LONGLEAZE LANE, MELKSHAM

2315 – Sustainability Statement Report

A report prepared for and on behalf of:

Aspire LPP

HARNISS

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Sustainability Statement

1.0 EXECUTIVE SUMMARY

1.1 This document details the intended sustainability strategy for the proposed care home based on Longleaze Lane, Melksham. The development briefly comprises of the construction of a new 82 bed care home (Use Class C2) on the site and the associated works including car parking, access, landscaping, and associated engineering. This report has been prepared by Harniss Consulting on behalf of Aspire LPP.

1.2 Sustainable design and construction measures incorporated into the development proposals for Longleaze Lane, Melksham include:

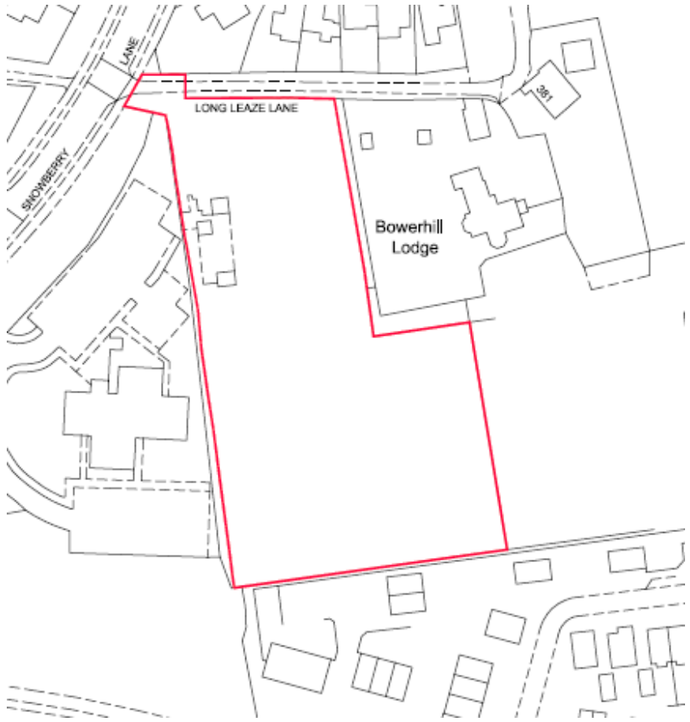
- Development in a sustainable location close to a range of key local services.
- Provision of new premises which will provide an increase in local population supporting local businesses and services and the vitality.
- A fabric first approach which adopts the Councils energy hierarchy to reduce energy use and carbon emissions in line with the latest Building Regulations.
- Design which provides adaptable, comfortable living environments which prioritise natural lighting and ventilation.
- Installation of water efficient fixtures and fittings.
- The site will have surface water sustainably managed via Sustainable Urban Drainage System (SUDS) along with rain gardens.
- Provision of measures to mitigate and enhance site biodiversity through new native planting and creation of new habitats.
- There will be 27 car parking bays (inclusive of 2No. accessible bays), an ambulance bay and two Electric Vehicle Charging Points (EVCP).
- A total of seven cycle parking spaces will be provided at the site for use by visitors and staff.
- The scheme has a predicted carbon reduction of circa 1.49% beyond part L compliance (0.12kgCO2 /annum) based upon the included provision of ASHP technology and a 0.25kWp photovoltaic array (approx. 50m^2).
- Achieve a predicted BREEAM rating of ‘Very Good’.

2.0 INTRODUCTION

This Sustainable Design and Construction Statement has been prepared to demonstrate how the proposed development will deliver a range of economic, social and environmental benefits.

2.1 This Sustainable Design and Construction Statement has been prepared to support the planning application for the Longleaze Lane, Melksham

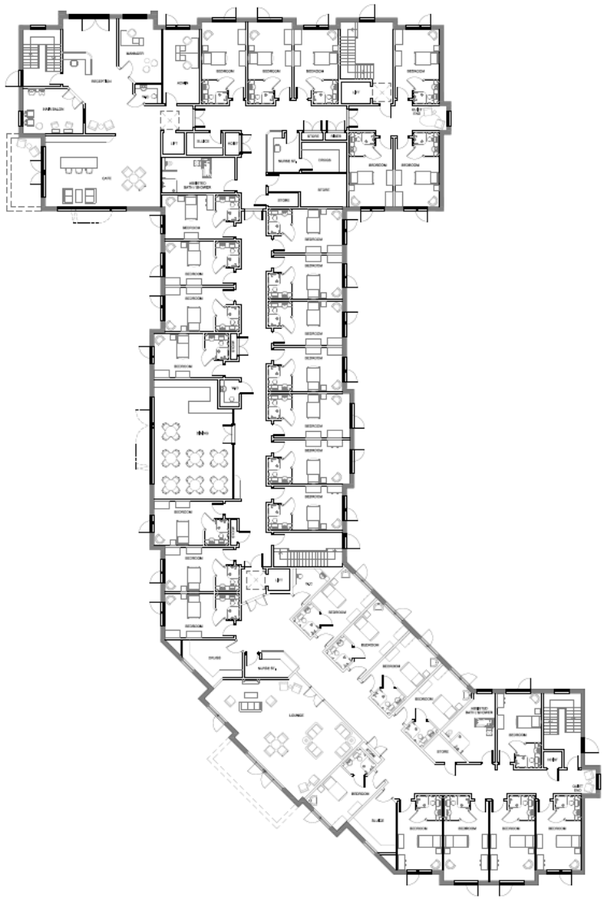
Site Context



2.2 The application site is located within the Melksham vicinity which will comprise of 82 residential dwellings.

2.3 The site will consist of a new care home building (Use Class C2) and shall be constructed in accordance with Building Regulations and BREEAM 'Very Good' rating.

Proposed Development



2.4 The proposed description of the development is as follows.

The development comprises of the construction of a new 82 bed care home (Use Class C2) on the site and the associated works including car parking, access, landscaping, and associated engineering. This development is for the elderly and people with dementia. The ground floor includes for a hair salon, café, managers office, admin office, dining and lounge area. The first floor will consist of a private / activity room, dining and lounge area. There will also be a staff lounge, male and female changing rooms to the second floor. The second floor will also accommodate ancillary spaces such as laundry, commercial kitchen and plant room.

2.5 The following sections set out the local and national policy context and detail on the sustainable design and construction measures proposed for consideration during detailed design to provide environmental, social and economic benefits.

3.0 POLICY CONTEXT

This chapter provides an overview of the relevant national and local legislation, planning policy and guidance relating to sustainable design and construction for new developments.

National Policy

3.1 This section sets out a summary of current national guidance and policy in relation to sustainable development.

UK Sustainable Development Strategy

3.2 In 2005, the Government published an updated strategy for implementing sustainable development across the UK.

3.3 This strategy acts as an overarching document from which a range of specific policies and legislation was derived. Although published in 2005, the strategy has taken a recently renewed focus in light of the government's definition of Sustainable Development I the NPPF.

3.4 One of the key aims of this strategy is to recognise the threats of climate change and ensure that the UK develops a strategy to mitigate and adapt to this phenomenon.

3.5 The document established ten guiding principles that will underpin the national sustainable development strategy:

- Putting people at the centre
- Taking a long-term perspective
- Taking account of costs and benefits
- Creating an open and supportive economic system
- Combating poverty and social exclusion
- Respecting environmental limits
- The precautionary principle
- Using scientific knowledge
- Transparency, information, participation and access to justice
- Making the polluter pay

3.6 The strategy will be implemented at a national level through the development of more specific strategies at a government department or sector level.

3.7 With regards to planning and the built environment, this document sets the basis for the development of plans and Policies that promotes development that mitigates and adapts to climate change.

Climate Change Act

3.8 The Climate Change Act (2008) sets a legally binding target for reducing UK CO_2 emissions by at least 80% on 1990 levels by 2050. To drive progress and set the UK on a pathway towards this target, the Act introduced a system of carbon budgets including a target that the annual equivalent of the carbon budget for the period including 2020 is at least 34% lower than 1990.

3.9 At the end of June 2016, the Government published the Fifth Carbon Budget. The budget sets a target for emission cuts of 57% from 1990 levels by 2030. The House of Lords passed the Carbon Budget Order 2016 on 19 July, making the budget and its target law. A bill passed in early July to abolish the Department of Energy and Climate Change (DECC) and absorb its functions into the new Department for Business, Energy and Industrial Strategy, will not affect the implementation of the Carbon Budget.

UK Carbon Plan

3.10 In 2011, the Government published an updated Carbon Plan setting out how the UK will achieve decarbonisation and make the transition to a low carbon economy. It sets this objective within a framework of mitigating and adapting to climate change and maintaining energy security in a way that minimises costs and maximises benefits to the economy.

3.11 With regards to development, the Carbon Plan presents the Government's approach to promoting the delivery of low carbon, resilient and adaptive buildings and enabling sustainable transportation as positive contributions to aid national carbon reduction targets.

3.12 In late 2015, the Green Construction Board published, Low Carbon Route map for the Built Environment. This updated the Low Carbon Route map for the Built Environment prepared in 2013 aimed at delivering an 80% cut in UK built environment carbon emissions by 2050 compared to 1990 levels.

3.13 It found that annual emissions in the UK had actually increased since 2009, primarily due to an increase in gas consumption from heating. The report states "There has been a growing divergence occurring over just a few years (2009 through 2013). Given the steepness of the trajectory required to meet the ambition for built environment carbon reductions (and statutory targets for the UK as a whole), a significant transformation from the ongoing 'status quo' trajectory is needed."

Building Regulations

3.14 Whilst not planning policy, there is a requirement via Part L of the Building regulations for new homes or premises to deliver a 27% reduction in carbon emissions compared to equivalent 2013 Part L standards. A step change in the requirements aims to strike a balance between the commitments to reducing carbon emissions and improving energy efficiency and ensuring that the overall effect of regulation upon consumers and businesses does not stifle growth. It is an uplift towards the Future Homes and Future Buildings Standards, both expected in 2025.

National Planning Policy Framework (NPPF)

3.15 Since its first publication in March 2012, national planning policy has been provided by the National Planning Policy Framework (NPPF) which sets out the government's planning policies for England and how these are expected to be applied in the development of Local Plans and accompanying documents.

3.16 The Government has made clear its expectation that the planning system should positively embrace well-conceived development to deliver the economic growth necessary and the housing we need to create inclusive and mixed communities.

3.17 In March 2018, the government published draft NPPF text for consultation which includes a number of revisions to implement policy changes and update guidance in areas previously consulted on including reform on planning for the right homes in the right places, developer contributions and market diversification.

3.18 The consultation has now ended and the government are in the process of preparing a response though it was confirmed in supporting documents that the presumption in favour of sustainable development will remain at the heart of the NPPF.

3.19 Paragraph 7 of the draft NPPF reiterates that 'the purpose of the planning system is to contribute to the

achievement of sustainable development'.

3.20 Paragraph 8 states clearly that achieving sustainable development means that the planning system has three overarching objectives:

- An economic objective contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
- A social objective supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- An environmental objective contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

3.21 Paragraph 8 also confirms that the three objectives are interdependent and need to be pursued in mutually supportive ways to secure net gains through the planning system.

3.22 Paragraph 9 goes on to say: "The objectives should be delivered through the preparation and implementation of plans and the policies in the NPPF; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area."

3.23 One of the key amendments to the NPPF is the introduction of Paragraph 149b which states that "Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards."

Planning Practice Guidance

3.24 The revised Planning Practice Guidance (PPG) provides further advice on various planning issues associated with development, including those linked to sustainability and renewable energy and underpins the policies within the NPPF.

3.25 The PPG Guidance is an important material consideration in planning decisions and should generally be followed unless there are clear reasons not to. It sets out how local authorities should include polices that protect the local environment and strategies to mitigate and adapt to climate change and supports developments that are functional and adaptable for the future.

3.26 The Guidance reiterates that local authorities should set sustainability policies for new housing that are in line with the government's Housing Standards Review.

3.27 The latest update to the PPG in April 2016 confirms Local Authorities have the option to set technical requirements exceeding the minimum requirements of the Building Regulations in respect of access, water and space where sufficient evidence is produced to justify the target.

3.28 The Guidance also states that the distribution and design of new development, and the potential for servicing sites through sustainable transport solutions, are particularly important considerations.

Wiltshire's Local Plan 2012

3.29 One of the areas that Wilshire's Plan looks at is the need for sufficient new homes. Providing sufficient new homes will increase the economically growth, improve the self-containment and resilience of the community. There new homes will need to be in sustainable locations and much support improved infrastructure.

3.30 Wiltshire's Core Strategy looks at the need to increase the current housing stock, but the fundamental issue is to make sure all new houses are built to a high quality and the natural environment is protected.

3.31 Wiltshire's Core Strategy ensures there is adequate services and infrastructure designed to meet the needs of the growing need, population and economy. There should also be sustainable transport modes, high improvements, water management and green spaces.

3.32 There are six key strategies which have been developed for Wiltshire. These strategies are:

- Strategic Objective 1 – Deliver a thriving economy
- Strategic Objective 2 – Address climate change
- Strategic Objective 3 – Provide everyone with access to a decent affordable home
- Strategic Objective 4 – Help to build resilient communities
- Strategic Objective 5 – Protect and enhance the natural, historical and built environment
- Strategic Objective 6 – Ensure adequate infrastructure is in place to support the community

3.33 The Local Plan identifies the need to build to the Code for Sustainable Homes (CSH) for dwellings and BREEAM (Building Research Establishment Environmental Assessment Method) for commercial buildings.

Planning Policy Summary

3.34 Both local and national policy aims to ensure the delivery of sustainable development and well-designed homes and premises which mitigate and adapt to the potential impacts of climate change.

