Building User Guide (BUG). 	87
Man 05: Aftercare	3	3	<ul style="list-style-type: none"> - Aftercare support will be provided to the building occupiers. - Seasonal commissioning will be undertaken at the necessary intervals throughout the year. - An independent Post Occupancy Evaluation will be undertaken a year after occupation. - Further to this an exemplary level credit has been targeted which will required the end user to continue monitoring and recording performance data for at least three years. 	87

Health and Wellbeing

2.6 This category encourages the increase comfort, health and safety of building occupants, visitor and other within the vicinity. Table 5 details the BREEAM strategy of the health and wellbeing category related to the CADP1. This category is relevant to the following CADP1 pre-commencement conditions:

- Condition 31: NOMMS (Noise Management and Mitigation Strategy)
- Condition 36: Landscape
- Condition 40: Crime Prevention Strategy
- Condition 57: Air Quality Monitoring
- Condition 58: Air Quality Management Strategy

Table 5: BREEAM health and wellbeing category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Hea01: Visual comfort	4	2	<ul style="list-style-type: none"> - Suitable shading and glare control devices will be installed to avoid disabling glare in workspace areas. - Internal and external lighting levels, zoning and controls will be designed and installed in accordance with industry best practice guidelines. 	
Hea02: Indoor air quality	5	2	<ul style="list-style-type: none"> - An indoor air quality plan has been produced. - Low VOC products will be used on the project. 	57 & 58
Hea04: Thermal comfort	3	2	<ul style="list-style-type: none"> - Dynamic thermal modelling will be undertaken to demonstrate internal temperatures meet appropriate industry standards. - The thermal controls and zoning of the spaces will take account of the outputs from the thermal modelling to inform the temperature control strategy. 	
Hea05: Acoustic performance	3	3	<ul style="list-style-type: none"> - The project acoustician has confirmed that three credits will be achieved under this section. 	31
Hea06: Safety and security	2	1	<ul style="list-style-type: none"> - The Crime Prevention Report demonstrates the design of CADP1 has been carefully considered with regard to crime prevention and counter-terrorism. This has been achieved with ongoing liaising with the Counter Terrorism Security Adviser and the Designing Out Crime Officers. 	40

Energy

2.7 This category encourages the specification and design of energy efficient building solutions systems and equipment that support the sustainable use of energy in the building as well as sustainable management in the building's operation. Table 6 details the BREEAM strategy of the energy category related to the CADP1. This category is relevant to the following other CADP1 pre-commencement conditions:

- Condition 41: External Lighting
- Condition 61: Energy Assessment and Reduction in Carbon Dioxide Emissions
- Condition 64: Photovoltaic Panels

Table 6: BREEAM energy category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Ene01: Reduction of energy use and carbon emissions	12	9	<ul style="list-style-type: none"> - Credits for this issue are based upon improvements beyond the Building Regulation Part L2A energy modelling. - The energy calculation output confirms nine credits under BREEAM Ene 01 can be achieved. 	61
Ene02: Energy monitoring	2	2	<ul style="list-style-type: none"> - Energy metering and sub-metering will be installed to monitor at least 90% of energy use by all major building components. Meters will be connected to the Building Management System (BMS). Atkins confirmed the metering strategy will be in accordance with CIBSE TM39 and therefore will comply with the BREEAM criteria. - Separate sub metering of each fuel will be provided for the different building areas including the separate tenant areas. 	
Ene03: External lighting	1	1	<ul style="list-style-type: none"> - The average initial luminous efficacy of the external light fittings within the construction zone will not be less than 60 luminaire lumens per circuit watt. - The external lighting circuit will include a daylight sensor and a timeclock. 	41
Ene04: Low carbon design	3	2	<ul style="list-style-type: none"> - The stage 2 energy report confirms that a passive design analysis was undertaken, which has resulted in a significant reduction in the energy demand for the terminal building - Further to the above, the energy report details that a feasibility study was undertaken reviewing low and zero carbon technologies. This has resulted in an energy strategy that utilises a Combined Heat and Power system as well as Photovoltaic panels. The energy consultant has provided energy calculation outputs that demonstrate a significant reduction in the proposed development's CO₂ emissions due to these technologies. 	61 & 64
Ene06: Energy efficient transportation systems	3	3	<ul style="list-style-type: none"> - The optimum number and size of lifts, escalators and moving walkways has been determined during the early stages of project. - As detailed in the Stage 2 report the following features have been specified: <ul style="list-style-type: none"> o Lifts: Standby mode, energy efficient car lighting and use of variable speed controller/drive o Escalators/ moving walks: Fitted with passenger sensing device for automated operation (auto walk) 	
Ene08: Energy efficient equipment	2	0	<ul style="list-style-type: none"> - No credits have been targeted due to the bespoke nature of the small plug-in power equipment. 	

Transport

2.8 This category encourages better access to sustainable means of transport for building users. Table 7 details the BREEAM strategy of the transport category related to the CADP1. This section is relevant to the following other CADP1 pre-commencement conditions including:

- Condition 75: Cycle Parking
- Condition 77: Traffic Management Plan
- Condition 78: Taxi Management Plan

Table 7: BREEAM transport category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Tra01: Public transport accessibility	4	3	- The Public Transport Accessibility Level (PTAL) confirms the site has an accessibility index= 12.47. This directly results in three credits being achieved under this section.	
Tra02: Proximity to amenities	1	1	- All required amenities are located within the airport buildings.	
Tra03: Cyclist facilities	2	1	- Based upon the occupancy figures provided for the LCA and the external tenants onsite, as well as factoring in the good accessible index BREEAM requires 20 compliant cycle storage spaces. This number is being exceeded by the provision in order to address condition 75.	75
Tra05: Travel plan	1	1	- A travel assessment has been undertaken and the existing travel plan will be updated to account for the development.	77 & 78

Water

2.9 This category encourages sustainable water use in the operation of the building and its site. Table 8 details the BREEAM strategy of the water category related to the CADP1.

