



**BREEAM NEW CONSTRUCTION 2011  
PRE-ASSESSMENT**

**FOR**

**QUEENS HALL, TWICKENHAM**

**VERSION 2.0**

Issued by:-

Silcock Dawson & Partners  
4/5 Tower Court, Horns Lane  
Princes Risborough  
Buckinghamshire HP27 0AJ

Tel: +44 (0) 1844-347474

[www.silcockdawson.co.uk](http://www.silcockdawson.co.uk)

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## **BREEAM New Construction 2011 Pre-Assessment**

### **BACKGROUND**

This BREEAM pre-assessment has been prepared to accompany the planning application by F&C Reit Asset Management for a mixed use development at Queens Hall, Twickenham. The development comprises 4 dwellings and one commercial unit. This BREEAM pre-assessment covers the D2 commercial area at ground and first floor. It has been assumed that the space will be fitted out as a fitness gym or similar.

The client has employed Silcock Dawson and Partners as licensed BREEAM assessors to undertake a pre-assessment for the scheme.

This document includes a copy of the pre-assessment spreadsheet and a number of explanatory remarks regarding the credits.

The target BREEAM rating for the development is EXCELLENT, 70 percent. Achieving EXCELLENT provides 8 points on the LBRUT checklist.

This pre-assessment shows that the D2 space achieves a predicted score of 73 percent. This illustrates that the development has gone beyond the minimum sustainability standards that might be expected for a development of this nature.

The development will be shell only. A green lease will be developed to ensure that the sustainability measures necessary to achieve the EXCELLENT rating will be implemented by the tenant.

## BREEAM 2011 New Construction Pre-Assessment Estimator

This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a buildings potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Building name	Queens Hall, Twickenham. D2 Planning use area.
Indicative building score (%)	72.95%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM Excellent rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for Excellent level

Environmental Section		Indicative % Score	Indicative % Score
		Available	Achieved
	Management	12.00%	8.73%
	Health & Wellbeing	15.00%	8.57%
	Energy	19.00%	9.88%
	Transport	8.00%	8.00%
	Water	6.00%	5.25%
	Materials	12.50%	10.58%
	Waste	7.50%	6.25%
	Land Use and Ecology	10.00%	6.00%
	Pollution	10.00%	7.69%
	Innovation	10.00%	2.00%

## BREEAM 2011 New Construction Pre-Assessment Estimator

**MANAGEMENT** *Section Weighting* **12.00%** *Indicative Section Score* **8.73%**

### Man01 Sustainable Procurement

No. of BREEAM credits available	8	Available contribution to overall score	4.36%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will roles, responsibilities and a training schedule be defined in accordance with BREEAM?	Yes	1	1	N/A
Will a BREEAM AP be appointed at RIBA stage A/B and performance targets contractually agreed?	No	1	0	N/A
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage B-E ?	Yes	1	0	N/A
Will a BREEAM AP be appointed to monitor and report progress during RIBA stage F-L?	Yes	1	1	N/A
Will a thermographic survey be conducted and any defects uncovered remedied?	Yes	1	1	Option 1
Will compliant commissioning of building services be carried out?	Yes	1	1	Option 1
Will compliant seasonal commissioning of building services be carried out?	Yes	1	1	Option 1
Will water/energy consumption data be recorded and aftercare support provided for 12 months?	Yes	1	1	Option 1
Will water/energy consumption be recorded/reported for 3 years post construction?	Yes	1	1	Option 1

Total indicative BREEAM credits achieved	6
Total indicative contribution to overall building score	3.27%
Total indicative BREEAM innovation credits achieved	1
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

#### Comments/notes:

A BREEAM AP will be appointed for the post-planning design stages and throughout construction.  
 A commissioning specialist will be appointed to monitor and programme the commissioning activities, during the first year of occupation seasonal commissioning will be undertaken.  
 The tenant will undertake the following at quarterly intervals for the first 3 years after occupation:

- Collect occupant satisfaction, energy consumption and water consumption data
- Utilise the data to check the building is performing as expected and make any necessary adjustments
- Set targets for reducing water and energy consumption and monitor progress towards these
- Feedback any 'lessons learned' to the design team and developer for use in future projects
- Provision of the actual annual building energy, water consumption and occupant satisfaction data to BRE Global

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Man02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score	1.09%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Shell & Core option?
Which considerate construction scheme will be used or required to be used by the principal contractor?	Considerate Constructors Scheme
For the required scheme, what will be the target performance level set for the site/contractor?	A CCS score of 36 or more