3.35 Wiltshire Council confirms the Council's commitment to the creation of sustainable new developments and regeneration in the region.

3.36 Latest national planning policy and guidance confirms the government's approach to sustainable development is being driven through the updates to the Building Regulations to ensure that new homes or new premises are well designed and reduce emissions in line with the UK's national carbon targets.

3.37 The updated Building Regulations to Part L 2021.

3.38 The following sections of this report set out the design measures included and to be considered at the detailed design stage to ensure the delivery of a sustainable development providing economic, social and environmental benefits and address the requirements of local policy.

4.0 SUSTAINABLE DESIGN & CONSTRUCTION AT THE DEVELOPMENT

This chapter summarises the sustainable design measures incorporated into the design of the development to deliver a sustainable, low carbon new development.

Achieving Sustainable Development

4.1 This section of the report outlines the Sustainable Design and Energy Strategy for the proposed development demonstrating how the proposals respond to both national and local planning policy, specifically the requirements of Policy CS4.

4.2 The various economic, social and environmental benefits are highlighted in this section and presented under the following headings outlined within the Councils adopted SPD requirements:

- Energy - How the building is designed to operate efficiently and how energy is supplied to the building.
- Adaption to Climate Change - How the building incorporates adaptation measures, (includes Carbon Reduction Strategy; Water Efficiency; and Flood Risk and drainage).
- Materials – How the design has considered the procurement of materials which promote sustainability, including by use of low impact, sustainably sourced, reused and recycled materials.
- Waste and Recycling - How the development incorporates waste and recycling measures.
- Adaptation to Future Needs - How the development design is flexible and adaptable to future occupier needs.
- Biodiversity - How the development incorporates measures that support and where possible, enhance biodiversity.
- Transport – How the site incorporates and enhances sustainable travel means.
- The scheme has a predicted carbon reduction of circa 1.49% beyond part L compliance (0.12kgCO2 /annum) based upon the included provision of ASHP technology and a 0.25kWp photovoltaic array (approx. 50m²).

4.3 Wiltshire Local Plan stipulates a BREEAM Pre-Assessment needs to be undertaken and achieve a rating of ‘Very Good’. The Pre-Assessment has been completed with a score of 56%.

Energy

4.4 An Energy Statement has been prepared on behalf of the applicant by Harniss Consulting to evaluate the technical and economic feasibility of design measures based on the energy hierarchy as summarised below to apply a ‘fabric first’ approach that utilises passive design measures before utilising low and zero carbon technologies.

4.5 A well-insulated, energy efficient building fabric reduces the demand for the heat and power. This approach has a number of distinct benefits which include:

- Delivered carbon savings which are ‘locked-in’ the building for its lifetime (60 years or more) rather than the much shorter lifespan (around 25 years) of a renewable energy technology.
- Virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric; and
- No reliance on an occupier’s behaviour to deliver carbon reductions.

4.6 The proposed building will as such be developed with the aim to reduce energy demand through a fabric first approach. Table 1 sets out target U-values for the proposed development demonstrating how materials and construction techniques will be utilised to go beyond the minimum requirements of the Building Regulations.

Building Fabric Parameter	Value
Air permeability (m3/(m2.h) @ 50Pa)	4.0
External Wall U-value (W/m2.K)	0.18
Roof U-value (W/m2.K)	0.13
Ground Floor U-value (W/m2.K)	0.15
Glazing U-value (W/m2.K)	1.4
Glazing G-value	0.4 (0.36 to Bifold Doors)

Table 1: Target U-Values

4.7 In addition to an improved fabric specification the proposed design will aim to reduce thermal energy demand by targeting improved insulation levels and air leakage and fabric u-values in line with current Building Regulations requirements.

4.8 The following measures to reduce1 energy use and carbon emissions have been considered during the design process to date:

- Layout and orientation to promote passive solar gains, maximise natural daylight, sunlight and ventilation where possible.
- Material selection which aims to balance the aesthetics, robustness and durability with optimal thermal benefits.
- High performance glazing with appropriate window u-values and g-values to reduce heat loss and optimise positive solar gain while reducing the potential for overheating.
- High efficiency lighting target for 100% low energy light fittings; and
- Use of high efficiency Air Source Heat Pumps for space and hot water heating.

4.9 The final fabric specification and provision of energy efficiency measures will be defined as part of the detailed design and Part L modelling.

Adapting to Climate Change

4.10 One of the main challenges facing the UK and new developments is the need to mitigate and adapt to a changing climate. The Government is committed to tackling climate change and has an ambitious long-term goal to reduce carbon emissions by 80% by 2050.

4.11 Climate change will cause the UK to become warmer, winters will become wetter, and summers will become drier. Adapting to this changing climate will impact on the design, construction, location, cost and operation of all new homes and other buildings in the next few decades. One of the NPPF's core planning principles is to encourage development to consider climate change adaptation and mitigation during the planning process.

4.12 The following sections outlines the key climate change mitigation and adaptation measures considered appropriate for this development based on the latest national guidance under the following headings:

- Carbon Reduction Strategy.
- Water Efficiency; and
- Flood Risk and Drainage.

Carbon Reduction Strategy

4.13 Developing energy efficient, low carbon buildings is a key objective of national policy, enforced through progressive changes to the Building Regulations which require the achievement of a target carbon performance for compliance.

4.14 Building performance is determined by a variety of factors including the efficiency of heating, cooling, ventilation and lighting systems as well as building fabric performance, plant efficiencies, air permeability and the avoidance of overheating.

4.15 As noted in Section 3.1 of this report, the development proposals are designed in accordance with the principles of the energy hierarchy to include measures to reduce primary energy use and carbon emissions.

4.16 However, on-site low carbon energy generation reduces reliance on fossil fuels and provides further reductions in the carbon emissions of the development.

4.17 The Energy Statement also includes an assessment of district heating and various low and zero carbon technologies based on the technical and commercial feasibility for the site/building uses. A summary of the findings can be found in the table below.

4.18 The Energy Statement prepared by Harniss Consulting provides predicted carbon reductions beyond Part L compliance (0.12TCO2/annum) based on the proposals which include the provision of ASHP and PV panels to the roof, efficient heat recovery ventilation and low air leakage.

Technology	Brief Description	Benefits	Issues/Limitations	Feasible for site
Solar Photovoltaic	Photovoltaic panels convert solar radiation into electrical energy	Limited maintenance. No moving parts. Easily integrated into building design.	Any overshadowing affects panel performance. Large area required for installation. Panels ideally inclined and facing southerly direction.	Yes
Solar Thermal	Solar thermal energy can contribute towards space heating and hot water requirements.	Limited maintenance.	Must be sized for the building base load hot water requirements. Panels ideally inclined at around 30 degrees and facing southerly direction	Yes
Wind Turbine	Wind generation equipment operates on the basis of wind turning a propeller, which is used to drive an alternator to generate electricity. Small scale (1kW – 15kW) wind turbines can be pole or roof mounted.	Limited maintenance/ On-going cost. Excess electricity can be exported to the grid.	Planning issues. Aesthetic impact. Background noise Space limitations on site. Minimum wind speed requirements. Wind survey to be undertaken to verify 'local' viability.	No
Biomass	Modern wood-fuel boilers are highly efficient, clean and almost carbon	Stable long-term running costs. Potential good CO_2 saving.	Large area needed for fuel delivery and storage. Reliable fuel supply chain required. Regular maintenance required. Significant plant space required. Air pollution / Clean Air Act limits use.	No
Ground Source Heat Pump (GSHP)	GSHP systems tap into the earth's considerable energy store to provide both heating and cooling to buildings.	Minimal maintenance. Unobtrusive technology. Flexible installation options to meet available site footprint.	Large area required for horizontal pipes. Full ground survey required to determine geology. More beneficial to the development if cooling is required. Integration with piled foundations must be done at an early stage. The lack of space to locate the underground pipework loops and the associated plant around the site.	No
Air Source Heat Pump	Electric air source heat pumps extract thermal energy from the surrounding air and transfer it to the working fluid (air or water).	Efficient use of fuel. Relatively low capital costs.	Specialist maintenance. Some additional plant space required. External proximity to boundary and noise generation with units cycling. Impact of the required external plant and associated noise within the domestic setting can be a nuisance to residents.	Yes

Table 2: Summary of Low and Zero Carbon Considered Technologies

Technology	Brief Description	Benefits	Issues/Limitations	Feasible for site
Combined Heat and Power	A Combined Heat and Power (CHP) installation is effectively a mini on-site power plant providing both electrical power and thermal heat. CHP is strictly an energy efficiency measure rather than a renewable energy technology.	Potential high CO_2 saving available. Efficient use of fuel. Excess electricity can be exported to the grid.	Maintenance intensive. Sufficient base thermal and electrical demand required. Additional plant space required. Noise and air quality constraints.	No
Earth Ducts	Passive pre-treatment of fresh air	Low cost Free energy	Requires significant air loads and riser space	No
Onsite Battery Storage	PV Battery Storage able to charge the battery during periods of low electrical load & discharging battery power at times of low/no solar radiation.	Battery discharges power during periods of low solar radiation. Reduce electrical energy supply costs.	Specialist Maintenance Additional Plant space required. Low Electrical Baseload, battery storage not economically viable.	No

Table 3: Summary of Low and Zero Carbon Considered Technologies Cont.

Water Efficiency

4.19 Potable water is an increasingly important natural resource and with the majority of the UK classes as being in an area of moderate or severe water stress the conservation of water is becoming a more significant sustainability metric.

4.20 The construction works will be carried out in such a manner as to avoid adverse effects on the ponds, streams and downstream habitats in accordance with Environment Agency Pollution Prevention Guidance (PPG).

4.21 The development proposals will aim to reduce water consumption during occupation through a range of water efficiency measures such as:

- Water metering.
- Dual flush WCs; and
- Low flow fittings and fixtures

4.22 Through the use of these measures the premises will target a water consumption rate of 75-95l per person per day.

4.23 External water use will be limited through the provision of native planting that will reduce the need for watering other than from rainfall. Further details are provided in the landscape proposals for the development.

Flood Risk and Sustainable Drainage

4.24 A Flood Risk Assessment (FRA) has been prepared and confirms that there is a very low or low risk of flooding from the assessed elements – fluvial, tidal, reservoirs, canals, surface water, groundwater and sewers. The Application Site is located in Flood Zone 1, therefore, the risk of flooding from all sources at low risk.

4.25 The report confirms that as result of site constraints, there is need for suitable surface water discharge drainage methods. This is in the form of incorporated SUDs with features such as attenuation basins and rain gardens.

4.26 The proposed site is not suitable for soakaway drainage via infiltration and should be discharged through a greenfield QBar rates. This will ensure there is little impact on the downstream floor risk.

4.27 There will be a new design proposed for the development which will discharge to the existing public foul sewers.

4.28 Overall, the site demonstrates there will not be an increase to the floor risk at Longleaze Lane or to any third party land and all works will be carried out in accordance with the National Planning Policy Framework (NPPF) requirements.

Materials

4.29 The detailed proposals for the development have been developed in response to the specific constraints and opportunities of the site, responding positively to its local context.

4.30 The development will aim to use a range of sustainable materials and design features and will consider:

- The provision of sustainable materials, taking into account life cycle assessment and the embodied carbon of production and transport of materials.
- Use of sustainably sourced timber from FSC (or equivalent) sources; and
- Avoidance of insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming.

4.31 The final design and specification of major building elements will be determined during the detailed design of the development though these will be in accordance with the baseline assumptions made with respect to U-Values.

4.32 More detailed information on how the detailed proposals and design principles have been developed is contained within the Design and Access Statement that accompanies the full planning application.

Waste and Recycling

4.33 The proposed development will ensure the minimisation of waste and maximisation of recycling of any waste generated during demolition, construction and operation of the building.

Construction Waste Management

4.34 Prior to the construction phase a Construction Environmental Management Plan (CEMP) will be developed to ensure the use of measures to minimise waste during the construction phases of the development, including the use of a scheme for recycling/disposing of waste arising from demolition and construction works.

4.35 The reduction, reuse and recycling of construction waste is to be prioritised through measures such as avoidance of over-ordering, supervision of deliveries, use of secure materials storage facilities and reuse of materials onsite where feasible.

4.36 In addition, the development will be registered with the Considerate Constructors Scheme and achieve certification against the Code of Considerate Practice.

Operational Waste Management

4.37 In accordance with the principles of the waste hierarchy the development will make provision for the storage of non-recyclable waste and recyclable waste including dedicated storage for waste in care home to encourage residents/management to recycle waste materials.

4.38 Full consideration will be given to the Council's waste management infrastructure and services to ensure that the occupiers have the necessary infrastructure to participate in any kerbside recycling services.

Adaption to Future Needs

4.39 Creating a development design that is flexible and adaptable to future occupier needs requires careful consideration of how the environment and building function may alter over its lifetime.

4.40 The applicant has a policy that requires inclusive design to be part of its brief to its designers and the scheme has addressed the fundamentals of inclusive access in:

- Setting out the site layout
- Setting out the levels across the site
- Locating the building on the site and access to the key entrances

4.41 Other measures to be incorporated to facilitate future adaptation for occupants include:

- Provision of a flexible amenity space, providing opportunities for a wider range of future uses and events.
- Generous floor to floor height for the ground floor allowing flexibility to change the spaces to several different uses.
- Provision of cycle parking to encourage the use of sustainable transport modes.
- Safe and secure accessibility and connection to the local pedestrian network to encourage walking and cycling to local services.
- Green space to enable recreation as well as helping to reduce ambient heat and flood risk.
- Provision of passive electric vehicle charging within the development for future uptake.
- The inclusion of photovoltaic renewable energy technology.

4.42 More information on how the development has incorporated healthy living opportunities and future adaptability is contained within the Design and Access Statement which accompanies the planning application.

