

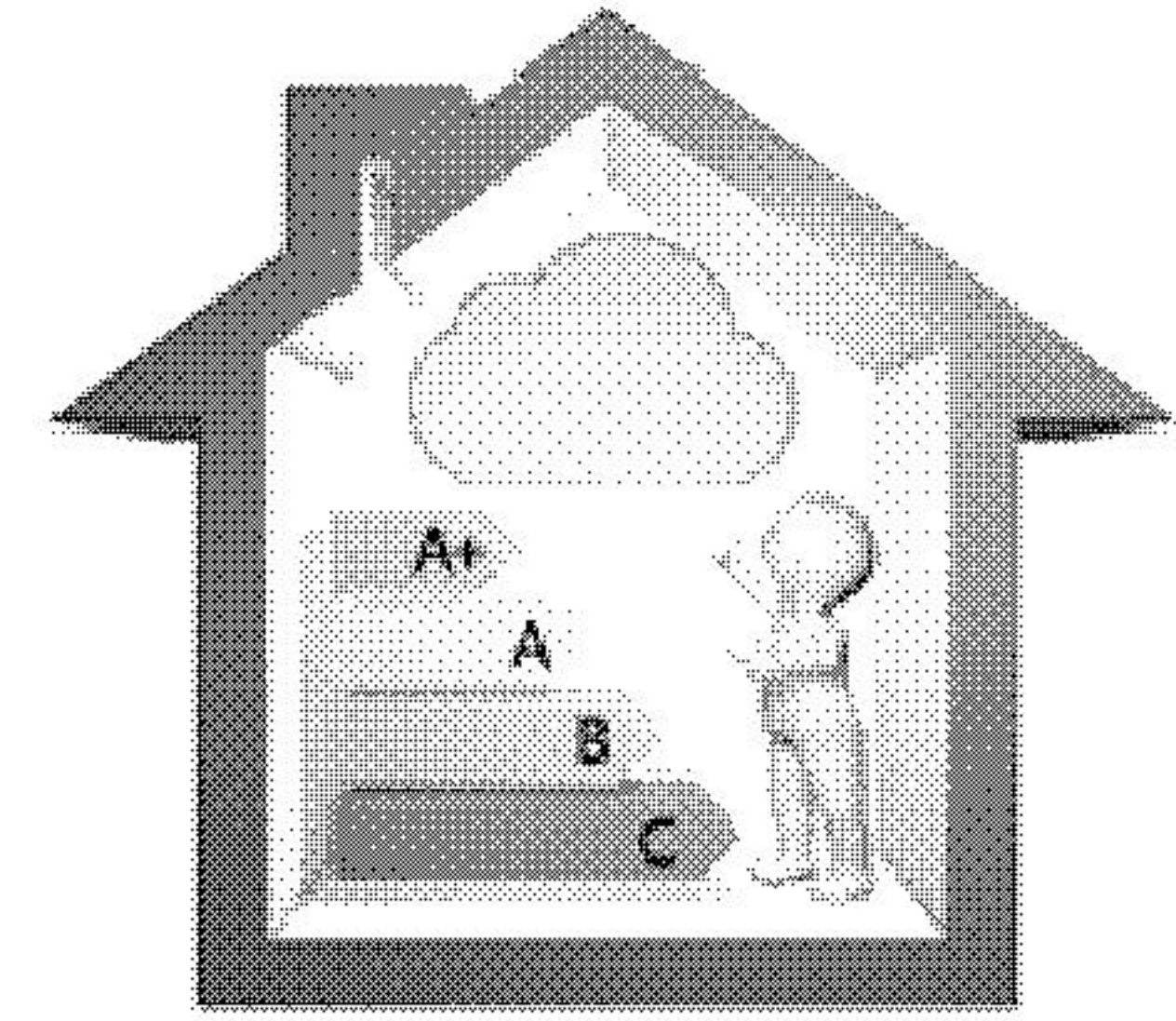
SUSTAINABILITY STATEMENT

PLANNING STAGE

Issue Date: 22-09-26

Property Address:

Russets, Sandy Lane, East Grinstead RH19 3LP



Proposal Overview Includes (refer to drawings for further details):

- Proposed Front & Side Double Storey Extension to Existing House.
- Proposed New Roof with Gable Ends and Rear Dormer
- Solar Panels and Air Source Heat Pump Heating & Hot Water System.
- New windows and doors throughout.
- Internal alterations and upgrades.
- New Porch.

1. Introduction and Project Description

Existing Dwelling

The application relates to an existing detached dwelling, originally constructed during the late 1950s.

