



# **BREEAM New Construction 2014 Pre-Assessment Report**

Worthing Honda,  
Littlehampton Road, Worthing

16 February 2018

# Quality Management



| Issue/ Revision | Issue 1                                                                           | Revision 1 | Revision 2 | Revision 3 |
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| Date            | 16/02/2018                                                                        |            |            |            |
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| Signed          |  |            |            |            |
| Project Number  | 201                                                                               |            |            |            |



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Appendix A - BREEAM Pre-Assessment Score Sheet

## EXECUTIVE SUMMARY

This report has been prepared to outline the BREEAM strategy for the proposed Worthing Honda project at Littlehampton Road, Ferring, Worthing.

A BREEAM pre-assessment was carried out for the development in relation to achieving the following minimum BREEAM performance objectives:

- A minimum overall BREEAM score of at least 70.00%.
- A minimum overall BREEAM Rating of Excellent.

The pre-assessment is based upon the BREEAM New Construction 2014 non-domestic scheme (SD5076:5.1-2014), with the appropriate measures applied under the BREEAM 'Retail' methodology. This represents the most appropriate methodology for the development.

On completion of the BREEAM pre-assessment exercise, the proposed Worthing Honda development could provisionally achieve a BREEAM '**Excellent**' rating of **71.70%**.

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Signed:

Date:

16th February 2018

Gareth Davies

Redsix BREEAM Assessor & Accredited Professional

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## INTRODUCTION

This report has been prepared to outline the BREEAM strategy for the proposed Worthing Honda project at Littlehampton Road, Worthing. Based upon our understanding, the proposed development comprises the construction of a new Honda showroom with associated workshop and office space.

BREEAM (Building Research Establishment Environmental Assessment Method) is administered by the Building Research Establishment (BRE) which is an internationally recognised procedure for reviewing and improving the environmental design and performance of non-residential buildings. Points are awarded in nine categories according to achieving specific criteria, resulting in single overall BREEAM score/rating, as follows:

- Unclassified (less than 30%)
- Pass (30 – 44%)
- Good (45 – 54%)
- Very Good (55 – 69%)
- Excellent (70 – 84%)
- Outstanding (> 85%)

The **minimum** BREEAM performance objectives for this project are confirmed to be:

- A minimum overall BREEAM score of at least 70.00%.
- A minimum overall BREEAM Rating of Excellent.

This pre-assessment is based upon the BREEAM New Construction 2014 non-domestic scheme (SD5076:5.1-2014), with the appropriate measures applied under the BREEAM 'Retail' methodology. This represents the most appropriate methodology for the development.

The table below summarises the number of credits targeted for the development in each of the BREEAM categories, using the BREEAM Pre-Assessment scoring sheet (Appendix A).

**BREEAM Score & Rating**

| Section                   | Environmental Weighting | Credits Available | Credits Achieved | Weighted Score |
|---------------------------|-------------------------|-------------------|------------------|----------------|
| Management                | 12.00%                  | 21.00             | 17.00            | 9.71%          |
| Health & Wellbeing        | 15.00%                  | 18.00             | 8.00             | 6.66%          |
| Energy                    | 15.00%                  | 23.00             | 17.00            | 11.08%         |
| Transport                 | 9.00%                   | 9.00              | 5.00             | 5.00%          |
| Water                     | 7.00%                   | 9.00              | 7.00             | 5.44%          |
| Materials                 | 13.50%                  | 13.00             | 10.00            | 10.38%         |
| Waste                     | 8.50%                   | 8.00              | 6.00             | 6.37%          |
| Land Use & Ecology        | 10.00%                  | 10.00             | 8.00             | 8.00%          |
| Pollution                 | 10.00%                  | 11.00             | 8.00             | 6.15%          |
| <b>Total</b>              |                         |                   |                  | <b>68.70%</b>  |
| <b>Exemplary Credits</b>  |                         |                   |                  | <b>3.00%</b>   |
| <b>TOTAL BREEAM SCORE</b> |                         |                   |                  | <b>71.70%</b>  |

## BREEAM STRATEGY

The following sections detail each **targeted** BREEAM measure (and their compliance criteria) in order to **achieve the required BREEAM score of 71.70% and a BREEAM 'Excellent' rating** for the project. Please note, any deviations made during the design and construction phase, which are different from the measures stated in this report will affect the BREEAM rating. Should this occur, it is essential the assessor is informed immediately in order to identify viable alternatives to maintain the overall BREEAM rating. A copy of the full BREEAM Pre-Assessment scoresheet for the project is included in Appendix A.

### Management

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>Man01: Stakeholder Consultation (Project Delivery)</b>   | <p>Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders will meet to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery, including consideration of the following:</p> <ul 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> </ul> <p>The project team will also demonstrate how the project delivery stakeholder contributions and the outcomes of the process have influenced or changed the Initial Project Brief.</p> |
| <b>Man01: Sustainability Champion (Design Stage)</b>        | A Sustainability Champion will be appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project, and to perform this role during the feasibility stage. The defined BREEAM performance target has been formally agreed between the client and design team.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Man01: Sustainability Champion (Monitoring Progress)</b> | A Sustainability Champion will be appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and/or design team.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Man02: Capital Cost Reporting</b>                        | The predicted capital cost for the development, in pounds per square metre (£k/m <sup>2</sup> ), will be reported to the BREEAM assessor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Man03: Timber Procurement</b>                            | All site timber used during the construction process will be responsibly and legally sourced in accordance with UK Government's Timber Procurement Policy and have FSC or PEFC certification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Man03: Environmental Management System (EMS)</b>         | The principal contractor for the project will operate a third party certified Environmental Management System (EMS) covering their main operations (e.g ISO14001 or BS8555:2003 Phase 4 equivalent).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Man03: Sustainability Champion (construction)</b>        | A Sustainability Champion will be appointed to monitor the project and ensure ongoing compliance with the relevant sustainability performance criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Man03: Considerate Constructors Scheme (CCS)</b>         | The main contractor will ensure the site is registered with the Considerate Constructors Scheme and will achieve an overall CCS score of 35 or more, with a minimum of 7 points scored in each CCS section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Man03: Monitoring of Energy &amp; Water Consumption</b>  | <p>The Main Contractor will monitor and record data on energy consumption (kWh) from the use of construction plant, equipment (mobile and fixed) and site accommodation necessary for completion of all construction processes.</p> <p>The Main Contractor will also monitor and record data on water consumption (m<sup>3</sup>) from the use of construction plant, equipment (mobile and fixed) and site accommodation necessary for completion of all construction processes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Man03: Monitoring Transport or Construction Materials &amp; Waste</b> | <p>The Main Contractor will monitor and record data on transport resulting from delivery of the majority of construction materials (External walls and roof) to site and construction waste from site. Using the collated data, report separately for materials and waste, the total fuel consumption (litres) and total carbon dioxide emissions (kgCO<sub>2</sub> eq), plus total distance travelled (km).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Man04: Commissioning Schedule &amp; Responsibilities</b>              | <p>A schedule of commissioning and testing will be produced that identifies and includes 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.</p> <p>The schedule will identify the appropriate standards that all commissioning activities will be conducted in accordance with, such as current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards, where applicable.</p> <p>Where a building management system (BMS) is specified, the following commissioning procedures must also be carried out:</p> <ul style="list-style-type: none"> <li>• Commissioning of air and water systems when all control devices are installed, wired and functional</li> <li>• Commissioning results include physical measurements of room temperatures, off-coil temperatures and other key parameters as appropriate.</li> <li>• The BMS/controls installation should be running in auto with satisfactory internal conditions prior to handover.</li> <li>• All BMS schematics and graphics are fully installed and functional to user interface before handover</li> <li>• The occupier or facilities team is fully trained in the operation of the system.</li> </ul> <p>An appropriate project team member will be appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client.</p> <p>The principal contractor will account for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.</p> |
| <b>Man04: Commissioning Building Services</b>                            | <p>For buildings with complex building services and systems, a specialist commissioning manager is to be appointed during the design stage (by either the client or the principal contractor) with responsibility for:</p> <ul style="list-style-type: none"> <li>• Undertaking design reviews and giving advice on suitability for ease of commissioning.</li> <li>• Providing commissioning management input to construction programming and during installation stages.</li> <li>• Management of commissioning, performance testing and handover/post-handover stages.</li> </ul> <p>Where there are simple building services, this role can be carried out by an appropriate project team member, provided they are not involved in the general installation works for the building services systems.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Man04: Commissioning of Building Fabric</b>                           | <p>The integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths will be demonstrated through the completion of a thermographic survey and inspection. Any defects identified in the thermographic survey and report will be rectified prior to building handover.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Man04: Building User Guide &amp; Training Schedule</b>                | <p>Building User Guides will be provided and will be appropriate to all users of the building (general users including staff and if applicable residents, as well as the non-technical facilities management team/building manager).</p> <p>A training schedule will be prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum:</p> <ul style="list-style-type: none"> <li>• The building's design intent.</li> <li>• The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation.</li> <li>• Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces.</li> <li>• Introduction to the Building User Guide and other relevant building documentation, e.g. O&amp;M manual, log book etc.</li> <li>• Maintenance requirements, including any maintenance contracts and regimes in place.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| <b>Man05: Aftercare Support</b>              | <p>There is (or will be) operational commitments in place to provide aftercare support to the building occupier(s), which will include the following as a minimum:</p> <ul style="list-style-type: none"> <li>• A meeting programmed to occur between the aftercare team/individual and the building occupier/management.</li> <li>• On-site facilities management training, to include a walkabout of the building and introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands.</li> <li>• Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users and management.</li> <li>• Longer term aftercare support provision for occupants for at least the first 12 months from occupation.</li> </ul>                                                                   |
| <b>Man05: Seasonal Commissioning</b>         | <p>The following seasonal commissioning activities will be completed over a minimum 12-month period, once the building becomes substantially occupied:</p> <p>Complex systems - Specialist Commissioning Manager:</p> <ul style="list-style-type: none"> <li>• Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn).</li> <li>• Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy.</li> <li>• Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems.</li> <li>• Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the operations and maintenance (O&amp;M) manuals.</li> </ul> |
| <b>Man05: Post Occupancy Evaluation</b>      | <p>A post occupancy evaluation will be carried out, one year after building occupation. The POE will cover:</p> <ul style="list-style-type: none"> <li>• A review of the design and construction process.</li> <li>• Feedback from a wide range of building users including Facilities Management on the design and environmental conditions of the building.</li> </ul> <p>In addition, information on the building's post occupancy performance will also be disseminated in accordance with BREEAM requirements in order to promote Best Practice.</p>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Man05: Consumption Monitoring (3yrs+)</b> | <p>Operational commitment will be provided to co-ordinate the following activities at quarterly intervals for the first three years of occupation:</p> <ul style="list-style-type: none"> <li>• Collection of occupant satisfaction, energy consumption and water consumption data.</li> <li>• Analysis of the data to check the building is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours.</li> <li>• Setting targets for reducing water and energy consumption and monitor progress towards these.</li> <li>• Feedback any 'lessons learned' to the design team and developer for use in future projects.</li> <li>• Provision of the actual annual building energy, water consumption and occupant satisfaction data to BRE.</li> </ul>                                                                                                                                                                    |

## Health & Wellbeing

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Hea01: Glare Control</b>                                            | The potential for disabling glare will be been designed out of all relevant building areas either through building layout (e.g. low eaves) and/or building design (e.g. blinds, brise soleil, bioclimatic design that provides shading from high level summer and low level winter sun).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Hea01: Internal, External Lighting Levels, Zones &amp; Controls</b> | <p>Illuminance (lux) levels in all internal relevant building areas of the building will be specified in accordance with the SLL Code for Lighting 2012. For areas where computer screens are regularly used, the lighting design will comply with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9.</p> <p>Illuminance levels for lighting in all external areas within the construction zone will be specified in accordance with BS5489-1:2013 Lighting of roads and public amenity areas; and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.</p> <p>Internal lighting will also be zoned as follows:</p> <ul style="list-style-type: none"> <li>• In office areas, zones of no more than four workplaces</li> <li>• Workstations adjacent to windows/atria and other building areas separately zoned and controlled</li> <li>• Dining, restaurant, café areas: separate zoning of servery and seating/dining areas</li> </ul> |
| <b>Hea02: Indoor Air Quality Plan (IAQ)</b>                            | <p>An indoor air quality plan will be produced to minimise indoor air pollution during occupation of the building. The indoor air quality plan will consider the following:</p> <ul style="list-style-type: none"> <li>• Removal of contaminant sources</li> <li>• Dilution and control of contaminant sources</li> <li>• Procedures for pre-occupancy flush out</li> <li>• Third party testing and analysis</li> <li>• Maintaining indoor air quality in-use</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Hea04: Dynamic Thermal Model</b>                                    | A dynamic thermal model will be carried out using software in accordance with CIBSE AM11 to demonstrate the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Design, Table 1.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Hea04: Climate Change Scenario Model</b>                            | The above thermal modelling exercise will also demonstrate that the relevant requirements of CIBSE Guide A Table 1.5 are achieved for a more onerous projected climate change environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Hea04: Thermal Zoning &amp; Control</b>                             | The thermal modelling analysis undertaken will inform the temperature control strategy for the building and its users.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Hea05: Acoustic performance (sound insulation)</b>                  | A suitable qualified acoustic consultant will be employed to confirm the sound insulation between acoustically sensitive rooms and other occupied areas will comply with the example matrix relating to internal sound insulation within Section 7.5 of BS 8233:2014. A programme of pre-completion testing will also be undertaken.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Hea05: Acoustic performance (indoor ambient noise)</b>              | A suitable qualified acoustic consultant will be employed to confirm indoor ambient noise levels will comply with the design ranges given in BS 8233: 2014. A programme of pre-completion testing will also be undertaken.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Energy

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ene01: Reduction of CO<sub>2</sub> Emissions</b> | Up to twelve credits are available depending on the calculated Energy Performance Ratio for the proposed building. Based upon previous projects and the building orientation, it is currently assumed that seven credits will be achieved, however this figure will be reviewed upon completion of the initial Building Regulation Part L2a Sbem compliance calculations.                                            |
| <b>Ene02: Energy Monitoring</b>                     | <p>Energy metering systems will be installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems (in accordance with CIBSE TM39).</p> <p>In addition, an accessible energy monitoring and management system will be provided, covering all relevant function areas or departments within the building.</p> |

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| <b>Ene03: External Lighting</b>                 | <p>The average initial luminous efficacy of the external light fittings within the construction zone will be not less than 60 luminaire lumens per circuit Watt.</p> <p>External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours. Daylight sensor override on a manually switched lighting circuit is acceptable.</p>                                                                                                                                                                                                                                  |
| <b>Ene04: Passive design measures</b>           | <p>An analysis of the proposed building design has been carried out during Concept Design stage (RIBA Stage 2) to identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services.</p> <p>The building will use these passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption, and a meaningful reduction in the total energy demand will be achieved as a result.</p>                                                                                                             |
| <b>Ene04: LZC Feasibility Report</b>            | <p>A feasibility study has been carried out at Concept Design stage (RIBA Stage 2) 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.</p> <p>A local LZC technology has been specified for the building in line with the recommendations of this feasibility study and this method of supply will result in a meaningful reduction in regulated carbon dioxide (CO<sub>2</sub>) emissions of at least 10%.</p>                                                                                                      |
| <b>Ene06: Lifts (Energy Consumption)</b>        | <p>The energy consumption for the proposed lifts will be calculated in accordance with BS EN ISO25745 Energy performance of lifts, escalators and moving walks, Part 2: Energy calculation and classification for lifts (elevators), for one of the following:</p> <ul style="list-style-type: none"> <li>At least two types of system (for each transportation type required); OR</li> <li>An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR</li> <li>A system strategy which is 'fit for purpose'.</li> </ul> <p>The use of regenerative drives will also be considered.</p> |
| <b>Ene06: Lifts (Energy Efficient Features)</b> | <p>For each lift, the following three energy efficient features will be specified:</p> <ul style="list-style-type: none"> <li>The lifts operate in a standby condition during off-peak periods.</li> <li>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>The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor.</li> </ul>                                                                                                       |
| <b>Ene08: Energy Efficient Equipment</b>        | <p>All office equipment and other small powered equipment will have an Energy Star rating.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Transport

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tra01: Provision of Public Transport</b> | <p>Credits are awarded in accordance with the calculated public transport Accessibility Index (AI) for the building. Given its City centre location, it is currently assumed the public transport Accessibility Index (AI) of the building will be at least 2, and therefore one credits has been targeted at this time.</p>                                                                                                                                                        |
| <b>Tra02: Proximity to Amenities</b>        | <p>The building is located within 500m of at least two of the following amenities:</p> <ul style="list-style-type: none"> <li>Access to an outdoor open space, public or private accessible by the building users</li> <li>Community Facility</li> <li>Over the Counter Pharmacy</li> <li>Child Care Facility or school</li> <li>Postal Facility</li> <li>GP Surgery or medical centre</li> <li>Recreation/leisure facility</li> <li>Food Outlet</li> <li>Access to Cash</li> </ul> |
| <b>Tra03: Cycle Storage Spaces</b>          | <p>A minimum of ten cycle storage spaces will be provided for the building. In addition cycle racks will be covered from the rain and lit in accordance with BS5489-1:2003+A2:2008 Lighting of roads and public amenity areas.</p>                                                                                                                                                                                                                                                  |

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| <b>Tra03: Cyclist Facilities</b> | <p>At least two of the following types of compliant cyclist facilities will be provided for all building users (staff):</p> <ul style="list-style-type: none"> <li>• Showers (equivalent to 1 locker/10 storage spaces)</li> <li>• Changing facilities</li> <li>• Lockers (equivalent to 1 locker per cycle storage space)</li> <li>• Drying spaces.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Tra05: Travel Plan</b>        | <p>A travel plan will be developed as part of the feasibility and design stages. A site specific travel assessment/statement will be undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the following (as a minimum):</p> <ul style="list-style-type: none"> <li>• Where relevant, existing travel patterns and opinions of existing building or site users towards cycling and walking so that constraints and opportunities can be identified.</li> <li>• Travel patterns and transport impact of future building users.</li> <li>• Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children).</li> <li>• Disabled access (accounting for varying levels of disability and visual impairment).</li> <li>• Public transport links serving the site.</li> <li>• Current facilities for cyclists.</li> </ul> <p>The travel plan will include a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building's operation and use.</p> <p>The end occupier will be involved in the development of the travel plan and they will confirm that the travel plan will be implemented post construction and be supported by the building's management in operation.</p> |

## Water

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Wat01: Water Consumption</b>    | <p>It is currently expected that a 40% improvement beyond baseline consumption figures will be achieved through the specification of the following fittings:</p> <ul style="list-style-type: none"> <li>• WCs with an effective flush volume of 4 litres.</li> <li>• Toilet wash hand basin taps with a flow rate of 3.5l/min</li> <li>• Urinal cistern (2 or more) volume of 0.75 l/bowl/hr.</li> <li>• Urinal cistern (1 only) volume of 1 l/bowl/hr.</li> <li>• Showers with flow rate of no more than 9 litres/min</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Wat02: Water Meter</b>          | <p>A water meter will be specified and installed on the mains water supply to the building, and each meter (main and sub) will have a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption. In addition, any water-consuming plant or building areas (<b>such as vehicle wash</b>), consuming 10% or more of the building's total water demand, will be fitted with pulsed sub meters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Wat03: Major Leak Detection</b> | <p>A leak detection system will be specified which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection will also be:</p> <ul style="list-style-type: none"> <li>• A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks is installed.</li> <li>• Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time.</li> <li>• Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods.</li> <li>• Programmable to suit the owner/occupiers' water consumption criteria.</li> <li>• Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.</li> </ul> |
| <b>Wat03: Flow Control Devices</b> | <p>One of the following types of flow control devices will be specified and installed to each WC area:</p> <ul style="list-style-type: none"> <li>• A time controller i.e. an automatic time switch device to switch off the water supply after a predetermined interval.</li> <li>• A programmed time controller i.e. an automatic time switch device to switch water on and/or off at predetermined times.</li> <li>• A volume controller i.e. an automatic control device to turn off the water supply once the maximum preset volume is reached.</li> <li>• A presence detector and controller i.e. an automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed.</li> </ul>                                                                                                                                                                                                                                                                        |

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|                                         |                                                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Wat04: Water Efficient Equipment</b> | No mains supplied irrigation systems will be provided, and landscaping irrigation will rely solely on manual watering by the occupier. |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

## Materials

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mat01: Life Cycle Impact - Material Specification</b> | <p>It is expected the main building elements will achieve a Green Guide rating of A or A+. Two credits (of a possible 2) are currently targeted. The applicable building elements for the project are set out below:</p> <ul style="list-style-type: none"> <li>• External Walls</li> <li>• Roof</li> <li>• Windows</li> <li>• Upper Floor Slab</li> <li>• Floor Finishes/ Coverings</li> </ul> <p>Guide ratings for building elements construction can be found at: <a href="http://www.thegreenguide.org.uk">www.thegreenguide.org.uk</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Mat03: Sustainable Procurement Plan</b>               | The principal contractor will source materials for the project in accordance with a documented sustainable procurement plan. In addition, all timber and timber-based products used on the project will be Legally harvested and traded timber, in accordance with UK Government's Timber Procurement Policy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Mat03: Responsible Sourcing of Materials</b>          | Every effort will be made to ensure all materials will be responsibly sourced, with a view to achieving two credits (of a possible three). Copies of ISO14001, BES6001 or FSC/PEFC certificates for all major building materials will need to be provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Mat04: Insulation</b>                                 | <p>It is expected 'A or A+' rated insulation materials will be used in the following elements:</p> <ul style="list-style-type: none"> <li>• External walls</li> <li>• Ground floor (where installed)</li> <li>• Roof</li> <li>• Building services</li> </ul> <p>Guide ratings for thermal insulation can be found at: <a href="http://www.thegreenguide.org.uk">www.thegreenguide.org.uk</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Mat05: Designing for Robustness &amp; Durability</b>  | <p>The design will incorporate suitable durability and protection measures or features/solutions to prevent damage to the vulnerable parts of the building. This <b>must</b> include, but not necessarily limited to:</p> <ul 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> </ul> <p>In addition, the relevant building elements will incorporate appropriate design and specification measures to limit material degradation due to environmental factors.</p> |

## Waste

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Wst01: Construction Waste Management</b>    | <p>A Resource Management Plan (RMP) will be developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction.</p> <p>In addition, construction waste related to on-site construction (excluding demolition and excavation waste) will meet or exceed the necessary waste benchmark to achieve 2credits:</p> <ul style="list-style-type: none"> <li>• 1 Credit - 13m<sup>3</sup> per 100m<sup>2</sup> (gross internal floor area)</li> <li>• 2 Credits - 7.5m<sup>3</sup> per 100m<sup>2</sup> (gross internal floor area)</li> <li>• 3 Credits - 3.4m<sup>3</sup> per 100m<sup>2</sup> (gross internal floor area)</li> </ul> |
| <b>Wst01: Diversion of Waste from Landfill</b> | At least 70% by volume (or 80% by tonnage) of non-demolition waste and 80% by volume (or 90% by tonnage) of demolition waste will be diverted from landfill to be reused or recycled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Wst03: Operational Waste</b>            | <p>A dedicated external space to cater for the segregation and storage of operational recyclable waste volumes generated by the assessed building its occupant(s) and activities will be provided. The dedicated space(s) will be:</p> <ul style="list-style-type: none"> <li>Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams.</li> <li>Accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors.</li> <li>Of a capacity equivalent to at least: <ul style="list-style-type: none"> <li>2m<sup>2</sup> per 1000m<sup>2</sup> of net floor area for buildings &lt; 5000m<sup>2</sup></li> <li>An additional 2m<sup>2</sup> per 1000m<sup>2</sup> of net floor area where catering is provided.</li> </ul> </li> </ul> |
| <b>Wst05: Adaptation to Climate Change</b> | <p>A climate change adaptation strategy appraisal for structural and fabric resilience will be undertaken by the end of RIBA Stage 2 (or equivalent).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Wst06: Functional Adaptability</b>      | <p>A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future adaptation.</p> <p>Functional adaptation measures have been adopted in the design by Technical Design stage (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the assessor.</p>                                                                                                                                                                                                                                                                                   |

