

Sustainability Statement

Report
Sustainability Statement

File Name
023_R_012

Project
Land west of Cockhaise Farm

Client
Lucy and Nick Barr-Hamilton

Author
Architect Benjamin Machin

Date
22.06.26

Revision
-

Purpose of Issue
Planning

This document is designed to be read in conjunction with the drawings and documents also issued as part of this application for Full Planning Permission.

Contents

- 1.0 Introduction
- 2.0 Sustainability Strategy
- 3.0 Energy Efficiency
- 4.0 Water Efficiency
- 5.0 Drainage Strategy
- 6.0 Materials and Embodied Carbon
- 7.0 Landscape, Ecology and Biodiversity
- 8.0 Accessibility, Adaptability and Longevity
- 9.0 Conclusion

1.0 Introduction

This Sustainability Statement has been prepared in support of a full planning application for the erection of a single dwelling, associated landscape works, creation of a new agricultural-style vehicular access from Montes Hill, and associated works at land west of Cockhaise Farm, Lindfield.

It should be read alongside the submitted Design and Access Statement, Planning Statement, architectural drawings, Biodiversity Net Gain Assessment, Preliminary Ecological Appraisal, drainage information and landscape proposals.

The statement responds to Mid Sussex District Council's validation requirement for a Sustainability Statement demonstrating how the development will be efficient in its use of energy, water and drainage.

The proposal is also considered in the context of Paragraph 84(e) of the National Planning Policy Framework, which requires new isolated homes in the countryside to be of exceptional quality. Sustainability is therefore not treated as a separate technical layer, but as part of the architectural, landscape and environmental logic of the scheme.

The house has been developed as a long-term accessible family home within the High Weald landscape. Its siting, form, construction, environmental strategy and landscape setting have been considered together from the outset.

The proposal combines a fabric-first approach to energy use, low embodied carbon materials, renewable energy generation, water-efficient design, sustainable drainage principles, biodiversity enhancement and long-term landscape management.

This statement sets out those measures in a proportionate form, appropriate to a single dwelling, while demonstrating the integrated sustainability strategy that underpins the proposal.

2.0 Policy and Sustainability Strategy

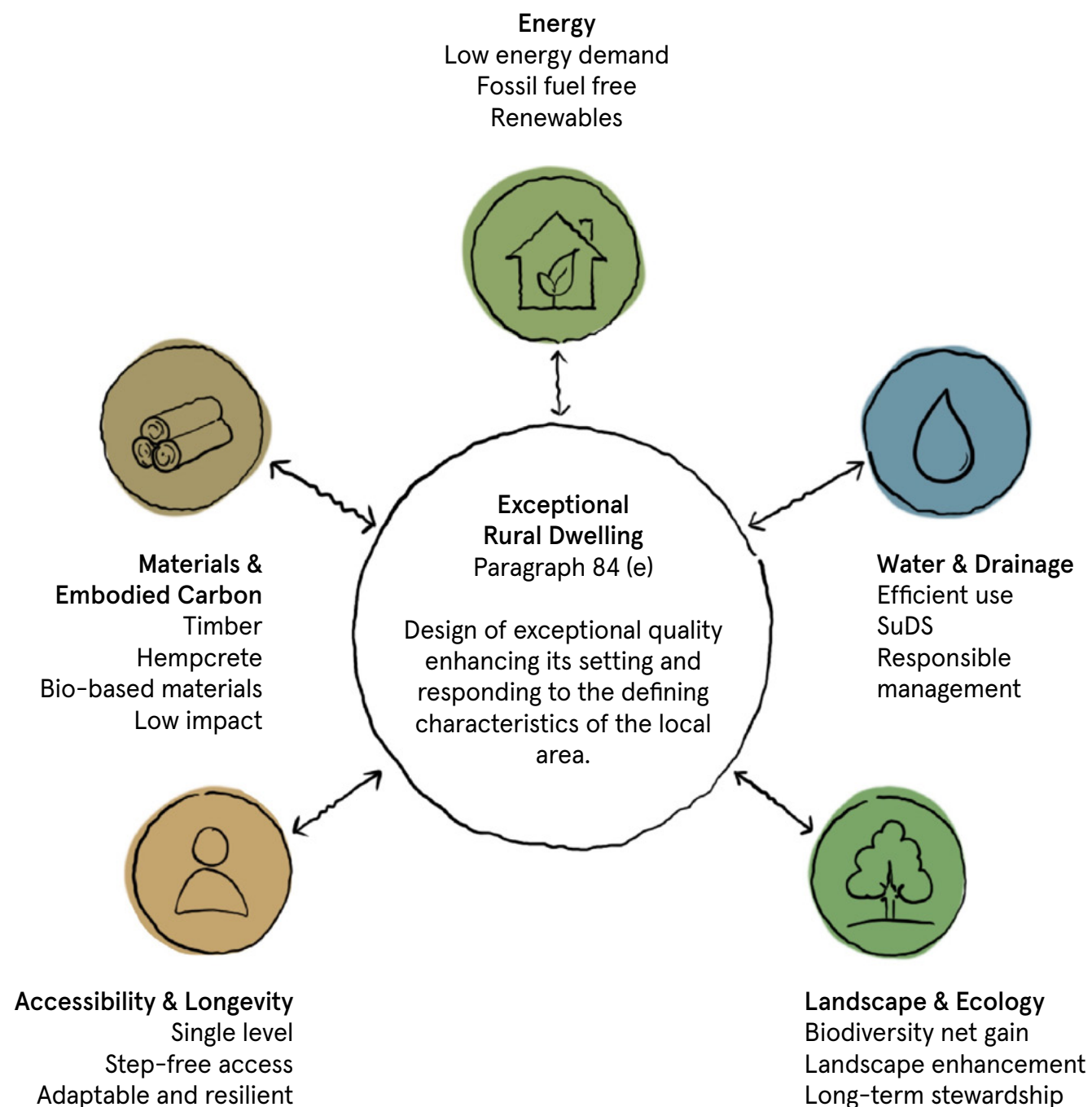
The sustainability strategy responds to national and local planning policy relating to design quality, energy efficiency, water use, drainage, biodiversity and climate resilience.