Table 8: BREEAM water category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Wat01: Water consumption	5	2	<ul style="list-style-type: none"> - Water efficient features will be incorporated that will equate to a 25% reduction in water use, compared to a BREEAM baseline building. This is achieved through the specification of water components the following performance levels: <ul style="list-style-type: none"> o WC 4.5 litres (Effective flush volume) o Wash hand basin taps 7.50 litres/min (Flow rate) o Showers 8 litres/min (Flow rate) o Urinal 3 litres/bowl/hour o Kitchenette taps 7.5 litres/min (Flow rate) 	
Wat02: Water monitoring	1	1	<ul style="list-style-type: none"> - All mains supplies will have a water meter with a pulsed output installed and be linked back to the BMS. 	
Wat03: Water leak detection and prevention	2	2	<ul style="list-style-type: none"> - A cold water flow control device, linked to a Passive Infra-Red (PIR) sensor, will be fitted to the supply of each WC block. - A water leak detection which is capable of detecting a major leak on the mains water supply within the building and between the building and utilities water meter will be installed. 	

Materials

2.10 This category encourages steps taken to reduce the impact of construction materials through design, construction, maintenance and repair. Table 9 details the BREEAM strategy of the materials category related to the CADP1. This category is relevant to the following other CADP1 pre-commencement conditions including:

- Condition 34: Details and samples of the materials to be used

Table 9: BREEAM materials category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Mat01: Life cycle impacts	6	3	- The main building elements will achieve a high BRE green guide rating through the use of construction materials with a low environmental impact.	34
Mat02: Hard landscaping and boundary protection	1	1	- 80% of the external hard landscaping materials will be specified to achieve BRE green guide rating of A/A+.	34
Mat 03: Responsible sourcing	4	1	- A sustainable procurement plan will be prepared and adopted for the project.	34
Mat04: Insulation	1	1	- Thermal insulation used on the project will have an insulating index score of at least 2.5 based upon the output from the Mat04 calculator.	34
Mat05: Designing for durability and resilience	1	1	- Areas with high pedestrian traffic as well as internal and external vehicular movement will have durability measures installed to protect these parts from damage.	34
Mat06: Material efficiency	1	0	- The undertaking of the extensive material efficiency review has not been targeted.	

Waste

2.11 This category encourages the sustainable management and reuse where feasible, of construction waste, operational waste and waste through future maintenance and repairs associated with a buildings structure. Table 10 details the BREEAM strategy of the waste category related to the CADP1. This category is relevant to the following other CADP1 pre-commencement conditions including:

- Condition 70: Waste Management Strategy

Table 10: BREEAM waste category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Wst01: Construction waste management	4	1	- A BREEAM compliant Site Waste Management Plan (SWMP) will be produced for the site along with a pre-demolition audit. Further to this 80% (tonnage) of non-demolition waste and 90% (tonnage) of demolition waste must be diverted from landfill. These targets exclude waste identified as hazardous . This is in accordance with the CADP1 Updated Environmental Statement – Chapter 15: Waste. Thus, one credit has been targeted.	70
Wst02: Recycled aggregates	1	0	- Credit not targeted due to the limitation it places upon the grade and quality of aggregates.	
Wst03: Operation waste	1	1	- Appropriate operational waste facilities will be provided, which will be suitably labelled to assist with segregation. These facilities will be located within the Western Service Yard.	70

Land Use and Ecology

2.12 This category encourages sustainable land use, habitat protection and creation, and improvement of long term biodiversity for the building's site and surrounding land. Table 11 details the BREEAM strategy of the land use and ecology category related to the CADP1. This category is relevant to the following other CADP1 pre-commencement conditions:

- Condition 56: Sustainability and Biodiversity Strategy
- Condition 68: Artificial Fish Refugia

Table 11: BREAM land use and ecology category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
LE01: Site selection	2	1	- The CADP1 are all on previously occupied land therefore the credit has been achieved.	
LE02: Ecological value of site and protection of ecological features	2	2	- The land is defined as having a low ecological value. - Where features are present, these will be protected during the works.	56
LE03: Mitigating ecological Impact	2	2	- The will be no negative change in ecological value of the site following the completion of the works.	56
LE04: Enhancing site ecology	2	1	- The ecologist recommendations for enhancement will be incorporated and implemented. Due the restricted nature of the site only one credit has been targeted.	56 & 68
LE05: Long term impact on biodiversity	2	2	- One credit has been achieved through the update to the Airport's biodiversity strategy report. - The second targeted credit requires the necessary site actions to take place including: workforce training, suitable programming of works, ecological protection records and the nomination of a biodiversity champion.	56 & 68

Pollution

2.13 This category addresses the prevention and control of pollution and surface water run-off associated with the building's location and use. Table 12 details the BREEAM strategy of the pollution category related to the CADP1. This category is relevant to the following other CADP1 pre-commencement conditions:

- Condition 31: NOMMS (Noise Management and Mitigation Strategy)
- Condition 39: Contamination
- Condition 57: Air Quality Monitoring
- Condition 58: Air Quality Management Strategy
- Condition 61: Energy Assessment and Reduction in Carbon Dioxide Emissions
- Condition 66: Non Return Water Valve and Sustainable Urban Drainage
- Condition 69: Sustainable Urban Drainage System
- Condition 41: External Lighting

Table 12: BREEAM pollution category summary

Issue	Available Credits	Targeted Credits	Notes	Related Conditions
Pol01: Impact of refrigerants	3	1	- All cooling is to be supplied via air-cooled chillers and therefore only one credit has been targeted.	61
Pol02: NOx emissions	3	0	- The proposed CHP has NOx emission levels that are above the thresholds on the BREEAM criteria. These credits are typically only achieved using standard gas boiler installations.	57,58 & 61
Pol03: Surface water run-off	5	3	- The Flood Risk Assessment (FRA) and the surface water drainage chapters within the updated Environmental statement have informed that three credits are achievable under this section.	39,56,66 & 69
Pol04: Reduction of night time light pollution	1	1	- External lighting will aim to reduce/eliminate external light pollution in line with industry best practice standards. These criteria do not apply to the airfield external lighting	41
Pol05: Noise attenuation	1	1	- The acoustician has confirmed that a noise impact assessment has been undertaken and post completion measures would be undertaken to ensure compliance with BREEAM criteria. The requirements within the conditions associated with the development are far more onerous, therefore the BREEAM criteria will be met comfortably as a result.	31

