

**Velocity Industrial  
Development,  
Standbridge Road,  
Havant,**

**BREEAM Industrial 2014  
(Shell & Core)**

**Design Stage**

**Pre-Assessment Report –  
Issue Final for Planning**

Prepared for:  
BCP (Havant LLP) C/O  
Taurus Developments Ltd

February 2015



## Prepared on behalf of Watkins Payne Partnership by

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| Issue and Date                | Reason for Issue                  |
|-------------------------------|-----------------------------------|
| Draft – 27/02/2015            | For Project Team comment & review |
| Final for Planning – 05/03/15 | For Planning Submission           |
|                               |                                   |



## **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 has been commissioned by BCP (Havant LLP) C/O Taurus Developments Ltd to carry out a BREEAM Industrial 2011 Design Stage Pre-Assessment of the proposed works of a new-build speculative Velocity industrial development consisting of 1 no. large industrial/warehouse unit, located at Standbridge Rd, Havant.

The unit is to be built as a shell industrial/warehouse with the associated offices space being fitted out to a Cat A standard.

The servicing strategy for the Industrial unit will be as follows:

- Industrial/Warehouse heating & lighting: none (but potential to be provided by future tenant)
- Offices and core areas heating: VRF Air Source Heat Pumps
- Domestic hot water: Electric point of use

As present there are no renewable energy technologies proposed:

External lighting is to be included within the base build construction with the potential of extra fittings to be provided as part of the future tenant fit-out.

All sanitary provisions to be included within the base build with the potential of extra sanitary facilities to be provided within the warehouse space as part of the future tenant fit-out.

All lifts will be included within the base build construction.

As the warehouse areas to the unit is to be provided on a shell and core basis i.e. without lighting and heating to the warehouse/operational areas etc, under BREEAM 2014 this is classed as a 'Shell & Core' assessment.

Under BREEAM 2014, 'Shell & Core' assessments, where areas of the development are not fully-fitted, performance of the building and compliance with the BREEAM criteria is verified based on the developer's scope of works only.

This report details the performance of the development against the BREEAM Industrial 2014 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.



## **BREEAM 2014 - Shell & Core Assessments**

Non-fitted, speculative new buildings (often referred to as shell only or shell and core buildings) can be assessed using the BREEAM UK New Construction 2014 scheme.

A shell only or shell and core building project is defined as one where the developer's scope of works is the design and construction of the base building only, leaving a range of construction and fit-out works to be completed before the building is able to be occupied. This may include some or all of the following elements: the structure, building envelope, core building systems including building servicing strategy and installations (such as HVAC) or plant support for installation of such systems and where present, fit-out of common areas. Often, shell and core projects will also be fitted out to a 'Category A' standard, the scope of which varies between different developers, but often includes in addition to the shell and core of the building the provision of raised floors, suspended ceilings, extension of core services above ceilings across the lettable space, finishes to the internal face of external and core walls and blinds. Upon completion, the whole building or space within the building is sold or let to be fitted out as appropriate for occupation. The new owner(s) or tenant(s) will fit-out the building's accommodation in accordance with their corporate and operational needs, often referred to as a 'Category B' fit-out. These terms, while they are widely used in the property sector, however are not used within BREEAM as the scope of works that they refer to varies significantly between developers making them not comparable.

**In shell or shell and core projects, where areas of the development are not fully-fitted, performance of the building and compliance with BREEAM is verified based on the developer's scope of works only.** This is measured using two standard project type options that in turn define appropriate assessment criteria applicable to that project type. While some projects will differ to some extent from the scope of these standard options, for the purpose of BREEAM, issues not included within the chosen option will be excluded from the assessment, even where they are within the developer's scope of works. This approach is necessary to ensure clarity, consistency and comparability within the property market. A fully filterable list of criteria/issues based on each individual projects scope would not enable comparability between BREEAM ratings, either in terms of performance benchmarking or promotional/publicity purposes.

Defining a shell / shell and core project type

For the purpose of defining the scope of assessment and BREEAM certification labelling, a new construction project that is not fully fitted out can be categorised in to one of the following types:

- Option 1: Shell Only Assessment and certification
- Option 2: Shell and Core Assessment and certification

### **Shell Only Assessment:**

This assessment and certification option is available where the developer's scope of works covers new build works to the fabric, sub and superstructure of the building only, including:

- External walls, windows, doors (external), roof, core internal walls, structural floors
- Hard and soft landscaping areas (where present and within scope of works)

### **Shell and Core Assessment:**

This option is available where the developer's scope of works covers shell works, as described in above, plus core building services. Core building services relates to the installation of any central or communal transportation systems, water systems, fit-out of common areas, central mechanical and electrical systems including HVAC, but without local fitting of systems within tenant areas. The systems will typically be centralised with capped off distribution to each tenanted area (for future connection as part of a tenant's fit-out works). This does not include the full scope of a typical Category A fit-out, due to the fact that the specification of items such as ceiling finishes, raised floors and the zoning of local services above the lettable floor area and other Category A works are not typically finalised until the space undergoes final fit-out according to the tenant's specification and are liable to change. These items are, therefore, excluded from a shell and core assessment.



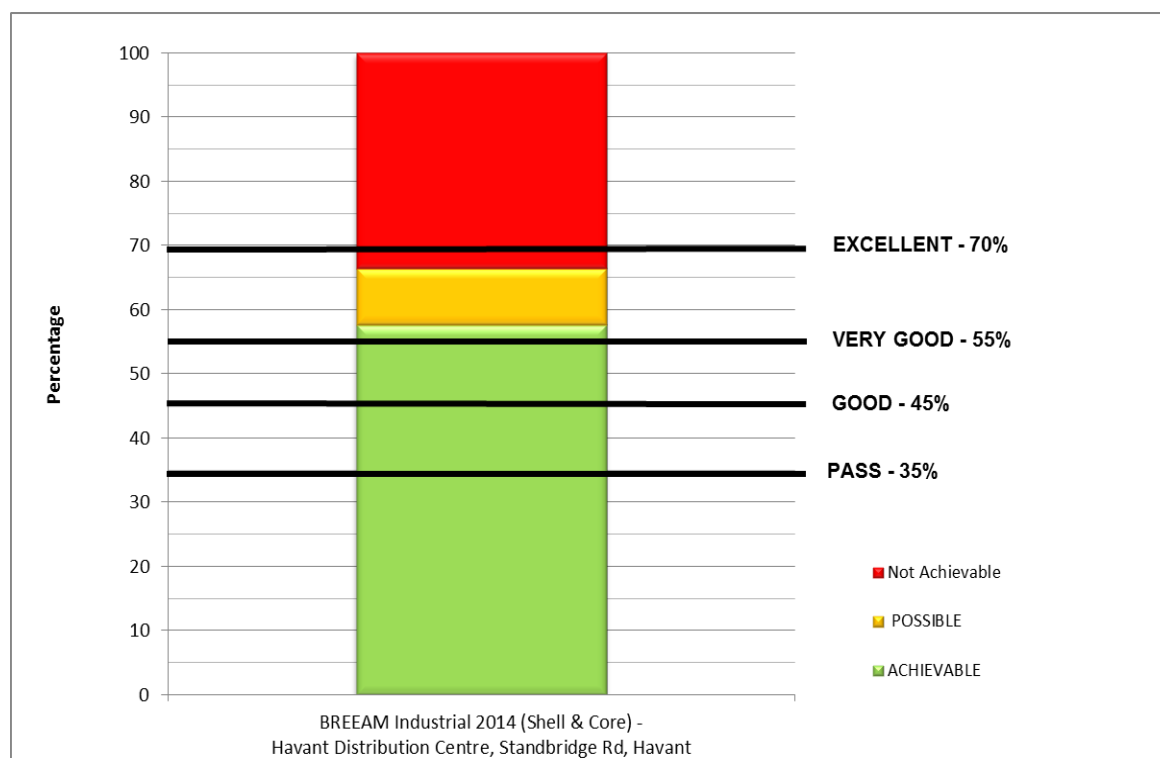
## Score Results

This report details the **BREEAM ACHIEVABLE** scheme for the development and how this equates to the attainment of specific BREEAM Industrial 2014 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 improve the building's performance or increase the current specifications / cost.

The **BREEAM ACHIEVABLE** development scheme for the development could currently attain a score of **57.70%**, which translates into a **VERY GOOD** BREEAM Industrial 2014 rating, without a safe % buffer margin over the VERY GOOD threshold (55%) of at least 5%.

This report further details the **BREEAM POSSIBLE** scheme for the development and how this equates to the attainment of specific BREEAM Industrial 2014 credits. The **BREEAM POSSIBLE** scheme is defined as what the project could achieve under the revised design proposals taking into account significant modifications to the design/specification. The credits detailed within this report as **POSSIBLE** could be included within revised design proposals with the need to significantly improve the building's performance or increase the current specifications / cost.

The **BREEAM POSSIBLE** development scheme for the development could currently attain a score of **66.44%**, which translates into a **VERY GOOD** BREEAM Industrial 2014 rating, with a safe % buffer margin over the VERY GOOD threshold (55%) of at least 5%.





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

**\*Mandatory credits\*** are to be achieved to reach either **PASS, GOOD, VERY GOOD OR EXCELLENT** BREEAM ratings, these credits with mandatory requirements are detailed in the far left column in **Bold BLUE**

| Credit Summary – BREEAM Industrial 2014 |                        | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                        | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Management<br>Credit Value<br>0.61%     | Project Brief & Design | Man01      | 4                            | 2                  | 3                | Full Design Team / Developer / BREEAM AP | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (POSSIBLE)</u></b></p> <ol style="list-style-type: none"> <li><b><u>Prior to the end of RIBA Stage 2</u></b>, the project delivery stakeholders (full design team, client etc) will meet to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery</li> <li>In defining the roles and responsibilities for each key phase of the project, the following must be considered: <ol style="list-style-type: none"> <li>End user requirements</li> <li>Aims of the design and design strategy</li> <li>Particular installation and construction requirements/limitations</li> <li>Occupiers budget and technical expertise in maintaining any proposed systems</li> <li>Maintainability and adaptability of the proposals</li> <li>Requirements for the production of project and end user documentation</li> <li>Requirements for commissioning, training and aftercare support</li> </ol> </li> <li>The project team is to demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.</li> </ol> <p><b><u>Second Credit: (NOT SOUGHT)</u></b></p> <ol style="list-style-type: none"> <li><b><u>Prior to the end of RIBA Stage 2</u></b>, all relevant third party stakeholders will <b><u>NOT</u></b> be consulted by the design team and this covers the minimum consultation content in line with the credit requirements</li> <li>The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design.</li> <li><b><u>Prior to end of RIBA Stage 4</u></b>, consultation feedback will <b><u>NOT</u></b> be given to, and received by, all relevant parties.</li> </ol> |



| Credit Summary – BREEAM Industrial 2014 |                                         | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                         | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Management<br>Credit Value<br>0.61%     | Project Brief & Design<br><br>CONTINUED | Man01      | 4                            | CONTINUED          | CONTINUED        | Full Design Team / Developer<br>BREEAM AP | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Third Credit: (ACHIEVABLE)</u></b></p> <p>1. A BREEAM AP is appointed <b><u>no later than RIBA Stage 1</u></b> to facilitate the setting and achievement of the desired BREEAM rating for the project via undertaken a Pre-Assessment <b><u>no later than RIBA Stage 2</u></b></p> <p>2. The BREEAM rating for the project is formally agreed between the client and the design team <b><u>no later than RIBA Stage 2</u></b></p> <p><b><u>Fourth Credit: (ACHIEVABLE)</u></b></p> <p>The BREEAM AP is appointed to monitor progress against the targeted rating throughout <b><u>RIBA Stages 2 – 4</u></b> by:</p> <p>a. Producing formal progress reports for the client/design team</p> <p>b. Attend key project/design team meetings throughout <b><u>RIBA Stages 2 – 4</u></b></p> |



| Credit Summary – BREEAM Industrial 2014 |                                              | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Management<br>Credit Value<br>0.61%     | Life Cycle Costing and Service Life Planning | Man02      | 4                            | 0                  | 0                | N/A               | <p>Evidence will <b>NOT</b> be provided demonstrating that:</p> <p><b><u>First – Second Credits: (NOT SOUGHT)</u></b></p> <p>1. An elemental life cycle cost (LCC) analysis has been carried out, <b>at RIBA Stage 2</b> together with any design option appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008 (supplement of BS ISO 15686-5:2008).</p> <p>2. The LCC analysis shows:</p> <p>a. An outline LCC plan for the project based on the building's basic structure and envelope, appraising a range of options and based on multiple cash flow scenarios e.g. 20, 30, 50+ years;</p> <p>b. The fabric and servicing strategy for the project outlining services component and fit-out options (if applicable) over a 15-year period, in the form of an 'elemental LCC Plan'.</p> <p><b><u>Third Credit: (NOT SOUGHT)</u></b></p> <p>1. A component level LCC plan has been developed by <b>the end of RIBA Stage 4</b> in line with PD 156865:2008 and includes the following component types (where present):</p> <p>a. Envelope, e.g. cladding, windows, and/or roofing</p> <p>b. Services, e.g. heat source cooling source, and/or controls</p> <p>c. Finishes, e.g. walls, floors and/or ceilings</p> <p>d. External spaces, e.g. alternative hard landscaping, boundary protection.</p> <p>2. Using appropriate examples provided by the design team, how the component level LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.</p> <p><b><u>Fourth Credit: (NOT SOUGHT)</u></b></p> <p>The capital cost for the building in pounds per square metre (£/m<sup>2</sup>), is reported and included within the main BREEAM Assessment Reporting tool.</p> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                                                   | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                     | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Management<br>Credit Value<br>0.61%     | Responsible Construction Practices<br>[MANDATORY Pre-Requisite for Pass and 3 <sup>rd</sup> CREDIT for EXCELLENT] | Man03      | 6                            | 6                  | 6                | Developer / Project Manager / QS or Cost Consultant / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Pre-requisite: (ACHIEVABLE)</u></b><br/>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><b><u>First Credit: (ACHIEVABLE)</u></b><br/>1. The Main Contractor operates an environmental management system (EMS), the EMS must be third party certified to ISO 14001<br/>2. The Main Contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6</p> <p><b><u>Second Credit: (ACHIEVABLE)</u></b><br/>The BREEAM AP is appointed to monitor progress against the targeted rating throughout <b>RIBA Stages 5 – 6</b> by:<br/>a. Carrying out site visits regularly to carry out spot checks, with the relevant authority to do so and require action to address shortcomings in compliance<br/>a. Producing formal progress reports for the client/design team<br/>c. Attend key site progress meetings</p> <p><b><u>Third - Fourth Credits: (ACHIEVABLE)</u></b><br/>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 <b>35 out of 50</b> or more, with a score of at least <b>7</b> in of the 5 sections</p> <p><b><u>Fifth Credit: (ACHIEVABLE)</u></b><br/>Main Contractor is to implement the following construction site management principles (in line with the specific BREEAM requirements);<br/>1. Monitor, record &amp; report Energy consumption (kWh) from the use of construction plant, equipment &amp; site accommodation necessary for project completion.<br/>2. Monitor, record &amp; report Water consumption (m3) from the use of construction plant, equipment &amp; site accommodation necessary for project completion.</p> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                                                                    | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                     | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Management<br>Credit Value<br>0.61%     | Responsible Construction Practices<br>[MANDATORY Pre-Requisite for Pass and 3 <sup>rd</sup> CREDIT for EXCELLENT]<br><br>CONTINUED | Man03      | 6                            | CONTINUED          | CONTINUED        | Developer / Project Manager / QS or Cost Consultant / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Sixth Credit: (ACHIEVABLE)</u></b><br/>           Main Contractor is to implement the following construction site management principles (in line with the specific BREEAM requirements);</p> <p>1. Monitor, record &amp; report data on transport resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum this must cover:</p> <p>a. Transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution. The scope of this monitoring must cover the following as a minimum:</p> <p>i. Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01), including insulation materials,</p> <p>ii. Ground works and landscaping materials</p> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                    | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                           | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Management<br>Credit Value<br>0.61%     | Commissioning & Handover<br>[MANDATORY<br>4 <sup>th</sup> CREDIT for<br>EXCELLENT] | Man04      | 4                            | 4                  | 4                | M&E /<br>Project Manager<br>/ QS or Cost<br>Consultant /<br>Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. A schedule of commissioning and testing is produced identifying a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric.</li> <li>2. All commissioning is carried out in accordance with current Building Regulations, BSRIA/CIBSE guidelines. BMS is commissioned in line with credit requirements.</li> <li>2. An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client.</li> <li>3. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works.</li> </ol> <p><b><u>Second Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. For complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either the client or the principal contractor) with responsibility for: <ol style="list-style-type: none"> <li>a. Undertaking design reviews and giving advice on suitability for ease of commissioning.</li> <li>b. Providing commissioning management input to construction programming and during installation stages.</li> <li>c. Management of commissioning, performance testing and handover/post-handover stages.</li> </ol> </li> </ol> <p><b><u>Third Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. The integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of post construction testing and inspection. Dependent on building type or construction, this can be demonstrated through the completion of a thermographic survey <b>as well as</b> an airtightness test and inspection.</li> <li>2. Any defects identified in the thermographic survey or the airtightness testing reports are rectified prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building/element</li> </ol> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                               | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                           | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Management<br>Credit Value<br>0.61%     | Commissioning & Handover<br>[MANDATORY 4 <sup>th</sup> CREDIT for EXCELLENT]<br><br>CONTINUED | Man04      | 4                            | CONTINUED          | CONTINUED        | M&E /<br>Project Manager<br>/ QS or Cost<br>Consultant /<br>Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Fourth Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. A Building User Guide is to be developed by the main contractor to the required BREEAM standard.</li> <li>2. A training schedule is to be prepared by the main contractor for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum: <ol style="list-style-type: none"> <li>a. The building's design intent</li> <li>b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation</li> <li>c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces</li> <li>d. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance strategy, operations and maintenance (O&amp;M) manual, commissioning records, log book etc.</li> <li>e. Maintenance requirements, including any maintenance contracts and regimes in place</li> </ol> </li> </ol> |
| Section Credit Total                    |                                                                                               |            | 18                           | 12                 | 13               |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Weighted Section Total                  |                                                                                               |            | 11.00%                       | 7.33%              | 7.94%            |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| Credit Summary – BREEAM Industrial 2014     |                | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| Health & Wellbeing<br>Credit Value<br>0.95% |                |            |                              |                    |                  |                   | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b></p> <p>1. The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures including:</p> <ul style="list-style-type: none"> <li>- Building integrated measures (e.g. low eaves)</li> <li>- Occupant controlled devices such as blinds (where transmittance value is &lt;0.1 (10%))</li> <li>- Bioclimatic design</li> <li>- External shading or brise soleil</li> </ul> <p>2. The glare control strategy avoids increasing lighting energy consumption, by ensuring that:</p> <p>a. The glare control system is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the facade.</p> <p><b>AND</b></p> <p>b. The use or location of shading does not conflict with the operation of lighting control systems.</p> <p><b><u>Second Credit: (NOT SOUGHT)</u></b></p> <p>Daylight calculations will <b>NOT</b> be undertaken to demonstrate that at least 80% of the total floor area of all applicable rooms achieve an <b>Average Daylight Factor of 2%</b></p> <p><b>AND EITHER (a) OR [ (b) AND (c) ]</b></p> <p>(a) A uniformity ratio of at least 0.3. Spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7</p> <p>(b) At least 80% of the room has a view of sky from desk or table top height</p> <p>(c) The room depth criterion <math>d/w + d/HW &lt; 2/(1-RB)</math> is satisfied.</p> <p>Where:<br/>d = room depth,<br/>w = room width,<br/>HW = window head height from floor level,<br/>RB = average reflectance of surfaces in the rear half of the room</p> |
|                                             | Visual Comfort | Hea01      | 4                            | 2                  | 2                | Architect / M&E   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



| Credit Summary – BREEAM Industrial 2014     |                                    | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Health & Wellbeing<br>Credit Value<br>0.95% |                                    |            |                              |                    |                  |                   | Evidence will be provided demonstrating that:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                             | Visual Comfort<br><b>CONTINUED</b> | Hea01      | 4                            | <b>CONTINUED</b>   | <b>CONTINUED</b> | Architect / M&E   | <p><b><u>Third Credit: (NOT SOUGHT)</u></b></p> <p>1. 95% of the floor area in relevant building areas is <b>NOT</b> to be within 7m of a wall which has a window or permanent opening that provides an adequate view out.</p> <p>2. The window/opening must be <math>\geq 20\%</math> of the surrounding wall area. Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in table 1.0 of BS 8206</p> <p><b><u>Fourth Credit: (ACHIEVABLE)</u></b></p> <p>1. There will be the specification of high frequency ballasts on all fluorescent &amp; compact fluorescent luminaries for the development.</p> <p>2. There will be the specification of illuminance levels for lighting in all external areas within the construction zone are to be in accordance with:</p> <ul style="list-style-type: none"> <li>- SLL Code for Lighting 2012 for all internal relevant building areas</li> <li>- CIBSE LG7 sections 3.3, 4.6, 4.7, 4.8 and 4.9 where computer screens are regularly used</li> <li>- BS EN 5489-1:2013 'Lighting of roads and public amenity areas for all external areas' and where relevant BS EN 12464-2:2012 'Light &amp; Lighting – Lighting in Workplaces – Part 2: Outdoor workplaces'</li> </ul> <p>3. Furthermore, the lighting installation is to be zoned, in all appropriate occupied areas, to allow separate control in line with the BREEAM requirements</p> |



| Credit Summary – BREEAM Industrial 2014     |                    | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Health & Wellbeing<br>Credit Value<br>0.95% | Indoor Air Quality | Hea02      | 2                            | 1                  | 1                | M&E / Architect   | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b><br/>The building will be designed to minimise the concentration and recirculation of pollutants in the building as follows:<br/>1. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation.<br/>2. Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows:<br/>a. In air conditioned and mixed mode buildings/spaces:<br/>i. The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution.<br/>OR<br/>ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with BS EN 13779:2007 Annex A2.<br/>4. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3.</p> <p><b><u>Second Credit: (NOT SOUGHT)</u></b><br/>A natural ventilation strategy will <b>NOT</b> be incorporated into the scheme design in accordance with the credit requirements:</p> <p>The Office areas of the building only are designed to be capable of providing fresh air entirely via a natural ventilation strategy. The following are methods deemed to satisfy this criterion dependent upon the complexity of the proposed system:<br/>i. Room depths are designed in accordance with CIBSE AM10 (section 2.4) to ensure effectiveness of any natural ventilation system. The openable window area in each occupied space is equivalent to 5% of the gross internal floor area of that room/floor plate.<br/>OR<br/>ii. The design demonstrates that the natural ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates</p> <p>The natural ventilation strategy is capable of providing at least two levels of user-control on the supply of fresh air to the occupied space</p> |



| Credit Summary – BREEAM Industrial 2014  |                      | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                            | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Health & Wellbeing<br>Credit Value 0.95% | Thermal Comfort      | Hea04      | 2                            | 1                  | 2                | M&E                                                          | <p>Evidence will be provided demonstrating that for the <b>Office area only</b>:</p> <p><b>First Credit: (ACHIEVABLE)</b></p> <p>1. A thermal comfort assessment utilising software that is CIBSE AM11 compliant will be undertaken demonstrating that the services strategy can deliver thermal comfort levels in accordance CIBSE Guide A – Table 1.5</p> <p>2. For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the modelling are reported.</p> <p><b>Second Credit: (POSSIBLE)</b></p> <p>1. The first credit is achieved and the thermal modelling demonstrates that the services strategy can deliver thermal comfort levels in accordance CIBSE Guide A – Table 1.5 are achieved for a <b>projected climate change environment</b>.</p> <p>2. Where thermal comfort criteria are not met for the projected climate change environment, the project team demonstrate how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements in point 1.</p> |
|                                          | Acoustic Performance | Hea05      | 1                            | 1                  | 1                | Suitably Qualified Acoustician / Architect / Main Contractor | <p>Evidence will be provided demonstrating that a programme of pre-completion acoustic testing will be undertaken by a compliant test body to demonstrate that Internal ambient noise levels comply with the design ranges given in BS 8233:2014 for all relevant room functions</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Credit Summary – BREEAM Industrial 2014     |                   | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Health & Wellbeing<br>Credit Value<br>0.95% | Safety & Security | Hea06      | 2                            | 1                  | 1                | Architect         | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (NOT SOUGHT)</u></b></p> <p>1. The site layout (cycle paths/pedestrian access ways/vehicle areas) will <b><u>NOT</u></b> be designed in accordance with the BREEAM requirements</p> <p><b><u>Second Credit: (ACHIEVABLE)</u></b></p> <p>1. Prior to the <b><u>end of RIBA Stage 2</u></b>, an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) conducts an evidence-based Security Needs Assessment (SNA) and developed a set of recommendations or solutions aimed to ensure that the design of the development is planned, designed and specified to address the issue identified in the Security Needs Assessment.</p> <p>2. The recommendations or solutions are implemented into the final scheme construction.</p> |
| Section Credit Total                        |                   |            | 11                           | 6                  | 7                |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Weighted Section Total                      |                   |            | 10.50%                       | 5.73%              | 6.68%            |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Credit Summary – BREEAM Industrial 2014 |                                                                                          | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                 | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Energy<br>Credit Value<br>0.71%         | Reduction of Energy Use & Carbon Emissions<br><b>[MANDATORY 5 Credits for EXCELLENT]</b> | Ene01      | 12                           | 4                  | 6                | M&E / Architect / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Four Credits: (ACHIEVABLE)</u></b><br/>           Subject to the building's fabric and M&amp;E services design, a calculated Energy Performance Ratio for New Constructions (EPR<sub>NC</sub>) [calculated from the building's modelled operational energy performance, primary energy consumption and CO2 emissions] of 0.30 will be achieved; equal to 4 credits.</p> <p><b><u>Six Credits: (POSSIBLE)</u></b><br/>           Subject to the building's fabric and M&amp;E services design, a calculated Energy Performance Ratio for New Constructions (EPR<sub>NC</sub>) [calculated from the building's modelled operational energy performance, primary energy consumption and CO2 emissions] of 0.45 will be achieved; equal to 6 credits.</p> |



| Credit Summary – BREEAM Industrial 2014 |                                                                       | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party     | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Energy<br>Credit Value<br>0.71%         | Energy Monitoring<br>[MANDATORY 1 <sup>st</sup> CREDIT for VERY GOOD] | Ene02      | 2                            | 2                  | 2                | M&E / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b></p> <p>1. Energy metering systems are installed that enable at least <b>90%</b> of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems (where present):</p> <ol style="list-style-type: none"> <li>Space heating</li> <li>Domestic hot water heating</li> <li>Humidification</li> <li>Cooling</li> <li>Ventilation i.e. fans (major)</li> <li>Pumps</li> <li>Lighting</li> <li>Small power</li> <li>Renewable or low carbon systems</li> <li>Controls</li> <li>Other major consuming items i.e. lifts etc</li> </ol> <p>2. The energy consuming systems in buildings with a total useful floor area greater than 1000m<sup>2</sup> are metered using an appropriate energy monitoring and management system.</p> <p>3. The end consuming uses are identifiable to the building users, for example through labelling or data outputs.</p> <p><b><u>Second Credit: (ACHIEVABLE)</u></b></p> <p>An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.</p> |
|                                         | External Lighting                                                     | Ene03      | 1                            | 1                  | 1                | M&E / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> <li>The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt.</li> <li>All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| Credit Summary – BREEAM Industrial 2014 |                   | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Energy<br>Credit Value<br>0.71%         | Low Carbon Design | Ene04      | 3                            | 0                  | 0                | N/A               | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (NOT SOUGHT)</u></b></p> <ol style="list-style-type: none"> <li>1. The first credit within issue Hea 04 - Thermal comfort has been achieved to demonstrate the building design can deliver appropriate thermal comfort levels in occupied spaces.</li> <li>2. The project team is <b>NOT</b> to carry out an analysis of the proposed building design/development to influence decisions made during at <b>RIBA Stage 2</b> and identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services.</li> <li>3. The building is <b>NOT</b> to use passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result (<u>at least 5% of overall building energy demand and/or CO2 emissions</u>)</li> </ol> <p><b><u>Second Credit: (NOT SOUGHT)</u></b></p> <ol style="list-style-type: none"> <li>1. The first credit is achieved</li> <li>2. The passive design analysis is <b>NOT</b> to be carried out including an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions.</li> <li>3. The building is <b>NOT</b> to use ANY of the free cooling strategies listed in the BREEAM technical manual to reduce the cooling energy demand, i.e. it does not use active cooling.</li> </ol> <p><b><u>Third Credit: (NOT SOUGHT)</u></b></p> <ol style="list-style-type: none"> <li>1. A feasibility study is <b>NOT</b> to be carried out by the completion of <b>RIBA Stage 2</b> by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy source(s) for the building/development.</li> <li>2. A local LZC technology/technologies will <b>NOT</b> be specified for the building/development in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO2) emissions (<u>at least 5% of overall building energy demand and/or CO2 emissions</u>)</li> </ol> |



| Credit Summary – BREEAM Industrial 2014 |                                         | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Energy Credit Value<br>0.71%            | Energy Efficient Transportation Systems | Ene06      | 3                            | 3                  | 3                | M&E               | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts, escalators and/or moving walks.</li> <li>2. The energy consumption has been calculated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2 : Energy calculation and classification for lifts (elevators), for one of the following: <ol style="list-style-type: none"> <li>i. At least two types of system (for each transportation type required); OR</li> <li>ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR</li> <li>iii. A system strategy which is 'fit for purpose'.</li> </ol> </li> <li>3. The use of regenerative drives should be considered.</li> <li>4. The transportation system with the lowest energy consumption is specified.</li> </ol> <p><b><u>Second - Third Credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. For each lift, the following three energy efficient features are specified: <ol style="list-style-type: none"> <li>a. The lifts operate in a standby condition during off-peak periods. For example the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time.</li> <li>b. The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of &gt; 55 lamp lumens/circuit Watt.</li> <li>c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor.</li> </ol> </li> <li>2. Where the use of regenerative drives is demonstrated to save energy, they are specified.</li> </ol> |
| Section Credit Total                    |                                         |            | 21                           | 10                 | 12               |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Weighted Section Total                  |                                         |            | 15.00%                       | 7.14%              | 8.57%            |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



| Credit Summary – BREEAM Industrial 2014 |                                | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Transport<br>Credit Value<br>1.11%      | Public Transport Accessibility | Tra01      | 3                            | 0                  | 0                | N/A               | <p><b><u>First - Third Credits: (NOT SOUGHT)</u></b></p> <p>Evidence will <b>NOT</b> be provided demonstrating that the distance from the building entrance to multiple bus stop(s) AND the average no. of services stopping per hour at each public transport node will achieve an Accessibility Index <math>\geq 2</math>.</p> <p>The Accessibility Index is a BREEAM specific method of calculation which demonstrates the level of public transport available for the site.</p>                                                                                                                                                                                                                                                                                                                              |
|                                         | Proximity to Amenities         | Tra02      | 1                            | 0                  | 0                | N/A               | <p>Evidence will <b>NOT</b> be provided demonstrating that the building is located within <b>500m</b> (along safe pedestrian routes) of the following amenities:</p> <p><u>Core amenities:</u><br/>           At least <b>two</b> of the following:<br/>           - Appropriate food outlet<br/>           - Cash machine<br/>           - Access to a recreation/leisure facility for fitness/sports</p> <p><u>Amenities relevant to building type:</u><br/>           At least <b>one</b> of the following:<br/>           - Access to an outdoor open space (i.e. park)<br/>           - Publicly available postal facility<br/>           - Community facility (e.g. public house)<br/>           - Over the counter services associated with a pharmacy<br/>           - Child care facility or school</p> |



| Credit Summary – BREEAM Industrial 2014 |                              | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                         | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Transport<br>Credit Value<br>1.11%      | Cyclist Facilities           | Tra03      | 2                            | 1                  | 2                | Architect                                 | <p>Evidence will be provided demonstrating that:</p> <p><b>First Credit: (ACHIEVABLE)</b><br/>           BREEAM compliant cycle storage spaces will be provided meeting the minimum levels set out in the BREEAM guidance.</p> <p><b>Second Credit: (POSSIBLE)</b><br/>           At least <b>two</b> of the following types of compliant cyclist facilities will be provided for all staff use:</p> <ul style="list-style-type: none"> <li>- Showers (1 shower per 10 cycle spaces and <b>NOT</b> located in toilet/disabled toilet cubicles)</li> <li>- Changing facilities (appropriately sized)</li> <li>- Lockers (lockers equal to number of cycle spaces)</li> <li>- Drying space</li> </ul> |
|                                         | Maximum Car Parking Capacity | Tra04      | 2                            | 0                  | 0                | N/A                                       | <p>Evidence will be <b>NOT</b> provided demonstrating that <b>NO</b> more than 1 car parking space is provided for 3 building users (<b>staff who will work within the building only</b>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                         | Travel Plan                  | Tra05      | 1                            | 1                  | 1                | Developer / Travel Consultant / Architect | <p>Evidence will be provided demonstrating that a Travel Consultant is to be appointed to develop an interim Travel Plan to the BREEAM requirements and the development is to implement the recommendations of the Travel Plan</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Section Credit Total                    |                              |            | 9                            | 2                  | 3                |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Weighted Section Total                  |                              |            | 10.00%                       | 2.22%              | 3.33%            |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Credit Summary – BREEAM Industrial 2014 |                                                                       | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party     | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| Water<br>Credit Value<br>0.83%          | Water consumption<br>[MANDATORY One Credit for GOOD rating and above] | Wat01      | 5                            | 3                  | 3                | Architect / M&E       | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First – Third Credits: (ACHIEVABLE)</u></b><br/>That the efficiency of the building's domestic water consuming items and the off-set from any rainwater/grey water systems will result in a calculated water consumption (litres/person/day) of at least <b>40%</b> improvement over the notional baseline performance.</p> <p><b><u>Fourth - Fifth Credits: (NOT SOUGHT)</u></b></p>                                                                                                                                                                                                                                                                                                                                            |
|                                         | Water Monitoring<br>[MANDATORY for GOOD rating and above]             | Wat01      | 1                            | 1                  | 1                | M&E / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> <li>1. The specification of a water meter on the mains water supply to the building; this includes instances where water is supplied via a borehole or other private source.</li> <li>2. Water-consuming plant or building areas, consuming <b>10%</b> or more of the building's total water demand, are either fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area.</li> <li>3. Each meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption</li> </ol> |
|                                         | Water Leak Detection                                                  | Wat03      | 2                            | 2                  | 2                | M&E / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First Credit: (ACHIEVABLE)</u></b><br/>A compliant leak detection system which is capable of detecting a major leak water leak on the mains water supply within the building and utilities water meter will be installed.</p> <p><b><u>Second Credit: (ACHIEVABLE)</u></b><br/>Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).</p>                                                                                                                                                                                                                                                    |



| Credit Summary – BREEAM Industrial 2014 |                           | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                              | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Water<br>Credit Value<br>0.83%          | Water Efficient Equipment | Wat04      | 1                            | 1                  | 1                | M&E /<br>Landscape Architect /<br>Suitably Qualified Ecologist | <p>Evidence will be provided demonstrating that:</p> <ol style="list-style-type: none"> <li>1. The design team has identified all unregulated water demands that could be realistically mitigated or reduced.</li> <li>2. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building.</li> </ol> <p>For example, <b>one</b> of the following could be used for compliance:</p> <ul style="list-style-type: none"> <li>- Drip-fed subsurface irrigation incorporating soil moisture sensors. The irrigation control should be zoned to permit variable irrigation to different planting assemblages.</li> <li>- Reclaimed/recovered water from a rainwater collection or waste water recovery system, with appropriate storage i.e. greywater collection from building functions or processes that use potable water, e.g. vehicle wash, training water in fire stations, sanitary facilities, irrigation etc. This should take into account the Government Buying Standards<sup>1</sup> where appropriate to the building type.</li> <li>- External landscaping and planting that relies solely on precipitation, during all seasons of the year.</li> <li>- All planting specified is restricted to contextually appropriate species that thrive without irrigation and will continue to do so in those conditions likely as a result of climate change, i.e. typically warmer and drier conditions.</li> </ul> |
| Section Credit Total                    |                           |            | 9                            | 7                  | 7                |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Weighted Section Total                  |                           |            | 7.50%                        | 5.83%              | 5.83%            |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Credit Summary – BREEAM Industrial 2014 |                                        | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party               | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Materials<br>Credit Value<br>1.45%      | Life Cycle Impacts                     | Mat01      | 2                            | 2                  | 2                | Architect                       | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First – Second Credit: (ACHIEVABLE)</u></b><br/>That the <i>Green Guide to Specification</i> ratings of the external walls and roof will result in the attainment of two credits.</p> <p><b>*In order to achieve two credits consideration should be made to specify as many all building elements as possible with A+ or A green guide ratings*</b></p>                                                                                                                                                                                                |
|                                         | Hard Landscaping & Boundary Protection | Mat02      | 1                            | 0                  | 1                | Architect / Structural Engineer | <p><b><u>POSSIBLE Credit:</u></b></p> <p>Evidence will be provided demonstrating that <b>EITHER:</b></p> <p>1. At least 80% of all external hard landscaping and 80% of all boundary protection (by area) in the construction zone achieve an A or A+ rating, as defined in the <i>Green Guide to Specification</i></p> <p><b>OR</b></p> <p>2. If one of the elements is not present, e.g. boundary protection, then the credit must be assessed on the basis of the specification of the single element, e.g. hard landscaping. Where the development has neither element, the credit can be awarded by default.</p> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                      | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                                            | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Materials<br>Credit Value<br>1.45%      | Responsible Sourcing of Materials<br>[MANDATORY Pre-requisite for any Certification] | Mat03      | 4                            | 2                  | 2                | Architect / Structural Engineer / Project Manager / QS or Cost Consultant<br>Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>Mandatory Pre-requisite</u></b><br/>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><b><u>First Credit: (ACHIEVABLE)</u></b><br/>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"> <li>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.</li> <li>2. Aims, objectives and targets to guide sustainable procurement activities.</li> <li>3. The strategic assessment of sustainably sourced materials available locally and nationally. There should be a policy to procure materials locally where possible.</li> <li>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.</li> </ol> |



| Credit Summary – BREEAM Industrial 2014 |                                                                                                              | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                                            | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Materials</b><br>Credit Value 1.45%  | Responsible Sourcing of Materials<br><b>[MANDATORY Pre-requisite for any Certification]</b><br><br>CONTINUED | Mat03      | 4                            | CONTINUED          | CONTINUED        | Architect / Structural Engineer / Project Manager / QS or Cost Consultant<br>Main Contractor | Evidence will be provided demonstrating that:<br><br><u><b>Second Credit: (ACHIEVABLE)</b></u><br>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 one credit:<br><br>1. Ceiling (including ceiling finishes)<br>2. Door/window<br>3. Floor (including floor finishes)<br>4. Insulation (fabric & services)<br>5. Internal partition/internal walls (including finishes)<br>6. Roof (including roof finishes)<br>7. Structure, primary and secondary<br>8. External wall (e.g. cladding, lining, render, including finishes)<br>9. Building services<br>10. Hard landscaping<br><br>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 etc)<br><br><u><b>Third – Fourth Credits: (NOT SOUGHT)</b></u> |
|                                         | Insulation                                                                                                   | Mat04      | 1                            | 1                  | 1                | Architect / M&E / Project Manager / Cost Consultant                                          | Evidence will be provided demonstrating that thermal insulation products used in the external walls, ground floor, roof and building services are to be specified with a low embodied impact relative to their thermal properties in order to an Insulation Index <b>greater than 2.5</b> as defined by the BREEAM calculation methodology.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Credit Summary – BREEAM Industrial 2014 |                                         | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party               | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Materials<br>Credit Value<br>0.96%      | Designing for Durability and Resilience | Mat05      | 1                            | 1                  | 1                | Architect / Structural Engineer | <p>Evidence will be provided demonstrating that:</p> <p><u>Protecting vulnerable parts of the building from damage</u><br/>           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. This must include, but is not necessarily limited to:</p> <ol style="list-style-type: none"> <li>Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.).</li> <li>Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.</li> <li>Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas</li> </ol> <p><u>Protecting exposed parts of the building from material degradation</u><br/>           The <u>relevant building elements</u> (listed below) incorporate appropriate design and specification measures to limit <u>material degradation</u> (listed below) due to <u>environmental factors</u> (listed below)</p> <p><b>Relevant building elements:</b></p> <ol style="list-style-type: none"> <li>Foundation/substructure/lowest floor/retaining walls</li> <li>External walls</li> <li>Roof/balconies</li> <li>Glazing: windows, skylight</li> <li>External doors</li> <li>Railings/balusters (where exposed to external environment)</li> <li>Cladding (where exposed to external environment)</li> <li>Staircase/ramps (where exposed to external environment)</li> <li>Hard landscaping</li> </ol> |



| Credit Summary – BREEAM Industrial 2014 |                                                                 | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party               | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Materials<br>Credit Value<br>1.45%      | Designing for Durability and Resilience<br><br><b>CONTINUED</b> | Mat05      | 1                            | <b>CONTINUED</b>   | <b>CONTINUED</b> | Architect / Structural Engineer | <b>CONTINUED</b><br><br><b>Environmental factors:</b><br>1. Environmental agents, including:<br>a. Solar radiation<br>b. Temperature variation<br>c. Water/moisture<br>d. Wind<br>e. Precipitation, e.g. rain and snow<br>f. Extreme weather conditions: high wind speeds, flooding, driving rain, snow<br>2. Biological agents, including:<br>a. Vegetation<br>b. Pests, insects<br>c. Pollutants, including:<br>d. Air contaminants<br>e. Ground contaminants<br><br><b>Material degradation effects (includes, but not necessarily limited to the following):</b><br>1. Corrosion<br>2. Dimensional change, e.g. swelling or shrinkage<br>3. Fading/discolouration<br>4. Rotting<br>5. Leaching<br>6. Blistering<br>7. Melting<br>8. Salt crystallisation<br>9. Abrasion |



| Credit Summary – BREEAM Industrial 2014 |                      | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Materials<br>Credit Value<br>1.45%      | Materials Efficiency | Mat06      | 1                            | 0                  | 0                | N/A               | <p>Evidence will <b>NOT</b> be provided demonstrating that:</p> <ol style="list-style-type: none"> <li>1. Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life</li> <li>2. The above is carried out by the design/construction team in consultation with the relevant parties (listed below) at <b>each of the following RIBA stages</b>: <ol style="list-style-type: none"> <li>a. Preparation and Brief – Stage 1</li> <li>b. Concept Design – Stage 2</li> <li>c. Developed Design – Stage 3</li> <li>d. Technical Design – Stage 4</li> <li>e. Construction – Stage 5</li> </ol> </li> </ol> <p>All parties (as relevant to the project stage) involved in the design, specification and/or construction of the building should be consulted. This includes but is not limited to the following:</p> <ul style="list-style-type: none"> <li>- Client/developer</li> <li>- Cost consultant</li> <li>- Architect</li> <li>- Structural/civil engineers</li> <li>- Building services engineers - mechanical, electrical</li> <li>- Principal contractor</li> <li>- Demolition/strip-out contractor</li> <li>- Environmental consultant</li> <li>- Project management consultant</li> <li>- Materials/component manufacturers/suppliers.</li> </ul> <p>The evidence required to demonstrate compliance will vary according to the various RIBA stages. A few examples are provided below:</p> <ol style="list-style-type: none"> <li>a. reports (at Preparation and Brief stage) outlining the activity relating to material efficiency ( ideas discussed, analysis and decisions taken)</li> <li>b. drawings or building integrated model (BIM), calculations showing reduction of material use through design (Concept Design/Developed Design stages)</li> <li>c. meeting notes, construction program, responsibilities schedule (indicating parties consulted).</li> </ol> |
| Section Credit Total                    |                      |            | 10                           | 6                  | 7                |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Weighted Section Total                  |                      |            | 14.50%                       | 8.70%              | 10.15%           |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



| Credit Summary – BREEAM Industrial 2014 |                               | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                        | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Waste<br>Credit Value<br>1.19%          | Construction Waste Management | Wst01      | 4                            | 4                  | 4                | Project Manager / QS / Cost Consultant / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First - Third Credit: (ACHIEVABLE)</u></b></p> <p>1. The main contractor is to produce a BREEAM compliant Resource Management Plan (RMP) covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture/fabrication (including demolition and excavation waste) generated by the building's design and construction</p> <p>2. Where non-hazardous construction related to on-site construction and dedicated off-site manufacture/fabrication (excluding demolition and excavation waste) meets or is lower than <b>&lt;3.4m<sup>3</sup> or &lt;3.2 tonnes per 100m<sup>2</sup> of gross internal floor area</b> and is proven at project completion</p> <p>3. Where existing buildings on the site will be demolished a pre-demolition audit of any existing buildings, structures or hard surfaces is 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 RMP and cover:</p> <p>a. Identification of the key refurbishment/demolition materials.</p> <p>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> <p><b><u>Fourth Credit: (ACHIEVABLE)</u></b></p> <p>The main contractor is to demonstrate that following percentages of non-hazardous construction (on-site and off-site manufacture/fabrication in a dedicated facility), demolition and excavation waste (where applicable) generated by the project have been diverted from landfill:</p> <p><b><u>Non-demolition: 70% by volume or 80% by tonnage</u></b></p> <p><b><u>Demolition: 80% by volume or 90% by tonnage</u></b></p> |



| Credit Summary – BREEAM Industrial 2014                                                 |                                                       | Credit Ref           | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                     | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
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| Waste<br>Credit Value<br>1.19%                                                          | Recycled Aggregate                                    | Wst02                | 1                            | 0                  | 1                | Structural Engineer / Main Contractor | <p><u><b>POSSIBLE Credit:</b></u></p> <p>Evidence will be provided demonstrating that the total amount of recycled <b>AND/OR</b> secondary aggregate is to be greater than <b>25%</b> of the total high-grade aggregate specified in line with the following minimum levels per application (where present):</p> <table><tr><th>Application</th><th>Min % for one credit</th><th>Min % for Exemplary Level</th></tr><tr><td colspan="3"><b>BOUND</b></td></tr><tr><td>Structural Frame</td><td><b>15%</b></td><td>30%</td></tr><tr><td>Bitumen or hydraulically bound base, binder and surface courses for paved areas &amp; roads</td><td><b>30%</b></td><td>75%</td></tr><tr><td>Building foundations</td><td><b>20%</b></td><td>35%</td></tr><tr><td>Concrete road surfaces</td><td><b>15%</b></td><td>45%</td></tr><tr><td colspan="3"><b>UNBOUND</b></td></tr><tr><td>Pipe bedding</td><td><b>100%</b></td><td>100%</td></tr><tr><td>Granular fill and capping</td><td><b>100%</b></td><td>100%</td></tr></table> | Application | Min % for one credit | Min % for Exemplary Level | <b>BOUND</b> |  |  | Structural Frame | <b>15%</b> | 30% | Bitumen or hydraulically bound base, binder and surface courses for paved areas & roads | <b>30%</b> | 75% | Building foundations | <b>20%</b> | 35% | Concrete road surfaces | <b>15%</b> | 45% | <b>UNBOUND</b> |  |  | Pipe bedding | <b>100%</b> | 100% | Granular fill and capping | <b>100%</b> | 100% |
|                                                                                         | Application                                           | Min % for one credit | Min % for Exemplary Level    |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| <b>BOUND</b>                                                                            |                                                       |                      |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Structural Frame                                                                        | <b>15%</b>                                            | 30%                  |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Bitumen or hydraulically bound base, binder and surface courses for paved areas & roads | <b>30%</b>                                            | 75%                  |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Building foundations                                                                    | <b>20%</b>                                            | 35%                  |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Concrete road surfaces                                                                  | <b>15%</b>                                            | 45%                  |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| <b>UNBOUND</b>                                                                          |                                                       |                      |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Pipe bedding                                                                            | <b>100%</b>                                           | 100%                 |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
| Granular fill and capping                                                               | <b>100%</b>                                           | 100%                 |                              |                    |                  |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |
|                                                                                         | Operational Waste<br>[MANDATORY Credit for EXCELLENT] | Wst03                | 1                            | 1                  | 1                | Architect                             | <p>Evidence will be provided demonstrating there will be provision of a central (clearly labelled), dedicated storage space for the recycling of materials which is:</p> <ul style="list-style-type: none"><li>- At least 2m2 per 1000m2 of net floor area for buildings &lt; 5000m2</li><li>- A minimum of 10m2 for buildings with a net floor area &gt;5000m2</li><li>- An additional 2m2 per 1000m2 of net floor area where catering is provided in size</li><li>- located accessible to building occupants or facilities operators for the deposit of materials and collection by waste management contractors</li></ul> <p>The above provision must also be in addition to the general waste area provision</p>                                                                                                                                                                                                                                                                                                   |             |                      |                           |              |  |  |                  |            |     |                                                                                         |            |     |                      |            |     |                        |            |     |                |  |  |              |             |      |                           |             |      |



