

DRAFT

Sustainability Statement

Proposed Care Home
Dellwood Hospital
Reading
For
Montpelier Estates Limited

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Appendix A: BREEAM Pre-Assessment

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Alterations

The BRE hold the right to update or alter the scheme at any time. MRB as their agents will implement these changes as required to any assessment being undertaken.

1.0 Executive Summary**1.1 General**

A Sustainability Statement has been prepared in support of a planning application for the proposed development with associated works and infrastructure to meet the sustainability targets as set out within the Reading Borough Local Plan.

1.2 BREEAM

Following a BREEAM pre-assessment review meeting and discussion with the project team it has been concluded that 74.24% of credits could be targeted which exceeds the 70% threshold to achieve a BREEAM New Construction 2018 Multi Residential (Residential Institution) Excellent rating.

1.3 Part L, Renewable and Low Carbon Energy

Energy efficiency measures will be incorporated where possible. The installation of local low carbon and renewable energy technologies will be investigated during technical design and incorporated where feasible to achieve compliance with Part L of the Building Regulations.

The use of decentralised energy will be investigated and if feasible included within the development. Grey water harvesting and re-use of rainwater will be considered at the detailed design stage.

2.0 Introduction

2.1 General

The sustainability statement has been prepared in support of the planning application for the proposed development of 55 bedroom Care Home and associated car parking and landscaping.

This statement provides an assessment of the sustainability requirements in line with the Reading Borough Council Local Plan.

The Local Plan requirements will be addressed using the Sustainable Design and Construction Supplementary Planning Document which outlines a checklist in Appendix 1, Table A1.2 Sustainable Design Checklist for Non-Residential Development.

3.0 Policy Review

3.1 Summary Review of Planning Policy Context

This section summarises the policy context for the development sustainability statement, with a focus upon energy and carbon reduction.

The various policies from international to local level, that aim to reduce greenhouse gas emissions, particularly carbon dioxide, and hence contribute to sustainable development are identified below.

3.2 National Planning Policy Framework

The National Planning Policy Framework (February 2019) sets out the Government's planning policies for England and how these are expected to be applied. It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own local and neighbourhood plans and as a material consideration in the determination of planning applications.

At the heart of the National Planning Policy Framework is a 'presumption in favour of sustainable development'. Within this context National Guidance says that:

- i) The purpose of the planning system is to contribute towards achieving sustainable development.
- ii) Sustainable development comprises of economic, social and environmental dimensions. These are interdependent and need to be pursued in mutually supportive ways:
 - Economic- contributing to building a strong, responsive and competitive economy.
 - Social- supporting strong, vibrant and healthy communities.
 - Environmental- contributing to protecting and enhancing the natural, built and historic environment.
- iii) These objectives are not criteria against which every decision can or should be judged. Plans and decisions must take into account local circumstances to ensure sustainable development is responded to appropriately in different areas.
- iv) At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. For decision-making this means that:
 - Approving development proposals that accord with the development plan without delay; and
 - Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:
 - any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
 - specific policies in this Framework indicate development should be restricted.

Planning policies should follow the presumption in favour of sustainable development approach so development which is sustainable can be approved without delay. All plans should set clear policies that will guide how the presumption should be applied locally.

3.3 Reading Climate Change Strategy

The Reading Climate Change Strategy 2013-2020 “Reading Means Business on Climate Change” set out a target of reducing the carbon footprint by 34% by 2020 from levels in 2005.

In response to Reading declaring a climate emergency in 2019, a new version of the Climate Change Strategy was prepared and a draft version of the Climate Change Strategy 2020-2025 was published for consultation in March 2020. The target set out within the document is to achieve a net zero carbon Reading by 2030.

The draft strategy identifies the key priorities to achieving the target set as follows:

- i) Retrofitting and building new homes and other buildings to low/zero carbon standards
- ii) Generating more energy from renewable sources
- iii) Reducing the need to travel, promoting walking, cycling and public transport, and phasing out petrol/diesel in favour of electric vehicles
- iv) Buying and using less ‘stuff’, reducing waste and developing Reading’s ‘circular economy’

3.4 Local Sustainability Policy

3.4.1 Reading Borough Council Local Plan

The Reading Borough Local Plan was adopted in November 2019 and contains the following policies in relation to sustainability:

- i) CC2 Sustainable Design and Construction
- ii) CC3 Adaptation to Climate Change
- iii) CC4 Decentralised Energy
- iv) CC5 Waste Minimisation
- v) EN18 Flooding and Sustainable Drainage Systems

A key document in terms of sustainability is the Reading Borough Council ‘Sustainable Design and Construction’ SPD (2019) which aims to provide clear guidance for developers and decision-makers on the implementation of key sustainability policies as set out within the Local Plan.

3.4.2 CC2 Sustainable Design and Construction

The policy states the new developments must take into account the effects of climate change through efficient design of the building and site layout using energy, water, minerals, materials and other natural resources appropriately. To meet these requirements the following must be achieved:

- a) All major non-residential developments or conversions to residential are required to meet the most up-to-date BREEAM 'Excellent' standards, where possible.
- b) All non-residential development or conversions to residential should incorporate water conservation measures so that predicted per capita consumption does not exceed the appropriate levels set out in the applicable BREEAM standard. Both residential and non-residential development should include recycling greywater and rainwater harvesting where systems are energy and cost effective.

3.4.3 CC3 Adaptation to Climate Change

All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change.

- i) Where possible, new buildings shall be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements.
- ii) Proposals involving both new and existing buildings shall demonstrate how they have been designed to maximise resistance and resilience to climate change for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls, etc
- iii) Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help to connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions
- iv) All development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change.

3.4.4 CC4 Decentralised Energy

- i) Any development of more than 20 dwellings and/ or non-residential development of over 1,000 sq m shall consider the inclusion of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision.
- ii) Where there is existing decentralised energy provision present within the vicinity of an application site, further developments of 10 dwellings or more or non-residential development of 1,000 sq m or more will be expected to link into the existing decentralised energy network or demonstrate why this is not feasible

3.4.5 CC5 Waste Minimisation and Storage

- i) Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.

3.4.6 EN18 Flooding and Sustainable Drainage Systems

The policy states the development will be directed to areas at lowest risk of flooding in the first instance. The development shall consider flooding from all sources and if development is necessary in areas at risk of flooding, it will not reduce the capacity of the flood plain to store water or increase the risks to life and property arising from flooding.

All major developments shall incorporate sustainable drainage systems (SuDS) as appropriate, smaller schemes shall be encourage to incorporate SuDS where possible. All new developments in areas of flood risk should give priority to SuDs.

4.0 Site Appraisal**4.1 Site Analysis**

The site is located within the ground of the Dellwood Hospital site, off Liebenrod Road, Reading. The site is located to the west of Reading, north of the A4 Bath road. The surrounding areas are predominately residential areas with a large green open space, Prospect Park located to the west of the site.

The proposed development is located on a brownfield site, currently occupied by a disused former hospital building and car parking area.

5.0 BREEAM

5.1 Introduction

Policy CC2 Sustainable Design and Construction requires all major non-residential developments to meet the most up to date BREEAM 'Excellent' standards.

The proposed development will be assessed under the current BREEAM 2018 New Construction scheme.

BREEAM Performance Benchmarks

BREEAM Rating	% Score
Pass	30%
Good	45%
Very Good	55%
Excellent	70%
Outstanding	85%

A BREEAM rating of Excellent translates to a score of $\geq 70\%$ being achieved for a building. A BREEAM assessor has been appointed for the proposed development. The proposed building will aim to score highly in each BREEAM category and a pre-assessment has been completed which provides a strategy to achieving Excellent with Targeted, and Possible credits to be clarified post-planning award.

A copy of the pre-assessment has been included in Appendix A.

5.2 Management

Commissioning and seasonal commissioning of the building services systems will be undertaken by the M&E services sub-contractor. A BREEAM compliant building user guide (non-technical) to educate the occupier on the efficient operation of the building will be prepared by the main contractor. A BREEAM compliant building user guide (technical) will be prepared for the premise's facilities managers.

The main contractor will be required to achieve a Considerate Constructors Scheme score of at least 35 with at least 7 credits achieved in category Man03.

The main contractor will undertake construction site actions in line with the BREEAM standards to score all the credits for construction site impacts. This includes the monitoring of the energy, water and transport CO₂ emissions from construction activities and ensuring that best practice in terms of attenuating water and dust pollution is undertaken.

