

Sustainability Statement for Planning

Mill Barns, Whitwell

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1 - Introduction

This Sustainability Statement (SS) has been prepared in support of the planning application for the proposed redevelopment of Mill Barns, Whitwell, Hitchin, Hertfordshire.

2 - Planning Policies

National Planning Policy Framework 2025

The NPPF was updated in February 2025 to place greater emphasis on beauty, place-making, the environment, and sustainable development. The strengthened environmental objectives aim to protect and enhance the natural, built, and historic environment, and encourage effective land use, greater biodiversity, prudent use of natural resources, minimisation of waste and pollution, and adaptation to climate change alongside a move to a low carbon economy.

The North Hertfordshire Local Plan and Core Strategy sets out the below policies.

- Policy SP9: Design and Sustainability
Sustainability & Energy Framework identifying site-wide and building scale opportunities for low and zero carbon
- Policy SP11: Natural resources and Sustainability
Support proposals for renewable and low carbon energy development in appropriate locations;
- ENV4: ENV4 Mitigate the effects of climate change by encouraging the use of sustainable construction techniques, the appropriate use of renewable energy technologies and reducing the risk of flooding
- ENV5 Reduce water consumption, increase biodiversity and protect and enhance the quality of existing environmental assets by enhancing new green spaces and networks of green space for both recreation and wildlife.

Only some of the above policies will be relevant to the proposed development, as they can vary depending on the size and type of project, therefore we would tailor the guidance to the site.

The proposed development will use the above policies as a guide to implement the sustainable design principles within the development.

North Hertfordshire Council

The Core strategy sets out the above policies to promote Sustainable Development and requires a sustainability statement to be provided for all planning applications in line with the key principals of the Sustainable Design and Construction of the Local Plan.

An energy assessment has been carried out separate to this report.

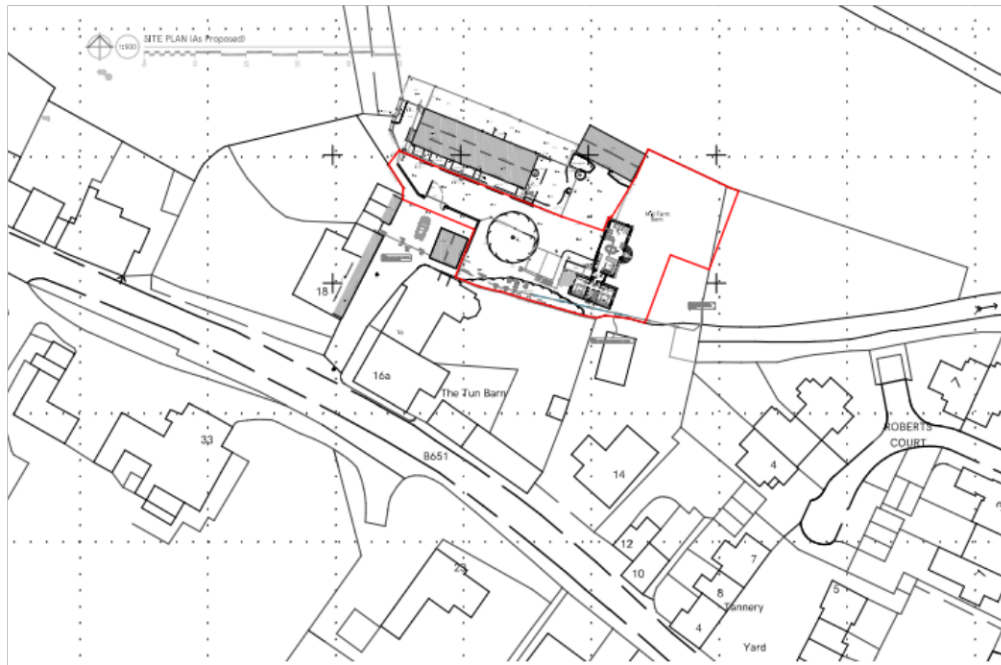
3 - Existing and Proposed Development

The site is located on land to Mill Farm Barns, High Street, Whitwell, Hitchin.

The site is currently a garden space and outbuildings and adjacent to other residential properties.

