




6.2 Health and Wellbeing

Hea 01	Daylighting	<p>1 credit is awarded where the following criteria is met:</p> <ul style="list-style-type: none"> - For existing dwellings and change of use projects- the refurbishment results in a neutral impact on the dwellings daylight levels within the living room, dining room and study. - Where the property is being extended- all new spaces meet the minimum daylight factors laid out below and the extension does not reduce the daylight factor levels in the kitchen, living room, dining room or study of neighbouring properties. <p>2 credits can be awarded where the minimum daylight factors laid out below are achieved in the kitchen, living room, dining room and study.</p> <p>Minimum daylight factors:</p> <ul style="list-style-type: none"> - Kitchen – 2% - Living rooms, dining rooms and studies – 1.5% - 80% of the working plane within each new space including kitchens, living rooms and dining rooms received direct light from the sky. 	2	0	<p>Due to heritage constraints (listed façades) the daylighting in apartments will be dictated by existing windows. Some apartments may meet the criteria; however as this document portrays a worst-case assessment the credits are not targeted here.</p>
		<p>Responsible team member: Daylight Consultant</p>			




Hea 02	Sound Insulation	<p>Up to 4 credits are awarded based upon pre-completion sound testing and the development achieving and exceeding the following performance requirements:</p> <table border="1"> <thead> <tr> <th>Credits</th> <th>Airborne Sound Insulation Values</th> <th>Impact Sound Insulation Values</th> </tr> </thead> <tbody> <tr> <td>1</td> <td colspan="2">No worse than the values determined pre-refurbishment</td> </tr> <tr> <td>2</td> <td>3db higher than before refurbishment</td> <td>3db lower than before refurbishment</td> </tr> <tr> <td>3</td> <td>5db higher than before refurbishment</td> <td>5db lower than before refurbishment</td> </tr> <tr> <td>4</td> <td>8db higher than before refurbishment</td> <td>8db lower than before refurbishment</td> </tr> </tbody> </table>	Credits	Airborne Sound Insulation Values	Impact Sound Insulation Values	1	No worse than the values determined pre-refurbishment		2	3db higher than before refurbishment	3db lower than before refurbishment	3	5db higher than before refurbishment	5db lower than before refurbishment	4	8db higher than before refurbishment	8db lower than before refurbishment	4	2	<p>Responsible team member: Acoustic Consultant</p>
			Credits	Airborne Sound Insulation Values	Impact Sound Insulation Values															
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Hea 03	Volatile Organic Compounds	<p>1 credit can be awarded where all decorative paints and varnishes used within the refurbishment meet the requirements laid out in the credit requirements.</p> <p>In addition, at least five of the eight remaining product categories listed have met the testing requirements and emission levels as identified in the table below.</p> <p>Where five or less of the products listed are specified, all must meet the requirements of this credit</p>	1	1	<p>Responsible team member: MAA + BH (to include in contractor prelims)</p>															



<p>Hea 04</p>	<p>Inclusive Design</p>	<p>1 credit is awarded where an access expert or suitably qualified member of the design team reviews the proposed design and confirmed that reasonable provision of access is provided. In addition, an access statement is produced demonstrating access provision to all dwellings.</p> <p>OR 2 credits are awarded where an access expert of suitably qualified member of the design team reviews the proposed design and confirms high provision of access is provided. In addition, an access statement is produced demonstrating access provision to all dwellings.</p> <p>1 innovation credit is awarded where an access expert or suitably qualified member of the design team reviews the design and confirmed that full accessibility is provided. In addition, an access statement is produced demonstrating access provision to all dwelling.</p> <p>An access expert or a suitably qualified member of the design team is defined as an individual who meets the following requirements:</p> <ul style="list-style-type: none"> - NRAC Auditor. - NRAC consultant. - Inclusive design champions who have the skills and qualifications required under the NRAC auditor checklist. 	<p>2+1</p>	<p>0</p>	
<p>Responsible team member: N/A</p>					
<p>Hea 05</p>  <p>Mandatory Elements</p>	<p>Ventilation</p>	<p>One credit is awarded where an assessment is carried out to establish the current levels of air tightness and structural moisture prior to the specification of fabric measures and heating systems. The assessment should establish the appropriate level of ventilation for the building, based upon:</p> <ul style="list-style-type: none"> - The balance required to achieve a healthy, comfortable and draught-free environment whilst allowing appropriate building breath-ability in relation to structural moisture levels. - A minimum requirement of 0.4 air changes per hour (or 8 litres/second per person) should be assumed. This may be greater where the structure needs higher levels of ventilation in order to deal with structural moisture levels. - Ventilation rates are sufficient to allow structural moisture to be dealt with effectively. <p>Two credits are awarded where the first credit is achieved and where the following testing was also carried out in order to develop the ventilation/air tightness strategy for the building:</p> <ul style="list-style-type: none"> - Pressure testing was carried out before and after refurbishment in accordance with the appropriate standard - Temperature and humidity is monitored before and after refurbishment <p>Mandatory Requirement: 1 credit required for BREEAM Excellent. Failure to comply with this criterion can result in no BREEAM rating being achievable irrespective of any tradable credit score.</p>	<p>2</p>	<p>2</p>	
<p>Responsible team member: BH (to include in contractor prelims)</p>					