Potential Credits

2.14 The following points have been identified as areas where additional credits could be obtained:

- Man02 – Life cycle cost and service life planning – (one credit worth 0.83%). The capital cost of the project is reported;
- Man04 – Commissioning and handover – (one credit worth 0.83%). Requires the integrity of the building fabric to be assessed through air pressure testing and a thermographic survey;
- Mat01 – Life cycle impacts – (two potential credits, each worth 0.96%). Dependent upon the material build-up of the major building elements and the output of the completed Mat01 calculator. This will be fully reviewed during Stage 3; and
- Pol02 – NOx emissions – (one credit worth 0.77%). A detailed review of the heating strategy is required to establish the NOx emissions associated with the plant. This will be fully reviewed during Stage 3 / 4.

2.15 These potential credits will be reviewed periodically during the project programme when technical design details become available, to establish if they can be achieved.

3 CONCLUSION

- 1.1. Condition 63 of the CADP1 permission requires that the development achieves a rating of 'Very Good' (>55%) under BREEAM. This pre-assessment confirms that CADP1 has been registered with the BRE and that the current targeted BREEAM score for the CADP1 is [62.10%](#) achieving a BREEAM 'Very Good' rating.
- 1.2. This BREEAM pre-assessment has been carried out based upon liaisons with the project team and specific BREEAM workshops. Associated pre-commencement conditions surrounding the CADP1 have also been reviewed in respect to BREEAM, as highlighted within this report.
- 1.3. The full credit strategy for the report using the BREEAM Bespoke Assessment Report can be found in Appendix [C](#).
- 1.4. Once the CADP1 is completed, a BREEAM certificate will be provided to LBN ahead of occupation in accordance with the requirements of Condition 63.

Appendix A: BREEAM Bespoke Project Criteria

This document is a Bespoke project specific appendix to the BREEAM New Construction 2014 technical manual. The document determines, for specific BREEAM issues, which criteria and compliance requirements (from the master manual) are applicable to the project (named below). It must therefore be read in conjunction with the master BREEAM New Construction manual (available from the Assessor Extranet) and the Bespoke BREEAM 2014 Assessment Scoring & Reporting Tool issued for this project.

For projects where an assessor is not yet appointed, the BREEAM New Construction 2014 manual will be issued to the client with the project specific Bespoke BREEAM 2011 criteria appendix.

The Bespoke BREEAM 2014 Assessment Scoring & Reporting Tool details the BREEAM issues that are included in the assessment of the building (named below), and this appendix determines which criteria and compliance requirements need to be considered.

Please only assess the BREEAM issues as specified in this Bespoke BREEAM criteria appendix for this project.

Project Details

Project Name	City Airport Development Programme & Phase 1 Works
Project Proposal Number	296456
Building Name	Western Terminal Extension, New Coaching Facility and Outbound Baggage Facility
BRE Reference Number	
Project Status	Criteria
Date Issued	13/08/2014

Manual Criteria Clarifications

Issue	Issue Name	Relevant Criteria
Management		
Man 01	Project brief and design	For Stakeholder consultation (third party) credit: Please refer to assessment criteria 4 – 6.

Issue	Issue Name	Relevant Criteria
Health & Wellbeing		
Hea 01	Visual comfort	For Daylighting and View out credits: Please refer to the assessment criteria for 'all other building types.'
Hea 04	Thermal comfort	Please refer to the definition 'Occupied space' which confirms the areas where the requirement for occupant control can be excluded.
Hea 05	Acoustic Performance	Please refer to the assessment criteria for 'other building types.' The areas which must comply with the reverberation criteria are: 1) Training Rooms
Energy		
Ene 02	Energy Monitoring	For assessment criterion 1 the following energy-consuming systems which require sub-metering include (see definition): 1) Cold storage plant 2) Kitchen/catering equipment 3) Transportation equipment (escalators & lifts) 4) Baggage carousels For assessment criteria 3, relevant areas are: 1) Outbound Baggage Facility 2) New Coaching Facility 3) Western Terminal Extension by floor plate 4) Tenanted retail units
Transport		
Tra 01	Public transport accessibility	For this issue, the building is defined as ' Transport hub. ' Please refer to the assessment criteria for this type of building.
Tra 02	Proximity to amenities	For this issue, the building is defined as ' Type 6. ' Please refer to the assessment criteria for this type of building. CN4 'Amenities within assessed building or on site' applies to this assessment.
Tra 03	Cyclist Facilities	For this issue, the building is defined as ' Other building type 1. ' Please refer to the assessment criteria for this building type. Please note the unit of measure for cycle spaces is staff for this building type. However cabin / flight deck crew do not need to be included.

