

# *BREEAM Assessment*

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18-23 Hand Court  
High Holborn Estate  
SRG Holborn Ltd.

26th September 2018

**18-21 Hand Court**  
**BREEAM Report for Planning**

**SRG Holborn Ltd**  
**Rev C, September 2018**

NOTICE

This document and its contents have been prepared and are intended solely SRG Holborn information and use in relation to 18-21 Hand Court, Holborn. Verte Ltd Assume no responsibility to any other party in respect of or arising out of or about this document and/or its contents.

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## 1. Executive Summary

This report illustrates the sustainability performance of 18-21 Hand Court in relation to the objectives set out within Core Strategy, in relation to BREEAM 2014 New Construction (Sustainable Design).

### BREEAM:

It has been established that the office currently has the potential to achieve a rating of Excellent with a margin of contingency over the minimum 70% required for an Excellent rating. The offices have been assessed against the BREEAM NC 2014 Shell and Core criteria, as suitable to a CatA level development.

The score currently achievable is **72.62%**, a rating of **EXCELLENT**.

The retail unit proposals have been assessed against the BREEAM NC 2014 Shell Only criteria.

The predicted achievable score is **64.59%**, a rating of **VERY GOOD**.

The development will meet all other Excellent minimum standards except for Ene01 (see below).

### Planning:

Regarding BREEAM requirements Camden sets out Sustainability objectives in the following documentation:

- Camden Planning Guidance CPG3 - Sustainability
- CS13 - Tackling climate change through promoting higher environmental standards
- Camden Development Policies DP22 - Promoting sustainable design and construction

The threshold of requirements are 500sqm for commercial type developments to meet BREEAM Excellent.

### EPC:

An Excellent rating requires 5 credits to be achieved. The BRUKL document for the offices produced by GDM Engineers indicates that 9 credits should be achievable.

For the retail shell only aspect, the local authority planning officer has permitted not achieving the mandatory criteria for Excellent under Ene01 to the shell only scope of the project and BRE permissions on assessing EPC based only on building fabric.

## 2. Introduction

Verte have been requested by SRG Holborn Ltd to carry out a sustainability assessment of the redevelopment of 18-21 Hand Court, Holborn.

The report provides a status of the development's performance with regards to BREEAM New Construction 2014, and provides recommendations with regards to improving performance and meeting the necessary objectives. The content focuses on:

### 1. BREEAM Performance.

Based on current design proposals, the development is expected result in the complete replacement structure, core and local services, external walls to provide an estimated 1,306m<sup>2</sup> NIA of high quality core and CatA space, as well as two retail units at the ground levels. The plan is to demolish the existing 3 storey office building and construct a 6 storey office building. The following scope is currently assumed:

- Wholly new steel structural frame (TBC);
- Concrete upper floors;
- New Services to all office areas incorporating low-carbon heating and cooling;
- Main VRF heating/cooling system;
- Gas fired boiler providing domestic hot water in land lord areas;
- Upgraded Lift and WC Provision;
- All Dali controlled LED lighting;
- Office floors finished to CatA standard with raised access floors.

The following sections detail the proposed development's performance against the BREEAM Criteria.

## 3. The Project Team:

Discipline	Company Name
Client	SRG Holborn Ltd
Project Manager	Capital & Provincial
Architect	Buckley Gray Yeoman
Structural Engineer	Heyne Tillett Steel
Services Engineer	GDM Building Services & Environmental Engineers
Cost Consultant	Exigere
Planning Consultant	DP9 Ltd
Agent	Farebrother
Transport Consultant	Motion
BREEAM / Sustainability Consultant	Verte Ltd
Site Building Manager	Holborn Estate Building Manager CBRE Management Services Ltd

## 4. Planning

It is understood the development at 18-21 Hand Court forms part of a larger redevelopment of the High Holborn Estate. From discussions held with the client's project manager as well as the information illustrated in the Stage 2 report, the following works are suggested:

Location	Description	GIA (estimate)
22-23 Hand Court	Change of use to Retail	526m <sup>2</sup>
18-21 Hand Court	New Office & Retail	1,679m <sup>2</sup> & 445m <sup>2</sup>

Regarding BREEAM requirements Camden sets out Sustainability objectives in the following documentation:

- Camden Planning Guidance CPG3 – Sustainability;
- CS13 - Tackling climate change through promoting higher environmental standards;
- Camden Development Policies DP22 - Promoting sustainable design and construction.

### Commercial:

CS13: 500sq m or more of non-residential floorspace will need to be designed in line with BREEAM.

DP22: expecting non-domestic developments of 500sqm of floorspace or above to achieve "very good" in BREEAM assessments and "excellent" from 2016 and encouraging zero carbon from 2019.

Time Period	Minimum Rating	Minimum standard for categories (% of un-weighted credits)
2010-2012	Very good	Energy 60%
2013+	Excellent	Water 60%
		Materials 40%

The office BREEAM pre-assessment current has the following scores within specific issue sections:

- Energy – 76.19% of credits available achieved;
- Water – 88.89% of credits available achieved;
- Materials – 53.85% of credits available achieved.