## Land Use & Ecology

|                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Le01: Site Selection (Previously Occupied Land)</b> | <p>At least 75% of the proposed development's footprint is on an area of land which has previously been occupied.</p>                                                                                                                                                                                                                                                                                                                                        |
| <b>Le02: Ecological Value of Site</b>                  | <p>The land within the assessment zone is defined as 'land of low ecological value' using the BREEAM checklist for defining land of low ecological value</p>                                                                                                                                                                                                                                                                                                 |
| <b>Le02: Protection of Ecological Features</b>         | <p>All existing features of ecological value within the assessment zone will be adequately protected from damage during clearance, site preparation and construction activities in line with BS42020: 2013.</p> <p>Where ecological features exist, the principal contractor will construct ecological protection, prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities).</p> |
| <b>Le03: Minimising Impact on Existing Ecology</b>     | <p>Based upon the existing and proposed habitat types of the site, it is expected that no negative change in the ecological value of the site will occur, i.e. equal to, or greater than, zero species.</p>                                                                                                                                                                                                                                                  |
| <b>Le04: Enhancing Site Ecology</b>                    | <p>A suitably qualified Ecologist will be appointed and their respective enhancement recommendations will be implemented into the final design and construction of the project.</p>                                                                                                                                                                                                                                                                          |
| <b>Le05: Long Term Impact on Biodiversity</b>          | <p>A suitably qualified Ecologist will be employed to assess the project against the necessary applicable criteria. Note, where the Suitably Qualified Ecologist confirms that none of the additional measures are applicable (due to the nature of the site and its surroundings), and a 5-year landscape and habitat management plan is not required, the full credits can be awarded.</p>                                                                 |

## Pollution

|                                              |                                                                                                                                                                                                                                                                   |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pol01: Impact of Refrigerants</b>         | <p>All systems (with electric compressors) will comply with the requirements of BS EN 378:20081 (parts 2 and 3). It is also currently assumed that</p>                                                                                                            |
| <b>Pol03: Annual Probability of Flooding</b> | <p>It is expected the site-specific flood risk assessment (FRA) will confirm 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.</p> |

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pol03: Peak Rate of surface Water Run Off</b>              | <p>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 will comply at the 1-year and 100-year return period events.</p> <p>In addition, calculations will include an allowance for climate change, in accordance with current best practice planning guidance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Pol03: Surface Water Attenuation or Limiting Discharge</b> | <p>Drainage design measures will be specified to ensure that 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 for a 100-year 6-hour event, including an allowance for climate change.</p> <p>Any additional predicted volume of run-off for this event will be prevented from leaving the site by using infiltration or other Sustainable Drainage System (SuDS) techniques.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Pol03: Minimising Watercourse Pollution</b>                | <p>No discharge from the developed site for rainfall up to 5mm will occur. In areas with a low risk of watercourse pollution, an appropriate level of pollution prevention treatment will be provided, using appropriate SuDS techniques.</p> <p>Where there is a high risk of contamination or spillage of substances such as petrol and oil, separators (or an equivalent system) will be specified.</p> <p>Where the building has chemical/liquid gas storage areas, a means of containment will be specified to the site drainage system (i.e. shut-off valves) to prevent the escape of chemicals to natural watercourses (in the event of a spillage or bunding failure).</p> <p>All water pollution prevention systems will be designed and installed in accordance with the recommendations of documents such as Pollution Prevention Guideline 3 (PPG3) and/or where applicable the SuDS manual.</p> <p>For areas where vehicle washing will be taking place, pollution prevention systems will be specified in accordance with Pollution Prevention Guidelines 13.</p> <p>A comprehensive and up to date drainage plan of the site will also be made available for the building/site occupiers.</p> |
| <b>Pol04: Reduction of Night Time Light Pollution</b>         | <p>The external lighting strategy will be designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011.</p> <p>All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system will comply with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes.</p> <p>Illuminated advertisements, where specified, will be designed in compliance with ILP PLG 05 The Brightness of Illuminated Advertisements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Pol05: Noise Attenuation</b>                               | <p>A suitably qualified acoustic consultant will be employed to undertake a noise impact assessment in compliance with BS7445, and any remediation measures recommended by the report will be specified and installed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## RESULTS

Based upon the inclusion of the BREEAM measures detailed within this report in the design and construction phases, the proposed Worthing Honda project at Littlehampton Road could achieve an overall BREEAM score of 71.70%, which equates to a BREEAM Excellent rating under the BREEAM New Construction 2014 methodology.

Please note, any deviations made from the measures stated in this report will affect the BREEAM rating and could jeopardise the achievement of the minimum performance objectives. Should any changes occur, it is essential the assessor is informed immediately in order to identify viable alternatives to maintain the overall BREEAM rating. A summary of the anticipated score is detailed below, and a copy of the BREEAM Pre-Assessment scoring scoresheet for the project is also included in Appendix A.