At national level, the proposal has been developed in direct response to Paragraph 84(e) of the National Planning Policy Framework. This allows for isolated new homes in the countryside only where the design is of exceptional quality: truly outstanding, reflecting the highest standards in architecture, helping to raise standards of design more generally in rural areas, significantly enhancing its immediate setting, and being sensitive to the defining characteristics of the local area.

The sustainability strategy is central to this test. The proposal is not presented as an otherwise conventional rural dwelling with sustainable features added to it. Its environmental performance, landscape strategy, material logic, accessibility and long-term stewardship form part of the architectural argument for the house.

At local level, the proposal responds to Mid Sussex District Plan Policy DP39, which requires development to reduce energy use, improve efficiency and minimise environmental impact. It also responds to Policy DP41 in relation to flood risk and drainage, and Policy DP38 in relation to biodiversity and ecological enhancement.

The Council's validation requirement asks that the Sustainability Statement demonstrate how the proposed development will be efficient in its use of energy, water and drainage. This statement addresses those matters directly, alongside the wider sustainability measures embedded within the design.



The project's sustainability strategy is based on five connected principles:

- reducing operational energy demand through a fabric-first approach, high levels of insulation, airtightness, heat recovery ventilation and careful environmental design;
- reducing embodied carbon through the use of timber, hempcrete and other bio-based or low-impact materials where technically appropriate;
- managing water responsibly through efficient fittings, reduced potable water demand, permeable surfaces and sustainable drainage principles;
- enhancing landscape and ecology through woodland buffer planting, meadow creation, orchard planting, hedgerow reinforcement and long-term biodiversity management; supporting long-term occupation through a fully accessible house and landscape, reducing the need for future adaptation and allowing the dwelling to remain useful over time.

These principles have informed the siting, form, construction and landscape strategy of the proposal from the outset. Sustainability is therefore not presented as a separate set of additions to the building, but as part of the design logic of the house and its relationship with the land, composition framed by trees.