Credit	Targeted	Available	Comments
Man 01 Project Brief and Design – Project Delivery Planning	1	1	The design team will identify their roles and responsibilities throughout the project.
Man 01 Project Brief and Design – Sustainability Champion (Design and Monitoring Progress)	2	2	BREEAM AP appointed by Stage B and will advise through the design and construction process.
Man 02 Life Cycle Costs and Service Life Planning	4	4	An elemental and component life cycle cost analysis will be carried out. Capital costs will be reported at the end of the construction process.
Man 03 Responsible Construction Practices	6	6	A CCS score of 35+ shall be achieved. Utility consumption and transportation of materials to and from site will be monitored. Best practice in environmental management to be implemented.
Man 04 Commissioning and Handover	2	2	Commissioning will be carried out in accordance with BSRIA/CIBSE standards. The commissioning will be overseen by a specialist commissioning manager.
Man 04 Commissioning and Handover – Thermographic Survey	1	1	A thermographic survey and air permeability test will be carried out to ensure integrity of the building fabric.
Man 04 Commissioning and Handover – Handover	1	1	Two building user guides will be provided; a non-technical guide for the building occupiers and a technical guide for the FM team. Two training schedules will be prepared for the building occupiers (non-technical) and premises facilities managers (technical).
Man 05 Aftercare – Aftercare Support	1	1	Aftercare support will be provided to the building users, the water and energy consumption will be monitored for the first 12 months from handover.
Man 05 Aftercare – Commissioning Implementation	1	1	Seasonal commissioning will be undertaken for the first 12 months following completion.

Man 05 Aftercare – Post Occupancy Evaluation	1	1	An independent Post Occupancy Evaluation will be undertaken 12 months after initial occupation. This includes feedback from occupants and disseminating the information to share good practice and lessons learned.
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5.3 Health and Wellbeing

The internal lighting will be high frequency with illuminance in line with CIBSE guidelines, suitable controls will be provided.

An appropriate indoor air quality strategy shall be implemented such that indoor air pollution is minimised and all internal finishes meet the volatile organic compound testing requirement required to achieve the credit 'Hea 02 Emissions from Construction Products'. VOC testing will be undertaken prior to initial occupation of the building to verify the formaldehyde and TVOC levels have met the required levels.

Thermal modelling shall be carried out to inform the thermal zoning and controls strategy. Thermal zoning and control shall be implemented such that a thermally comfortable environment is maintained during building occupation.

An acoustician shall be appointed to ensure the building's acoustic performance including sound insulation meet the appropriate standards for its purpose.

A security consultant shall be consulted to recommend effective measures that promote safe and secure use and access to and from the building.

Credit	Targeted	Available	Comments
Hea 01 Visual Comfort – Glare Control	1	1	The design has been utilised to mitigate glare.
Hea 01 Visual Comfort – Internal & External Lighting	1	1	Internal and external lighting shall be designed to provide appropriate illuminance (lux) levels.
Hea 02 Indoor Air Quality – Air Quality Plan – Emissions from Construction Products – Post Construction Indoor Air Quality Measurement	2	4	An indoor air quality plan shall be produced to confirm the strategy for minimising air pollution during building occupation. Low VOC emissions materials will be specified. VOC testing will be carried out to ensure the indoor air quality levels are met prior to occupation.
Hea 04 Thermal Comfort – Thermal Modelling	3	3	Thermal modelling will be carried out to ensure the internal environment will be suitably for the occupants.

Hea 05 Acoustic Performance	3	4	The internal environment will meet the acoustic requirements for airborne sound insulation, internal indoor ambient noise levels, room acoustics.
Hea 06 Safety & Security	1	1	A security consultant will be appointed at stage 2 to conduct a Security Needs Assessment and to advise on security recommendations.
Hea 07 Safe & Healthy Surroundings	2	2	Safe access for pedestrians and cyclists will be incorporated into the design. An external amenity area will be provided for building users.

5.4 Energy

The development will achieve at least 7 credits for credit Ene 01 Reduction of Energy Use and Carbon Emissions.

The development will be designed to achieve a reduction of CO₂ emissions from the target emission rate set by Part L regulations. The design will incorporate energy efficient lighting and a form of renewable or low carbon technologies to further reduce the CO₂ emissions.

All external lighting will be designed to be energy efficient and appropriately controlled to avoid out of hours operation.

A passive design analysis will be undertaken to investigate any opportunities for reducing the total building services consumption through the use of passive design measures.

Credit	Targeted	Available	Comments
Ene 01 Reduction of Energy Use and Carbon Emissions	7	13	A total of 7 credits will be achieved for Ene 01.
Ene 02 Energy Monitoring	1	1	Major energy consuming systems will be sub-metered.
Ene 03 External Lighting	1	1	Energy efficient and appropriately controlled external lighting shall be installed throughout the development.
Ene 04 Low Carbon Design	2	3	A passive design analysis will be carried out and measures implemented to reduce the overall energy demand. A low zero carbon feasibility study will be carried out and a renewable/low carbon technology installed.
Ene 06 Energy Efficient Transportation System	2	2	Energy efficient lifts to be installed.

Ene 08 Energy Efficient Equipment	2	2	The unregulated energy demand will be reduced through the installation of energy efficient equipment.
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5.5 Transport

A transport assessment has been prepared for the site by David Tucker Associates and a site-specific travel plan will be prepared to encourage sustainable travel.

A number of sustainable transport measures will be implemented including installation of cycle storage spaces, electric car charging points and measures to encourage use of public transport.

Credit	Targeted	Available	Comments
Tra 01 Transport Assessment and Travel Plan	2	2	A transport assessment and travel plan will be prepared for the assessment.
Tra 02 Sustainable Transport Measures	6	10	A number of sustainable transport measures will be implemented including installation of cyclist storage spaces, electric car charging points.

5.6 Water

Low flow sanitaryware will be specified to allow two of a possible five credits to be awarded under the BREEAM issue 'Wat 01 Water Consumption'.

The credit for mains water metering, and sub-metering of the water demand within the building for any area which has over 10% of the water demand will be included.

A water leak detection system will be installed to minimise the loss of water through undetected water leaks.

Credit	Targeted	Available	Comments
Wat 01 Water Consumption	2	5	Two credits can be achieved through the specification of low flow fittings.
Wat 02 Water Monitoring	1	1	Water metering and sub-metering required of the WC core and service yard.

Wat 03 Water Leak Detection & Prevention	1	2	A major water leak detection will be installed.
Wat 04 Water Efficient Equipment	1	1	The unregulated water demand will be reduced by good practice design.

5.7 Materials

A building life cycle assessment has been undertaken to determine the total embodied carbon for the materials specified for the development. An analysis will be undertaken to investigate opportunities to reduce the amount of embodied carbon.

The main contractor will strive to ensure the major building materials are supplied from companies who are EMS compliant for their main production and if possible their supply chain processes. The manufacture and supply chain processes for the materials used in major building elements will be responsibly sourced with certification in ISO14001/BES6001 or other compliant schemes.

Credit	Targeted	Available	Comments
Mat 01 Building Life Cycle Assessment	7	7	A building life cycle assessment will be undertaken for the superstructure, substructure and hard landscaping.
Mat 02 Environmental Product Declarations	1	1	Materials will be specified with a focus on products with Environmental Product Declarations.
Mat 03 Responsible sourcing of construction products	2	4	Main contractor will aim to achieve at least two credits for responsible sourcing.
Mat 05 Designing for durability and resilience	1	1	The development will be designed to include protection measures for vulnerable areas of the building and implement measures to prevent material degradation from environmental factors.
Mat 06 Material Efficiency	1	1	A material efficiency report will be prepared to investigate opportunities to optimise the materials through procurement, construction, maintenance and end-of-life.

5.8 Waste

The main contractor will be required to ensure three credits are awarded for 'Wst 01 Construction Waste Management' for the diversion of construction and demolition waste from landfill and implementing policies to improve waste resource efficiency.

A pre-demolition audit will be carried out to identify the key materials present on the pre-developed site and determine the feasibility of re-using the materials.

A climate change adaptation strategy appraisal for structural and fabric resilience will be carried out to identify hazards that may affect the development. Measures will be implemented to mitigate the effects of expected extreme weather conditions arising from climate change.

A functional adaptability study will be undertaken to investigate the ease of disassembly and functional adaptation potential of the design. to maximise the ability to reuse or reclaim materials at final demolition point based on the principles of a circular economy.

Credit	Targeted	Available	Comments
Wst 01 Construction Waste Management	4	5	A pre-demolition audit will be carried out on site. The main contractor will operate a site waste management plan and meet targets for total waste generated and diversion from landfill.
Wst 03 Operational Waste	1	1	Recyclable and general waste storage to be provided.
Wst 05 Adaptation to Climate Change	1	1	Functional adaptability study to be undertaken and recommendations to be implemented.
Wst 06 Design for disassembly and adaptability	1	2	Functional adaptability study to be undertaken and recommendations to be implemented.

5.9 Land Use and Ecology

An ecologist has been appointed to undertake a phase 1 and BREEAM ecological survey of the site. The ecologist will provide recommendations on how to mitigate potential negative impacts on site and measures to increase the ecological value of the site.

The proposed development is located on a previously developed site, if the land is found to be contaminated, advice will be sought and remedial works will be undertaken before the site is developed.

Credit	Targeted	Available	Comments
LE 01 Site Selection – Previously Occupied Land	1	1	At least 75% of the land is previously occupied.

LE 02 Ecological risks and opportunities	2	2	To be confirmed within the ecology report.
LE 03 Managing impacts on ecology	3	3	To be confirmed within the ecology report.
LE 04 Ecological Change & Enhancement	2	4	To be confirmed within the ecology report.
LE 05 Long Term Ecological Management & Maintenance	2	2	To be confirmed within the ecology report.

5.10 Pollution

External lighting shall be specified such that night time light pollution is reduced through appropriate fitting design and control systems.

A flood risk assessment has been undertaken by Baker Hall Ltd which confirms the site is located within a low flood risk zone. The flood risk assessment outlines the drainage strategy will incorporate some SuDS principles such as permeable paving.

An acoustician will be appointed to reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Credit	Targeted	Available	Comments
Pol 01 Impact of Refrigerants	1	3	The design will aim to achieve one credit under Pol 01 by achieving an overall direct effect life cycle CO ₂ equivalent emission of <1000kgCO ₂ -eq/kW cooling and heating capacity.
Pol 03 Flood & Surface Water Management	4	5	The flood risk assessment has confirmed the site is located within a low flood risk zone. The surface water run rates will be no more for the pre-developed site than the developed site.
Pol 04 Reduction of Night Time Light Pollution	1	1	Night time light pollution shall be reduced through appropriate fitting design and control.
Pol 05 Noise Attenuation	1	1	Acoustician to be appointed to consult regarding noise attenuation.

5.11 Summary

Following a BREEAM pre-assessment review meeting and discussion with the project team it has been concluded that 74.24% of credits could be targeted which exceeds the 70% threshold to achieve a BREEAM New Construction 2018 Multi Residential (Residential Institution) Excellent rating.

The Pre-Assessment (appendix A) indicates there are a further 10.79% potential credits which could be included within the assessment pending further confirmation from the design team.

This demonstrates the project can meet the requirements of CC2 Sustainable Design and Construction with a BREEAM rating of 'Excellent' with a >5% buffer of credits.

6.0 Energy and CO₂ Emissions

6.1 General

The Reading Borough Local Plan identifies a number of policies CC2-CC5 which encourage the consideration of energy efficiency measures, decentralised energy, to reduce the overall carbon emissions of the development over its lifetime.

6.2 Proposed Development

Prioritising a reduction in overall energy demand is the most effective way in which to minimise environmental impacts associated with energy use. The use of efficient technologies and renewables to supply the remaining load results in lower greenhouse gas emissions as compared with the use of conventional alternatives.

Cost effective measures can be adopted to reduce energy demand without making a significant impact on the design, appearance or character of the building. It is intended to implement energy efficiency measures to improve on the minimum standards required in Part L of the Building Regulations.

The following specific measures are proposed to achieve an energy demand reduction at the development:

- i) Improve U-values of the external envelope.
- ii) Improve U-value of glazing.
- iii) Improve air permeability of building envelope.
- iv) Improved efficiency of the space heating and hot water.
- v) Use of energy efficient lighting.
- vi) Use of intelligent lighting controls.

6.3 Low or Zero Carbon Technologies

To address the policy CC4 Decentralised Energy, the development will undertake an energy assessment to consider the viable options for providing energy from decentralised energy sources.

6.3.1 Combined Heat and Power/Combined Cooling Heat and Power

Further investigation will be carried out into the suitability of using CHP within the proposed design.

6.3.2 District Heating

Within the Sustainable Design and Construction SPD (2019), it is confirmed that Element Energy has undertaken a heat mapping and energy master planning study for Reading Town Centre. The heat mapping has identified four clusters as potential areas for developing a heat network scheme within the City Centre.

The proposed site is not located within close proximity to any of the areas highlighted within the potential heat networks schemes.

6.3.3 Solar Water Heaters/Solar Thermal Heating Systems

Further investigation will be carried out into the suitability of the use of solar water heaters within the proposed design.

6.3.4 Photovoltaics (PV) Arrays

Further investigation will be carried out into the suitability of the use of photovoltaics within the proposed design.

6.3.5 Small scale wind energy

It is unlikely, due to the site location that a wind turbine would be a suitable technology to include within the design.

6.3.6 Biomass

Further investigation will be carried out into the suitability of the use of biomass within the proposed design. This is assumed this will not be feasible for this development.

6.3.7 Small Scale Hydropower

This is not a suitable technology for the site.

6.3.8 Energy from Waste

Due to the scale of the development, it is unlikely energy from waste would be a viable option.

6.3.9 Ground Source Heat Pumps

Further investigation will be carried out into the suitability of the use of ground source heat pumps within the proposed design.

6.3.10 Air Source Heat Pumps

Further investigation will be carried out into the suitability of the use of air source heat pumps within the proposed design.

6.4 Summary

The development will achieve compliance with Building Regulations Part L2A 2013. The feasibility of decentralised, renewable and low carbon energy sources will be investigated during detailed design.

It is assumed the most suitable technologies would be solar water, PV, CHP and air source heat pumps.

7.0 Sustainable Design and Construction Checklist

The following sections addresses the Sustainable Design Checklist as per Table A1.2 within the Sustainable Design and Construction SPD.

7.1 Management

Aim: To recognise and encourage environmentally and socially considerate development.

1. *Will guidance for the non-technical building user be provided so they can understand and operate the building efficiently and understand how the design reduced the overall environmental impact of the building and raise environmental awareness?*

A non-technical building user guide and a technical building user guide will be provided in accordance with credit Man 04 Commissioning and Handover as identified within the BREEAM Pre-Assessment, Appendix A.

The building user guide will allow non-technical occupants of the building to understand and operate the building efficiently and highlight how the design has reduced the overall environmental impact of the building which will create environmental awareness.

2. *What consideration has been given to resource use, energy consumption and pollution in terms of the construction site impacts?*

The principal contractor will operate an environmental management system certified to ISO14001 standard. The principal contractor will be responsible for monitoring all construction site impacts including energy and transport consumption

The principal contractor will achieve six credits for credit Man 03 Responsible Construction Practices, two credits will be awarded for responsible construction management.

3. *Will site investigation and appropriate remedial action be undertaken?*

Yes, if the land is found to be contaminated, advice will be sought and remedial works will be undertaken before the site is developed.

4. *Will community and stakeholders be involved in the design process encouraging flexibly designed buildings which cater for shared use with the local community?*

The local community and stakeholders will be consulted with regards to the planning application. Further details for a communal space will be discussed with the operator and local community groups to discuss the use of a communal space for activities such as toddler groups etc.

5. *How has the building been designed to reduce the opportunity for and the fear of crime?*

A security consultant will be appointed to prepare a security needs assessment which will address the crime risks and recommend security measures to improve the security of the site to provide a secure, safe environment for occupants/visitors accessing and using the site. This is accordance with credit Hea 06 Safety & Security, please refer to section 5.1.3.

6. *What consideration has been given to the maintenance of the building?*

The maintenance requirements will be considered during detailed design stage.

7.2 Health and Well-being

Aim: To ensure a good quality amenity level is afforded to occupants of buildings.

7. *How has the development been designed to ensure users have sufficient daylight, an external view, adequate and appropriate lighting, ventilation, air quality and drinking water?*

The design will seek to maximise daylight and view out where possible within the building. The internal and external lighting will meet the requirements of credit Hea 01, please refer to section 5.1.3.

An indoor air quality plan will be carried out and VOC testing will be undertaken to ensure the internal air quality meets the requirements of credit Hea 02, please refer to section 5.1.3.

Thermal modelling will be undertaken to ensure the internal thermal comfort levels will be suitably for occupants.

7.3 Energy

Aim: To conserve energy and maximise the use of energy efficiency techniques.

8. *How has the building been designed to minimise CO₂ emissions associated with their operational energy consumption?*

The development will be designed to achieve a reduction of CO₂ emissions from the target emission rate set by Part L regulations. The design will incorporate energy efficient lighting and a form of renewable or low carbon technologies to further reduce the CO₂ emissions.

9. *How has the development been designed to optimise the use of the energy from the sun, natural daylighting and controlled natural ventilation?*

The building will be designed to maximise daylight and natural ventilation where possible, this will be investigated during the passive design analysis undertaken in accordance with credit Ene 04, please refer to section 5.1.4.

10. *How will the design of the building make efficient use of energy, i.e. use of thermally massive materials, levels of insulation and use of green/brown roofs?*

The building will make use of natural ventilation where possible, to reduce the operational energy for building services. A passive design analysis will be carried out to identify measures that will reduce the overall energy demand.

11. *Have renewable energy sources or decentralised energy been considered for this development and if so, how would they be incorporated within the development?*

Renewable/low carbon technologies will be considered for this development during the preparation of the feasibility study which will be prepared in accordance with credit Ene 04, please refer to section 5.1.4.

7.4 Transport

Aim: To reduce the need to travel through appropriately located development.

12. *How has the design and layout incorporated measures to reduce the need to travel, especially by car, and promote alternative and sustainable modes of transport such as walking, cycling, and the use of public transport?*

Secure cycle storage spaces will be provided to encourage occupants/visitors to cycle to the site. A number of sustainable travel measures will be included within the travel plan which will be implemented by the occupier. Please refer to Transport Assessment prepared by David Tucker Associates.

13. *How have public transport networks been considered in terms of the location of the development and proximity to local amenities?*

A Transport Assessment has been prepared by David Tucker Associates which considers the public transport networks and proximity to local amenities.

The transport assessment confirms the location of local amenities within 2km walking distance which includes food outlets, places of worship and hospitals, please refer to section 3.6 of the Transport Assessment.

Section 3.5 of the Transport Assessment confirms the location and frequency of the public transport services available within close proximity to the site.

14. *How have deliveries and the manoeuvring of delivery vehicles been considered?*

Please refer to Section 4.0 Development Proposals of the Transport Assessment by David Tucker Associates which considers the access into the site and service vehicles/refuse collections.

7.5 Water

Aim: To improve efficiency in the use of water, conserve water resources and minimise vulnerability to flooding.

15. *How will the development incorporate the use of water saving devices to achieve a maximum consumption of 5.5m³ per year per person for office developments? (or the most appropriate benchmark for other types of development)*

The development will achieve two credits under credit Wat 01 which is the equivalent of achieving a 25% improvement upon the benchmark, please refer to credit Wat 01, section 5.1.6.

16. Will the development and access to and from it such as roads and paths be located away from areas of potential flooding?

The site is located with flood zone 1 and is at low risk from surface water flooding, please refer to Flood Risk Assessment prepared by Baker Hall Ltd.

17. How will the development incorporate harvesting and re-use of rainwater?

Greywater harvesting and re-use of rainwater will be considered at the detailed design stage.

18. Does this development meet the requirements of EN18?

The site is located with flood zone 1, the drainage strategy proposes to use SuDS principles to ensure the surface water run off is not exceed from pre-development levels, please refer to Flood Risk Assessment prepared by Baker Hall Ltd.

7.6 Materials

Aim: To retain local character and promote the use of materials with a low environmental impact.

19. How will the selected materials help retain local character, ensure long life and ensure a low environmental impact, including the consideration of embodied energy?

A building life cycle assessment will be carried out to assess the amount of embodied carbon within the materials specified for the development. An analysis will be conducted for the materials used within the superstructure, substructure and hard landscaping to investigate options for reducing the embodied carbon.

20. What consideration has been given to reusing materials in-situ, responsibly sourcing of materials and re-using existing structures?

A pre-demolition audit will be carried out to identify any potential materials for re-use and re-use of existing structures. Responsible sourcing of materials will be required in accordance with credit Mat 03, please refer to section 5.1.7.

7.7 Waste

Aim: To minimise the production of waste and maximise re-use and recycling.

21. Has an audit of the materials present on site been conducted with an assessment of the extent to which materials could be re-used?

A pre-demolition audit will be carried out to determine the feasibility of re-using materials. The pre-demolition audit will be carried out in accordance with credit Wst 01 Construction Waste Management and will include:

- i) Identification and quantification of the key materials present
- ii) Potential application and any related issues for the reuse and recycling of the key materials
- iii) Opportunities for reuse and recycling within the development
- iv) Identification of recycling and reuse targets
- v) Identification of overall landfill diversion rates for all key materials

22. How will the development make the maximum use of construction, demolition waste and recycled materials?

The principal contractor will operate a site waste management plan which will outline targets for waste including diversion from landfill and identify measures to reduce the amount of waste generated.

In line with credit Wst 01 Construction Waste Management, the principal contractor shall ensure the non-hazardous waste generated does not exceed <6.5tonnes per 100m² of gross internal floor area and at least 80% of non-hazardous waste and 90% of non-hazardous demolition waste will be diverted from landfill.

23. How will provision be made for the storage and recycling of waste for all users of the site?

In accordance with credit Wst 03 Operational Waste, a dedicated space for the segregation and storage of operational recyclable waste will be provided. The size and location will be determined based on the predicted waste volumes. The waste storage area will have clearly labelled and segregated areas for storage of recyclable waste streams which will be easily accessible.

7.8 Land Use and Ecology

Aim: To retain, protect and enhance wildlife habitats and natural features.

24. How have the wildlife habitats and natural features on and adjacent to the site been considered and how will they be retained, protected and enhanced?

An ecologist has been appointed to advise the client on the ecology of the site in relation to UK/EU/International legislation and BREEAM Ecology LE02-LE05.

The proposed development will incorporate the recommendations advised by the ecologist and aim to increase the ecological value of the site where possible. A habitat management plan will be prepared for the site and will cover the first five years of occupation.

25. What consideration has been given to not using previously developed land?

The site is previously developed land.

26. What consideration has been given to the removal of contamination from the land?

The proposed development is located on a previously developed site, if the land is found to be contaminated, advice will be sought and remedial works will be undertaken before the site is developed.

7.9 Pollution

Aim: To minimise damage to the environment through air, ground-surface water, land, noise or light pollution.

27. What measures have been incorporated to ensure that noise and light pollution plus pollution transported through surface water runoff or infiltration will be minimised through the development?

An acoustician will be appointed to advise on the background noise levels and to provide recommendations to ensure any new external plant meets the acoustic levels set out within credit Pol 05.

The external lighting will be designed to minimise light pollution in accordance with Table 2 (and its accompanying notes) of the Institution of Lighting Professional (ILP) Guidance notes for the reduction of obtrusive light, 2011.

A number of measures have been incorporated through the commitment to achieve credits under the Pollution section of the BREEAM assessment, please refer to section 5.1.10.

28. What measures have been incorporated to ensure that light pollution will be minimised through the development?

The external lighting will be designed to minimise light pollution in accordance with Table 2 (and its accompanying notes) of the Institution of Lighting Professional (ILP) Guidance notes for the reduction of obtrusive light, 2011.

29. What consideration has been given to reducing refrigerants and minimising nitrogen dioxide emissions?

The design will consider using refrigerants with a low global warming potential to reduce the overall impact of the refrigerants.

30. How has the development been sited to minimise the impact of flooding?

The site is located within flood zone 1, low flood risk from surface water flooding. Please refer to the flood risk assessment prepared by Baker Hall Ltd.

31. How has the design considered the use of sustainable drainage systems (SuDS) and how will they be incorporated within the development?

A flood risk assessment has been prepared for the site, the drainage design will aim to reduce the surface water run off rate for the developed site. The drainage will be designed with an allowance for climate change and the design considers the use of sustainable drainage systems (SuDS). Please refer to Flood Risk Assessment prepared by Baker Hall Ltd.

7.10 Innovation

Aim: To recognise innovation in the field of sustainability

32. What consideration has been given to innovative sustainability measures in terms of a procurement strategy, design features, management process or technological?

The scheme is aiming to achieve a BREEAM Excellent rating and will incorporate design features to meet the requirements. Use of innovative sustainability measures will be considered at detailed design stage.

8.0 Summary**8.1 General**

The proposed development with associated works and infrastructure will meet the sustainability targets as set out in Sustainable Design and Construction Supplementary Planning Document.

8.2 BREEAM

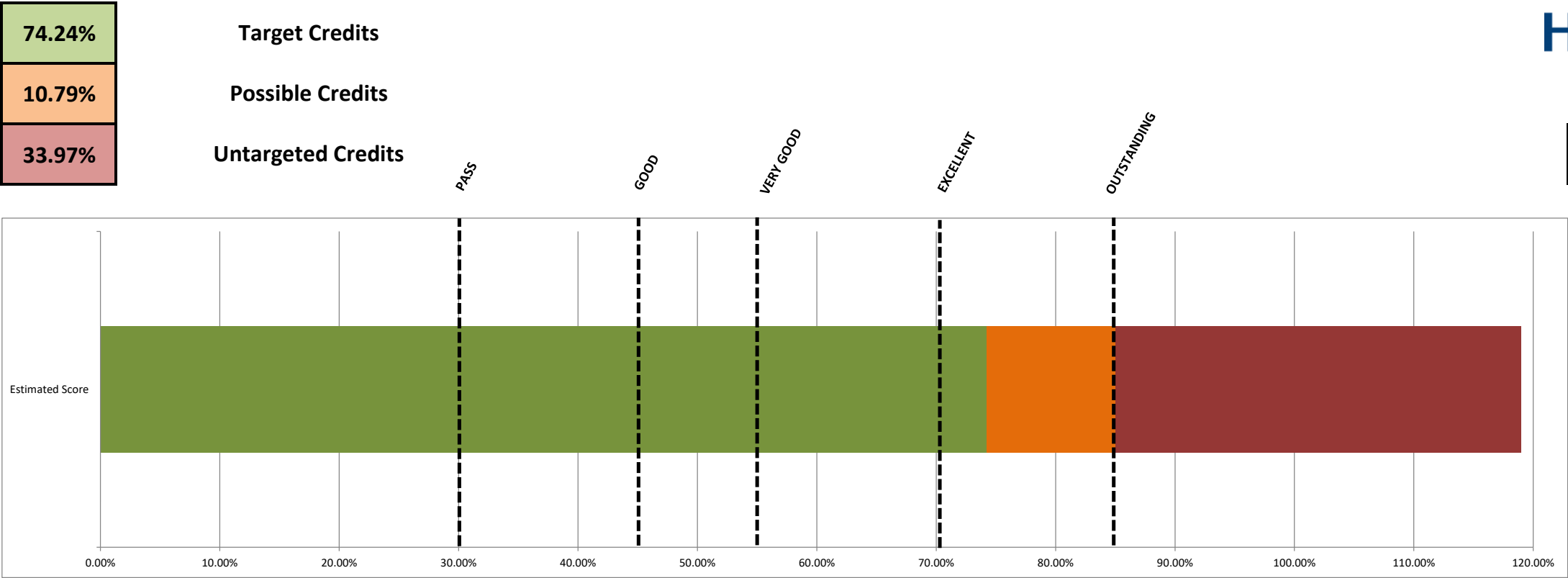
Following a BREEAM pre-assessment review meeting and discussion with the project team it has been concluded that 74.24% of credits could be targeted which exceeds the 70% threshold to achieve a BREEAM New Construction 2018 Multi Residential (Residential Institution) Excellent rating.

8.3 Part L, Renewable and Low Carbon Energy

Energy efficiency measures will be incorporated where possible. The installation of local low carbon and renewable energy technologies will be investigated during technical design and incorporated where feasible to achieve compliance with Part L of the Building Regulations.

The use of decentralised energy will be investigated and if feasible included within the development. Grey water harvesting and re-use of rainwater will be considered at the detailed design stage.

Appendix A: BREEAM Pre-Assessment



Rev	Date	Notes
Rev 01	23/04/2020	Initial desktop pre-assessment to achieve Excellent prior to planning. Targeted = 72.91%, Possibles = 12.12%
Rev 02	23/07/2020	Revised pre-assessment following response from design team. Targeted = 74.24% Possibles = 10.79%

BREEAM 2018 New Construction - Multi-Residential (Care Home)									
Credit		Available Credits	Target Credits	Possible Credits	Untargeted Credits	Credit Information	Comments	Time Dependent	Responsibility
Management									
Man 01	Project Brief and Design	1	1	0	0	Project Delivery Planning • 1 credit where by RIBA Stage 2 the design team have identified their roles and responsibilities through the construction process.		RIBA STAGE 2	PROJECT MANAGER
		1	0	0	1	Stakeholder Consultation (Interested Parties) • 1 credit where a plan is in place to consult and provide feedback on the design to the relevant stakeholders and bodies.		RIBA STAGE 2	PROJECT MANAGER
		1	1	0	0	BREEAM AP (Concept Design) • 1 credit for appointment of BREEAM AP by RIBA Stage 1 to produce a BREEAM pre-assessment and help confirm the BREEAM target for the scheme.		RIBA STAGE 1/2	PROJECT MANAGER
		1	1	0	0	BREEAM AP (Developed Design) • 1 credit for appointment of a BREEAM AP to monitor and report progress against BREEAM targets by attending key Design Team meetings and producing a design stage report.			PROJECT MANAGER
Man 02	Life Cycle Cost & Service Life Planning	2	2	0	0	Elemental Life Cycle Cost (LCC) • 2 credits for undertaking a LCC analysis by RIBA Stage 2.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2	SPECIALIST SUB-CONTRACTOR
		1	1	0	0	Component Level LCC Plan • 1 credit where a component level LCC plan has been produced by the end of RIBA Stage 4.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 4	SPECIALIST SUB-CONTRACTOR
		1	1	0	0	Capitol Cost Reporting • 1 credit where the capital cost of the building in £/m2 is reported via the BREEAM monitoring tool.			QS

Man 03	Responsible Construction Practices	-	-	-	-	Legal & Sustainable Timber • A mandatory pre-requisite for the all the timber and timber-based products used are legally harvested and traded timber.			MAIN CONTRACTOR
		1	1	0	0	Environmental Management • 1 credit for the main contractor operating a EMS (ISO14001) covering their main operations and follows best practice pollution guidelines.			MAIN CONTRACTOR
		1	1	0	0	BREEAM AP (Site) • The BREEAM AP is appointed to monitor and report ongoing compliance of the project against relevant sustainability performance criteria during the construction, handover and close out stages.			MAIN CONTRACTOR
		2	2	0	0	Responsible Construction Management • 1 credit for achieving the minimum responsible construction management items outlined in the BREEAM Manual. • 2 credits for achieving the minimum responsible construction management items along with six additional items outlined in the BREEAM Manual.	MANDATORY: (1 credit) for Excellent.		MAIN CONTRACTOR
		1	1	0	0	Utility Consumption • 1 credit for the monitoring, recording and reporting of on-site energy/carbon and water used during construction.			MAIN CONTRACTOR
		1	1	0	0	Transport of Construction Material • 1 credit for the monitoring, recording and reporting of transport carbon emissions for the materials and waste.			MAIN CONTRACTOR
Man 04	Commissioning and Handover	1	1	0	0	Commissioning - Testing Schedule and Responsibilities • 1 credit for undertaking monitoring, programming, pre-commissioning, commissioning and re-commissioning for non-complex buildign services, control systems and testing & inspecting of building fabric.	MANDATORY: (1 credit) for Excellent.		M&E/ MAIN CONTRACTOR
		1	1	0	0	Commissioning - Design and Preparation • 1 credit for undertaking monitoring, programming, pre-commissioning, commissioning and re-commissioning for building services and specialist systems.			M&E
		1	1	0	0	Testing & Inspecting Building Fabric • 1 credit for air tightness testing and a thermographic study post-construction to confirm continuity of insulation, avoidance of excessive thermal bridging, air leakage paths and any remediation required.			MAIN CONTRACTOR
		1	1	0	0	Handover • 1 credit for the production of both a technical and non-technical building user guide. The guide covers all functions and uses of the building, ensuring building occupants can use the building effectively.	MANDATORY: (Criterion 11 only) Creation of a building user guide.		MAIN CONTRACTOR
Man 05	Aftercare	1	1	0	0	Aftercare Support • 1 credit for Post Occupancy Evaluation of systems for 12 months from handover, including the collection of water and energy data and comparisons are made with what was expected. • A contract is in place to provide aftercare support to building users.			MAIN CONTRACTOR/ OCCUPIER
		1	1	0	0	Commissioning - Implementation • 1 credit for undertaking post-completion seasonal commissioning of complex and simple systems for up to 12 months following completion.	MANDATORY: (1 credit) for Excellent.		M&E
		1	1	0	0	Post Occupancy Evaluation • 1 credit where an independent 3rd party Post Occupancy Evaluation is undertaken 12 months after occupation. This includes a review of design & construction process, feedback from building users and sustainability performance is undertaken. The client will disseminate this information to share good practice and lessons learned.			OCCUPIER
Category score		21	20	0	1				
Category Weighting		11.00%							
% Score		11.00%	10.48%	0.00%	0.52%				

Health & Wellbeing									
Hea 01	Visual Comfort	1	1	0	0	Glare Control • 1 credit where all relevant areas have the potential for disabling glare through building layout, building design, brise soleil or bioclimatic design.			ARCHITECT
		2	0	0	2	Daylighting • 2 credits where 80% of the occupied spaces have a daylight factor of at least 2%. In addition uniformity, view of sky and room depth criteria must be satisfied.			ENERGY MODELLER
		1	0	0	1	View Out • 1 credit where 95% of the relevant building areas are within 8m of a suitably sized window that provides an adequate view out.			ARCHITECT

		1	1	0	0	Internal & External Lighting • 1 credit for specification of internal and external lighting levels in line with CIBSE guidance and lighting controls are appropriately zoned.			M&E
Hea 02	Indoor Air Quality	-	-	-	-	Indoor Air Quality Plan • Mandatory pre-requisite site-specific indoor air quality plan is produced.			M&E
		1	0	0	1	Ventilation • 1 credit where intakes and extracts are a sufficient distance apart and any area subject to unpredictable occupancy is linked to CO ₂ sensors.			-
		2	1	1	0	Emissions From Construction Products • 1 credit for 3 out of the 5 product specifications of internal finishes have met the testing requirements and emission levels for Volatile Organic Compounds (VOCs). • 2 credits where all product specifications of internal finishes have met the testing requirements and emission levels for Volatile Organic Compounds (VOCs).			ARCHITECT/ MAIN CONTRACTOR
		1	1	0	0	Post-Construction Indoor Air Quality Measurement • 1 credit where the formaldehyde concentration level and other airborne VOC concentration levels are measured post-construction and the levels meet the BREEAM standards.			MAIN CONTRACTOR
Hea 04	Thermal Comfort	1	1	0	0	Thermal Modelling • 1 credit where a dynamic thermal analysis has been undertaken to ensure CIBSE comfort levels are met and the building complies with the relevant 'Time out of Range' metric.			M&E
		1	1	0	0	Design For Future Thermal Comfort • 1 credit for providing evidence through the thermal modelling how passive design features of the building have been included and how these influence thermal comfort future levels.			M&E
		1	1	0	0	Thermal Zoning and Controls • 1 credit for appropriate zoning of heating controls in line with the thermal modelling analysis.			M&E
Hea 05	Acoustic Performance	4	3	0	1	Sound Insulation; - One credit: airborne sound insulation values 3dB higher and impact sound insulation values 3dB lower than relevant Building Regulations standards. - Two credits: airborne sound insulation values 5dB higher and impact sound insulation values 5dB lower than relevant Building Regulations standards. Internal Indoor Ambient Noise Level; - One credit: Indoor ambient noise levels comply with the design ranges in Section 7 of BS 8233:2017. Room Acoustics - One credit: Achieve the requirements relating to sound absorption within the common spaces of the building outlined in the relevant building regulations or building standards national guidance.			ACOUSTICIAN
Hea 06	Safety & Security	1	1	0	0	Security of the Site and Building • 1 credit for consultation with a 'Suitably Qualified Security Consultant' at Stage 2 on the design, confirming compliance with 'Secured by Design' principles and incorporating any recommendations. A Security Based Needs assessment must be produced.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2	ARCHITECT/ ALO
Hea 07	Safe & Healthy Surrounding	1	1	0	0	Safe Access • 1 credit where safe access requirements for pedestrians and cyclists have been incorporated into the external design.			ARCHITECT
		1	1	0	0	Outside Space • 1 credit for an outside space providing building users with an external amenity area.			ARCHITECT
Category score		19	13	1	5				
Category Weighting		14.00%							
% Score		14.00%	9.58%	0.74%	3.68%				

Energy									
Ene 01	Reduction of Energy Use & Carbon Emissions	9	3	0	6	Energy Performance • Up to 9 credits awarded based on the Part L analysis and the reduction in Energy Demand, Energy Consumption and Building Emission Rate.	MANDATORY: (4 credits or Prediction of Operational Energy Reporting) for Excellent		M&E
		4	4	0	0	Prediction of Operational Energy Consumption • Mandatory pre-requisite that the design team hold preliminary design workshop to discuss operational energy performance. • 4 credits where additional energy modelling during design and post-construction stages to generate predicted energy consumption under differing scenarios.	MANDATORY: (4 credits or Prediction of Operational Energy Reporting) for Excellent		M&E
Ene 02	Energy Monitoring	1	1	0	0	Sub-metering of End-Use Categories • 1 credit for energy metering of major energy consuming systems through accessible energy sub-meters with a pulsed output.	MANDATORY: (1 credit) for Excellent		M&E

Ene 03	Energy Efficient External Lighting	1	1	0	0	External Lighting • 1 credit where the building is designed to operate without the need for external lighting or alternatively, where the building does have external lighting, the average initial luminous efficacy of the external lighting fittings is no less than 70 luminaire lumens per circuit Watt and all external fittings are appropriately controlled.			M&E
Ene 04	Low Carbon Design	1	1	0	0	Passive Design Analysis • 1 credit where passive design solutions are incorporated by RIBA Stage 2 to reduce energy consumption of building services resulting in a >5% reduction in the total energy demand.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2	M&E
		1	0	0	1	Free Cooling • 1 credit where a free cooling strategy has been incorporated into the building design, or the building does not require any form of cooling.			-
		1	1	0	0	Low Zero Carbon Feasibility Study • 1 credit for production of a compliant LZC feasibility study by an Energy specialist.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2	M&E
Ene 06	Energy Efficient Transportation System	1	1	0	0	Transportation System Analysis • 1 credit where a transportation system analysis is carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient.			MAIN CONTRACTOR/ LIFT MANUFACTURER
		1	1	0	0	Energy Efficient Features • 1 credit where the relevant energy-efficient features criteria are met.			MAIN CONTRACTOR/ LIFT MANUFACTURER
Ene 08	Energy Efficient Equipment	2	2	0	0	Energy Efficient Equipment • 2 credits where the majority of unregulated energy are specified in line with BREEAM standards.			OCCUPIER
Category score		22	15	0	7				
Category Weighting		16.00%							
% Score		16.00%	10.91%	0.00%	5.09%				

Transport									
Tra 01	Transport Assessment & Travel Plan	2	2	0	0	Travel Plan • 1 credit where a travel plan based on a site and building specific transport assessment has been produced, which influences the development design.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	TRANSPORT CONSULTANT/ ARCHITECT
Tra 02	Sustainable Transport Measures	10	6	2	2	Transport Options Implementation • Mandatory pre-requisite to achieve the Tra 01 credits. • Up to 10 credits dependant upon the number of transport options implemented in line with the BREEAM requirements.			ARCHITECT/ DESIGN TEAM OCCUPIER
Category score		12	8	2	2				
Category Weighting		10.00%							
% Score		10.00%	6.67%	1.67%	1.67%				