### Potential BREEAM Score & Rating

| Section            | Environmental Weighting | Credits Available | Credits Achieved | Weighted Score |
|--------------------|-------------------------|-------------------|------------------|----------------|
| Management         | 12.00%                  | 21.00             | 17.00            | 9.71%          |
| Health & Wellbeing | 15.00%                  | 18.00             | 8.00             | 6.66%          |
| Energy             | 15.00%                  | 23.00             | 17.00            | 11.08%         |
| Transport          | 9.00%                   | 9.00              | 5.00             | 5.00%          |
| Water              | 7.00%                   | 9.00              | 7.00             | 5.44%          |
| Materials          | 13.50%                  | 13.00             | 10.00            | 10.38%         |
| Waste              | 8.50%                   | 8.00              | 6.00             | 6.37%          |
| Land Use & Ecology | 10.00%                  | 10.00             | 8.00             | 8.00%          |
| Pollution          | 10.00%                  | 11.00             | 8.00             | 6.15%          |
| Total              |                         |                   |                  | 68.70%         |
| Exemplary Credits  |                         |                   |                  | 3.00%          |
| TOTAL BREEAM SCORE |                         |                   |                  | 71.70%         |



## **APPENDIX A**

### BREEAM Pre-Assessment Score Sheet

### Pre-Assessment Score Sheet for Worthing Honda

| BREEAM Section     | BREEAM Measure                                              | Credits Available | Credits Target | Sub total | W   | Section Score |
|--------------------|-------------------------------------------------------------|-------------------|----------------|-----------|-----|---------------|
| Management         | Man01: Stakeholder consultation (project delivery)          | 1                 | 1              | 17        | 12% | 9.71%         |
|                    | Man01: Stakeholder consultation (third party)               | 1                 | 0              |           |     |               |
|                    | Man01: Sustainability champion (design)                     | 1                 | 1              |           |     |               |
|                    | Man01: Sustainability champion (monitoring progress)        | 1                 | 1              |           |     |               |
|                    | Man02: Elemental life cycle cost analysis                   | 2                 | 0              |           |     |               |
|                    | Man02: Component level LCC plan                             | 1                 | 0              |           |     |               |
|                    | Man02: Predicted capital cost reporting                     | 1                 | 1              |           |     |               |
|                    | Man03: Main contractor EMS in place                         | 1                 | 1              |           |     |               |
|                    | Man03: Sustainability champion (construction stage)         | 1                 | 1              |           |     |               |
|                    | Man03: Considerate constructors scheme (25-34points)        | 1                 | 1              |           |     |               |
|                    | Man03: Considerate constructors scheme (35+points)          | 1                 | 1              |           |     |               |
|                    | Man03: Utility consumption recording (energy & water)       | 1                 | 1              |           |     |               |
|                    | Man03: Transport of materials & waste recording             | 1                 | 1              |           |     |               |
|                    | Man04: Commissioning schedule & responsibilities            | 1                 | 1              |           |     |               |
|                    | Man04: Appointment of commissioning manager                 | 1                 | 1              |           |     |               |
|                    | Man04: Commissioning of building fabric                     | 1                 | 1              |           |     |               |
|                    | Man04: Building user guide & training schedule              | 1                 | 1              |           |     |               |
|                    | Man05: Aftercare support for building occupiers             | 1                 | 1              |           |     |               |
|                    | Man05: Seasonal commissioning over 12months                 | 1                 | 1              |           |     |               |
|                    | Man05: Post occupancy evaluation (POE)                      | 1                 | 1              |           |     |               |
|                    | Man05: Collection of energy & water records for 3yrs*       | 1*                | 1*             |           |     |               |
| Health & Wellbeing | Hea01: Provision of adequate glare control                  | 1                 | 1              | 8         | 15% | 6.66%         |
|                    | Hea01: Provision of adequate internal daylight levels       | 1                 | 0              |           |     |               |
|                    | Hea01: Provision of adequate view out for occupants         | 1                 | 0              |           |     |               |
|                    | Hea01: Internal, external lighting levels, zones & controls | 1                 | 1              |           |     |               |
|                    | Hea02: Indoor air quality plan (IAQ)                        | 1                 | 1              |           |     |               |
|                    | Hea02: Minimising sources of pollution - Ventilation        | 1                 | 0              |           |     |               |
|                    | Hea02: VOC emissions (specification)                        | 1                 | 0              |           |     |               |
|                    | Hea02: VOC levels and formaldehyde testing                  | 1                 | 0              |           |     |               |
|                    | Hea02: Provision for natural ventilation                    | 1                 | 0              |           |     |               |
|                    | Hea04: Dynamic thermal model                                | 1                 | 1              |           |     |               |
|                    | Hea04: Climate change scenario model                        | 1                 | 1              |           |     |               |
|                    | Hea04: Thermal zoning & control strategy                    | 1                 | 1              |           |     |               |
|                    | Hea05: Acoustic performance (sound insulation)              | 1                 | 1              |           |     |               |
|                    | Hea05: Acoustic performance (indoor ambient noise)          | 1                 | 1              |           |     |               |
|                    | Hea06: Safe access for pedestrians & cyclists               | 1                 | 0              |           |     |               |
|                    | Hea06: Security consultant & security assessment            | 1                 | 0              |           |     |               |
| Energy             | Ene01: Reduction of CO <sub>2</sub> Emissions               | 12                | 7              | 17        | 15% | 11.08%        |
|                    | Ene02: BMS or pulsed sub-meters for energy types            | 1                 | 1              |           |     |               |
|                    | Ene02: BMS or pulsed sub (meters to function areas)         | 1                 | 1              |           |     |               |
|                    | Ene03: External lighting                                    | 1                 | 1              |           |     |               |
|                    | Ene04: Passive design measures (at RIBA stage 2)            | 1                 | 1              |           |     |               |
|                    | Ene04: Free cooling measures                                | 1                 | 0              |           |     |               |
|                    | Ene04: LZC report and system to provide >10%                | 1                 | 1              |           |     |               |
|                    | Ene06: Lifts (Energy Consumption)                           | 1                 | 1              |           |     |               |
|                    | Ene06: Lifts (Energy Efficient Features)                    | 2                 | 2              |           |     |               |
|                    | Ene08: Energy efficient equipment                           | 2                 | 2              |           |     |               |
| Transport          | Tra01: Public transport provision                           | 5                 | 1              | 5         | 9%  | 5.00%         |
|                    | Tra02: Proximity to amenities                               | 1                 | 1              |           |     |               |
|                    | Tra03: Cycle storage spaces                                 | 1                 | 1              |           |     |               |
|                    | Tra03: Cyclist facilities                                   | 1                 | 1              |           |     |               |
|                    | Tra05: Travel plan                                          | 1                 | 1              |           |     |               |