The property is of traditional cavity masonry construction, with solid concrete ground floors and suspended timber first-floor construction. The existing pitched roof is of traditional hand-cut timber construction and finished with clay roof tiles.

Whilst the dwelling remains structurally sound and suitable for continued occupation, significant elements of the existing building fabric and services are now dated. The property currently incorporates a mixture of older aluminium-framed and uPVC double-glazed windows, together with an ageing gas-fired heating system.

The existing dwelling currently has an EPC rating of **D**, reflecting the poor thermal performance and energy efficiency associated with its age and construction. The property is therefore comparatively expensive to heat and maintain and presents a significant opportunity for comprehensive improvement.

2. The Proposed Development

The proposal comprises a **two-storey wrap-around front and side extension**, together with a comprehensive programme of improvements to the energy performance and environmental sustainability of the existing dwelling.

The architectural approach has been developed to ensure that the extension not only provides additional and improved accommodation for the occupiers but also acts as a catalyst for the wider modernisation and upgrading of the existing family home.

The proposed development will incorporate:

- High-performance insulation throughout the new extension.
- High-performance double-glazed windows and glazed doors.
- Replacement of existing windows throughout the original dwelling to provide a consistent and improved thermal envelope.
- Additional insulation improvements to the existing ground-floor construction.
- Removal of the existing gas-fired heating system.
- Installation of an energy-efficient Air Source Heat Pump system.
- New underfloor heating to the ground floor.
- Low-temperature radiators to the first floor and loft accommodation.
- Solar photovoltaic panels.
- Battery storage to improve the on-site use of renewable electricity.
- Energy-efficient LED lighting throughout the new development.

The proposal therefore represents more than a conventional domestic extension. It provides an opportunity to significantly improve the environmental performance, comfort, and long-term sustainability of the existing dwelling.

3. Sustainability and Design Philosophy

The proposed development has been designed from the outset around a **fabric-first approach to sustainability**.

The primary objective is to reduce the energy demand of the dwelling before relying upon mechanical or renewable technologies to meet its remaining energy requirements. This approach provides a robust and long-term solution by improving the thermal performance of the building itself.

The scheme has been developed to support the wider sustainability and climate change objectives of the Mid Sussex planning framework, whilst ensuring that the dwelling remains suitable, adaptable, and efficient for long-term family occupation.

The proposal combines:

Improved Building Fabric → Reduced Energy Demand → Low-Carbon Heating → Renewable Energy Generation

This integrated approach ensures that the environmental benefits of the proposal extend beyond the new extension and contribute to the long-term improvement of the existing dwelling.

4. Energy Efficiency and Fabric-First Approach

Enhanced Thermal Performance

The proposed extension will be constructed using high-performance insulation within the walls, floors, and roof structure.

The building fabric will be designed to meet, and where practicable exceed, the thermal performance requirements of the applicable Building Regulations.

Attention will be given to the continuity of insulation and the detailing of junctions between the existing dwelling and the proposed extension.

Key benefits include:

- Improved wall insulation.
- High-performance floor insulation.
- Enhanced roof insulation.
- Improved thermal continuity at key junctions.
- Replacement high-performance glazing.
- Reduced heat loss from the existing dwelling.

Thermal Bridging and Airtightness

Careful consideration will be given to the detailing of the proposed construction to minimise uncontrolled heat loss and thermal bridging.

The design will seek to improve airtightness through careful detailing around:

- Window and door openings.
- Floor-to-wall junctions.
- Roof junctions.
- Connections between the existing dwelling and new extension.

High-performance windows and glazed doors will further contribute towards reducing heat loss and improving occupant comfort.

Daylight, Solar Gain and Overheating

The proposed glazing has been considered to provide a balance between natural daylight, solar gain, and thermal comfort.

The design seeks to maximise the benefits of natural light and beneficial winter solar gain whilst avoiding excessive summertime overheating.

Appropriate glazing specifications and architectural detailing will be incorporated where necessary to manage solar gain and ensure that the development provides comfortable internal conditions throughout the year.

5. Low-Carbon Heating and Renewable Energy

Transition Away from Fossil Fuels

A significant environmental benefit of the proposal is the removal of the existing gas-fired heating system.

The proposed development will instead utilise an **Air Source Heat Pump system**, providing both space heating and domestic hot water.

The heating strategy will comprise:

- Underfloor heating to the ground floor.
- Low-temperature radiators to the first floor and loft accommodation.
- Efficient zoning and control of heating areas.
- A fully electric heating and hot water strategy.

The removal of gas and transition to an electrically powered heating system will significantly improve the long-term environmental performance of the dwelling and reduce reliance on fossil fuels.