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.09%
Total indicative BREEAM innovation credits achieved	1
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

#### Comments/notes:

The principal contractor will register with the Considerate Constructors Scheme. The contract will require the contractor to achieve a score of more than 36, giving two credits plus one innovation credit for the exemplary level of performance.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Man03 Construction Site Impacts

No. of BREEAM credits available	5	Available contribution to overall score	2.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will site energy consumption be metered/monitored?	Yes	1	1	N/A
Will site water consumption be metered/monitored?	Yes	1	1	N/A
Will the transport of construction materials and waste to/from site be measured/monitored?	Yes	1	1	N/A
Will timber be sourced in accordance with the Government's Timber Procurement Policy?	Yes	1	1	N/A
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1	N/A
Will the principal contractor adopt best practice pollution prevention policies & procedures?	Yes			

Total indicative BREEAM credits achieved	5
Total indicative contribution to overall building score	2.73%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

#### Comments/notes:

The contractor will be required to:

- Monitor and record data on energy consumption and water use from the use of construction plant, equipment (mobile and fixed) and site accommodation necessary for completion of all construction processes
- Confirm that all site timber used on the project is sourced in accordance with the UK Government's Timber Procurement Policy
- The principal contractor for the project operates an Environmental Management System covering their main operations and will implement best practice pollution prevention policies and procedures on site, demonstrated through compliance with the items in the Environmental Checklist section 2.2.5 Preventing Pollution in the England and Wales Environment Agency's 'Building a Better Environment, a guide for developers'

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Man04 Stakeholder Participation

No. of BREEAM credits available	4	Available contribution to overall score	2.18%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will an appropriate level of consultation activities be undertaken?	No	1	0	N/A
Will an access statement be developed and appropriate building user facilities provided?	Yes	1	1	N/A
Will building user guides and relevant user information be provided?	Yes	1	1	Option 1
Will a post occupancy evaluation assessment be undertaken and information disseminated?	Yes	1	1	Option 1
<b>Total indicative BREEAM credits achieved</b>		<b>3</b>		
<b>Total indicative contribution to overall building score</b>		<b>1.64%</b>		
<b>Total indicative BREEAM innovation credits achieved</b>		<b>N/A</b>		
<b>Indicative minimum standard(s) level</b>	<b>Pre-Assessment result indicates the minimum standards for Outstanding level</b>			

#### Comments/notes:

For the scale and use of building it would be inappropriate to undertake a full consultation process.

An access statement will be provided. This statement will developed in line with the CABE publication "Design & Access Statements, How to write, read and use them", based on the principles of inclusive design. The access statement results in a strategy that must address, as a minimum, access to and throughout the development for all users, with particular emphasis on the following:

- a. Disabled users; addressing and proposing design solutions that remove obstacles that define disability.
- b. People of different age groups, genders, ethnicity and stamina/fitness levels

The full building user guide will be provided, using the tenancy lease agreement to ensure the user guide is completed following the fit-out.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Man05 Life cycle cost and service life planning

No. of BREEAM credits available	3	Available contribution to overall score	1.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a feasibility stage Life Cycle Cost (LCC) analysis be commissioned and completed?	No	1	0	N/A
Will a strategic and system level LCC be commissioned and completed?	No	1	0	N/A
Will a technical design LCC to be commissioned and completed?	No	1	0	N/A
Total indicative BREEAM credits achieved	0			
Total indicative contribution to overall building score	0.00%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

Life cycle cost analysis not undertaken as inappropriate for small leisure units of this nature



## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>HEALTH &amp; WELLBEING</b>	<i>Section Weighting</i>	<b>15.00%</b>	<i>Indicative Section Score</i>	<b>8.57%</b>
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### Hea01 Visual Comfort

No. of BREEAM credits available	3	Available contribution to overall score	3.21%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will all fluorescent lamps be fitted with high frequency ballasts?	Yes	N/A	N/A	Option 1
Will all relevant building areas be designed to achieve the appropriate daylight factor(s)?	Yes	1	0	N/A
Will the design provide adequate glare control and view out for building users?	Yes	1	1	Option 1
Will internal/external lighting be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1	N/A
Will all relevant building areas be designed to achieve exemplary level daylight factor(s)?	No	1	0	N/A
<b>Total indicative BREEAM credits achieved</b>		<b>2</b>		
<b>Total indicative contribution to overall building score</b>		<b>2.14%</b>		
<b>Total indicative BREEAM innovation credits achieved</b>		<b>0</b>		
<b>Indicative minimum standard(s) level</b>	Pre-Assessment result indicates the minimum standards for Outstanding level			

Comments/notes:

The ground and first floor will be provided with windows that will provide a view out and meet the daylighting criteria of this credit.