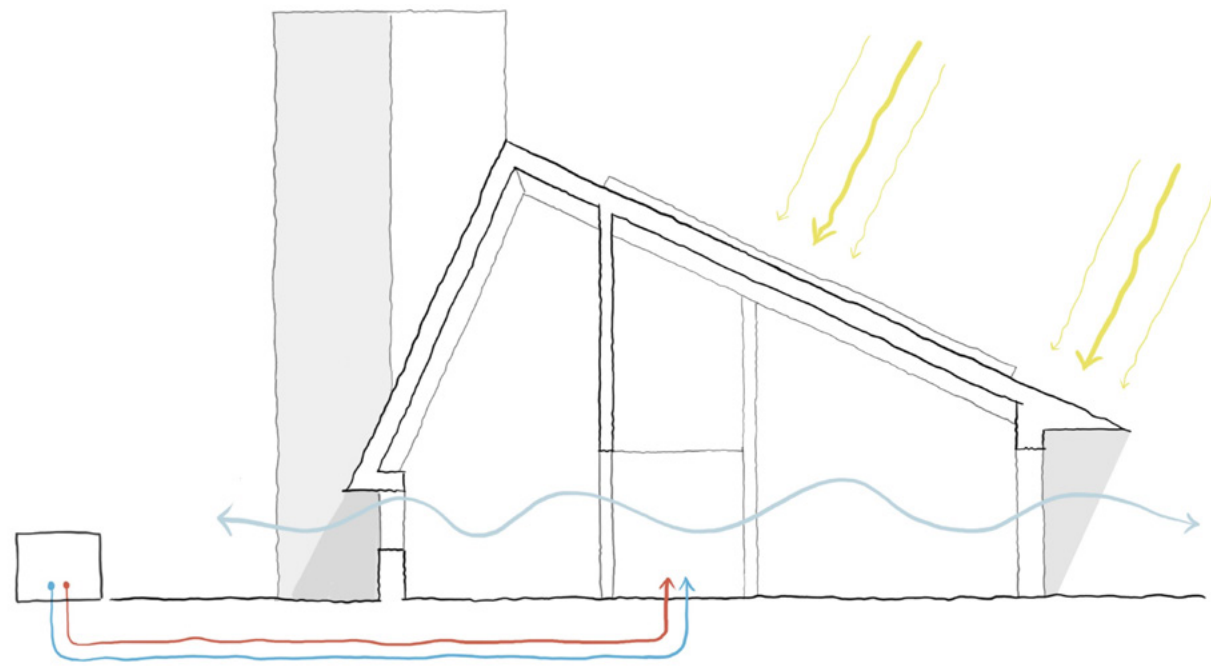
3.0 Energy Efficiency

The proposal adopts a fabric-first approach to energy efficiency. The primary aim is to reduce energy demand through the design and construction of the building before relying on mechanical systems or renewable technologies.

The house is arranged as a series of single-storey volumes around a sheltered courtyard. This organisation supports good daylight, controlled solar exposure, natural cross ventilation and a close relationship between internal rooms and external spaces. Openings are positioned and proportioned in response to orientation, views, privacy and environmental performance.

The building envelope is proposed to achieve high levels of thermal performance through well-insulated walls, floors and roofs, triple-glazed windows and careful detailing at junctions. A clear airtightness strategy will be developed during technical design, with the aim of reducing uncontrolled heat loss and improving comfort throughout the year.

Ventilation will be provided through a whole-house mechanical ventilation system with heat recovery. This allows fresh air to be supplied efficiently while recovering heat from extracted air, reducing heating demand and supporting good internal air quality.



The heating and hot water strategy will be fossil-fuel free. The reduced energy demand of the building allows a low-carbon heating system, such as an air source heat pump, to operate efficiently. System selection, sizing and controls will be developed during the technical design stage.

Renewable energy generation is proposed through roof-mounted photovoltaic panels. These will be integrated with the roofscape and used to offset annual electrical demand where possible. Battery storage may also be considered to improve the use of energy generated on site.

The design also addresses overheating risk through orientation, external shading, deep roof edges, controlled glazing areas, natural ventilation and night-purge ventilation. These passive measures reduce reliance on mechanical cooling and support comfort during warmer periods.

Taken together, the energy strategy seeks to create a low-demand, fossil-fuel-free home that is comfortable, efficient and resilient over time.

01

Low Carbon Heating

Air source heat pump provides space heating and hot water.

02

MVHR

Heat recovery ventilation provides fresh air while recovering heat from extracted air.

03

Night Purge

Cool night air flushes heat from the fabric in summer.

04

PV Array

Generates renewable electricity on site.

05

Insulated Airtight Envelope

High levels of insulation and airtightness reduce heat loss and improve comfort.

06

Summer Sun

Controlled solar gain through orientation and shading.