Issue	Issue Name	Relevant Criteria						
Water								
Wat 01	Water Consumption	Please use Wat 01 Other Non-Domestic Building Type calculator (tab within calculator tool).						
Materials								
Mat 01	Life cycle impacts	For this issue, the building is defined as ' Other buildings. ' Please refer to the assessment criteria for this type of building.						
Mat 02	Hard landscaping and boundary protection	<p>This issue applies to all hard landscaping and boundary protection within the construction zone of the project. Please refer to the definition of 'construction zone' within this issue for clarity.</p> <p>Additional compliance note:</p> <table> <tr> <th>Ref</th><th>Term</th><th>Description</th></tr> <tr> <td>CN11</td><td>Secure perimeter</td><td>The criteria for boundary protection apply to all specifications within the construction zone except any secure perimeter fencing, wall or any other fencing subject to security standards.</td></tr> </table>	Ref	Term	Description	CN11	Secure perimeter	The criteria for boundary protection apply to all specifications within the construction zone except any secure perimeter fencing, wall or any other fencing subject to security standards.
Ref	Term	Description						
CN11	Secure perimeter	The criteria for boundary protection apply to all specifications within the construction zone except any secure perimeter fencing, wall or any other fencing subject to security standards.						
Waste								
Wst 03	Operational waste	<p>Please refer to assessment criteria 1 – 2 only.</p> <p>This issue is only applicable to waste generated within office/front of house areas.</p>						
Land Use & Ecology								
LE 04	Enhancing site ecology	<p>In addition to the assessment criteria, please also refer to the additional compliance note below:</p> <table> <tr> <th>Ref</th><th>Term</th><th>Description</th></tr> <tr> <td>CN10</td><td>Location of the site for assessment</td><td>In addition to or where no ecological value is present or possible (for aircraft safety reasons) at the airport being BREEAM assessed, an ecologically relevant site external to the airport can be used to demonstrate compliance against this issue.</td></tr> </table>	Ref	Term	Description	CN10	Location of the site for assessment	In addition to or where no ecological value is present or possible (for aircraft safety reasons) at the airport being BREEAM assessed, an ecologically relevant site external to the airport can be used to demonstrate compliance against this issue.
Ref	Term	Description						
CN10	Location of the site for assessment	In addition to or where no ecological value is present or possible (for aircraft safety reasons) at the airport being BREEAM assessed, an ecologically relevant site external to the airport can be used to demonstrate compliance against this issue.						

Issue	Issue Name	Relevant Criteria		
LE 05	Long term impact on biodiversity	Please refer to assessment criteria 1 – 9 only.		
		In addition to the assessment criteria, please also refer to the additional compliance note below:		
		Ref	Term	Description
		CN6	Location of the site for assessment	In addition to or where no ecological value is present or possible (for aircraft safety reasons) at the airport being BREEAM assessed, an ecologically relevant site external to the airport can be used to demonstrate compliance against this issue.
Pollution				
Pol 02	NOx emissions	For this issue, the building is defined as ‘Other buildings.’ Please refer to the assessment criteria for this type of building.		

Appendix B: BRE acceptance of changes

From: Oliver Watts [<mailto:Oliver.Watts@rpsgroup.com>]
Sent: 25 July 2016 12:59
To: BRE Global Customer Service <BREEAMCustomerService@bre.co.uk>
Subject: BREEAM-0056-2660 - Confidential

Dear Sir or Madam,

I am working on a BREEAM New Construction Bespoke 2014 assessment (BREEAM-0056-2660) and the project team and looking at potential undertaking minor amendments to the scheme and planning that alter the location and usage of parts of the development. If this were a traditional bespoke assessment 2008 I would expect to have inform you so you can update the bespoke spreadsheet of the areas, however because it is a BREEAM NC 2014 bespoke the same weighting and spreadsheet (different title) is being used as a standard assessment, I do not anticipate this is the case.

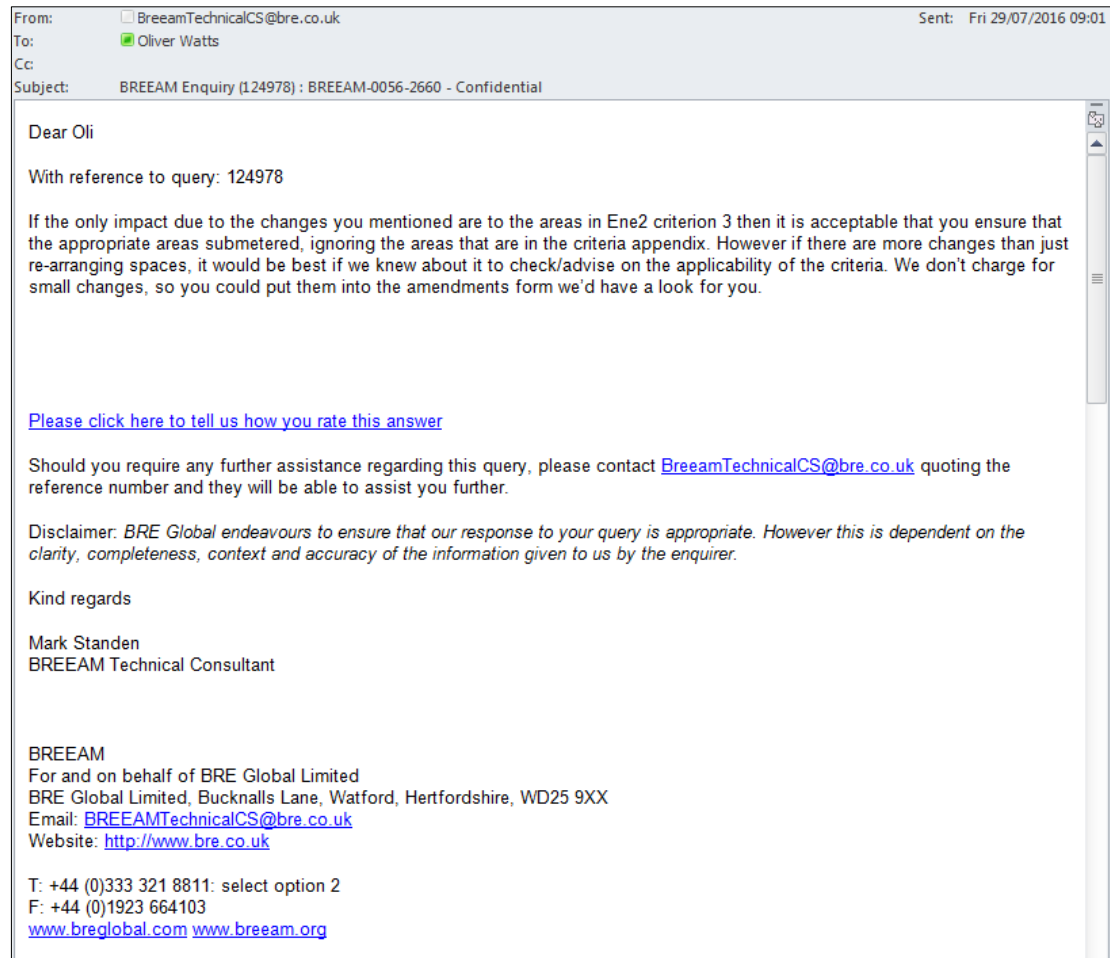
Having reviewed the bespoke criteria appendix I do not expect the scope of the assessed areas to be change other than Ene 02 Criteria 3 the relevant areas will change slightly due to the relocation, slight usage changes of certain areas. I am happy to ensure the necessary areas are meter as I would on a standard assessment.