| Credit Summary – BREEAM Industrial 2014 |                            | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Waste<br>Credit Value<br>1.19%          | Adaption to Climate Change | Wst05      | 1                            | 0                  | 0                | N/A               | <p>Evidence will <b>NOT</b> be provided demonstrating that:</p> <p>The Design Team conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the <b>end of RIBA Stage 2</b>, in accordance with the following approach:</p> <p>Carry out a systematic (structural and fabric resilience specific) risk assessment 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. The assessment should cover the following stages:</p> <ul style="list-style-type: none"> <li>i. Hazard identification</li> <li>ii. Hazard assessment</li> <li>iii. Risk estimation</li> <li>iv. Risk evaluation</li> <li>v. risk management.</li> </ul> |
|                                         | Functional Adaptability    | Wst06      | 1                            | 0                  | 0                | N/A               | <p>Evidence will <b>NOT</b> be provided demonstrating that:</p> <ol style="list-style-type: none"> <li>1. A building-specific Functional Adaptation Strategy Study has been undertaken by the client and design team by <b>RIBA Stage 2</b> or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation.</li> <li>2. Functional adaptation measures have been implemented by <b>RIBA Stage 4</b> in accordance with the functional adaptation strategy recommendations, where practical and cost effective.</li> </ol>                                                                                                                                                                                                                                                  |
| Section Credit Total                    |                            |            | 8                            | 5                  | 6                |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Weighted Section Total                  |                            |            | 9.50%                        | 5.94%              | 7.13%            |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



| Credit Summary – BREEAM Industrial 2014  |                                                                | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Land Use & Ecology<br>Credit Value 1.10% | Site Selection                                                 | LE01       | 2                            | 1                  | 1                | Architect                                                        | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First credit: (ACHIEVABLE)</u></b><br/>At least <b>75%</b> of the proposed development footprint is on an area of land previously developed within the past 50 years.</p> <p><b><u>Second credit: (NOT SOUGHT)</u></b><br/>Evidence will <b>NOT</b> be provided demonstrating that the site is classed as 'significantly contaminated' and a programme of remediation is to be undertaken.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                          | Ecological Value of Site and Protection of Ecological Features | LE02       | 2                            | 2                  | 2                | Suitably Qualified Ecologist / Project Manager / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First credit: (ACHIEVABLE)</u></b><br/>A Suitably Qualified Ecologist (SQE) will be appointed to produce an ecology report based on a site survey and identified the land as being of 'low ecological value' within an ecological assessment report, based on a site survey.</p> <p><b><u>Second credit: (ACHIEVABLE)</u></b><br/><b>EITHER</b></p> <ol style="list-style-type: none"> <li>Where existing features of ecological value within and surrounding the construction zone and site boundary area are present, adequate protection from damage is undertaken during clearance, site preparation and construction activities in line with BS42020: 2013</li> <li>In all cases, the main contractor is required to construct ecological protection recommended by the SQE, prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities).</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Where there are no features of ecological value present, the credit for the protection of ecological features can only be awarded if the construction zone is defined as 'land of low ecological value'.</li> </ol> |



| Credit Summary – BREEAM Industrial 2014  |                                                                                                            | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                            | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Land Use & Ecology<br>Credit Value 1.10% | Minimising Impact on Existing Site Ecology<br><b>[MANDATORY One Credit for VERY GOOD rating and above]</b> | LE03       | 2                            | 2                  | 2                | Suitably Qualified Ecologist / Architect / Project Manager / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First – Second credit: (ACHIEVABLE)</u></b><br/>A Suitably Qualified Ecologist is appointed to provide an Ecology Report based on their site survey confirming the change in the ecological value of the site as a result of development is equal to or greater than zero plant species, i.e. no negative change</p> <p>This is to be determined by the following information and input of data into the BREEAM LE 03/LE 04 calculator:</p> <ul style="list-style-type: none"> <li>i. The habitat type(s) that define the landscape of the assessed site in its existing pre-developed state and proposed state</li> <li>ii. Area (m2) of the existing and proposed broad habitat types</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  |
|                                          | Enhancing Site Ecology                                                                                     | LE04       | 2                            | 1                  | 1                | Suitably Qualified Ecologist / Architect / Project Manager / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First credit: (ACHIEVABLE)</u></b></p> <ol style="list-style-type: none"> <li>1. A suitably qualified ecologist (SQE) has been appointed by the client or their project representative by the <b>end of the RIBA Stage 1</b> to advise on enhancing the ecology of the site at an early stage.</li> <li>2. The SQE has provided an Ecology Report with appropriate recommendations for the enhancement of the site's ecology at <b>RIBA Stage 2</b>. The report is based on a site visit/survey by the SQE</li> <li>3. The early stage advice and recommendations of the Ecology Report for the enhancement of site ecology have been, or will be, implemented in the final design and build.</li> </ol> <p><b><u>Second credit: (NOT SOUGHT)</u></b><br/>The recommendations of the Ecology Report for the enhancement of site ecology will <b>NOT</b> be implemented in the final design and build, to allow the SQE to confirm that this will result in an increase in ecological value of the site, <b>with an increase of six plant species or greater</b></p> |



| Credit Summary – BREEAM Industrial 2014  |                                  | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                                            | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------|----------------------------------|------------|------------------------------|--------------------|------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Land Use & Ecology<br>Credit Value 1.10% | Long Term Impact on Biodiversity | LE05       | 2                            | 2                  | 2                | Suitably Qualified Ecologist / Architect / Project Manager / Main Contractor | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First credit: (ACHIEVABLE)</u></b></p> <p>1. Where a Suitably Qualified Ecologist (SQE) is appointed prior to commencement of activities on-site and they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the design and construction process.</p> <p>2. Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion in accordance with BS 42020:2013, Section 11.1. This is to be handed over to the building owner/occupants for use by the grounds maintenance staff.</p> <p><b><u>Second credit: (ACHIEVABLE)</u></b></p> <p>The applicable 'additional' measures detailed within the BREEAM criteria confirmed by the SQE are implemented into the final scheme design or undertaken by the main contractor</p> |
| Section Credit Total                     |                                  |            | 10                           | 8                  | 8                |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Weighted Section Total                   |                                  |            | 11.00%                       | 8.80%              | 8.80%            |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



| Credit Summary – BREEAM Industrial 2014 |                        | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|------------------------|------------|------------------------------|--------------------|------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pollution<br>Credit Value<br>1.00%      | Impact of Refrigerants | Pol01      | 3                            | 0                  | 0                | N/A               | <p>Evidence will <b><u>NOT</u></b> be provided demonstrating that:</p> <p><b><u>Pre-requisite: (NOT SOUGHT)</u></b><br/>All systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice</p> <p><b><u>First – Second credit: (NOT SOUGHT)</u></b><br/>1. Where the systems using refrigerants have Direct Effect Life Cycle CO<sub>2</sub> equivalent emissions (DELC CO<sub>2</sub>e) of ≤ 100 kgCO<sub>2</sub>e/kW cooling/heating capacity.<br/><b>OR</b><br/>2. Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP) ≤10.</p> <p><b><u>Third credit: (NOT SOUGHT)</u></b><br/>1. Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; <b>OR</b> where an in-built automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks.<br/>2. The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident</p> |
|                                         | NOx Emissions          | Pol02      | 1                            | 0                  | 0                | N/A               | <p>Evidence will <b><u>NOT</u></b> be provided demonstrating that the plant installed to meet the <u>office and associated areas</u> delivered heating and hot water demand has, under normal operating conditions, has a NOx emission level (measured on a dry basis at 0% excess O<sub>2</sub>) of <b>≤70 mg/kWh</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



| Credit Summary – BREEAM Industrial 2014 |                       | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party   | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|-----------------------|------------|------------------------------|--------------------|------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pollution<br>Credit Value<br>1.00%      | Surface Water Run-Off | Pol03      | 5                            | 3                  | 4                | Suitable Consultant | <p>Evidence will be provided demonstrating that:</p> <p><b><u>First - Second credit: (ACHIEVABLE)</u></b><br/>Where 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). The FRA must take all current and future sources of flooding into consideration.</p> <p><b><u>Third credit: (ACHIEVABLE)</u></b><br/>A suitable consultant is to demonstrate that drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events</p> <p><b><u>Fourth credit: (POSSIBLE)</u></b><br/>A suitable consultant is to demonstrate that flooding will not occur in the event of local drainage failure <b>AND EITHER</b></p> <ul style="list-style-type: none"> <li>a. The post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development.</li> <li>b. Any additional predicted volume of run-off for the 100 year 6 hour event must be prevented from leaving the site by using infiltration or other SuDS techniques <b>OR</b> (only where point b for this credit cannot be achieved)</li> <li>c. Justification from the suitable consultant indicating why the above criteria cannot be achieved i.e. where infiltration or other SuDS techniques are not technically viable options.</li> <li>d. The post development peak rate of run-off is reduced to a limiting discharge. The limiting discharge is defined as the following and the option with the highest flow rate must be achieved; <ul style="list-style-type: none"> <li>1. The pre development 1-year peak flow rate OR</li> <li>2. The mean annual flow rate <math>\bar{Q}</math> OR</li> <li>3. 2l/s/ha</li> </ul> </li> </ul> <p><b><u>Fifth Credit: (NOT SOUGHT)</u></b><br/>A suitable consultant is <b>NOT</b> to confirm that there is no discharge from the developed site for rainfall up to 5mm<br/><b>AND</b> there is the specification of appropriate pollution prevention measures in surface water drainage systems in accordance with the specific BREEAM requirements</p> |
|                                         |                       |            |                              |                    |                  |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



| Credit Summary – BREEAM Industrial 2014 |                                         | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                      | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------|-----------------------------------------|------------|------------------------------|--------------------|------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pollution<br>Credit Value<br>1.00%      | Reduction of Night Time Light Pollution | Pol04      | 1                            | 1                  | 1                | M&E / Main Contractor                                  | <p>Evidence will be provided demonstrating that the external lighting design is to be designed to be in accordance with the following:</p> <ol style="list-style-type: none"> <li>1. Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011;</li> <li>2. All external lighting (except for safety and security lighting) will be automatically switched off between 23:00 to 07:00;</li> <li>3. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes</li> <li>4. Illuminated advertisements, where specified, are designed in accordance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements</li> </ol> |
|                                         | Noise Attenuation                       | Pol05      | 1                            | 1                  | 1                | Suitably Qualified Acoustician / M&E / Main Contractor | <p>Evidence will be provided demonstrating that a suitable qualified Acoustician will be appointed to undertake a noise impact assessment in compliance with BS 7445 confirming that new sources of noise from the development, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level.</p>                                                                                                                                                                                                                                                                                                                                                                                         |
| Section Credit Total                    |                                         |            | 11                           | 5                  | 6                |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Weighted Section Total                  |                                         |            | 11.00%                       | 5.00%              | 6.00%            |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Credit Summary – BREEAM Industrial 2014 |                                    | Credit Ref | Max No. of Credits Available | ACHIEVABLE Credits | POSSIBLE Credits | Responsible Party                                         | Credit requirements                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|------------------------------------|------------|------------------------------|--------------------|------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Innovation<br>Credit Value<br>1.00%     | Responsible Construction Practices | Inn Man03  | 1                            | 1                  | 1                | Project Manager / QS or Cost Consultant / Main Contractor | 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 <b>40 out of 50</b> or more, with a score of at least <b>7</b> in of the 5 sections                                                                                                                                                                                              |
|                                         | Life Cycle Impacts                 | Inn Mat01  | 1                            | 0                  | 1                | Architect                                                 | <b><u>POSSIBLE Credit:</u></b><br>Evidence will be provided demonstrating, that where assessing fewer than four applicable building elements, the building achieves at least two points in addition to the total points required to achieve maximum credits under the standard BREEAM criteria, this can be demonstrated by <b>BOTH</b> the external walls <b>AND</b> roof to be <b>A+</b> rated according to the <i>Green Guide to Specification</i> |
| Section Credit Total                    |                                    |            | 10                           | 1                  | 2                |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Weighted Section Total                  |                                    |            | 10.00%                       | 1.00%              | 2.00%            |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| BREEAM 2014 Industrial (Shell & Core) Pre-Assessment Results for Velocity Industrial Development, Standbridge Rd, Havant |            |           |
|--------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Results                                                                                                                  | ACHIEVABLE | POSSIBLE  |
| Final Predicted Score:                                                                                                   | 57.70%     | 66.44%    |
| Final Predicted BREEAM Ratings:                                                                                          | VERY GOOD  | VERY GOOD |



| Summary of Minimum Standards by BREEAM 2014 by Rating Level |                                    |                                    |                                        |                                        |                                        |
|-------------------------------------------------------------|------------------------------------|------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| BREEAM Issue                                                | PASS                               | GOOD                               | VERY GOOD                              | EXCELLENT                              | OUTSTANDING                            |
| Man 03 – Responsible Construction Practices                 | None                               | None                               | None                                   | One Credit (Considerate Construction)  | Two Credits (Considerate Construction) |
| Man 04 – Commissioning & Handover                           | None                               | None                               | None                                   | Building User Guide                    | Building User guide                    |
| Man 05 – Aftercare                                          | None                               | None                               | None                                   | One Credit (Seasonal Commissioning)    | One Credit (Seasonal Commissioning)    |
| Ene 01 – Reduction of Energy Use & Carbon Emissions         | None                               | None                               | None                                   | Five Credits                           | Eight Credits                          |
| Ene 02 – Energy Monitoring                                  | None                               | None                               | One Credit (First Sub-metering Credit) | One Credit (First Sub-metering Credit) | One Credit (First Sub-metering Credit) |
| Wat 01 – Water Consumption                                  | None                               | One Credit                         | One Credit                             | One Credit                             | Two Credits                            |
| Wat 02 – Water Monitoring                                   | None                               | One Credit                         | One Credit                             | One Credit                             | One Credit                             |
| Mat 03 – Responsible Sourcing of Materials                  | Legally Sourced Timber requirement | Legally Sourced Timber requirement | Legally Sourced Timber requirement     | Legally Sourced Timber requirement     | Legally Sourced Timber requirement     |
| Wst 01 – Construction Waste Management                      | None                               | None                               | None                                   | None                                   | One Credit                             |
| Wst 03 – Operational Waste                                  | None                               | None                               | None                                   | One Credit                             | One Credit                             |
| LE 03 – Minimising Impact on Existing Site Ecology          | None                               | None                               | One Credit                             | One Credit                             | One Credit                             |