07

Deep Eaves

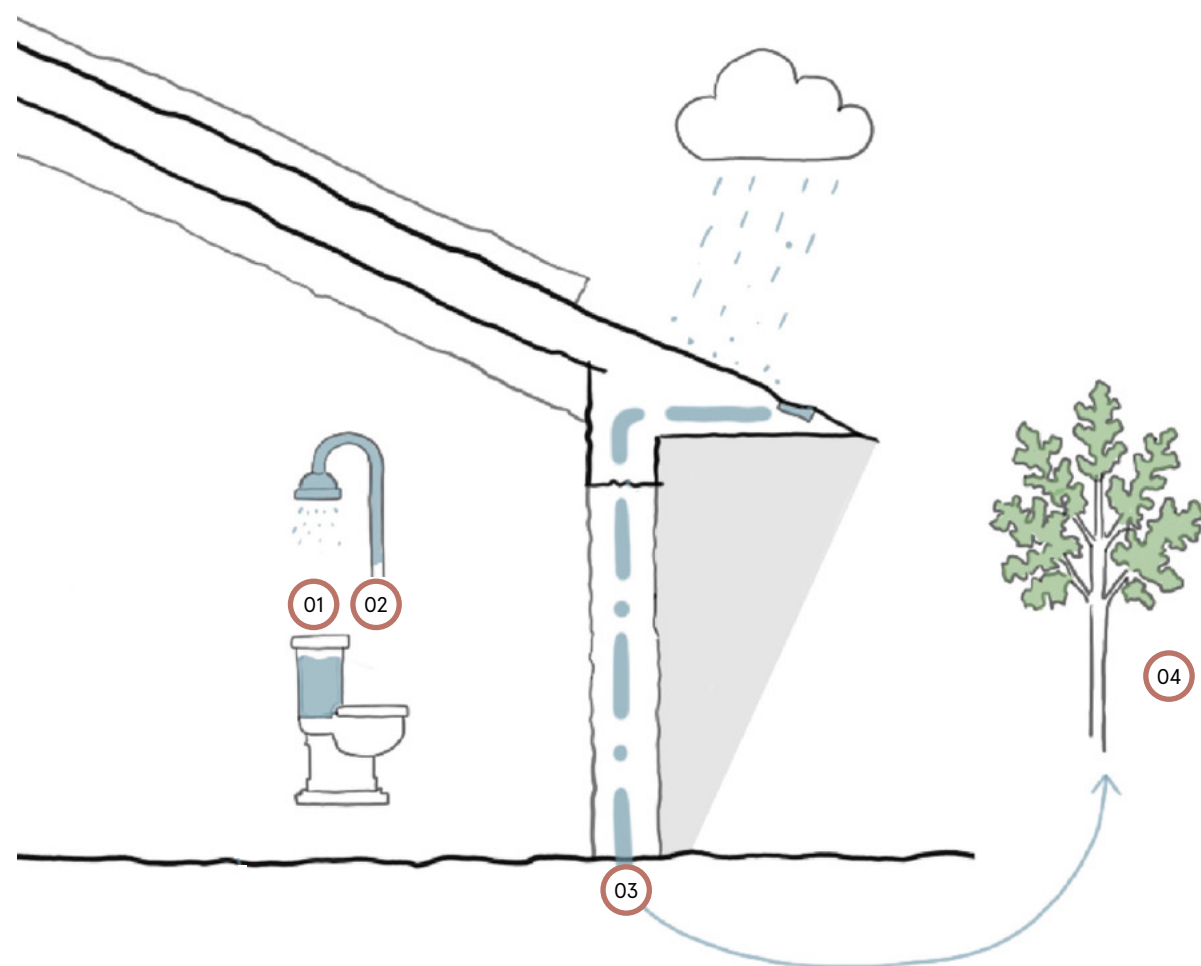
Provide shading in summer and weather protection.

4.0 Water Efficiency

The proposal seeks to minimise potable water demand through efficient fittings, careful specification and a landscape strategy suited to the site and climate.

All sanitaryware and appliances will be selected to reduce water consumption in day-to-day use. This will include low-flow taps and showers, dual-flush WCs and water-efficient appliances. Final specifications will be developed during technical design to meet or exceed the relevant Building Regulations requirements.

The landscape strategy has also been designed to reduce long-term irrigation demand. Planting is based on native and climate-resilient species suited to the High Weald landscape, including woodland edge planting, meadow, orchard and native hedgerow reinforcement. Once established, these areas will require limited supplementary watering and will be managed as part of a low-intensity landscape maintenance regime.



01

Water Demand
Reduced portable water demand through efficient fittings and responsible use.

02

Water Efficient Fittings
Low flow taps and showers Dual flush WC's Efficient appliances

03

Productive Garden and Orchard
Rainwater used for irrigation of productive areas.

04

Climate resilient planting
Native and drought tolerant species reduce the need for irrigation once established.

Productive garden areas closer to the house may require more regular watering during establishment and dry periods. Rainwater collection for garden irrigation will be considered during technical design, including the potential use of water butts or below-ground storage where appropriate.

The proposal therefore reduces water demand at both building and landscape scale. Domestic water use will be controlled through efficient fittings, while external water use will be limited through appropriate planting, soil management and long-term landscape stewardship.