Can you confirm the above method is acceptable?

Please note the above information and project is highly confidential and should not be forwarded or distributed.

Kind regards,

Oliver Watts
Consultant - RPS Health, Safety and Environment
35 New Bridge Street,
London, EC4V 6BW.
United Kingdom
Tel: +44 (0) 20 7280 3240
Fax: +44 (0) 20 7283 9248
Direct: +44 (0) 20 7280 3362
Mobile: +44 (0) 7484 053 808
Email: Oliver.Watts@rpsgroup.com
www: www.rpsgroup.com



Appendix C: BREEAM Scoring and Reporting Tool

BREEAM UK Bespoke New Construction 2014 Assessment Report: Assessment Issue Scoring

Building name	City Airport Development Programme 1
Building score (%)	62.10%
Building rating	Very Good
Minimum standards level achieved	Outstanding level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Stakeholder consultation (project delivery)	Yes	1	1
Stakeholder consultation (third party)	Yes	1	1
Sustainability champion (design)	Yes	1	1
Sustainability champion (monitoring progress)	Yes	1	1
Total BREEAM credits achieved	4		
Total contribution to overall building score	2.29%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Extensive stakeholder consultation exercises involving both the project delivery team and the third parties have been undertaken; therefore the first two credits have been targeted.

RPS have been appointed as the Sustainability champion to address the other two credits under Man 01 (Initially Jordan K, now Oliver Watts)

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Elemental life cycle cost (LCC)		2	0
Component level LCC plan		1	0
Capital cost reporting		1	0
Capital cost of the project		£/m ²	
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Potential item - The capital cost of the project is required to be reported as part of the BREEAM assessment.

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Environmental Management	Yes	1	1
Construction stage sustainability champion	No	1	0
Considerate construction	2	2	2
Monitoring of construction site impact (criterion 7)	Yes		
Utility consumption (water and energy)	Yes	1	1
Transport of construction materials and waste	Yes	1	1
Exemplary level criteria - considerate construction	No	1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) - waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	5
Total contribution to overall building score	2.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

All site timber used in the project will be legally harvested and traded, complying with the UK government's definition of legally sourced timber. Additionally, the Airport Construction Team for the project operates an environmental management system which covers their main operations. The use of a sustainability champion is not being sought at this stage. The project will use the Considerate Constructors Scheme (CCS), and a minimum score of 35 has been targeted for two credits. There will be a commitment/ contract clause to monitor utility (energy and water) consumption on site as well as the monitoring of transport of construction materials and waste. This consumption data will be reported in the BREEAM Assessment Scoring and Reporting tool.

Man 04 Commissioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Commissioning schedule and responsibilities	Yes	1	1
Commissioning building services	Yes	1	1
Commissioning building fabric	No	1	0
Handover	Yes	1	1
Has a Building User Guide been developed prior to handover?	Yes		

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

A commissioning schedule will be completed, whereby an appropriate project team member will be appointed to monitor and programme pre-commissioning, commissioning, testing and (where necessary) re-commissioning of all complex and non-complex building services and control systems. Furthermore, a specialist commissioning manager will be appointed during the design stage to oversee the programming and installation of the building services and undertake design reviews. They will also be responsible for managing commissioning, performance testing and the handover/post-handover stages. Finally, a Building User Guide (BUG) and training schedule will be developed prior to handover for building occupants and premises managers.

Potential credit item - Undertaking of commissioning of building fabric by a suitable method. This includes the undertaking of an air pressure test and a thermographic survey by a suitably qualified professional

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.71%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Aftercare support	Yes	1	1
Seasonal commissioning	Yes	1	1
Post occupancy evaluation	Yes	1	1
Exemplary level criteria	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	1
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.53%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Glare control	Yes	1	1
Daylighting (building type dependant)	0	1	0
View out	No	1	0
Internal and external lighting levels, zoning and controls	Yes	1	1
Exemplary level daylighting	No	1	0
Total BREEAM credits achieved	2		
Total contribution to overall building score	1.76%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The building will be designed with the potential for disabling glare for all relevant building areas, typically through the use of blinds(one credit) .The internal and external lighting credit has been awarded, as lighting will be designed to use high frequency ballasts for compact fluorescent lamps in accordance with the relevant lux levels, as specified by CIBSE/British standards (one credit).

Having reviewed the initial layout drawings and following discussions with the project team it is unlikely that all the necessary areas will meet the daylighting and view out requirements (internal occupied rooms) therefore these credits have not been targeted.

Hea 02 Indoor Air Quality

No. of BREEAM credits available	5	Available contribution to overall score	4.41%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Min. sources of air pollution: indoor air quality plan	Yes	1	1
Ventilation	No	1	0
VOCs (products)	Yes	1	1
VOCs (post-construction)	No	1	0
Adaptability - potential for natural ventilation	No	1	0
Exemplary level VOCs (products)	0	2	0

Key Performance Indicators: Indoor air quality

Concentration levels of formaldehyde		Information not available at design stage
Total volatile organic compound (TVOC) concentration		Information not available at design stage

Total BREEAM credits achieved	2
Total contribution to overall building score	1.76%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

An indoor air quality plan will be developed for the buildings in accordance with the BREEAM criteria (one credit). All decorative paints and varnishes will meet the criteria for the VOC emissions levels as detailed in Table -18 of the BREEAM technical guidance. This will need to be included within the relevant specification (one credit).

Hea 03 Safe containment in laboratories

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Objective risk assessment of laboratory facilities			
Laboratory containment devices and containment areas			
Containment level 2 and 3 labs			
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Thermal modelling	Yes	1	1
Adaptability - for a projected climate change scenario	No	1	0
Thermal zoning and control	Yes	1	1

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	
Predicted Percentage Dissatisfied (PPD)	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.76%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Thermal modelling/ overheating assessment will be carried out as part of the mechanical design by Atkins. This will inform the thermal comfort strategy for the development (two credits).