The development is in a rural location with few houses and farms around the area.

Proposal is for a new build one storey bungalow with a mezzanine living area.



Given the scale and nature of the development, this constrains the development proposals in terms of the layout, positioning and orientation of the proposed dwellings. Subsequently, these constraints will impact on the feasibility of certain sustainability and energy efficient measures that can feasibly be incorporated into the new dwellings.

Figure 1: Site Location

4 – Sustainability Statement

<u>Energy</u>	
Issue	Compliance
Energy Demand	Throughout the new development of Mill Barns, best efforts have been made to reduce the need for energy and reduce heat demand. A Energy statement has been carried out on the dwelling to show how the dwelling can be improved beyond Part L 2021 building regulations. As the drawings supplied are at a planning stage, assumptions have been made about the construction, heating and ventilation. Therefore energy strategy which have been used, which should be used as a guide to design the dwellings.
Maximise use of passive energy	Through the use of passive and active design measures the design team have enabled the development to require less energy through the use of optimised insulation, cross ventilation, improved window u-values, higher air tightness, reduced cold bridging and light coloured materials.
Increased Energy Efficiency	An Energy Statement and initial SAP calculation for planning only has been carried out for the proposed dwelling which shows how the dwelling will go beyond building regulations Part L 2021 . The dwelling will incorporate • Low fabric element u-values, External wall u-value 0.18W/m2k, Floor 0.11W/m2k, Roof 0.11-0.13W/m2k • High efficiency ASHP heating system • Time and temperature zone control, weather compensator

	Heat recovery system for ventilation This has shown to be an improvement over building regulations Part L1a 2013 baseline, by achieving a potential of 79% improvement in CO2 emissions.
Renewable Energy Sources	The feasibility of several renewable technologies has been reviewed and shown that the majority of these are feasible, as shown in the Energy Statement. There is the potential for Solar PV panels and five panels at 400watts each has been incorporated into the energy assessment.
Responsible Travel Provisions	The site is in an rural area and therefore has limited access to public transport. The nearest train station is in Stevenage which is 5 miles away. There are two bus stops near the site located on High Street. There will also be cycle storage for 2 cycles provided for the occupiers to promote healthier travel methods and reduce CO2 emissions from vehicles.

Water

Issue	Compliance
Water Saving Measures	Initial advice from the design team suggests the water saving measures can be incorporated in order to reduce water usage (See Appendix B). It has been identified that there is the opportunity to have low flow rates and dual flush toilets.
Water Consumption Targets	Water efficient fixtures, fittings and appliances will be provided to ensure that internal water use targets are achieved to comply with the local council target of 110 L/person/day. In comparison, Building Regulations Approved Document G requires internal water use to be at 125litres/person/day or less.
Reusing Water	A preliminary feasibility study of the potential to include rainwater harvesting should be carried out; given the nature of the development however it may be considered not feasible to install a rainwater harvesting system. Further assessment with a drainage engineer would be needed.
Metering	A water meter could be provided. During detailed design, consideration will be given to the provision of digital meters with connectivity to a central building management / billing system, rather than standard analogue meters.

Materials and Waste

Issue	Compliance
Design Stage Choosing materials that minimise the use of resources are sustainably sourced, do not cause harm to health and are robust.	The contractor and developer will aim to design and choose materials that will influence the construction process and reduce the embodied carbon of the development. Ensuring that materials are responsibly sourced, sourcing materials from local sources, minimising the harmful effects of some materials on human health, ensuring that specified materials are robust and sensitive to the building type and age. Where feasible the developer use materials and products with Environmental Product Declaration (EPD) certificates. It is intended that insulation materials will have an Ozone Depletion Potential (ODP) of zero, and a Global Warming Potential (GWP) of less than five. Where specified by the developer (e.g. low VOC paint), finishes and other materials will not contain or emit toxic substances. Where timber is to be installed it will be 100% legally sourced and FSC certified.
Construction Stage Management of materials resulting from demolition through the waste hierarchy	The Contractor will aim to reduce waste during the construction phase of the development via the hierarchy of, Reduce, Reuse (prioritising on-site reuse of demolition materials, followed by offsite reuse), Recycle (prioritising on-site recycling, then off-site recycling), Resource recovery (for energy generation processes – fuels, heat and power); and Disposal. A Site Waste Management Plan (SWMP) will be prepared and incorporate non-hazardous waste, demolition and excavation waste if applicable. The BRE Smartwaste tool can be used as an easy tool by contractors.

