

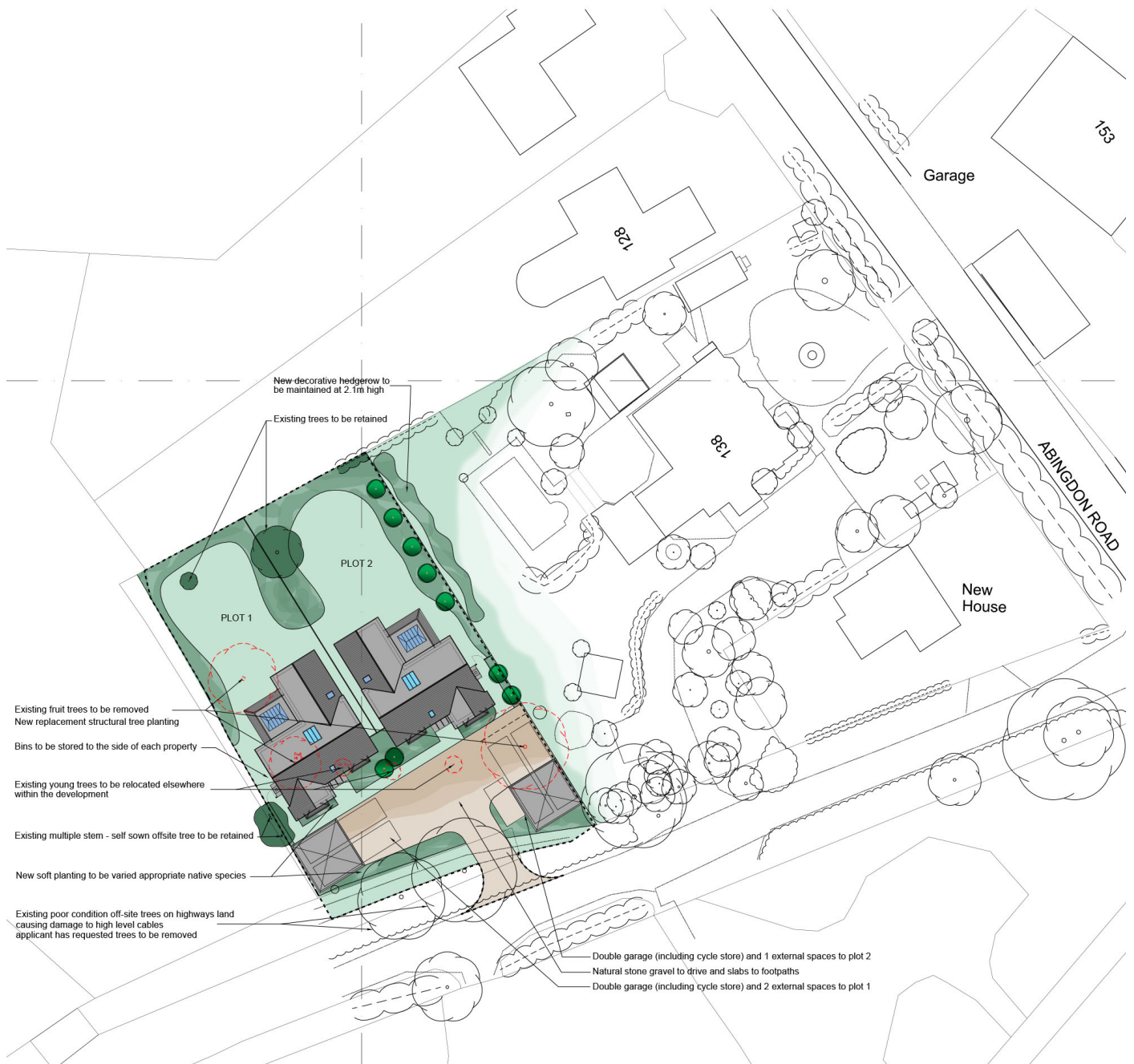
Sustainability Statement

138 Abingdon Road

Standlake

OX29 7RN

November 2023



Above: an extract from the site plan, submitted in support of the planning application showing the extent of development.

Contents

1	1.0 Introduction
1	2.0 West Oxfordshire District Council Sustainability Checklist
4	3.0 Operational Energy
4	4.0 Energy Production
6	5.0 Fabric Efficiency
7	6.0 Embodied Carbon
8	7.0 Potable Water Use
8	8.0 Health & Wellbeing
8	9.0 Waste
8	10.0 Local Travel

**1.0
Introduction**

This sustainability report sets out the sustainable principles for the development of two family dwellings accessed from Shifford Lane. This application follows the outline approval REF: 16/00783/OUT as well as the previous application REF: 20/03451/FUL. The design of the application does not considerably differ from the previous planning application but will adhere to higher environmental and sustainability standards to ensure that regulatory compliance is achieved, and the clients wish of a sustainable and environmentally conscious development is achieved.

This development falls within the West Oxfordshire District Council boundary and therefore will adhere to the local planning authority's various sustainability & environmental policies for new developments as well as ensuring that the development meets the required statutory standards for energy & environmental performance. Where appropriate the development will seek to surpass these standards to ensure a development which helps to achieve local, national & international targets for the reduction in carbon emissions. During the technical design of the development, sustainability will be at the forefront of the design with the RIBA 2030 Climate Challenge and its four targets helping to guide and inform the design.

The four target areas are Operational Energy, Embodied Carbon, Potable water use, Health & Wellbeing.

**2.0
West Oxfordshire
District Council
Sustainability Checklist**

In the following pages the West Oxfordshire sustainability checklist for the project is completed. Due to the design stage of the project, several of the elements are still to be confirmed through the detailed design stage which will happen should the application be approved.



Sustainability Statement - minor applications

Sustainability standards	Yes	No
A Net zero carbon		
1. Has the building fabric been designed to standards of ultra-low energy demand?	✓	
2. Has thermal comfort and the risk of overheating been assessed and passive design measures been prioritised?	✓	
A formal overheating assessment will be conducted during the detailed design stage however no issues are anticipated due to the design of the building which incorporates the principals of environmental design.		
3. Is the development fossil fuel free?	✓	
Where ever possible fossil fuels will not be used in the development, with heating being provided by an air source heat pump and PV Cells on the roof, with additional energy being sort from green sources on the grid.		
4. Will a net zero operational carbon balance be achieved and 100% of energy consumption delivered using renewables?		X
5. Will embodied carbon emissions be minimised?	✓	
B Travel		
1. Is home working supported?	✓	
2. Has active travel been prioritised?	✓	
3. Is shared mobility facilitated?		X
4. Will electric vehicle charging infrastructure be provided?	✓	
C Water		

1. Will water consumption be minimised?	✓	
2. Will water be conserved through rainwater harvesting or grey water recycling?	✓	
3. Has the flood risk assessment accounted for climate change and is sustainable drainage proposed?	✓	
D Waste		
1. Will the construction company be registered with the Considerate Construction Scheme?	N/A	
As no construction contract has been awarded this is impossible to determine at this stage.		
2. Will a Site Waste Management Plan be followed and targets set for construction waste recycling and disposal?	N/A	
As no construction contract has been awarded this is impossible to determine at this stage.		
3. Will there be safe and convenient access to waste recycling?	✓	
E Voluntary sustainability standards		
1. Will non-domestic development be BREEAM certified?	N/A	
2. Will the development receive a sustainability accreditation and/or follow recognised sustainability principles?		X
F Only for development affecting heritage assets or traditional buildings		
1. Have the heritage value of the building(s) and impact on any heritage asset been appropriately assessed?	N/A	
2. Is a whole building approach being taken?	N/A	
3. Will responsible retrofit measures be adhered to?	N/A	

**3.0
Operational Energy**

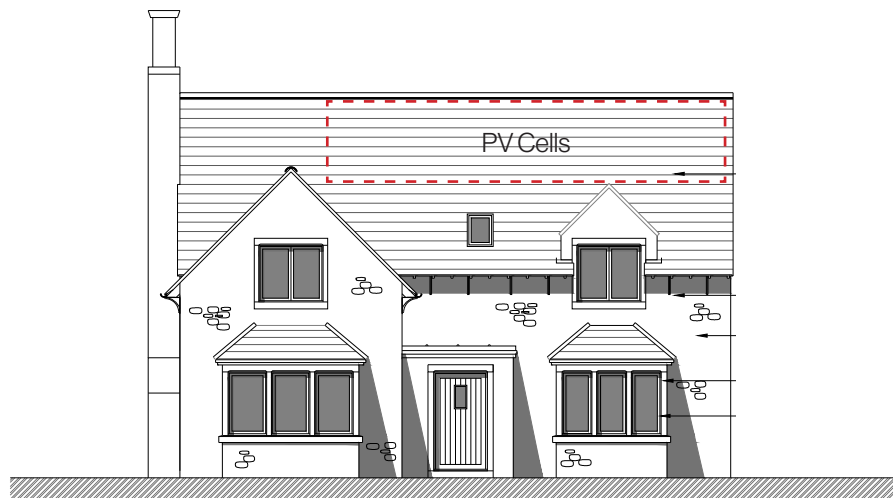
As previously stated, the client wants the home to be sustainable and environmentally developed and therefore the reduction of energy required in the day-to-day operation of the house is important. This can be done by reducing the overall energy demands and when energy is required, ensuring, wherever possible, that it comes from a sustainable source.

**4.0
Energy Production**

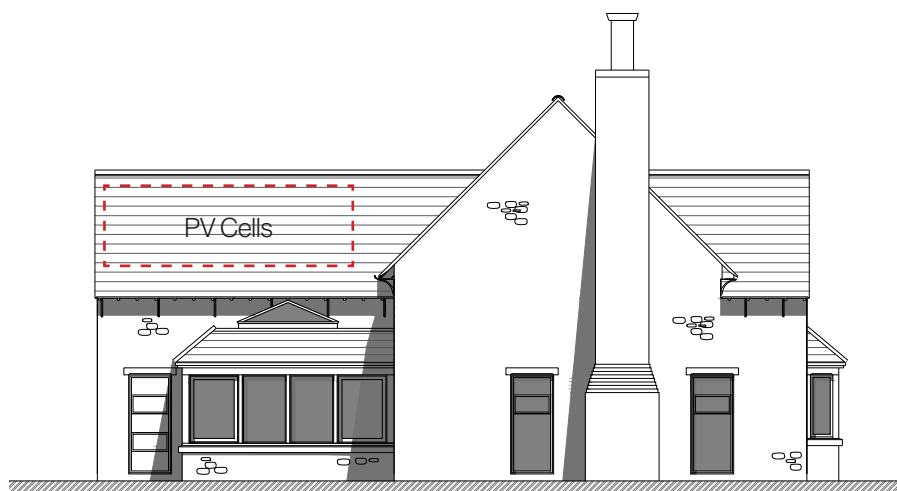
It is proposed that the southernmost roof peaks will contain a PV array and possibly the western facing peaks, helping to reduce the dependence of the development on the grid for its energy demands. These PV cells will be connected to a series of battery storage devices in each house, which will help to reduce grid dependencies yet further.

It is proposed that an air source heat pump per house, is installed to provide the heating demand required for the developments. The demand will be minimised by ensuring high fabric efficiency.

House 1 possible PV Cell location on southern facade



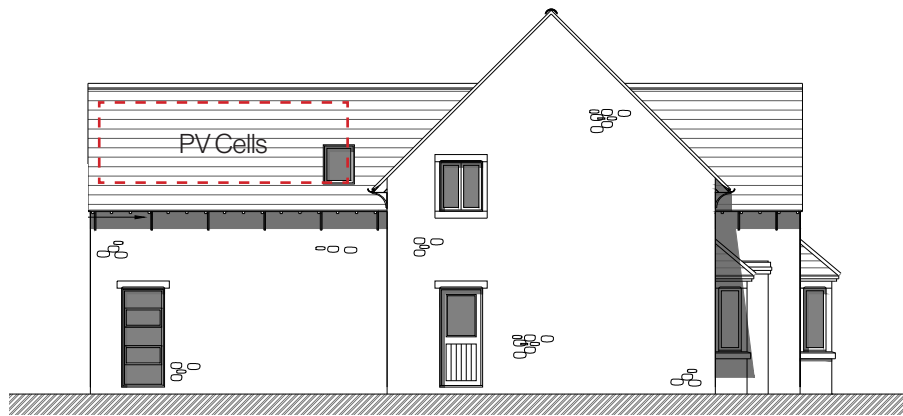
House 1 possible PV Cell location on western facade



*House 2 possible PV
Cell location on southern
facade*



*House 2 possible PV
Cell location on western
facade*



5.0 Fabric Efficiency

The development will comply with the standards for fabric efficiency set out in Approved Document L of the Building Regulations. This document, which was substantially updated in 2021 reflects the governments ambition to create more sustainable & efficient housing, by ensuring a high level of fabric efficiency is achieved. This development will ensure that the demand of Approved Document L is met, with a SAP calculation being used to access this. Where possible a more efficient building will be designed than required by Part L, however given the technical design has not been undertaken this cannot be said for certain. One area where it is highly likely that fabric efficiency could be improved is the airtightness factor.

*Below: An abstract from
Approved Document L*

Table 1.1 Summary of notional dwelling specification for new dwelling⁽¹⁾

Element or system	Reference value for target setting
Opening areas (windows, roof windows, rooflights and doors)	Same as for actual dwelling not exceeding a total area of openings of 25% of total floor area ⁽²⁾
External walls including semi-exposed walls	U = 0.18 W/(m ² ·K)
Party walls	U = 0
Floors	U = 0.13 W/(m ² ·K)
Roofs	U = 0.11 W/(m ² ·K)
Opaque door (less than 30% glazed area)	U = 1.0 W/(m ² ·K)
Semi-glazed door (30–60% glazed area)	U = 1.0 W/(m ² ·K)
Windows and glazed doors with greater than 60% glazed area	U = 1.2 W/(m ² ·K) Frame factor = 0.7
Roof windows	U = 1.2 W/(m ² ·K), when in vertical position (for correction due to angle, see specification in SAP 10 Appendix R)
Rooflights	U = 1.7 W/(m ² ·K), when in horizontal position (for correction due to angle, see specification in SAP 10 Appendix R)
Ventilation system	Natural ventilation with intermittent extract fans
Air permeability	5 m ³ /(h·m ²) at 50 Pa

6.0 Embodied Carbon

Throughout the design process, the embodied carbon contained within the development has been considered. Wherever possible local materials have been specified which will continue through the detailed design. Most of the façade is clad in Cotswold Stone, a local and abundant resource. Lime mortar will be used to ensure that future generations will be able to reuse the stone cladding, helping to create the circular economy of the future. Natural Slate roof tiles will be used, if cost allows.

Timber floors will likely be used on the first floor while natural stone floors laid on the ground floor, however this may evolve through the interior design stage. Concrete and steel will be minimized wherever possible to reduce the embodied carbon in the building. Timber framed windows could be installed, to reduce the use of either PVC or Aluminium, however this is dependant on the detailed design.



A sample panel of the natural, locally sourced materials which will be used wherever possible through the development

**7.0
Potable Water Use**

Throughout the development, measure will be taken to reduce water usage and ensure that, if possible a maximum water usage of 75 litres per person per day is used across the development. This will be achieved through a series of measures which include, but are not limited to, aerators within taps, dual flush toilets, water efficient appliances, and water saving shower heads. Further details will emerge through the detailed design.

Rainwater harvesting will be included for each of the houses either in the form of a subterranean tank or water butts. Harvesting will occur from both the main roof of each house but also the garages. This would be used to feed an external tap for water usage in the garden as well as car and external cleaning. A rainwater storage solution would also have the additional benefit of reducing mains water usage.

**8.0
Health & Wellbeing**

The development aims to create 2 family houses which support and encourage a healthy life. The location and design allow for biophilic design principles to be integrated into family life.

The orientation of the houses mean that overheating is not of concern however this will be assessed during the detail design stages to ensure this is not the case. The G-value of the glazing will be adjusted to ensure that the house doesn't exceed the standard laid out in Approved Document O.

**9.0
Waste**

Waste will be carefully considered through both the construction and use of the development. Space will be made to allow for a home compost bin to be used by the client should they wish to do so.

Areas within the houses as well as externally will be created to allow for the separation of household waste and the storage of waste in council-provided bins making the separation of waste as convenient as possible for residents.

**10.0
Local Travel**

Wherever possible active travel will be encouraged. Bike storage will be created within the garage, along with an area externally to allow guests to secure their bikes should they wish. A bus stop is a 2 minute walk away from the development which provides regular services to Witney & Eynsham.

Electric car charging facilities will be provided for both developments in line with the appropriate Approved Document.