The target average daylight factor is 2% over 80% of the occupied floor area.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Hea02 Indoor Air Quality

No. of BREEAM credits available	4	Available contribution to overall score	4.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will an air quality plan be produced and building designed to minimise air pollution?	No	1	0	N/A
Will the relevant products be specified to meet the VOC testing and emission levels required?	Yes	1	1	Option 1
Will formaldehyde and total VOC levels be measured post construction?	No	1	0	N/A
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0	N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	1.07%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:

Credit for minimising sources of internal pollution are not achievable due to close proximity to roads in dense urban area.

Low VOC emission paints and varnishes will be specified. This will be a requirement of the Green Lease.

The design does not comply with BREEAM requirements for natural ventilation due to its depth from the window wall.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Hea03 Thermal Comfort

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will thermal modelling of the design be carried out?	Yes	1	1	N/A
Will the modelling inform the development of a thermal zoning and control strategy?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		2		
Total indicative contribution to overall building score		2.14%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:

Thermal modelling will be undertaken by the developer and then by the fit out contractor to demonstrate compliance. The requirement for modelling by the tenant will be included in the tenancy agreement.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Hea04 Water Quality

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will all water systems be designed to comply with the relevant HSE Approved Code of Practice and Guidance? Where humidification is to be provided, will a failsafe humidification system be specified?	Yes	1	1	N/A
Will a wholesome supply of accessible, clean and fresh drinking water be supplied for building users?	N/A			N/A
	Yes			N/A
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		1.07%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level			

Comments/notes:

The building does not include any areas requiring humidification.

The tenancy agreement will include a requirement for the fit out to include the provision of a mains fed water cooler.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Hea05 Acoustic Performance

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will/has a suitably qualified acoustician be appointed to provide appropriate design advice?	Yes			
Will the building meet the relevant acoustic performance standards and testing requirements?	Yes	2	1	N/A
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		1.07%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:

One credit to be achieved through appointing a suitable qualified acoustician to produce early design advice on:

- a. External sources of noise impacting the chosen site
- b. Site layout and zoning of the building for good acoustics
- c. Acoustic requirements for users with special hearing and communication needs,
- d. Acoustic treatment of different zones and facades.

AND the building will meet the relevant acoustic performance standard proposed by the acoustician

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Hea06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	2.14%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1	N/A
Will a suitably qualified security consultant be appointed and security considerations accounted for?	No	1	0	N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	1.07%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

#### Comments/notes:

The building does not include any external site areas. Due to its size the covered parking bays are considered to be excluded from the BREEAM credit.

No credits have been awarded for the second criterion requiring the appointment of a security consultant. This credit is not sought.