| BREEAM Section     | BREEAM Measure                                         | Credits Available | Credits Target            | Sub total | W      | Section Score |
|--------------------|--------------------------------------------------------|-------------------|---------------------------|-----------|--------|---------------|
| Water              | Wat01: Water consumption                               | 5                 | 3                         | 7         | 7%     | 5.44%         |
|                    | Wat02: Water meter                                     | 1                 | 1                         |           |        |               |
|                    | Wat03: Major leak detection                            | 1                 | 1                         |           |        |               |
|                    | Wat03: Flow control devices                            | 1                 | 1                         |           |        |               |
|                    | Wat04: Water efficient equipment                       | 1                 | 1                         |           |        |               |
| Materials          | Mat01: Life cycle impacts - Material specification     | 5                 | 5                         | 10        | 13.5%  | 10.38%        |
|                    | Mat02: Hard landscaping & boundary protection          | 1                 | 0                         |           |        |               |
|                    | Mat03: Sustainable procurement plan                    | 1                 | 1                         |           |        |               |
|                    | Mat03: Responsible sourcing of materials               | 3                 | 2                         |           |        |               |
|                    | Mat04: Insulation                                      | 1                 | 1                         |           |        |               |
|                    | Mat05: Designing for robustness & durability           | 1                 | 1                         |           |        |               |
|                    | Mat06: Material efficiency                             | 1                 | 0                         |           |        |               |
| Waste              | Wst01: Construction waste management                   | 3                 | 2                         | 6         | 8.5%   | 6.37%         |
|                    | Wst01: Diversion of waste from landfill                | 1                 | 1                         |           |        |               |
|                    | Wst02: Recycled aggregates                             | 1                 | 0                         |           |        |               |
|                    | Wst03: Operational waste                               | 1                 | 1                         |           |        |               |
|                    | Wst05: Climate change adaptation appraisal & strategy  | 1                 | 1                         |           |        |               |
|                    | Wst06: Functional Adaptation strategy                  | 1                 | 1                         |           |        |               |
| Land Use & Ecology | Le01: Site selection (previously occupied land)        | 1                 | 1                         | 8         | 10%    | 8.00%         |
|                    | Le01: Site selection (contaminated land)               | 1                 | 0                         |           |        |               |
|                    | Le02: Ecological value of site                         | 1                 | 1                         |           |        |               |
|                    | Le02: Protection of ecological features                | 1                 | 1                         |           |        |               |
|                    | Le03: Minimising impact on existing ecology            | 2                 | 2                         |           |        |               |
|                    | Le04: Enhancing site ecology                           | 2                 | 1                         |           |        |               |
|                    | Le05: Long term impact on biodiversity                 | 2                 | 2                         |           |        |               |
| Pollution          | Pol01: Impact of refrigerants                          | 2                 | 1                         | 8         | 10%    | 6.15%         |
|                    | Pol01: Refrigerant leak detection                      | 1                 | 0                         |           |        |               |
|                    | Pol02: NOx emissions                                   | 3                 | 0                         |           |        |               |
|                    | Pol03: Annual probability of flooding                  | 2                 | 2                         |           |        |               |
|                    | Pol03: Peak rate of surface water run off              | 1                 | 1                         |           |        |               |
|                    | Pol03: Surface water attenuation or limiting discharge | 1                 | 1                         |           |        |               |
|                    | Pol03: Minimising watercourse pollution                | 1                 | 1                         |           |        |               |
|                    | Pol04: Reduction of night time light pollution         | 1                 | 1                         |           |        |               |
|                    | Pol05: Noise attenuation                               | 1                 | 1                         |           |        |               |
|                    |                                                        |                   | Innovation Credits*       |           | 3.00%  |               |
|                    |                                                        |                   | Total Score               |           | 71.70% |               |
|                    |                                                        |                   | Overall Rating: Excellent |           |        |               |