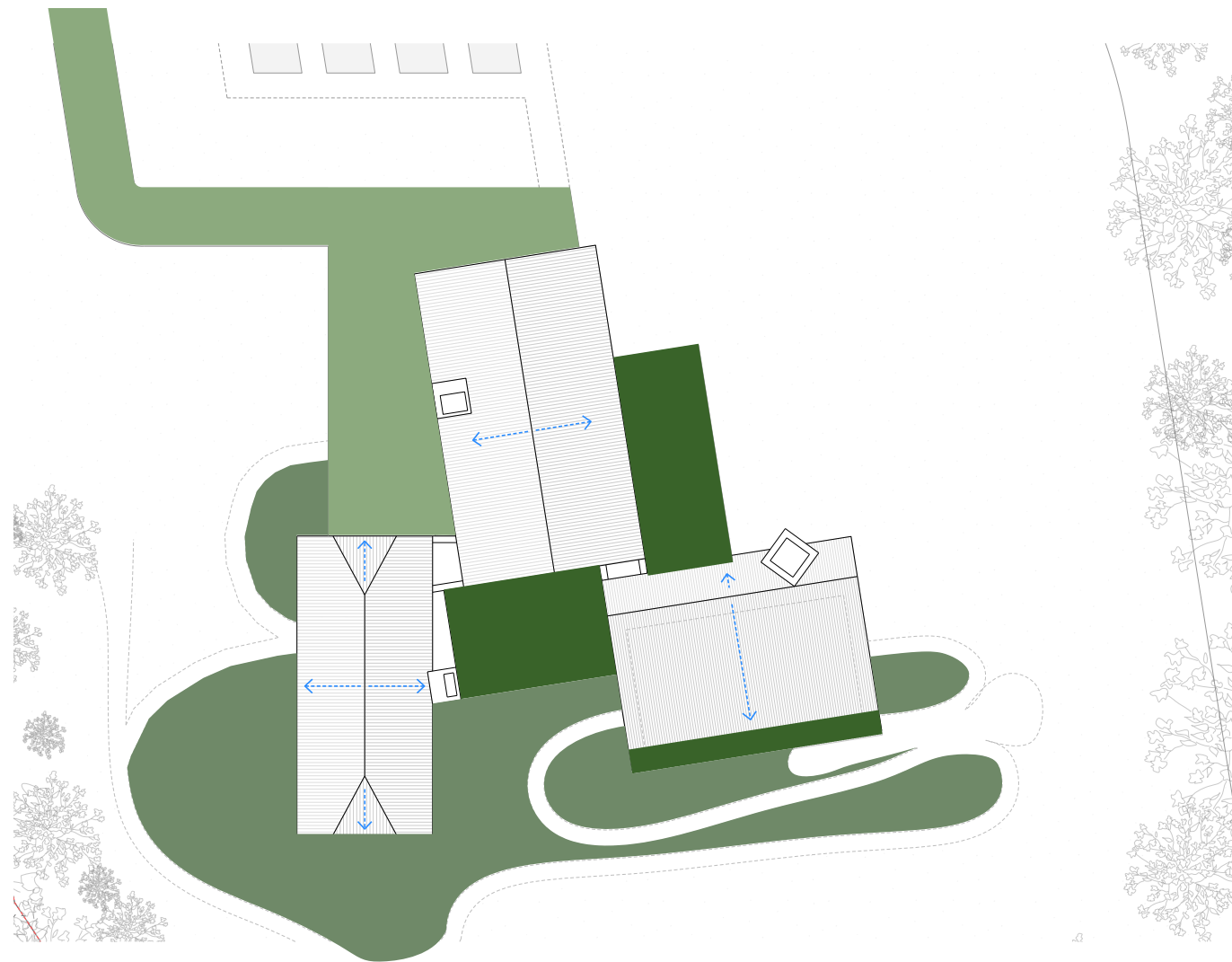
5.0 Drainage Strategy

The proposal will manage foul water and surface water through a site-specific drainage strategy appropriate to its rural location. A separate foul sewage and surface water drainage assessment is being provided in support of the application and should be read alongside this statement.

Foul drainage will be designed in accordance with the drainage hierarchy, Building Regulations Part H and relevant Environment Agency requirements. The site is rural in character and, subject to confirmation of available infrastructure, foul drainage is likely to be managed through a private treatment system rather than connection to a mains sewer. The final system will be selected and detailed during technical design to ensure appropriate treatment, discharge, access and maintenance.

Surface water will be managed on site wherever feasible. The proposal seeks to limit surface water run-off through a landscape-led approach, using permeable external surfaces, planted areas, meadow, orchard and woodland edge planting to support natural infiltration and reduce the extent of hard surfacing.

Rainwater from roofs and external hardstanding will be directed towards appropriate sustainable drainage measures, subject to ground conditions, infiltration testing and detailed drainage design. These may include soakaways, infiltration features, permeable construction build-ups or other SuDS measures suitable for the site.



Management of water as close as possible to where it falls.



Replication of the site's existing greenfield hydrology.



Use of sustainable drainage systems (SuDS).



Prioritisation of infiltration where ground conditions permit.



Integration of drainage features within the landscape strategy.



Enhancement of biodiversity and water quality.



Avoidance of increased flood risk on and off site.

The access route and parking areas will be designed to avoid unnecessary impermeable surfacing. Rural, permeable materials will be preferred where technically appropriate, allowing the access to retain an agricultural character while supporting surface water management.

The drainage strategy will be developed to ensure that the proposal does not increase flood risk on or off site. Final drainage details, including calculations, infiltration testing, outfall arrangements and maintenance requirements, can be secured through planning condition if required.