Biodiversity

4.43 The proposed development will incorporate measures to support and enhance the environment through consideration of the existing site, including measures to mitigate the impact of the development and enhance site biodiversity.

4.44 The site survey was undertaken in February 2023, and the following habitats/vegetation where identified:

- Amenity grassland
- Amenity planting
- Scattered trees
- Brash pile
- Dry ditch
- Hedgerows
- Tree line
- Hardstanding
- Shed

4.45 It can be noted that within the site boundary, there is no evidence of Badgers on or within the immediate vicinity of the site. Also, there are no tress found on site to show signs of any roosting bats. Located on the site is a shed, which has been left open, again there is no evidence of bats during the site survey located in the shed. In addition, there is no evidence of any other mammals during the survey.

4.46 During the site survey it is noted that there have been birds on site. These include Robins, Blackbird, Starling. There are four bird boxes on the external wall to the shed. As there is hedgerow and a line of trees, this offers adequate nesting and foraging habitats for birds. The grassland, scattered trees and amenity planting can have some foraging opportunities and the brash pile can offer limited nesting opportunities for birds.

4.47 The ecology report concludes there are no other habitats present and recorded from local areas. There hasn't been evidence from the site or desktop survey to evidence there are protected or notable other species which would affect the future development.

4.48 It has been recommended that new areas of amenity grassland are native species-rich seed mixture which can withstand regular mowing. This will increase the floristic diversity on site. Any new areas of landscape planting should include native species of local origin or species which would benefit from wildlife, if possible. Prior to construction work starts, it is recommended that all remaining trees are fenced according to British Standards to protect roots from compaction. Fences should be in place until all construction work has been completed within the area.

Transport

4.49 A Preliminary Transport Statement has been prepared by RGP which includes how the proposed development will comply with national and local transport policy.

4.50 The proposed development will provide a total of seven car parking spaces. This provision is in line with the C2 standards to ensure sufficient capacity on-site even during the busiest periods, for example shift changes. There will be two accessible spaces provided at the site to be in full accordance with the London Plan. Although not part of the London Plan, there will be dedicated areas for deliveries and ambulance parking located adjacent to the main entrance.

4.51 Based on the standard, a total of two long stay cycle parking spaces which will be secure and in addition, there will be a further cycle stand adjacent to the main entrance which will provide five short stay parking spaces which will be covered and secured.

4.52 Electric vehicle charging is to be provided in accordance with Building Regulations Part S, which came into force in June 2022. This requires a single electric vehicle charge point to be provided (ref: Section S4) and electric vehicle charging will be secured through condition. There will be two Ultra-Low Emission Vehicle (ULEV) charging spaces which will have EV charging points and in line with all requirements.

4.53 The development proposal complies with paragraphs 126 and 130 of the NPPF and is acceptable in transport and highway terms.

5.0 CONCLUSION

This Sustainable Design and Construction Statement has been prepared to demonstrate how the proposals will deliver a range of economic, social and environmental benefits.

5.1 Sustainable design and construction measures incorporated into the development proposals for Longleaze Lane, Melksham include:

- Development in a sustainable location close to a range of key local services.
- Provision of new premises which will provide an increase in local population supporting local businesses and services and the vitality of Wiltshire.
- A fabric first approach which adopts the Councils energy hierarchy to reduce energy use and carbon emissions in line with the latest Building Regulations.
- Design which provides adaptable, comfortable living environments which prioritise natural lighting and ventilation.
- Installation of water efficient fixtures and fittings.
- The development in Flood Zone 1 and inclusion of various SUDs to manage surface water including an allowance for climate change.
- Provision of measures to mitigate and enhance site biodiversity through new native planting and creation of new habitats.
- A total of 27 car parking bays (inclusive of 2No. accessible bays), and four active EV charge points and the remainder to be passive.
- A total of seven cycle parking spaces will be provided at the site for use by visitors and staff.
- The scheme has a predicted carbon reduction of circa 1.49% beyond part L compliance (0.12kgCO2 /annum) based upon the included provision of ASHP technology and a 0.25kWp photovoltaic array (approx. 50m²).
- Achieve predicted BREEAM rating of ‘Very Good’.

APPENDIX A - BRE PRE-ASSESSMENT

Project: **LongLeaze Lane**
Project ref: **2315**

Client: **Aspire**

Scheme: **BREEAM UK New Construction 2018**

Target Level: **Very Good**

Stage **Pre-Assessment**

Date: **26.10.23**

Revision: **4**

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

Assessment Summary

Environmental section	Credits Available	Credits Targeted	% Credit Value	Target Section Score %
Management	20	12	0.55%	7%
Health and Wellbeing	19	8	0.74%	6%
Energy	22	14	0.73%	10%
Transport	12	5	0.83%	4%
Water	8	6	0.88%	5%
Material	14	6	1.07%	6%
Waste	10	4	0.60%	2%
Land Use and Ecology	13	8	1.00%	8%
Pollution	12	9	0.67%	6%
Innovation	10	1	1.00%	1%
Total				56%

Action / Recommendation Summary

Section	Comment	Credits Targeted	% credit value	Target Section Score %	Responsibility	Credit status
Man 01a Project delivery planning	David & Jarvis to provide narative - needed RIBA Stage 1-2	1	0.55%	0.55%	Aspire	Provisionally taken
Mat 06a Material Efficiency	One Credit targeted - specification and narrative needed from RDT on material	1	0.55%	0.55%	RDT	Potential credit to add
Wst 06a Design for disassembly and adapability - recommendations	Report to be provided	1	0.55%	0.55%	RDT / Civils	Potential credit to add
Wst 06b Disassembly and functional adapability - implementation	Report to be provided	1	0.55%	0.55%	RDT / Civils	Potential credit to add
	Potential credits	4		2%		

Pre-Assessment Results

Current Targeted rating total: 56%

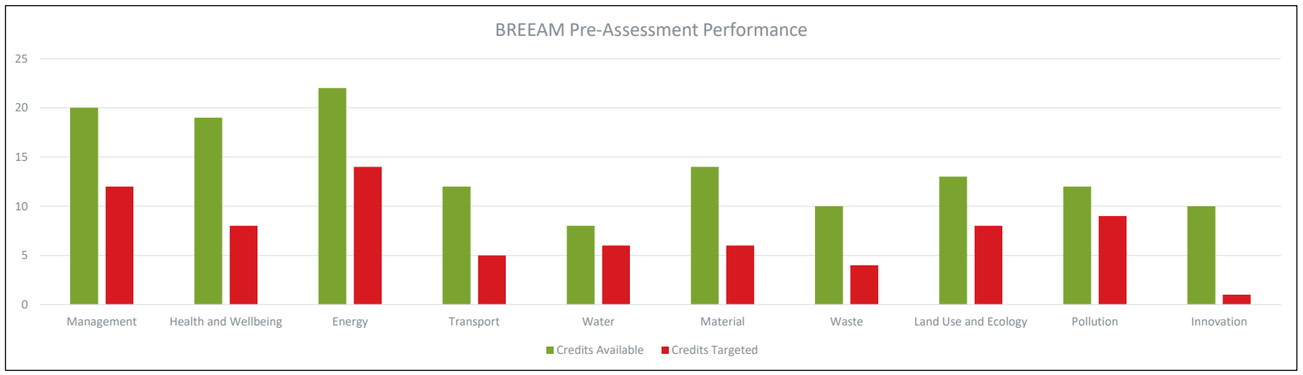
Equating to BREEAM: Very Good *Providing all minimum standards are met*

Total if all potential credits are also achieved: 58%

Equating to BREEAM: Very Good *Providing all minimum standards are met*

Current buffer: 0.9%

Potential buffer: 3.1%



BREEAM 2018 Assumptions

Project scope	**Fully fitted**
Building type (main description):	**Residential institution (Long term stay)**
Sub-group	**Residential Care Home**
Assessment stage	**Design stage (Pre-Assessment)**
Building floor area (GIA):	**4680m2**
Building floor area (NIFA):	**TBC**
Is the building designed to be untreated?	**No**
Building Services - heating systems type:	**ASHP & LTHW**
Building services - cooling systesm type	**ASHP / VRF**
Are commercial or industrial-sized refrigeration and storage systems specified?	**No**
Are Building user lifts present?	**Yes**
Are building user escalators or moving walks present?	**No**
Are laboratories present?	**No**
Are there fume cupboard(s) and/or other containment devices present?	**No**
Are there external areas within the boundary of the assessment development?	**Yes**
Are there statutory requirements, or other issues outside of the control of the project that implact the ability to provide outside space?	**No**
Are there any systems specified that contribute to the unregulated energy load?	**Yes**
Are the post-occupancy stage credits targeted in Ene01 issue?	**No**

Pre-Assessment Legend	
	Feedback from team suggested this credit is achievable and therefore targeted
	Potential credit, to be reviewed by team
	Credit not currently sought

Construction start date approx - **01/07/2023**

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Potential	Balance	Responsibility	Comments
Man 01 Project Brief and Design									
Man 01a Project delivery planning	**RIBA Stage 2**	**One credit - Project delivery planning** 1. Prior to completion of the Concept Design, the project delivery stakeholders (see Definitions on page 37) meet to identify and define for each phase of project delivery: 1.a Roles 1.b Responsibilities 1.c Contributions. 2. Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project: 2.a End user requirements 2.b Aims of the design and design strategy 2.c Particular installation and construction requirements of limitations 2.d Occupiers' budgets and technical expertise in maintaining any proposed systems 2.e Maintainability and adaptability of the proposals 2.f Operational energy (see Assessment scope on page 120) 2.g Requirements for the production of project and end user documentation 2.h Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy. 3. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: 3.a Initial Project Brief 3.b Project Execution Plan (see Definitions on page 37) 3.c Communication Strategy (see Definitions on page 37) 3.d Concept Design	Meeting minutes. Summary documents of roles and responsibilities	**1**	**0**	**1**	**0**	Aspire	David & Jarvis to provide narative - needed RIBA Stage 1-2

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 01b Stakeholder consultation (interested parties)	RIBA Stage 2	**One credit - Stakeholder consultation (interested parties)** 4. Prior to completion of the Concept Design, the design team consult with all interested parties (see Definitions on page 37) on matters that cover the minimum consultation content (see Methodology). 5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. 6. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties (see Definitions on page 37) give and receive consultation feedback.	A list of interested parties consulted. A consultation plan setting our the process and the scope of the consultation. Agenda.minutes from the consultation meetings. Documentation demonstrating consultation feedback and subsequent actions.	0	0	0	0	Design Team	Noted not sought at this stage
Man 01c Prerequisite	RIBA Stage 2	Prerequisite for BREEAM Advisory Professional (Concept and Developed Design) 8. The project team, including the Client, formally agree strategic performance targets (see Definitions on page 37) early in the design process, see Definitions on page 37, (with the support of the BREEAM AP where appointed).	Appointment letter	–	0	–	–	BREEAM AP	Pre-requisite needs to be met for Man 01c and Man01d to be achieved.
Man 01c BREEAM AP (Concept Design)	RIBA Stage 2-4	One credit - BREEAM AP (Concept Design) 9. Involve a BREEAM AP in the project at an appropriate time and level to: 9.a Work with the project team, including the Client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design. 9.b Monitor progress against the performance targets (see Definitions on page 37) agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance. 9.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8. 9.d Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 9.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	Relevant section/clauses of the building specification or contract. Project programme, indicating the dates by which the key work stages (Preparation and Design) are to be completed. Meeting notes/minutes, recorded correspondence or schedules that can demonstrate BREEAM issues are a regular agenda item and AP attendance. The AP progress report (for each work stage).	1	0	0	1	BREEAM AP	
Man 01d BREEAM A (Development Design)	RIBA Stage 2-4	One credit - BREEAM AP (Developed Design) 10. Criteria 8 and 9 has been achieved. 11. Involve the BREEAM AP in the project at an appropriate time and level to: 11.a Work with the project team, including the Client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout Developed Design. 11.b Monitor progress against the performance targets agreed under criterion 8 on the previous page throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. 11.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8. 11.d Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 11.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	Relevant section/clauses of the building specification or contract. Project programme, indicating the dates by which the key work stages (Preparation and Design) are to be completed. Meeting notes/minutes, recorded correspondence or schedules that can demonstrate BREEAM issues are a regular agenda item and AP attendance. The AP progress report (for each work stage).	1	0	0	1	BREEAM AP	

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 02 Life cycle cost and service life planning									
Man 02a Elemental life cycle cost	**RIBA Stage 2**	Two credits - Elemental life cycle cost 1. A competent person (see Definitions on page 43) carries out an outline, entire asset LCC plan at process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008(6). 2. The elemental LCC plan: 2.a Provides an indication of future replacement costs over a period of analysis as required by the Client (e.g.20,30,50 or 60 years); 2.b Includes service life, maintenance and operation cost estimates. The study period should ideally be agreed by the Client, in line with the design life expectancy of the building. However, where the life expectancy of the building is not yet formally agreed (due to very early design stages), the default design life of 60 years should be used for modelling purposes (in line with the UK default). 3. Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design and specification for minimise life cycle costs and maximise critical value.	Relevant sections of the feasibility stage life cycle cost analysis report / documentation. Relevant sections of the feasibility stage appraisal documentation. Elemental LCC plan.	**2**	**0**	**0**	**2**	QS	Early Credit that should be considered - Potential credit - not sought at this stage
Man 02b Component level LCC options appraisal	**RIBA Stage 4**	**One credit - Component level LCC options appraisal** 4. A competent person develops a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design - RIBA Stage 4) in line with PD 456865:2008. The component level LCC includes (where present): 4.a Envelope, e.g. classing, windows, or roofing 4.b Services, e.g. heat source, cooling source or controls 4.c Finishes, e.g. walls, floors or ceilings 4.d External spaces, e.g. alternative hard landscaping, boundary protection. The Component level LCC option appraisal should review all of the above component types (where present). However, you do not need to consider every single example cited under each component; only a selection of those most likely to draw valued comparisons. This is to ensure that a wide range of options are considered and help focus the analysis on components which would benefit the most from appraisal. 5. Demonstrate, using appropriate examples provided by the design team, how the component level LCC options have been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	Relevant sections of the component level life cycle cost analysis report / documentation. Evidence of how this has influenced building and systems specification/design. Component level LCC options appraisal plan.	**1**	**1**	**0**	**0**	QS	LCC Component Level assessment to be carried out by Contractor before end of RIBA Stage 4
Man 02a Capital Cost reporting		**One credit - Capital cost reporting** 6. Report the capital cost for the building in pounds per square meter of gross internal floor area (£k/m²) as part of the submission to BRE. See also Methodology and Additional information on page 44.	Provide capital cost report.	**1**	**1**	**0**	**0**	QS	Assumed target would be targeted by the confirmed team

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 03 Responsible construction practices									
Man 03a Prerequisite		**Prerequisite - Legally harvested and traded timber** 1. All timber and timber-based products used during he construction process of the project are 'legally harvested and traded timber' (see Definitions page 50). For other materials there are no prerequisite requirements at this stage.	Relevant section/clauses of the building specification or contract OR A signed and dated letter of commitment to meet the relevant criteria OR Timber Policy.	–	**MET**	–	–	MC	Pre-requisite will be met.
Man 03b Environmental management		**One credit - Environmental management** 3. All parties who at any stage manage the construction site (e.g. the Main Contractor, the demolition contractor) operate an EMS covering their main operations. The EMS must: 3.a Be third party certified, to ISO 14001:2015(10), EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR 3.b In compliance with BS 8555:2016(11) have: 3.b.i Appropriate structure 3.b.ii Reached implementation stage phase four 'implementation and operation of the environmental management system' 3.b.ii Completed the defined phase audits one to four. 4. All parties who at any point manage the construction site (e.g. the demolition contractor) implement best practice pollution prevention policies and procedures on site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines(12).	Relevant section/clauses of the building specification or contract OR A signed and dated letter of commitment to meet the relevant criteria OR 3rd party certified EMS certificate.	**1**	**1**	**0**	**0**	MC	EMS to be confirmed and is Targeted from Main contractor.
Man 03c Prerequisite		Prerequisite - BREEAM AP 5. The Client and the contractor formally agree performance targets.	Letter confirming targets have been agreed.	–	-	–	–	BREEAM AP	Pre-requisite will be met.

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 03d BREEAM AP (site)		**One credit - BREEAM AP (site)** 6. Involve a BREEAM AP in the project at an appropriate time and level to: 6.a Work with the project team, including the Client, to consider the links between BREEAM issues and assist them in achieving, and if possible, going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages. 6.b Monitor construction progress against the performance targets agreed under criterion 5 above throughout all stages where decisions critically impact BREEAM performance. 6.c Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5. 6.d Provide feedback to the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 6.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	The AP appointment letter. Relevant section/clauses of the building specification or contract Project programme indicating the dates by which the key work stages (Preparation and Design) are to be completed. Meeting notes/minutes, recorded correspondence or schedules that can demonstrate BREEAM issues are a regular agenda item and AP attendance. The AP progress report (for each work stage). Additional information on page 52.	**1**	**0**	**1**	**0**	MC and BREEAM AP	
Man 03e Responsible construction management		**Up to two credits - Responsible construction management** 7. One credit: Achieve items listed as required for one credit in table 4.1. 8. Two credits: Achieve criterion 7. 9. Achieve 6 additional items in table 4.1. or Considerate Constructors Scheme One credit requires a minimum of 9 points per section and 27 overall. **Two credits require a minimum of 11 points per section and 35 overall**.	Use BREEAM recognised responsible construction management scheme to support in this process e.g. Considerate Construction Scheme and Fleet Operator Recognition Scheme.	**2**	**2**	**0**	**0**	MC	Site to be CCS registered - assumed two credits would be targeted and achieved - team to confirm
Man 03f Monitoring of construction site impacts		**Up to two credits - Monitoring of construction site impacts** 10. Assign responsibility to an individual for monitoring, recording and reporting energy usage, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the Client/developer.	–	-	–	–	MC and BREEAM AP	Pre-requisite will be met.
Man 03g Utility consumption		**First monitoring credit - Utility consumption** **Energy consumption** 11. Achieve criterion 10. 12. Set targets for the site energy consumption to kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. 13. Monitor and record data for the energy consumption described in criterion 12. 14. Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking). **Water consumption** 15. Achieve criterion 10. 16. Set targets for the potable water consumption (m^3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation. 17. Monitor and record data for the potable water consumption described in criterion 16. 18. Use the collated data to report the total net water consumption (m^3), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the Client/developer.	**1**	**1**	**0**	**0**	MC	Assumed credit will be targeted and achieved - team to confirm

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 03h Transport of construction materials and waste		**Second monitoring credit - transportation of construction materials and waste** 19. Achieve criterion 10. 20. Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover: 20.a Transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply (see Definitions on page 50). Monitor as a minimum: 20.a.i Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA_ on page 208). 20.a.ii Ground works and landscaping materials. 20.b Transportation of construction waste from the construction gate to the waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the projects resource management plan. 21. Monitor and record data from the transportation movements as described in criterion 20. 22. Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO2- eq), plus total distance travelled (km) via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	Relevant section/clauses of the building specification or contract OR A formal letter of commitment from the Client/developer.	**1**	**1**	**0**	**0**	MC	Assumed credit will be targeted and achieved - team to confirm
Man 04 Commissioning and handover									
Man 04a Commissioning - testing and schedule and repsonsibilities		One credit - Commissioning - testing schedule and responsibilities 1. Prepare a schedule of commissioning and testing. The schedule identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric. 2. The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: 2.a Current Building Regulations 2.b BSRIA guidelines (16) 2.c CIBSE guidelines (17) 2.d Other appropriate standards (see Methodology). Exclude from the assessment any process of manufacture-related equipment specified as part of the project. However, include such equipment in cases where they form an integral part of the building HVAC services, such as heat recovery systems. 3. Where a BMS is specified: 3.a Carry out commissioning of air and water systems when all control devices are installed, wired and functional. 3.b Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results. 3.c The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover. 3.d All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover. 3.e Fully train the occupier or facilities team in the operation of the system. 4. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the Client. 5. The Main Constractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget Man 04a Commissioning - testing schedule and responsibilities and main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover.	Appointment letter or commissioning responsibilities schedules Relevant section/clauses of the building specification or contract Main contractors programme Commissioning schedule	**1**	**1**	**0**	**0**	Harniss Contracting	
Man 04b Commissioning - design and preparation		One credit - Commissioning - design and preparation 6. Achieve criteria 1 to 5. 7. During the design stage, the Client or The Main Constractor appoints an appropriate project team member (see criterion 4), provided they are not involved in the general installation works for the building services systems, with responsibility for: 7.a Undertaking design reviews and giving advise on suitability for ease of commissioning. 7.b Providing commissioning management input to construction programming and during installation stages. 7.c Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager (see Definitions on page 58).	Appointment letter or commissioning responsibilities schedules Relevant section/clauses of the building specification or contract Main contractors programme Commissioning schedule	**1**	**1**	**0**	**0**	Harniss Contracting	

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responsibility	Comments
Man 04c Testing and inspecting building fabric		**One credit - Testing and inspection building fabric** 8.Achieve criteria 1 to 5. 9. Complete post-construction testing and inspection to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through air tightness testing and thermographic survey). A suitably qualified professional (see Definitions on page 58) undertakes the survey and testing in accordance with the appropriate standard. 10. Rectify any defects identified during post-construction testing and inspection prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building or element as defined at design stage (see Methodology).	Appointment letter or commissioning responsibilities schedules Relevant section/clauses of the building specification or contract Main contractors programme Commissioning schedule	**1**	**0**	**0**	**1**	MC	Notes as not targeted
Man 04d - Rating min standard		**Rating Related Min Standard- Very Good Rating and Above** BUG criteria as outlined in 11 below is fully met.	Building User Guide	**–**	**MET**	**–**	**–**	MC	Pre-requisite will be met.
Man 04d - Handover		**One credit - Handover** 11. Prior to handover, develop two building user guides (see Methodology) for the following users: 11.a A non-technical user guide for distribution to the building occupiers. 11.b A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users. 12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: 12.a A non-technical training schedule for the building occupants. 12.b A technical training schedule for the premises facilities managers.	Building User Guide Training schedule	**1**	**1**	**0**	**0**	MC and Harniss Contracting	Must be achieved for Very Good score - therefore one Credit targeted
Man 05 Aftercare									
Man 05a Aftercare support		**One credit - Aftercare support** 1. Provide aftercare support to the building occupiers through having operational infrastructure and resources in place. This includes as a minimum: 1.a A meeting between the aftercare support team or individual, and the building occupier or management team (prior to initial occupation, or as soon as possible thereafter) to: 1.a.i Introduce the aftercare support available, including the content of the building user guide (where is exists) and training schedule. 1.a.ii Present key information on the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. 1.b On-site facilities management training including: 1.b.i A walkabout of the building. AND 1.b.ii Introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. 1.c Provide initial aftercare support for at least the first month of building occupation, e.g. weekly attendance on-site, to support building users and management (the level of frequency will depend on the complexity of the building and building operations). 1.d Provide longer term aftercare support for occupiers for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users and management. 2. Establish operational infrastructure and resources to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is substantially occupied. This facilitates analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and user behaviours accordingly.	Evidence of a commitment/contract to provide compliant aftercare support and training.	**1**	**1**	**0**	**0**	MC & Care provider	Confirmed to be Inplace

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Man 05b - Commissioning - implementation		**One credit - Commissioning - implementation** 3. Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: 3.a Complex systems: The specialist commissioning manager will: 3.a.i Identify changes made by the owner or operator that might have caused, impaired or improved performance. 3.a.ii Test all building services under full load conditions, i.e. heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn). 3.a.iii Where applicable, carry out testing during periods of extreme (high or low) occupancy. 3.a.iv Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding effectiveness of the systems. 3.a.v Produce monthly reports comparing sub-metered energy performance to the predicted one (see Ene 01 Reduction of energy use and carbon emissions on page 120). 3.a.vi. Identify inefficiencies and areas in need of improvement. 3.a.vii Re-commission systems (following any work needed to serve revised loads) and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals. 3.b Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will: 3.b.i Review thermal comfort, ventilation and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. 3.b.ii Identify deficiencies and areas in need of improvement. 3.b.iii Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals	Confirmation that commissioning has been carried out as per DS commitment.	**1**	**1**	**0**	**0**	Harniss Contracting	Assumed credit would be targeted - to be confirmed by team
Man 05c Post Occupancy Evaluation		One credit - Post-occupancy evaluation (POE) 4. The Client or building occupier commits to carry out a POE exercise (see Definitions on page 63) one year after the building is substantially occupied. This gains comprehensive in-use performance feedback (see criterion 5.b.v) and identifies gaps between design intent and in-use performance. The aim is to highlight any improvements or interventions that need to be made and to inform operational processes. 5. An independent party (see Definitions on the facing carries out the POE covering: 5.a A review of the design intent and construction process(review of design, procurement, construction and handover processes). 5.b Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: 5.b.i Internal environmental conditions(light, noise, temperature, air quality) 5.b.ii Control, operation and maintenance 5.b.iii Facilities and amenities 5.b.iv Access and layout 5.b.v Energy and water consumption (see criterion 2 and Methodology 5.b.vi Other relevant issues, where appropriate (see Definitions on the facing page) 6 The independent party provides a report with lessons learned to the Client and building occupiers. 7 The Client or building occupier commits funds to pay for the POE in advance. This requires an independent party to be appointed to carry out the POE as described in criterion 5. Evidence of the appointment of the independent party and schedule of responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance.	A signed and dated commitment by the Client/developer or future building occupier. Where the criteria require the commissioning activities to be completed over a minimum 12-month period following (substantial) building occupation, it is accepted that completed records may not be available at the time of final certification. In such cases, evidence of the appointment of a commissioning manager and schedule of commissioning responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance.	**1**	**0**	**0**	**1**	BHC	Notes as not targeted
Total Credits				**20**	**12**	**2**	**6**		
			11%	**11%**	**7%**	**1%**	**3%**		

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 01 Visual Comfort									
Hea 01a Control of glare from sunlight		**One credit - Control of glare from sunlight** 1. Identify areas at risk of glare using a glare control assessment. The glare control assessment also justifies any areas deemed not at risk of glare. 2. A glare control strategy designs out potential glare in all relevant building areas where risk has been identified. This should be achieved through building form and layout or building design measures. 3. The glare control strategy does not increase energy consumption used for lighting. This is achieved by: 3.a Maximising daylight levels in all weather, cloudy or sunny AND 3.b Ensuring the use or location of shading does not conflict with the operation of lighting control systems.	Design drawings Relevant section/clauses of the building specification or contract	**1**	**0**	**0**	**1**	RDT	Credit difficult to achieve - not sought
Hea 01b Daylighting (building type dependent)		**Up to two credits - Daylighting (building type dependent)** 4 Daylighting criteria have been met using either of the following options: 4.a The relevant building areas meet good practice daylight factors and other criteria as outlined in Table 5.1 and Table 5.2 OR 4.b The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3 on the next page.	Daylighting calculations.	**2**	**0**	**0**	**2**	RDT	Some office spaces have no access to natural daylight - difficult to achieve - not sought
Hea 01c View out		**One credit - View out** 5. 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out (see Adequate View Out definition on page 84*). 6. In addition, the building type criteria for Prisons, multi-residential and healthcare are outlined in Table 5.6. *Where relevant building areas are within 8m of an external wall which as a window or permanent opening, and the window/opening is ≥20% of the surrounding wall area. Where the room depth is greater than 8m, the percentage of window or opening must instead be the same as, or greater than, than values in Table 1.0 BS8206:Part 2. The view out must be a view of a landscape or buildings (rather than just sky) at seated level (1.2-1.3m) with the relevant building areas and should ideally be through an external window. A view into an internal courtyard or atrium will comply provided the distance from the opening to the back wall of the courtyard/atrium is at least 10m. The view cannot be an internal view across the room, as this is likely to become obstructed by partitions, filing cabinets etc. An internal view cannot offer the additional benefits of an external view. **Multi-residential buildings** Self-contained flats - living rooms Sheltered housing - communal lounges, individual bedrooms and bedsits All positions within relevant areas are to be within 5m of a wall which has a window or permanent opening providing an adequate view out. The window or opening must be ≥ 20% of the surrounding wall area.	Design drawings Relevant section/clauses of the building specification or contract Window schedule	**1**	**0**	**0**	**1**	RDT	Not sought

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 01d Internal and external lighting levels, zoning and control		**One credit - Internal and external lighting levels, zoning and control Internal lighting** 8. Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012(33) and any other relevant industry standard. Internal lighting should be appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. 9. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 (34)sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: 9.a Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this.) 9.b Any area where a surface is used to reflect light in to a space, such as up lighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this. 9.c Recommendations for direct lighting, ceiling illuminance, and average wall illuminance. External lighting 10. All external lighting located within the construction zone is specified in accordance with BS5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas(35) and BS EN 12464-2:2014(36) Light and lighting - Lighting of workplaces- Part 2:Outdoor workplaces. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. 11. Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8–9.c above. Zoning and occupant control 12. Internal lighting is zoned to allow for occupant control. Zoning is in accordance with the criteria below for relevant areas present within the building: 12.a In office areas, zones of no more than four workplaces 12.b Workstations adjacent to windows or atria and other building areas separately zoned and controlled 12.c Seminar and lecture rooms: zoned for presentation and audience areas 12.d Library spaces: separate zoning of stacks, reading and counter areas 12.e Teaching space or demonstration area 12.f Whiteboard or display screen 12.g Auditoria: zoning of seating areas, circulation space and lectern area 12.h Dining, restaurant, café areas: separate zoning of servery and seating or dining areas 12.i Retail: separate zoning of display and counter areas 12.j Bar areas: separate zoning of bar and seating areas 12.k Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces 12.l Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff. 13. Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5 (37) 14. In addition, the building type criteria in Table 5.7 on the next page (where relevant). 74 SD5078	Design drawings and/or room data sheets/schedules Relevant section/clauses of the building specification or contract OR A letter of formal confirmation of compliance from the relevant design team member. Further information on page 40 'Additional Information'	1	1	0	0	Harniss Contracting	The Energy and sustainability report prepared for planning should confirm that lux levels in all internal relevant areas shall be designed in accordance to the SLL Code for lighting 2012. Assumed credit would be targeted - to be confirmed by team.
Hea 02 Indoor Air Quality									
Hea 02a Prerequisite	RIBA Stage 2	**Prerequisite - Indoor Air Quality (IAQ) Plan** 1. A site-specific indoor air quality plan has been produced and implemented in accordance with the Guidance Note GN06. The objective of the plan is to facilitate a process that leads to design, specification and installation decisions and actions, which minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following: 1.a Removal of contaminant sources 1.b Dilution and control of contaminant sources: 1.b.i Where present, consideration is given to the air quality requirements of specialist areas such as laboratories 1.c Procedures for pre-occupancy flush out 1.d Third party testing and analysis 1.e Maintaining good indoor air quality in-use.	Indoor air quality plan	–	MET	–	–	Harniss Contracting	Completed

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 02b Ventilation		**One credit - Ventilation** 2. The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: 2.a Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation 2.b Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building (see Methodology on page 87) 2.c Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 16798-3:2017(45). The specified filters should achieve supply air classification of at least SUP 2. 2.d Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO_2) or air quality sensors specified and: 2.d.i In mechanically ventilated buildings or spaces: sensors are linked to the mechanical ventilation system and provide demand controlled ventilation to the space 2.d.ii In naturally ventilated buildings or spaces: sensors either have the ability to alert the building owner or manager when CO_2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows or roof vents 2.e For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate crossflow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSEAM10	Relevant section/clauses of the building specification or contract Design drawings	**1**	**0**	**0**	**1**	Harniss Contracting	Noted as Potential at this stage - but highly inprobable
Hea 02c Emissions from construction products		**Up to two credits - Emissions from construction products** One credit 3. Three out of the five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11 on the facing page. Where wood-based products are not one of three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum. Two Credits 4. All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11 on the facing page	Relevant section/clauses of the building specification or contract confirming products to be used meet the requirements.	**2**	**1**	**0**	**1**	RDT	Assumed one credit and one potential would be targeted - to be confirmed by team.
Hea 02d Post Construction indoor air quality measurement		**One credit - Post-construction indoor air quality measurement** 5. The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100 µg/ m^3averaged over 30 minutes(World Health Organization guidelines for indoor air quality: Selected pollutants, 2010(58)). 6. The formaldehyde sampling and analysis is performed in accordance with ISO16000-2 (59) and ISO16000-3 (60) 7. The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500 µg/ m^3over 8 hours. 8. The TVOC sampling and analysis is performed in accordance with ISO16000-5 (61) and ISO16000-6 (62) or ISO 16017-1(63) 9. Where levels are found to exceed these limits, the project team confirms the measures that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits. 10. The measured concentration levels of formaldehyde (µg/ m^3) and TVOC (µg/ m^3) are reported, via the BREEAM Scoring and Reporting Tool.	Commitment to carry out necessary testing post construction.	**1**	**0**	**0**	**1**	Project team	Noted as Potential at this stage - however unlikely to be sought

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 04 Thermal comfort									
Hea 04a Thermal Modelling	**RIBA Stage 3**	**One credit - Thermal modelling** 1. Thermal modelling has been carried out using software in accordance with CIBSEAM11(78) Building Energy and Performance Modelling. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance withCIBSEAM11). 3. The modelling demonstrates that: 3.a For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design(79), Table 1.5;or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b For naturally ventilated buildings: 3.b.i Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b.ii The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings(80) or CIBSE TM59:Design methodology for the assessment of overheating risk in homes(81) 4. For air-conditioned buildings, the PMV(predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	Relevant section/clauses of the building specification or contract or correspondence (e.g. letter, email or meeting minutes) from the design team Thermal modelling results TOR data from the design team	**1**	**1**	**0**	**0**	Harniss Contracting	Completed
Hea 04b Design for future thermal comfort		**One credit - Design for future thermal comfort** 5. Criteria 1 to 4 are achieved. 6. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment (see Definitions on the next page). 7. Where criterion 6 above is not met, the project team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6 above 8. For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.		**1**	**1**	**0**	**0**	Harniss Contracting	In hand

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 04c Thermal Zoning and controls		**One credit - Thermal zoning and controls** 9 Criteria 1 above to 4 above are achieved. 10 The thermal modelling analysis (criteria 1 on the previous page to 4 on the previous page) has informed the temperature control strategy for the building and its users. 11 The strategy for proposed heating or cooling systems demonstrates that it has addressed the following: 11.a Zones within the building, and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. 11.b The degree of occupant control required for these zones. This is based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) and considers: 11.b.i User knowledge of building services 11.b.ii Occupancy type, patterns and room functions(and therefore appropriate level of control required) 11.b.iii How the user is likely to operate or interact with the systems, e.g. are they likely to open windows, access thermostatic radiator valves(TRV) on radiators, change air-conditioning settings etc. 11.b.iv The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike draughts) 11.c How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants 11.d The need or otherwise for an accessible building user actuated manual override for any automatic systems	Thermal comfort strategy highlighting the points that have been considered and decisions taken accordingly Relevant section/clauses of the building specification or contract Design drawings	**1**	**1**	**0**	**0**	Harniss Contracting	One Credit Targeted
Hea 05 Acoustic Performance									
Hea 05 Acoustic performance		**Up to four credits - Acoustic performance for Residential institutions (short term and long term stay)** 3 The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: 3.a Sound insulation 3.b Indoor ambient noise level 3.c Room acoustics. **First & second credit - Sound insulation** One Credit - Airborne sound insulation values are at least 3 dB higher and impact sound insulation values are at least 3 dB lower than the performance standards in the relevant building regulations or standards. Two Credits - Airborne sound insulation values are at least 5 dB higher and impact sound insulation values are at least 5 dB lower than the performance standards in the relevant building regulations or standards. Third credit - internal indoor ambient noise levels Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014 Fourth credit - Room acoustics Achieve the requirements relating to sound absorption and within the common spaces of the building described in the relevant building regulations or building standards national guidance.	Professional report / study and calculations from the acoustician. Letter of appointment or other confirmation demonstrating when the acoustician was appointed. Relevant section/clauses of the building specification or contract and/or formal letter from the project team regarding commitments	**4**	**2**	**2**	**0**	SQA Consultant	SQA to be confirmed - assumed not report prepared currently.
Hea 06 Security									
Hea 06 Security of site and building	RIBA Stage 2	**One credit - Security of site and building** 1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development . 2. The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA. 3. The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviations from those controls and recommendations shall be justified and agreed with the SQSS.	Design drawings (including a scaled site plan), AND/OR relevant sections of the specification highlighting all necessary compliant features and dimensions. Security Needs Assessment.	**1**	**0**	**0**	**1**	SQSS and RDT	Credit should be considered early. Appointment and engagement with a SQSS is sought - No offical report or recommendation report produced.

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Hea 07 Safe and healthy surroundings									
Hea 07a Safe access		**One credit - Safe access** Where external site areas form part of the assessed development the following apply: 1. Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable. 2. Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: 2.a The site entrance to the building entrance, 2.b Car parks (where present)to the building entrance 2.c The building to outdoor space 2.d Connecting to off-site paths where applicable. 3 Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths. Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply: 4. Delivery areas are not accessed through general parking areas and do not cross or share the following: 4.a pedestrian and cyclist paths 4.b outside amenity areas accessible to building users and general public. 5. There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. 6. Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting	Correspondence from or a copy of the report/feedback from the ALO/CPDA/Security Consultant confirming: • Scope of their advice/involvement • The stage of design in which their advice was sought • Summary of their recommendations Design drawings AND/OR relevant sections of the specification or contract	**1**	**0**	**0**	**1**	RDT	Assumed credit not sought
Hea 07b Outside space		**One credit - Outside space** 7. There is an outside space providing building users with an external amenity area.	Design drawings	**1**	**1**	**0**	**0**	RDT	Space is present for occupiers and for staff
Total Credits				**19**	**8**	**2**	**9**		
			14%	**14%**	**6%**	**1%**	**7%**		
Ene 01 Reduction of Energy use and carbon emissions									
Ene 01a Energy Performance		**Up to nine credits - Energy performance** 1 Calculate an Energy Performance Ratio for New Construction (EPR NC). Compare the EPR NC achieved with the benchmarks in Table 6.1 and award the corresponding number of BREEAM credits.	A copy of the Building Regulations Output Document from the approved software, as follows: 1. England Wales (Part L): Approved Documents checks (BRUKL Output Document) 2. Scotland (Section 6): Specification checks 3. N. Ireland (Part F): Approved Documents checks (BRUKL Output Document) 4. Where relevant for multi-residential buildings, a copy of the calculations based on design stage SAP outputs. The output documents must be based on the "As designed" stage of analysis. output documents from the approved software reflecting performance at the as-built stage of analysis. This must account for any changes to the specification during construction and the measured air leakage rate, ductwork leakage and fan performances(as required by building regulations)	**9**	**7**	**2**	**0**	Harniss Contracting	Initial results are 7 credits.
Ene 01b Energy modelling and reporting	**RIBA Stage 2**	**Four credits – Energy modelling and reporting** 2. Involve relevant members of the design team in an energy workshop, focusing on operational energy performance. 3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures(see Prediction of operational energy consumption on page 124). 4. Report predicted energy consumption targets by end use, design assumptions and input data (with justifications). 5. Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process	Predicted energy consumption values, design assumptions, input data and risk assessments reported as detailed in the Energy Prediction and Post-occupancy guidance available from the BREEAM website. Confirmation of suitably qualified energy modeller's qualifications. Where changes to design assumptions and input data have occurred at post construction stage, the energy modelling should be re-run to take into account those changes	**4**	**0**	**0**	**4**	Harniss Contracting	Noted as potential at this stage

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Ene 02 Energy Monitoring									
Ene 02a Sub metering of end-use catergories		**One credit - Sub-metering of end-use categories** 1. Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories(see Methodology below). 2. Meter the energy consumption in buildings according to the total useful floor area: 2.a If the area is greater than 1,000 m², by end-use category with an appropriate energy monitoring and management system. 2.b If the area is less than 1,000 m², use either: 2.b.i an energy monitoring and management system or 2.b.ii separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system (see Definitions on page 135). 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs.	Relevant section/clauses of the building specification or contract. Design drawings	1	1	0	0	Harniss Contracting	One credit must be achieved for Very Good - assumed credit would be targeted to be confirmed by team
Ene 03 Energy Monitoring									
Ene 03 External lighting		**One credit - External lighting** 1. No external lighting (which includes lighting on the building, at entrances and signs). OR 2. External light fittings within the construction zone with: 2.a Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt 2.b Automatic control to prevent operation during daylight hours 2.c Presence detection in areas of intermittent pedestrian traffic	Relevant section/clauses of the building specification or contract - Evidence received Design drawings	1	1	0	0	Harniss Contracting	Assumed credit would be targeted to be confirmed by team
Ene 04 Low Carbon Design									
Ene 04a Passive design analysis	**RIBA Stage 2**	**One credit - Passive design analysis** 1. Achieve the first credit Hea 04 Thermal comfort: One credit - Thermal modelling on page 102 to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces. 2. The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures (see Passive design analysis on page 152). 3. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings. 4. Quantify the reduced total energy demand and carbon dioxide (CO_2-eq) emissions resulting from the passive design measures.	Copy of Passive Design Analysis Results from a dynamic simulation model demonstrating the reduced energy demand and CO_2 emissions from the specified passive design measures.	1	1	0	0	Harniss Contracting /RDT	Completed
Ene 04b Free Cooling		**One credit - Free cooling** 5. Achieve the passive design analysis credit. 6. Include a free cooling analysis (see Free cooling analysis on page 153) in the passive design analysis carried out under criterion 2. 7. Identify opportunities for the implementation of free cooling solutions. 8. The building is naturally ventilated or uses any combination of the free cooling strategies listed in Free cooling analysis.	Results from a dynamic simulation model and other used methods demonstrating that the free cooling strategy can meet the building's cooling demand	1	0	0	1	Harniss Contracting	Credit not sought
Ene 04c LZC tech	**RIBA Stage 2**	**One credit - Low zero carbon feasibility study** 9. An energy specialist (see Definitions on page 156) completes a feasibility study (see Low and zero carbon feasibility study on page 153) by the end of Concept Design. 10. Establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy sources for the building or development (see Scope of LZC systems and how they are assessed on page 154), based on the feasibility study. 11. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. 12. Quantify the reduced regulated carbon dioxide (CO_2-eq) emissions resulting from the feasibility study 1	Results from a dynamic simulation model demonstrating reductions in CO_2 emissions from the specified low zero carbon technology	1	1	0	0	Harniss Contracting	Harniss prepared Energy report.