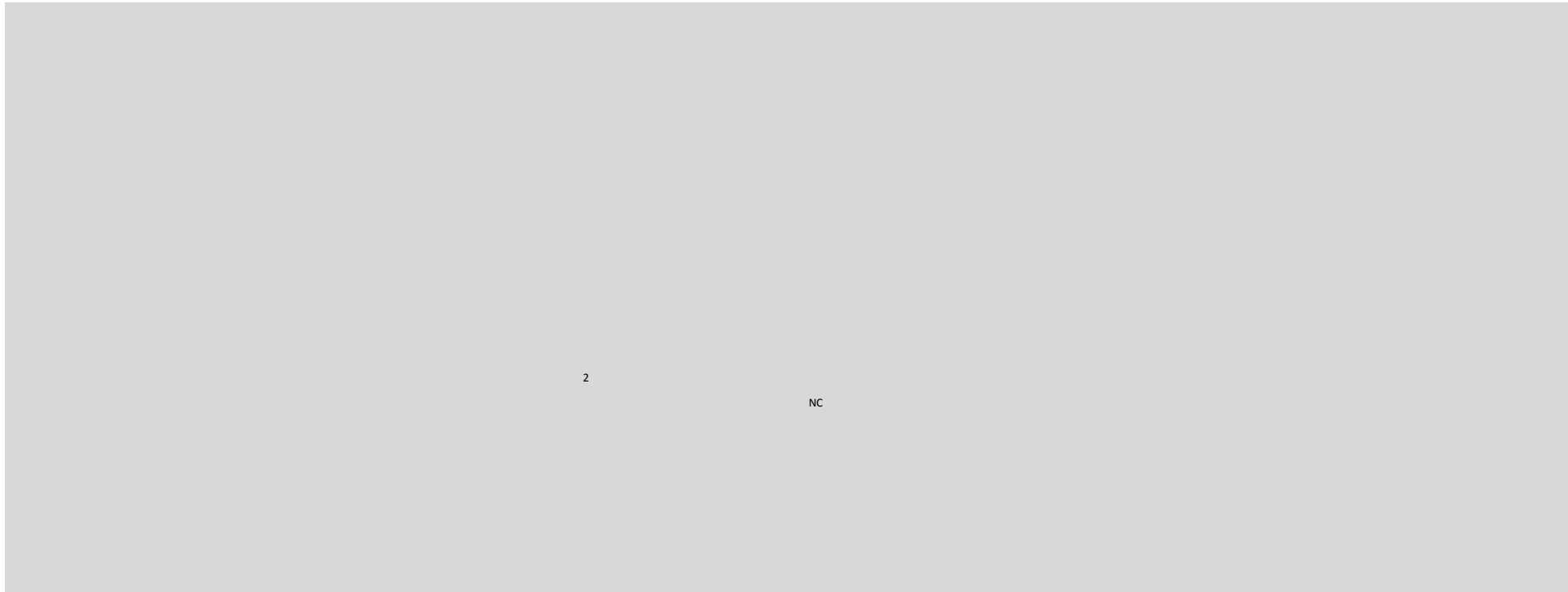
## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>ENERGY</b>	<i>Section Weighting</i>	<b>19.00%</b>	<i>Indicative Section Score</i>	<b>9.88%</b>
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### Ene01 Reduction of CO<sub>2</sub> Emissions

No. of BREEAM credits available	15	Available contribution to overall score	11.40%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved		
Select the target number of BREEAM credits for the Ene01 issue	6	BREEAM Innovation credits	



2

NC

## BREEAM 2011 New Construction Pre-Assessment Estimator

Total indicative BREEAM credits achieved	6
Total indicative contribution to overall building score	4.56%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Excellent level

Comments/notes:

Target of 6 credits.



## BREEAM 2011 New Construction Pre-Assessment Estimator

### Ene02 Energy Monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.52%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1	Option 1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.52%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

#### Comments/notes:

Adequate energy metering will be provided to meet the requirements of the BREEAM credit. This will include:  
 Space Heating  
 Domestic Hot Water  
 Cooling  
 Fans (major)  
 Lighting and Small Power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department).  
 Other major energy-consuming items that may be installed as part of the fit out.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Ene03 External Lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.76%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1	N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.76%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

All external light fittings for the building, access ways and pathways have a luminous efficacy of at least 50 lamp lumens/circuit Watt  
 light fittings are controlled through a time switch, or daylight sensor, to prevent operation during daylight hours. Daylight sensor override on a manually switched lighting circuit is acceptable

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Ene04 Low and Zero Carbon Technology

No. of BREEAM credits available	5	Available contribution to overall score	3.80%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Compliant LZC feasibility study to be undertaken	Yes	2	1	N/A
What will be the intended scope of the feasibility study?	Operational stage carbon savings/emissions			
Target percentage net reduction in operational stage CO2 emissions	10.00%	2	1	Option 1
Please confirm the intended energy source of the Low and/or zero carbon system?	Mains gas via compliant CHP plant			
Please select	No	1	0	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.52%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:

Assumed that unit will be provided with low or zero carbon energy technology to meet the planning requirement and that the BREEAM credits will be achieved.

The energy statement suggests that a saving of more than 10% is achievable, but since this is dependent on the design of the fit out it is assumed that 10% will be achieved for the purposes of the BREEAM assessment.