<p>Hea 06</p>  <p>Mandatory Elements</p>	<p>Safety</p>	<p>1 credit is awarded where a compliant fire detection and fire alarm system is provided in accordance with the following:</p> <ul style="list-style-type: none"> - Where the dwelling is supplied with mains gas or where any other form of fossil fuel is used within the building, a compliant fire and carbon monoxide detector and alarm system is provided. - Where the project involves electrical re-wiring the power supply for the smoke alarm and compliant carbon monoxide alarm systems are derived from the mains supply. - Where the project does not involve the re-wiring of the building, the alarm systems can be battery powered. <p>Mandatory Requirement: 1 credit required for BREEAM Excellent. Failure to comply with this criterion can result in no BREEAM rating being achievable irrespective of any tradable credit score.</p>	<p>1</p>	<p>1</p>	
<p>Responsible team member: HL</p>					



6.3 Energy

Ene 01	Improvement in Energy Efficiency Rating	Up to 6 credits are awarded based upon the improvement in the energy efficiency of the dwellings compared to pre-refurbishment. The credits are awarded as follows:	6	1.5																						
						<table border="1"> <thead> <tr> <th>Credits</th> <th>Improvement in EER</th> </tr> </thead> <tbody> <tr><td>0.5</td><td>>5</td></tr> <tr><td>1</td><td>>9</td></tr> <tr><td>1.5</td><td>>13</td></tr> <tr><td>2</td><td>>17</td></tr> <tr><td>2.5</td><td>>21</td></tr> <tr><td>3</td><td>>26</td></tr> <tr><td>3.5</td><td>>31</td></tr> <tr><td>4</td><td>>36</td></tr> <tr><td>4.5</td><td>>42</td></tr> <tr><td>5</td><td>>48</td></tr> <tr><td>5.5</td><td>>54</td></tr> <tr><td>6</td><td>>60</td></tr> </tbody> </table> <p>For dwellings which are being developed as part of a material change of use project, the following convention should be used to determine the pre-development EER.</p> <ul style="list-style-type: none"> - For newly constructed thermal elements that replace existing elements, input data to calculate the pre-refurbishment EER for the element being replaced should be based upon the U value of the elements prior to replacement as set out in appendix s of SAP 2009. - All other assumptions should be based upon details set out in SAP Appendix S or using actual values. 	Credits	Improvement in EER	0.5	>5	1	>9	1.5	>13	2	>17	2.5	>21	3	>26	3.5	>31	4	>36	4.5	>42
Credits	Improvement in EER																									
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5	>48																									
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6	>60																									
Responsible team member: HL																										



Ene 02  Mandatory Elements	Energy Efficiency Rating Post Refurbishment	Up to 4 credits are awarded based upon the Energy Efficiency Rating for each dwelling post refurbishment. The credits are awarded as follows:	<table border="1"> <thead> <tr> <th>Credits</th> <th>EER Post Refurbishment</th> <th>Minimum Requirements</th> </tr> </thead> <tbody> <tr><td>0.5</td><td>≥50</td><td>BREEAM Pass</td></tr> <tr><td>1</td><td>≥55</td><td>BREEAM Good</td></tr> <tr><td>1.5</td><td>≥60</td><td></td></tr> <tr><td>2</td><td>≥65</td><td>BREEAM Very Good</td></tr> <tr><td>2.5</td><td>≥70</td><td>BREEAM Excellent</td></tr> <tr><td>3</td><td>≥75</td><td></td></tr> <tr><td>3.5</td><td>≥80</td><td>BREEAM Outstanding</td></tr> <tr><td>4</td><td>≥85</td><td></td></tr> </tbody> </table> <p>1 innovation credit can be awarded where the post refurbishment EER is ≥90, equivalent to an EPC rating of A</p> <p>2 innovation credits can be awarded where the post refurbishment EER is ≥100.</p>	Credits	EER Post Refurbishment	Minimum Requirements	0.5	≥50	BREEAM Pass	1	≥55	BREEAM Good	1.5	≥60		2	≥65	BREEAM Very Good	2.5	≥70	BREEAM Excellent	3	≥75		3.5	≥80	BREEAM Outstanding	4	≥85		4+2	2.5	
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Responsible team member: HL																																	