The approach to drainage is therefore integrated with the wider landscape strategy. Water is managed as part of the environmental performance of the site rather than as a separate engineering exercise.

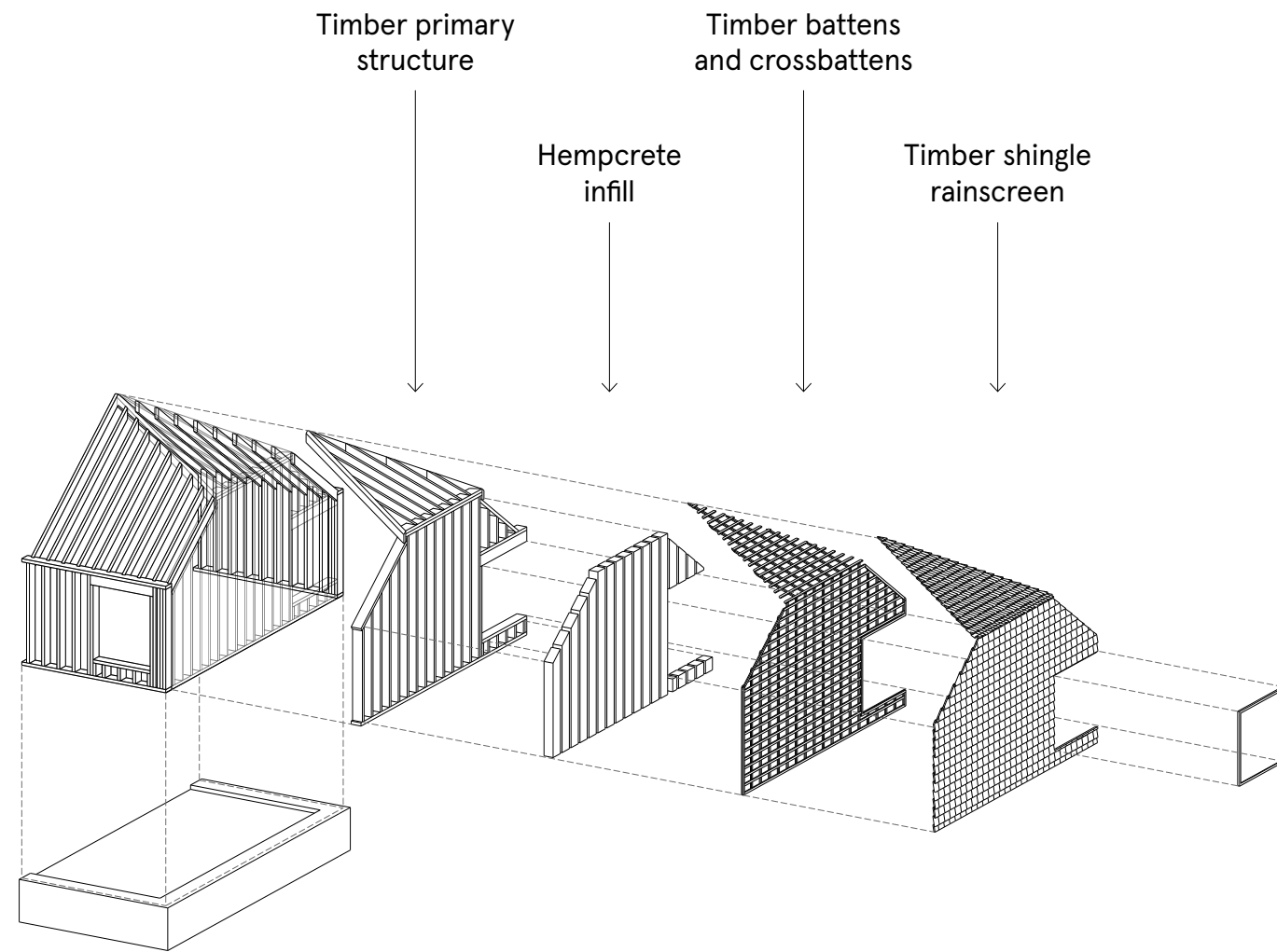
6.0 Materials and Embodied Carbon

The proposal seeks to reduce embodied carbon through the use of bio-based, low-impact and durable materials. Material selection has been considered as part of the architectural concept from the outset, rather than as a later specification exercise.

The principal construction strategy is based on a timber structure with hempcrete or other bio-based wall construction. Hempcrete provides insulation, thermal mass and vapour permeability within a single material system. It can help create a stable internal environment, reduce reliance on petrochemical insulation products and store carbon within the building fabric for the life of the building.

Timber is proposed as a primary structural and external material. It is renewable, repairable and appropriate to the woodland setting of the site. The use of timber also supports a construction approach with lower embodied carbon than conventional masonry or concrete-heavy construction.