## BREEAM 2011 New Construction Pre-Assessment Estimator

Ene05 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

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

Comments/notes:

## BREEAM 2011 New Construction Pre-Assessment Estimator

Ene06 Energy Efficient Transportation 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

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

Comments/notes:

**BREEAM 2011 New Construction Pre-Assessment Estimator**

**Ene07 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will fume cupboards and/or other containment devices be specified				
Will the laboratory meet BREEAM's Best Practice Energy Practices in Laboratories criteria (table 6-2)?				
Will the laboratory meet criteria item b) of table 6-2: Fan power?				
Will the laboratory criteria item c) of table 6-2: Fume cupboard volume flow rates?				
Will the lab meet criteria item d) of table 6-2: Grouping / isolation of high filtration/ventilation activities?				
Will the laboratory meet criteria item e) of table 6-2: Energy recovery - heat?				
Will the laboratory meet criteria item f) of table 6-2: Energy recovery - cooling?				
Will the laboratory meet criteria item g) of table 6-2: Grouping of cooling loads?				
Will the laboratory meet criteria item h) of table 6-2: Free cooling?				
Will the laboratory meet criteria item i) of table 6-2: Load responsiveness?				
Will the laboratory meet criteria item j) of table 6-2: Cleanrooms?				
Will the laboratory meet criteria item k) of table 6-2: Diversity?				
Will the laboratory meet criteria item l) of table 6-2: Room air-change rates?				
Total indicative BREEAM credits achieved		N/A		
Total indicative contribution to overall building score		N/A		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Ene08 Energy Efficient Equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.52%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use:	Present	Significant majority contributor
	Yes	Yes
Small power/plug in equipment?		
Swimming pool?		
Communal laundry?		
Data centre?		
IT-intensive operation areas?		
Residential areas?		
Healthcare?		
Kitchen and catering facilities?		

	Indicative compliance?	Credits available	Indicative credits achieved	Shell & Core option?
Will the significant majority contributor(s) to 'unregulated' energy use (above) meet the BREEAM criteria?	Yes	2	2	Option 1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.52%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:

The following equipment will EITHER qualify for an Enhanced Capital Allowance Scheme claim OR has been awarded an Energy Star rating OR has been procured in accordance with the Government Buying Standards OR are identified as products with at least a 'green tick' standard on the Buying Solutions website.

- Office equipment
- Domestic scale white goods and other small powered equipment
- Supplementary electric heating.

This requirement will be included in the tenancy agreement.

## BREEAM 2011 New Construction Pre-Assessment Estimator

Ene09 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

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

Comments/notes:



## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>TRANSPORT</b>	<i>Section Weighting</i>	<b>8.00%</b>	<i>Indicative Section Score</i>	<b>8.00%</b>
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### Tra01 Public Transport Accessibility

No. of BREEAM credits available	5	Available contribution to overall score	3.64%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria

What is the building type category (for the purpose of Tra01 issue assessment)?	Other Building Type 2		
What is the degree of public transport provision for the building's location?	Excellent provision of public transport, i.e. large urban/metropolitan city centre		
Building's indicative Accessibility Index	18		
Does the building have a dedicated bus service?			
Total indicative BREEAM credits achieved	5		
Total indicative contribution to overall building score	3.64%		
Total indicative BREEAM innovation credits achieved	N/A		
Indicative minimum standard(s) level	N/A		

Comments/notes:

The development is located within the main retail area of Twickenham and is well served by public transport.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Tra02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	0.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1	N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.73%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

The development is located within the main retail area of Twickenham and is well served by amenities.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Tra03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	1.45%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

What is the building type category (for the purpose of Tra03 issue assessment)? Other Building - transport type 2

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will cycle storage spaces be provided?	Yes	2	2	N/A
Will cyclist facilities be provided?	Yes			Option 3

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.45%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:

2 BREEAM compliant cycle spaces will be provided. The fit out will provide the necessary facilities.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Tra04 Maximum Car Parking Capacity

No. of BREEAM credits available	2	Available contribution to overall score	1.45%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for the purpose of Tra04 issue)?	Other Building - transport type 2
Buildings indicative Accessibility Index (sourced from issue Tra01)	18

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building meet BREEAM's maximum parking capacity criteria for this building type/Accessibility Index?	Yes	2	2	N/A

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.45%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:

No parking spaces are provided, giving maximum credits for this issue.

**BREEAM 2011 New Construction Pre-Assessment Estimator**

**Tra05 Travel Plan**

No. of BREEAM credits available	1	Available contribution to overall score	0.73%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1	N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.73%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

A BREEAM compliant travel plan will be provided.

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>WATER</b>	<i>Section Weighting</i>	<b>6.00%</b>	<i>Indicative Section Score</i>	<b>5.25%</b>
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### Wat01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.75%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Shell & Core option?