Ene 03	Primary Energy Demand	Up to 7 credits are awarded based upon the primary energy demand for the dwelling post refurbishment. The credits are awarded as follows:	7	5																										
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7	≤120																													
Responsible team member: HL + MAA																														
Ene 04	Renewable Technologies	<p>1 credit is awarded where at least 10% of the dwellings primary energy demand per annum is supplied by low or zero carbon technologies (LZCs) and the dwelling has reduced energy demand prior to the specification of LZCs with a maximum demand of 220kWh/m²/yr.</p> <p>2 credits can be awarded where at least 15% of the primary energy demand per annum is supplied via low and zero carbon technologies and where the primary energy demand is reduced to a maximum of 220kWh/m²/year.</p> <p>Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWh must be certified.</p> <p>Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.</p>	2	0																										
Responsible team member: -																														



Ene 05	Energy Labelled White Goods	<p>1 credit is awarded where fridges and freezers or fridge freezers are recognised under the Energy Saving Trust Recommended labelling scheme.</p> <p>1 credit is awarded where washing machines and dishwashers are provided and are recognised under the Energy Saving Trust Recommended labelling scheme and washer dryers and tumble dryers are B rated under the EU Energy Efficiency Labelling Scheme.</p> <p>Where a washer dryer or tumble dryer is not provided, information on the EU Energy Efficiency Labelling Scheme is to be provided to all dwellings.</p> <p>1 credit is awarded where no white goods are provided but all dwellings are provided within information on the EU Energy Efficiency Labelling Scheme.</p>	2	2	
Responsible team member: BH (to include in contractor prelims)					
Ene 06	Drying Space	<p>1 credit is awarded where secure internal or external space with posts and footings, or fixings holding:</p> <ul style="list-style-type: none"> - Studios, one and two bed dwellings - at least 4m of line. - Three or more bedroom dwellings - at least 6m of line. 	1	1	
Responsible team member: MAA					
Ene 07	Lighting	<p>1 credit is awarded where energy efficient space lighting is provided and energy efficiency security lighting is provided</p> <p>OR</p> <p>Where energy efficient space lighting is provided and security lighting is not provided.</p> <p>1 credit is awarded where the energy required for internal lighting is minimised through the provision of a maximum wattage across the total floor area of the dwelling of 9 watts per m².</p>	2	2	
Responsible team member: HL					
Ene 08	Energy Display Devices	<p>1 credit is awarded where the current electricity consumption or primary heating fuel consumption data is displayed to occupants by a compliant energy display device.</p> <p>2 credits are awarded where current electricity and primary heating fuel consumption data is displayed to the occupants by a compliant energy display device.</p> <p>1 innovation credit is awarded where the energy display device is capable of recording consumption data.</p>	2+1	2+1	
Responsible team member: HL					



Ene 09	Cycle Storage	Up to 2 credits are awarded based upon the provision of individual or communal cycle storage to the following levels:	2	2												
			<table border="1"> <thead> <tr> <th>Number of bedrooms</th> <th>Number of spaces for 1 credit</th> <th>Number of spaces for 2 credits</th> </tr> </thead> <tbody> <tr> <td>Studio and 1 bed</td> <td>1 for every two dwellings</td> <td>1 for every dwelling</td> </tr> <tr> <td>2 and 3 bedrooms</td> <td>1 per dwelling</td> <td>2 for every dwelling</td> </tr> <tr> <td>4 or more bedrooms</td> <td>2 for every dwelling</td> <td>4 for every dwelling</td> </tr> </tbody> </table>			Number of bedrooms	Number of spaces for 1 credit	Number of spaces for 2 credits	Studio and 1 bed	1 for every two dwellings	1 for every dwelling	2 and 3 bedrooms	1 per dwelling	2 for every dwelling	4 or more bedrooms	2 for every dwelling
Number of bedrooms	Number of spaces for 1 credit	Number of spaces for 2 credits														
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2 and 3 bedrooms	1 per dwelling	2 for every dwelling														
4 or more bedrooms	2 for every dwelling	4 for every dwelling														
Responsible team member: MAA																
Ene 10	Home Office	1 credit is awarded where space and services have been provided which allow for the occupants to set up home offices within a suitable room with adequate ventilation. The required facilities within the designated space are as follows: <ul style="list-style-type: none"> - Two double power sockets. - Telephone point. - Window. - Adequate ventilation. - 1.8m of wall. 	1	1												
			Responsible team member: MAA													