Water									
Wat 01	Water Consumption	5	2	1	2	Sanitary Fittings and Grey/Rainwater • 1 credit for reducing potable water consumption by 12.5% over standard. • 2 credits for reducing potable water consumption by 25% over standard. • 3 credits for reducing potable water consumption by 40% over standard. • 4 credits for reducing potable water consumption by 50% over standard. • 5 credits for reducing potable water consumption by 55% over standard.	MANDATORY: (1 credit) for Excellent		ARCHITECT
Wat 02	Water Monitoring	1	1	0	0	Water Metering • 1 credit for installation of a main water meter and sub-meters in areas with over 10% of building water demand. All meters must have a pulsed output.	MANDATORY: (criterion 1 only) A water meter is specified on the mains water supply to each building.		M&E
Wat 03	Water Leak Detection and Prevention	1	1	0	0	Leak Detection System • 1 credit for installation of a programmable water leak detection unit within the building and between the building and utilities water meter.			M&E
		1	0	0	1	Flow Control Devices • 1 credit for installation of flow-control devices to each WC area/facility to ensure water is only supplied when needed and prevent minor leaks.			-
Wat 04	Water Efficient Equipment	1	1	0	0	Unregulated Water • 1 credit where the unregulated water demands have been identified and reduced. This can be through either good practice design or specification to achieve a meaningful water demand reduction.			ARCHITECT
Category score		9	5	1	3				
Category Weighting		7.00%							
% Score		7.00%	3.89%	0.78%	2.33%				

Materials

Mat 01	Building Life Cycle Assessment	7	7	0	0	Building Life Cycle Assessment (LCA) - Up to 6 credits where an LCA on the superstructure is carried out at both Concept Design and Technical Design. 1 credit where an LCA on the substructure and hard landscaping is carried out at Concept Design.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2 & RIBA STAGE 4	ARCHITECT/ SPECIALIST SUB-CONTRACTOR
Mat 02	Environmental Product Declarations	1	1	0	0	Specification of Products With a Recognised Environmental Product Declaration Construction products with an EPD achieve a combined point score of at least 20 calculated in line with BREEAM requirements.			ARCHITECT/ MAIN CONTRACTOR
Mat 03	Responsible Sourcing	1	1	0	0	Enabling Sustainable Procurement 1 credit for producing a documented sustainable procurement plan.	MANDATORY: (criterion 1 only) All timber and timber based products used on the project is 'Legal and Sustainable timber'.	RIBA STAGE 2	CLIENT/ DESIGN TEAM
		3	1	1	1	Measuring Responsible Sourcing Up to 3 credits for selection of materials whose manufacture and production processes have been certified through an EMS (Environmental Management System) process.			MAIN CONTRACTOR
Mat 05	Designing for Durability and Resilience	1	1	0	0	Internal and External Protection Measures 1 credit for specifying suitable protection measures to areas vulnerable to high pedestrian traffic, internal vehicular/trolley movement and external vehicle collision. Also building elements are designed to limit degradation due to environmental factors.			ARCHITECT
Mat 06	Material Efficiency	1	1	0	0	Optimise Material Efficiency 1 credit where opportunities have been identified, investigated and implemented to optimise the materials through procurement, construction, maintenance and end-of-life.		RIBA STAGE 1	ARCHITECT
Category score		14	12	1	1				
Category Weighting		15.00%							
% Score		15.00%	12.86%	1.07%	1.07%				

Waste									
Wst 01	Construction Waste Management	1	1	0	0	Pre-Demolition Audit • 1 credit where a pre-demolition audit of any existing elements is carried out at concept design in line with BREEAM requirements.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020. Pre-demo audit received 14/07/2020, comments sent back 14/07/2020. Updated report received 15/07/2020.	RIBA STAGE 2	-
		3	2	0	1	Construction Resource Efficiency • 1 credit for the reduction of non-hazardous waste to be ≤13.3m ³ or ≤11.1 tonnes per 100m ² gross internal floor area. • 2 credits for the reduction of non-hazardous waste to be ≤7.5m ³ or ≤6.5 tonnes per 100m ² gross internal floor area. • 3 credits for the reduction of non-hazardous waste to be ≤3.4m ³ or ≤3.2 tonnes per 100m ² gross internal floor area.		MAIN CONTRACTOR	
		1	1	0	0	Diversion of Resources from Landfill • 1 credit where 70% (volume) or 80% (mass) of non-hazardous non-demolition construction waste & 80% (volume) or 90% (mass) of non-hazardous demolition waste are diverted from landfill.		MAIN CONTRACTOR	
Wst 02	Recycled & Sustainably Sourced Aggregates	1	0	1	0	Project Sustainable Aggregate Points • 1 credit where details of the appropriate aggregates identified are used to calculate project sustainable aggregate points between 3.5 - 6 in line with the BREEAM requirements.			STRUCTURAL ENGINEER
Wst 03	Operational Waste	1	1	0	0	Recyclable Waste Storage/ Compactor/ Composting • 1 credit where adequate storage space is provided for the expected general and recyclable waste streams operated on-site.	MANDATORY: (1 credit) for Excellent		ARCHITECT
Wst 05	Adaptation to Climate Change	1	1	0	0	Structural and Fabric Resilience • 1 credit where, by RIBA Stage 2, a climate change adaptation strategy appraisal for structural and fabric resilience		RIBA STAGE 2	ARCHITECT/ STRUCTURAL
Wst 06	Design for Disassembly &	2	1	0	0	Design for Disassembly & Adaptability - Recommendations • 1 credit where a building specific functional adaptation strategy is undertaken by RIBA Stage 2 which includes recommendations to facilitate future adaptation.		RIBA STAGE 2	ARCHITECT

	Disassembly & Adaptability		0	1	0	Design for Disassembly & Adaptability - Implementation • 1 credit where updates during Technical Design on the recommendations provided have been implemented. A guide is produced outlining the functional adaptability and disassembly to future tenants.		RIBA STAGE 4	ARCHITECT
Category score		10	7	2	1				
Category Weighting		6.00%							
% Score		6.00%	4.20%	1.20%	0.60%				

Land Use & Ecology									
LE 01	Site Selection	1	1	0	0	Previously Occupied Land • 1 credit awarded where 75% of the developments footprint is on an area of previously occupied land for industrial, commercial or domestic purposes in the last 50 years.			ARCHITECT
		1	0	1	0	Contaminated Land • 1 credit where the site is deemed contaminated and appropriate remediation has been undertaken.			STRUCTURAL ENGINEER
LE 02	Ecological Risks and Opportunities	-	-	-	-	Statutory Obligations • Mandatory pre-requisite that the client/contractor confirms compliance is monitored against all relevant UK/EU/International legislation regarding the ecology of the site.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.		ECOLOGIST
		1	1	0	0	Survey & Evaluation • 1 credit where an appropriate individual is appointed, survey and evaluation is carried out to determine the ecological baseline of the site, this data is shared with the project team to influence site preparation, design and construction.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
		1	1	0	0	Determining Ecological Outcomes • 1 credit where representative stakeholders have been consulted to identify and consider the ecological outcome for the site which is then adopted.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
LE 03	Managing Impacts on Ecology	-	-	-	-	Ecological Risks & Opportunities for the Site • Mandatory pre-requisite LE 02 credit requirements achieved. • Mandatory pre-requisite that the client/contractor confirms compliance is monitored against all relevant UK/EU/International legislation regarding the ecology of the site.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.		ECOLOGIST
		1	1	0	0	Planning and Measures on-site • 1 credit where roles and responsibilities have been clearly identified at an early project stage to adopt the ecological outcome chosen for the site. Preparation of the site has been implemented early applying appropriate recommendations provided by the representative stakeholders.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
		2	2	0	0	Managing Negative Impacts • Negative impacts from the site preparation and construction works have been managed in line with the BREEAM requirements. • 1 credit awarded where loss of ecological value has been limited. • 2 credits awarded where no overall loss of ecological value has occurred.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
LE 04	Ecological Change & Enhancement	-	-	-	-	Managing Negative Impacts • Mandatory pre-requisite LE 03 "Managing Negative Impacts" credit requirements achieved. • Mandatory pre-requisite that the client/contractor confirms compliance is monitored against all relevant UK/EU/International legislation regarding the ecology of the site.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.		ECOLOGIST
		1	1	0	0	Ecological Enhancement • 1 credit where solutions and measures identified to enhance ecological value have been implemented both on site, and if applicable, within the zone of influence.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
		3	1	1	1	Change and Enhancement of Ecology • Up to 3 credits awarded based on a calculation of the change in ecological value occurring as a result of the project.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
LE 05	Long Term Ecological Management & Maintenance	-	-	-	-	Statutory Obligations, Planning and Site Implementation • Mandatory pre-requisite LE 03 "Managing Negative Impacts" credit requirements achieved. • Mandatory pre-requisite LE 04 at least one credit for "Change and Enhancement of Ecology is achieved. • Mandatory pre-requisite that the client/contractor confirms compliance is monitored against all relevant UK/EU/International legislation regarding the ecology of the site.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.		ECOLOGIST
		1	1	0	0	Management and Maintenance Throughout the Project • 1 credit where the project team liaise with representative stakeholders to develop solutions and measures to monitor, review and develop management and maintenance solutions for the ecology of the site.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
		1	1	0	0	Landscape and Ecology Management Plan • 1 credit where a landscape and ecology management plan is developed in accordance with BS 42020:2013 and is in line with the relevant BREEAM requirements	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 1/2	ECOLOGIST
Category score		13	10	2	1				
Category Weighting		13.00%							
% Score		13.00%	10.00%	2.00%	1.00%				