The external envelope is proposed as a continuous timber shingle rainscreen to walls and roof, creating a coherent weathering layer across the principal volumes. Where feasible, suitable timber arising from the management of Cockhaise Farm and the wider site will be used, supplemented as necessary by matching locally sourced timber. The intention is not to rely upon the site to provide the entire cladding supply, but to allow the material strategy to remain closely connected to the stewardship of the land.



The material palette is deliberately restrained. Timber, hempcrete, lime-based finishes and natural internal surfaces are selected for durability, reparability, low toxicity and environmental performance. The approach avoids unnecessary applied finishes and seeks to create a building that can weather, age and be maintained over time.

Embodied carbon will be further reduced through efficient structural spans, rationalised junctions, limited excavation, careful coordination of building services and avoidance of unnecessary material complexity. Detailed embodied carbon assessment can be developed during the technical design stage, once final construction systems and suppliers are confirmed.

The material strategy therefore supports both the environmental performance and architectural character of the proposal. The house is intended to be low-impact, robust and particular to its setting: a building whose construction reflects the woodland, agricultural and ecological context from which it has been developed.

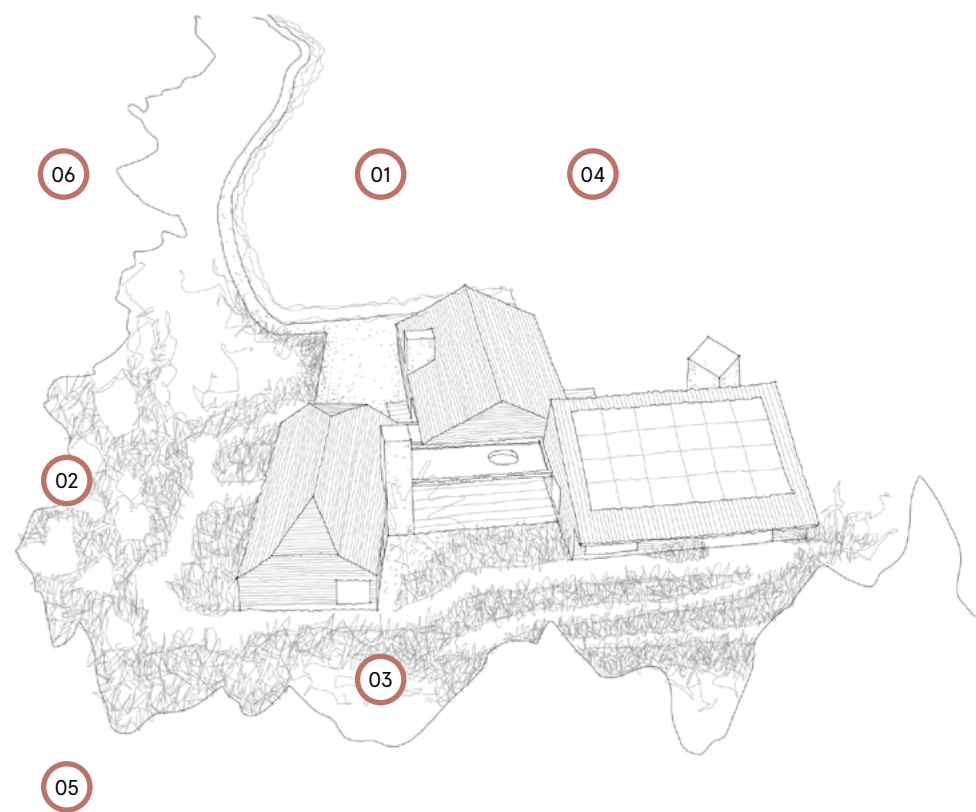
7.0 Landscape, Ecology and Biodiversity

The landscape strategy forms a central part of the sustainability approach. The proposal does not treat landscape as mitigation around a building, but as the structure through which the house is integrated into the site.

The existing field is predominantly modified grassland of limited ecological value, with stronger habitat value concentrated at the margins through hedgerows, individual trees and the adjacent woodland edge. The proposal responds to this condition by retaining and reinforcing the most valuable existing landscape features while transforming the field into a more diverse and ecologically productive setting.

The landscape proposals include woodland buffer planting, native scrub, species-rich grassland, traditional orchard, native tree planting, hedgerow reinforcement and productive garden areas. These elements are arranged as a connected landscape framework, linking the proposed dwelling with the surrounding woodland, pasture and field boundary structure.

A planted buffer is proposed adjacent to the ancient woodland edge, creating a gradual transition between woodland and open field. This protects the woodland setting, strengthens habitat connectivity and allows the new dwelling to sit within an expanded landscape structure rather than in open isolation.



30-Year Management

Long-term stewardship and habitat management plan.