Hea 05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	2.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Credits	Credits available	Credits achieved
Acoustic performance standards and testing requirements	3	3	3

Total BREEAM credits achieved	3
Total contribution to overall building score	2.65%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The project acoustician (Bickerdike Allen and Partners) has confirmed that the three credits can be targeted for this issue and the post completion testing will be carried out (three credits).

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.76%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Safe external access	No	1	0
Security of site and building	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Condition 40: Crime Prevention Strategy report provides an in-depth action plan for designing out crime. This addressed all the BREEAM criteria. The recommendations will be implemented in the final design and build (one credit).

Potential credit item - Safe external access: Requires dedicated cycle paths, footpaths and drop-off areas. Delivery areas are not to be directly accessed through general parking area and do not cross pedestrian and cyclists routes.

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	7.83%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

Ene 01 Calculator

Country of the UK where the building is located	England	Confirm building regulation and version used:	England Part L2A 2013
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New Construction (Fully fitted)

Building floor area	33399	m2
Notional building heating and cooling energy demand	166.30	MJ/m2yr
Actual building heating and cooling energy demand	114.02	MJ/m2yr
Notional building primary energy consumption	232.90	kWh/m2yr
Actual building primary energy consumption	203.58	kWh/m2yr
Target emission rate (TER)	39.70	kgCO2/m2yr
Building emission rate (BER)	29.8	kgCO2/m2yr
Building emission rate improvement over TER	24.9%	
Heating & cooling demand energy performance ratio (EPR _{ED})	0.245	
Primary consumption energy performance ratio (EPR _{PC})	0.227	
CO ₂ Energy performance ratio (EPR _{CO2})	0.264	
Overall building energy performance ratio (EPR _{NC})	0.736	

Where specified, please confirm the energy production from onsite or near site energy generation technologies	
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative' ?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported?	

Total BREEAM credits achieved	9
Total contribution to overall building score	5.87%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

The energy strategy has informed the number of credits that have been targeted under this section. This is further supported by Condition 61: Energy Assessment and Reduction in Carbon Dioxide Emissions.

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.30%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria	Compliant?	Credits available	Credits achieved
Sub-metering of major energy consuming systems	Yes	1	1
Sub-metering of high energy load and tenancy areas	Yes	1	1
Total BREEAM credits achieved	2		
Total contribution to overall building score	1.30%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	Outstanding level		

Assessor comments/notes:

Energy sub metering will be installed to cover at least 90% of the energy consumption of each fuel by the various end-use categories. The metering will use an appropriate energy monitoring and management system and each meter will have a pulsed output capability (BMS) (one credit).

The floor plates and tenanted retail units will also require separate sub metering (one credit).

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.65%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The average initial luminous efficacy of the external light fittings within the construction zone will not be less than 60 luminaire lumens per circuit Watt, and all external light fittings will be automatically controlled so that they do not operate during daylight traffic (one credit). These criteria do not apply to the airfield external lighting.

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	1.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

	Compliant?	Credits available	Credits achieved
Passive design analysis	Yes	1	1
Free cooling		1	0
Low and zero carbon technologies	Yes	1	1

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation	<input type="text"/>	kWh/yr
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Total BREEAM credits achieved	2
Total contribution to overall building score	1.30%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A detailed energy strategy has been developed which included a review of the passive design measures and LZC technologies. This was in accordance with the London plan. (Two credits). This is further supported by Condition 61: Energy Assessment and Reduction in Carbon Dioxide Emissions.

Ene 05 Energy efficient cold storage

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria

	Compliant?	Credits available	Credits achieved
Refrigeration energy consumption		N/A	N/A
Indirect greenhouse gas emissions		N/A	N/A

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 06 Energy efficient transportation systems

No. of BREEAM credits available	3	Available contribution to overall score	1.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Energy consumption	Yes	1	1
Energy efficient features	Yes	2	2
Total BREEAM credits achieved	3		
Total contribution to overall building score	1.96%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

An analysis of the transportation demand and usage patterns for the lifts, escalators and moving walks will be undertaken, which will also include a calculation of the energy consumption of the lifts, escalators and moving walks (one credit). The specification of three energy efficient features will also be included (two credits).

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Design specification			
Best Practice Energy Practices in Laboratories (table 27)			
Item b) Fan power			
Item c) Fume cupboard volume flow rates			
Item d) Grouping / isolation of high filtration/ventilation activities			
Item e) Energy recovery - heat			
Item f) Energy recovery - cooling			
Item g) Grouping of cooling loads			
Item h) Free cooling			
Item i) Load responsiveness			
Item j) Cleanrooms			
Item k) Diversity			
Item l) Room air-change rates			
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.30%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

	Present?	Major impact
Ref A Small power and plug in equipment		
Ref B Swimming pool		
Ref C Communal laundry		
Ref D Data centre		
Ref E IT-intensive operation areas		
Ref F Residential areas		
Ref G Healthcare		
Ref H Kitchen and catering facilities		

	Compliant	Credits available	Credits achieved
Significant majority contributors BREEAM compliant		2	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Ene 09 Drying space

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria

	Compliant?	Credits available	Credits achieved
Residential internal/external drying space and fixings			
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

TRANSPORT

Tra 01 Public Transport Accessibility

No. of BREEAM credits available	4	Available contribution to overall score	4.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Transport Hub
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Assessment Criteria	Compliant	Credits available	Credits achieved
Public transport accessibility index	12.67	4	3
Building dedicated bus service			N/A
Total BREEAM credits achieved	3		
Total contribution to overall building score	3.38%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The Public Transport Accessibility Level (PTAL) document for the site has been downloaded and an Accessibility Index = 12.67 is achieved. Therefore four credits have been achieved. The PTAL is a Transport for London (TfL) tool used as a measure for accessibility to public transport in a given area. Reports can be generated from their website link: <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>. This method is approved by BRE as a way of demonstrating compliance with the criteria within London.

Tra 02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.13%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Close proximity and accessible to applicable amenities	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.13%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The Site is considered type 6 (Other Building Types) for the purpose of the BREEAM assessment. The site itself contains all the required amenities (food outlet & access to cash). On this basis the credit has been awarded.

Tra 03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	2.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Other Building - transport type 1
Number of compliant cycle storage spaces provided	70
Cyclist facilities provided	Please select

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	Yes	2	1
Cyclist facilities	No		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.13%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Based upon the occupancy figures provided for the LCA and the external tenants onsite, as well as factoring in the good accessible index BREEAM requires 20 compliant cycle storage spaces. This number is being exceeded by the provision in order to address condition 75.

Tra 04 Maximum Car Parking Capacity

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Building type category (for purpose of Tra04 issue)	
Buildings Accessibility Index (sourced from issue Tra01)	

Assessment Criteria	Compliant?	Credits available	Credits achieved
Maximum parking capacity			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.13%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Transport plan based on site specific travel survey/assessment	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.13%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A Travel assessment has been undertaken as part of the planning process. This document confirms the airport travel plan will be updated to account for the development (one credit). This is further supported by conditions 77 & 78 which relate to the traffic management plan and taxi management plan.

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Please select the calculation procedure used	Alternative approach
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Standard approach data

Water Consumption from building micro-components	
Water demand met via greywater/rainwater sources	
Total net water consumption	
Improvement on baseline performance	

Key Performance Indicator - use of freshwater resource

Total net Water Consumption		Indicator not assessed
Default building occupancy		Indicator not assessed

Alternative approach data

Overall microcomponent performance level achieved	Level 2
Please select:	25.00%

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Reasonably low water consumption features will be installed and therefore two credits have been targeted.

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Water meter on the mains water supply to the building(s)	Yes	1	1
Metering/monitoring equipment on supply to plant/building areas	Yes		
Pulsed output or other open protocol communication output	Yes		
Existing BMS connection	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

A mains water meter with pulsed output will be specified and linked to the BMS (one credit).

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Leak detection on building's mains water supply	Yes	1	1
Flow control device to each sanitary area/facility	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The installation of flow control devices to each sanitary area can gain one credit. A Major Leak Detection system will be installed on the new mains incoming cold water (one credit).

Wat 04 Water Efficient Equipment

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria

Compliant? Credits available Credits achieved

Has a meaningful reduction in unregulated water demand been achieved?			
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Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.79%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

Assessment Criteria

Total Mat01 credits achieved	3
Total Mat01 points achieved	
Number of building elements assessed	
Exemplary level compliant?	
Has IMPACT compliant software been used?	

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m ²	Total impact kgCO ₂ eq.	Area of element impact data relevant to m ²
External walls			
Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	kgCO ₂ eq.		kgCO ₂ eq./m ²
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	3
Total contribution to overall building score	2.89%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Three credits have been targeted. A review of the major building elements (external and internal walls, windows, roof, upper floor and floor finishes) will be carried out to assess life cycle impacts using the BRE's Green Guide rating systems.

Mat 02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External hard landscaping and boundary protection	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.96%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The architect has confirmed that materials specification with have a high recycled content therefore it is expected that 80% of the external hard landscaping and boundary protection will achieve a Green Guide rating of A/A+ as required by the BREEAM criteria (one credit).

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan	Yes	1	1
Percentage of available responsible sourcing of materials points achieved		3	0
Please confirm the route used to assess Mat03	Please select		
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.96%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	Outstanding level		

Assessor comments/notes:

One credit can be awarded where a sustainable procurement plan is prepared and adopted for the project, and materials are sourced in accordance with this plan.

Mat 04 Insulation

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Embodied impact - insulation index	Credits available	Credits achieved
	2.50	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The building's insulating index will be assessed; it has been assumed that a score of at least 2.5 will be achieved to gain one credit.

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Protecting vulnerable parts of the building from damage	Yes	1	1
Protecting exposed parts of the building from material degradation	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Internal and external durability measures will be installed in the design, so one credit can be targeted.

Mat 06 Material efficiency

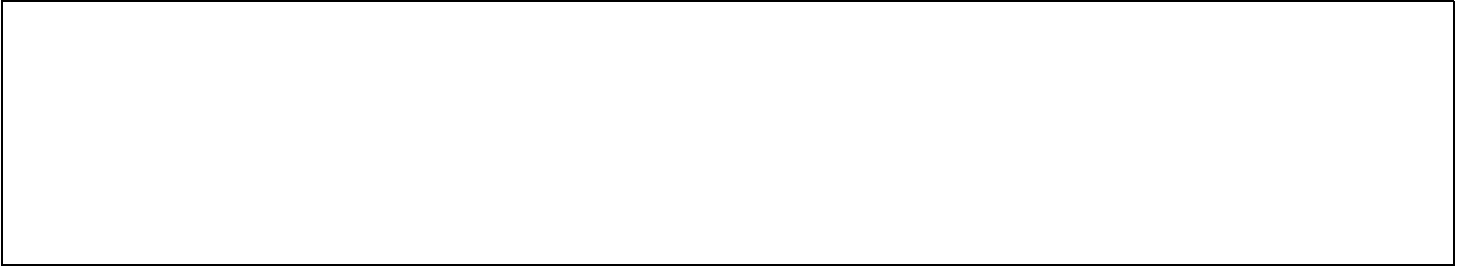
No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Material optimisation measures investigated and implemented at relevant stages	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:



WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Compliant?