Storage for Recyclables & Waste	Sufficient internal and external space will be provided to facilitate recycling and the good management of waste for the building occupiers. The dwelling will be fitted with internal waste storage facilities in the kitchen for the segregation of recyclable materials, in compliance with BS5096.

Nature Conservation and Biodiversity

Issue	Compliance
Protecting Species Promoting the Protection and Planting of Trees	The existing site is a barn building and garden space and is considered to be of low ecological value. Existing trees (and the space they require) have been considered throughout this development. There will be one fruit tree which will be removed on site. Any trees next to the construction zone will have to be adequately protected. The potential to increase the ecological value of the site will be enhanced were possible.
Designing development proposals and Biodiversity Net Gain (BNG)	The BNG has been increased to +12.68% for the site which meets the planning policy target of +10%. Efforts will be made to improve the ecological value of the site were the planting of trees was carried out by the owner in 2024 and has been used to offset any impact of the new development. A Bat survey is to be carried out.

	Developers should adhere to the following hierarchy when considering biodiversity on their development by; avoiding adverse impact to the biodiversity interest, minimise impact, seek mitigation, and seek appropriate compensation where the benefits of the proposal clearly outweigh the biodiversity impacts
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Tackling Increased Temperatures and Drought

Issue	Compliance
Preventing Developments from Overheating	Overheating within buildings can result from either too much heat entering a building and not being released or too much heat being generated within a building and not being released. Therefore, if the internal environment becomes too hot it is likely occupiers will try to find a way to cool their environment. In order to continue minimising CO ₂ emissions the design team have considered the internal comfort and implemented the following measures to reduce over heating, via cross ventilation, lightly colours external walls, and blinds. The dwellings are orientated where summer over heating should be reduced with less windows facing in a south direction.
Promoting Heat and Drought Resistant Planting	London's water demand already outstrips mains water supply. Therefore it is essential that landscaping does not use excessive amounts of water. have ensured the landscaping of the development does not require excessive amounts of water. Consideration will be given the including plant species which are heat and drought resistant. Advice from an ecologist should ideally be sought before any plant species are selected.

Flooding

Issue	Compliance
Surface Water Flooding	Surface water flooding is the most likely form of flooding that development may be exposed to. Surface water flooding is likely to increase due to the anticipated increased intensity in rainfall events as well as the continuing urbanisation of towns. There will be a significant increase in hard-standing areas and an increase in the peak rates and volumes of surface water runoff. Therefore, this will need to be compensated for by SUDs which have been proposed. See Stomor Report for types of SUDs.
Flooding Resilience and Resistance	The development site is located in a flood zone 1 area and a small section is in flood zone 2 area. A flood risk activity permit maybe required. The site is considered to be at low risk of flooding as per the Stomor Report Ref ST3574/FRA-2406 Rev1.
Flooding and Basement Developments	There is no basement planned for the proposed development.

Land Contamination

Issue	Compliance
Responsible Person/Organisation	The current site is not identified as being contaminated as a result of previous uses.
Bioremediation	Bioremediation is not required.

Air Pollution

Issue	Compliance
Assessment Requirements	An air quality test should not be needed for the proposed development being located on a residential area.
Construction and Demolition	To recognise and encourage construction-sites which are managed in an environmentally and socially considerate, responsible and accountable manner. For the proposed development, the contractor will comply with 'The Control of Dust and Emissions during Construction Demolition SPG'. Control measures will be implemented by the contractor on site to prevent air and dust pollution. An example of this could be using dust sheets on materials and skips, damping down in waste areas.