Biodiversity NET Gain

+42.34% habitat units

+2,717.8% hedgerow units

(Significantly above the statutory minimum)

Traditional orchard and meadow planting introduce habitats that are both ecologically valuable and culturally appropriate to the rural character of the High Weald. These areas support biodiversity while reinforcing the productive and managed character of the wider farm landscape.

The submitted Biodiversity Net Gain Assessment confirms that the proposal delivers a +42.34% net gain in habitat units and a +2,717.8% net gain in hedgerow units. This significantly exceeds the statutory minimum requirement and demonstrates that ecological enhancement is embedded within the proposal.

Long-term management will be essential to achieving and maintaining these benefits. Meadow areas, orchard planting, woodland edge habitat and hedgerows will be managed over time to support habitat establishment, biodiversity, seasonal change and landscape resilience.

The proposal therefore delivers sustainability at landscape scale. It improves the ecological value of the site, strengthens existing landscape structure, and establishes a long-term framework for stewardship, biodiversity and rural occupation.

01

Productive Garden
Close to the house for food growing and daily use.

02

Native Scrub
Structure, shelter and year-round habitat.

03

Species-Rich Meadow
Wildflower meadow increased habitat diversity.

04

Traditional Orchard
Local fruit varieties, habitat and food production.

05

Woodland Buffer
Native tree and shrub planting to strengthen the woodland edge.

06

Native Hedgerow Reinforcement
Strengthen field boundaries and habitat corridors.

8.0 Accessibility, Adaptability and Longevity

The proposal has been designed as a long-term accessible home. Accessibility is a central part of the sustainability strategy because it allows the dwelling and landscape to remain useful, adaptable and capable of supporting independent occupation over time.

The house is arranged across a single level, with step-free movement integrated through the internal plan, courtyard, garden spaces and wider landscape routes. This reduces reliance on later adaptation and allows accessibility to form part of the spatial quality of the proposal rather than a technical adjustment.

External routes are designed to connect arrival, parking, entrance, courtyard, gardens and landscape areas in a clear and legible way. Movement through the site is intended to be direct, comfortable and integrated with the landscape structure, supporting daily use of the house and external spaces.

The internal arrangement provides generous circulation, clear relationships between rooms and direct connections to sheltered external areas. The plan supports independent use while allowing the house to adapt to changing needs over time.



- 01

Entrance
Step free approach
- 02

Meadow Edge
Connected landscape for recreation, food production and habitat.
- 03

Orchard
Connected landscape for recreation, food production and habitat.
- 04

Principal Rooms
All on one level with generous circulation and clear connections.
- 05

Parking
Permeable surface close to the house.
- 06

Terrace
Sheltered, step free heart of the home.
- 07

Garden
Step free, ramped access to garden areas.
- **Step Free Route**
Continuous accessible route through the home and landscape.

Diagram

This approach contributes to social and environmental sustainability. A house that can be occupied comfortably over the long term is less likely to require major alteration, replacement or relocation. Its usefulness is extended by design.

The landscape has also been conceived as an accessible environment. Productive gardens, orchard, meadow edges and woodland garden spaces are connected by step-free routes, allowing the external environment to be actively inhabited rather than only viewed.

The proposal therefore embeds longevity into the structure of the design. It creates a home and landscape capable of supporting family life, changing physical needs and long-term stewardship of the site.

9.0 Conclusion

The proposal demonstrates an integrated approach to sustainability that is central to its architectural quality.

Energy, water, drainage, materials, ecology, landscape and accessibility have not been considered as separate technical matters. They have shaped the siting, form, construction and long-term use of the house from the outset.

The scheme reduces operational energy demand through a fabric-first approach, high-performance construction, heat recovery ventilation, fossil-fuel-free servicing and renewable energy generation.

It reduces embodied carbon through the proposed use of timber, hempcrete, bio-based materials and a durable, repairable construction strategy.

It addresses water and drainage through efficient fittings, reduced potable water demand, permeable external surfaces, sustainable drainage principles and a site-specific foul and surface water strategy.

It delivers substantial ecological enhancement through woodland buffer planting, orchard, meadow, native hedgerow reinforcement and long-term landscape management, achieving a biodiversity net gain significantly above the statutory minimum.

It also supports long-term social sustainability through a fully accessible house and landscape designed around independent occupation, adaptability and longevity.

This is directly relevant to Paragraph 84(e). The proposal is not exceptional because sustainability has been added to it. It is exceptional because architecture, landscape, accessibility and environmental performance have been designed as one coherent project.

The result is a new rural dwelling that is efficient in its use of energy, water and drainage, while also significantly enhancing its immediate setting and responding carefully to the defining characteristics of the High Weald landscape.

Architect Benjamin Machin
Studio 110, Netil Corner, London E8 4RU
post@benjaminmachin.co.uk
benjaminmachin.co.uk
+44 (0) 77 5920 2717