Select the level that corresponds closely to the target or likely water component specification?	Level 4 - Four credits	Option 1
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Total indicative BREEAM credits achieved	4
Total indicative contribution to overall building score	3.00%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:

Level 4 has been assessed using the Wat 1 calculator.  
 The fittings will be specified to Level 3 in accordance with Table 8.1 in the BREEAM guide.  
 In addition the WCs will be served by a grey water system recycling the water from the showers to meet at least 50% of the WC water consumption.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Wat02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1	Option 1
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	Yes			
Will all specified water meters have a pulsed output?	Yes			
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	N/A			
<b>Total indicative BREEAM credits achieved</b>		<b>1</b>		
<b>Total indicative contribution to overall building score</b>		<b>0.75%</b>		
<b>Total indicative BREEAM innovation credits achieved</b>		<b>N/A</b>		
<b>Indicative minimum standard(s) level</b>	<b>Pre-Assessment result indicates the minimum standards for Outstanding level</b>			

**Comments/notes:**

The building will be provided with a water meter that has a pulsed output for future connection to a Building Management System.  
 Sub meters will be provided as part of the fit out for all plant or areas (e.g. showers, kitchens etc) that consume 10% or more of the total water demand. These sub-meters will be a requirement of the tenancy agreement

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Wat03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1	N/A
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1	Option 1
Total indicative BREEAM credits achieved	2			
Total indicative contribution to overall building score	1.50%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

A water leak detection system will be fitted to the incoming water supply to the commercial unit. This will be installed as part of the shell works.

The tenancy agreement will require automatic flow control devices to be fitted to each WC facility.



## BREEAM 2011 New Construction Pre-Assessment Estimator

**Wat04 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?

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

Comments/notes:

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>MATERIALS</b>	<b>Section Weighting</b>	<b>12.50%</b>	<b>Indicative Section Score</b>	<b>10.58%</b>
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### Mat01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.77%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Mat01 issue	5	BREEAM Innovation credits	

Total indicative BREEAM credits achieved	5
Total indicative contribution to overall building score	4.81%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

Comments/notes:

Main building materials will be assessed for their life cycle impact. The following elements will be assessed: external walls, windows, roof, upper floor slab, internal walls, floor finishes. Much of the external walls and the floor slab reuse the existing building fabric.

The fit out works will contribute to this issue. The requirements will be included in the tenancy agreement.

The design team will target 5 or the 6 credits that are available.  
The calculator has not been completed at this stage.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Mat02 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1	N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.96%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

The development includes a small area of hard landscaping adjacent to the service road. The construction elements will be A or A+ rated.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Mat03 Responsible Sourcing

No. of BREEAM credits available	3	Available contribution to overall score	2.88%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

#### Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for the Mat03 issue	2	BREEAM Innovation credits	0
Will all timber used on the project be sourced in accordance with the UK Govt's Timber Procurement Policy?	Yes		

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.92%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

#### Comments/notes:

The development will achieve a score of more than 40% using the MAT 3 BREEAM calculator tool. This will achieve 2 credits for this issue.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Mat04 Insulation

No. of BREEAM credits available	2	Available contribution to overall score	1.92%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Is the building targeting an insulating index of 2 or more?	Yes	1	1	Option 1
Will the building's insulating materials be responsibly sourced?	Yes	1	1	Option 1

Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	1.92%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

Comments/notes:

All insulation used for; external walls, ground floor, roof and building services will:

- 1) Have a low embodied impact
- 2) Be certified as being responsibly sourced in accordance with tier 5 or better (as defined by Mat 3)

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Mat05 Designing for Robustness

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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1	Option 1
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.96%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

The design incorporates suitable durability and protection measures or design features/solutions to prevent damage to the vulnerable parts of the building. This must include, but is not necessarily limited to:

- Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc).
- Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.
- Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>WASTE</b>	<b>Section Weighting</b>	<b>7.50%</b>	<b>Indicative Section Score</b>	<b>6.25%</b>
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### Wst01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

#### Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Enter target construction waste data
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Will a compliant Site Waste Management Plan be produced?	Yes	
Will a compliant pre-demolition audit be undertaken (if not applicable select N/A)?	N/A	
What unit of measure is the construction waste data in?	volume	
Non-hazardous construction waste (excluding demolition/excavation)?	4.00	m <sup>3</sup> /100m <sup>2</sup>
Non-hazardous non-demolition const. waste diverted from landfill?	75.00%	%

Total indicative BREEAM credits achieved	3
Total indicative contribution to overall building score	3.75%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

#### Comments/notes:

The contractor will work to a BREEAM compliant Site Waste Management Plan.