Solar Photovoltaic Panels and Battery Storage

Solar photovoltaic panels are proposed as part of the development to generate renewable electricity on-site. Battery storage will allow a greater proportion of the electricity generated to be retained and used within the dwelling, helping to reduce reliance on electricity imported from the grid.

The combination of solar generation, battery storage and an Air Source Heat Pump provides an integrated and forward-looking energy strategy appropriate for the long-term occupation of the property.

6. Water Efficiency and Sustainable Drainage

Water Conservation

The proposed development will incorporate water-efficient fittings and sanitaryware.

Measures will include:

- Low flow taps and showers.
- Dual-flush WCs.
- Water-efficient sanitary fittings.

These measures will reduce unnecessary water consumption and support the efficient use of natural resources.

Sustainable Drainage

The proposed extension will alter the footprint and roof area of the existing dwelling. The drainage strategy will therefore seek to ensure that the development does not result in an unnecessary increase in surface water runoff.

Measures proposed include:

- Rainwater harvesting through water butts for garden irrigation.
 - Permeable surfacing where new hard landscaping is required.
 - Localised soakaway drainage, subject to appropriate ground investigation and infiltration testing.
- The intention is to manage surface water as close as reasonably possible to its source and avoid placing additional pressure on the public sewer network.

7. Sustainable Materials and Construction

The proposed development will seek to minimise its environmental impact through the responsible selection of materials and efficient construction practices.

Where practicable, preference will be given to:

- Locally sourced materials.
- Materials with lower embodied carbon.
- Responsibly sourced timber and timber products.
- Durable materials with an appropriate long-term lifespan.
- Materials capable of being reused or recycled at the end of their life.

Construction waste will be managed responsibly through the segregation, reuse, and recycling of materials wherever reasonably practicable.

The proposal therefore seeks to reduce environmental impact not only through the future operation of the dwelling but also through the construction process itself.

8. Wider Improvement to the Existing Dwelling

An important benefit of the proposal is that the environmental improvements extend beyond the new extension.

The existing dwelling will also benefit from:

- Replacement high-performance windows.
- Improved floor insulation.
- Replacement of the existing heating system.
- Transition from gas to low-carbon electric heating.
- Improved heating controls and zoning.
- Renewable electricity generation.

The proposal therefore provides a comprehensive opportunity to upgrade a late-1950s dwelling which currently performs poorly in energy efficiency terms.

The proposed improvement from the current **EPC rating of D** (existing rating) **towards EPC rating of B** (proposed end product), subject to the final specification and post-completion assessment, would represent a significant enhancement to the environmental performance of the property.

9. Sustainability Strategy Summary

Existing Dwelling

EPC Rating: D

Heating: Gas-fired boiler

Windows: Mixed older aluminium and uPVC units

Energy Generation: None

Thermal Performance: Limited by age and original construction

Ground Floor: Uninsulated solid construction in existing areas

Proposed Improvements

Building Fabric

EPC Rating: B (subject to final EPC calcs on completion)

- Enhanced insulation to extension.
- Improved thermal performance.
- Reduction in thermal bridging.
- Improved airtightness.

Windows and Doors

- New high-performance double glazing.
- Replacement of existing windows.
- Improved consistency of the building envelope.

Heating

- Existing gas heating removed.
- Air Source Heat Pump installed.
- Underfloor heating to ground floor.
- Low-temperature radiators to upper floors.

Renewable Energy

- Solar photovoltaic panels.
- Battery storage.
- Increased on-site use of renewable electricity.

Water and Drainage

- Water-efficient sanitary fittings.
- Rainwater harvesting.
- Permeable surfaces where appropriate.
- Localised sustainable drainage.

Long-Term Outcome

A significantly improved, lower-carbon and more energy-efficient family home designed for long-term occupation.

10. Conclusion

The proposed two-storey wrap-around extension provides an opportunity to improve both the accommodation and environmental performance of the existing dwelling.

The proposal has been developed around a clear **fabric-first sustainability strategy**, improving the thermal performance of the building before incorporating low-carbon heating and renewable energy technologies. The development will provide a comprehensive package of improvements, including enhanced insulation, replacement high-performance glazing, improved heating controls, the removal of the existing gas-fired system, installation of an Air Source Heat Pump, underfloor heating, solar photovoltaic panels, and battery storage.

Importantly, the environmental benefits extend beyond the proposed extension and will improve the performance of the existing late-1950s dwelling.

The proposal will therefore transform an existing property into a significantly more efficient and sustainable family home, with the potential to achieve an **EPC rating of B**, subject to final specification and assessment.

The development represents a positive long-term investment in the continued use and occupation of the dwelling, reducing energy demand, lowering reliance on fossil fuels, and improving the resilience and sustainability of the property for future generations.