6.4 Water

Wat 01 Mandatory Elements	Internal Water Use	Up to 3 credits are awarded where water efficient fittings are specified to reduce the internal potable water use to the following standards:	<table border="1"> <thead> <tr> <th>Credits</th> <th>Calculated water consumption (litres per person per day)</th> <th>Minimum Requirements</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>>150</td> <td></td> </tr> <tr> <td>0.5</td> <td>140-150</td> <td></td> </tr> <tr> <td>1</td> <td>129-139</td> <td>BREEAM Very Good</td> </tr> <tr> <td>1.5</td> <td>118-128</td> <td></td> </tr> <tr> <td>2</td> <td>107-117</td> <td>BREEAM Excellent</td> </tr> <tr> <td>2.5</td> <td>96-106</td> <td></td> </tr> <tr> <td>3</td> <td><95</td> <td>BREEAM Outstanding</td> </tr> </tbody> </table>			Credits	Calculated water consumption (litres per person per day)	Minimum Requirements	0	>150		0.5	140-150		1	129-139	BREEAM Very Good	1.5	118-128		2	107-117	BREEAM Excellent	2.5	96-106		3	<95	BREEAM Outstanding	3+1	2
			Credits	Calculated water consumption (litres per person per day)	Minimum Requirements																										
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2.5	96-106																														
3	<95	BREEAM Outstanding																													
1 innovation credit can be awarded where a combination of low flow rate fittings and grey/ rainwater harvesting result in an internal water consumption of less than 80 litres per person per day. Responsible team member: MAA																															
Wat 2	External Water Use	1 credit is awarded where a compliant rainwater collection system / internal irrigation use has been provided for the dwellings or where the dwelling has no communal or individual garden space.	1	1																											
			Responsible team member: MAA																												
Wat 3	Water Meter	1 credit is awarded where an appropriate water meter for measuring usage of mains potable water has been provided to dwellings. The meter should meet the following requirements: <i>An instrument intended to measure continuously, memorise and display the volume of water passing through it within rated operating conditions. A meter includes at least a measurement transducer, a calculator (including adjustment or correction devices if present) and an indicating device.</i>	1	1																											
			Responsible team member: HL																												



6.5 Materials

Mat 01	Environmental Impact of Materials	Up to 25 credits are awarded based upon the impact of new materials according to their green guide rating and their impact on the thermal performance of the dwelling for the following elements: - Roof - External walls (assumed mainly retained) - Internal walls (including separating walls) - Upper and ground floors (assumed mainly retained) - Windows (assumed not retained)	25	10																			
Responsible team member: MAA																							
Mat 02  Mandatory Elements	Responsible Sourcing of Materials	Up to 12 credits are awarded where new materials for refurbished building elements are assigned a responsible sourcing tier with points awarded as follows: <table border="1" data-bbox="578 1003 890 1176"> <thead> <tr> <th>Tier</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>1</td><td>4.0</td></tr> <tr><td>2</td><td>3.5</td></tr> <tr><td>3</td><td>3.0</td></tr> <tr><td>4</td><td>2.5</td></tr> <tr><td>5</td><td>2.0</td></tr> <tr><td>6</td><td>1.5</td></tr> <tr><td>7</td><td>1.0</td></tr> <tr><td>8</td><td>0</td></tr> </tbody> </table> Mandatory Requirement: All new timber used in the project is sourced in accordance with UK Government's timber procurement policy. Failure to comply with this criterion can result in no BREEAM rating being achievable irrespective of any tradable credit score.	Tier	Points	1	4.0	2	3.5	3	3.0	4	2.5	5	2.0	6	1.5	7	1.0	8	0	12	4	
Tier	Points																						
1	4.0																						
2	3.5																						
3	3.0																						
4	2.5																						
5	2.0																						
6	1.5																						
7	1.0																						
8	0																						
Responsible team member: MAA + BH (to include in contractor prelims)																							
Mat 03	Insulation	4 credits are awarded where the insulation index for all new insulation used within the building is less than 2. 4 credits are awarded where at least 80% of the new thermal insulation used within the building elements is responsibly sourced.	8	8																			
Responsible team member: MAA + HL + BH (to include in contractor prelims)																							



6.6 Waste

Was 01	Household Waste	One credit can be awarded where the dwelling complies with one of the following scenarios: <table border="1" data-bbox="1855 787 2552 1050"> <thead> <tr> <th>Scenario</th> <th>Requirements</th> </tr> </thead> <tbody> <tr> <td>1 Compliant collection scheme</td> <td>1. Three internal recycling containers where recycling is no co-mingled. 2. One internal recycling container provided where recycling in co-mingled. 3. Minimum thirty litre total capacity, no single container less than seven litres. 4. Dedicated position within the dwelling.</td> </tr> <tr> <td>2 Non-compliant collection scheme in place and no external storage</td> <td>1. Three internal recycling containers. 2. Minimum sixty litre capacity.</td> </tr> <tr> <td>3 No compliant collection scheme in place and adequate external storage</td> <td>1. Three internal recycling containers. 2. Minimum thirty litre total capacity, no single container smaller than seven litres. 3. Dedicated position within the dwelling.</td> </tr> </tbody> </table> 1 credit can be awarded where the following composting facilities are provided: <table border="1" data-bbox="1855 1102 2552 1249"> <thead> <tr> <th>Scenario</th> <th>Internal recycling storage requirements</th> </tr> </thead> <tbody> <tr> <td>Dwelling with significant external space</td> <td>A compost service or facility is provided for green/ garden waste. A compost service or facility is provided for kitchen waste. An interior container is provided for kitchen composting waste of at least seven litres.</td> </tr> <tr> <td>Dwellings with no significant private space</td> <td>Where a composting service is provided for kitchen waste. Where an interior container is provided for kitchen composting waste of at least seven litres.</td> </tr> </tbody> </table>	Scenario	Requirements	1 Compliant collection scheme	1. Three internal recycling containers where recycling is no co-mingled. 2. One internal recycling container provided where recycling in co-mingled. 3. Minimum thirty litre total capacity, no single container less than seven litres. 4. Dedicated position within the dwelling.	2 Non-compliant collection scheme in place and no external storage	1. Three internal recycling containers. 2. Minimum sixty litre capacity.	3 No compliant collection scheme in place and adequate external storage	1. Three internal recycling containers. 2. Minimum thirty litre total capacity, no single container smaller than seven litres. 3. Dedicated position within the dwelling.	Scenario	Internal recycling storage requirements	Dwelling with significant external space	A compost service or facility is provided for green/ garden waste. A compost service or facility is provided for kitchen waste. An interior container is provided for kitchen composting waste of at least seven litres.	Dwellings with no significant private space	Where a composting service is provided for kitchen waste. Where an interior container is provided for kitchen composting waste of at least seven litres.	2	1	
Scenario	Requirements																		
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Responsible team member: MAA																			