The retail BREEAM pre-assessment current has the following scores within specific issue sections:

- Energy – 0.25% of credits available achieved, targeting additional credits under Ene 01 is not currently feasible for the retail element in its Shell Only scope;
- Water – 100% of credits available achieved;
- Materials – 46.15% of credits available achieved.

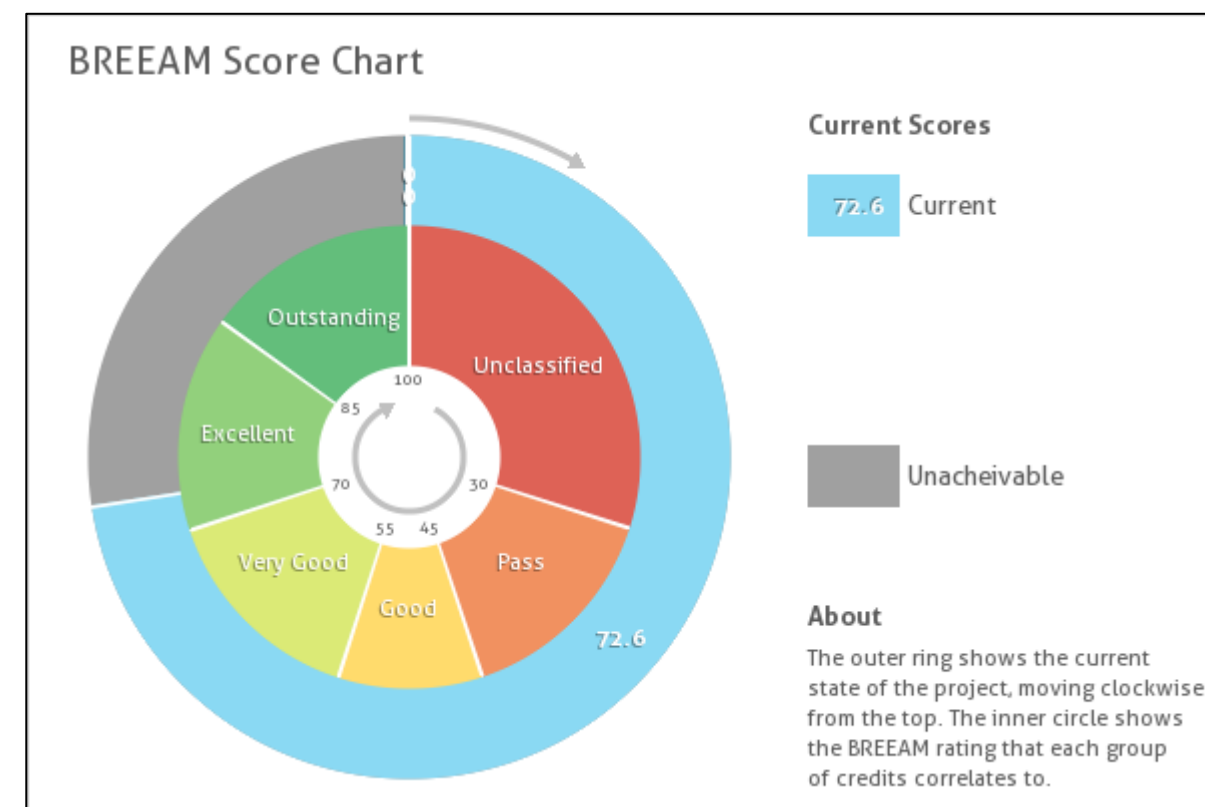
## 5. BREEAM Pre-Assessment Summary

This section is intended as a summary of the BREEAM pre-assessment review for 18-21 Hand Court. The development proposals have been assessed, particularly the comments during the pre-assessment meeting. The current achievable rating has been established and set of measures which can be targeted to achieve the score. A summary of the pre-assessment can be reviewed in the next section and a detailed BREEAM register within the Appendices.

### a. Scoring scenarios – Commercial

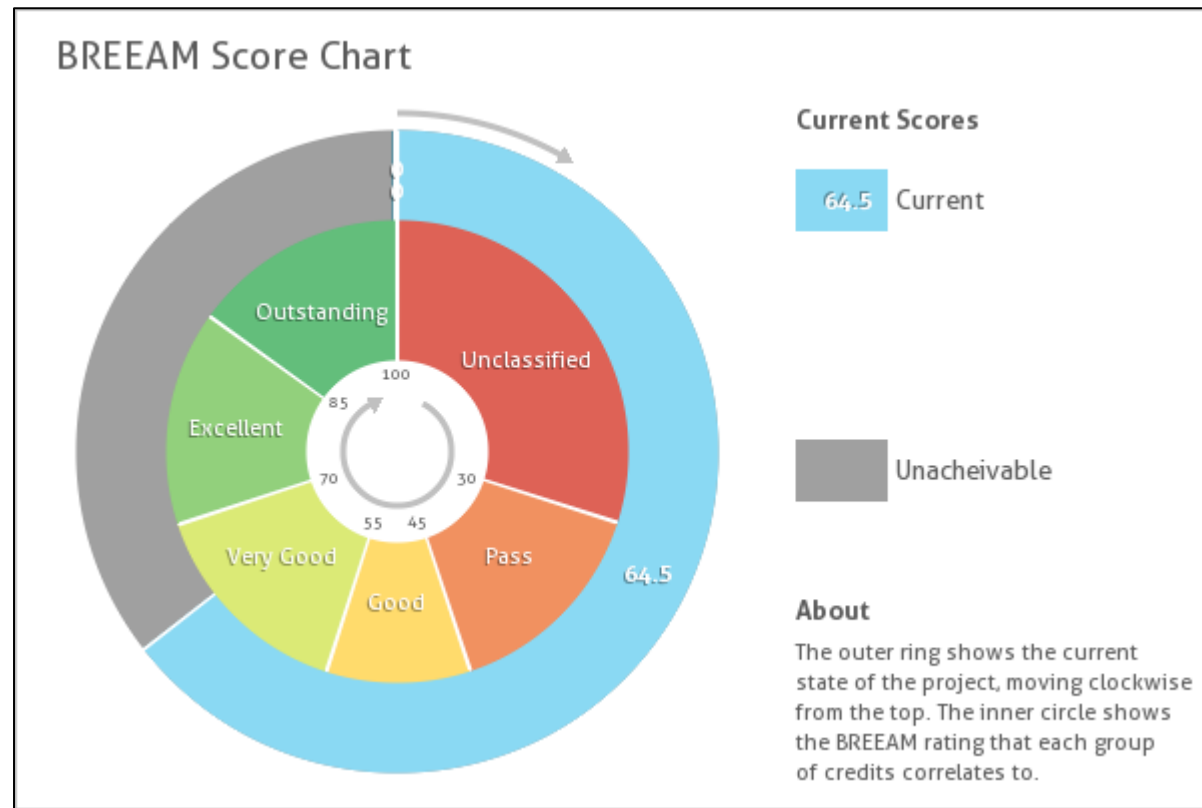
#### Offices:

It has been established that the development design currently has the potential to achieve a rating of **Excellent**, with a target score of **72.62%**.



## Retail:

It has been established that the development design currently has the potential to achieve a rating of **Very Good**, with a target score of **64.59%**.



## b. Immediate Actions

BREEAM criteria include time critical elements which cannot be awarded if they are not dealt with in the prescribed time-frame as well as consultant appointments as detailed below.

Time critical issues:

- Man01 Stakeholder & 3<sup>rd</sup> party consultations required to be undertaken at Stage 2;
- Man01 Appointment of a BREEAM AP at Stage 1;
- Hea06 Security needs assessment by Stage 2;
- Ene04 Low Carbon Design Analysis;
- Wst05 Functional Adaptability Strategy by Stage 2;
- Wst06 Climate Change Adaptation Strategy by Stage 2.

Consultant appointments to consider:

- Security Consultant (Architectural Liaison Officer);
- Indoor air quality;
- Acoustician;
- Energy specialist;
- Transport Consultant;
- Ecologist;
- Flood Risk and SUDS.

## 6. Appendices

### Pre-assessment Scoring / Offices

		Available	Current	Comments
<b>Management</b>				
<b>Man 01</b>	Project brief and design	4	4	<b>Information which will be required from Project Manager:</b> <b>1<sup>st</sup> Credit Stakeholder Consultation:</b> -Project Program -Project Brief Outlining Sustainability Target -Project Execution Plan -Responsibility Matrix (refer to items Cr3, a-k) -Meeting minutes as necessary  <b>Evidence required from the Architect:</b> <b>2<sup>nd</sup> Credit 3rd Party Consultation:</b> -Meeting minutes -Evidence of communications with planners, community groups -Consultation plan -Evidence of consultation feedback -Evidence of changes to design due to consultation  <b>3<sup>rd</sup> and 4<sup>th</sup> credits:</b> -BREEAM AP Appointment letter.
<b>Man 02</b>	Life cycle cost and service life planning	4	1	<b>4<sup>th</sup> Credit:</b> Capital cost (£k/m <sup>2</sup> ), to be reported by QS.  <b>1-3 Credits (Excluded):</b> These credits are not sought.
<b>Man 03</b>	Responsible construction practices	6	6	<b>Six credits targeted:</b> Verte to provide templates to be included in contract prelims by QS.
<b>Man 04</b>	Commissioning and handover	4	4	1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> credits to be included in contract prelims and M&E Specification documentation. Verte to provide templates.  <b>1<sup>st</sup> Credit:</b> CIBSE Compliant Commissioning and Commissioning Monitor, which can be a team member.  <b>2<sup>nd</sup> Credit:</b> Specialist Commissioning Manager to be appointed at design stage.  <b>3<sup>rd</sup> Credit:</b> Thermographic Survey and air permeability testing.  <b>4<sup>th</sup> Credit:</b> Building User Guide and Training Schedule (Prelims)
<b>Management Totals: (+exemplary)</b>		<b>18</b>	<b>15</b>	
<b>Management score totals:</b>		<b>11</b>	<b>9.167</b>	
<b>Health &amp; Wellbeing</b>				

<b>Hea 01</b>	Visual Comfort	3	1	<b>Targeted Credit Internal and External Lighting Levels:</b> - All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. - Internal lighting in accordance with the SLL Code for Lighting 2012. - All external lighting within the construction zone is designed to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.
<b>Hea 02</b>	Indoor Air Quality	2	0	<b>1<sup>st</sup> Credit Ventilation</b> Ventilation system to be designed to -Distance of intakes/extracts over 10m apart (or inline with 13779:2007) -Distance of intakes over 20m from roads -Air provision of 12l/p/s -HVAC to include appropriate filtration (13779:2007 Annex3)  <b>2<sup>nd</sup> Credit Potential for Natural Ventilation</b> - This credit is not considered achievable.  Intakes are located in light well. Further investigations will be required to determine if other building exhausts discharge in the same location.
<b>Hea 04</b>	Thermal comfort	2	2	<b>1<sup>st</sup> Credit Thermal Modelling:</b> Thermal modelling has been carried out using software in accordance with CIBSE AM111 Building Energy and Environmental Modelling, by Energy Modelling Engineer.  <b>2<sup>nd</sup> Credit Adaptability:</b> The thermal modelling demonstrates that the relevant requirements are achieved for a projected climate change environment.
<b>Hea 05</b>	Acoustic Performance	1	1	<b>1<sup>st</sup> Credit Indoor Ambient Noise:</b> Acoustician has been appointed. Verte to liaise with acoustician. A design review is required and recommendations to achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.
<b>Hea 06</b>	Safety and Security	2	2	<b>1<sup>st</sup> &amp; 2<sup>nd</sup> Credits Security:</b> Appoint a Suitably Qualified Security Specialist (SQSS) to conduct an evidence based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent).
<b>Health &amp; Wellbeing Totals: (+exemplary)</b>		<b>10</b>	<b>6</b>	
<b>Health &amp; Wellbeing score totals:</b>		<b>10.5</b>	<b>6.3</b>	
<b>Energy</b>				
<b>Ene 01</b>	Reduction of energy use and carbon emissions	12	9	<b>9 Credits</b> are assumed at present. The energy data provided by GDM confirms that 11 credits can be achieved. GDM and BGY currently checking that the U-values used and lighting data used can be comfortably achieved. Once this exercise is carried out the exact target will be confirmed.
<b>Ene 02</b>	Energy Monitoring	2	2	<b>1<sup>st</sup> Credit Sub-metering of major energy consuming systems:</b> Services engineer to ensure all major energy uses are monitored in line with TM54. A gas fired boiler is being specified for the provision of hot water.  <b>2<sup>nd</sup> Credit Sub-metering of high energy load and tenancy areas:</b> Services Engineer to ensure all energy uses are monitored for each floor.

<b>Ene 03</b>	External Lighting	1	1	<b>1<sup>st</sup> Credit External Lighting:</b> Services engineer to ensure all external lighting to meet efficacy and control requirements.	
<b>Ene 04</b>	Low carbon design	3	1	<b>Targeted Credit Low and Zero Carbon technologies:</b>  - A feasibility study has been carried out by the completion of the Concept Design stage by an energy specialist to establish the most appropriate recognised local low or zero carbon (LZC) energy source for the building/development. The roof will be supplied with PV panels to provide approximately 5% carbon reduction.	
<b>Ene 06</b>	Energy Efficient Transportation Systems	3	3	<b>1<sup>st</sup> Credit Energy Consumption:</b> Services engineer to provide transport demand and energy analysis report.  <b>2<sup>nd</sup> and 3<sup>rd</sup> Credits Energy efficient features:</b> Services engineer to specify energy efficient measures as per criteria: -Variable speed/voltage/frequency controls -LED car lighting (or efficacy of >55llcw) -Stand-by mode	
<b>Energy Totals: (+exemplary)</b>		<b>21</b>	<b>16</b>		
<b>Energy score totals:</b>		<b>15</b>	<b>11.429</b>		
<b>Transport</b>					
<b>Water</b>					
<b>Wat 01</b>	Water Consumption	5	4	0	<b>All credits</b> Water Consumption: The architect is to ensure that the water appliances meet the following water efficiency criteria: -WCs: 4.5/3lt flush -WHB: 4lt @ 3bar -Showers: 6l/min @ 3bar  This will secure a 51% improvement in the water consumption benchmark.
<b>Wat 02</b>	Water Monitoring	1	1	0	Services Engineer to ensure BMS connected water meter specified.
<b>Wat 03</b>	Leak Detection	2	2	0	<b>1<sup>st</sup> Credit Major Water Leak Detection:</b> Services Engineer to ensure leak detection facility to be specified for the main incoming to the building.  <b>2<sup>nd</sup> Credit Flow Control Devices:</b> Services Engineer to ensure PIR linked solenoid valves are specified for each WC cluster in the core areas.
<b>Wat 04</b>	Water Efficient Equipment	1	1	0	As there is no other major consuming plant, this credit can be awarded by default.
<b>Water Totals: (+exemplary)</b>		<b>9</b>	<b>8</b>		
<b>Water score totals:</b>		<b>7.5</b>	<b>6.667</b>		
<b>Materials</b>					

Mat 01	Life Cycle Impacts	5	2	<p>The current suggested specification, as advised by BGY, generally meets high Green Guide Rating standards. As the facade is being retained this is advantageous in terms of achievable points.</p> <p>Following our initial calculation, 5 credits are achievable. To be confirmed as the design develops.</p>
Waste				
Wst 06	Functional adaptability	1	1	<p>A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation.</p> <p>A credit Guidance Note will be issued by the assessor.</p>
Waste Totals: (+exemplary)		9	5	
Waste score totals:		9.5	5.278	
Land Use & Ecology				
LE 01	Site Selection	2	1	<p>Re-use of site ensures one credit is awarded.</p> <p>No contaminated land investigation.</p>
LE 02	Ecological Value of Site and Protection of Ecological Features	2	2	<p>It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.</p> <p>Both credits are considered achievable.</p>
LE 03	Minimising impact on existing site ecology	2	2	<p>It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.</p> <p>Both credits are considered achievable.</p>
LE 04	Enhancing site ecology	2	2	<p>It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.</p> <p>One credit is considered achievable.</p>
LE 05	Long Term Impact on Biodiversity	2	2	<p>It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.</p> <p>Both credits are considered achievable.</p>
Land Use & Ecology Totals: (+exemplary)		10	9	
Land Use & Ecology score totals:		11	9.9	
Pollution				
Pol 01	Impact of Refrigerants	3	0	<p>It is proposed that a full VRF system is installed. Assumed no credits achievable.</p> <p>1st Credit Impact f Refrigerant: It is highly unlikely Very challenging for a standard VRF system.</p>

				2nd Credit Leak Detection: Can be very expensive for standard VRF system.
<b>Pol 02</b>	NOx emissions	3	0	It is proposed that a full VRF system is installed to provide heating and cooling. NOx emissions from this type of system are too high to meet credit criteria (grid electricity).
<b>Pol 03</b>	Surface Water Run Off	5	4	<b>1-2<sup>nd</sup> Credit Flood Risk:</b> Location in low risk zone. An FRA statement is required by the Structural Engineer.  <b>3-4<sup>th</sup> Credit Surface water run-off:</b> As the hard standing area for the development will not be changing both these credits are achievable by default, due to no increase in run-off post development.  <b>5<sup>th</sup> Credit Minimising watercourse pollution (Excluded):</b> This credit requires SUDS treatment to discharge from the site which exceeds 5mm rainfall. This issue is considered unachievable at present.
<b>Pol 04</b>	Reduction of Night Time Light Pollution	1	1	<b>1<sup>st</sup> Credit Reduction of Night-time Light Pollution:</b> Services engineer to ensure all external lighting to meet ILE guidance and control requirements.  Awarded by default if no external lighting being installed.
<b>Pol 05</b>	Noise Attenuation	1	1	Reduction of noise pollution: Appoint acoustician to provide background noise assessment and recommendations to attenuate accordingly.
<b>Pollution Totals: (+exemplary)</b>		<b>13</b>	<b>6</b>	
<b>Pollution score totals:</b>		<b>11</b>	<b>5.077</b>	
<b>Innovation</b>				
<b>Man 03</b>	Responsible construction practices	1	1	To be include din Prelims.
<b>Hea 01</b>	Visual Comfort	1	0	
<b>Ene 01</b>	Reduction of energy use and carbon emissions	5	0	
<b>Wat 01</b>	Water Consumption	1	0	
<b>Mat 01</b>	Life Cycle Impacts	3	0	
<b>Mat 03</b>	Responsible Sourcing of Materials	1	0	
<b>Wst 01</b>	Construction Waste Management	1	0	

<b>Wst 02</b>	Recycled Aggregates	1	0	
<b>Wst 05</b>	Adaptation to climate change	1	0	
<b>AI</b>	Approved Innovation	1	0	
<b>Innovation Totals: (+exemplary)</b>		<b>16</b>	<b>1</b>	
<b>Innovation score totals:</b>		<b>16</b>	<b>1</b>	
<b>OVERALL SCORE TOTALS:</b>		<b>116</b>	<b>72.62</b>	

		Available	Current	Comments
Management				
Man 01	Project brief and design	4	4	<b>Information which will be required from Project Manager:</b> <b>1<sup>st</sup> Credit Stakeholder Consultation:</b> -Project Program -Project Brief Outlining Sustainability Target -Project Execution Plan -Responsibility Matrix (refer to items Cr3, a-k) -Meeting minutes as necessary  <b>Evidence required from the Architect:</b> <b>2<sup>nd</sup> Credit 3<sup>rd</sup> Party Consultation:</b> -Meeting minutes -Evidence of communications with planners, community groups -Consultation plan -Evidence of consultation feedback -Evidence of changes to design due to consultation  <b>3<sup>rd</sup> and 4<sup>th</sup> credits:</b> -BREEAM AP Appointment letter
Man 02	Life cycle cost and service life planning	4	1	<b>4<sup>th</sup> Credit:</b> Capital cost (£k/m2 ), to be reported by QS.  <b>1<sup>st</sup> and 2<sup>nd</sup> Credits Elemental Life Cycle Cost (Excluded)</b> (PD 156865:2008): The LCC should provide an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years); The LCC should Include service life, maintenance and operation cost estimates. To be done at <b>Stage 2</b> and demonstrate how it influences design  <b>3<sup>rd</sup> Credit Component Level Life Cycle Cost (Excluded)</b> (PD 156865:2008): The CLLCC should cover a.Envelope, e.g. cladding, windows, and/or roofing b.Services, e.g. heat source cooling source, and/or controls c.Finishes, e.g. walls, floors and/or ceilings d.External spaces, e.g. alternative hard landscaping, boundary protection.
Man 03	Responsible construction practices	6	6	To be included in contract prelims.
Man 04	Commissioning and handover	1	1	To be included in contract prelims documentation.  <b>Targeted Credit:</b> Thermographic Survey (Prelims)
Management Totals: (+exemplary)		15	12	
Management score totals:		11	8.8	

<b>Health &amp; Wellbeing</b>				
<b>Hea 01</b>	Visual Comfort	4	1	<b>Targeted Credit Internal and External Lighting Levels:</b> - All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. - Internal lighting in accordance with the SLL Code for Lighting 2012. - All external lighting within the construction zone is designed to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.
<b>Hea 02</b>	Indoor Air Quality	1	0	<b>1<sup>st</sup> Credit Ventilation:</b> Ventilation system to be designed to -Distance of intakes/extracts over 10m apart (or inline with 13779:2007) -Distance of intakes over 20m from roads -Air provision of 12l/p/s -HVAC to include appropriate filtration (13779:2007 Annex3)  Intakes are located in light well. Further investigations will be required to determine if other building exhausts discharge in the same location.
<b>Hea 05</b>	Acoustic Performance	1	1	<b>1<sup>st</sup> Credit Indoor Ambient Noise:</b> Appoint acoustician to provide design review and provide recommendations to achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.
<b>Hea 06</b>	Safety and Security	2	2	<b>1<sup>st</sup> &amp; 2<sup>nd</sup> Credits Security:</b> Appoint a Suitably Qualified Security Specialist (SQSS) to conduct an evidence based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent).
<b>Health &amp; Wellbeing Totals: (+exemplary)</b>		<b>8</b>	<b>4</b>	
<b>Health &amp; Wellbeing score totals:</b>		<b>10.5</b>	<b>5.25</b>	
<b>Energy</b>				
<b>Ene 01</b>	Reduction of energy use and carbon emissions	12	3	An Excellent rating requires 5 credits to be achieved (equivalent to an EPR of at least 0.375). It is recommended that a draft EPC calculation is carried out as soon as possible in order that the challenges and opportunities for energy performance are established.  Energy Modelling Engineer to coordinate.  <b>3 credits assumed at present.</b>
<b>Ene 03</b>	External Lighting	1	1	<b>1<sup>st</sup> Credit External Lighting:</b> Services engineer to ensure all external lighting to meet efficacy and control requirements.  Awarded by default if no external lighting being installed.
<b>Ene 04</b>	Low carbon design	3	0	

<b>Energy Totals: (+exemplary)</b>		<b>16</b>	<b>4</b>	
<b>Energy score totals:</b>		<b>15</b>	<b>3.75</b>	
<b>Transport</b>				
<b>Tra 01</b>	Public Transport Accessibility	5	5	Central location enables the development to achieve maximum points under this issue.
<b>Tra 02</b>	Proximity to amenities	1	1	Central location enables the development to achieve maximum points under this issue.
<b>Tra 03</b>	Cyclist facilities	2	0	<b>1<sup>st</sup> &amp; 2<sup>nd</sup> Credit Cyclist Facilities:</b> Architect has highlighted locations for cyclist facilities to be installed. Requirements for this metropolitan location are: -13 parking spaces -2 showers & changing -13 lockers
<b>Tra 05</b>	Travel Plan	1	1	<b>1<sup>st</sup> Credit Travel Plan:</b> A travel plan should be developed as part of the feasibility and design stages. Project Manager to coordinate.
<b>Transport Totals: (+exemplary)</b>		<b>9</b>	<b>7</b>	
<b>Transport score totals:</b>		<b>10</b>	<b>7.778</b>	
<b>Water</b>				
<b>Wat 02</b>	Water Monitoring	1	1	Services Engineer to ensure BMS connected water meter specified.
<b>Wat 03</b>	Leak Detection	1	1	<b>1<sup>st</sup> Credit Major Water Leak Detection:</b> Services Engineer to ensure leak detection facility to be specified for the main incoming to the building.  <b>2<sup>nd</sup> Credit Flow Control Devices:</b> Services Engineer to ensure PIR linked solenoid valves are specified for each WC cluster in the core areas.
<b>Wat 04</b>	Water Efficient Equipment	1	1	As there is no other major consuming plant, this credit can be awarded by default.
<b>Water Totals: (+exemplary)</b>		<b>3</b>	<b>3</b>	
<b>Water score totals:</b>		<b>7.5</b>	<b>7.5</b>	
<b>Materials</b>				
<b>Mat 01</b>	Life Cycle Impacts	5	2	The current suggested specification, as advised by BGY, generally meets high Green Guide Rating standards. As the facade is being retained this is advantageous in terms of achievable points.  Following our initial calculation, 5 credits are achievable. To be confirmed as the design develops.
<b>Mat 02</b>	Hard Landscaping	1	1	No external landscaping so credit can be awarded by default.

	and Boundary Protection			
<b>Mat 03</b>	Responsible Sourcing of Materials	4	1	<b>1<sup>st</sup> Credit Sustainable Procurement Plan:</b> Requirement to be included in Prelims.  <b>2-4<sup>th</sup> Credits Responsible Sourcing of Materials:</b> Once credit assumed for sourcing of concrete and steel to BES6001. Structural Engineer to provide certification requirement in specification and volume of relevant material.
<b>Mat 04</b>	Insulation	1	1	Credit requirements for sourcing of green guide rated products will be included within the M&E and NBS specification. In addition, majority of insulation products should have an Environmental Performance Declaration (EPD) certificate.  Services: mineral wool (duct), phenolic foam and Armaflex Building Fabric: Expected PIR, and Kingspan products for foundations and roof
<b>Mat 05</b>	Designing for durability and resilience	1	1	The project Architect is to ensure that the building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements.  In addition, the relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors.  A statement and supporting evidence (drawings and specification) will be required.
<b>Mat 06</b>	Material efficiency	1	0	The credit focuses on a waste (material) optimisation review to be undertaken at each RIBS Stage.  The assessor will review with the architect the options analysed at Stage 1 with regards to the facade retention and initiate a template document. Once the feasibility of the credit is established the credit will be assumed as achievable.
<b>Materials Totals: (+exemplary)</b>		<b>13</b>	<b>6</b>	
<b>Materials score totals:</b>		<b>14.5</b>	<b>6.692</b>	
<b>Waste</b>				
<b>Wst 01</b>	Construction Waste Management	4	2	<b>1-3<sup>rd</sup> Resource efficiency (1 credit):</b> A requirement for a resource management plan will be included within the demolition Prelims documentation. It is assumed at this stage that construction waste shall be ≤11.1 tonnes per 100sqm.  <b>4<sup>th</sup> Credit Diversion of Waste from Landfill:</b> A requirement for 90% diversion rate will be included within the demolition Prelims documentation.
<b>Wst 02</b>	Recycled Aggregates	1	0	The Structural Engineer will assess the potential of the development to meet the credit criteria for specifying recycled aggregate: Bound

				Structural frame - 15% Bitumen or hydraulically bound base, binder, and surface courses for paved areas and roads - 30% Building foundations - 20%  Concrete road surfaces - 15%  Unbound Pipe bedding- 100% Granular fill and capping (see Relevant definitions section) - 100%
<b>Wst 03</b>	Operational Waste	1	0	The project Architect is to ensure adequate space is provided for collection of recyclable waste material: At least 2sqm per 1000sqm of net floor area for buildings < 5000sqm
<b>Wst 05</b>	Adaptation to climate change	1	1	Architect and Structural Engineer to conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach:  This should essentially be a design risk register to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. Issues should include: -Flooding (FRA & ground levels) -Stress on structure from temp fluctuations, winds -Thermal comfort considerations -Rsilience of materials to increased solar radiation and increased moisture etc.
<b>Wst 06</b>	Functional adaptability	1	1	A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation.  A credit Guidance Note will be issued by the assessor.
<b>Waste Totals: (+exemplary)</b>		<b>8</b>	<b>4</b>	
<b>Waste score totals:</b>		<b>9.5</b>	<b>4.75</b>	
<b>Land Use &amp; Ecology</b>				
<b>LE 01</b>	Site Selection	2	1	Re-use of site ensures one credit is awarded.  No contaminated land investigation.
<b>LE 02</b>	Ecological Value of Site and Protection of Ecological Features	2	2	It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.  Both credits are considered achievable.
<b>LE 03</b>	Minimising impact on	2	2	It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.