Non-hazardous waste (excluding demolition and excavation arisings) generated by the design and construction will not exceed 3.2 tonnes per 100m<sup>2</sup> of gross internal floor area constructed.

A pre-demolition audit of the existing buildings, structures and hard surfaces will determine if, in the case of demolition, refurbishment/reuse is feasible and, if not, to maximise the recovery of material from demolition for subsequent high-grade/value applications. It is proposed that the existing floor slab and much of the external wall will be reused. Where parts of the external wall will be demolished the bricks will be re-used on site for the first floor of the D2 unit.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Wst02 Recycled Aggregates

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

#### Pre-Assessment question/criteria

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits to be achieved		
Select the number of BREEAM credits being targeted for the Wst02 issue	1	BREEAM Innovation credits	

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.96%
Total indicative BREEAM innovation credits achieved	0
Indicative minimum standard(s) level	N/A

#### Comments/notes:

The total amount of recycled and/or secondary aggregate utilised will be greater than 25% (by weight or volume) of the total high-grade aggregate specified for the development. For certain uses (e.g. pipe bedding, granular fill and landscaping) the percentage will be significantly greater.



## BREEAM 2011 New Construction Pre-Assessment Estimator

### Wst03 Operational Waste

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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will appropriate facilities for the storage of operational recyclable waste volumes be provided?	Yes	1	1	N/A
If relevant, will a static waste compactor(s) or baler(s) be specified/installed?	N/A			N/A
If relevant, will a vessel for composting suitable organic waste be specified/installed?	N/A			N/A

Total indicative BREEAM credits achieved	1
Total indicative contribution to overall building score	0.96%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

**Comments/notes:**

Dedicated space will be provided to cater for the segregation and storage of operational recyclable waste volumes generated the occupants and activities.  
 The space will be:  
 Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams  
 Accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors  
 Of a capacity appropriate to the building type and size

The BREEAM compliance notes state that an area of at least 2m2 should be provided for this purpose.

## BREEAM 2011 New Construction Pre-Assessment Estimator

Wst04 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Total indicative BREEAM credits achieved				
Total indicative contribution to overall building score				
Total indicative BREEAM innovation credits achieved				
Indicative minimum standard(s) level				

Comments/notes:

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>LAND USE &amp; ECOLOGY</b>	<i>Section Weighting</i>	<b>10.00%</b>	<i>Indicative Section Score</i>	<b>6.00%</b>
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### LE01 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will at least 75% of the proposed development's footprint be located on previously been developed land? Is the site deemed to be significantly contaminated?	Yes	1	1	N/A
	No	1	0	N/A

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

Comments/notes:

The site is currently used for commercial purposes.  
 The site is not significantly contaminated.  
 1 of 2 credits can be awarded.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### LE02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1	N/A
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes			N/A
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	1.00%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

The BREEAM checklist has been used to show that the land within the construction zone is of low ecological value.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### LE03 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

Pre-Assessment question/criteria

What is the likely change in ecological value (plant species richness) as a result of the sites development?	No negative change or improvement in plant species richness
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Total indicative BREEAM credits achieved	2
Total indicative contribution to overall building score	2.00%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	Pre-Assessment result indicates the minimum standards for Outstanding level

Comments/notes:

The site is of low ecological value and its redevelopment will not reduce this further. The BREEAM calculator has been used to show the change in value is zero.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### LE04 Enhancing Site Ecology

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	3	2	N/A
Will the suitably qualified ecologists general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	Small improvement in plant species richness			
Total indicative BREEAM credits achieved	2			
Total indicative contribution to overall building score	2.00%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

A suitably qualified ecologist will be engaged to survey the site prior to the commencement of any works. The general recommendations of the ecologist will be implemented.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### LE05 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the building meet BREEAM's mandatory criteria for this BREEAM issue?	No	2	0	N/A
Will a Biodiversity Champion be appointed to monitor/minimise impacts of site activities on biodiversity?				
Will the contractor provide training for the site workforce on how to protect ecology during the project?				
Will the contractor record actions to protect biodiversity and monitor their effectiveness during construction?				
Will a new ecologically valuable habitat, appropriate to the local area, be created?				
Where flora/fauna habitats exist on site, will the contractor programme site works to minimise disturbance?				