Design and Occupation	Ventilation pathways will need to be designed to reduce the build-up of air pollutants in the dwelling/s, through cross ventilation, and either naturally ventilated or mechanical ventilation. Where there is mechanical ventilation, exhaust flues will be positioned away from intake flues for fresh air. In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution. There is no requirement for mechanical ventilation for this development.
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Noise

Issue	Compliance
Sources of Noise	The proposed site is located within an existing residential area, with no commercial units in the vicinity. The area is identified having a low potential for noise pollution from residential dwellings.
Mitigation of Noise Emitted by Development	Noise attenuation measures will be incorporated on-site where required, to ensure that any noise generated by equipment or services will not generate a source of noise pollution or negatively impact the surrounding area. The developer will comply with the council's construction noise rules which states what hours of the day the site can work within.

Mitigation of Noise impacts on the Development	For the occupiers of the dwellings, the specification of the partition walls, floors and external walls will be designed to go beyond Document E of the building regulations. The following should be followed, and best efforts will be made here were possible to avoid impacts of external noise to the occupiers. Locate noise sensitive areas/rooms away from the parts of the site most exposed to noises, create setbacks, design the building so its shape and orientation reflect noise and protect the most sensitive uses, position non-residential uses closer to the noise source in mixed use developments, design in lobbies, balconies, winter gardens and dual facades; and carefully locate noise generating equipment for the building such as plant and services away from sensitive uses.
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Light Pollution

Issue	Compliance
Type of Light Pollution	Light pollution comprises any adverse effect of lighting for building occupiers, and for this development includes; Glare, 'Light Trespass' and 'Sky Glow' and Poor Artificial Lighting
Potential Effects	Light pollution can have a detrimental impact on the quality of life of residents; by significantly changing the character of the locality, altering wildlife and ecological patterns and wasting energy
Lighting Design to Minimise Impacts	To minimise obtrusive light where applicable, lights will be designed to be used only in appropriate areas, and that upward lighting is minimised, this will help to reduce light pollution and effect to neighbours.

	Where there is external lighting, it will have to be designed to the following standards. First to be energy efficient going beyond Part L of the building regulations, with the aim to achieve no less than 60 lumens per circuit watt. Second all external lights will be automatically controlled for the prevention of operation during daylight hours and presence detection in areas of intermitted pedestrian traffic. The ILP Guidance for the reduction of obtrusive light, 2001 will be used to design the lighting strategy. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes. Illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements
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Water Pollution

Issue	Compliance
How Sustainable Drainage Contributes to Water Quality	There are no activities on site which lead to pollutants accumulating on hardstanding areas, therefore traditional drainage systems will be sufficient. Where applicable, the design team will incorporate the drainage hierarchy set out in London Plan Policy 5.3. Further details is required by a drainage engineer.
Connection of New Developments to the Sewer Network	The site is in close proximity to the main sewer network therefore connection should not be a problem.

5 Conclusion

The proposed development is to be located on land off High Street, Whitwell. Proposals are for the construction of a detached new build bungalow.

North Hertfordshire Council Core strategy requires a sustainability statement to be provided for all planning applications in line with the key principals of the Sustainable Design and Construction of the Local Plan 2011-2031.

Given the scale and nature of the development, this constrains the development proposals in terms of the layout, positioning and orientation of the proposed dwelling. Subsequently, these constraints will impact on the feasibility of certain sustainability and energy efficient measures that can feasibly be incorporated into the development (as discussed in Section 4 of this report).

The above sustainability statement sets out what the requirements are of the planning policies and what can be achieved for the proposed development.

The main features of the site to meet the building environmental standards are:

- The energy efficiency measures of the building are to go beyond Part L1 2021, with a potential a 79% improvement in CO2 emissions
- The development is to take a fabric first approach, which is to be designed to be highly insulated, with low u-values, good air tightness, high heating efficiency and controls. Heating will be an ASHP system and there will be solar PV panels.
- Water efficiency is a big driver of sustainability and indoor fittings which will have water efficiency will be installed. These will help to go beyond Part G minimum standard of 125L/person/day and achieve a 110L/person/day
- Materials to be used in the proposed development are to be sustainably sourced.
- The contractor to be used for this development will need to monitor, record construction site impacts (energy, water and transport), having policies in place for reducing air and surface water pollution
- The contractor will need to have a site waste management plan in place from the beginning of construction and use this throughout the construction period. Any demolition waste will be recycled