Was 02	Refurbishment Site Waste Management	1 credit can be awarded where a compliant Site Waste Management Plan is in operation.	3+1	3+1											
		<p>1 credit can be awarded where the first credit is achieved and the following requirements are met:</p> <ul style="list-style-type: none"> Where non-hazardous construction waste generated by the dwellings refurbishment meets the following waste efficiency benchmarks: <table border="1"> <thead> <tr> <th colspan="2">Amount of non-hazardous construction waste generated per £100,000 of project value</th> </tr> <tr> <th>m³</th> <th>Tonnes</th> </tr> </thead> <tbody> <tr> <td>26.52</td> <td>16.90</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Where the amount of waste generated against £100,000 of project value is recorded within the SWMP. Where a pre-refurbishment audit of the existing buildings is completed. Where the demolition is included within the refurbishment program, then the audit included demolition materials. <p>A third credit is awarded where non-hazardous demolition waste generated by the dwellings refurbishment meets the following standards:</p> <table border="1"> <thead> <tr> <th>Waste types</th> <th>Volume</th> <th>Tonnes</th> </tr> </thead> <tbody> <tr> <td>Non-hazardous construction waste</td> <td>70%</td> <td>65%</td> </tr> <tr> <td>Non-hazardous demolition waste</td> <td>80%</td> <td>90%</td> </tr> </tbody> </table> <p>Exemplary Level Requirements:</p> <ul style="list-style-type: none"> Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place Where Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmarks set by BREEAM Where the percentage of non-hazardous construction and demolition waste generated by the project has been diverted from landfill and meets or exceeds the refurbishment & demolition waste diversion benchmarks in accordance with BREEAM criteria 				Amount of non-hazardous construction waste generated per £100,000 of project value		m ³	Tonnes	26.52	16.90	Waste types	Volume	Tonnes	Non-hazardous construction waste
Amount of non-hazardous construction waste generated per £100,000 of project value															
m ³	Tonnes														
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Waste types	Volume	Tonnes													
Non-hazardous construction waste	70%	65%													
Non-hazardous demolition waste	80%	90%													
Responsible team member: BH (to include in contractor prelims)															



6.7 Pollution

Pol 1	NO _x Emissions	Credits are awarded on the basis of NO _x emission arising from the operation of all space heating and hot water systems for each dwelling type in accordance with the following criteria.	3	3								
						<table border="1"> <thead> <tr> <th>Credits</th> <th>Dry NO_x level (mg/kWh)</th> <th>Boiler class (BS EN 297: 1994)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>≤ 100</td> <td>4</td> </tr> <tr> <td>2</td> <td>≤ 70</td> <td>5</td> </tr> <tr> <td>3</td> <td>≤ 40</td> <td>-</td> </tr> </tbody> </table> <p>3 points are awarded where all space heating and hot water energy requirements are fully met by systems which do not produce NO_x emissions.</p> <p>Responsible team member: HL</p>	Credits	Dry NO _x level (mg/kWh)	Boiler class (BS EN 297: 1994)	1	≤ 100	4
Credits	Dry NO _x level (mg/kWh)	Boiler class (BS EN 297: 1994)										
1	≤ 100	4										
2	≤ 70	5										
3	≤ 40	-										
Pol 2	Surface Water Run Off	<p>1 credit is awarded where there is a neutral impact on surface water:</p> <ul style="list-style-type: none"> Where any new hard standing areas are permeable, this must include all new pavements, driveways and where applicable, public rights of way, car parks and non-adoptable roads. Where the building is being extended onto previously permeable surfaces or an impermeable surface which drains onto a permeable surface, the additional run off for rainfall up to 5mm caused by the area of extension must be managed on site using SuDS. <p>2 credits are awarded where water run-off from the site is slightly reduced:</p> <ul style="list-style-type: none"> Where all run off from the roof for rainfall depths up to 5mm, have been managed on site using source control methods. This should include run off from all existing and new parts of the roof. <p>3 credits are awarded where water run-off from the site is substantially reduced:</p> <ul style="list-style-type: none"> An appropriate qualified professional is appointed to design the drainage strategy for the site. Where run off as a result of the refurbishment is managed on site using source control achieving a reduction in the peak run off rate during a 1 in 100 year event by 75% and the total volume of run off discharged into water courses is reduced by 75%. <p>1 innovation credit is awarded where all run off from the site is attenuated using source control.</p>	3+1	1								
						Responsible team member: RSK						



Pol 3  Mandatory Elements	Flooding	2 credits can be awarded based upon the flood risk for the site and mitigation measures: Where the site is confirmed to be of low risk of flooding in a flood risk assessment OR Where the flood risk assessment confirms the site is of medium or high risk of flooding and the dwelling floor levels or measures to keep water away from the dwellings or full flood resilience/ resistance strategy is implemented according to advice from a suitably qualified professional. Mandatory Requirement: 2 credits required for BREEAM Excellent	2	2	
	Responsible team member: RSK				

10.0 Appendix D: London Borough of Richmond upon Thames Sustainable Construction Checklist

LBRUT SUSTAINABLE CONSTRUCTION CHECKLIST

TO BE FILLED IN FOR ALL RESIDENTIAL DEVELOPMENT PROVIDING ONE OR MORE NEW RESIDENTIAL UNITS, AND ALL OTHER FORMS OF DEVELOPMENT PROVIDING 100sqm OR MORE OF NON-RESIDENTIAL DEVELOPMENT

ALL OTHER CLASSES OF DEVELOPMENT ARE ENCOURAGED TO COMPLY WITH THIS CHECKLIST

This document forms part of the Sustainable Construction Checklist SPD, and should be read in conjunction with the associated Guidance Document. Where further information is requested, please either fill in the relevant section, or refer to the document where this information may be found in detail, e.g. Flood Risk Assessment or similar. Scores will be awarded for different achievements on site, and a final score attributed to the site as a whole.

Property Name (if relevant): Application No. (if known):

Development Type:

Address (include postcode):

Completed by:

MINIMUM POLICY COMPLIANCE

Environmental Rating of development:

Residential new-build	Rating achieved	A pre-assessment is required to support this. Has this been provided?	
Code for Sustainable Homes Level	<input type="text" value="Code Level 4"/>		<input checked="" type="checkbox"/>
Non-Residential new-build (100sqm or more)			
BREEAM Level	<input type="text" value="Please Select"/>	A pre-assessment is required to support this. Has this been provided?	<input type="checkbox"/>
Extensions and conversions (residential dwellings)			
EcoHomes Level	<input type="text" value="BREEAM Domestic Refurbishment Excellent"/>	A pre-assessment is required to support this. Has this been provided?	<input checked="" type="checkbox"/>
If other environmental rating sought please state: <input type="text"/>			

Score awarded for Environmental Rating (this will only be awarded once a pre-assessment is submitted to verify the level achieved):

	Score
CSH: Level 3 = 4, Level 4 = 8, Level 5 = 16, Level 6 = 20	
BREEAM: Good = 0, Very Good = 0, Excellent = 8, Outstanding = 16	
EcoHomes: Good = 0, Very Good = 0, Excellent = 8	

Score

Accredited Assessors (Please see Guidance document for more details on accredited assessors)

Have you used a licensed Code for Sustainable Homes, EcoHomes and BREEAM Accredited Assessor respectively?

Energy Assessment (Please see Justification & Guidance document for more details on how to prepare an Energy Assessment)

An energy assessment is required that demonstrates the expected energy and carbon dioxide emissions saving from energy efficiency and renewable energy measures, including the feasibility of CHP/CCHP and community heating systems. Has this been submitted? If yes, please tick.

Carbon Dioxide emissions reduction (Please see Justification & Guidance document for more details on how to calculate these figures as part of the Energy Assessment)

- Percentage of total site CO₂ emissions saved through renewable energy installation?
- Percentage of regulated CO₂ emissions saved below Building Regulations target level through all low carbon measures?