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

Comments/notes:

Credit not sought

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>POLLUTION</b>	<i>Section Weighting</i>	<b>10.00%</b>	<i>Indicative Section Score</i>	<b>7.69%</b>
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### Pol01 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will refrigerant containing systems be installed in the assessed building?	Yes	2	2	N/A
Is the Global Warming Potential of the specified refrigerant(s) likely to be 10 or less?	Yes			
What is the target range Direct Effect Life Cycle CO <sub>2</sub> eq. emissions for the system?		<i>kgCO<sub>2</sub>eq/kW coolth capacity</i>		
Will a refrigerant leak detection and containment system be specified/installed?	Yes	1	1	N/A
Total indicative BREEAM credits achieved		3		
Total indicative contribution to overall building score			2.31%	
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:

The Green Lease will require the tenant to provide air conditioning equipment with a refrigerant with a global warming potential of 10 or less.

A refrigerant such as propane or CO<sub>2</sub> will be used.



## BREEAM 2011 New Construction Pre-Assessment Estimator

### Pol02 NO<sub>x</sub> Emissions

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

Pre-Assessment question/criteria	Response	Shell & Core option?
Please enter the target/maximum NO <sub>x</sub> emission level for space heating/cooling system	200.00 <i>mg/kWh</i>	N/A

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

Comments/notes:

Credits not sought as part of fit out and electrical supply to air conditioning system will have NO<sub>x</sub> emissions in excess of the limiting value for this credit.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Pol03 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2	N/A
Will a compliant Flood Risk Assessment be undertaken?	Yes			N/A
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1	N/A
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1	N/A
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	Yes	1	1	N/A

Total indicative BREEAM credits achieved	5
Total indicative contribution to overall building score	3.85%
Total indicative BREEAM innovation credits achieved	N/A
Indicative minimum standard(s) level	N/A

#### Comments/notes:

Site has been assessed as have low annual probability of flooding.

A site specific Flood Risk Assessment will be provided to confirm that there is a low risk of flooding from all sources.

The drainage design will ensure that the peak rate of run-off from the site to the water-courses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1 year and 100 year return period events.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Pol04 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will the external lighting be designed to reduce light pollution?	Yes	1	1	Option 1
Total indicative BREEAM credits achieved	1			
Total indicative contribution to overall building score	0.77%			
Total indicative BREEAM innovation credits achieved	N/A			
Indicative minimum standard(s) level	N/A			

Comments/notes:

The external lighting strategy has been designed in compliance with Table 1 of the ILE Guidance notes for the reduction of obtrusive light.

- All external lighting (except for safety and security lighting) will be automatically switched off between 2300hrs and 0700hrs.
- Safety or security lighting, if provided, will be used between 2300hrs and 0700hrs, and will comply with the lower levels of lighting recommended during these hours in Table 1 of the ILE's Guidance notes.
- Illuminated advertisements will be designed in compliance with ILE Technical Report 5

These requirements will be included in the tenancy agreement.

## BREEAM 2011 New Construction Pre-Assessment Estimator

### Pol05 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

Pre-Assessment question/criteria	Response	Credits available	Indicative credits achieved	Shell & Core option?
Will there be, or is there noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1	
Will a noise impact assessment be completed and, if applicable, noise attenuation measures specified?	Yes			Option 1
Total indicative BREEAM credits achieved		1		
Total indicative contribution to overall building score		0.77%		
Total indicative BREEAM innovation credits achieved		N/A		
Indicative minimum standard(s) level		N/A		

Comments/notes:

A noise impact assessment in compliance with BS 7445:199120 will be carried out and the following noise levels measured/determined:

- a. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development
- b. The rating noise level resulting from the new noise-source.

The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day and +3dB at night compared to the background noise level

The noise impact assessment must be carried out by a suitably qualified acoustic consultant

## BREEAM 2011 New Construction Pre-Assessment Estimator

<b>INNOVATION</b>	<i>Section Weighting</i>	<b>10.00%</b>	<i>Indicative Section Score</i>	<b>2.00%</b>
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**Inn01 Innovation**

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

Pre-Assessment question/criteria	Exemplary level achieved	Credits available	Indicative credits achieved
Man01 Sustainable Procurement	Yes	1	1
Man02 Responsible Construction Practices	Yes	1	1
Hea01 Visual Comfort	No	1	0
Ene01 Reduction of CO2 Emissions	No	5	0
Ene04 Low and Zero Carbon Technology	No	1	0
Ene05 Energy Efficient Cold Storage	N/A	N/A	N/A
Wat01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	1	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0

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

Comments/notes: