



**11-12 Grenville Street,
London**

**Sustainability Statement &
BREEAM 2014
Domestic Refurbishment
Pre-Assessment**

Prepared for:
Calabar Properties Ltd

July 2016

BREEAM[®]



Prepared on behalf of Watkins Payne Partnership by

Name Jamie Daniel 

Position Senior Sustainability Engineer [BREEAM AP]

Watkins Payne Partnership
 51 Staines Road West
 Sunbury-on-Thames
 Middlesex TW16 7AH
 T +44 (0) 1932 781 641
 F +44 (0) 1932 765 590
wpp@wppgroup.co.uk
www.wppgroup.co.uk

Copyright

Copyright exists on the BREEAM logo and this may not be used or reproduced for any purpose without the prior written consent of the BRE.

The BREEAM name and logo are registered trademarks of the Building Research Establishment Limited.

Issue and Date	Reason for Issue
Issue 1 – 10/08/2016	For Project Team comment & review



Executive Summary

Sustainability is defined as the ability to meet the needs of today, without compromising the ability of future generations to provide for the needs of tomorrow. It can be described as the equilibrium between environmental and financial considerations, and the needs of the community. A truly sustainable development will achieve a balance between fitness-for-purpose, value-for-money and environmental impact together with the integration as part of a larger, sustainable community.

Watkins Payne Partnership have been commissioned by Calabar Properties Ltd to carry out a BREEAM 2014 Domestic Refurbishment Pre-Assessment of the proposed redevelopment of 11-12 Grenville St, London consisting of:

Unit 1 (2 Bedroom Mews House)

Unit 2 (2 Bedroom Maisonette)

Unit 3 (1 Bedroom Apartment)

Unit 4 (1 Bedroom Apartment)

Unit 5 (2 Bedroom Apartment)

Unit 6 (1 Bedroom Apartment)

This Sustainability Statement details the performance of the refurbishment development these six residential units against the BREEAM 2014 Domestic Refurbishment criteria. The development's performance is in accordance with specification documentation and verbal expressions of credit conformity/non-conformity established with members of the design team prior to issue of this pre-assessment report.

A BREEAM pre-assessment workshop was held on 8th August at the office of Watkins Payne Partnership, 7 – 8 Conduit St, London, W1S 2XF.

The proposed servicing strategy will be as follows:

- Domestic hot water: Centralised gas fired boiler system
- Heating to the flats: Centralised gas fired boiler system serving LTHW radiators
- No renewable energy technologies are being proposed



Pre-Assessment Score Results

This report details the **BREEAM ACHIEVABLE** scheme and how this equates to the attainment of specific BREEAM 2014 Non-Domestic Refurbishment credits. The **BREEAM ACHIEVABLE** scheme is defined as what the Baseline project could most likely achieve under the current design proposals taking into account minor modifications to the design / specification. The credits detailed within this report as **ACHIEVABLE** need to be included within the current design proposals with the need to **moderately** improve the building's performance or increase the current specifications / project cost.

The **BREEAM POSSIBLE** development scheme could currently attain a score of **72.83%**, which translates into an **EXCELLENT** BREEAM 2014 Non-Domestic Refurbishment rating.





Pre-Assessment Score Calculation - The tables below illustrate how the BREEAM score has been calculated.

Mandatory credits are to be achieved to reach the **Various BREEAM Ratings** - these credits with mandatory requirements are detailed in the far left column in **Bold BLUE**

Management Credit Value 1.09%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<u>Man 01</u> Home User Guide	3	3	WPP / Main Contractor	<p><i>First – Third Credits: (ACHIEVABLE)</i> Evidence will be provided demonstrating that the Main Contractor is to produce a site specific Home User Guide for each dwelling to the required standard, which includes the minimum content set out in the BREEAM criteria:</p> <ul style="list-style-type: none"> • About BREEAM Domestic Refurbishment • Recommendations report • Energy Efficiency • Water Use • Transport facilities • Materials & Waste • Emergency information • Local amenities • Provision of Information in Alternative Formats • SuperHomes Network • Links & References
<u>Man 02</u> Responsible Construction Practices	2	2	WSP Parsons Brinckerhoff / Main Contractor	<p><i>First – Second Credits: (ACHIEVABLE)</i> Evidence will be provided demonstrating that the Main Contractor is to be registered and certified under the Considerate Constructor’s Scheme – Code of Considerate Practice; the Contractor is to achieve a score of 35 out of 50 or more, with a score of at least 7 in each of the 5 sections</p>
<u>Man 03</u> Construction Site Impacts	1	1	WSP Parsons Brinckerhoff / Main Contractor	<p>Evidence will be provided demonstrating that the Main Contractor is undertake more than two of the following responsible construction practices in line with the BREEAM criteria:</p> <ul style="list-style-type: none"> • Monitor, site & set targets for CO2 production of energy use arising from site activities • Monitor, site & set targets for water consumption arising from activities • Main Contractor operates an Environmental Materials Policy • Main Contractor operates an Environmental Management System • 100% of site timber is legally & responsibly sourced



Management Credit Value 1.09%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Man 04</u> Security	2	1	Garnett + Partners	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> Where retained, all external doors and accessible windows will comply with the minimum security recommendations as set out in the BREEAM criteria <ol style="list-style-type: none"> External doors are of good quality with working key locks and a strong frame, where there is no sign of warping, splitting or rotting to the door or its frame. Where the door contains glazing this should be a minimum of double glazing. Putty or beading to glazed areas should be on the unexposed side of the door, in good condition, with no sign of degradation. Accessible Windows should have a minimum of double glazing with working key locks. Putty or beading to glazed areas should be on the unexposed side of the window, in good condition, with no sign of degradation. The window frame should be strong with no sign of warping, splitting or rot. All newly specified external door sets and windows will be appropriately certified to EITHER: <ol style="list-style-type: none"> PAS 24:2012 OR <ol style="list-style-type: none"> LPS 1175 Issue 7, Security Rating 1 <p><u>Second Credit: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that:</p> <ol style="list-style-type: none"> An Architectural Liaison Officer (ALO), Crime Prevention Design Advisor (CPDA) or Designing Out Crime Officer (DOCO) from the local police force will be consulted early on in the design stage and their recommendations will be incorporated into the design of the development The principles of Section 2 - Physical Security from 'Secure By Design – New Homes' are complied with (Secured by Design formal certification is not required).
<u>Man 05</u> Protection and Enhancement of Ecological Features	1	1	Suitably Qualified Ecologist / WSP Parsons Brinckerhoff / Garnett + Partners	<p>Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> A suitably qualified ecologist will be appointed to produce an ecological report based on a site survey to determine the presence of any ecological features requiring protection <p>Where ecological features requiring protection ARE present, the following is required to achieve the credit:</p> <ol style="list-style-type: none"> Where protected species have been identified as present on-site, the relevant Statutory Nature Conservation Organisation (SNCO) will be notified and protected species have been adequately protected All features of ecological value are adequately protected by the main contractor throughout the construction works <p>Where there are NO ecological features present, the credit can be awarded.</p>



Management Credit Value 1.09%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
Man 06 Project Management	2	2	WSP Parsons Brinckerhoff / Full Design Team / Main Contractor / Facilities Management	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that the project manager assigns 'individual and shared responsibilities' across the following key design and refurbishment stages in line with the BREEAM criteria:</p> <ul style="list-style-type: none"> • Planning and Building Control Notification • Design • Refurbishment • Commissioning & Handover • Occupation <p><u>Second Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating:</p> <p>1. That a handover meeting is programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to:</p> <p>i. Introduce the aftercare team or individual to the aftercare support available, including the Home User Guide. ii. Present key information about how the building operates and answer questions; where appropriate including demonstrations of newly installed equipment and an insight into their advantages.</p> <p>2. Two of the following will be committed to determine the project's success:</p> <p>a. A site inspection to be undertaken within three months of occupation b. Undertaking of post-occupancy interviews with building occupants or a survey via phone or posted information within three months of occupation c. Longer term after care, e.g. a helpline, nominated individual or other appropriate system to support building users for at least the first 12 months of occupation</p> <p>The methods employed to determine project success, require the following to be assessed:</p> <ul style="list-style-type: none"> • Levels of occupancy. • Occupant thermal comfort. • Adequacy of ventilation and lighting; level of energy consciousness. • Identification of any defects post-refurbishment. • Identification of problems or concerns regarding the effectiveness of the refurbishment and its systems.
Section Credit Total	11	10		
Section Weighted Total	12.00%	10.91%		



Health & Wellbeing Credit Value 1.42%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements								
Hea 01 Daylighting	2	1	Garnett + Partners	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that the refurbishment/change of use works scope result in a neutral impact on the dwelling's daylighting levels in the kitchen, living rooms, dining room and study with NO answered to all for the questions listed in the <u>BREEAM Non-Domestic Refurb 2014 Checklist A-7: Daylight Factor (Parts 3 & 4 Only)</u></p> <p><u>Second Credit: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that daylighting calculations confirm the following is achieved for each dwelling:</p> <ol style="list-style-type: none"> 1. Kitchens achieve a minimum daylight factor of at least 2% 2. Living rooms, dining rooms and studies achieve a minimum daylight factor of at least 1.5% 3. 80% of the working plane in the kitchen, living room, dining room and study, receives direct light from the sky 								
Hea 02 Sound Insulation	4	3	Suitably Qualified Acoustician / Garnett + Partners / WSP Parsons Brinckerhoff	<p><u>First – Third Credits: (ACHIEVABLE)</u> Evidence will be provided demonstrating that a programme of pre-completion acoustic testing (based on dwellings in a group or sub-group) will be undertaken POST- REFURBISHMENT by a suitably qualified acoustician/compliant test body to confirm the following performance standards have been met:</p> <table border="1"> <thead> <tr> <th>Airborne Sound Insulation Values</th> <th>Impact Sound Insulation Values</th> </tr> </thead> <tbody> <tr> <td>3dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments</td> <td>3dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments</td> </tr> </tbody> </table> <p><u>Four Credits: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that a programme of pre-completion acoustic testing (based on dwellings in a group or sub-group) will be undertaken POST- REFURBISHMENT by a suitably qualified acoustician/compliant test body to confirm the following performance standards have been met:</p> <table border="1"> <thead> <tr> <th>Airborne Sound Insulation Values</th> <th>Impact Sound Insulation Values</th> </tr> </thead> <tbody> <tr> <td>5dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments</td> <td>5dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments</td> </tr> </tbody> </table>	Airborne Sound Insulation Values	Impact Sound Insulation Values	3dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments	3dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments	Airborne Sound Insulation Values	Impact Sound Insulation Values	5dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments	5dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments
Airborne Sound Insulation Values	Impact Sound Insulation Values											
3dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments	3dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments											
Airborne Sound Insulation Values	Impact Sound Insulation Values											
5dB higher than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments	5dB lower than Building Regulations Approved Document E: 2003 edition incorporating 2004 and 2010 amendments											



Health & Wellbeing Credit Value 1.42%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
Hea 03 Volatile Organic Compounds	1	1	Garnett + Partners / Main Contractor	<p>Evidence will be provided demonstrating:</p> <ol style="list-style-type: none"> 1. All decorative paints and varnishes specified meet the VOC content level as per EU Directive 2004/42/CE (Paints Directive) 2. At least five of the eight remaining product categories listed in Table-16 of the BREEAM 2014 Technical manual meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions
Hea 04 Inclusive Design	2	0	N/A	<p>First Credit: (NOT SOUGHT) Evidence will NOT be provided demonstrating that the 'Minimum Accessibility' requirements have been fulfilled:</p> <ol style="list-style-type: none"> 1. An Access Expert or suitably qualified design team member has completed the BREEAM Non-Domestic Refurb 2014 Checklist A8: Access Statement Template – Section 1 demonstrating reasonable provision to provide accessibility to the dwelling covering section 1 2. Provide appropriate evidence of the measures implemented in the refurbishment in accordance with the Checklist and BREEAM requirements <p>Second Credit: (NOT SOUGHT) Evidence will NOT be provided demonstrating that the 'Advanced Accessibility' requirements have been fulfilled:</p> <ol style="list-style-type: none"> 1. An Access Expert or suitably qualified design team member has completed the BREEAM Non-Domestic Refurb 2014 Checklist A8: Access Statement Template – Section 1 AND 2 demonstrating reasonable provision to provide accessibility to the dwelling covering section 1 2. Provide appropriate evidence of the measures implemented in the refurbishment in accordance with the Checklist and BREEAM requirements <p>Compliance Note: Definition of an Access Expert or suitably qualified design team member must fulfil one of the requirements below:</p> <ul style="list-style-type: none"> - NRAC access auditor - NRAC consultant - Inclusive design champions may be appointed from within the existing design team provided they possess the minimum core competences and skills requirements listed by the National Register of Access Consultants (NRAC) for access auditors (actual qualification is not required). <p>For information on skills / competencies and a list of registered NRAC access auditors and NRAC Access Consultants, please visit: www.nrac.org.uk</p>



Health & Wellbeing Credit Value 1.42%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<p>Hea 05</p> <p>Ventilation MANDATORY 1st Credit for PASS & ABOVE</p>	2	2	WPP	<p>First Credit: (ACHIEVABLE) Evidence will be provided demonstrating that the 'Minimum Ventilation' requirements have been fulfilled:</p> <p>a. A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010.</p> <p>b. A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bathrooms), compliant with section 5, Building Regulations Approved Document Part F 2010.</p> <p>c. A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010.</p> <p>Second Credit: (ACHIEVABLE) Evidence will be provided demonstrating that the 'Advanced Ventilation' requirements have been fulfilled:</p> <p>1. Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full.</p>
<p>Hea 06</p> <p>Safety MANDATORY Credit for PASS & ABOVE</p>	1	1	WPP	<p>Evidence will be provided demonstrating that each dwelling is to be provided with BREEAM compliant Fire and Carbon monoxide (CO) detection and alarm systems</p>
Section Credit Total	12	8		
Section Weighted Total	17.00%	11.33%		



Energy Credit Value 1.48%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
Ene 01 Improvement in Energy Efficiency Rating	6	2.5	WPP	<p>Two and Half Credits: (ACHIEVABLE) Evidence will be provided demonstrating SAP 2012 calculations will be undertaken BOTH PRE-REFURBISHMENT and POST- REFURBISHMENT to confirm an IMPROVEMENT in the dwelling's Energy Efficiency Rating of ≥21 [equal to 2 credits] in accordance with the BREEAM compliant Ene 01 calculation methodology</p> <p>Compliance Notes: Definition of Energy Efficiency Rating: The EER measures the overall energy efficiency of a dwelling on an A to G scale, ranging from 1 to 100 (the higher the number, the higher the energy efficiency). The EER is equivalent to the SAP Rating in Full SAP</p> <p>The improvement in the dwellings Energy Efficiency Rating is the comparison of pre-refurbishment EER compared to post-refurbishment EER</p>
Ene 02 Energy Efficiency Rating Post Refurbishment MANDATORY 0.5 Credits for PASS / 1 Credit for GOOD / 2 Credits for VERY GOOD / 2.5 Credits for EXCELLENT	2	2.5	WPP	<p>Two & Half Credits: (ACHIEVABLE) Evidence will be provided demonstrating SAP 2012 calculations will be undertaken to confirm the dwelling's Energy Efficiency Rating POST Refurbishment of ≥70 [equal to 2.5 credits] in accordance with the BREEAM compliant Ene 02 calculation methodology</p> <p>Compliance Note for where the Mandatory levels cannot be met: Recognising the limitations subject to buildings within a conservation area or with a listed status, where building control set limitations on the scope of works due to this status, the project team should work with their local authority conservation officer to deliver the minimum standards as far as practically possible. This can be demonstrated by producing a report with confirmation from the local authority conservation officer that the work carried out goes as far as is practically possible within the restrictions of any statutory obligations.</p>



Energy Credit Value 1.48%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Ene 03</u> Primary Energy Demand	7	4	WPP	<u>Four Credits: (ACHIEVABLE)</u> Evidence will be provided demonstrating SAP 2012 calculations will be undertaken to confirm the dwelling's POST Refurbishment Primary Energy Demand will be ≤240 kWh/m²/year [equal to 4 credits] in accordance with the BREEAM compliant Ene 03 calculation methodology
<u>Ene 04</u> Renewable Technologies	2	0	N/A	<u>First – Second Credits: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that: 1. Greater than 15% of each dwelling's primary energy demand per annum is supplied by low or zero carbon technologies in accordance with the BREEAM compliant calculation methodology AND 2. The dwelling has reduced energy demand prior to the specification of renewable technologies with a maximum primary energy demand as follows: <ul style="list-style-type: none"> • For detached, semi-detached, bungalows and end terraces: 250 kWh/m²/year • Mid terraces and flats: 220 kWh/m²/year



Energy Credit Value 1.48%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Ene 05</u> Energy Labelled White Goods	2	2	Garnett + Partners	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that each dwelling will be provided with:</p> <p>Fridges and Freezers or Fridge Freezers with an A+ Rating under the EU Energy Efficiency Labelling Scheme</p> <p><u>Second Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that each dwelling will be provided with:</p> <p>Washing Machines with an A++ Rating under the EU Energy Efficiency Labelling Scheme</p> <p>Dishwashers with an A+ Rating under the EU Energy Efficiency Labelling Scheme</p> <p>AND EITHER</p> <p>Washer-dryers and tumble dryers have an A rating under the EU energy efficiency labelling scheme (where a washer dryer is provided, it is not necessary to also provide a washing machine)</p> <p>OR</p> <p>Where a washer dryer or tumble dryer is NOT provided, the EU energy efficiency labelling scheme information leaflet is provided to each dwelling</p>
<u>Ene 06</u> Drying Space	1	1	Garnett + Partners / WPP	<p>Evidence will be provided demonstrating each dwelling will be provided with a dedicated & permanent internal drying space.</p> <p>For the Studio, 1 & 2 bed dwellings there will be 4m+ of internal drying lines</p> <p>AND</p> <p>For the 3+ bed dwellings there will be 6m+ of internal drying lines.</p> <p>The drying lines must be located internally in a heated space (utility room or bathroom) with EITHER:</p> <p>a. Controlled intermittent extract ventilation. Extract ventilation must achieve a minimum extract rate of 30l/s and be controlled according to the requirements for intermittent extract ventilation defined in Building Regs Approved Document F</p> <p>OR</p> <p>b. Continuous whole house extract ventilation with a specified minimum high rate of 13l/s</p>



Energy Credit Value 1.48%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
Ene 07 Lighting	2	2	WPP	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that all SPACE (including lighting in communal areas) and SECURITY lighting will be dedicated energy efficient [>45 lumens per circuit Watt] as follows:</p> <p><u>General Space Lighting:</u> Lighting for external doors, porch, steps, pathways, patio, garage, garden, carports and any other outbuildings will be provided with energy efficient fittings and controlled by manual switching.</p> <p><u>Space Lighting in Communal Areas:</u> Lighting in lobbies, main external entrances, internal entrance porches, external steps and pathways are to be equipped with fluorescent fittings (or other efficient luminaires) and controlled by a time clock or daylight sensor.</p> <p>Lighting in hallways, landings, stairwells, internal corridors and garages are to be equipped with fluorescent fittings that are controlled by push button time switches, PIR sensors or equivalent.</p> <p>Lighting in communal rooms (laundries, cycle and other storage spaces, etc.) are to be equipped with fluorescent fittings and manual switching or occupant sensors</p> <p><u>Where provided - Security Lighting:</u> Security lighting, which are fittings designated for energy efficiency and are adequately controlled such that:</p> <ul style="list-style-type: none"> a. Burglar security lights will have a maximum wattage of 150 W, movement detection control devices (PIR) and daylight cut-off sensors. b. Other security lighting will have energy efficient fittings and are fitted with daylight cut-off sensors or timers c. Lighting design for the affected areas will be in accordance with CIBSE LG9 <p><u>Second Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that the energy required for each dwelling's internal lighting is minimised through the provision of a maximum average wattage across the total floor area of the dwelling of 9 watts/m².</p>



Energy Credit Value 1.48%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
Ene 08 Energy Display Devices	2	2	WPP	<p><u>First – Second Credits: (ACHIEVABLE)</u></p> <p>Evidence will be provided demonstrating that each dwelling will be provided with a compliant energy display device covering the Electricity AND Primary Fuel consumption data</p> <p><u>Compliance Notes:</u> Definition of Correctly Specified Energy Display Device: This is a system comprising a self-charging sensor(s) fixed to the incoming mains supply or supplies, to measure and transmit energy consumption data to a visual display unit. As a minimum the visual display unit must be capable of displaying the following information:</p> <ul style="list-style-type: none"> • Local time • Current (real time) energy consumption (kilowatts and kilowatt hours) • Current (real time) estimated emissions (g/kg CO2) • Current (real time) tariff • Current (real time) cost (per hour) • Visual presentation of data (i.e. non-numeric) to allow consumers to easily identify high and low level of usage
Ene 09 Cycle Storage	2	1	Garnett + Partners	<p><u>First Credit: (ACHIEVABLE)</u></p> <p>Evidence will be provided demonstrating that following BREEAM complaint cycle storage provision will be provided in a <u>communal, safe & secure location</u> in line with:</p> <p><u>Studios / 1 bed dwellings</u> – storage for 1 cycle for every two dwellings <u>2 & 3 bed dwellings</u> – storage for 1 cycle per dwelling <u>4+ bed dwellings</u> – storage for 2 cycles per dwelling</p> <p><u>Second Credit: (NOT SOUGHT)</u></p> <p>Evidence will NOT be provided demonstrating that following BREEAM complaint cycle storage provision will be provided in a <u>communal, safe & secure location</u> in line with:</p> <p><u>Studios / 1 bed dwellings</u> – storage for 1 cycle per dwelling <u>2 & 3 bed dwellings</u> – storage for 2 cycles per dwelling <u>4+ bed dwellings</u> – storage for 4 cycles per dwelling</p>



Energy Credit Value 1.48%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
Ene 10 Home Office	1	1	Garnett + Partners / WPP	<p>Evidence will be provided demonstrating that each dwelling will have the provision of a 'Home Office'</p> <p>The Home Office must consist of</p> <ol style="list-style-type: none"> 1. A space including a 1.8m wall length in a suitable room 2. Two double power sockets 3. Two telephone / Internet access points (at least one of each) 4. A view out via a window (either of the width and height are to be no less than 450mm) 5. Adequate ventilation (minimum openable casement of at least 0.5 m2) <p>The location of the Home Office must be located in:</p> <ul style="list-style-type: none"> - For studio dwellings: Where the living room, kitchen or both forms part of the same room as the master bedroom, the home office is allowed to be in this space - For 1 & 2 bed dwellings: <u>NOT</u> in the living room, kitchen or master bedroom so <u>EITHER</u> Master bedroom or second bedroom - For 3+ bed dwellings: <u>NOT</u> in the living room, kitchen or master bedroom
Section Credit Total	29	18		
Section Weighted Total	43.00%	26.69%		



Water Credit Value 2.20%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<u>Wat 01</u> Internal Water Use MANDATORY 1 Credit for VERY GOOD / 2 Credits for EXCELLENT	3	2.5	Garnett + Partners	<p><i>Two and Half Credit: (ACHIEVABLE)</i> Evidence will be provided demonstrating for each dwelling that the sanitary-ware specification and the off-set from any rainwater/grey water systems will be carefully considered in order to achieve a calculated water consumption figure of <105 litres/person/day [equal to 2.5 credits]</p> <p>*Please Note* All washing machines & dishwashers need to be specified carefully in regards to the water consumption of these white goods.</p>
<u>Wat 02</u> External Water Use	1	1	Garnett + Partners	Evidence will be provided demonstrating that the credit can be achieved by default as all dwellings will not have the provision of individual or communal gardens and where applicable will only be provided with balconies
<u>Wat 03</u> Water Meter	1	1	WPP	Evidence will be provided demonstrating that each dwelling is provided with a BREEAM compliant water meter to be located in a suitable location allowing for the visibility of water usage consumption data
Section Credit Total	5	4.5		
Section Weighted Total	11.00%	9.90%		



Materials Credit Value 0.17%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<p><u>Mat 01</u> Environmental Impacts of Materials</p>	<p>25</p>	<p>10</p>	<p>Garnett + Partners</p>	<p><u>Ten Credits: (ACHIEVABLE)</u> Evidence will be provided demonstrating that a total of 10 credits will be achieved as confirmed by the BREEAM compliant Mat 01 calculation methodology.</p> <p>The achievement of credits is based on the performance of the following <u>applicable building elements</u> according to their Green Guide to Specification rating and improvement of thermal performance for the <u>associated scope of works</u> being undertaken:</p> <p><u>Applicable building elements:</u></p> <ul style="list-style-type: none"> • Roof • External walls • Internal walls (including separating walls) • Upper and ground floors • Windows <p><u>Associated scope of works:</u></p> <ul style="list-style-type: none"> • Elements being retained • Retained elements undergoing refurbishment • Elements newly specified / constructed • Retained elements undergoing thermal improvement



Materials Credit Value 0.17%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<p><u>Mat 02</u></p> <p>Responsible Sourcing of Materials MANDATORY Pre-requisite for any Certification</p>	15	9	Garnett + Partners / WSP Parsons Brinckerhoff / Main Contractor	<p>Evidence will be provided demonstrating that:</p> <p>Mandatory Pre-requisite All timber and timber based products used on the project is 'Legally harvested and traded timber as outlined in the Central Point of Expertise on Timber (CPET) 5th Edition report on the UK Government Timber Procurement Policy</p> <p>First – Third Credits: (ACHIEVABLE) The main contractor sources materials for the project in accordance with a documented Sustainable Procurement Plan as follows:</p> <p>A plan that sets out a clear framework for the responsible sourcing of materials to guide procurement throughout a project and by all involved in the specification and procurement of construction materials. The plan may be prepared and adopted at an organisational level or be site/project specific and for the purposes of BREEAM compliance, will cover the following as a minimum:</p> <ol style="list-style-type: none"> 1. Risks and opportunities are identified against a broad range of social, environmental and economic issues. BS 8902:2009 Responsible sourcing sector certification schemes for construction products- Specification can be used as a guide to identify these issues. 2. Aims, objectives and targets to guide sustainable procurement activities. 3. The strategic assessment of sustainably sourced materials available locally and nationally. There should be a policy to procure materials locally where possible. 4. Procedures are in place to check and verify that the sustainable procurement plan is being implemented/adhered to on individual projects. These could include setting out measurement criteria, methodology and performance indicators to assess progress and demonstrate success.



Materials Credit Value 0.17%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<p><u>Mat 02</u></p> <p>Responsible Sourcing of Materials MANDATORY <u>Pre-requisite for any Certification</u></p>	15	Continued	Garnett + Partners / WSP Parsons Brinckerhoff / Main Contractor	<p><u>Fourth – Ninth Credits: (ACHIEVABLE)</u></p> <p>A programme of responsible sourcing will be undertaken for the majority of materials making up the relevant building elements listed below in order to achieve >27% of the available RSM points within the Mat 03 calculator tool [equal to 6 credits]</p> <ul style="list-style-type: none"> • External wall (e.g. bricks/blocks) • External wall finishes (e.g. plastering/cladding/render/wall coverings) • Roof (structure) • Roof finishes (e.g. tiles, cladding systems, etc.) • Upper floors • Floor (structure) • Flooring finishes (including coatings) • Internal walls (structure) • Internal walls (finishes) • Ceiling (structure) • Ceiling finishes (including coatings) • Doors/windows • Staircases/ramps • Building services • Hard landscaping <p>Careful consideration is required to ensure the specification and sourcing materials from certified Manufacturers/Suppliers (i.e. BES 6001 – Excellent or Very Good / ISO 14001 / FSC etc)</p>



Materials Credit Value 0.17%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Mat 03</u> Insulation	8	8	Garnett + Partners / WPP / Main Contractor	<p>Evidence will be provided demonstrating that:</p> <p><u>First – Fourth Credits: (ACHIEVABLE)</u> The thermal insulation products (fabric & services) are to be specified with a low embodied impact relative to their thermal properties; This is determined by specifying insulation products with an A+ or A green guide rating the <i>Green Guide to Specification</i>.</p> <p><u>Fifth – Eighth Credits: (ACHIEVABLE)</u> Greater than 80% of the total quantity of thermal insulation products (fabric & services) are to be responsibly sourced to either:</p> <ol style="list-style-type: none"> 1. BES 6001 rating: Pass or Good or Very Good or Excellent <p>OR</p> <ol style="list-style-type: none"> 2. ISO 14001 for BOTH Key product process AND Product supply chain extraction process <p>OR</p> <ol style="list-style-type: none"> 3. ISO 14001 for Key product process ONLY when the insulation has recycled content greater than 50%
Section Credit Total	48	27		
Section Weighted Total	8.00%	4.50%		



Waste Credit Value 0.60%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
Was 01 Household Waste	2	2	Garnett + Partners / WSP Parsons Brinckerhoff	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that each dwelling will be provided with the following in regards to recyclable waste:</p> <p>In addition to the provision of a Local Authority Collection Scheme (with a collection frequency of at least fortnightly), at least one of the following requirements must be met:</p> <ol style="list-style-type: none"> 1. Where Recyclable household waste is sorted AFTER collection, A single bin of at least 30 litres is provided in an adequate internal space (fixed within a kitchen cupboard) 2. Where materials are sorted BEFORE collection, at least three separate bins are provided with a total capacity of 30 litres. Each bin must have a capacity of at least 7 litres and be located in an adequate internal space (fixed within a kitchen cupboard) <p><u>Second Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that each dwelling will be provided with a Local Authority green/kitchen waste collection scheme AND each dwelling will be provided with an interior container for kitchen composting waste with storage for at least 7 litres.</p>



Waste Credit Value 0.60%	Max No. of Credits Available	ACHIEVABLE Credits	Responsible Party	Credit Requirements
<u>Was 02</u> Refurbishment Site Waste Management	3	3	WSP Parsons Brinckerhoff / Main Contractor / Demolition Contractor	<p>Evidence will be provided demonstrating that:</p> <p><u>First – Second Credits: (ACHIEVABLE)</u></p> <p>1. The main contractor is to produce a Level 2 BREEAM compliant Site Waste Management Plan (SWMP) covering the non-hazardous waste related to on-site construction/refurbishment and dedicated off-site manufacture/fabrication (including demolition and excavation waste) generated by the building's design and construction</p> <p>2. The amount of non-hazardous construction related to on-site construction and dedicated off-site manufacture/fabrication (excluding demolition and excavation waste) will be confirmed to meet or is lower than 26.52m³ of waste per £100,000 of project value or 16.90 tonnes of waste per £100,000 of project value at project completion</p> <p><u>Third Credit: (ACHIEVABLE)</u></p> <p>The main contractor is to demonstrate that following percentages of non-hazardous construction and demolition waste (where applicable) generated by the project have been diverted from landfill:</p> <p><u>Construction (non-demolition): 70% by volume or 65% by tonnage</u> <u>Demolition: 80% by volume or 90% by tonnage</u></p> <p>In addition to the above - The below must form part of a contract for either the main contractor or the demolition contractor:</p> <p>Where existing buildings on the site will be demolished a pre-demolition/refurbishment audit of any existing buildings, structures or hard surfaces must be completed to determine how to maximise the recovery of material from demolition for subsequent high grade/value applications. The audit must be referenced in the SWMP and cover:</p> <p>a. Identification of the key refurbishment/demolition materials. b. Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials in accordance with the waste hierarchy.</p>
Section Credit Total	5	5		
Section Weighted Total	3.00%	3.00%		



Pollution Credit Value 0.75%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Pol 01</u> NOx Emissions	3	3	WPP / Main Contractor	<u>First – Third Credits: (ACHIEVABLE)</u> Evidence will be provided demonstrating that the space heating and hot water system will produce dry NOx emissions ≤ 40 mg/kWh @ 0% excess O2
<u>Pol 02</u> Surface Water Run-Off	3	1	Garnett + Partners	<p><u>First Credit: (ACHIEVABLE)</u> Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> That there is no change in the size of the building footprint or hardstanding as a result of the refurbishment Where applicable, all new hardstanding areas provided are permeable, this must include all new pavements, driveways and where applicable public rights of way, car parks and non-adoptable roads Where applicable, for when the building is being extended onto any previously permeable surfaces, or an impermeable surface that drains onto a permeable surface (e.g. paving slabs set on concrete that drained onto soft landscaped areas) the additional run-off for rainfall depths up to 5 mm caused by the area of the extension must be managed on-site using appropriate Sustainable Drainage Systems (SuDS) such as Soakaways. Any calculations necessary to demonstrate that points 2 & 3 above will be achieved should be carried out by an Appropriately Qualified Professional (AQP) <p><u>Second Credit: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that:</p> <ol style="list-style-type: none"> Appropriately Qualified Professional (AQP) is appointed to design an appropriate drainage strategy for the site to ensure that all water run-off from the roof for rainfall depths up to 5mm, have been managed on-site using source control methods (e.g. through infiltration, soakaways, etc.). This should include run-off from all existing and new parts of the roof. <p><u>Third Credit: (NOT SOUGHT)</u> Evidence will NOT be provided demonstrating that:</p> <ol style="list-style-type: none"> Appropriately Qualified Professional (AQP) is appointed to design an appropriate drainage strategy for the site to ensure that all water run-off as a result of the refurbishment is managed on-site using source control achieving the following requirements: <ol style="list-style-type: none"> The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 75% from the existing site. The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%. An allowance for climate change must be included for all of the above calculations, in accordance with the current best practice (PPS25, 2010).



Pollution	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
Credit Value 0.75% <u>Pol 03</u> Flooding MANDATORY 2 Credits for EXCELLENT	2	2	Suitable Consultant	<u>First – Second Credits: (ACHIEVABLE)</u> Evidence will be provided demonstrating that a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding (in accordance with current best practice national planning guidance) and there is a low risk of flooding from all other sources. The FRA must take all current and future sources of flooding into consideration.
Section Credit Total	8	6		
Section Weighted Total	6.00%	4.50%		



Innovation Credit Value 1.00%	Max No. of Credits Available	<u>ACHIEVABLE</u> Credits	Responsible Party	Credit Requirements
<u>Inn Man 05</u> Protection & Enhancement of Ecological Features	1	1	Suitably Qualified Ecologist / WSP Parsons Brinckerhoff / Garnett + Partners	Evidence will be provided demonstrating that: 1. A Suitably Qualified Ecologist (SQE) has been appointed by the client or their project representative to produce an ecological report detailing recommend appropriate ecological features that will positively enhance the ecology of the site 2. The final scheme design adopts <u>ALL General ecological recommendations AND 30% of Additional ecological recommendations</u>
<u>Inn Was 02</u> Refurbishment Site Waste Management	1	1	WSP Parsons Brinckerhoff / Main Contractor / Demolition Contractor	Evidence will be provided demonstrating that: 1. The main contractor is to produce a Level 2 BREEAM compliant Site Waste Management Plan (SWMP) covering the non-hazardous waste related to on-site construction/refurbishment and dedicated off-site manufacture/fabrication (including demolition and excavation waste) generated by the building's design and construction 2. The amount of non-hazardous construction related to on-site construction and dedicated off-site manufacture/fabrication (excluding demolition and excavation waste) will be confirmed to meet or is lower than 17.32m3 of waste per £100,000 of project value or 8.78 tonnes of waste per £100,000 of project value at project completion 3. The main contractor is to demonstrate that following percentages of non-hazardous construction and demolition waste (where applicable) generated by the project have been diverted from landfill: <u>Construction (non-demolition): 80% by volume or 85% by tonnage</u> <u>Demolition: 85% by volume or 95% by tonnage</u> In addition to the above - The below must form part of a contract for either the main contractor or the demolition contractor: Where existing buildings on the site will be demolished a pre-demolition/refurbishment audit of any existing buildings, structures or hard surfaces must be completed to determine how to maximise the recovery of material from demolition for subsequent high grade/value applications. The audit must be referenced in the SWMP and cover: a. Identification of the key refurbishment/demolition materials. b. Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials in accordance with the waste hierarchy.
Section Credit Total	10	2		
Section Weighted Total	10.00%	2.00%		



BREEAM 2014 Domestic Refurbishment Pre-Assessment Results: 11 – 12 Grenville St, London	
Results	<u>ACHIEVABLE CREDITS</u>
Final Predicted Score:	72.83%
Final Predicted BREEAM Ratings:	EXCELLENT

The BREEAM rating bands are as follows:

RATING	SCORE
UNCLASSIFIED	<30
PASS	≥30
GOOD	≥45
VERY GOOD	≥55
EXCELLENT	≥70
OUTSTANDING	≥85