Construction resource management plan	Yes
Compliant Pre-demolition audit	Yes
Does the excavation waste meet the exemplary level requirements?	No

Key Performance Indicators - Construction Waste

Measure/units for the data being reported	tonnes	
Non-hazardous construction waste (excluding demolition/excavation)	13.00	tonnes/100m2
Total non-hazardous construction waste generated	4341.87	tonnes
Non-hazardous non-demolition const. waste diverted from landfill	80.00%	%
Total non-hazardous non-demolition const. waste diverted from landfill	3473.50	tonnes
Total non-hazardous demolition waste generated	INA	tonnes
Non-hazardous demolition waste diverted from landfill	90.00%	%
Total non-hazardous demolition waste to disposal	INA	tonnes
Material for reuse	INA	tonnes
Material for recycling	INA	tonnes
Material for energy recovery	INA	tonnes
Hazardous waste to disposal	INA	tonnes

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

A BREEAM compliant Resource Management Plan (RMP) in the form of a Site Waste Management Plan (SWMP) will be produced for the site. Additionally to this 70% (by volume) or 80% (by tonnage) of non-hazardous non-demolition waste must be diverted from landfill as well as 80% (by volume) or 90% (by tonnage) of non-hazardous demolition waste. This is in accordance with the Updated Environmental Statement -Chapter 15 Waste.

Thus, one credit has been targeted.

(13 tonnes/100m2 has purely been entered to exceed the threshold of gaining any credits. This is not a targeted threshold)

Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria

Total

Total % of high-grade aggregate that is recycled/secondary aggregate	
--	--

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	
Bitumen/hydraulically bound base, binder and surface courses	
Building foundations	
Concrete road surfaces	
Pipe bedding	
Granular fill and capping	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Credit not targeted

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

Compliant?

Credits available

Credits achieved

Segregation and storage of operational recyclable waste volumes	Yes	1	1
Static waste compactor(s) or baler(s)	N/A		
Vessel(s) for composting suitable organic waste	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Appropriate operational waste facilities will be provided, which will be suitably labelled to assist with segregation. These facilities will be located within the Western Service Yard. Thus, one credit has been targeted.

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria

Compliant?

Credits available

Credits achieved

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Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	N/A

Assessment Criteria

Compliant?

Credits available

Credits achieved

Adaption to climate change - structural and fabric resilience	No	1	0
Exemplary level - responding to adaptation to climate change	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria

Compliant?

Credits available

Credits achieved

Functional adaptability	No	1	0
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Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Credit not target, not thought to warrant the additional input due to the type of development. Limited cost benefit beyond BREEAM.

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Previously occupied land	Yes	1	1
Contaminated land	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The development is located on previously developed land therefore one credit has been targeted.

LE 02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Ecological value of the land defined using	A Suitably Qualified Ecologist
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Assessment Criteria	Compliant?	Credits available	Credits achieved
Land of low ecological value	Yes	1	1
Protection of ecological features	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

As the land has been previously developed, it is assumed that the land will be classified as having low ecological value and any features of ecological value will be protected.

LE 03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Data sourced for calculating the change in ecological value from	Suitably Qualified Ecologist site survey of plant species
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Assessment Criteria

Change in ecological value	0.00	Plant species richness
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Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Two credits have been targeted. This will be confirmed by an Suitably Qualified Ecologist (SQE)

LE 04 Enhancing Site Ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Suitably Qualified Ecologist appointment (SQE)	Yes	2	1
Ecologist's report and recommendations	Yes		
Increase in ecological value		Plant species richness	
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

It has been assumed that the recommendations of the ecologist will be implemented to encourage a small positive change in biodiversity at the site (one credit). This ecological value is based upon plant species numbers, however this is supported by addressing conditions 56 & 68.

LE 05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Suitably qualified ecologist (SQE) appointed	Yes	2	2
Landscape and habitat management plan	Yes		
Number of applicable measures	4		
Number of applicable measures implemented	4		
Total BREEAM credits achieved	2		
Total contribution to overall building score	2.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

One credit has been targeted based on the updating of the LCY biodiversity Strategy. Four of the applicable measures will need to be implemented to achieve the second targeted credit.

POLLUTION

Pol 01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	0
BS EN 378:2008 and IoR Ammonia Refrigeration Systems CoP (where applicable)?	Yes		
Global Warming Potential of the specified refrigerant(s) 10 or less?	No		
Total Direct Effect Life Cycle CO ₂ eq. emissions from the system	INA	kgCO ₂ eq/kW coolth capacity	
Cooling/Heating capacity of the system	INA	kW	
BREEAM compliant refrigerant leak detection and containment	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Initial design indicates the use of cooling refrigerant to certain areas (one credit). Further review is required of CCHP system.

Pol 02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	0.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

NO _x emission level - space heating	500.00	mg/kWh
NO _x emission level - cooling	400.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?	N/A	
Energy consumption: heating and hot water	100.00	kWh/m ² /yr

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Potential credit Item- NO_x emissions: A review of the CCHP system's NO_x emissions is required to confirm if credits can be achieved under this item.

Pol 03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Annual probability of flooding	Medium		
Flood Risk Assessment and ground level of the building and access	Yes	2	1
Surface water run off – peak rate	Yes	1	1
Surface water run off – volume, attenuation and/or limiting discharge	Yes	1	1
Minimising watercourse pollution		1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The Flood Risk Assessment (FRA) and surface water drainage chapters within the updated Environmental have informed the credits under this section (three credits). These items have also been addressed as part of Conditions 66 and 69

Potential credit item - Minimising water course pollution: Requires the drainage consultant to confirm their design meets the requirements as listed within the BREEAM technical manual. This includes the inclusion of pollution interceptors, development of a detailed drainage plan and confirmation that there will be no discharge from the developed site for rainfall up to 5mm.

Pol 04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

External lighting will use effective design measures in order to reduce/eliminate external lighting pollution (one credit). This is also addressed as part of Condition 41: External Lighting. These criteria do not apply to the airfield external lighting.

Pol 05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Noise-sensitive areas/buildings within 800m radius of the development	Yes	1	1
Noise impact assessment and, if applicable, noise attenuation measures	Yes		
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.77%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The acoustician has confirmed that a noise impact assessment has been undertaken to establish a baseline level for the noise emissions associated with the plant. Post completion measurements should be undertaken on installed and operating plant to ensure that no dramatic increase in noise pollution (one credit).

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	Yes	1	1
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaption to climate change	No	1	0

Number of 'approved' innovation credits achieved? 0

Total BREEAM innovation credits achieved	1
Total contribution to overall building score	1.00%
Minimum standard(s) level	N/A

Assessor comments/notes:

