

Sustainability Statement

Design RIBA Stage 2

Saffron Hills – Office development

For

Saffron Hill Investment Holdings

December 2023



www.carbonplanengineering.co.uk I engineering@carbonplan.co.uk | 0113 8155 558 | 12 St Georges Square, Huddersfield, HD1 1JF

December 2023

Revisions schedule				
Issue Date: 1	0 th December 2023			
Prepared by:			Date:	
Han-Chieh Lee, Consultant, CarbonPlan		n Engineering	7 th December 2023	
Checked by:			Date:	
Alan Calcott,	Director, CarbonPlan Engi	ineering	10 th December 2023	
Status	Initial Draft Issue for Co	mment		
Rev	Date	Changes		
Α	4 th January 2023	Updated in line with design team comme	ents	
В	15 th January 2023	Updated to align with other final docume	entation	
С	15 th February 2023	Updated to align with other final docume	entation	
D	28 th February 2023	Updated with final WLCA Figures and Air Quality Assessment information		

This document is set up for double sided printing.

Please do not print unless necessary.

Executive Summary

This Sustainable Design & Construction Statement has been prepared for Saffron Hill Investment Holdings (the Applicant) setting out their sustainability commitments in support of an application at 45-54 Saffron Hill and 3 Saffron Street, London for full planning permission for:-

Demolition of existing car park and offices, and erection of a new building providing Class E Commercial floorspace and flexible Class E café/restaurant space, along with associated landscaping and works.

Each commitment accords with the NPPF, London Plan, Camden Local Plan, and relevant supporting documents.

The Sustainable Design & Construction Statement considers a broad range of environmental criteria including climate change, pollution, occupant health and wellbeing and benefits to the wider community. It balances these with the need for high-quality, safe, modern and future proof internal environments. The development proposal recognise the importance of effective protection of the environment and prudent use of natural resources and accord with the requirements of Building Regulations and best practice design principles from CIBSE, BSRIA, RIBA, BRE and others.

Sustainable development is the key principle underpinning the proposals for this scheme.

The proposals will positively enhance the locality in a sustainable way, taking into account the need to tackle climate change by reducing carbon emissions; increasing the energy and water efficiency; promoting the use of renewable energy systems; and using natural resources wisely and through the use of sustainable building materials.

The scheme is situated in a low flood risk area and will incorporate sustainable drainage systems.

The utmost regard has been taken with respect to water conservation to the extent possible and proposals include the use of low flow taps and showers, leak detection systems and low flush WC's.

The site is well placed to accommodate high quality offices as it is located close to Farringdon Station with a Public Transport Accessibility Level (PTAL) rating of 6b demonstrating high level of public / sustainable transports.

The accompanying Energy Strategy provides details of the proposed energy efficiency measures and Low Carbon Technologies which will be implemented to achieve an overall **38.8% reduction** in CO₂ Emissions over current Part L of the Building Regulations.

Passive design and efficient building services are the most effective route for achieving significant energy demand savings and this approach provides a **17.1% reduction in carbon emissions demands** over the minimum requirements of Part L 2021 and enables a displacement ventilation system with Air Source Heat Pump systems to delivering Space heating and a Water Source Heat Pump to deliver DHW.

In considering the overall design of this development a holistic approach has been taken with best practice Sustainable Design and Construction front and centre when considering all design issues.

Accompanying the submission is а comprehensive Circular Economy Statement which includes a Pre-redevelopment Audit; Predemolition Audit. These documents show how the project reduces the quantity of materials used while addressing waste going to landfill by, reusing and recycling building materials and providing opportunities for recycling wherever possible. The development will use best practice to ensure resource efficiency and more sustainable construction including resourcing from local certified suppliers.

An integrated approach to waste management and minimisation will be adopted by implementing the 'Waste Hierarchy', Reduce, Re-use and Recycle. This will be accomplished with procedures and commitments to minimise monitor and measure non-hazardous and hazardous construction waste at design stage. Space will be provided for segregated recycling waste bins. This will involve the installation of a recycling bin, in addition to non-recyclable bins, where waste can be segregated accordingly.

Other opportunities for incorporating sustainable features into the development were explored as a fundamental part of the design process, to ensure that where possible, the proposals achieve the latest standards in sustainable design.

This project also proposed to maximise the enhancements in the biodiversity of the site in the creation of enhanced ecological value adding to the existing green infrastructure as possible.

Consideration of the principles of sustainable development has therefore formed an integral part of the design evolution and the resulting scheme reflects this. Given the nature of the proposals the report shapes current thinking on the way in which the site addresses Camden Local Plan on sustainability and as detailed design evolves should it become apparent that better / different options emerge then these will be explored.

The Applicant recognises the importance of ensuring development is sustainable and commits to ensuring the office building delivers on sustainability, where feasible, during both the construction phase and the occupation phases.

Contents

Execu	tive Sur	nmary3
Conte	nts	5
1.	Introd	uction6
	1.1.	Project Description
	1.2.	Pre-Application discussion
	1.3.	Summary of proposals
2.	Policy	Context9
	2.1.	National policy9
	2.2.	Regional policy
	2.4.	Local Policy
3.	Sustai	nability Assessment
	3.1.	Energy
	3.2.	Land Use & Green Infrastructure
	3.3.	Waste
	3.4.	Pollution
	3.5.	Water
	3.6.	Materials
	3.7.	Transport
	3.8.	Community, Health & Social wellbeing46
4.	Concl	usion

Appended to this document are: BREEAM Pre-Assessment; Material Efficiency Strategy and Sustainable Procurement Plan



1. Introduction

This document has been prepared for **Saffron Hill Investment Holdings** (the Applicant) setting out the sustainability commitments in support of application for a 9-storey office development of approximately 11,852m² GIFA.

1.1. Project Description

The proposals consist of a new development of a 9-storey office building associated affordable workspace, general open office space, cycle storage, and café/restaurant.

The site is in the centre of London within the Borough of Camden. Saffron Hill is located within a urban area bordered by commercial and residential buildings.



1.2. Pre-Application discussion

The initial Pre-application process started in April 2023 with the planning officers at Borough of Camden Council.

- Pre-app 01: 20th April 2023
- Pre-app 02: 25th May 2023
- Pre-app 03: 22nd June 2023
- Pre-app 04: 3rd August 2023
- Design Review Panel: 15th September 2023
- Camden Transport Meeting: 4th October 2023
- GLA Pre-app: 3rd November 2023
- Pre-app 05: 9th November 2023

The adopted Development Plan for Camden comprises the following documents:

- The London Plan (2021)
- Camden Local Plan (2017)
- Camden Energy efficiency CPG (Jan 2021)
- Camden Air Quality CPG (Jan 2021)
- Camden Transport CPG (Jan 2021)

The NPPF (updated 2023) is also referenced.



1.3. Summary of proposals

This Sustainability Statement, submitted in support of the full planning application and the accompanying Energy Strategy, and TM52 Thermal Comfort Modelling, Circular Economy, Pre-Demolition Audit, and Pre-Redevelopment Audit etc. describe the approach that has been taken with regards to sustainability during the feasibility and concept design stages and considers the extent to which the development proposals accord with the policy environment as well as to the wider principles of sustainable development.

This document has been prepared by Carbon Plan Engineering Limited, a specialist M&E Engineering led energy and environmental consultancy that focusses on planning and development projects.

The formulation of the sustainability strategy has been progressed in response to several key priorities including:

- Achieving a viable reduction in CO₂ emissions with an affordable, deliverable and technically appropriate strategy;
- Addressing national, regional and local planning policies and requirements;
- Ensuring the finished building is adaptable, maintainable.
- To minimise the negative impact on the proposed development on both the local and wider environment;
- To achieve high levels of sustainable design and construction;
- To minimise emissions of pollutants such as oxides of nitrogen and particulates;
- ❑ To create a pleasant, safe and friendly environment that is flexible for occupants;
- To enhance comfort and satisfaction in the user groups identified;
- To enhance the ecological value by creating new and valuable habitats while protecting what is there.

In preparing this Sustainability Statement we have worked with the applicant to produce a strategy which recognises the economic, social and environmental roles of the planning system.

The applicant is committed to delivering a truly sustainable development that is innovative in design and complements the existing environment and to deliver a project which is both policy compliant and deliverable.

In preparing the strategy we have focussed on ensuring that the development is:

Sustainability Statement



Economically Sustainable

- The provision of transport choices and options to those that live and visit within the developments environs;
- Reducing operating costs of the project by careful design and reductions in energy and waste usage;
- Ensuring that the contractor will provide employment and training for local people;
- Working with the contractors to ensure that local supply chains are developed as the specifications evolve.



Socially Sustainable

- Effective and appropriate consultation of relevant stakeholders to inform the design of the proposed development;
- A design which is underpinned to the needs of a larger strategic focus and delivers community;
- Deliver a healthy and socially conscious set of proposals;
- Committing to considerate and sustainable construction practices:
- Committing to provide the affordable workspace.



Environmentally Sustainable

- Integrating energy efficiency into the design of the development;
- Achieving a viable reduction in CO₂ emissions;
- Incorporating water efficiency measures to reduce consumption;
- Recognising the need to adapt to climate change;
- Sourcing materials in a sustainable way;
- Managing waste through measures to reduce, reuse and recycle.
- Provide significant enhancements in ecology and green infrastructure.

2. Policy Context

This Statement, and targets within it, comply with National, Regional and Local policy requirements, in particular the National Planning Policy Framework (NPPF), Borough of Camden Local Plan (2017), GLA (2021) and relevant Supplementary Planning Guidance.

2.1. National policy

The National Planning Policy Framework (as updated 2023)

The revised National Planning Policy Framework (NPPF) was updated on 5 September 2023 and sets out the government's planning policies for England. This revised Framework replaces the previous National Planning Policy Framework published in March 2012 has been updated a number of times most recently in 2021.

The NPPF provides a framework within which locally-prepared plans for housing and other development can be produced.

The core principle of the National Planning Policy Framework (NPPF) is a '*presumption in favour of sustainable development*', which should be seen as a golden thread running through plan making.

Sustainable development is defined positively, seeking to meet the needs of the borough unless the adverse impacts would outweigh the benefits, or the NPPF indicates development should be restricted. This is of particular import as it relates to habitats and ecological loss.

More generally, the NPPF sets out guidance in relation to key planning principles including building a strong economy; ensuring the vitality of town centres: promoting sustainable transport; delivering a wide choice of good design; promoting healthy communities; open space and the built protecting environment: conservina the historic environment; and meeting the challenge of climate change.

2.2. Regional policy

The London Plan (March 2021)

The London Plan 2021 seeks to integrate economic, environmental, transport and social objectives and place them in a framework to progress London's development from 2021 onwards.

The London Plan 2021 is the Spatial Development Strategy for London and legislation requires that the Plan takes account of three cross cutting themes:

- economic development and wealth creation
- social development
- improvement of the environment

The following outlines key policies which are relevant to the proposed development and this Statement.

Policy D3 Optimising site capacity through the design-led approach

This sets out the importance now placed upon undertaking *meaningful engagement and collaboration* to deliver appropriate and attractive developments that follow and address Sustainable Design principles including:

- design out exposure to poor air quality and noise
- following the circular economy principles
- maximising urban greening and creating green open spaces
- designing out crime
- creating inclusive places to meet the needs of all users
- provide permeability to support active travel
- provide easy accessibility for deliveries and waste storage
- sustainability in terms of servicing, maintenance and management
- protecting and enhancing historic and cultural sites
- improving social infrastructure
- creating economic opportunities for all

Policy D4 Delivering good design

Fundamental to ensuring that new development delivers good design; the policy sets out requirements for consultation, review and the level of scrutiny required – based upon scale and appropriateness – to ensure the quality of proposed new development. This scrutiny will cover *layout, scale, height, density, land uses, materials, architectural treatment, detailing and landscaping.*

All of these themes are cut through and influenced by sustainable design issues and policies set out within the London Plan 2021.

Policy D5 Inclusive design

The policy sets out an Inclusive design Approach to ensure that *development proposal should achieve the highest standards of accessible and inclusive design* taking account of diversity, social interactions and the ability of users and visitors to access spaces and to work. This requires an integrated approach and applications should include an **Inclusive Design Statement**.

Policy D8 Public realm

This policy brings together a host of individual considerations that are to be reviewed when developing the public realm strategy to ensure that the public realm, and the buildings that frame those spaces, *are attractive, accessible, designed for people and contribute to the highest possible standards of comfort, good acoustic design, security and ease of movement.* These include the following amongst many other considerations:

- Encouraging walking and cycling;
- Reducing street parking;
- External lighting;
- Free drinking water;
- Acoustic considerations;
- Pedestrian crossings;
- Green Infrastructure;
- Seating and play

Policy D13 Agent of Change

To address issues and impacts from **existing** noise and other nuisance-generating activities the policy places the responsibility for mitigating the impact of noise and other nuisances firmly on the new development. This places the onus on new development to be designed to take account of existing issues and provide sensitive way to protect the new occupiers, such as residents, businesses, schools and religious institutions, from noise and other impacts.

Policy D14 Noise

Addressing noise pollution from new development promotes good health and a good quality of life. The management of noise should address both the internal acoustic design as well as any new noise created by the development – both during construction and operation. It should also address the Agent of Change policy above.

Policy S1 Developing London's social infrastructure

To encourage the best use of land proposals should provide high quality and inclusive social infrastructure that contributes towards a good quality of life including provision of links to public transport, cycle ways and pedestrian access as well as faith, play, recreation and sports facilities.

Policy S5 Sports and recreation facilities

Access to sports facilities is key to physical and mental health and are important components of social infrastructure. This policy sets out requirements for councils however it also encourages co-location of sports facilities help ensure the right mix of facilities in the right places to meet sporting demand.

Policy E11 Skills and opportunities for all

To counter low pay and gender and ethnicity pay gaps development proposals should support employment, skills development, apprenticeships, and other education and training opportunities in both the construction and end-use phases. To ensure that *developers* make a direct, positive contribution to the local communities [...] provide more meaningful employment and training opportunities for residents across London.

Policy HC1 Heritage conservation and growth

The blend of old and new that contributes to the capital's unique character should be protected, maintained and enhanced through *proactive* management from the start of the development process, planners and developers should engage and collaborate with stakeholders so that the capital's heritage contributes positively to its future.

Policy G1 Green infrastructure

All development takes place within a wider environment and green infrastructure should be an integral element I development proposals. Appropriate elements of green infrastructure, that are integrated into London's wider green infrastructure network, should be an integral part of any proposals.

Policy G6 Biodiversity and access to nature

The wildlife value of development sites should be protected and proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. *This means that where biodiversity is lost as a result of a development, the compensation provided should be of an overall greater biodiversity value than that which is lost.*

Policy G7 Trees and woodlands

Trees and woodlands help to trap air pollutants, add to amenity, provide shading, absorb rainwater and filter noise. Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement.

Policy SI 1 Improving air quality

Poor air quality is a major issue for London which is failing to meet requirements under legislation. New developments must not cause new exceedances of legal air quality standards. For major developments, a preliminary Air Quality Assessment should be carried out before designing the development to inform the design process.

To reduce the impact on air quality during construction and demolition development proposals must demonstrate how air quality issues will be managed.

Policy SI 2 Minimising greenhouse gas emissions

The Mayor is committed to London becoming a zero-carbon city. This will require reductions of all greenhouse gases, of which carbon dioxide is the most prominent. The energy hierarchy should inform the design, construction and operation of new buildings and all Major Development proposals should be Net Zero Carbon.

A detailed energy strategy must be provided to show that a minimum on-site reduction of at least 35 beyond Building Regulations is achieved with 15% being achieved through energy efficiency measures. Any shortfall in achieving the Net Zero Carbon target should be provided through a cash in lieu contribution or via an alternative proposal.

Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

The move towards zero-carbon development requires comprehensive monitoring of energy demand and carbon emissions to ensure that planning commitments are being delivered. Major developments are required to monitor and report on energy performance for at least five years.

Policy SI 3 Energy infrastructure

Heat networks are an effective and low-carbon means of supplying heat in London, and offer opportunities to transition to zero-carbon heat sources faster than individual building approaches.

Developments should connect to existing heat networks wherever feasible and where none is available use zero-emission or local secondary heat sources. Where a heat network is planned

engineering@carbonplan.co.uk | 0113 8155 558 | 12 St Georges Square, Huddersfield HD1 1JF

but not yet in existence the development should be designed to allow for the cost-effective connection at a later date.

Policy SI 4 Managing heat risk

The combination of a growing population, urbanisation and the urban heat island effect, means that London must manage heat risk in new developments.

In managing the urban heat island effect development proposals should evaluate green infrastructure opportunities and minimise the use of air conditioning systems wherever possible.

Overheating risks should be evaluated in line with Chartered Institution of Building Services Engineers (CIBSE) TM52 guidance on assessing and mitigating overheating risk.

Overall the cooling hierarchy should be addressed as far as is possible within the energy strategy.

Policy SI 5 Water infrastructure

Conservation of water supplies is a critical issue facing London and all non residential proposals must achieve at least the BREEAM excellent standard for the 'Wat 01' water category – equivalent to 1 Credit. Proposals should also incorporate measures such as smart metering, water saving and recycling measures to help to achieve lower water consumption rates and to maximise future-proofing.

Policy SI 6 Digital connectivity infrastructure

The provision of digital infrastructure is as important for the proper functioning of development as energy, water and waste management services and should be treated with the same importance.

Development proposals should also demonstrate that mobile connectivity will be available throughout the development and should not have detrimental impacts on the digital connectivity of neighbouring buildings.

Policy SI 7 Reducing waste and supporting the circular economy

A circular economy is one where materials are retained in use at their highest value for as long as possible and are then re-used or recycled, leaving a minimum of residual waste. The successful implementation of circular economy principles will help to reduce the volume of waste that London produces and has to manage.

Therefore development proposals should show how waste will be managed and minimised, both during construction and operation, to help promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible.

Policy SI 12 Flood risk management

Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed.

Policy SI 13 Sustainable drainage

London is at particular risk from surface water flooding, mainly due to the large extent of impermeable surfaces. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the hierarchy set out in the guidance.

Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

Policy T1 Strategic approach to transport

The integration of land use and transport, and the provision of a robust and resilient public transport network should eb integral to all development proposals.

Policy T2 Healthy Streets

Streets account for 80 per cent of London's public spaces. The Healthy Streets Approach is

an evidence-based approach to improve health and reduce health inequalities, which will help Londoners use cars less, and walk, cycle and use public transport more.

Development proposals should therefore demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators and aim to reduce the dominance of vehicles on London's streets. Cycling and Walking should be promoted and development proposals should be permeable by foot and cycle and connect to local walking and cycling networks.

Policy T4 Assessing and mitigating transport impacts

Transport assessments should be submitted with development proposals to ensure that impacts on the capacity of the transport network (including impacts on pedestrians and the cycle network), at the local, network-wide and strategic level, are fully assessed. Mitigation, either through direct provision of public transport, walking and cycling facilities and highways improvements or through financial contributions, will be required to address adverse transport impacts that are identified.

Policy T5 Cycling

Development should facilitate and encourage cycling and reduce car dependency and the health problems it creates. This policy sets out the minimum cycle space standards for development proposals.

Policy T7 Deliveries, servicing and construction

Development proposals should facilitate safe, clean, and efficient deliveries and servicing. Provision of adequate space for servicing, storage and deliveries should be made offstreet, with on-street loading bays only used where this is not possible.

Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments.

GLA Energy Assessment Guidance (2022)

The Greater London Authority published updated guidance in June 2022 to provide a framework which sets out how to prepare an energy assessment to accompany strategic planning applications referred to the GLA.

Although primarily aimed at strategic planning applications, London boroughs are encouraged to apply the same structure for energy assessments related to non-referable applications and adapt it for relevant scales of development.

The following summarises the key elements from the document that have been addressed within this energy strategy.

The energy assessment must clearly outline commitments in terms of CO₂ savings and measures proposed to reduce energy demand. It is also important to consider and mitigate any potential air quality impacts arising as a result of the technologies proposed.

One of the key changes set out in the document is the use of the SAP 10 Carbon Factors and so with this in mind, the document requires that Energy Strategies must:

- be submitted at the planning application stage
- demonstrate at least a 35% on-site reduction beyond Part L 2021 of the Building Regulations for all developments.
- include information demonstrating that the risk of overheating has been mitigated through the incorporation of passive design measures (TM52)
- demonstrate that connection to existing or planned district heating networks has been prioritised and provide correspondence to support this
- commit to a site-wide heat network to allow connection to existing or planned district heating networks identified in the area
- investigate suitable low carbon and/or renewable heating plant for installation within the energy centre if connection can't be made to an area wide network
- investigate and commit to maximising the installation of renewable technologies (including the potential for storage) on site

- include information on how the building's actual energy performance will be monitored post-construction (TM54)
- align with related documents and assessments that are submitted as part of the planning application, e.g. Whole Life-Cycle Carbon Assessments, Air Quality Assessments, Sustainability Statements.

2.4. Local Policy

The local planning policies that influence sustainable construction are dictated by:

Camden Local Plan (2017)

The Camden Local Plan (2017) policies are still in use. The Energy efficiency CPG (2021) and Planning for health and wellbeing CPG (2021) are issued to help adopting the new GLA and NPPF requirements.

The following policies from the Local Plan (2017) have been addressed within the submission and we have taken the following supplementary Camden Planning Guidance (CPG) into consideration:

- Camden Energy efficiency CPG (Jan 2021)
- Camden Air Quality CPG (Jan 2021)
- Camden Transport CPG (Jan 2021)

Camden Local Plan (2017)

Policy CC1 Climate Change Mitigation

This policy aims to ensure that all development is designed and built to make the most efficient use of resources, reduce its lifecycle impact on the environment and contribute to climate change mitigation and adaptation by:

- promote zero carbon development and require reducing carbon dioxide emissions.
- demonstrate how London Plan targets for carbon dioxide emissions have been met.
- minimising mix of land uses
- sensitive energy efficiency improvements to existing buildings.
- involve substantial demolition
- optimise resource efficiency

Policy CC2 Adapting to climate change

All development should adopt appropriate climate change adaptation measures such as

Protect existing green space and promote new green infrastructure

- not increasing, and wherever possible reducing, surface water run-off.
- incorporating bio-diverse roofs, combination green and blue roofs
- measures to reduce the impact of urban and dwelling overheating.

The non-domestic developments of 500 sqm of floorspace or above to achieve "excellent" in BREEAM assessments.

Policy CC3 Water and flooding

Where appropriate, all development need to ensure not increase flood risk and reduces the risk of flooding where possible.

- incorporate water efficiency measures
- improve water quality and avoid harm
- consider the impact of development in areas at risk of flooding.
- utilise Sustainable Drainage Systems (SuDS) in line with the drainage hierarchy to achieve a greenfield run-off rate where feasible.

Policy CC4 Air quality

The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough.

Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan.

Policy CC5 Waste

aim to reduce the amount of waste produced in the borough and increase recycling and the reuse of materials to meet the London Plan. Deal with North London's waste by working with our partner boroughs in North London to produce a Waste Plan.

Make sure that developments include facilities for the storage and collection of waste and recycling.

Policy A3 Biodiversity

The Council will protect and enhance sites of nature conservation and biodiversity and protect, and seek to secure additional, tree and vegetation. Moreover, the development need to result in no net loss.

Policy A4 Noise and vibration

New developments must ensure that noise and vibration is controlled and managed.

Development should have regard to Camden's Noise and Vibration Thresholds (Appendix 3). We will not grant planning permission for: a. development likely to generate unacceptable noise and vibration impacts.

OR

b. development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.

Policy T1 Prioritising walking, cycling and public transport

The Council will promote sustainable transport by prioritising walking, cycling and public transport in the borough.

Cycling

In order to promote cycling in the borough and ensure a safe and accessible environment for cyclists, the Council will seek to ensure that development:

- high quality, convenient and safe cycle routes, in line or exceeding London Cycle Design Standards
- provides for accessible, secure cycle parking facilities exceeding minimum standards outlined within the London Plan
- makes provision for high quality facilities that promote cycle usage including changing rooms, showers, dryers, and lockers.
- is easy and safe to cycle through.
- contribute towards bridges and water crossings suitable for cycle use where appropriate.

Policy T2 Parking and car-free development

The Council will limit the availability of parking and require all new developments in the borough to be car-free. The council would not issue onstreet or on-site parking permits in connection with new developments.

The council supports the redevelopment of existing car parks for alternative uses.

Policy T4 Sustainable movement of goods and materials

Developments of over 2,500m² likely to generate significant movement of goods or materials by road (both during construction and operation) will be expected to minimise the impact of freight movement via road by prioritising use of the Transport for London Road Network or other major roads, accommodate goods vehicles on site, and provide Construction Management Plans, Delivery and Servicing Management Plans and Transport Assessments where appropriate.

Camden Energy efficiency CPG (Jan 2021)

Section 3 Making buildings more energy efficient

- Natural 'passive' measures should be prioritised overactive measures to reduce energy.
- Major non-residential development to achieve 15% reduction (beyond part L Building regulations), in accordance with the new London Plan, through on-site energy efficient measures

Section 4 Decentralised energy technologies

Local Plan Policy CC1 requires that all new major developments in Camden are expected to assess the feasibility of decentralised energy network growth.

Section 5 Renewable energy technologies

- There are a variety of renewable energy technologies that can be installed to supplement a development's energy needs.
- Developments are to target a 20% reduction in carbon dioxide emissions from on-site renewable energy technologies.

Section6 Energy Statement

- Energy statements are required for all Major developments.
- Energy statements should demonstrate how a development has been designed following the steps in the energy hierarchy.
- □ The energy reductions should accord with those set out in the section 3, 5, and 7.

Camden Air Quality CPG (Jan 2021)

Section 3 Assessing Air Quality

Air quality neutral assessments are required for all major developments.

Section 4 Minimising emissions into the air

Various actions can be taken to mitigate air pollution emissions arising from the construction and operational phases of a development.

- All proposals involving demolition and construction should adopt best practice measures to reduce and mitigate emissions.
- The impact of outdoor air pollution on indoor air quality in new developments needs to be

taken into account at the earliest stages of building design.

- Development should take into consideration the location of amenity space and opportunities for appropriate planting 'greening'.
- Development should reduce emissions by being energy efficient (reducing emissions associated with the operation of the building).
- Development should prioritise more sustainable modes of transport and where applicable improve the walking and cycling environment.

Camden Transport CPG (Jan 2021)

Section 2 Transport Impacts

Transport Assessment or Statement is required for all applications that involve a change in the way that a site is accessed from the highway.

Section 3 Travel Plans

A Travel Plan should be prepared for any planning application that will significantly increase travel demand or would have a significant impact on travel or the transport system.

The requirements of a travel plan will be tailored to the specific characteristics of the site and nature of the development.

Section 4 Delivery and Servicing

A delivery and Servicing Plan should be provided for all major development and should form part of both the Transport Assessment and Travel plan.

It should aim to minimise motorised freight movements, mitigating against the negative impacts of freight movement in general, in particular those of motorised freight traffic.

Section 5 parking and Car Free Development

The Camden Local Plan 2017 extends car-free development to the whole of the Borough and the car-free policy makes an important contribution towards the Council's strategic aims relating to transport, as well as wider responsibilities such as public health.

Section 8 Cycling Facilities

high quality cycle parking facilities should be provided for all development, including redevelopments and in applications that change travel patterns and the travel profile or increase the numbers of people travelling to a site.

Applications should as a minimum provide the quantity of cycle parking spaces as set out in the London Plan.

Cycling facilities that are fully inclusive and accessible by step free access should also be provided.

Section 9 pedestrian and Cycle Movement

All developments must have due regard to the safety, ease of movement and the quality of pedestrian and cycle facilities for people moving to and within a site.

Details of measures and provisions should be set out in the Transport Assessment and Travel Plan.

3. Sustainability

Assessment

The Applicant is committed to new development of 9-storey office building with the lowest practical environmental impact and has been at the heart of the proposed designs.

This Sustainability Statement outlines the development's sustainability, energy efficiency and renewable energy strategies in order to meet the sustainability targets set out in the guidance from Camden Local Plan (2017), Camden Energy efficiency CPG (Jan 2021), and GLA(2021).

The assessments consider the broad environmental concerns of climate change, pollution, impact on occupants and the wider community. They balance these with the need for a high-quality, safe and healthy internal environment. These standards go beyond the minimum requirements of the Building Regulations.

The following sustainable features are included in the proposed design:

- A number of passive design measures and efficient systems have been incorporated to reduce energy consumption and associated CO₂ emissions by 17%.
- The proposed buildings will have improved natural lighting within all occupied areas, which will improve comfort and reduce the requirement for artificial lighting.
- Good solar control will be provided by the selection of glazing/shading to avoid overheating in summer and increase passive gains in winter.
- The development will use low energy lighting internally and externally and utilise daylight triggered controls to dim lighting and reduce energy consumption.
- Building materials will be sourced locally where possible to reduce transportation pollution and support the local economy.
- New materials for the Saffron Hill Office will be specified in accordance with a developing Sustainable Procurement Plan to ensure that will be responsibly sourced to the extent feasible.

- All timber used on site will be purchased from responsibly sources such as FSC approved vendors.
- Recycling facilities will be provided to reduce waste during operation.
- Water use will be minimised by the specification of water efficient taps, shower heads, dual flush toilets and low water use appliances.
- All construction on site will be managed in an environmentally sound manner in terms of resource use, storage, waste management, and potential sources of nuisance or pollution

Following a review of the relevant Local, Regional and National policy objectives the following ten sustainability topics have been identified against which the development proposals were evaluated.

- Energy
- Land Use
- Waste
- Pollution
- Water
- Materials
- Transport
- Community, Health & Social wellbeing

These sections provide a general overview of each sustainability topic together with a precis detailing the site-specific initiatives committed to by the applicant and a commentary on how the initiatives comply with the objectives of sustainable development.

These can be mapped onto the above policy frameworks and in particular the London Plan, Camden Local Plan, and any Relevant CPGs.

Where relevant we have stated specific policies within the current framework as they are relevant within each section.



3.1. Energy



Relevant Policy Objectives

- Policy D4 Delivering good design
- Policy D14 Noise
- **D** Policy SI 1 Improving air quality
- Policy SI 2 Minimising greenhouse gas emissions
- **Policy SI 3 Energy infrastructure**
- Policy SI 4 Managing heat risk
- Policy T7 Deliveries, servicing and construction
- GLA Energy Assessment Guidance (2022)
- Camden Borough Council Policy CC 1 Climate Change Mitigation
- Camden Borough Council Policy CC2
 Adapting to climate change
- Camden Energy efficiency CPG (Jan 2021)
- **Camden Air Quality CPG (Jan 2021)**

The concentrations of greenhouse gases in the atmosphere has risen since the beginning of the industrial revolution, the quantity of CO_2 produced makes it the main contributor to climate change. Approximately 50% of the total UK CO_2 emissions are attributable to energy used in buildings. A further 10% of emissions are derived from energy used during the production and transportation of materials and the construction of the building.

As well as producing CO₂, fossil fuels such as oil, coal and gas are finite resources and the electricity they produce should therefore be used as efficiently as possible in buildings and workspaces. Appropriate building design can minimise heat loss and maximise solar heating, natural lighting and passive ventilation can be designed in to reduce energy requirements.

Developing sustainable energy systems is an essential part of adapting to the impacts of present and future climate change. This involves increasing the use of renewable energy sources to reduce dependence on finite fossil fuel reserves and thus reducing CO₂ emissions.

3.1.1. Sustainable Design & Construction

Passive design has been integrated into the scheme where feasible to reduce energy demands from heating, lighting and cooling. Natural Daylight has been provided to many areas through the appropriate glazing to the façade.

The development proposals incorporate improved levels of insulation for walls, glazing, roofs and floors. Heating and DHW is provided by high efficiency Air Source Heat Pump.

Thermal Comfort modelling has been utilised to ensure that the buildings have a low risk of overheating and cooling is only applied to areas where overheating could not be mitigated.

Enhanced heating and cooling controls are provided with a reduced air leakage rate with new underfloor heating alongside maximising the use of energy efficient lighting.

The use of the Air Source Heat Pump systems as the primary source for thermal energy ensures that impacts to air quality are minimised. This is of particular importance given the sites location in an area already suffering from air quality issues. The impacts of potential noise pollution have been carefully considered as the design has developed and it is not foreseen that there will be any negative impacts.

3.1.2. Increase Energy Efficiency

The Camden Local Plan requires new major development should achieve BREEAM Excellent.

The London Plan requires new non-residential development to achieve 15% reduction over the Target Emission Rate outlined in the national Building Regulations in accordance with the new London Plan, through on-site energy efficient measures (Be lean stage).

Developments are to target a 20% reduction in carbon dioxide emissions from on-site renewable energy technologies. (Be Green).

The development embraces the Mayoral energy hierarchy for feasible heating systems and ultimately is **lean** (uses less energy), **clean** (uses energy efficiently) and **green** (uses Renewable and Low and Zero Carbon Technologies). This is reflected in the accompanying Energy Strategy which confirms that all of the targets sought are achieved:

GLA

- Compliance with Part L1 of the Building Regulations 2021 = Yes – 38.8%
- Compliance with London Plan and GLA Energy Assessment Guidance (June 2022) achieving:
 - a minimum 15% reduction through energy efficiency measures over Part L1 2021 Target Emissions Rate (TER) = Yes – 17.1% reduction site wide
 - an overall 35% improvement in CO₂ emissions over Part L1 2021 Target Emissions Rate (TER) = Yes - 38.8% reduction site wide

Compliance with Camden Energy efficiency CPG (Jan 2021) achieving:

- a minimum 15% reduction through energy efficiency measures over Part L1 2021 Target Emissions Rate (TER) = Yes – 17.1% reduction site wide
- 20% reduction in carbon emissions from on-site renewable energy technologies. = Yes – 21.7% reduction site wide

3.1.3. Minimising Greenhouse Gas Emissions

The detailed Energy Strategy accompanying this document has been produced by Carbon Plan Engineering and demonstrates how these targets will be met within the framework of the energy hierarchy.

The Energy Strategy includes the calculation of the energy demand carbon dioxide emissions covered by Building Regulations and, separately, the energy demand and carbon dioxide emissions from any other part of the development, including plant or equipment, that are not covered by the Building Regulations at each stage of the energy hierarchy.

The assessment also provides proposals to reduce carbon dioxide emissions through the energy efficient design of the site, buildings and services and proposals to further reduce carbon dioxide emissions through the use of on-site renewable energy technologies.

The building fabric is commonly agreed to be the most immediate and cost effective way of reducing energy use as it controls the ingress of sunlight and the ingress and egress of heat and air.

The building has been dynamically modelled to more accurately simulate how the building will work in real-world conditions and to enable accurate measurement of the effects of suggested improvement strategies.

All effort has been made to meet the specific carbon dioxide reduction targets on site using significantly improved fabric, energy efficient services, and renewable energy technologies.

3.1.4. Renewable Energy

The appropriateness of renewable energy types has been considered in the Energy Strategy which reviews the renewable energy options.

The Energy Strategy assesses the application of the most suitable technologies at the site, namely **Air Source Heat Pump and photovoltaics.**

3.1.5. Transport related Energy

The scheme's layout and design aim to facilitate travel by cycle, foot, or other sustainable transportation, proposes to be car-free project with cycle storage is proposed on site.

This in conjunction with the site's good links to existing public transport services will contribute to a reduction in reliance on the private car -a major user of fossil fuels and source of atmospheric pollution.

3.2. Land Use & Green

Infrastructure



Relevant Policy Objectives

- Policy D3 Optimising site capacity through the design-led approach
- Policy D4 Delivering good design
- Policy D5 Inclusive design
- Policy D8 Public realm
- Policy S1 Developing London's social infrastructure
- **D** Policy G1 Green infrastructure
- Policy G4 Open space
- **D** Policy G5 Urban greening
- Policy G6 Biodiversity and access to nature
- Policy G7 Trees and woodlands
- Policy T2 Healthy Streets
- Camden Borough Council Policy CC2
 Adapting to climate change
- Camden Borough Council Policy A3 Biodiversity
- **Camden Biodiversity CPG (2018)**

A sequential approach should be taken in locating new development. This involves giving preference to previously developed land or buildings within urban areas, followed by development on the edge of existing urban areas with the development of Greenfield sites as the last option. Reusing buildings can save significant amounts of waste material. Existing buildings can often be the basis of the character of the neighbourhood.

Local open spaces are key to many issues, such as health and biodiversity and so protecting and enhancing our ecological environment should be a key strand through the development process with the impact on green infrastructure, in terms of both open and private space, being evaluated.

3.2.1. Previous Land

December 2023

The site currently is multi storey car park located in central London surrounding by commercial and residential buildings. The existing car park on site which will be vacated prior to the demolished but also retain 60% of foundation for the new development.

The "<u>Biodiversity Gain Plan and Urban</u> <u>Greening Factor Review</u>" has been carried out by the MKA Ecology. The assessment indicate that the existing site comprises significantly little amount of soft landscaping due to the site boundary and the existing building type is car park.

3.2.2. Protect and Promote Biodiversity

To provide an objective assessment of the potential value of the proposed biodiversity enhancements, the Defra Biodiversity Metric 4.0 (Natural England, 2023) has been applied. This assessment exercise has calculated that the proposed development is likely to lead to a net gain 0.30 biodiversity units, provided that these habitats are created, managed and maintained appropriately and in line with a detailed management plan, as required under the Environment Act 2021. As the baseline value of the Site is negligible, this constitutes a net gain percentage of 100% in habitat units within the metric.

The Urban Greening Factor for the proposed development is 0.30. The London Plan sets out score requirements of 0.30 for predominantly commercial developments; this development proposals therefore meet this target. (Please see the table on the following page)

In addition, recommendations for ecological enhancements include the installation of:

- Introduce new tree on GF
- Planter on terrace
- Green roof
- Green wall

3.2.3. Urban Greening and access to nature

The proposals for the site include approximately 98m² of high-quality green roof accommodating wildflower, sedum and others of significant ecological benefit. Also, 266m² of green wall, 248m² of ground floor planters and 326m2 of urban tree. This will help to provide new city greening area by incorporating green roof and green open space.

The tables and image on the following page are extracted from the "*Biodiversity Gain Plan and* <u>*Urban Greening Factor Review*</u>" carried out by the MKA Ecology.

Roof Landscaping Layout Plan



Saffron Hill, London

Urban Greening Factor

13-Feb-24

Total site area (m2)	1430.0						
		•					
Location	Description	#		Factor	Area (m2)	Score	Notes
				G	round Floor		
Ground floor	Vegetation			0.8	35.8	28.6	Raised planter (within red line boundary)
Ground floor	Non permeable paving			0			
	• 				Level 1 - 4		
Level 1 - 4 balcony	Vegetation over structure	4		0.8	14.8	11.8	Raised planter
					Level 5		
Level 5 terrace	Vegetation over structure	4		0.8	46.2	37.0	Raised planter
Level 5 terrace	Climbing plants			0.6	22.5	13.5	9m length 2.5m height
Level 5 terrace	Trees (within planting areas)	9		0.8	18	14.4	1.5m diameter x 9 (2m2)
					Level 6		
Level 6 terrace	Vegetation over structure			0.8	42.8	34.2	Raised planter
Level 6 terrace	Trees (within planting areas)	5		0.8	15.5	12.4	2m diameter x 5 (3.1m2)
	·				Level 7		
Level 7 terrace	Vegetation over structure			0.8	29.8	23.8	Raised planter
Level 7 terrace	Climbing plants			0.6	9.3	5.6	6m length 2.5m height
					Level 8		
Level 8 terrace	Vegetation over structure			0.8	39.3	31.4	Raised planter
Level 8 terrace	Trees (within planting areas)	3		0.8	9.3	7.4	2m diameter 3 (3.1m2)
Level 8 terrace	Climbing plants			0.6	15.0	9.0	6m length 2.5m height
					Level 9		
Level 9	Extensive green roof			0.7	93.8	65.7	minimum settled depth of 150mm
Level 9	Vegetation over structure			0.8	36.3	29.0	Raised planter
Level 9	Climbing plants			0.6	175.0	105.0	70.1m length 2.5m height
	Tot	al Score	е			429.0	
	Total red line boundary area				1430.0		
	Urban Gree	on Fact	or So	ore		0.300	The Urban Greening Factor Calculation from MRG Studio

Table 6: Results of biodiversity metric calculations

Habitat	Biodiversity units (current)*	Biodiversity units (proposed)*	Biodiversity net-change*	Net percentage change
Habitats	0.00	0.30	0.30	N/A

* Habitat areas are calculated as biodiversity hectares, hedgerows and rivers as biodiversity metres

Biodiversity Gain Metric from MKA



Page 27

3.3. Waste



Relevant Policy Objectives

- Policy D3 Optimising site capacity through the design-led approach
- Policy D4 Delivering good design
- Policy SI 7 Reducing waste and supporting the circular economy
- Policy T7 Deliveries, servicing and construction
- **GLA Circular Economy Guidance**
- Camden Borough Council Policy CC5 Waste
- **Camden Transport CPG (Jan 2021)**

Waste of all types, if not managed safely, can also result in pollution of the environment. The most sustainable approach is to reduce the overall amount of waste generated 'at source'.

Following the Waste Hierarchy; Wastes that are generated should then be reused wherever possible or recycled as the next best environmental option. The least sustainable waste option is disposal (e.g. landfill). In order to turn around current patterns of waste management, we must minimise the amount of waste sent to landfill through diversion to other methods of disposal including re-use, recycling and composting, and using waste in energy generation.

Most development sites have existing materials which can be re-used, recycled or obtained from nearby development sites Re-use and recycling rates for construction, projects in London are already high. Nevertheless, the Mayor believes that there is room for improvement. Waste streams should be separated and target set on all construction projects.

3.3.1. Circular Economy Policy

The following are relevant extracts from the Camden Local Plan which relate to the diversion of waste from landfill and resource efficiency generally.

The Camden Local Plan states that "encouraging recycling and managing collected waste in a sustainable way. It fully supports the objectives of sustainable waste management to move the management of waste up the 'waste hierarchy' of prevention, preparing for reuse, recycling, other recovery, and to only consider disposal as a last resort."

To ensure an integrated approach to waste management and the highest possible reuse and recycling rates, the Council will encourage the submission of a **site waste management plan** prior to construction.

Below we have referenced the GLA London Plan requirements for Circular Economy as this represents best practice design principles which are being used to steer the designs.

Specific to Site Waste Management

Developments should be designed in a way that reduces the amount of construction waste and maximises the reuse and recycling of materials at all stages of a development's lifecycle.

All new development should be designed to make it easier for future occupants to maximise levels of recycling and reduce waste being sent to landfill.

In order to do so, storage capacity for waste, both internal and external, should be an integral element of the design of new developments.

The Council will be supportive of innovative approaches to waste management.

Specific to use of Materials

Although this is not a policy requirement, the Council will encourage all developers to maximise resource efficiency and identify, source, and use environmentally and socially responsible materials.

Secondary materials – reclaiming and reusing material arising from the demolition of existing buildings and preparation of sites for development, as well as materials from other post-consumer waste streams;

3.3.2. Why demolish?

One of the key questions that needs to be answered is whether demolition is absolutely necessary?

The site is currently a 6-storey car park with 2 level of office space on top. The structure grid (lack of flexible spaces) and car ramps are not suitable for the proposed building type – office. Therefore, the demolition is required to change the site into flexible and sustainable office development.

Site Utilisation / Urban Density

The removal of car parking space is supported and aligned with Camden's policy seeking a car-free borough. The Pre-demolition Audit and Pre-Redevelopment Audit are carried out to assess the potential of reusing/retaining the existing structure.

Potential of Re-using the existing structure

The existing above ground structures would not be retained as the intensive column grid, low

Sustainability Statement

floor height and car ramps are unsuitable for a modern office building.

The structure engineers therefore aimed to maximise the retained below ground structure and have retained ~60% of the foundation.

3.3.3. Waste Management – Circular Economy

The concept of a circular economy in the construction industry is to move away from the linear model of **extract – construct - dispose** to one that is restorative and regenerative by design, and which aims to keep products, components and materials in use after the end of the proposed buildings use.

The following sections set out how this concept has been addressed within the designs for this building.

From a strategic perspective the design team and demolition contractor should consider the following questions prior to demolition and develop a comprehensive Circular Economy statement to inform the design team of options as the design develops.

- □ Can existing bricks from the façade be re-used within the new construction?
- Can doors be tested and re-purposed within the new building?
- □ Can the existing railings, gates and boundary treatment be re-used?
- Can sanitaryware be re-used within the new building?
- □ If any steel structural elements is exposed can these be re-used?

Where none of the above is possible then the contractor should ensure that these elements are deconstructed – rather than demolished – and repurposed wherever possible.



3.3.4. Waste Management – Demolition Phase

Due to the change of building use type from car park to office building, there will be significant demolition work above ground while 60% of the foundation will be retained.

Therefore, we have proposed key targets in line with best practice benchmarks for other waste streams.

Types of Waste	Tonnage
Non-Demolition	90%
Demolition	95%
Excavation	95%

These targets will need to be reviewed and confirmed by the client team as the design develops.

3.3.5. Waste Management – Design Phase A designing for Disassembly and Adaptability assessment will be undertaken in line with the GLA Circular Economy requirements. This will ensure that a large proportion of the materials used within the building's construction will be reused in their current form once the building has been decommissioned.



These will enable the design team make strategic decisions on:

- Material Lifespans tailored to welldefined, long term needs while being durable and resilient or able to cope with change with little modification
- Adaptable design designed to meet the needs of the present, but with consideration of how those needs might change in the future and designed for change in the form of periodic remodelling including alterations or replacement of non-structural parts
- Flexible design consider how will current needs change in the future and designed for change through frequent reconfiguring including reconfiguration of non-structural parts

3.3.6. Waste Management – Construction Phase

The contractor will be committed to reducing waste during the demolition and construction phase of the development. To successfully reduce waste requires building in measures from the project outset, as such waste management has been considered at this early planning stage.

In addition the contractor will be obligated, through the Contract Specification, to develop and implement a Waste Management Plan for maximising the recovery of materials and components that are able to be recycled at the end of their design life, wherever practicable. The Waste Management Plan will also require the contractor to:

- monitor segregate and set targets on waste generated during the works.
- set targets for individual waste streams and minimise construction waste to a maximum of 7.5m³ or 6.5 Tonnes from construction activities.
- 95% of all non-hazardous demolition and construction waste will be diverted from landfill

3.3.7. Waste Management – Operational Phase

The applicant is committed to supporting the government and GLA targets for recycling and landfill waste reduction. The following measures are set out in detail in the Delivery and Servicing Plan by Caneparo and will be implemented to encourage and help ensure the users will be able to maximise recycling of waste:

- Refuse storage is to be provided where both recyclable and non-recyclable waste can be stored;
- External storage for waste and recycling will be provided in accordance with the waste collection service requirements.

The proposed refuse and servicing strategy is outlined further within a full operational waste management strategy prior to the occupation of the building.

Please see the standalone Circular Economy documents including Pre-Demolition Audit and Pre-Redevelopment Audit.



3.4. Pollution



Relevant Policy Objectives

- Policy D13 Agent of Change
- Policy D14 Noise
- **D** Policy SI 1 Improving air quality
- Policy SI 2 Minimising greenhouse gas emissions
- **D** Policy SI 4 Managing heat risk
- Policy SI 12 Flood risk management
- **Policy T2 Healthy Streets**
- Policy T4 Assessing and mitigating transport impacts
- Camden Borough Council Policy CC4 Air quality
- Camden Borough Council Policy A4 Noise and vibration
- **Camden Air Quality CPG (Jan 2021)**

Physical pollutants of all types are proven to have significant adverse health effects on humans, animals and plants as well as the broader ecosystems. As well as affecting plant and animal species, other forms of pollution such as light and noise can cause nuisance to neighbours and ill health.

The reduction or prevention of pollution is therefore critical to sustainable development and new developments of all sizes need to play their part in ensuring that they do not have adverse effects. Managing these issued also enables community cohesion and so the following three key strands must be addressed through all stages from design, construction and through to the post construction stages of a development.

- Pollutants that affect air and water quality
- Light pollution issues at all stages
- Noise pollution issues at all stages

3.4.1. Air Quality

The whole Camden Borough is located within an Air Quality Management Area (AQMA) due to concerns regarding exceedances of the annual mean Particulate Matter PM₁₀ Nitrogen dioxide NO₂.

The Environmental Efficiency has undertaken an Air Quality Impact Assessment for this project. "As the concentration of all pollutants of concern, with the exception of NO₂, fall within the relevant AQS objectives, and the only dust generating activity that has been determined to have a large dust emission magnitude being demolition, the overall construction phase poses a medium risk. Through site best practices and the implementation of suitable mitigation measures, the impact of pollutant releases will be minimised. As a result, the residual effect of the construction phase on air quality will not be significant."

The development has been designed to have minimal increase in traffic movements. The proposals are **car-free** development and concentrate on more sustainable means of travel and encouraging cycling and walking as alternatives. During construction, air quality impacts are likely to be local to the development and will be temporary in nature (i.e. during the demolition/construction period only).

The construction phase impacts will be mitigated through the adoption of best practice guidance. Operational phase mitigation will be based on assessing the impacts of the scheme with reference to National Air Quality Strategy Objectives and the implementation of appropriate mitigation measures based on preventing or minimising exposure to exceedance of the Objectives.

All contractors shall follow a regimen put in place during the construction stages to minimise emissions and comply with the relevant EA Pollution Prevention Guidelines. The contractor will sign up to achieve 'beyond best practice' standards with the Considerate Constructors Scheme.

Heating, cooling and hot water for the development will be provided by air source heat pumps powered by electricity. The proposed building energy strategy does not produce emissions to atmosphere. As such, the proposals are considered air quality neutral.

These are stated in the Air Quality Assessment which is a stand-alone document.

There is a complete table of Construction Phase Mitigation Measures within the AQIA.

The Well Pre-Testing report is carried out to understand the air quality parameters interest of Particulate Matter (PM) and NO2.

Table 2- 1 Summary Results Table for PM

Parameter	Result (µg/m3)	WELL Limit (µg/m3)
PM2.5 (24-hour)	1.93	15 (10)
PM2.5 (1-hour)	1.97	15 (10)
PM10 (24-hour)	4.02	50 (20)
PM10 (1-hour)	4.33	50 (20)

Table 2- 2 Summary Results Table for NO2

Tube Label	Time (hr.)	Results (µg/m3)	WELL Limit (μg/m3)
A1	672	28.69	
A2	672	26.49	404/m2
A3	672	25.10	40µg/m5
A4	672	23.34	

While the project location does not have a major concentration of PM2.5 and PM10, it does have a significant concentration of NO2. The result provided a representative outdoor air quality data to assess the baseline of PM2.5, PM10 and NO2 at the project location to inform the project team of the extent to which outdoor pollutants may affect indoor air quality. Please see the full report for more information.

3.4.2. Noise

A Noise Impact Assessment has been undertaken by Sandy Brown in line with BS 4142 ad this makes recommendation on Plant Noise limits as well as acoustic criteria for the building and its environs.

The outcomes of this survey and report have informed the development of the Ventilation Strategy, the Energy Strategy and the Landscaping with the table of the cumulative noise level from the operation of all new plant should not exceed the limits set out in Table 8.

Table 8 Plant noise limits at 1 m from the nearest noise sensitive premises

Time of day	Maximum sound pressure level at 1 m from noise sensitive premises, <i>L</i> _{Aeq,15min} (dB)		
Day (07:00-23:00)	40		
Night (23:00-07:00)	37		

The table and report state that.... "The representative measured background sound levels were LA90, 15min 47 dB during the day, and LA90, 15min 44 dB during the night. Based on the requirements of the Local Authority, the relevant plant noise limits at the worst affected existing noise sensitive premises are LAeq, 15min 40 dB during the day, and LAeq, 15min 37 dB during the night."

3.4.3. Agents of Change

There is a 'Low' to 'Medium' risk, environmental noise break-in to noise sensitive rooms (meeting rooms, private offices, or confidential spaces.) within the development on the basis that there will be a degree of separation between the proposed development and any existing noise.

The evaluation within the report will consider the public realm and confirms no negative impacts to and from this relating to acoustic issues.

3.4.4. Light Pollution

Lighting will be appropriate for the intended use; provide the minimum amount of light necessary to achieve its purpose; provide adequate protection from glare and light spill and be energy efficient.

It is anticipated that all external space and security lighting will be provided by energy efficient fittings with PIR and dusk to dawn daylight sensors and time switches.

The lighting shall be designed in accordance with BS 5489-1: 2003 and BS EN 13201-2:2003

to ensure that an appropriate level of illumination is provided.

Lighting shall be controlled by time clock to prevent nighttime pollution and reduce energy demands with security lighting controlled by movement sensors.

3.4.5. Refrigerants

Refrigerants are major greenhouse gases that are many times more potent than carbon dioxide in their contribution to global warming and climate change. The Air Source Heat Pump systems proposed for the building for heating and hot water rely on the use of refrigerants for their operation.

All systems will be designed to comply with the requirements of BS EN 378:2016 (parts 2 & 3).

Wherever possible low impact refrigerants will be used however there is an inherent balance between reducing CO₂ emissions in operation and managing the risk of refrigerant leaks.

3.5. Water



Relevant Policy Objectives

- **D** Policy S1 Delivering Sustainable Design
- **D** Policy SI 5 Water infrastructure
- Policy SI 12 Flood risk management
- Policy SI 13 Sustainable drainage
- Camden Borough Council Policy CC3 Water and flooding
- Camden Energy efficiency CPG (Jan 2021)

Water is becoming an increasingly scarce resource as demand continues to grow. To satisfy this increase in demand new sources of water and associated infrastructure have been required. However, the construction and operation of this infrastructure (for example reservoirs and treatment works) is expensive, energy intensive and damaging to the environment and therefore measures should be taken to reduce water consumption where possible.

Water resources face increasing demand arising from existing and new development, exacerbated by changes to the climate and rainfall patterns. Ensuring that new development has adequate supply and is waterefficient is therefore an important consideration.

New developments of all sizes need to play their part in sustainable water management ensuring that the developments do not have adverse effects through increased run-off rates and protection of river water quality and groundwater.
3.5.1. Water Conservation

Under Approved Document G 'Sanitation, hot water safety and Water efficiency, sets out other requirements, but none relating to commercial buildings specifically.

Rainwater Harvesting (RWH) has been deemed to be un-economic and impractical due to the location of the building.

The applicant intends to install the water efficient sanitaryware within the development, such as toilet, wash hand basin, etc.

Water metering, monitoring and leak detection will all be integral to the design.

A minimum of 3 credits will be achieved in the BREEAM 2018 methodology which equates to a 40% reduction over the benchmark. 3.5.2. Flood Zone

A site-specific Flood Risk Assessment has been undertaken by HTS following a review of flood data published by the EA and LBC which found that the development is at low risk from all sources of flooding. The site is located in Flood Zone 1 and all sources of flood risk have been studied in the FRA. Please see the stand along document of FRA and SuDS for more detail information.

3.5.3. Sustainable Urban Drainage System (SUDS)

The surface water run-off discharge priority has been followed in line with NPPF (National Planning Policy Framework), which covers, from the top, rainwater harvesting, ground infiltration, followed by surface water body, drainage system, and combined sewer.

The Sustainable Drainage Strategy carried out by HTS stated that "*The development site has an area of 1,494 m2 and is completely impermeable. The aim for this development is to use the attenuation techniques to reduce the peak run-off for the 1 in 100-year rainfall event* (+40% climate change) as close as possible to greenfield run-off rates."

In line with the London Sustainable Drainage proforma technical guidance, the peak surface water discharge rate from the proposed development should be set to the 1 in 1-year existing runoff rate.

In accordance with the London Plan and local planning policy, developments should aim to achieve a greenfield runoff rate.

"Greenfield run-off rates have been calculated using the calculation tool available on www.uksuds.com. This established that the greenfield run-off for the site is 0.23 l/s for QBAR and 0.74 l/s for the 1 in 100-year rainfall event. It is noted that the greenfield rates are very low and could result in a system which poses a blockage risk as self-cleansing velocities would not be met. Therefore, the discharge rate has been restricted to 2l/s to avoid blockage risk."

Please see the SuDS drainage hierarchy assessment which has been carried out and is presented in the following page.

The table of drainage hierarchy is extracted from the "FRA and SuDS report" carried out by HTS, which is a standalone document within the planning submission pack.

	SuDS Technique	Feasible	Explanation
1	Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)	×	Blue roof and blue green roofs were explored with the design team. The proposed structure is cross-laminated timber (CLT) and a blue roof atop the timber structure is not considered appropriate. It is not compatible due to the risk of seepage on the timber roof structure which would not be visible until structural damage had occurred. Rainwater harvesting (RWH) has not been included in the scheme due to the space constraints in the lower ground floor unable to accommodate the equipment. Should the circumstance change during the development of the design, RWH should be considered further.
2	Rainwater infiltration to ground at or close to source	×	The majority of building footprint extends to the site boundary and the public realm is within 5m of the building structure. There is no potential to infiltrate into the ground.
3	Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)	~	There is an area of brown / biodiverse roof proposed.
4	Rainwater discharge direct to a watercourse (unless not appropriate)	×	There is no watercourse in the vicinity of the site.
5	Controlled rainwater discharge to a surface water sewer or drain	×	There are no public surface water sewers within the vicinity of the site.
6	Controlled rainwater discharge to a combined sewer	~	It is proposed to discharge surface water from the redevelopment site to the combined public sewers at an attenuated rate in accordance with LLFA policy.

Table 5 - Surface Water Drainage Hierarchy

3.6. Materials



Relevant Policy Objectives

- **D** Policy D4 Delivering good design
- Policy E11 Skills and opportunities for all
- Policy SI 2 Minimising greenhouse gas emissions
- Policy SI 7 Reducing waste and supporting the circular economy
- Camden Borough Council Policy CC2 Adapting to climate change
- □ Camden Energy efficiency CPG (Jan 2021)

A sustainable resource management approach will help to minimise the contribution that both constructing and occupying a new development of any size makes to the problem. This is done by designing the development to use materials efficiently, specifying materials which are responsibly sourced, have low environmental impact and are reclaimed or recycled wherever possible, managing the construction process to minimise waste produced.

December 2023

3.6.1. Responsible sourcing

The procurement of materials for the development will prioritise renewable or sustainable sources with low energy impact, for example, all timber will be sourced in accordance with UK Governments Timber Policy and Procurement have Forest Stewardship Council (FSC), Pan European Forest Certification (PEFC) or the UK Woodland Assurance Scheme. The Design Team has held workshops on sustainable procurement and a Sustainable Procurement Plan have been developed and is appended to this document.

3.6.2. Secondary materials

The recycled content of a material can be described as either post-consumer or postindustrial content. Specifying materials that are either reclaimed or which have a high-recycled content is good method of reducing the impact of a building as well as reducing the processing or manufacturing energy.

Where possible specifications will aim to using reclaimed or recycled materials to enable resource efficiency.

Some typical building materials that can contain a high percent of recycled material include reinforcing and framing steel, concrete masonry units, gypsum wallboard and facing paper, acoustic ceiling panels and their suspension system.

Scope for increased recycling will be incorporated by specifying recycled materials and ensuring that even where new materials are used, as much as possible can be recycled at the end of the buildings' life.

Specific actions which have been reviewed in the Circular Economy statement are:

- Re-using steel members from demolition during construction
- Recycling demolition waste as fill and aggregate on site
- Sourcing reclaimed steel members for structural elements within the building

3.6.3. Healthy materials

The development aims to procure materials that represent a lower risk to the health of both construction workers and occupants, such as selecting materials with zero or low volatile organic compound (VOC) levels to provide a healthy environment for users.

An Indoor Air Quality Plan has been developed in line with the BREEAM requirements and this will be sued to guide specifications of internal materials and finishes as the design develops.

December 2023

Sustainability Statement

3.6.4. Embodied impact of materials

The aim of our client is to reduce the embodied impact of construction through maximising and prioritising the specification of major building elements to achieve a reduction in overall embodied impacts.

When selecting materials for the development, preference will be given to the use of locally sourced materials and local suppliers where viable. This will benefit the local economy as well as having environmental benefits through reducing transportation requirements. This will be addressed and considered in more detail during the detailed design stage.

The RIBA Stage 2 Whole Life Carbon assessment confirmed the proposals have a current carbon intensity in construction (A1-A5) of 554.37 kgCO₂/m² GIA which is:

- 42% lower for the A1-A5 compared to the GLA WLC Benchmark (950 kgCO₂/m²),
- 7.6% lower than the Aspirational GLA
 WLC Benchmark (600 kgCO₂/m²).

The following is the GLA Result table and a comparison chart showing the result of this assessment compared to various benchmarks.

	Module A1-A5 (excluding sequestered carbon)	Modules B-C (excl B6 & B7)	Modules A-C (exc) B6 & B7; including sequestered carbon)	
TOTAL kg COze	6,570,424 kg CO2e	4,822,556 kg CO2e	9,003,962 kg CO2e	
TOTAL kg CO _z e/m ² GIA	554.37	406.9	759.7	
Benchmark Type		Office		
GLA WLC Benchmark kg COze/m ² GIA	<950	<450	<1400 <970	
GLA Aspirational WLC Benchmark kg CO ₂ e/m ² GIA	<600	<370		



December 2023

Page 41

Saffron Hill Offices

Sustainability Statement

3.6.5. Carbon sequestrated of CLT Floor Slab

Carbon sequestrated, also known as Biogenic carbon which relates to the natural carbon cycle. Carbon stored in bio-based materials including plants, which is sequestered through photosynthesis and released through combustion or decomposition as part of a carbon cycle. Therefore, the carbon segregation usually not includes in the Module A1-A5 of the WLCA.

At end-of-life stage, building (life cycle stage C), biogenic carbon is either transferred to another system through **reuse or recycling**, or it is emitted back to the atmosphere through **incineration or decomposition**.

However, the benefit of store the biogenic carbon by reusing and recycling the timber products are not reflected in the current WLCA calculations.

The Calculation software and most of the method still prefer to separate the biogenic carbon from A1-A5 and release it at the end-of-life stage which is not necessary accurate if the

timber product be reused/ recycled at the end of their life.

As this project proposed to use **CLT** for more than 70% of the total floor area and proposed to reuse and recycle at the end of their lifespan for this building. There will be around **2,389,018 kg CO**_{2e} of carbon emissions stored in the CLT floor slab which won't release back to the atmosphere.

3.6.6. Potential Future Gains

The following list will be focused on the later stage as the design develops. There will provide a high potential for reducing the WLCA emission further.

- Increase recycled content in steel (more than 40%)
- Increase recycled content in concrete (more than 30%)
- Best practice site impact
- Procured lower impact "raised access floor system".



December 2023

3.7. Transport

December 2023



Relevant Policy Objectives

- Policy D5 Inclusive design
- **Policy D8 Public realm**
- Policy D14 Noise
- **D** Policy SI 1 Improving air quality
- Policy SI 2 Minimising greenhouse gas emissions
- Policy T1 Strategic approach to transport
- Policy T4 Assessing and mitigating transport impacts
- Policy T5 Cycling
- Policy T6 Car parking
- Policy T7 Deliveries, servicing and construction
- Camden Borough Council Policy T1 Prioritising walking, cycling and public transport
- Camden Borough Council Policy T2 Parking and car-free development
- Camden Borough Council Policy T4 Sustainable movement of goods and materials
- **Camden Transport CPG (Jan 2021)**

Certain modes of transport use significant amounts of energy and are a major source of greenhouse and air pollution. In addition, increased road transport raises other considerations such as congestion and safety.

The promotion of more sustainable modes of transport; encouraging accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and reducing the need to travel particularly by private car, are key aims of sustainable development.

3.7.1. Reduce the need to travel

The Framework Travel Plan has been carried out by Caneparo Associates.

Walking: The local residential areas and the majority of Local Amenities and a large number of public transport nodes are accessible on foot within 20 minutes' walk which reinforced by TfL who define a 20-minute walking distance (1.6km) as an Active Travel Zone, with a good standard quality of pedestrian infrastructure.

Cycling: Planning for Cycling' guidelines highlight previous research by the DfT that 67% of all journeys are less than 8km. An 8km cycle distance would permit riders to reach all central London along with wider areas including Highbury & Islington, Dalston, Tower Hamlets, London Bridge, Vauxhall, Victoria, Soho, Baker Street, Camden Town and the entirety of the City of London.

Bus: A number of bus stops are located within a short walk of the Site, with the closest stops located on the A201 Farringdon Road circa 70-160m / 1-2 minutes' walk east of the site. The further bus stop (Hatton Garden Stop 'D' plus Farringdon Road Stop 'E') are located circa 180-210m north of the Site while Holborn Circus circa 530-570m south of the Site.

Railway and Tube: The site is located circa 270m north-west of Farringdon Station, which offers access to London Underground, (Circle, Hammersmith & City and Metropolitan Lines), Elizabeth Line and Thameslink services. Additionally, Chancery Lane London Underground station is located circa 570m south-west of the Site, providing access to the Central Line.

The PTAL rating of the Site is **6b**, the highest possible level, meaning the Site has an 'excellent' level of accessibility to public transport.

3.7.2. Cycling and walking

The Saffron Hill Office proposed a car-free approach with sufficient cycle storage and cycle facilities, such as locker, changing room, and shower within the building.

Please find more detail strategies listed in the standalone Framework Travel Plan prepared by Caneparo Associates, which have taken the measures like minimum amount of cycle storage into consideration and all travel information packs will be provided with a cycle route map which displays the wider TfL cycle network.

3.7.3. Reduce traffic congestion

Air quality issues in the borough are well known. The council's Air Quality Strategy (AQs) identifies road transport as the major source of air pollution, giving rise to nitrogen dioxide and particulate matter which can cause respiratory illnesses and other adverse health effects.

This development does not provide any car parking and will encourage all the occupancy for cycling or taking other sustainable transport by exclude all parking space within the development, therefore, will minimise air pollution, noise levels and congestion generate by this development.

3.7.4. Servicing and Refuse Collection

Servicing to the site will occur via Saffron Street to accommodate service and refuse vehicle access as required. A Draft Delivery, Servicing

December 2023

& Waste Management Plan is carried out by Caneparo Associates as a standalong document. The report stated that... "The Development will utilise existing on-street kerbside locations for the undertaking of deliveries, as agreed during pre-application discussions with LBC. The Development will receive deliveries via the section of single yellow like kerbside which is present within 10m of the Site on Saffron Street. This will provide a short transfer distance of goods between vehicles on-street and the back of house entrance to the Site. Figure 2.1 indicates the proposed section of kerbside which will be utilised for deliveries."

Delivery and servicing teams will be advised to utilise major local roads when reaching the Site, limiting the use of narrower sections of highway. It is anticipated that vehicles will make use of the A201 Farringdon Road principally, with vehicles then either entering Saffron Street directly and performing a 3-point turn to egress back onto Farringdon Road or utilising the local network circulation to maintain forward gear movements only. Please see the vehicle routing plan included at Figure 2.5. Figure 2.1 Proposed On-street Servicing Location on Saffron Street from Delivery, Servicing and Waste Management Plan



Figure 2.5: Delivery Vehicle Routing Plan to Saffron Street



3.8. Community, Health & Social

wellbeing

December 2023



Relevant Policy Objectives

- Policy D5 Inclusive design
- Policy D8 Public realm
- Policy S1 Developing London's social infrastructure
- Policy E11 Skills and opportunities for all
- Policy HC1 Heritage conservation and growth
- **D** Policy SI 4 Managing heat risk
- Policy T2 Healthy Streets
- Camden Borough Council Policy CC2
 Adapting to climate change
- Camden health and Wellbeing CPG (Jan 2021)

Social infrastructure covers a range of services and facilities that meet local and strategic needs and contribute towards a good quality of life. It plays important role in developing strong and inclusive communities, providing opportunities to bring different groups of people together, contributing to social integration and the desirability of a place. As such involving the community in consultation is a vital part of developing any project.

It covers many aspects of the built environment from play areas and public realm to health provision, education and community facilities. The environmental impacts of buildings also have a role to play and providing healthy buildings with good daylight, ventilation, acoustics and levels of comfort all play a role.

Making buildings and associated public realm spaces accessible and comfortable spaces enables people to come together and develop a sense of community.

Saffron Hill Offices

Sustainability Statement

3.8.1. Healthy Buildings

The proposed ventilation strategy has been informed by the outcomes of thermal comfort modelling in line with the CIBSE TM52 guidance and the acoustic and air quality assessments.

These studies have been undertaken in an iterative way and this work is still being used to inform the detailed design development. Please see more detail in the stand along document – TM52 Overheating Assessment.

3.8.2. Local Employment

The main contractor will be required to make employment and training opportunities available to local residents and the Applicant will work to ensure that those people undertaking training through this route are given a pathway to complete their training and apprenticeships.

The regeneration Statement is carried out to ensure that the development would create positive influence with economic benefits to the community. The statement has focused on Construction benefits (temporary employment, GVA, construction apprenticeships) and Operational benefits (employment, GVA, commercial floorspace, spending and fiscal benefits). The development provided high quality commercial space and Championing Sustainability with additional street level café and affordable workspace.

Please see more information in the standalone document – Regeneration Statement carried out by HATCH.

3.8.3. Community Consultation

The client has developed the design and space standards through both formal and informal consultation process with client, council and the potential users and the outcomes of these discussions have been used to inform the designs.

As part of the pre-planning application phase, our client began a period of engagement, which focused on sharing proposals for the new building, with people who live and work close to the site. The outcomes of both of these processes have been used to inform the design and this is detailed in the Statement of Community Involvement There is ongoing consultation with neighbouring occupiers.

3.8.4. Healthy Streets

The Healthy Streets Approach puts people and their health at the centre of decisions about how we design, manage and use public spaces.

If a street is a healthy and inclusive environment then we should see all members of the community out on the street sitting, standing, walking, cycling and using public transport.

Using 10 indicators the process focuses on the experience of people using.



4. Conclusion

Through the incorporation of sustainable design and construction methods, energy, water and waste saving measure the proposed development is considered high quality and sustainable.

The proposed development aims to comply with and demonstrates how the development will meet National, Regional and Local Planning Policy for matters relating to sustainability and therefore the application should not fail on sustainability grounds.

The key sustainability features of the development proposals are as follows:

- The new building will be constructed to significantly exceed the requirements of Part L 2021 Building Regulations in all ways;
- The project has been designed to minimise the risk of overheating where possible;
- The ecology of the site will be enhanced providing an improvement on local green infrastructure.
- Waste generated on site both during demolition and construction will be

December 2023

minimised and waste that cannot be reused on site will be diverted from landfill.

- Recycling facilities will be provided for operational, and construction related waste;
- Background noise levels will not be detrimentally affected by the development and the designs incorporate sufficient measures to protect occupants from existing noise.
- Sound insulation values will provide an improvement on Part E of the Building Regulations;
- Pollution from refrigerants and particulates will be minimised as far as is possible.
- The development will be registered with the Considerate Constructors Scheme.
- Water efficiency measure and devices will be installed
- The SuDs drainage strategy is carried out and included a SuDs Management Plan.
- Where practical, building materials will be sourced locally to reduce transportation pollution and support the local community. Materials will be selected based on the environmental impacts as far as is practical.

- The use of sustainable transport modes will be encouraged with cycle storage provision and no new car parking on site;
- Ventilation systems will incorporate suitable filtration to minimise external air pollution.
- The project has been developed in consultation with a wide range of stakeholders and feedback will be given to these groups as the design develops.

The proposed development aspires to provide a high-quality development that serves the local community and Camden council' commitments to meeting on-going sustainability targets.

The measures proposed in the Sustainability Strategy, TM52 Overheating Assessment and Energy Assessment, SUDs strategy, Flood risk assessment, Air quality Assessment, Ecology report, BREEAM pre-assessment and Noise impact assessment etc. support the delivery of sustainability during the construction and occupation phases and therefore contribute to local sustainability target.

Project:- Target Rating:- Assessor:-	Safron Hill EXCELLENT AC	Client:- Date:- Type:-	Saffron Hill Investment Holdings 15/02/2024 Fully fitted	BREEAM 2018 NC Pre-Assessment summary	
					© Carbon Plan Engineering Limited 2018

Credit Section	Section Weighting	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	18.00%	-
Management Health & Wellbeing	11.00% 14.00%	2.44% 2.33%	9.78% 10.11%	0.61% 0.78%	14.00%	Section Weighting
Energy Transport	16.00% 10.00%	6.96% 5.83%	14.61% 5.83%	0.00%	12.00%	■ RIBA Stage 1 & 2
Water Materials	7.00%	0.00% 8.57%	4.67% 11.79%	0.00%	8.00%	Credits
Waste	6.00%	1.64%	3.27%	1.64%		Main Score
Pollution	8.00%	2.00%	6.00%	0.00%		Potential Uplifts
Innovation	10.00% Total Score	0.00% 31.78%	4.00% 80.06%	0.00%	Nanepre Historic Liefe Tansho Wat Mareito Was polutic provide	
	BREEAM Rating	0.00%	EXCELLENT	OUTSTANDING	teon Jan	

Scores are currrently based upon a range of assumptions which must be agreed by the design team Credits cannot be awarded unless the required evidence is provided. Notes overleaf are a summary of the requirements only

Revision By	Date	Status	Score Achieved	Comments on Revision
- Alan Calcott	14/06/2023	Issued	77.31%	
A Alan Calcott	18/08/2023	For Information	77.31%	
B Alan Calcott	29/09/2023	For Information	75.82%	General update prior to meeting on Wednesday 4th October
C Alan Calcott	15/01/2024	For Information	79.79%	Updated prior to BREEAM Workshop
D Alan Calcott	15/02/2024	For Planning	80.06%	Updated with final Stage 2 energy modelling results. Issued for planning
E				
F				
G				
H				
1				
J				

Safron Hill		Saffron Hill Investment Holdings EXCELLENT Rating NA EXCELLENT		15 February 2024	
Target Rating	EXCELLENT				BREEAM 2018 NC
	Rating			OUTSTANDING	Pre-Assessment summary
	Score	31.78%	80.06%	85.08%	
			EXCELLENT	5.03%	

	Credit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade
	Man 01	Project brief and design	4	2	4		Credit 1 = RCC Credit 2 = RCC / DP9 / AHMM Credit 3 - CPE Credits 4 - CPE	Credit 1 - Project delivery planning Req1: - Project delivery stakeholders define Roles, responsibilities and Contributions for each phase of the project. Req2: - Consider a range of issues when defining Req1 Req3: - Demonstrate how above contributions and the consultation outcomes influence> The Initial Project Brief; Project Execution Plan; Communications Strategy: Concept Design outcomes. Credit 2 - Stakeholder consultation (interested parties) Req4: - Consult with all interested parties on matters that cover the minimum consultation content Req5: - Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Req6: - Prior to completion of the detailed design give and receive consultation feedback from all parties. Credit 3 - BREEAM AP (Concept Design) Prerequisite for BREEAM Advisory Professional credits Req8: - Formally agree strategic performance targets early in the design process Req8: - Formally agree strategic performance targets early in the design process Req9: - Somally agree strategic performance targets early in the and level to fulfill the credit requirements in full Credit 4 - BREEAM AP (Developed Design) Req9: - Bornally agree strategic performance targets early in the design process Req9: - Bornally agree strategic performance targets early in the and level to fulfill the credit requirements in full Credit 4 - BREEAM	
	Man 02	Life cycle cost and service life planning	4	2	3		Credit 1 = Exigere Credit 2 = Exigere 3 = Contractor	Credit 1 - Elemental LCC (2 Credits) Req1:- A competent person carries out an outline, entire asset LCC plan at Stage 2 together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008 Req2:- The Elemental LCC Provides an indication of future replacement costs over a period of 20, 30, 50 or 60 years and includes service life, maintenance and operation cost estimates. Req3:- Demonstrate how the LCC has been used to influence building and systems design and specification Credit 3 - Capital Cost reporting Req6:- Report the capital cost for the building in pounds per square metre of gross internal floor area (£k/m ²)	Credit 2 - Component level LCC options appraisal Req4:- A competent person carries out a component le include Envelope, Services, Finishes, External Spaces. Req5:- Demonstrate how the LCC has been used to in
Management	Man 03	Responsible construction practices	6		6		Contractor	Prerequisite - Legally harvested and traded timber Req 1: All timber and timber-based products used during the construction process of the project are legally harvested and traded timber Credit 2- BREEAM AP (site) Prerequisite for BREEAM Advisory Professional credits Req5:- The client and the contractor formally agree performance targets Req6:- Involve a BREEAM AP in the project at an appropriate time and level to fulfill the credit requiremenst in full Credit 4- Monitoring of construction site impacts For 1 credit: Req10:- Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. Req11 to 18:- Set targets; monitor and record data; and report the site energy consumption in kWh as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation AND Set targets; monitor and record data; and report the potable water consumption (m ³) arisingas a result of the use of construction plant, equipment (mobile and fixed) and site accommodation AND Set targets; monitor and record data; and report the potable water consumption (m ³) arisingas a result of the use of construction plant, equipment (mobile and fixed) and site accommodation AND Set targets; monitor and record data; and report the potable water consumption (m ³) arisingas a result of the use of construction plant, equipment (mobile and fixed) and site accommodation Req19 to 22:- Set targets; monitor and record data; and report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO, eq.), buts total distance travelled (km) via BREEAM Projects	Credit 1 - Environmental management Req3: All parties who at any stage manage the const EMS covering their main operations. Req4: All parties who at any point manage the constr best practice pollution prevention policies and procedur PPG6, Pollution Prevention Guidelines Credit 3 - Responsible construction management (U Req7:- 1 Credit = Achieve the 9 items listed in table 4. Req8 & Req8:- 1 Credit = Achieve Req 7 and achieve The table is extensive and CPE has developed and add
	Man 04	Commissioning and handover	4		3	1	Credit 1 = TB+A Credit 2 = TB+A Credit 3 & 4 = Contractor	Credit 1- Commissioning - testing schedule and responsibilities Req1:- Prepare a schedule of commissioning and testing. Req2:- The schedule identifies the appropriate standards for all commissioning activities in accordance with current Building Regulations, BSRIA, CIBSE and other relevant standards. Req3:- Where a building management system (BMS) is specified carry out commissioning of air and water systems when all control devices are installed, wired and functional and otherwise fully comply with BREEAM Requirements Req4: - Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Req5:- The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works. Credit 2 - Commissioning anagement input to programming and during installation stages. e Management of commissioning and preparation Req 5:- An appropriate project team member is appointed with responsibility for: a Undertaking design reviews and giving advice on suitability for ease of commissioning. b Providing commissioning management input to programming and during installation stages. c Management of commissioning, performance testing and handover or post-handover stages. MOTE:- For complex services and systems this must be a specialist commissioning managere Credit 4 - Handover (Building user Guide) Req 11:- Develop TWO SEPARATE building user guides for - A non-relonical user guide for distribution to the building occupiers. - A technical user guide for the standards to release the appropriate project desting managers - Redincial user guide for the standards to release time dappropriately around handover and proposed occupation plans	Credit 3 - Testing and Inspecting building fabric Reg 8:- Achived Reg 1 to 5 Reg 9:- Undertake airtightness testing and a thermogra continuity of insulation, avoidance of thermal bridging a Reg 10:- Rectify any defects identified during testing
	0.61% / Credit	Total Credit Section Score	18 11.00%	4 2.44%	16 9.78%	1 0.61%			

© Carbon Plan Engineering Limited 2018

Credits / Issues to be aware of	Min for BREEAM rating
	None
evel LCC options appraisal during Stage 4 in line with PD 156865: 2008 to , fifuence building and systems design and specification	None
truction site (e.g. the principal contractor, the demolition contractor) operate an ruction site (e.g. the principal contractor, the demolition contractor) implement res on site in accordance with Working at construction and demolition sites: Up to 2 Credits) .1 :6 additional items from Table 4.1 ditional Guidance note available upon request	One credit (responsible construction management)
aphic survey to quality-assure the integrity of the building fabric, including and air leakage paths.	One credit (commissioning schedule & responsibilities) + BUG

Safron Hill		Saffron Hill Investment Holdings		15 February 2024	
Target Rating	EXCELLENT				BREEAM 2018 NC
	Rating	Rating NA EXCELLENT		OUTSTANDING	Pre-Assessment summary
	Score	31.78%	80.06%	85.08%	

	Credit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade Credits / Issues to be aware of	Min for BREEAM rating
	Hea 01	Visual comfort	5		2		Credit 1= AHMM + CPE + TB+A Credit 4 = TB+A	Credit 1 - Control of glare from sunlight Req 1:- Identify areas at risk of glare using a glare control assessment. Req 3:- Develop a Strategy that designs out potential glare in all relevant building areas Req 3:- The Strategy does not increase energy consumption used for lighting by maximising daylight levels in all weather and by ensuring the shading does not conflict with the operation of lighting control systems Credit 4 - Internal and external lighting levels, zoning and control Internal lighting is designed to provide illuminance (lux) levels & colouring rendering index in accordance with the SLL Code for Lighting 2012 and should be appropriate to the tasks undertaken. Req 7:- Internal lighting is designed to provide illuminance (lux) levels & colouring rendering index in accordance with the SLL Code for Lighting 2012 and should be appropriate to the tasks undertaken. Req 8:- For areas where computer screems are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting Limits to the luminance of the luminaires, reflecting lights and recommendations for direct lighting, ceiling illuminance, and average wall illuminance. External Lighting Req 9:- All external lighting located is specified in accordance with the following standards and provide illuminance levels that enable users to perform outdoor visual tasks. - BS 5489-12:013 Code for the practice for the design of road lighting - BS 5489-12:013 Code for the practice for addighting of work places - Part 2: Outdoor work places Zoning and occupant control Req 11:- Internal lig	Credit 2 - Davlighting (2 Credits) Req 4: Daylight criteria will almost certainly not be achieved Not Achievable Credit 3 - View out Req 5:- 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out Req 6:- Comply with building type specific criteria Not Achievable	None
Hea	Hea 02	Indoor air quality	4	1	3		Pre-Req = CPE Credit 1 = TB+A Credit 2= AHMM	Prerequisite - Indoor air quality (IAQ) plan - Stage 2 Req 1:- A site-specific indoor air quality plan has been produced no later than RIBA Stage 2 and implemented in accordance with the guidance in Guidance Note GN06. Credit 1 - Ventilation Req 2:- The building has been designed to provide fresh air into the building in accordance with the criteria of the relevant standards for ventilation in line with the BREFAN requirements. Credit 2 - Emissions from construction products Req3:- For 2 Credits - All of the five product types meet the emission limits, testing requirements and any additional requirements listed We are also now targetting the exepnlary level credit which places a stricter set of requirements on the products.	Credit 3 - Post-construction indoor air quality measurement Reg 5 to 10:- The formaldehyde concentration, Total VoC in the indoor air is measured post construction (but pre-occupancy) and does not exceed the limits set out in the guidance If WELL is pursued this should be included	None
llth & Wellbeing	Hea 04	Thermal comfort	3	1	3		Credit 1 = CPE Credit 2 = CPE Credit 3= TB+A	Credit 1 - Thermal Modelling Req1: Thermal modelling has been carried out using software in accordance with CIBSE AM11 Req2: The software used provides full dynamic thermal analysis. Req3: The modelling demonstrates that: a. For air-conditioned buildings, temperature ranges are in accordance with CIBSE Guide A, Table 1.5; b. For naturally ventilated buildings the building is designed to limit the risk of overheating, in accordance with CIBSE Guide A. Req4: For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported Credit 3 - Thermal zoning and controls Req9: Req1 to 4 are achieved Req10: The thermal modelling has informed the temperature control strategy for the building and its users. Req11: The strategy for proposed heating or cooling systems demonstrates that it has addressed: · Zones within the building The degree of occupant control required for these zones based upon criteria · How the proposed systems will interact with each other · The need or otherwise for an accessful building user actuated manual override for any automatic systems	Credit 2 - Design for future thermal comfort Req5: Req 1 to 4 are achieved Req6: The modelling demonstrates that the relevant requirements of Req3 are achieved for a projected climate change environment Req7: Where Req 6 above is not met, the team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions to meet Req 6. Req8: For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported	None
	Hea 05	Acoustic Performance	3		3		Acoustician	Credit 1 - Acoustic performance (Up to 3 credits - Buildnig Type dependant) This issue is split into two parts: - Acoustic performance (up to three credits for 1 Credit = Sound insulation 1 Credit = Indoor ambient noise levels 1 Credit = Room acoustics Complex and requires individual requirements for each building type - CPE will issue separate criteria but all to Section 7 of BS 8233:2014.		None
	Hea 06	Security	1	1	1		SQSS Suitably Qualified Security Specialist	Credit 1 - Security of site and building Req1:- A Suitably Qualified Security Specialist (SQSS) conducts a Security Needs Assessment (SNA) during to Concept Design (RIBA Stage 2). Req2:- The SQSS develops a set of security controls and recommendations for incorporation Req3:- The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from these shall be justified and agreed with the SQSS.		None
	Hea 07	Safe and healthy surroundings	2		1	1	Credit 1 & 2= AHMM	Credit 2 - Outside Space Req7:- There is an outside space providing building users with an external amenity area.	Credit 1 - Safe Access Req1: Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable. Req2: Dedicated and safe footpaths are provided on and around the site to meet BREEAM requirements Req3: Pedestrian drop-off areas provide direct access to other footpaths. Req4: Delivery areas are not accessed through general parking areas Req5: There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. Req6: Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site	None
	0.78%	Total Credit	18	3	13	1				
	/ Credit	Section Score	14.00%	2.33%	10.11%	0.78%				



Target Rating EXCELLENT	
	BREEAM 2018 NC
Rating NA EXCELLENT OUTSTANDING	Pre-Assessment summary
Score 31.78% 80.06% 85.08%	

	Credit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade
	Ene 01	Reduction of energy use and carbon emissions	13	8	12		Credit 1 = CPE Credit 2 = CPE	Credit 1 - Energy performance (Up to 9 Credits) Req1: - Calculate an Energy Performance Ratio for New Construction based upon BRUKL Outputs Score is as per design results - NOTE: - 4 Credits are mandatory for Excellent - 6 Credits are mandatory for Custanding. Credit 2 - Prediction of operational energy consumption (Up to 4 Credits) Req2:- Prerequisite - Phor to completion of the Concept Design, relevant members of the design team hold a preliminary design workshop focusing on operational energy performance. Req3:- Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures Req4:- Report predicted energy consumption targets by end use, design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	8 Credits score confirmed for Ene01 TM54 Updated and completed for Stage 2
	Ene 02	Energy monitoring	2		2		Credit 1 = TB+A Credit 2 = TB+A	Credit 1 - Sub-metering of end-use categories Req1: Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel by end use category Req2: Meter the energy consumption in buildings based upon floor area as follows; > 1,000m2 - by end-use category with an appropriate energy monitoring and management system. < 1,000m2 - either an energy monitoring and management system <u>OR</u> separate accessible energy sub-meters with pulsed or other open protocol communication outputs Req3: Building users can identify the energy consuming end uses, Credit 2 - Sub-metering of high energy load and tenancy areas Req4: Monitor a significant majority of the energy supply with either; - An accessible energy monitoring and management system for tenanted areas <u>OR</u> relevant function areas or departments in single occupancy buildings <u>OR</u> OR - Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for enanted areas <u>OR</u> relevant function areas or departments in single occupancy buildings	
	Ene 03	External lighting	1		1		Credit 1 = TB+A	Credit 1 - External Lighting External light fittings within the construction zone have a Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt b Automatic control to prevent operation during daylight hours c Presence detection in areas of intermittent pedestrian traffic.	
Energy	Ene 04	Low carbon design	3	2	2		Credit 1 = CPE Credit 3 = CPE	Credit 1 - Passive design Req1: - Achieve the first credit Hea 04 Thermal comfort credit Req2: - The Team analyses the design and <u>development during Concept Design</u> to identify opportunities for the implementation of passive design measures Req3: - 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. Req4: - Quantify the reduced total energy demand and carbon dioxide emissions from Passive design Credit 3: - Low and zero carbon technologies Req9: - An energy specialist completes a feasibility study by the end of Concept Design. Req10: - Establish the most appropriate recognised local low and zero carbon (LZC) energy sourcesfor the building Req1: - Req2: Quantify the reduced regulated carbon dioxide (CO2-eq) emissions resulting from the feasibility study.	Credit 2 - Free Cooling Req5: Achieve the passive design analysis credit Req6: Include a free cooling analysis ni Passive desig Req7: Identify opportunities for the implementation of Req8: The building is naturally ventilated or uses any Not Achievable
	Ene 06	Energy efficient transportation systems	2		2		TB+A and Lift manufacturer	Credit 1 - Energy Consumption Req1: - For specified lifts Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts Req2: - Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2 for one of the following: At least two systems for each transportation type OR At least two arrangements of systems with 'fit for purpose' system strategies. AND Then Consider the use of regenerative drives AND Then Specify the transportation system with the lowest energy consumption. Credit 2 - Energy efficient features Req3: - Active Req 1 Req3: - Specify for each lift 1) A standby condition for off-peak periods; 2) Specify lift car lighting and display lighting with average luminous efficacy of > 70 luminaire lumens per circuit Watt; & 3) Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Req4: Specify regenerative drives where their use is demonstrated to save energy. 	
	Ene 08	Energy efficient equipment	2		2		Credit 1 = CPE	Credit 1 - Energy efficient Equipment Req1:- 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. Req2:- Identify the systems or processes that use a significant proportion of the total annual unregulated energy Req3:- Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building.	
	0.70%	Total Credit Section Score	23 16.00%	10	21	0			
	Tra 01	Transport Assessment and Travel Plan	2	2	2		Caneparo	Credit 1 - Travel Plan (2 Credits) Req1:- During the feasibility and design stages, develop a travel plan based on a site-specific travel assessment or statement Req2:- The site-specific travel assessment or statement covers the 7 key elements in the BREEAM criteria including Calculation of the existing public transport Accessibility Index (AI), Req3:- The travel plan includes proposals to increase or improve sustainable modes of transport Req4:- The occupier - if known - is involved in the development of the travel plan. Req5:- The travel plan must be implemented in full and be supported by the building's management in operation.	
Transport	Tra 02	Sustainable Transport measures	10	5	5		Caneparo	Prerequisite. Req1: - Achieve Tra 01 in full. Credit 1 - Transport options implementation (Up to 10 Credits) Req2: - Identify the sustainable transport measures from the list and calculate the points achieved • Measure 1:- Existing Al > 8 for most urban buildings • Measure 2:- The Al is increased through working with transport providers or providing a dedicated service • Measure 3:- Provide a public transport information system in a publicly accessible area • Measure 3:- Car sharing scheme with awareness, Priority parking nearest entrance • Measure 6:- Curing RIBA Stage 1, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes - Agree and implement one proposition chosen with the local authority. • Measure 7:- Install compliant cycle storage spaces to meet the minimum levels (1 per 10 staff for offices building) • Measure 8:- Achieve 7 and Provide at least two compliant cyclist' facilities for the building users • Measure 9:- A tleast three existing accessible amenities are present • Measure 10:- Ensure at least one new accessible index (AI) of the project and teh total number of points scored. for all 10 credits based upon existing Al >25 theast three existing accessible lendex (AI) of the project and teh total number of points scored. for all 10 credits based upon existing Al >25 then 10 Credits = 10 points • Existing Al >26 then 10 Credits = 8 points • Existing Al >40 then 10 Credits = 8 points	This will need further investigation by the transport cor
	0.83% / Credit	Total Credit Section Score	12 10.00%	7 5.83%	7 5.83%	0			

© Carbon Plan Engineering Limited 2018

Credits / Issues to be aware of	Min for BREEAM rating
	Four credits (Energy performance)
	One credit (First sub-metering credit)
	None
in analysis free cooling solutions. combination of the free cooling strategies	None
	None
	None
	None
isultant at an early stage.	None

Safron Hill	;	Saffron Hill Inves	stment Holdings	15 February 2024	
Target Rating	get Rating EXCELLENT				BREEAM 2018 NC
	Rating	NA	EXCELLENT	OUTSTANDING	Pre-Assessment summary
	Score	31.78%	80.06%	85.08%	

	Credit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade
	Wat 01	Water Consumption	5		3		AHMM & TB+A	Credit 1 - Water consumption (Up to 5 Credits) AII:- Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components - 1 Credit - 25% Reduction over benchmark - 2 Credit - 25% Reduction over benchmark - 3 Credit - 40% Reduction over benchmark - 4 Credit - 50% Reduction over benchmark - 5 Credit - 55% Reduction over benchmark	We assume there will be no RWH etc
٧	Wat 02	Water Monitoring	1		1		TB+A	Credit 1 - Water monitoring Req1:- Specify a water meter on the mains water supply to each building. Req2:- For plant or areas consuming 10% or more of the building's <u>total</u> water demand either sub-meter or install integral monitoring equipment. Req2:- For each main and sub meter Install a pulsed or other open protocol communication and connect it to a BEMS or other utility monitoring software. NOTE: The water monitoring strategy used <u>must</u> enable the identification of <u>all water consumption</u> for sanitary uses as assessed under Wat 01 (litres/person/day)	
ater	Wat 03	Water Leak Detection	2		2		TB+A	Credit 1 - Leak detection system Req1: - Install a leak detection system capable of detecting a major water leak a. On the utilities water supply within the buildings b. Between the buildings and the utilities water supply Req2: - The leak detection system is a. A permanent automated water leak detection system that alerts the building occupants b. Activated when the flow of water passing through the water meter exceed parameters c. Able to identify different flow and leakage rates, e.g. continuous, high / low level, over set time periods. d. Programmable to suit the owner's or occupier's water consumption criteria e. Designed to avoid false alarms caused by normal operation of large water consuming plant	Credit 2 - Flow control devices Req3:- Install flow control devices to regulate water to
	Wat 04	Water Efficient Equipment	1				твс		Credit 1 - Water Efficient Equipment Req1:- Identify water demands not calculated in Wat (Req2:- Identify systems or processes to reduce the rel demand of the building.
	0.78%	Total Credit	9	0	6	0			
	Mat 01	Environmental impacts - Building life cycle assessment	7	5	4.5 <i>1%</i>	0.00%	CPE	Credit 1 - LCA Superstructure (Up to 6 Credits) Complex credit and separate guidance availabel but summary below. During RIBA Stage 2 - Prior to the planning submission - a suitably qualified person undertakes a full Lifecycle Carbon Assessment using only approved software and compares up to 4 options for the Superstructure to maximise credits. During RIBA stage 4 this is repeated in more detail. Credit 2 - Substructure and Hard Landscaping (1 Credit). During RIBA Stage 2 - Prior to the planning submission - a suitably qualified person undertakes a full Lifecycle Carbon Assessment using only approved software and compares up to 6 options for the Substructure and Hard Landscaping to maximise credits.	
	Mat 02	Environmental impacts - Environmental Product Declarations (EPD)	1		1		CPE + AHMM	Credit 1 - Specification of products with a recognised environmental product declaration Req1:- Specify construction products with EPD that achieve a total EPD points score of at least 20 Req2:- Enter the details of each EPD into the Mat 01/02 Results Submission Tool for scoring	
	Mat 03	Responsible Sourcing of construction products	4	1	3		Credit 1 = CPE Credit 2 = CPE + AHMM	Prerequisite - Legalty harvested and traded timber Req1:- All timber and timber-hased products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP) - Mandatory for <u>ALL</u> BREEAM ratings Credit 1 - Enabling sustainable procurement Req2:- A sustainable procurement plan must be <u>used by the design team</u> to guide specification towards sustainable construction products. The plan must: a. Be in place before Concept Design. b. Include a requirement for assessing the potential to procure construction products locally and the policy MUST ensure local procurement where possible. d. Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. e. If applied to several sites the Plan must identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017 Credit 2 - Measuring responsible sourcing (Up to 3 Credits) Req3:- Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured.	To get 3 points for RSM you will need to specify the n
Materials	Mat 05	Designing for Durability and Resilience	1	1	1		АНММ	Credit 1 - Designing for Durability and Resilience Protecting vulnerable parts of the building from damage Req1 - 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: a. Negative impacts of high user numbers in relevant areas b. Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 m of the building façade, i.e.specifying bollards or protection rails. 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 Req2-: 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 either: • Option 1:- The element or product achieving an appropriate quality or durability standard or design guide. If none are available, use BS 7543:2015(72) as the default appropriate standard OR • Option 2:- A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. Req3: Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair Req4: Design the roof and façade to prevent water damage, ingress and detrimental ponding.	
	Mat 06	Material efficiency	1	1	1		CPE + ALL	Credit 1 - Material efficiency Req1:- 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 evaluated for each of the following stages. a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction. Req2: Develop and record the implementation of material efficiency during: a. Developed Design c. Construction. Req2: Develop and record the implementation of material efficiency during: c. Construction. Req3:- Report the targets and actual material efficiencies achieved.	
	1.07%	Total Credit	14	8	11	0			
	/ Credit	Section Score	15.00%	8.57%	11.79%	0.00%			

Carbonplan engineering © Carbon Plan Engineering Limited 2018

Credits / Issues to be aware of	Min for BREEAM rating
	One credit
	Criterion 1 only
each WC area or sanitary facility according to demand	None
11 that could be realistically mitigated or reduced. evant water demand, and establish, a demonstrable reduction in the <u>total water</u>	None
	None
	None
lajonity of products with BES 6001	Criterion 1 only
	None
	None

Safron Hill		Saffron Hill Investment Holdings		15 February 2024			
Target Rating	EXCELLENT	XCELLENT		r			BREEAM 2018 NC
	Rating	NA	EXCELLENT	OUTSTANDING	Pre-Assessment summary		
	Score	31.78%	80.06%	85.08%			
			EXCELLENT	5.03%			

	Credit ID	Credit Name	Credit(s)	RIBA Stage 1 & 2	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade Credits / Issues to be aware of	Min for BREEAM rating
	Wst 01	Construction-site Waste Management	5	1	3		Credit 1 = CPE Credit 2 = Contractor Credit 3 = Contractor	Credit 1 - Pre-demolition audit Req1 - Complete a pre-demolition audit at RIBA Stage 2 of any existing buildings, structures or hard surfaces being considered for demolition. The Audit must consider materials for reuse and set targets for waste management and compare actual waste arisings and waste management routes used with those forecast Req2:- Make reference to the audit in the resource management plan Credit 2 - Construction resource efficiency (Up to 3 Credits) Req3:- Prepare a compliant Resource Management Plan (RMP) covering Non-hazardous waste materials (from on-site construction and decicated off-site manufacture or fabrication), including demolition and excavation waste. Req4:- Meet or improve upon the benchmarks for non-hazardous construction waste, excluding demolition and excavation waste. Req4:- Meet or improve upon the benchmarks for non-hazardous construction area) - One Credit - <13.5m3 or <1.110nnes		None
	Wst 02	Use of recycled and sustainably sourced aggregates	1			1	HTS + CPE		Prerequisite Req1: Credit 1 of Wst01 is achieved Credit 1 - Project Sustainable Aggregate Points Req2: Identify all aggregate uses and types on the project Req3: Determine the quantity in tonnes for each identified use and aggregate type. Req4: Identify the region in which the aggregate source is located. Req5: Calculate the distance in kilometre travelled by all aggregates by transport type. Req6: Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points.	None
Waste	Wst 03	Operational waste	1		1		Credit 1 = AHMM	Credit 1 - Operational waste Req1: Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space must be: a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams b. Accessible to building occupants or facilities operators for the deposit of materials and collections 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. Req2: For consistent and large amounts of operational waste generated, provide teh following as appropriate to the waste streams identified: a. Static waste compactors or balers b. Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostipate provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.		One credit
	Wst 04	Speculative Finishes	1			1	Credit 1 = AHMM & RCC	Credit 1 - Speculative floor and ceiling finishes Office building types only Req1 - For tenanted areas, where the future occupant is not known and carpets or other floor or ceiling finishes are installed, these must be limited to a show area only. Req 2 - Only install floor and ceiling finishes selected by the known occupant of a development. Alternatively, where only ceiling finishes and no carpets are installed, the building owner confirms that the first tenants will not be permitted to make substantial alterations to the ceiling finishes.	A show area can be either <u>a floor plate</u> or an individual office but must be <u>less than 25%</u> of the net lettable floor area to award this credit.	None
	Wst 05	Adaption to climate change	1	1	1		Credit 1 = CPE	Credit 1 - Resilience of structure, fabric, building services and renewables Req1:- Conduct a climate change adaptation strategy during RIBA Stage 2 appraisal using 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. Req2:- Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. Req3:- Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented		None
	Wst 06	Design for disassembly and adaptability	2	1	1	1	Credit 1 = CPE Credit 2 = CPE	Credit 1 - Design for disassembly and functional adaptability - recommendations Req1: - Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design. Req2: - Develop recommendations or solutions based on the study during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation. Credit 2 - Disassembly and functional adaptability – Implementation Req3: - Achieve Credit 1 Req4: - Provide an update, during Technical Design, on: a. How the recommendations or solutions proposed have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. b. Changes to the recommendations and solutions during the development of the Technical Design. Req5: - Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants. This has been included by CPE because it ties into Circular Economy and the general building principles		None
	0.55% / Credit	Total Credit Section Score	11 6.00%	3	6 3.27%	3				
-										

Carbonplan engineering © Carbon Plan Engineering Limited 2018

Safron Hill	:	Saffron Hill Inves	stment Holdings	15 February 2024	
Target Rating	EXCELLENT				BREEAM 2018 NO
	Rating	NA	EXCELLENT	OUTSTANDING	Pre-Assessment summary
	Score	31.78%	80.06%	85.08%	

Cro	edit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade Credits / Issues to be aware of	Min for BREEAM rating
	LE 01	Site selection	2		1		АНММ	Credit 1 - Previously occupied land Req1:- At least 75% of the proposed footprint is on an area of land which has previously been occupied	Credit 2 - Contaminated land Req2: A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. Req3:- The client or principal contractor confirms that remediation of the site will be carried out What is the likilhood of having contaminated land that requires some remediation?	None
	LE 02	Identifying & understanding the risks & opportunities	2	1	2		MKA Ecology	Prerequisite - Assessment route selection Req1: The client of contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. The following assumes Route 2 is followed Credit 1 - Survey and evaluation Req3: A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically RIBA Stage 1). Req4: The SQE's survey and evaluation determines the site's ecological baseline, including: This was included in the report, but may need come amendments to be fully compliant with the following: a. Current & potential ecological value & condition of the site, a related areas within the zone of influence. b. Direct & indirect risks to current ecological value from the project. c. Capacity & feasibility for enhancement of the site's ecological value and, where relevant, areas within the zone of influence. Req5: Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features. Credit 2 - Determining the ecological outcomes Req6: Requirements 1 to 6 are achieved Req6: Requirements 1 to 6 are achieved Req6: Req0; to: a) (dentify the optimal ecological outcomes for the site. b) (dentify, appraise and select	This will require the Ecology report to be updated to meet BREEAM requirements	None
Land Use	LE 03	Managing negative impacts on ecology	3	1	2	1	MKA Ecology	Prerequisite - Identification and understanding the risks and opportunities for the site Req1: LE 02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved Credit 1 - Planning and measures on-site Req2:- Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning. Req2:- 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) Req4:- 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 LE 02 Ecological risks and opportunities. Credit 2 - Managing negative Impacts of the project (Up to 2 Credits (following Route 2)) Req7:- Requirements 2 to 4 are achieved Req8:- Negative impacts from site preparation on construction works have been managed according to the mitigation hierarchy and - 2 Credits - no overall loss of ecological value has occurred. - 1 Credit - The loss of ecological value has been minimised		None
and Ecology	LE 04	Change & enhancement of ecological value	4		3	1	MKA Ecology	Prerequisite - Managing negative impacts on ecology Req1: Criteria 8 in LE 03 have been achieved. Req2: The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. Credit 1 - Ecological enhancement (following Route 2) Req4: 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 LE 02. Measures are implemented in the following order: a. On site, and where this is not feasible, b. Off site within the zone of influence. Req5: Data collated are analysed and where potentially valuable, provided to local environmental records centres nearest to, or relevant for, the site. Credit 3 - Change and enhancement of ecology (3 Credits available for Route 2 only) Req6: Up to three credits are awarded based on the calculation of the change in ecological value occurring as a result of the project. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats.		None
	LE 05	Long term ecology management & maintenance	2		2		MKA Ecology	Prerequisite - Roles and responsibilities, implementation, statutory obligations Req1: 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. Req2: The following must be achieved for Route 2 - Criteria 2-3 in LE 03 have been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology has been awarded. Credit 1 - Planning, liaison, data, monitoring and review management and maintenance Req3: The project team liaises and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: a Monitor and review the effectiveness with which the plans for LE 03 & LE 04 are implemented b develop and review management and maintenance solutions, actions or measures. Req4: In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: a. Monitoring and reporting of the ecological outcomes implemented at the design and construction stages b. Monitoring and reporting of functional stationship or connection to its zone of influence e. Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). f. Undertake remedial or other management actions supplied, include a section on Ecology and Biodiversity to inform the occupant of local ecological features, value and biodiversity on or near the site. Req5: The landscape and devology and agement plan is updated as appropriate to support to the ecological value of the site. Req5: The landscape and devology and agement plan Req7: A Landscape and ecology management plan Req7: A Landscape and devology management plan Req7: A Landscape and devology management plan Req7: The support of the estimations by the devolope and to be the project c. Arrangements for the ongoing management actions which relate to those identified in LE 02, LE 03 & LE 04. Req5: As part of t		None
	1.00% / Credit	Total Credit Section Score	13 13.00%	2 2.00%	10 10.00%	2 2.00%				



Safron Hill		Saffron Hill Inves	stment Holdings	15 Febru	ary 2024	
Target Rating	EXCELLENT					BREEAM 2018 NC
	Rating	NA	EXCELLENT	OUTSTANDING		Pre-Assessment summary
	Score	31.78%	80.06%	85.08%		
			EXCELLENT	5.03%		

	Credit ID	Credit Name	Credit(s) Available	RIBA Stage 1 & 2 Credits	Main Score	Potential Uplifts	Responsibility	Stage 1, 2 & Main Score issues to be aware of that are targetted	Upgrade (
								Prerequisite Req2:- All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3).	Credit 2 - Leak detection Req6:- All systems are hermetically sealed or only use
								Credit 1 - Impact of refrigerant Ren3: For 2 Credits - The direct effect life cycle CO., equivalent emissions (DELC) of <100 CO., eq/W	OR Req7:- Systems have either a permanent automated re continuously monitoring for loaks OB on inhuit automated
	Pol 01	Impact of Refrigerants	3		1		TB+A	OR Band: For 2 Credits - All refringerants used have a ninhal warming potential (GWP) <10	AND In both cases - in the event of a leak the system must b
								Reo5- For 1 Credit - Systems using refrigerants have a DELC of ≤1000kgCOeo/kW cooling and heating capacity.	refrigerant charge to limit loss of refrigerant
								······································	
								Credit 1 - Local Air Quality Req1 - All heating and hot water is supplied by non-combustion systems.	Assuming mostly / All ASHP systems
	Pol 02	Local air quality	2		2		TB+A	OR Req2: Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the NOx and Particulate matter	
-								levels set out in the manual for a variety of circumstances Prerenuisite	Credit 3 - Minimising watercourse pollution
								Req1: An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.	1 Credit is available based upon meeting all 8 criteria
								Credit 1 - Flood Risk Req2: 2 Credits - A site-specific flood risk assessment (FRA) confirms a low annual probability of flooding.	
								OR Req3: 1 Credit - A site-specific flood risk assessment (FRA) confirms a medium or high annual probability of flooding and is not in a functional	
								floodplain and Req4 is achieved. Req4:- One of the following must be achieved:	
	Pol 03	Flood and surface water management	5	2	4		All = HTS	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.	
								b. The final design of the building and the wider site reflects the recommendations made in accordance with the hierarchy approach outlined in section 5 of BS 8533:2017	
Pol								Credit 2 - Surface water run-off	
lutio								Prerequisite for surface water run-off credits Reo5: Surface water run-off desion solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made	
2								environment of and surrounding the site. 2 Credits are available based upon a variety of criteria which are site dependant.	
ŀ								Credit 1 - Reduction of Night Time Pollution	
								Req1:- External lighting pollution has been eliminated through effective design OR	
	Pol 04	Reduction of night time	1		1		TB+A	Req2: In external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011 Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011	
	10104	light pollution			i i i i i i i i i i i i i i i i i i i		15th	Req3: An external ingrining (except no safety and security lighting) can be automatically switched on between 25.00 and 07.00. Req4: 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 II B quidance notes	
								Req5: Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements	
ł								Credit 1 - Reduction of noise pollution	
								Req1: There are no noise-sensitive areas within the assessed building or within 800m radius of the assessed site. OR OR	
								Req2: where there are noise-sensitive areas within the assessed building or within 800m radius, a noise impact assessment compliant with BS 4142-2014 is commissioned. Noise levels must be measured or determined for: a Evicine before used as the people area area of a constraint and an area area of a constraint and a solution and a solu	
Pol	Pol 05	Reduction of noise	1	1	1		твс	a Lisang dakqirona noise levels at the nearest of most exposed noise sensitive development to the proposed assessed site * including existing plant on a building b Noise rating level from the assessed building	
		pollution						Req3: The noise impact assessment must be carried out by a suitably qualified acoustic consultant. Req4: The noise level, as measured in the locality of the nearest or most exposed noisesensitive development, must be at least 5dB lower than the	
								background noise throughout the day and night. Req5: 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 compliant level	
	0.67%	Total Credit	12	3	9	0			
	/ Credit	Section Score	8.00%	2.00%	6.00%	0.00%		For a CCS score of oreater than AD	
ł	Man 03i	practices	1		1		Contractor		
-	Hea 01i	Visual comfort	1					l	Credit 2:- Minimising sources of air pollution - Emis
	Hea 02i	Indoor air quality	1						Three of the product types listed meet the emission limit BREEAM Manual. All wood-based products used for int
									class as a minimum.
	Hea 06i	Security	1					Euromaine : Cendià	Included in main concompation the oppumption that N
	Ene 01i	Reduction of energy use and carbon emissions	3		2		Client / CPE	Credit 2 - Prediction of operational energy consumption - Post-occupancy stage (2 Credits) Ren11-: The oliging the billing occupier commits funds to pay for the post occupancy stage	included in main assessment on the assumption that the
-	Wat 01i	Water concumption	1						
Ξ	Wal UTI	Environmental impacts	1					Credit 1 - Core building services options appraisal during Concept Design	
nova	Mat 01i	from construction products - Building life cycle	3		1		CPE		Credit 2 - LCA and LCC alignment
tion		assessment (LCA) Responsible sourcing of							
1	Mat 03i	construction products	1						Construction resource efficiency
(em									Credit is scored based upon the amount of waste gener - One Credit - <1.6m3 or <1.9Tonnes
olary									Diversion of resources from landfill
`	Wst 01i	Construction waste management	1						Meet the diversion from landfill benchmarks for non-haz Waste Type Volume Tonnage
									- Construction 85% 90% - Demolition 885% 95%
									Waste data obtained from licensed external waste control
		Use of recycled &							Waste Return Forms or from a PAS 402:2013 complian
	Wst 02i	sustainably sourced aggregates	1						
	Wst 05i	Adaptation to climate change	1		ļ]	ļ]			
	LE04i	of ecological value	1						
	1.00% / Credit	Section Score	10.00%	0.00%	4.00%	0.00%			
		Overall Credits	140.00	40.00	103.00	7.00			
		Final BREEAM BREEAM Rating	110.00%	31.78%	80.06%	5.03%			
					EXCELLENT				

Carbonplan engineering © Carbon Plan Engineering Limited 2018

Credits / Issues to be aware of	Min for BREEAM rating
environmentally benign refrigerants	
efrinerant leak detection system that is robust and tested, and canable of	
ated diagnostic procedure for detecting leakage is enabled.	Nono
be capable of automatically responding and managing the remaining	None
	News
	None
	None
	None
	None
	None
	None
ssions from construction products	None None
ssions from construction products hts, testing requirements and the additional requirements set out in the ternal futures and fittings must be tested and classified as formaldehvd# F1	None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1	None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1	None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None
ssions from construction products its, lesting requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken additional fixed oper 100m2 (ones internal fixed area)	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area)	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area)	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area) izardous construction.	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area) szardous construction.	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area) szardous construction.	None None None None None None None None
asions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken astrong is set of the second second set of the second set of the second second set of the second	None None None None None None None None
esions from construction products its, testing requirements and the additional requirements set out in the iternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m² (gross internal floor area) erated per 100m² (gross internal floor area) tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products its, lesting requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m ² (gross internal floor area) stardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA tt company	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken arated per 100m ² (gross internal floor area) stardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products. Its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken Parated per 100m² (gross internal floor area) stardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m² (gross internal floor area) szardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products lits, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken grated per 100m² (gross internal floor area) szardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products lits, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken arated per 100m² (gross internal floor area) strated per 100m² (gross internal floor area) strators is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None
ssions from construction products its, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken erated per 100m² (gross internal floor area) izardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA int company	None None None None None None None None
ssions from construction products lits, testing requirements and the additional requirements set out in the ternal fixtures and fittings must be tested and classified as formaldehyde E1 IABERS and Be Seen will be undertaken arated per 100m² (gross internal floor area) szardous construction. tractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA nt company	None None None None None None None None

CarbonPlan Engineering

... delivering quality engineering services.



LONDON | LEEDS | PLYMOUTH

MAT 06 – Material Efficiency Report

BREEAM NC V6 – RIBA Stage 2

Saffron Hill – Office development

For

Saffron Hill Investment Holdings

Stage 2 – Concept design: November 2023



www.carbonplanengineering.co.uk | engineering@carbonplan.co.uk | 0113 8155 558 | 12 St Georges Square, Huddersfield, West Yorkshire, HD1 1JF

Revisions Schedule

Issue Date:	Issue Date:								
14 th July 2023	14 th July 2023								
Report prepared by: Date:									
Han-Chieh Lee	14 th July 2023								
Checked by:			Date:						
Alan Calcott, I	Director, CarbonPlan Eng	gineering 14 th July 2023							
Status	Final for Planning								
Revision	Date	Changes							
Α	28 th November 2023	Updated in preparation for Stage 2 Workshop in November							
В	15 th December 2024	Updated for planning issue							
С	15 th February 2024	Update to reflect design evolution and design team comments.							

Please do not print unless necessary

Contents

Contents						
1.	Introduction					
	1.1.	Project Background	4			
2.	Method	lology	5			
	2.1.	BS 8895-1:2013	5			
	2.2.	WRAP Designing out Waste	5			
		2.2.1. Design for re-use and recovery2.2.2. Design for Off Site Construction	.5 .5			
		2.2.3. Design for Materials Optimisation	.6 6			
		2.2.4. Design for Deconstruction and Elexibility	.0 6			
	2.3.	BREEAM	.7			
		 2.3.1. Parties Involved 2.3.2. RIBA Stage 1 2.3.3. RIBA Stage 2 2.3.4 PIRA Stage 2 to 6 	.7 .8 .8			
3.	Briefin	g Design Strategy	.9			
4.	Concept Design Strategy					
	4.1.	Design for re-use and recovery	11			
	4.2.	Design for Off-Site Construction	13			
	4.3.	Design for Materials Optimisation	13			
	4.4.	Design for Waste Efficient Procurement	14			
	4.5.	Design for Deconstruction and Flexibility	14			
5.	Developed Design Strategy 15					
Appendix A – Stage 1 workshop outcomes16						
Appendix B – Stage 2 workshop outcomes 17						

1. Introduction

This document has been developed by Carbon Plan Engineer for BREEAM Mat06 – Materials Efficiency credit to guide the design team in developing and delivering a comprehensive material Efficiency programme for the new build Saffron Hill Office.

This report is prepared to compliance with BREEAM Mat06 – Materials Efficiency requirements and this document will update throughout the whole project stage till RIBA stage 6 – Handover. Also, the report is carried out under the *BS 8895 "Designing for material efficiency in building projects"* and "*WRAP Design Out of Waste Guide for Building*."

This Project is currently at RIBA stage 2.

Planning is due to be submitted by the end of February 2024.

This document should be read in conjunction with the most current <u>Saffron Hill - Mat06 Material</u> <u>Efficiency Schedule.xlsx</u> which is also included in Appendix A.

1.1. Project Background

The existing building - Saffron Hill Car Park comprises a 6-storey car park, a two-storey office space. The car park levels are uninsulated and unheated. This building is concrete frame while facades are a mix of light-weight metal mesh and sheet materials with concrete lattice work at ground floor. Brickwork and textured concrete panels clad the cores. The low floor to ceiling heights within the car park structure are typically 2.25m with half level height change in the central frame section. The development proposed a new 8-storey office with typical open plan office, affordable workspace, and café after demolished the existing building and retained 60% of the foundation.





2. Methodology

This section lists the Requirements for BREEAM, BS 8895 framework and WRAP Design Out of Waste Guide for the consideration and review of resource efficiency in design and construction. This is intended to be a living document that evolves throughout the project's development phases.

2.1. BS 8895-1:2013

As set out in BS 8895-1:2013 the project intends on assessing material efficiencies in the following ways:

Stage	Stage Description	Activity Phase
0	Strategic Definition	IDENTIFY
1	Preparation of Brief	IDENTIFY
2	Concept	IDENTIFY
2	Developed Design	IDENTIFY
3		INVESTIGATE
4	Technical	IMPLEMENT

2.2. WRAP Designing out Waste

The WRAP Designing out Waste: A design team guide for Buildings outlines five principles of designing out waste and can be applied during design development and prompts opportunities to investigate for material efficiency in design. (BREEAM NC 2018 – Mat06 page 256)

The five principles of designing out waste include:

2.2.1. Design for re-use and recovery

- □ Can the existing building be refurbished?
- Can materials from demolition of the building or other phases be reused in the design?
- Can reclaimed products or components be reused?
- When materials are reused, can they be reused at their highest value?
- Can any excavation materials be reused?

2.2.2. Design for Off Site Construction

- Can the design or any part of the design be manufactured off site?
- □ Can site activities become a process of assembly rather than construction?

In Commercial Confidence

November 2023

2.2.3. Design for Materials Optimisation

- □ Can the design, form and layout be simplified without compromising the design concept?
- Can the design be coordinated to avoid/minimise excess cutting and jointing of materials that generate waste?
- □ Is the building designed to standard material dimensions?
- Can the range of materials required be standardised to encourage reuse of offcuts?
- Is there repetition & coordination of the design, to reduce the number of variables and allow for operational refinement (e.g. reusing formwork)?

2.2.4. Design for Waste Efficient Procurement

- Has research been carried out by the design team and/or use of the WRAP Net Waste Tool to identify where on-site waste arises?
- Can construction methods that reduce waste be devised through liaison with the contractor and specialist sub-contractors?
- Have specialist contractors been consulted on how to reduce waste in the supply chain?
- Have the project specifications been reviewed to select elements/components/materials and construction processes that reduce waste?

2.2.5. Design for Deconstruction and Flexibility

- □ Is the design adaptable for a variety of purposes during its life span?
- Can building elements and components be maintained, upgraded or replaced without creating waste?
- Does the design incorporate reusable/recyclable components and materials?
- Are the building elements/components/materials easily disassembled?
- Can a Building Information Modelling (BIM) system or building handbook be used to record which and how elements/components/materials have been designed for disassembly?

2.3. BREEAM

Requirement 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 RIBA Stage.

Examples of suitable material efficiency design measures

- Increasing the utilisation factor of structural members
- Designing to standard material dimensions to reduce off-cuts and waste on site
- Removing redundant materials from the design
- Using materials that can be recycled or reused at the end of their service life
- Making use of recycled or reclaimed materials
- Designing for deconstruction and material reuse
- Using prefabricated elements where appropriate to reduce material waste
- Consider using an 'exposed thermal mass' design strategy to reduce finishes
- Avoiding over-specification of predicted loads
- Using lightweight structural design strategies
- Making use of bespoke structural elements where this will reduce overall material use
- Rationalisation' of structural elements
- Optimising the foundation design for embodied environmental impact.

2.3.1. Parties Involved

The following parties will be involved in this process throughout the project:

- Client Saffron Hill Investment Holdings
- Project manager Radcliffes Construction Consultancy
- Cost consultant Exigere
- Architect AHMM Architecture
- Structural/civil engineers Heyne Tillett Steel
- Building services engineers Troup Bywaters + Anders (TB+A)
- Principal contractor TBC
- Demolition contractor TBC
- **Environmental consultant** Carbon Plan Engineering
- BREEAM & Sustainability Champion Carbon Plan Engineering

2.3.2. RIBA Stage 1

Objective \rightarrow To set requirements that inform decisions throughout the design and construction of the project.

Participants \rightarrow Client or client's agent with input from the design team if appointed.

Action \rightarrow Assess the site, the likely project scale, and the client's functional and aesthetic requirements to set material efficiency objectives for the project.



Evidence \rightarrow Dedicated report that sets out a clear framework to guide material efficiency activities throughout the design and construction of the project. The report should set out the following to guide material efficiency activities as the stages progress

- aims
- objectives
- targets
- performance indicators
- opportunities
- constraints
- responsibilities

2.3.3. RIBA Stage 2

Objective \rightarrow Develop strategies to implement or action the materials efficiency requirements set under the Preparation and Brief stage.

Participants \rightarrow Design team including at least:

- Architect
- Structural Engineer
- Building Services Engineer

Action \rightarrow Hold workshops with the project team to identify design opportunities to reduce or optimise materials use through design, specification, construction techniques etc.

Evidence \rightarrow Minutes of the workshops held. Documentation demonstrating how the feedback from the workshop has been incorporated in the concept design of the project, for example:

- outline requirements for materials selection
- report on approximate predicted reductions in material quantities
- Outline specification for inclusion in tender package



In Commercial Confidence

November 2023

2.3.4. RIBA Stage 3 to 6

Requirement 2: Develop and record the implementation of material efficiency through each RIBA Stage.



Incorporate material efficiency measures and strategies identified in concept design into architectural, structural and building services design as appropriate.

Review performance against previous stages and identify and report on deviations.



Implement material efficiency measures and strategies identified in previous stages in building construction and identify deviations. Identify further efficiencies as appropriate for this stage.

Requirement 3: Report the targets and actual material efficiencies achieved at the As Built stage.



3. Briefing Design Strategy

The Client and Project Manager set requirements and targets through the Sustainability Brief that ensure this project will be designed and constructed to align with the highest sustainability standards from the early stage. This report has been developed increased efficiency in the use of materials resources.

A workshop was held on the 6th July 2023 with the design team to assess the site, its constraints, the functional and aesthetic requirements and to set material efficiency objectives during RIBA Stage 1. The Project Manager - Radcliffes, Architect - AHMM, Structural Engineer - Heyne Tillett Steel, and Building Service Engineer - Troup Bywaters + Anders were all in attendance and the workshop enabled the further development of the Sustainability Brief and Material Efficiency strategy.