Pollution									
Pol 01	Refrigerants	2	1	0	1	Refrigerants • 3 credits where no refrigerants are to be used. OR if refrigerants are to be used: • 2 credits where the direct effect life cycle CO ₂ emissions are <100kgCO ₂ /kW OR all refrigerants used have a Global Warming Potential ≤ 10. • 1 credits where the direct effect life cycle CO ₂ emissions are <1000kgCO ₂ /kW.			M&E
		1	0	0	1	Leak Detection • 1 credit where compliant refrigerant detection and pump-down system is installed.			-
Pol 02	Local Air Quality	2	0	2	0	Local Air Quality • 2 credits where all heating and hot water is supplied by non-combustible systems, e.g. electric. OR • Up to 2 credits where the NOx emissions for the applicable appliance do not exceed the levels within the BREEAM requirements.			-
Pol 03	Flood & Surface Water Management	2	2	0	0	Flood Risk • 2 credits for location of site within a low risk flood zone. • 1 credit for location of site within a medium/high risk flood zone with appropriate flood remediation measures.	Email received from Baker Hall 26/05/2020 confirming 2 credits for flood risk, and 2 for surface water can be awarded. FRA/ Surface Water report received 09/07/2020, comments sent back 10/07/2020.		CIVILS
		1	1	0	0	Surface Water Run-off Rate • 1 credit where the peak rate of surface water run-off is no greater for the developed than pre-developed site and it includes an allowance for climate change.	Email received from Baker Hall 26/05/2020 confirming 2 credits for flood risk, and 2 for surface water can be awarded.		CIVILS
		1	1	0	0	Surface Water Run-off Volume, Attenuation and Limiting Discharge • 1 credit where flooding will not occur in the event of a local drainage system failure, and the post-development run-off volume is no greater than for the existing site.	Email received from Baker Hall 26/05/2020 confirming 2 credits for flood risk, and 2 for surface water can be awarded.		CIVILS
		1	0	0	1	Minimising Watercourse Pollution • 1 credit where suitable watercourse pollution measures (SUDS or oil separators) are specified in line with Pollution Prevention Guidance 3 and the SUDS manual. In addition there is no discharge from site for rainfall up to 5mm.	Email received from Baker Hall 26/05/2020 confirming the watercourse pollution credit cannot be awarded.		-
Pol 04	Reduction of Night-Time Light Pollution	1	1	0	0	Light Pollution • 1 credit for the design of the external lighting strategy to reduce light pollution from the development. All external lighting is to be able to be switched off between 2300-0700 hours.			M&E
Pol 05	Reduction of Noise Pollution	1	1	0	0	External Noise Attenuation • 1 credit for appointing a 'Suitably Qualified Acoustician' to complete an external noise analysis to ensure building services plant will not disturb local noise-sensitive developments.			ACOUSTICIAN

Category score	12	7	2	3
Category Weighting	8.00%			
% Score	8.00%	4.67%	1.33%	2.00%

Innovation									
Man 03	Responsible Construction Practices	1	0	1	0	Responsible Construction Management • 1 credit for achieving all the responsible construction management items outlined in the BREEAM Manual.			MAIN CONTRACTOR
Hea 01	Visual Comfort	1	0	0	1	Daylighting • 1 credit where 80% of occupied spaces have a daylight factor of 3%+.			-
		1	0	0	1	Internal & External Lighting • Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output.			-
Hea 02	Indoor Air Quality	1	0	0	1	Emissions From Construction Products • 1 credit for 3 out of the 5 product specifications of internal finishes have met the exemplary testing requirements and emission levels for Volatile Organic Compounds (VOCs).			-
Hea 06	Security	1	0	1	0	Risk Based Security Rating • A compliant risk based security rating scheme has been used and the performance has been confirmed by independent assessment and verification.			SECURITY SPECIALIST
	Reduction of Energy		0	0	3	Zero Carbon to Carbon Negative • 3 credits where the building is carbon negative. • Up to 2 credits possible where a building achieves zero net CO ₂ emissions.			-

Ene 01	Use & Carbon Emissions	5	0	0	2	Post Occupancy • Pre-requisite of achieving all available credits in Ene 02. • 2 credits where the client/building occupier commits funds to pay for post occupancy energy modelling based on the actual energy consumption compared with the targets set in the credit criteria.			-
Wat 01	Water Consumption	1	0	0	1	Potable Water Reduction • 1 credit for reducing potable water consumption by 65% over standard.			-
Mat 01	Building Life Cycle	3	0	0	1	Core Building Services • 1 credit where an LCA is carried out for core building services design options.		RIBA STAGE 2	-
			0	0	1	LCA and LCC • Pre-requisite of achieving Elemental LCC plan and Component Level LCC credits of Man 02. • 1 credit where the LCA and LCC are aligned and incorporated within the design decision-making process.		RIBA STAGE 2	-
			1	0	0	Third Party Verification • 1 credit where a suitably qualified third party either carries out the LCAs or produces a report verifying the LCAs produced accurately represent the designs under consideration during Concept Design and Technical Design.	Sent credit requirements to Rick Howarth at Montpelier Estates to obtain a quote 23/04/2020.	RIBA STAGE 2	ARCHITECT/ SPECIALIST SUB-CONTRACTOR
Mat 03	Responsible Sourcing of Materials	1	0	0	1	Responsibly Sourced Materials • 1 credit based on the EMS certification of materials for their manufacture and supply chain processes such as production and abstraction, including building services.			-
Wst 01	Construction Waste Management	1	0	0	1	Site Waste Management Plan • 1 credit for the reduction of non-hazardous waste to be <1.6m³ or 1.9 tonnes per 100m² gross internal floor area. OR • 1 credit for 85% (volume) or 90% (mass) of non-hazardous construction waste is diverted from landfill.			-
Wst 02	Recycled Aggregates	1	0	0	1	Project Sustainable Aggregate Points • 1 credit where details of the appropriate aggregates identified are used to calculate project sustainable aggregate points greater than 6 in line with the BREEAM requirements.			-
Wst 05	Adaptation to Climate Change	1	0	0	1	Responding to Adaptation to Climate Change • 1 credit for achieving the following criteria points in addition to the standard Wst 05 requirements: - Criterion 6 of Hea 04 has been achieved, - At least 6 credits have been achieved under Ene 01, - The 'Passive Design Analysis' credit of Ene 04 has been achieved, - At least 3 credits have been achieved under Wat 01, - Criterion 2-4 of Mat 05 has been achieved, - At least 1 and 2 credits have been achieved under the 'Flood Risk' and 'Surface Water Run-off' requirements of Pol 03 respectively.			-
LE 02	Identifying & Understanding the Risks & Opportunities for the Project	1	0	0	1	Determine the Ecological Outcomes for the Site • 1 credit where the wider site sustainability-related activities are considered along with the potential for ecosystem service related benefits, in addition to; - The 2 credits of Hea 07 has been achieved, - Criteria 5-23 of Pol 03 has been achieved, - The 1 credit of Pol 05 has been achieved.			-
Category score			19	2	16				
Category Weighting			10.00%						
% Score			10.00%	1.00%	2.00%	16.00%			