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Ene 06 Energy efficient transportation systems									
Ene 06a Energy consumption		**One credit - Energy consumption** 1. For specified lifts, escalators or moving walks (transportation types): 1.a Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks 1.b Calculate the energy consumption in accordance with BS EN ISO 2574 Part 2 (131) or Part 3 (132) for one of the following: 1.b.i At least two systems for each transportation type OR 1.b.ii At least two arrangements of systems with 'fit for purpose' system strategies. For example for lift systems, different options could be hydraulic, traction or machine room-less lift (MRL). 1.c Consider the use of regenerative drives, subject to the requirements in Regenerative drives below 1.d Specify the transportation system with the lowest energy consumption	For 1 to 2: Professional report / study of transportation analysis AND/OR Calculations	**1**	**1**	**0**	**0**	Lift Consultant	Lifts to be installed. Assumed credit would be targeted - to be confirmed by team.
Ene 06b Energy Efficient features		**Up to two credits - Energy efficient features** 2. Achieve criterion 1 on the previous page. One credit - Lifts 3. Specify the following three energy efficient features for each lift: 3.a A standby condition for off-peak periods 3.b The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of >70 luminaire lumens per circuit Watt 3.c Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. 4. Specify regenerative drives where their use is demonstrated to save energy	For 3 to 4: Relevant section/clauses of the building specification or contract - Evidence received AND EITHER Manufacturers products details OR Formal letter of commitment from the system(s) manufacturer/sup	**1**	**1**	**1**	**-1**	Lift Consultant	Lifts to be installed. Assumed credit would be targeted - to be confirmed by team.
Ene 08 Energy Efficient equipment									
Ene 08a Energy efficient equipment		**Two credits - Energy efficient equipment** 1. Identify the building's unregulated energy consuming loads. Estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical or standard specification. 2. Identify the systems or processes that use a significant proportion of the total annual unregulated energy consumption of the building. 3. Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building. Table 6.5 lists some examples of significant contributors to unregulated energy consumption, and the associated criteria. If additional significant contributors, not listed in the table, will be specified, the design team should justify how meaningful reduction will be achieved for these contributors. Anticipated that the building will have domestic scale appliances and kitchen/catering facilities. Note: 1.0 Where there are no systems specified that contribute to the unregulated energy load, the issue is not applicable. 2.1 Multi-residential: Domestic-scale appliances (individual and communal facilities) below item 5b is only applicable to multi residential assessments	Manufacturers product details Documentation confirming compliance with the relevant scheme or standard outlined in the criteria e.g. details of compliance with the ECA scheme Design drawings and/or calculations.	**2**	**1**	**0**	**1**	Client and Kitchen specialist - BHC	Noted as targeted at this stage. **Laundry** - One of the following: 1. Specification of heat recovery from waste water. 2. Use of greywater for part of the washing process. 3. Eligible for the UK's Enhanced Capital Allowance Scheme for water. **Kitchen** Incorporate at least two thirds of the energy efficiency measures outlined in the sction summary boxes of each of the following sections of CIBSE Guide TM50. **White Goods** Any white goods, avialable to purchase from the developer, must achieve under the New EU Energy Efficiency Labelling Scheme (Fridges, FF, Freezers - E, Washing machines - B, Dishwashers D and Washer dryers - D).
Total Credits				**22**	**14**	**3**	**5**		
			16%	**16%**	**10%**	**2%**	**4%**		

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Tra 01 Transport assessment and travel plan									
Tra 01a Travel plan	**RIBA Stage 2**	**Two credits – Transport assessment Travel plan** 1. No later than Concept Design stage, undertake a site-specific transport assessment (or statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form; see Methodology. 2. The site-specific travel assessment or statement covers as a minimum: 2.a Existing travel patterns and opinions of existing building or site users towards cycling and walking, identifying constraints and opportunities, if relevant 2.b Travel patterns and transport impact of future building users 2.c Current local environment for walkers and cyclists(accounting for visitors who may be accompanied by young children) 2.d Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site 2.e Disabled access(accounting for varying levels of disability and visual impairment) 2.f Calculation of the existing public transport Accessibility Index (AI),see Methodology on the next page 2.g Current facilities for cyclists 3. Following a transport assessment (in accordance with the requirements set out in criteria 2a-2g) develop a site-specific travel plan, that provides a long term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation; see Methodology. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.	A copy of the Travel Plan. A copy of the site-specific transport survey/assessment. Design drawings demonstrating examples of design measures implemented in support the travel plan's findings. OR Where a detailed site plan is not available, a formal letter from the Client confirming that measures will be implemented into the final design in support the travel plan's findings. A letter of confirmation from either the building's occupier, or in the case of a speculative development, the developer	**2**	**1**	**1**	**0**	BHC / Transport Consultant	Credit must be considered early. A travel plan has been developed for planning.
Tra 02 Sustainable Transport measures									
Tra 02 Prerequisite		**Prerequisite** 1. Achieve criteria 3-5 in the Tra 01 Transport assessment and travel plan issue		**–**	**MET**	**–**	**–**	Care provider	Pre-requisite will need to be met for the following credits to be awarded.
Tra 02a Transport options implementation AI <25		**Ten credits – Transport options implementation AI<25** 2. Identify the sustainable transport measures, in Table 7.4 page 174. 3. Award credits according to the existing Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3	Identify sustainable transport measures. Scale map highlighting the location of the building and all public transport nodes in proximity of the building. Timetables for each service at each public transport node considered. The calculated Accessibility Index for the building. A formal letter from the future building occupier confirming provision of and details for the dedicated bus service(s).	**10**	**4**	**0**	**6**	Care Provider /RGP	
		Public transport measures							
1		1. The existing AI calculated in Tra 01 achieves the following: ≥ 4 for prison or MOD sites, rural location sensitive buildings, and other building group 3 ≥ 8 for all other building types		**1**	**0**	**1**			AI 2.14
2a		2. Demonstrate an increase over the existing Accessibility Index through negotiation with local bus, train or tram companies to increase the frequency of the local service provision for the development; OR		**2**	**0**	**2**			
2b		3. Demonstrate an increase over the existing Accessibility Index. This could be through provision of a diverted bus route, a new or enhanced bus stop, or other similar solutions OR		**3**	**0**	**3**			
2c		4. Provide a dedicated service, such as a bus route or service (See Methodology on page 178)		**3**	**0**	**3**			
3		5. Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities		**1**	**0**	**1**			TCP will have public info available to staff and residents
		Private transport measures							
4		6. Provide electric recharging stations of a minimum of 3kw for at least 10% of the total car parking capacity for the development		**1**	**1**	**0**			3 EV chargers. Confirmed by RGP

5		7. Set up a car sharing group or facility to facilitate and encourage building users to car share. 8. Raise awareness of the sharing scheme with marketing and communication materials. 9. Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. 10. Locate priority parking spaces nearest the development entrance used by the sharing scheme participants		1	1	0			1 space provided. Confirmed by RGP
		Active travel measures							
6		11. During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it. 12. Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.		2	0	2			
7		13. Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 on page 176.		1	1	0			10 spaces provided. Confirmed by RGP.
8		14. Option 7 has been achieved. 15. Provide at least two compliant cyclists' facilities or the building users, (including pupils where appropriate to the building type) – see Definitions for the scope of each compliant facility: – Showers – Changing facilities – Lockers – Drying spaces.		1	1	0			Y
9		Existing amenities: 16. At least three existing accessible amenities are present		1	0	1			all outside the permitted distance or type
10a		17. Ensure a minimum of one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided. OR		2	0	2			N/A
10b		18. Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 191 for the relevant Building Group, is provided.		3	0	3			
11		19. Implement one site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan. Submit these for review by BRE.		3	0	3			
Total Credits				12	5	1	6		
			10%	**10%**	**4%**	**1%**	**5%**		

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Wat 01 Water Consumption									
Wat 01 Water Consumption		**Up to five credits - Water consumption** 1. Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components. 2. Use the standard Wat 01 method (see Methodology on the facing page)to compare the water consumption (litres/person/day)for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1 below. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method (see Methodology). 3. If a greywater or rainwater system (see Definitions on page 195) is specified, use its yield in L/person/day to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed: 4.a Greywater systems in compliance with BS8525-1:2010 Greywater systems- Part 1 Code of Practice (153) 4.b Rainwater systems in compliance with BS8515:2009+A1:2013 Rainwater harvesting systems- Code of practice(154) Achieve Assessment scope - Criterion 6 on page 199, if you intend to pursue a post occupancy stage certification. Additionally for Healthcare building types only: 5 If applicable, the flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors. Additionally for Prison building types only: 6 Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell (see Definitions on page 195).	A completed copy of the BREEAM Wat 01 calculator Documentary evidence supporting the data used to complete the calculator tool. Relevant section/clauses of the building specification/ design drawings confirming technical details of 1. Sanitary components 2.Rainwater and greywater collection system OR where detailed documentary evidence is not available at this stage; Completed BREEAM Wat 01 calculator A letter of instruction to a contractor/supplier or a formal letter from the developer giving a specific undertaking, providing sufficient information to allow the water calculations to be completed.	**5**	**3**	**0**	**2**	Harniss Contracting	Assumed 3 Credits would be targeted - to be confirmed by team Water efficient /low flow applicances and fittined to be installed.
Wat 02 Water monitoring									
Wat 02a Rating min standard		**Rating Related Min Standard- Good Rating and Above** 1 Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source.	Relevant section/clauses of the building specification or contract Design drawings	**–**	**MET**	**–**	**–**	Harniss Contracting	Pre-requisite will need to be met for the following credits to be achieved
Wat 02a Water monitoring		**One credit - Water monitoring** 1 As above, specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. 2 For water-consuming plant or building areas consuming 10% or more of the building's total water demand: 2.a Fit easily accessible sub-meters OR 2.b Install water monitoring equipment integral to the plant or area. 3 For each meter (main and sub): 3.a Install a pulsed or other open protocol communication output AND 3.b Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post Construction stage, award credits provided that the system used enables connection when the BMS becomes operational. 4 In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities (toilets, showers etc.) irrespective of their water consumption levels. 5 In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels. Additionally for those pursuing a post occupancy stage certification: 6 The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day), if a post occupancy stage certification is sought.	Relevant section/clauses of the building specification or contract Design drawings	**1**	**1**	**0**	**0**	Harniss Contracting	One Credit targeted

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Wat 03 Leak Detection									
Wat 03a Leak detection		**One credit - Leak detection system** 1. Install a leak detection system capable of detecting a major water leak: 1.a On the utilities water supply within the buildings, to detect any major leaks within the buildings AND 1.b Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment. 2. The leak detection system is: 2.a A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks 2.b Activated when the flow of water passing through the water meter or data logger is at a flowrate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flowrates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system 2.c Able to identify different flow and therefore leakage rates, e.g. continuous, high or low-level, over set time periods. Although high and low-level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flowrates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns. 2.d Programmable to suit the owner's or occupier's water consumption criteria 2.e Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers. Where there is physically no space for a leak detection system between the utilities water meter and the building, alternative solutions can be used, provided that a major leak can still be detected. **Short and long term residential accommodation**: 2.1 Short and long term residential accommodation Flow control devices in WC areas or facilities are not required for facilities in residential areas of long-term residential accommodation. This is due to the fact that those occupants have a sense of ownership and would identify and report a potential leak. This applies to all of the following: ensuite facilities in individual bedrooms, a single bathroom shared between several individual bedrooms(e.g. in halls of residence), or one single bathroom in an independent dwelling (e.g. within a care home). The requirement for flow control devices still applies for the rest of the facilities within long-term residential accommodation. Where WC facilities are only provided within the residential areas of a long-term residential accommodation project (e.g. there is no staff WC), the credit is filtered out of the assessment. However, for short term accommodation, the credit still applies to buildings that have guest bedrooms with ensuite facilities, e.g. hotel rooms, and communal WC areas or facilities, e.g. communal WC facilities in hotels and hostels.	Relevant section/clauses of the building specification or contract Design drawings Manufacturers product details	**1**	**1**	**0**	**0**	Harniss Contracting	To be included - One Credit targeted
Wat 03b Flow Control devices		**One credit - Flow control devices** 3. Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. **Where WC facilities are only provided within the residential areas of a long-term residential accommodation project (e.g. there is no staff WC), the credit can be filtered out of the assessment**	Relevant section/clauses of the building specification or contract - Design drawings Manufacturers product details	**1**	**1**	**0**	**0**	Harniss Contracting	One Credit targeted
Total Credits				8	6	0	2		
			7%	**7%**	**5%**	**0%**	**2%**		

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)									
Mat 01a Superstructure	**RIBA Stage 2 & 4**	Up to six credits – Superstructure Options appraisal during Concept Design 4. During Concept Design, identify opportunities for reducing environmental impacts as follows: 4.a Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options (applicable to the Concept Design stage, see Methodology on page 211). 4.b Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Concept Design) according to the methodology (see Methodology on page 211). 4.c For each design option, fulfil the same functional requirements specified by the Client and all statutory requirements(to ensure functional equivalency). 4.d Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. 4.e Record the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the Client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. 4.f Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications). If the building LCA tool recognised by BREEAM and used for criteria 3 to 5 (and 6 to 9, if pursued) is not an IMPACT Compliant LCA tool and criteria 1 to 2 are applicable, then the BREEAM Simplified Building LCA tool (or an IMPACT Compliant LCA tool)shall be used for criteria 1 to 2. Options appraisal during Technical Design (all building types) 5. During Technical Design identify opportunities for reducing environmental impacts as follows: 5.a Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options (based on the selected Concept Design option and as applicable to the Technical Design stage, see Methodology). 5.b Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Technical Design) according to the methodology (see Methodology on the next page). 5.c As criteria 4.c to 4.e above. Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. 5.d Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criteria 3 and 4, criterion 5 may still be achieved. Note: 1.1 Mixed use buildings: Where a single building use type accounts for ≥ 50% of the net internal floor area, all criteria relevant to the building type and function apply. Where <50%, all criteria relevant to the building type and function apply except criteria 1 to 2 below 1.2 Part new build, part refurbishment. All criteria relevant to the building type and function apply except criteria 1 to 2 below.	Copy of LCA. 1-2 - Mat01/02 submission results 3-4 – The options appraisal summary document – Evidence that the LCA options appraisal summary document has been received by the design team and Client (meeting minutes, letter of acknowledgement) – Evidence of how the LCA design options have informed the design decision-making process(e.g. meeting minutes, documented design development showing how the LCA options have affected the design). 5 As criteria 3 to 4 6-7 - The LCA options appraisal summary document includes substructure and hard landscaping according to the criteria 8-9 - The LCA options appraisal summary document includes core building services according to the criteria 10-14 - The 'elemental LCC plan' and 'Component level LCC option appraisal; in issue Man 02 life cycle cost and service life planning on page 41'. 15-18 The third party's report: - Verifying that building LCAs accurately represent the designs under consideration - Itemising the findings of their verification checks - Evidence that the requirements of a suitably qualified third party are fulfilled	**6**	**2**	**0**	**4**	LCA and RDT	LCA assessment not appointed - BREEAM MAT01 cal conducted - limited to 2 credits
Mat 01a Substructure and hard landscaping options appraisal during Concept Design	**RIBA Stage 2**	**One credit – Substructure and hard landscaping options appraisal during Concept Design (all building types)** 6. Criteria 3 and 4 are achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: 7.a Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options(at least two shall be substructure and at least two shall be hard landscaping). 7.b Using a building LCA tool that is recognised by BREEAM (as suitable for assessing substructure and hard landscaping during Concept Design) according to the methodology (see Methodology on page 211). 7.c As criteria 4.c to 4.f.	The LCA options appraisal summary document includes substructure and hard landscaping according to the criteria.	**1**	**0**	**0**	**1**	LCA and RDT	Credit should be considered early - Credit not sought at this stage
Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)									
Mat 02a Specification of products with a recognised EPD		**One credit - Specification of products with a recognised environmental product declaration (EPD)** 1. Specify construction products with EPD that achieve a total EPD points score of at least 20, according to the Methodology on page 221. 2. Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and credit award	Copies of Environmental Product Declarations A link/reference to the EPD's Product Category Rules Mat 01/02 Results Submission Tool	**1**	**1**	**0**	**0**	RDT	One credit targeted - Specification submission for confirmation

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Mat 03 Responsible sourcing of construction products									
Mat 03a Prerequisite		**Prerequisite - Legally harvested and traded timber** 1. All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP) (see Definitions on page 228). Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating. There are no prerequisite requirements for other materials	Relevant section/clauses of the building specification or contract OR A signed and dated letter of commitment to meet the relevant criteria OR Timber Policy	–	**MET**	–	–		Pre-requisite will need to be met for the following credits to be awarded
Mat 03b Enabling sustainable procurement	**RIBA Stage 2**	**One credit - Enabling sustainable procurement** 2. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: 2.a Be in place before Concept Design. 2.b Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. 2.c Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. 2.d Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: 2.e Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO20400:2017(166)	Evidence of level of responsible sourcing achieved for each construction product. For example, certificates. Completed copy of the Mat 03 Calculator tool. Evidence to show how the Mat 03 calculator tool has been completed.	**1**	**1**	**0**	**0**	Design Team	One credit targeted.
Mat 03c Measuring responsible sourcing		**Up to 3 credits - Measuring responsible sourcing** 3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, asset out in Table 9.10		**3**	**1**	**0**	**2**	MC	MAT03 cal tool to be completed eventually - One Credit targeted.
Mat 05 Designing for durability and resilience									
Mat 05a Protecting vulnerable parts of the building from damage		**One credit Protecting vulnerable parts of the building from damage** 1. Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against: 1.a Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). 1.b Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. 1.c External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails. 1.d Potential malicious damage to building materials and finishes, in public and common areas where appropriate. Protecting exposed parts of the building from material degradation 2. Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following: 2.a The element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 on the next page. If none are available, use BS7543:2015(168) as the default appropriate standard OR 2.b A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. 3. Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. 4. Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 on the next page for an example list of relevant industry durability and quality standards.	Design drawings illustrating vulnerable areas/parts of the building. Design drawings and/or relevant section/clauses of the building specification or contract confirming the durability measures specified	**1**	**1**	**0**	**0**	RDT	One Credit targeted - dwg needed to show details provided.

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Mat 06 Material Efficiency									
Mat 06a Material Efficiency	**RIBA Stage 1-5**	**One credit - Material efficiency** 1. At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages. See Table 9.15 on page 237: 1.a Preparation and Brief 1.b Concept Design 1.c Developed Design 1.d Technical Design 1.e Construction 2. Develop and record the implementation of material efficiency, see Table 9.15 below, during: 2.a Developed Design 2.b Technical Design 2.c Construction 3. Report the targets and actual material efficiencies achieved.	A copy of the report	**1**	**0**	**1**	**0**	RDT	One Credit targeted - specification and narrative needed from RDT on material efficiency. - left as potential
Total Credits				**14**	**6**	**1**	**7**		
			15%	**15%**	**6%**	**1%**	**8%**		
Wst 01 Construction waste management									
Wst 01a Pre-demolition audit	**RIBA Stage 2**	**One credit - Pre-demolition audit** 1. Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope on page 244 and: 1.a Be carried out at Concept Design stage (RIBA Stage 2) by a competent person (see Definitions on page 245) prior to strip-out or demolition works 1.b Guide the design, consider materials for reuse and set targets for waste management 1.c Engage all contractors in the process of maximising high grade reuse and recycling opportunities 1.d Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets. 2. Make reference to the audit in the resource management plan (RMP) (see Definitions on page 245). Note: 1.0 Where, under the developer's ownership, no demolition will be undertaken to enable the assessed development, the pre-demolition audit credit is not applicable and therefore filtered out of the assessment	A copy of the Resource Management Plan and, where relevant, the pre-demolition audit Relevant section/clauses of the building specification or contract AND/OR A letter from the Client or their representative	**1**	**0**	**0**	**1**	Demo / MC	Not to be sought
Wst 01b Construction resource efficiency		**Up to three credits - Construction resource efficiency** 3. Prepare a compliant Resource Management Plan (RMP) covering: 3.a Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, see Definitions on page 245), including demolition and excavation waste. 3.b Accurate data records on waste arisings and waste management routes. 4. Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste.		**3**	**2**	**0**	**1**	MC	Two credits targeted - to be confirmed by project ream
Wst 01c Diversion of resources from landfill		**One credit - Diversion of resources from landfill** 5. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated. 6. Sort waste materials into separate key waste groups as per Table 10.3 on page 247, either on-site or through a licensed contractor for recovery		**1**	**1**	**0**	**0**	MC	One credit targeted

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Wst 02 Use of recycled ad sustainably sourced aggregates									
Wst 02 Prerequisite		**Prerequisite - Pre-demolition audit** 1. If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Assessment Scope - Criterion 1.		–	**MET**	–	–	Design Team	Not sought
Wst 02a Project sustainable aggregate points		**One credit - Project Sustainable Aggregate Points** 2. Identify all aggregate uses and types on the project Table 10.5 and Table 10.6 on the next page 3. Determine the quantity in tonnes for each identified use and aggregate type. 4. Identify the region in which the aggregate source is located. 5. Calculate the distance in kilometres travelled by all aggregates by transport type. 6. Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points. The corresponding number of BREEAM credits will be awarded as shown in Table 10.4	Completed copy of Wst 02 calculator Documentary evidence supporting the data used to complete the Calculator tool. Documentation confirming the source of recycled/secondary aggregates and that the required amount can be provided	**1**	**0**	**0**	**1**	Design Team	Will there be use of sustainable aggregates? To be confirmed
Wst 03 Operational waste									
Wst 03a Operational waste		**One credit - Operational waste** 1. Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: 1.a Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams 1.b Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors 1.c Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates. 2. For consistent and large amounts of operational waste generated, provide: 2.a Static waste compactors or balers; situated in a service area or dedicated waste management space 2.b Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility 2.c A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site. 4 Provide three internalstorage containersfor each dwelling or bedsit with: 4.a A minimum total capacity of 30 litres 4.b No individual container smaller than 7 litres 4.c All containersin a dedicated non-obstructive position 4.d Storage containersfor recycling in addition to non-recyclable waste storage. 5 Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space for each self-contained dwelling or bedsit. Note: Additionally for multi-residential buildings with individual bedrooms and communal facilities only: 6 Meet criteria 4.a and 4.b for self-contained dwellings or bedsits for every six bedrooms. 7 Locate recyclable storage in a dedicated, unobstructive position in communal kitchens or other appropriate communal space. 8 Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space. 9 Provide a minimum of 10 litres of internal storage for compostable waste.	Design drawings and/or relevant section/clauses of the building specification or contract confirming provision and scope of dedicated facilities. Project team meeting minutes / letter confirming likely building waste streams and indicative volumes	**1**	**1**	**0**	**0**	RDT	One Credit to be targeted

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responsibility	Comments
Wst 05 Adaption to climate change									
Wst 05a Resilience of structure, fabric, building services and renewables installation	**RIBA Stage 2 & 4**	**One credit - Resilience of structure, fabric, building services and renewables installation** 1. Conduct a climate change adaptation strategy appraisal using: 1.a A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes(see Methodology below): 1.a.i Hazard identification 1.a.ii Hazard assessment 1.a.iii Risk estimation 1.a.iv Risk evaluation 1.a.v Risk management. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	Relevant section/clauses of the building specification or contract. Design drawings. Report/study.	**1**	**0**	**0**	**1**	RDT	No persuded
Wst 06 Design for disassembly and adaption									
Wst 06a Design for disassembly and adapability - recommendations	**RIBA Stage 2**	**One credit - Design for disassembly and functional adaptability - recommendations** 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios (see Methodology on page 269) by the end of Concept Design. 2. Develop recommendations or solutions (see Methodology on page 269) based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide	**1**	**0**	**1**	**0**	RDT / Civils	Report to be provided
Wst 06b Disassembly and functional adapability - implementation	**RIBA Stage 4**	**One credit - Disassembly and functional adaptability – implementation** 3. Achieve criteria 1 and 2 4. Provide an update, during Technical Design, on: 4.a How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. 4.b Changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide	**1**	**0**	**1**	**0**	RDT / Civils	Report to be provided
Total Credits				**10**	**4**	**2**	**4**		
			6%	**6%**	**2%**	**1%**	**2%**		

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Le 01 Site selection									
Le 01a Previously occupied land		**One credit - Previously occupied land** 1 At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see Definitions).	Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide	**1**	**0**	**0**	**1**	RDT	Not targetted.
Le 01b Contaminated land		One credit - Contaminated land 2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified: 2.a The degree of contamination 2.b The contaminant sources or types 2.c The options for remediating sources of contamination which present an unacceptable risk. 3. The Client or Main contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional (see Definitions).	A copy of the remediation strategy and implementation plan. Evidence to demonstrate the recommendations set out in the remediation strategy plan have been implemented.	**1**	**0**	**0**	**1**	Civils	Not targetted.
Le 02 Identifying and understanding the risks and opportunities for the project									
Le 02a Prerequisite	**RIBA Stage 1 or 2**	Prerequisite - Assessment route selection 1. An assessment route (see Definitions on page 300) for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist. 2. The Client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	Completed Guidance Note 34: BREEAM Ecology Risk Evaluation Checklist	–	**MET**	–	–	ES / Design Team	Pre-requisite needs to be met - Assumption based upon Route 2 - Ecologist
Le 02b Survey and evaluation	**RIBA Stage 1 or 2**	**One or up to two credits depending on route -Survey and evaluation** **Route 2** 4. A Suitably Qualified Ecologist (SQE) is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions. 5. Prior to the completion of the preparation and brief project stage, an appropriate level of survey and evaluation (see Assessment route 2: For sites where complex ecological systems are likely to be present) has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: 5.a Current and potential ecological value and condition of the site, and related areas within the zone of influence. 5.b Direct and indirect risks to current ecological value 5.c Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence. 6. Data are collated and shared with project team to inform the site preparation, design or construction works. Determining the ecological outcomes for the site (Routes 1 and 2) 7. Survey and evaluation criteria (criterion 3 or 4-6 above) have been achieved. 8. During Concept Design, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites. 9. The ecological outcome for the site is determined by identifying, appraising and selecting specific solutions and measures. The solutions and measures must be identified sufficiently early in the project to influence key project planning decisions and must be done in accordance with the following hierarchy of action, which is dependant on the route being used.	A copy of the Ecological Survey and Evaluation document. Note: A phase 1 habitat assessment or other equivalent type of assessment can act as acceptable evidence as long as it can be shown that they cover the content of the assessment criteria,	**2**	**2**	**0**	**0**	ES / Design Team	Report recieved

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Le 03 Managing negative impact on ecology									
Le 03a Prerequisite		**Prerequisite – Ecological risks and opportunities** 1. LE02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Foundation route (Route 1) or the Comprehensive route (Route 2)		–	MET	–	–	ES /Design Team	Pre-requisite needs to be met - Route 2
Le 03b Planning liaison, implementation and data	RIBA Stage 1 or 2	**One credit – Planning and measures on-site** **Routes 1 and 2** 2. Further planning to avoid and manage negative ecological impacts on-site is carried out (see Methodology) early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage). 3. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in practice (e.g. mitigation measures to protect existing ecological features) (see Methodology). 4. Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in Le02 Ecological risks and opportunities (see Methodology)		1	1	0	0	ES /Design Team	Assumed credit would be targeted - to be confirmed by Ecologist
Le 03c Managing negative impacts of the prohect		**Up to two credits – Managing negative impacts of the project Foundation route (Route 1) (one credit)** 5. Criteria 2 and 3 are achieved. 6. Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Methodology) and no overall loss of ecological value has occurred. Comprehensive route (Route 2) (up to two credits) 7. Criteria 2-4 have been achieved. 8. Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations (see Methodology) and, either: a. No overall loss of (see Definitions) ecological value has occurred (2 credits) OR where criterion 8a is not possible: b. The loss of ecological value has been minimised (Minimising Loss) (1 credit)		2	1	1	0	ES /Design Team	Assumed one credit
Le 04 Change and enhancement of ecological value									
Le 04a Prerequisite		Prerequisite - Managing negative impacts on ecology 1. Criterion 6 (for Foundation route) or 8 (for Comprehensive route) in Le03 has been achieved. 2. The Client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.		–	MET	–	–	ES /Design Team	Pre-requisite needs to be met - Route 2
Le 04b Liaison, implentation and data collation. Change and enhancement of ecology		**One credit - Change and enhancement of ecology Foundation route (Route 1) only** 3. Locally relevant ecological measures have been implemented that enhance the site's ecological value. The measures adopted are based on (see Methodology). 3.a Recommendations from recognised 'local' ecological expertise and specialist input and guidance. 3.b Input from the project team in collaboration with representative stakeholders and data collated as part of 'Determining ecological outcomes' in Le02. OR One credit - Ecological enhancement Comprehensive route (Route 2) only 4. Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in Le02 (see Methodology). Measures are implemented in the following order: a. On site, and where this is not feasible, b. Off site within the zone of influence. 5. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site	Ecologist's report Design drawings including proposed and existing (pre-development) site plan/survey Written confirmation from the Client/design team confirming how the ecologist's recommendations will be implemented	1	1	0	0	ES /Design Team	details shown on Landscape dwg
Le 04c Enhancement of ecology		**Up to three credits - Change and enhancement of ecology Comprehensive route (Route 2) only** 6. Up to three credits are awarded based on the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology - Route 2. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats	Ecologist's report Design drawings including proposed and existing (pre-development) site plan/survey Written confirmation from the Client/design team confirming how the ecologist's recommendations will be implemented	3	1	2	0	ES /Design Team	Assumed 1 credits

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential	Balance	Responibility	Comments
Le 05 Long term ecology management and maintenance									
Le 05a Prerequisite		Prerequisite - Statutory obligations, planning and site implementation 1. The Client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. 2. The following must be achieved, according to the route being assessed: a. Foundation route (Route 1) - criterion 6 in Le03 has been achieved . b. Comprehensive route (Route 2) - criterion 8 in Le03 has been achieved, and at least one credit under Le 04 for 'Change and Enhancement of Ecology' has been awarded.		–	MET	–	–	ES /Design Team	Pre-requisite needs to be met - Route 2
Le 05b Ecology management and maintenance		**One credit - Management and maintenance throughout the project - Foundation and Comprehensive routes (Route 1 and Route 2)** 3. Measures have been implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in Le02 (see Methodology). To ensure the optimal ecological outcomes agreed in Le02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for Le03 and Le04 to ensure they are implemented. 4. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site (see Methodology). This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours. **One credit - Landscape and ecology management plan (or similar) development - Route 2 only** 5. A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1 covering at least the first five years after project completion as a minimum and including: a. Actions and responsibilities of relevant individuals, prior to handover b. The ecological value and condition of the site at handover and how this is expected to develop and change over time c. Identification of opportunities for ongoing alignment with activities beyond the development project, which supports the aims of BREEAM's Strategic Ecology Framework d. Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts e. Clearly defined and allocated roles and responsibilities for delivering the plan 6. The landscape and management plan or similar will be updated to support maintenance of the ecological value of the site (see sections relating to Maintenance and Monitoring in CIEEM, CIRIA, IEMA, for helpful guidance)	Ecologist's report Design drawings including proposed and existing (pre-development) site plan/survey Written confirmation from the Client/design team confirming how the ecologist's recommendations will be implemented.	2	2	0	0	ES /Design Team	Assumed 2 credits would be targeted to be confirmed by Ecologist
Total Credits				13	8	3	2		
			13%	13%	8%	3%	2%		

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responibility	Comments
Pol 01 Impacts of refrigerants									
Pol 01a No refrigerant use		**Three credits - No refrigerant use** 1. No refrigerant use within the installed plant or systems. OR alternatively, where the building does use refrigerants, the three credits can be awarded as follows: **Prerequisite** 2. All systems with electric compressors comply with the requirements of BS EN378:2016(207) (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice(208) **Two credits - Impact of refrigerant** 3. The direct effect life cycle CO_2 equivalent emissions(DELC) of ≤ 100 CO_2-eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. To calculate the DELC, refer to the relevant definitions in Methodology below and Additional information on page 303. OR 4. All refrigerants used have a global warming potential (GWP) ≤ 10. OR **One credit - Impact of refrigerant** 5. Systems using refrigerants have a DELC of ≤ 1000 kgCO_2-eq/kW cooling and heating capacity. **One credit - Leak detection** 6. All systems are hermetically sealed or only use environmentally benign refrigerants(see Leak detection and Hermetically sealed systems on page 301). OR 7.Where the systems are not hermetically sealed: 7.a Systems have: 7.a.i A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR 7.a.ii An inbuilt automated diagnostic procedure for detecting leakage is enabled. 7.b In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant (see Automatic isolation and containment of refrigerant on page 303).	Completed copy of Pol 01 calculator tool. Documentary evidence supporting the data used to complete the calculator tool. A copy of the specification clause or letter from the Harniss engineer / system manufacturer confirming relevant refrigeration type and system information.	**3**	**0**	**0**	**3**	Harniss Contracting	Not possible to target
Pol 02 Local air quality									
Pol 02a Local air quality		**Up to two credits - Local air quality** 1. All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively; 2. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5 on page 328. The measurements must be provided by manufacturers. Must determine whether the development is in a high or low pollution zone (methodology).		**2**	**2**	**0**	**0**	Harniss Constracting	All heating and hot water will be electric.
Pol 03 Flood and surface water management									
Pol 03a Prerequisite		**Prerequisite** 1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.		**–**	**MET**	**–**	**–**	Civils	Pre-requisite will need to be met for the following credits to be achieved.
Pol 03b Flood resilience		**Up to two credits - Flood resilience** **Two credits - Low flood risk** 2. A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration (see Sources of flooding on page 312). **One credit - Medium or high flood risk** 3. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. The FRA must take all current and future sources of flooding into consideration (see Sources of flooding on page 312). For smaller sites refer to Level of detail required in the FRA for smaller sites on page 312, which overrides criterion 2 above. 4. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 4.a The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600 mm above the design flood level of the site's flood zone (see 600 mm threshold on page 312). 4.b The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in		**2**	**2**	**0**	**0**	Civils	FRA report needed

		BREEAM NC 2018 Criteria	Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responibility	Comments
Pol 03c Prerequisite		**Prequisite for surface water run-off credits** 5. Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site		–	MET	–	–	Civils	Pre-requisite will need to be met for the following credits to be achieved.
Pol 03d Surface water run-off rate		**One credit - Surface Water Run-Off - Rate** 6. For brownfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1- year and 100-year return period events. 7. For greenfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. 8. Relevant maintenance agreements for ownership, long term operation and maintenance of all specified SuDS are in place. 9. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance (definitions on page 338).	Calculation results for the pre-and post development peak rate of run-off.	1	1	0	0	Civils	
Pol 03e Surface Water Run-off - volume		**One credit - Surface Water Run-Off - Volume** 9. Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance);AND EITHER 10. Drainage design measures are specified so 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. This must be for the 100-year 6-hour event, including an allowance for climate change (see criterion 14). 11. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (only where criteria 10 and 11 cannot be achieved): 12. Justification from the appropriate consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. 13. Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flowrate from the following options: 13.a The pre-development one-year peak flowrate 13.b The mean annual flowrate (Qbar) 13.c 2L/s/ha. For the one-year peak flowrate, the one-year return period event criterion applies. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. 15. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance	Information showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels. Calculation results for the pre-and post development volume of run-off. Calculation results of the limiting discharge.	1	1	0	0	Civils	

BREEAM NC 2018 Criteria			Potential Design stage Evidence Approach	Credits Available	Current Targeted	Additional Potential		Responibility	Comments
Pol 03f Minimising water course pollution		**One credit - Minimising watercourse pollution** 16. There is no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant). 17. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 18. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators(or an equivalent system) are installed in surface water drainage systems. 19. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. Shutoff valves). This is to prevent the escape of chemicals to natural water courses in the event of a spillage or bunding failure. 20. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual(215) and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site. 21.A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 22. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place	The consultants report detailing the design specifications, calculations and drawings to support the 5mm rainfall discharge criteria. Design drawings and/or relevant section/clauses of the building specification or contract indicating 1. High and low risk areas of the site 2. Specification of SUDS, source control systems, oil/petrol separators and shut-off valves as appropriate A letter or other formal correspondence from the project team: 1. Confirming water pollution prevention systems are designed in accordance with PPG3 and the SUDS manual (where appropriate) 2. Outlining indicative examples of compliance with PPG3 and the SUDS manual 3. Confirming a copy of the drainage plan will be produced and handed over to the building occupier. 4. Confirming design of all external storage and delivery areas is in compliance with relevant Pollution Prevention Guidance 5. Outlining indicative examples of compliance with the PPG.	1	1	0	0	Civils	
Pol 04 Reduction of night time light pollution									
Pol 04a Reduction of night time light pollution		**One credit - Reduction of night time light pollution** 1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. 3. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes. 4. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.(221)	Design drawings Relevant section/clauses of the building specification or contract or external lighting design data/calculations In the case of the external lighting design, the Harniss engineer or lighting designer must provide indicative examples of where and how the strategy complies with the assessment criteria.	1	1	0	0	Harniss Contracting	Assumed credit would be targeted to be confirmed by team
Pol 05 Reduction of noise pollution									
Pol 05a Reduction of noise pollution		**One credit - Reduction of noise pollution** 1. There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR 2. Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS4142:2014(222) is commissioned. Noise levels must be measured or determined for: 2.a Existing background noise levels: 2.a.i at the nearest or most exposed noise-sensitive development to the proposed assessed site. 2.a.ii including existing plant on a building, where the assessed development is an extension to the building 2.b Noise rating level from the assessed building. 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, must be at least 5dB lower than the background noise throughout the day and night. 5. If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion	For 1: Design drawings highlighting: 1. All existing and proposed noise-sensitive buildings local to, and within, the site boundary 2. Proposed sources of noise from the new development 3. Distance (m) from these buildings to the assessed development. For 2 to 3: The acoustician's report, acoustician's qualifications and professional status. OR Relevant section/clauses of the building specification or contract requiring a noise assessment by a suitably qualified acoustician in compliance with BS 4142:1997. OR A letter from the Client or design team confirming that they will appoint an acoustician to carry out a noise assessment in compliance with BS 4142:1997 For 4: Acoustician's report with recommendations for noise attenuation measures. AND EITHER A marked-up design plan highlighting the specification of the acoustician's attenuation measures OR A formal letter from the Client or design team confirming where relevant, that attenuation measures recommended by an appointed suitably qualified acoustician will be installed	1	1	0	0	SQA Consultant	A noise assessement to be carried out by SQA
Total Credits				12	9	0	3		
			8%	8%	6%	0%	2%		
Innovation - Exemplary Level Criteria									

Man 03i Responsible Construction management		**23. Achieve all items in Table 4.1 on page 47.**	As Man 03 evidence.	**1**	**1**	**0**	**0**	MC	Noted as targeted at this stage - CSCS