The outcomes of this workshop and subsequent design development through RIBA Stage 2 and has informed this Material Efficiency document which is to be updated at regular intervals during each stage.

The main strategies that enhance materials efficiency include the following and these are detailed in Section 4.

- Maximising the material recovered from the demolition of existing buildings as part of regeneration project – Yes Achieved – See Pre-Redevelopment and Pre-Demolition Audits
- Optimise the resource usage for loaded structures, such as simplification and standardisation steel frame and minimisation of excavation – Yes Achieved – See enclosed matrix
- Maximum the recycled content and while sourcing materials with a minimum of 20% target set by Circular Economy Statement – Yes Achieved – to be in contract documents

As this is the project located in London and needs to show compliance with GLA policy this report should be read in conjunction with the

- Circular Economy Statement
- Pre-Redevelopment audit
- Pre-Demolition Audit

Also refer to the most current <u>Saffron Hill - Mat06 Material Efficiency Schedule.xlsx</u> which is also included in Appendix A.

4. Concept Design Strategy

This section will **identify** Concept Design Phase (RIBA Stage 2) Strategy for Delivering Material Efficiencies. A stage 2 workshop is required for Design team to familiarise themselves with the requirements for designing out waste and to review the pre-refurbishment and pre-demolition audits as well as to confirm the targets for waste reduction.

The objectives of the workshop will be to update the Material Efficiency Strategy and review the following:

- Identify the major waste streams from the pre-redevelopment and pre-demolition audit and, with input from the professional team.
- Review and appraise against the actions from the <u>previous</u> workshop see the table in Appendix A.
- Identify further design opportunities to reduce or optimise materials use through design, specification, construction techniques etc.
- Discuss how targets and requirements will be incorporated in the concept design of the project.

Details and outcomes of the Concept Design workshop will be included in an updated <u>Saffron Hill</u> - <u>Mat06 Material Efficiency Schedule.xlsx</u> and in Appendix B.

4.1. Design for re-use and recovery

Retaining the Existing Foundation

The existing building consist of a 6-storey car park and 2-storey office which is RC frame structure, the existing structure grid have a high-density column grid with, 4.3m x 4.9m and 6.5m x 4.9m which is not friendly for office building. There is Car ramp and level different within every floor, therefore, the Design Team have concluded that the building is not suitable for retained and reused. However, up to 60% of the foundation can be retained with some strengthen for the development after assessing by the Structural Engineers.

There is more detail information that led to this conclusion in Pre-Redevelopment Audit.

Recycling Existing Materials

There is more information within the Pre-Demolition Audit, and the main items listed below.

Concrete Frame: The existing concrete structure will be demolished and the reinforced concrete removed from site for recycling due to the site constraints and location in the central London. There is insufficient room for an on-site crusher to process the concrete. The

cement/aggregate will be crushed and used for hardcore, whilst the rebar will be broken out and recycled as steel or sold as ferrous scrap.

- Brick (core wall) and concrete blockwork (GF): The bricks have the potential to be reclaimed, however, due to the exiting building type there is a risk of them being contaminated by petrol/diesel/oil. Also, the site very constrained and has limited space for cleaning and store materials onsite. Therefore, all the materials will be process off site to crush, recycle, or reuse if they are in a good condition and be confirmed no risk of contamination.
- Metal mesh and solid sheet cladding for the façade: The lightweight metal sheet cladding mesh and solid sheets can be fully recycled off-site. These items are not suited for new building type therefore there is no potential of reusing on site, However, it may be possible to be reused in other locations.
- Windows: There are not many windows within the existing building as the façade is not sealed in the car park element. The cores and top-floor office have glazing however. As noted in the Pre-Redevelopment Audit and Pre-Demolition Audit, the windows are not in a good condition and too small for the new development. Therefore, these will all be recycled and processed off site.
- Service: The MEP services will be replaced in their entirety. The existing MEP installations are nearing the end of their economic life expectancy or not suitable for reuse in office. However, the materials can be sent off site for recycling, including metal ductwork and piping, copper wiring, plastic pipework, light fittings etc.

Some car park ticket and barrier machine may be reused and collected by NCP. The two main passenger lifts are to be replaced. The existing cars can be broken down into constituent parts and recycled where possible.

Recycled content

The recycled content in concrete is proposed to contain **30% of GGBS** as minimum, while the steel frame would require a minimum of **40% recycled content**. The Design Team will maximise the recycled content in materials as much as possible during the procurement process.

There are materials which have the potential to contain recycled content and this will be discussed as the design develops. However, the target of an **overall 20% recycle content** is set in the Circular Economy Statement and should be achieved.

In Commercial Confidence

November 2023

4.2. Design for Off-Site Construction

Architecture

- Can the design or any part of the design be manufactured off site?
- Can site activities become a process of assembly rather than construction?

Structure

- The new structural frame will be steel which will be manufactured off site. Site surveys will be carried out to ensure accuracy and minimise wastage.
- The new floor slab CLT and pre-cast concrete slab will be manufactured off site.

Services

- Can the design or any part of the design be manufactured off site?
- Can site activities become a process of assembly rather than construction?

This will be further discussed at the workshop in Nov 2023.

4.3. Design for Materials Optimisation

Architecture

The Architect – AHMM – have reviewed a range of design options through stages 1 and 2 and these have been presented to the team at every stage. The proposed expressed façade structure provides a simple series of architectural bays and works sympathetically with the primary façade system, enabling a simplified claddings system, reduced brise soleil and a reduced quantity of soffit materials. This decision also decreased the weight of external skeleton frame.

Through the design progress the floor height have decreased from 3.5m (floor to soffit) to 3m which will reduce the total glazed area.

A significant proportion of the embodied carbon of the facade is based on the base steelwork required. As such the proposals seek to reduce the carbon emissions of the proposals by utilising reclaimed steelwork, finished in a lightweight high quality bronze toned finish, such as bespoke PPC.

The CLT floor slab has been selected to enable an exposed ceiling and providing an aesthetic atmospheric space and removing the need for ceilings.

The proposed office layout is designed without any stud partition to maintain the flexibility for future tenant also avoids the potential demolition and waste.

Only the show area will be fitted out which will reduce potential waste in the future.

Structure

The structure engineers – HTS – have proposed the steel frame system with Cross Laminated Timber (CLT) offsite manufactured slabs. The steel frame has been optimised to both minimise quantities and standardise sizes with universal standard sizes wherever possible. Moreover, all the steel beams have be reviewed and concluded with a slimmer but robust size that will reduce the weight of the steel beam by over 40%.

The retained foundations enable reductions in the concrete required, however the ground bearings lab still has a considerable mass. This is because it allows future design flexibility and a future building could be designed on the floor plate fully utilising the raft but with a completely different steel arrangement providing significant end of life benefits.

Services

Using floor as a plenum reduced the need for ductwork and high-level services. The AET Fan Coil type system reduces the number of terminal units on each floor and chooses the central plant to reduce the overall amount of equipment needed.

4.4. Design for Waste Efficient Procurement

The development consists of Steel Frame, pre-cast concrete slab, CLT floor slab and aluminium cladding and timber composite windows, blockwork with minor in-situ concrete. The steel frame, precast concrete slab, CLT slab, and window will all be produce off sit with the design/construction dimension which will reduce the waste create during the construction.

- Has research has been carried out by the design team and/or use of the WRAP Net Waste Tool to identify where on-site waste arises?
- Can construction methods that reduce waste be devised through liaison with the contractor and specialist sub-contractors?
- Have specialist contractors been consulted on how to reduce waste in the supply chain?
- Have the project specifications been reviewed to select elements/components/materials and construction processes that reduce waste?

4.5. Design for Deconstruction and Flexibility

The structural design has considered the potential of future extension and possible extra loads. The proposed the raised access floor can be easily replaced and provides ease of maintenance, repair and installing MEP system. Also, the timber composite windows window is Mechanically fixed – bolted, which can easily remove or replace without damaging the structure or creating waste.

Design for Deconstruction and Flexibility workshops have been undertaken and will be further considered during the next design stage.

5. Developed Design Strategy

This section will **identify** Developed Design Phase (RIBA Stage 3) Strategy for Delivering Material Efficiencies. A Stage 3 workshop is required for Design team to familiarise themselves with the requirements for designing out waste and to review the pre-refurbishment and pre-demolition audits as well as to confirm the targets for waste reduction.

The objectives of the workshop will be confirmed after the Stage 2 workshop and Strategy update is completed.

Appendix A – Stage 1 workshop outcomes

Aroas	Evennlee	Design Team Response at
Aleas	Examples	Stage 1
Aims	Maximum the materials efficiency for this project to	
	reduce the carbon emission and project cost, if	
	possible. To assess this project under the	
	framework listed in BREEAM Mat06	
objectives	1. Reused on site (in-situ or for new applications).	This would investigate by
	2. Reused on other sites.	undertaking the Pre-
	3. Salvaged/reclaimed for reuse.	redevelopment and pre-
	4. Returned to the supplier via a 'take-back' scheme.	demolition audit.
	5. Recovered from site by an approved waste	
	management contractor and recycled.	
targets	1. waste generation	2. 95% diverted from landfill.
	2. diversion of waste from landfill	3. Overall 20% recycled content
	3. recycled content	as minimum
	4. durability	5. Survey have been carried out
	5. retention and re-use	to investigate the potential to
		retain and reuse.
performance indicators	1. Circular Economy Statement	Client have appointed CPE to
	2. Pre-redevelopment audit	carried out all the report listed on
	3. Pre-Demolition audit	the left.
opportunities	Retain and reuse existing building	Structure engineer have
		confirmed that the only element
		suitable to be retained is
		foundation, which can retained up
		to 60%.
constraints	Surrounding Buildings	The site is bounded on 2 sides by
		other existing buildings which take
		up around 47% of the external wall
		areas and which limits the scope
		for a more regularised grid.
Appendix B – Stage 2 workshop outcomes

Aroas	Examples	Design Team Response at
Alcas	LAanpies	Stage 2
Design for re-use and	Consider options to demolish, refurbish, or new	Pre-Redevelopment / Demolition
recovery	build.	Audits have been undertaken by
(WRAP & BREEAM)	Undertake Pre-redevelopment and pre-demolition	CPE. All the evidence gathered
	audit.	for the audits, demonstrate that
	Consider alternative procurement models that	there is low potential to retain the
	deliver improved material efficiency, particularly	existing building, apart from the
	over the building's lifecycle.	foundations. Due to the
		differences between the existing
		building use - car park - and the
		proposed use of office - the
		existing floor height, car ramp,
		column grid are all not suitable to
		retain as the DT would like to
		propose a future flexible office.
		Radcliffe's to comment but
		requirements to be included in
		tender documents for demolition
Design for Materials	Consider the design in the context of using fewer	HTS have minimised the beam
Optimisation	materials and/or materials better suited to their	quantities from initial proposals
(WRAP & BREEAM)	functional need.	and 100% of the steel structure
	Specify the modular/standard size supplies and	is proposed to utilise the
	prefabricated materials.	standard column grid.
	Consider designs with a simple form, layout, mass,	Architects have optimized their
	sizing and orientation, etc.	façade design from primary to
		secondary which will reduce the
		quantity of cladding, soffit
		materials and circa 50% brise
		soleil.
		The layout will be completely
		open plan without any partition
		(apart from core wall) to provide
		the flexibility for future tenant and
		avoid potential waste/change.

Areas	Fxamples	Design Team Response at
Alcas		Stage 2
Outline material	Specify reclaimed materials and products with	HTS has proposed that:
Specification;	recycled content.	Rebar: 97%
Design for re-use and	Maximize the durability and service life of building	Concrete: 30% GGBS
recovery	elements and services in relation to their	Steel frame: >40%
Design for Waste efficient	replacement cycle.	All the material will be stated in
procurement	Specify materials having resources with no scarcity	the tender document to
(WRAP & BREEAM)	and with source security.	maximum the recycled content in
	Use specifications to avoid materials that are	product.
	potentially wasteful, hazardous or have potential	The building is designed for
	issues at end of life.	longevity: Steel frame, aluminium
	Consider materials and products which have their	cladding blockwork, concrete
	packaging optimized.	core, in-situ concrete floor slab
	Propose components/materials that can be reused	all has a long lifespan.
	or recycled after deconstruction.	This will all be noted down in the
		tender document and
		procurement plan.
Construction methods;	Specify approaches to reduce and reuse	- The engineer proposes to retain
Design for Deconstruction	excavation materials.	60% of existing foundation with
and Flexibility	Enable easy access for the replacement of	minimum of strengthen new
(WRAP & BREEAM)	materials to avoid damage to surrounding	foundation which will minimise the
	materials.	amount of excavation.
	Consider the potential for deconstruction at the end	- The building consists of steel
	of useful life of individual building components to	façade with aluminium cladding
	enable reuse and recycling.	which can be easily replace and
		disassembly. At the end of life
		these can be dis assembly easily
		and fully recycled.
		-The raised access floor would
		provide the ease for MEP
		contractor to access the cable
		and do the maintenance for MEP
		item, also it is easy to repair
		raised accessed floor itself as it is
		a modular system which can
		replace and repair the finishes
		panel easily.
		And be recycled separately at the
		end of the life span.

Areas	Examples	Design Team Response at Stage 2
On-site resource Efficiency (BREEAM)	Optimize ways to reduce construction waste arising by using building information modelling (BIM) for virtual waste generation, considering reuse of surplus materials, take back schemes, workforce awareness, layout of site, storage and handling of materials.	TBC in Stage 3 Structural engineer is using BIM system, and this will be discussed how to incorporate with the software that AHMM -Architect is using.
Design for Off-site Construction	manufactured off site to reduce construction related transport movements, also improved workmanship quality and reducing on site errors and re-work, which themselves cause considerable on site waste, delay and disruption	TBC in Stage 3 Architect – AHMM will look into the possibility of Façade and windows etc. to be offsite construction.

CarbonPlan Engineering

... delivering quality engineering services



LONDON | LEEDS | PLYMOUTH

Sustainable Procurement Plan

Design RIBA Stage 2

Saffron Hills – Office development

For

Saffron Hill Investment Holdings

June 2023



Carbon Plan Engineering Limited is a private limited company incorporated in England and Wales with registered number 9717995 and office address Woodhead House, Woodhead Road, Birstall, Leeds, West Yorkshire, WF17 9TD.

Review record

This document was initially published on 29th June 2023

Revision	Date	Reviewed By
Α	15 th January 2024	Update for planning
В	15 th February 2024	Minor update by design team comments

Contents

Review	v record		. 2
Conter	nts		. 3
1.	Introdu	ction and Context	. 4
	1.1	Saffron Hill Investment Holdings Goals	. 4
	1.2	Aim of a SPP	. 4
	1.3	The Sustainable Procurement Plan – BREEAM Requirements	. 5
	1.4	Context of ISO 20400	. 5
	1.5	Document Structure	. 7
2.	Purpos	se	. 8
3.	Scope	cope & Methodology	
4.	Sustainability Aims		10
	4.1	Waste minimisation, reuse, recycling & material efficiency	11
	4.2	Responsible sourcing of materials	11
		4.2.1 BREEAM Responsible Sourcing Certification Schemes	12
		4.2.2 Legally Harvested and traded Timber	13
		4.2.3 BES 6001 Standard for Responsible Sourcing	14
		4.2.4 Environmental Management Systems (EMS)	14 15
		4.2.6 Requirements for reuse of materials on Site	15
	4.3	Sourcing Suppliers Locally and Nationally	16
	4.4	Low Embodied Impact Materials Use	17
	4.5	Designing for Durability and Resilience	18
	4.6	Hazardous and Toxic Materials	18
5.	Conclu	isions	20

1. Introduction and Context

This Sustainable Procurement Plan (SPP) template has been prepared by Carbon Plan Engineering in for the proposed development at 45-54 Saffron Hill and 3 Saffron Street. The proposals consist of a new development of a 9-storey office building associated affordable workspace, general open office space, cycle storage, and café/restaurant.

This document has been prepared for **Saffron Hill Investment Holdings** and their agent Radcliffes Construction Consultancy (RCC) to enable them to maximise the BREEAM 2018 New Construction (NC) scoring under the Mat02 and Mat 03 Responsible Sourcing requirements on the Saffron Hill Offices project. **Please note that:**

- There is deliberately no executive summary it is important that stakeholders read the entirety of this document and understand the process and implications
- □ We have facilitated the development of this plan with RCC developing the SPP over a series of workshops both at a project level and at a senior management level:
 - Initial procurement strategy and SPP Stage 2 Review Matrix review on 29th June 2023
 - SPP Stage 2 Review Matrix issued on 29th June 2023
 - Matrix and SPP contents / requirements reviewed with design team on 5th July 2023
 - \circ ~ Updated documents issue to the team on 10^{th} August 2023 $\,$
- The accompanying tools and processes have been evolved by the Carbon Plan Engineering to support and inform the design team and shall be developed as the project progresses

1.1 Saffron Hill Investment Holdings Goals

Sustainability is core to the vision of the Saffron Hill Investment Holdings as they recognise that this is the future of commercial property development.

A Full Sustainability Brief has been generated for the project and this will be used to generally steer the design team through stages 2 and 3 and to inform tender and detailed designs.

1.2 Aim of a SPP

The aim of this Sustainable Procurement Plan is to help to guide the specification of the projects towards sustainable construction products, which in turn helps to provide built environments that contribute to better wellbeing, enhance productivity, are flexible and adaptable and minimise the impacts of the project on the environment.

This Sustainable Procurement Plan has been developed to satisfy the requirements of **BREEAM 2018 New Construction** and maximise the score achieved in the following two credits.

- Mat 02 Environmental impacts from construction products Environmental Product Declarations (EPD)
- Mat 03 Responsible Sourcing of Materials

1.3 The Sustainable Procurement Plan – BREEAM Requirements

This Sustainable Procurement Plan <u>must</u> be used by the design team to guide specification towards sustainable construction products. The plan must:

- Be in place before Concept Design.
- Include sustainability aims, objectives and strategic targets to guide procurement activities.
- Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible.
- Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan.

1.4 Context of ISO 20400

Governments, corporates and society are demanding a more sustainable future. This is growing to the point that it is becoming a core organisational objective. Standards such as BES6001, ISO14001 and ISO26000 enable companies to develop frameworks and management systems to deliver more sustainable products.

Typically 40-80% of organisational cashflow will be spent on procurement and so the supply chain is critical in delivering sustainable outcomes generally and more specifically for construction projects. However in many cases influencing the supply chain is seen as either being "too difficult" or not delivering "value for money".

ISO 20400 provides guidance on delivering sustainability objectives through its supply chain.

The following exiting sustainable procurement policies, targets and goals have been identified after an holistic review of current corporate documentation and in line with the guidance provided in ISO 20400:2017 – Sustainable Procurement Guidance. ISO 20400:2017 states that Sustainable Procurement ...

"Is procurement that has the most positive environmental, social and economic impacts possible across the entire life cycle and that strives to minimize adverse impacts"

The main principles, subject matter, drivers and considerations for sustainable procurement are the same for all organisations, however all organisations will take account of these issue in different ways both from the point of view of prioritisation and from the efficacy of the policy environment.

Principles

- Accountability: An organization should be accountable for its own impacts on society, the economy and the environment.
- **Transparency**: An organization should be transparent in those decisions and activities that impact on society, the economy and the environment.
- Ethical behaviour: An organization should behave ethically and promote ethical behaviour throughout its supply chains.
- Full and fair opportunity: An organization should avoid bias and prejudice in all procurement decision-making.
- Respect for stakeholder interests: An organization should respect, consider and respond to the interests of stakeholders impacted by its procurement activities.
- Respect for the rule of law and international norms of behaviour: An organization should strive to be aware of any violations throughout its supply chains.
- Respect for human rights: An organization should respect internationally recognized human rights.
- Innovative solutions: An organization should seek solutions to address its sustainability objectives and encourage innovative procurement practices
- Focus on need: An organization should review demand, buy only what is needed and seek more sustainable alternatives.
- Integration: An organization should ensure that sustainability is integrated into all existing procurement practices to maximize sustainable outcomes.
- Life cycle approach: An organization should consider the cost and impacts incurred over the life cycle
- Continual improvement: An organization should work towards continually improving its sustainability practices and outcomes

Core subjects

- organizational governance: decision-making processes and structures;
- **human rights**: due diligence, human rights risk situations, avoidance of complicity, etc
- **labour practices**: employment and employment relationships, conditions of work, etc
- the environment: prevention of pollution, sustainable resource use, climate change mitigation and adaptation, etc
- **fair operating practices**: anti-corruption, responsible political involvement, etc
- consumer issues: fair marketing, factual and unbiased information, fair contractual practices, etc
- community involvement and development: community involvement, education and culture, employment creation, etc

This is a lot for a single organisation to take into account on a project level and so the sustainable procurement plan makes the assumption that as long as the supply chain has the relevant certifications as set out in Section 4 then the risk of non conformity of the above have been deemed to be successfully mitigated.