1. ENERGY USE AND POLLUTION

	Score
1.1 Need for Cooling	
a. How does the development incorporate cooling measures? Tick all that apply:	
• Energy efficient design incorporating specific heat demand to less than or equal to 15 kWh/sqm	<input checked="" type="checkbox"/>
• Reduce heat entering a building through providing/improving insulation and living roofs and walls	<input checked="" type="checkbox"/>
• Reduce heat entering a building through shading	<input checked="" type="checkbox"/>
• Exposed thermal mass and high ceilings	<input type="checkbox"/>
• Passive ventilation	<input type="checkbox"/>
• Mechanical ventilation with heat recovery	<input checked="" type="checkbox"/>
• Active cooling systems, i.e. Air Conditioning Unit	<input type="checkbox"/>
1.2 Heat Generation	
b. How have the heating and cooling systems, with preference to the heating system hierarchy, been selected (defined in London Plan policy 4A.6)? Tick the heating and cooling system that will be used in the development:	
• Connect to existing CCHP/CHP networks	<input type="checkbox"/>
• Site-wide CCHP/CHP powered by renewable energy	<input type="checkbox"/>
• Gas-fired CCHP/CHP	<input checked="" type="checkbox"/>
• Communal heating/cooling powered by renewable energy	<input type="checkbox"/>
• Communal heating/cooling powered by gas	<input checked="" type="checkbox"/>
• Individual heating/cooling powered by renewable energy	<input type="checkbox"/>
• Individual heating/cooling powered by gas or electricity	<input checked="" type="checkbox"/>
1.3 Pollution: Air, Noise and Light	
a. Does the development plan to implement reduction strategies for dust emissions from construction sites?	<input checked="" type="checkbox"/>
b. Does the development plan to include a biomass boiler?	<input type="checkbox"/>
• If yes, please refer to the biomass guidelines for the Borough of Richmond, and see guidance for supplementary information. If the proposed boiler is of a qualifying size, you may need to complete the information request form found on the Richmond website	<input type="checkbox"/>
c. Please tick only one option below	
• Has the development taken measures to reduce existing noise and enhance the existing soundscape of the site?	<input type="checkbox"/>
• Has the development taken care to not create any new noise generation/transmission issues in its intended	<input checked="" type="checkbox"/>
d. Has the development taken measures to reduce light pollution impacts on character, residential amenity and biodiversity?	<input checked="" type="checkbox"/>
e. Have you attached a Lighting Pollution Report?	<input type="checkbox"/>
Subtotal	18.0

Please give any additional relevant comments to the Energy Use and Pollution Section below

2. TRANSPORT

- 2.1 Provision for the safe efficient and sustainable movement of people and goods**
- a. Does your development provide opportunities for occupants to use innovative travel technologies, such as electric cars? 2
- b. For major developments ONLY: Has a Transport Assessment been produced for your development based on TfL's Best Practice Guidance? 5
 • If you have provided a Transport Assessment as part of your planning application, please tick here and move to Section 3 of this Checklist.
- c. For smaller developments ONLY: Have you provided a Transport Statement? 5
- d. Does your development provide cycle storage? 2
 • If so, for how many bicycles? 160
 • Is this shown on the site plans? -
- e. Will the development create or improve links with local and wider transport networks? If yes, please provide details below. 2
- Subtotal** 11.0

Please give any additional relevant comments to the Transport Section below

Comment to point a: 31 of the units provide garages which provide the opportunity for electric vehicle charging.
 Comment to point d: Only communal stores for apartments shown on plan, other storage spaces assumed in gardens for houses
 Comment to point e: A new pedestrian and cycle route is to be provided via Garth Road. New pedestrian links are also provided to Latchmere Lane and St Anne Boleyns Walk, improving permeability and access to the local facilities and bus stops on Tudor Drive.

3. BIODIVERSITY

- 3.1 Minimising the threat to biodiversity from new buildings, lighting, hard surfacing and people**
- a. Does your development involve the loss of an ecological feature or habitat, including a loss of garden or other green space compared to the pre-development site? -2
 (Tick if yes)
 • If so, please state how much in sqm? 5,400 sqm
- b. Does your development involve the removal of any tree(s)? (Tick if yes) -
 • If so, has a tree report been provided in support of your application? (Tick if yes) -
- c. Does your development plan to add any tree(s) on site? (Tick if yes) -
- d. Please indicate which features and/or habitats that your development will incorporate to improve on site biodiversity:
- | | | | | |
|---|---|----------------|------------------------|-----|
| • Pond, reedbed or extensive native planting | 6 <input type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • An extensive green roof | 5 <input type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • An intensive green roof | 4 <input type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • A brown roof | 1 <input checked="" type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • Garden space | 4 <input checked="" type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • Additional native and/or wildlife friendly planting to peripheral areas | 3 <input checked="" type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • Additional planting to peripheral areas | 2 <input checked="" type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • A living wall | 2 <input type="checkbox"/> | Area provided: | TBC at detailed design | sqm |
| • Bat boxes | 0.5 <input type="checkbox"/> | | | |
| • Bird boxes | 0.5 <input checked="" type="checkbox"/> | | | |
| • Other | 0.5 <input checked="" type="checkbox"/> | | | |
- Subtotal** 9.0

Please give any additional relevant comments, including specific reasons why living roofs cannot be incorporated in proposals with roof plate areas of 100sqm or more should this be the case, to the Biodiversity Section below

*Other includes swale ditch planting

4. FLOODING AND DRAINAGE

- 4.1 Reducing and mitigating the risks of flooding and other impacts of climate change in the borough**
- a. Is your site located in an area at risk of flooding? (Tick if yes) -
- If yes, please tick only ONE option below:
- New development in a high flood risk zone (3a) -2
 - New development in a medium flood risk zone (2) -1
 - Redevelopment of an existing building or conversion 0
- Is your development within 20 metres of a watercourse or a flood defence? (Tick if yes) -
- Have you submitted a Flood Risk Assessment? (Tick if yes) -
- b. Which of the following measures of the drainage hierarchy are incorporated onto your site? (tick all that apply)
- Store rainwater for later use 5
 - Use of infiltration techniques such as porous surfacing materials to allow drainage on-site 3
 - Attenuate rainwater in ponds or open water features 4
 - Store rainwater in tanks for gradual release to a watercourse 3
 - Discharge rainwater directly to watercourse 2
 - Discharge rainwater to surface water drain 1
 - Discharge rainwater to combined sewer 0
- c. Please give the change in area of permeable surfacing which will result from your development proposal: N/A sqm
 Please provide details of the permeable surfacing below please represent a loss in permeable area as a negative number
- Subtotal** 7.0

Please give any additional relevant comments to the Flooding and Drainage Section below

Point C is not applicable, as all drainage will be by infiltration to the ground.

A Flood Risk Assessment has been prepared as part of the planning application.

5 IMPROVING RESOURCE EFFICIENCY

5.1 Reduce waste generated and amount disposed of by landfill through increasing level of re-use and recycling

- a. Will demolition be required on your site prior to construction? 0
 Will 10% of demolition waste or more be reused in the new development? 1
 Will 15% of demolition waste or more be recycled? 1

- b. Does your site have any contaminated land or has the site previously been used for potentially contaminating uses? 1
 Have you submitted an assessment of the site contamination? 2
 Are plans in place to remediate the contamination? 2
 Have you submitted a remediation plan? 1

- c. Are plans in place to include composting on site? 1

5.2 Reducing levels of water waste

- a. Will the following measures of water conservation be incorporated into the development? (Please tick all that apply): 1
 Fitting of water efficient taps, shower heads, dual flush toilets etc 1
 Use of water efficient A or B rated appliances 1
 Rainwater harvesting for internal use 1
 Greywater systems 1
 Fit a water meter 1

- b. What is the water consumption target of the development (in litres per person per day)? 1
 The recommended target for conversions or other small scale residential properties is 105 litres/person/day. Will this be met? (Indicate if yes) 1
 105 new built / 117 refurb

- c. If applicable, have you submitted evidence that capacity exists in the public sewerage and water supply network? 2

Subtotal **6.0**

Please give any additional relevant comments, including reasons why the water consumption target has not been met should this be the case, to the Improving Resource Efficiency Section below

The targets shown in section 5.2.b above are in line with what is required for Code for Sustainable Homes Level 4 (for new-built dwellings and BREEAM Domestic Refurbishment Excellent (for refurbished apartments). Please refer to the Pre-assessments for both of these environmental assessment methods provided as part of this planning application.

6 DESIGN STANDARDS AND ACCESSIBILITY

6.1 Ensure flexible adaptable and long-term use of structures

- a. If the development is residential, will it meet the requirements set out in the Residential Design Standards SPD for internal space and layout? 1
 If the standards are not met, in the space below, please provide details of the functionality of the internal space and layout.

All standards proposed met.

AND

- b. If the development is residential, will it meet the criteria included in the Lifetime Home Standards? 2
 If not all Lifetime Homes criteria are to be met, in the space below, please provide details of any accessibility measures included in the development.

All criteria proposed met

- c. Are 10% or more of the units in the development wheelchair accessible? 1

OR

- d. If the development is non-residential, does it comply with requirements included in Richmond's Design for Maximum Access SPG? 2
 Please provide details of the accessibility measures specified in the Maximum Access SPG that will be included in the development

N/A

Subtotal **3**

Please give any additional relevant comments to the Design Standards and Accessibility Section below

LBRUT Sustainable Construction Checklist- Scoring Matrix

TOTAL **70**

Score for new construction	Score for extensions or conversions	Rating	Significance
80 or more	70 or more	A+	Project strives to achieve highest standard in energy efficient sustainable development
71-79	61-69	A	Makes a major contribution towards achieving sustainable development in Richmond
51-70	41-60	B	Helps to significantly improve the Borough's stock of sustainable developments
36-50	26-40	C	Minimal effort to increase sustainability beyond general compliance
35 or less	25 or less	FAIL	Does not comply with planning policies on sustainability and climate change

Authorisation:

I herewith declare that I have filled in this form to the best of my knowledge

Signature

Deise W

Date

18.12.2013