	existing site ecology			Both credits are considered achievable.
<b>LE 04</b>	Enhancing site ecology	2	2	It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.  One credit are considered achievable.
<b>LE 05</b>	Long Term Impact on Biodiversity	2	2	It has been agreed that an Ecologist will be appointed to develop a site survey in support of BREEAM issues and advise on biodiversity.  Both credits are considered achievable.
<b>Land Use &amp; Ecology Totals: (+exemplary)</b>		<b>10</b>	<b>9</b>	
<b>Land Use &amp; Ecology score totals:</b>		<b>11</b>	<b>9.9</b>	
<b>Pollution</b>				
<b>Pol 03</b>	Surface Water Run Off	5	4	<b>1-2<sup>nd</sup> Credit Flood Risk:</b> Location in low risk zone. An FRA statement is required by the Structural Engineer.  <b>3-4<sup>th</sup> Credit Surface water run-off:</b> As the hard standing area for the development will not be changing both these credits are achievable by default, due to no increase in run-off post development.  <b>5<sup>th</sup> Credit Minimising watercourse pollution (Excluded):</b> This credit requires SUDS treatment to discharge from the site which exceeds 5mm rainfall. This issue is considered unachievable at present.
<b>Pol 04</b>	Reduction of Night Time Light Pollution	1	1	<b>1<sup>st</sup> Credit Reduction of Night-time Light Pollution:</b> Services engineer to ensure all external lighting to meet ILE guidance and control requirements.  Awarded by default if no external lighting being installed.
<b>Pollution Totals: (+exemplary)</b>		<b>6</b>	<b>5</b>	
<b>Pollution score totals:</b>		<b>11</b>	<b>9.167</b>	
<b>Innovation</b>				
<b>Man 03</b>	Responsible construction practices	1	1	
<b>Hea 01</b>	Visual Comfort	1	0	
<b>Mat 01</b>	Life Cycle Impacts	3	0	
<b>Mat 03</b>	Responsible Sourcing of Materials	1	0	

<b>Wst 01</b>	Construction Waste Management	1	0	
<b>Wst 02</b>	Recycled Aggregates	1	0	
<b>AI</b>	Approved Innovation	1	0	
<b>Innovation Totals: (+exemplary)</b>		<b>9</b>	<b>1</b>	
<b>Innovation score totals:</b>		<b>9</b>	<b>1</b>	
<b>OVERALL SCORE TOTALS:</b>		<b>109</b>	<b>64.59</b>	

## 22-23 Hand Court BREEAM Design Strategy Note

29.08.2018

It is intended this note will lay out our initial understanding of the 22-23 Hand Court refurbishment and how a BREEAM strategy will be applied to the scheme.

It is a requirement that the 22-23 Hand Court refurbishment aspires to meet the mandatory criteria for a BREEAM Excellent rating, where possible, and ensures the Very Good mandatory criteria are met.

The Table below outlines the credits which are a minimum standard under the BREEAM Refurbishment and Fit Out 2014 scheme and details the credit requirements, as well as the actions that will be taken to ensure that minimum standards are implemented. It should be noted that only specific minimum standards are applicable to both BREEAM Very Good and Excellent ratings, this has been detailed within the Table.

Rating to which Minimum Standard is Applicable	Credit	Criteria	Actions	Compliance with Minimum Standards Achieved?
Excellent	Man 03 Responsible Construction Practices	Main contractor is required to register with the Considerate Constructors Scheme (CCS) and achieve a minimum score of 35, with at least a score of 7 within each section of the CCS scoring issues.	The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender.	Yes
Excellent	Man 04 Commissioning and Handover	A Building User Guide is to be developed for the building, providing information for both the Facilities Manager and the general building user.	The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender.	Yes
Excellent	Ene 01 Reduction of Energy Use and Carbon Emissions	Current results from the building energy modelling indicate that 9 credits would be achievable. BREEAM Excellent requires a minimum of 5 credits to be achieved and as such the refurbishment works demonstrate	The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender to ensure that any changes to the design are reflected within	Yes

## 22-23 Hand Court BREEAM Design Strategy Note

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		performance under Ene 01 in excess of the Excellent minimum standard.	the building energy modelling and still meet the minimum standard.	
Very Good & Excellent	Ene 02 Energy Monitoring	<p>Metering should be provided to cover at least 90% of the energy consuming systems within the building.</p> <p>All meters should have a pulsed output capability, as well as being suitably labelled and accessible to building users.</p>	<p>The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender.</p> <p>The criteria will also be included within the MEP Stage 4 specification.</p>	Yes
Very Good & Excellent	Wat 01 Water Consumption	No water fittings are to be provided as part of the shell works and as such this minimum standard is not applicable.	N/A.	N/A
Very Good & Excellent	Wat 02 Water Monitoring	A water meter with a pulsed output is to be installed on the main incoming supply to the development.	<p>The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender.</p> <p>The criteria will also be included within the MEP Stage 4 specification.</p>	Yes
Very Good & Excellent	Mat 03 Responsible Sourcing of Materials	All timber materials specified for use within the development should be legally and responsibly sourced timber, with FSC certification.	The team has committed to undertaking the actions associate with this credit. The criteria will be included within the Contractor Preliminary documents at the time of tender.	Yes

## 22-23 Hand Court BREEAM Design Strategy Note

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			The criteria will also be included within the Architect's Stage 4 specification.	
Excellent	Wst 03 Operation Waste	A suitably sized area should be designated for recyclable waste streams, in addition to any general waste storage provided. The recyclable waste storage area will need to have clear labelling and an accessible route for bin collections.	It will be the incoming Tenants responsibility to designate an area within their demise for recyclable waste storage in compliance with the BREEAM criteria.	Yes