1.5 Document Structure

The document takes the following broad structure:

- Sections 2 and 3 of this document sets out the purpose, rationale, method and scope of this policy.
- Sections 4 sets out the recommended procurement metrics and strategies that Bowmer + Kirkland should adopt at a project level on all of the construction projects going forward

2. Purpose

The purpose of this Sustainable Procurement Plan is to show our commitment to delivering sustainable buildings and to set minimum standards for sustainable procurement of materials and labour on our sites, with an aim to influence and motivate the design team to specify more sustainable products and services.

The key requirements are:

- To understand how we currently review sustainable procurement, identifying risks of poor procurement decisions and opportunities to enhance procurement decisions
- To develop a policy and strategy that can be used to inform procurement decisions for any future construction projects that we embark upon
- To ensure that the strategy sets sustainability aims, objectives and strategic targets that are measurable and achievable on all projects
- To develop a project specific process which allows the design team and subsequently main contractors to record decision making and allow the BREEAM assessor to easily evaluate the scoring under Mat 02 Environmental Product declarations and Mat 03 Sustainable Procurement
- To ensure that in delivering all of the above that the strategy, policy and process developed is not overly burdensome and difficult for the trust or the design teams

It is the intent that this policy is reviewed regularly to ensure that projects developed by Saffron Hill Investment Holdings can make continual improvements on the targets that are set for all of our projects. As such we make the following commitments:

- During RIBA Stage 2 of all projects we will undertake a review of Sustainable Procurement options and address the items in the accompanying <u>2023-06-29 Saffron Hill - SPP Stage 2</u> <u>Review Matrix.xlsx</u>
- We will review this policy document on at least an annual basis to ensure that the Sustainability Aims (Section 4) are up to date and current
- We will set targets and measure achievement of those targets and record the outcomes. These will be reported in our annual board reports and used to influence the setting of targets in the future to ensure that the targets are challenging us as a business

3. Scope & Methodology

This policy statement on Sustainable Procurement will apply to the various undertaken by Client, Design Team and Main Contractor going forward from the date of this document.

In developing this strategy, we have reviewed a range of existing policy documents so that we might better understand the risk and opportunities that present themselves at a master planning level and also at the project specific level. The diagram below highlights this and is presented below courtesy of the Green Building Council of Australia.



The above provided a clear roadmap to help us work through the complexities developing a Sustainable Procurement Plan at a project level while still being cognisant of the requirements of BS 20400. The process has enabled saffron Hill Investment Holdings to develop this policy into a solution which will be effective and workable.

4. Sustainability Aims

The following sections contain broad policies which set out the goals agreed at a senior management level for sustainable and responsible sourcing of materials and labour which our design teams should use to guide the design and procurement process. The following key themes have been identified through consultation with the trust and design team and these set out the policy goal or requirements for all individual projects:

- U Waste minimisation, reuse, recycling and material efficiency
- Responsible sourcing of materials
- Sourcing Suppliers Locally and Nationally
- Low Embodied Impact Materials Use (EPDs)
- Designing for durability and resilience
- Hazardous and Toxic Materials

At the project inception (RIBA Stage 1/2) the design team will review the policy goals and requirements and agree those which are appropriate for the project. These will then be followed through at each key RIBA stages to the completion of the project.



The design team will engage with the policies and ensure that as far as is possible these principles are used to steer the design and specification of the project. The outcomes will be included in the tender specifications along with a copy of this policy and the checklists and comments from each stage to that point.

The main contractor and their supply chain partners, sub-contractors and delivery team will be, for each of the projects, required to follow the policies within this Sustainable Procurement Plan to ensure that all materials purchased (temporary and permanent) will support the requirements of BREEAM 2018 New Construction. To this end we have set out clear requirements below to ensure that, wherever possible, materials purchased are also certified against schemes including BES 6001, ISO 14001, Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC) or Sustainability Forestry Initiatives (SFI).

Main contractors will be required to have a documented EMS, where appropriate, to ISO 14001 or other appropriate EMAS standards. They will also be responsible for ensuring that their subcontractors and extended supply chains – including all products and materials supplies – comply with applicable

policies, laws and regulations throughout including meeting internationally accepted environmental, social and ethical standards and guidance for sustainable sourcing.

4.1 Waste minimisation, reuse, recycling & material efficiency

The aim is to measure and reduce manufacturing and construction waste, while encouraging recycling through contractual procurement requirements. During the design development process, prior to any start on site, the team will identify waste targets for each project. The following will be discussed, and a strategy and targets agreed:

Policy requirement

- □ Where demolition is required, pre-demolition audits will be carried out to inform the key demolition materials for potential reuse, recycling and diversion of resources from landfill.
 - o A pre-demolition audit has been completed
- Site Waste Management Plans will include targets for reducing construction and demolition waste.
 - o Contractor will produce a comprehensive SWMP
- Materials from demolition waste will be reused in the construction of the buildings where feasible.
 - o Refer to pre-demolition audit
- ❑ Where appropriate a strategy will be developed to reduce future waste that might occur as a result of the need to alter the building in the case of refurbishment or change of use.
 - o A disassembly and functional adaptability study has been undertaken by CPE
- □ The design team and suppliers will be encouraged to optimise material efficiency through design of standard sizes and products.
 - o A material efficiency programme has been developed by CPE
- Suppliers will also be required to manage the delivery of materials to avoid damage.

4.2 Responsible sourcing of materials

Responsible sourcing of Construction products provides an holistic approach to specifying a product such that the impact of that product is measured from the point at which component materials are extracted or harvested, through manufacture and processing to delivery on site.

Under the BREEAM 2018 New Construction assessment guidelines credits for responsibly sourcing construction products (under Mat03) have been developed to encourage responsible product specification and procurement in construction. To achieve these credits, applicable specified products must be covered by an Environmental Management System or a **Responsible Sourcing Certification Scheme (RSCS)** recognised by BREEAM.

4.2.1 BREEAM Responsible Sourcing Certification Schemes

The BREEAM 2018 New Construction Manual defines a core set RSCS's. These are third party schemes evaluated by BRE Global for recognition under BREEAM. Typically, certificates are used to confirm compliance of construction products to the requirements.

Where a valid certificate is not available from the manufacturer claims may be confirmed via the relevant responsible sourcing scheme provider. Many of the organisations who administer certification schemes will, via their website, list companies and products that have been certified against their standards, including the scope of any such certification.

Some schemes will provide downloadable copies of the relevant certificate which can in turn be used as evidence of compliance for this BREEAM issue.

Table 1 provides a list of BREEAM recognised RSCS, EMS and their associated summary scores levels.

RSCS/EMS Scheme (or other recognised source)	Label(s)/Version(s) of the scheme	Additional requirement to be specified ⁴	RSCS summary score level for use in BREEAM assessments
BES 6001 Framework Standard for Responsible Sourcing	All	n/a	5 (Baseline score ³)
CARES Sustainable Constructional Steel Scheme	All	n/a	5
Eco Reinforcement Responsible Sourcing Standard, Steel Products for the Reinforcement of Concrete	All	n/a	5
	'FSC 100%'	n/a	7
FSC	'FSC Mix' 'FSC Recycled'	n/a	5
PEFC	'PEFC Certified' 'PEFC Recycled'	n/a	5
551	"SFI Certified Chain of Custody, Promoting Sustainable Forestry"	Certified forest content = 100% of total	6
un 1	"SFI Certified Chain of Custody, Promoting Sustainable Forestry"	Recycled timber/fibre content = 0% of total	5
Construction products/materials reused in-situ or within the same construction site, with only minor processing that does not alter the nature of the construction product/material (e.g. deaning, cutting, fixing to other construction products).	n/a	n/a	10
Environmental Management Systems (EMS) (certified)	Key Process ¹ and supply chain ² extraction process. See Table 2 below.	n/a	2
	Key Process ¹ . See Table 2 below.	n/a	1

Table 1a:- BREEAM recognised RSCS / EMS and their associated summary scores levels

Please see the accompanying notes on the following page

Table 1b:- Notes for Table 1a

Notes on table 1.

Key Process: The final major aspects of processing that are carried out for the product / material in question. There may be a single process or multiple processes requiring assessment, depending on the end product. The scope of the process covered by the certified EMS for each applicable material category are detailed in Table 2 EMS scope by material category.

²Supply Chain EMS: Supply chain EMS covers all of the major aspects of processing and extraction involved in the supply chain for the end product. Note that recycled materials are not required to demonstrate a Supply Chain EMS. If the EMS certification is provided for the Key Processes for recycled materials, this is assumed by default. The scope of the key process and supply chain covered by the certified EMS for each of the assessed material category are detailed in Table 2 EMS scope by material category.

³The RSCS summary score level is the minimum that all products certified to this scheme are awarded. It may be possible for products certified to this scheme to achieve a higher RSCS summary score level – see the scheme's website or contact the scheme operator or product manufacturer for more details.

*The additional requirements are in addition to the label/version of the scheme. The BREEAM Assessor should check that design team have included the additional requirement(s) in the project documents (e.g. architectural specification and/or drawings) and obtain evidence that the installed products fulfil these before awarding the points.

Recycled content of construction products is taken into account in the above schemes where appropriate and is not separately recognised in this table.

4.2.2 Legally Harvested and traded Timber

All timber and timber-based products used must be Legally harvested and traded timber.

UK government's definition of legally sourced timber, as outlined in the Central Point of Expertise on Timber (CPET) 5th Edition report on the UK Government Timber Procurement Policy, which states that legal timber and wood-derived products are those that originate from a forest where a range of criteria are met.

Policy requirement

All suppliers of timber, including contractors and sub-contractors, will be required to provide FSC or PEFC or SFI certificates for:

- all timber used in construction; i.e. form work, hoardings, scaffolding, etc.
- all timber used within the construction of the building; i.e. timber used for doors, fixed furniture, skirtings, plywood, studwork, etc

Accepted Certification

Suppliers will be required to provide certificates with chain of custody number on the certificate (COC number), delivery notes, invoices and assist in technical queries where required.

- □ Forest Stewardship Council (FSC)
- Programme for the Endorsement of Forest Certification (PEFC)
- SFI (Sustainability Forestry Initiatives)

Further information on the UK Government's Timber Procurement Policy and compliant responsible sourcing certification schemes is available from the CPET (Central Point of Expertise on Timber) website https://www.gov.uk/government/groups/central-point-of-expertise-on-timber.

4.2.3 BES 6001 Standard for Responsible Sourcing

The BES6001 standard is a means of securing certification to demonstrate through independent, thirdparty certification, that products certified against the scheme have been responsibly sourced. BES6001 certification provides the highest RSCS point score for responsible sourcing under the Mat 03 BREEAM issue. BES6001 certification does not cover a company's individual site or sites but is focused on the certification of individual products or product groups manufactured at one or more locations.

A BES 6001 certificate lasts for three years. However, at the end of each year the certificate must pass an Annual Verification process to check that essential features of the original certification are being maintained. A certificate pass level cannot be changed during an Annual verification.

The BES6001 certificates are available for a large quantity of mainstream construction products and can be searched here https://www.bre.co.uk/page.jsp?id=3569

In addition we believe that the NBS specification tools can be utilised to identify only products that have this level of certification.

Policy requirement

- □ The design team will wherever possible specify products that have BES6001 certification and include this requirement in the relevant specification documents issued at tender
 - Target of 70% by volume of materials as measured in BREEAM Mat03
- Where products are specified with BES6001 no substitution may be made by the contractor unless the alternative product also has the same level of BES6001 certification
- Contractors will be required to provide certificates for all products used and assist in technical queries where required

4.2.4 Environmental Management Systems (EMS)

EMS certified to ISO 14001 systems either for Key process and supply chain or supply chain only are also acceptable as responsible sourcing certificates, but they would achieve a lower RSCS point score when compared to BES6001 certificates. The EMS certificates are generally available for all construction products except for Timber.

Suppliers will be required to provide certificates, delivery notes, invoices and assist in technical queries where required.

Policy requirement

- Where BES 6001 products cannot be used, the design team will wherever possible specify products that have ISO14001 certification and include this requirement in the relevant specification documents issued at tender
 - Target of 70% by volume of materials as measured in BREEAM Mat03
- Where products are specified with ISO14001 no substitution may be made by the contractor unless the alternative product also has the same level of ISO14001 certification

- Target of 25% by volume of materials as measured in BREEAM Mat03
- Sub-Contractors will be required to provide certificates for all products used and assist in technical queries where required.
 - o As set out in Contractors Proposals and will form part of sub contract orders

4.2.5 Steel and metals

There are several also two alternative certifications for steel and metal products as noted below. Where BES 6001 cannot be achieve then the following should be achieved in all cases.

CARES Product Certification was developed to meet the needs of users of steel products for the reinforcement of concrete. CARES has acquired extensive experience in designing and operating certification schemes to meet the needs of the reinforced concrete industry.

The following link provides a searchable database of approved companies.

https://www.ukcares.com/approved-companies

Eco-Reinforcement is a third-party certification scheme which assesses and recognises responsibly sourced reinforcing steel products. It has been developed as a sector-specific standard which complies with the requirements of BES 6001 Framework Standard for the Responsible Sourcing of Construction Products.

http://www.eco-reinforcement.org/certified-companies/

4.2.6 Requirements for reuse of materials on Site

Construction products/materials reused in-situ or within the same construction site, with only minor processing that does not alter the nature of the construction product/material (e.g. cleaning, cutting, fixing to other construction products) **will not require certification** and will be awarded high RSCS point score under the BREEAM Mat 3 Responsible sourcing Category.

Policy requirement

- The design and project team will be encouraged to reuse materials in their existing form on site wherever feasible for material optimisation and reducing waste.
 - Significant volumes of aggregate will be created during demolition and re-used on site

4.3 Sourcing Suppliers Locally and Nationally

Where materials are available locally this has an important environmental benefit in limiting the transport of materials, and associated CO_2 and particulate emissions, by road and rail as well as having significant socio-economic benefits in retaining and nurturing local enterprise. However there are risks as well as benefits and the Centre for Economic Growth has produced a balanced review of the risks and benefits here - <u>https://whatworksgrowth.org/resources/local-procurement-1/</u>

For the purposes of this requirement we are defining local as within a **30 miles radius** which we feel is appropriate given the rural location to enable robust specification of most key elements.

Policy requirement

- The design team will review the specifications and identify where local manufacturers and local suppliers of materials can be used. An evaluation must be undertaken to ensure that costs are managed but on a like for like basis then the local supplier should be specified where possible.
- During the tender process Local contractors that meet the prequalification questionnaire requirements during the tendering process will be given priority.
- Where it is not feasible to source materials from local suppliers, then suppliers within the UK, who meet the criteria for sustainable procurement will be given preference over international suppliers.

Wherever practical the main contractor will have a responsibility to track and report mileage from transport to and from site for waste, materials and personnel.

4.4 Low Embodied Impact Materials Use

Materials in construction make up over half of our resource use by weight. They account for 30% of all road freight in the UK. The construction and demolition industries produce over 4 times more waste than the domestic sector, over a tonne per person living in the UK. The environmental impacts of extracting, processing and transporting these materials and then dealing with their waste are major contributors to greenhouse gas emissions, toxic emissions, habitat destruction and resource depletion.

This can now be measured and reduced however and as part of the BREEAM 2018 Mat 01 credit undertaking a full Lifecycle Carbon assessment is now required to gain these credits. Full LCA software tools are to be used on every project to determine the embodied impact of materials and construction materials with a low environmental impact will be specified on the basis is value for money.

Environmental Product Declarations (EPD) are an environmental certification which classifies and verifies the lifecycle impacts of products and goods as cited in the International Standards Organization (ISO) 14025. The EPD methodology is based on the Life Cycle Assessment (LCA) tool which follows the ISO series 14040. EPDs help supply chains to make better procurement decisions when choosing goods or services among different providers.

Policy requirement

- At RIBA Stage 2 a full, BREEAM Compliant LCA will be undertaken on every project with a BREEAM Requirement (regardless of rating required) and a target will be set for reducing the overall impact against a baseline through consultation with design and procurement teams.
 - WLCA is complete & recommendations have been incorporated into design
 - Target reduction of 10% against baseline to be sought
- ❑ Where products are like for like in regards to cost and quality then the one with the lower environmental impact shall be selected as long as it is fit for purpose.
 - At least 50% of the recommendations from the LCA should be implemented but a higher figure should be sought if possible
- The design team will wherever possible specify products that have EPD certification and include this requirement in the relevant specification documents issued at tender
 - Carbon Plan Engineering to review specifications
 - Target of 20 points to be scored in BREEAM Mat02
- □ Where products are specified with an EPD no substitution may be made by the contractor unless the alternative product also has the same level of EPD certification
 - Specifications to include relevant certification requirements
- Contractors will be required to provide certificates for all products used and assist in technical queries where required.
 - To be set out in tender documents

NOTE:- There may be a conflict that occurs between specifying products with EPDs and Environmental Management Systems. This however is highly unlikely as the two systems tend to go hand in hand.

4.5 Designing for Durability and Resilience

The design of buildings needs to consider the long term impacts of use and climate change. Therefore durability and protection measures should be designed into the building to prevent damage to vulnerable parts of the internal and external building and landscaping elements.

Within BREEAM 2018 there is a methodology for reviewing building elements so the design team can incorporate appropriate measures to limit degradation due to environmental factors and damage from wear and tear.

Policy requirement

- A BREEAM 2018 compliant designing for durability and resilience assessment should be undertaken where the design team feels this is appropriate for the use of the building and its situation. The outcomes of this – where undertaken – should be incorporated into the specifications and the study should be included in the tender documentation for reference.
 - Workshop Completed on 29th June and comments made by DT and will be incorporated following the project progress.

4.6 Hazardous and Toxic Materials

It is widely accepted that the quality of the indoor environment can impact occupant health. Poor indoor air quality can have a range of negative impacts on the physical health of building occupants. Therefore care needs to be taken to ensure the internal environment maintains good air quality and reduces the presence of common indoor air pollutants such as carbon dioxide, nitrogen dioxide, and volatile organic compounds.

This is accomplished through developing the ventilation strategy in such a way as it minimises the potential for external pollutants to enter the building and by specifying products that meet best practice performance and testing requirements and emission levels for Volatile Organic Compounds (VOC). Developing an holistic Internal Air Quality Strategy that review the above helps to guide the design team in delivering a healthy and sustainable building.

Policy requirement

A BREEAM 2018 compliant indoor air quality plan will be developed to influence the design and product specifications. The plan shall be developed through consultation at RIBA Stage 2 and shall include input from the Architect, Transport Consultant, M&E Consultant as a minimum.

The table on the following page sets out the minimum standards that must be achieved within BREEAM 2018 for a variety of finishing materials and these must be considered as a minimum.

Table 2:- Emissions criteria by product type as specified by BREEAM 2018 new construction

			1	
Emission Limit * Formaldehyde	Total Volatile Organic Compounds (TVOC)	Category 1A and 1B carcinogens (mg/m ³)	Testing Requirements	Additional Requirements
Interior paints and	I coating		·	·
≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001	EN 16402 or ISO 16000-9 or EN 16516 or CDPH Standard Method	Meet TVOC content limits Paints used in wet areas (e.g. bathrooms, kitchens, utility rooms) should protect against mould growth
Wood-based prod	ucts (including wo	ood flooring)	1	1
≤ 0.06 mg/m³ m³ (Non-MDF)≤ 0.08 mg/ m³(MDF)	≤ 1.0 mg/m³	≤ 0.001	ISO 16000-9orEN 16516orCDPH Standard Method v1.1orEN 717-1 (formaldehyde emissions only)	N/A
Flooring Materials	(including floor le	evelling compo	unds and resin flooring)	
≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001	ISO 10580 or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
Ceiling, wall, and	acoustic and therr	nal insulation r	naterials	
≤ 0.06 mg/m ³	≤ 1.0 mg/m ³	≤ 0.001	ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
Interior adhesives	and sealants (inc	luding floor ad	hesives)	
≤ 0.06 mg/m ³	i ≤ 1.0 mg/m³	≤ 0.001	EN 13999 (Parts 1-4) or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
has been applied.				

20

5. Conclusions

This sustainable procurement plan sets out the policies and procedures that have been agreed by **Saffron Hill Investment Holdings** in relation to the development of the project going forward.

For each project a Sustainable Procurement review / workshop will be undertaken at Stage 2 and a set of targets developed, specific to each project.

The accompanying <u>2023-06-29 Saffron Hill - SPP Stage 2 Review Matrix.xlsx</u> has been used to record the outcomes of the workshop.