

Residential Development at Sunnyhills Road, Leek

Approach to Sustainable Development – Key Areas

1. Brownfield site remediation (SMDC Local Plan Policy SD1 – Sustainable use of resources)

“Supporting or promoting proposals that remediate brownfield sites affected by contamination”

The Government has made it clear that sustainable development is the core principle underpinning land use planning, in NPPF and other guidance. National policy guidance and Policy SD 1 support the use of previously developed land for development and the efficient use of land to wider considerations (ref 7.4 SMDC local plan).

The 16 acre site, formerly Barnfield Hughes concrete works, ceased operation over ten years ago. Due to the former use, the site was formed to accommodate the evolution of the previous business and comprises concrete hardstanding, predominately vacant buildings and made ground (some of which comprising concrete, re bar and materials used on site).

In order to enable a development platform to accommodate new housing, it will be necessary to remediate this brownfield site, the majority of works will involve excavating, breaking up, grading, sorting and redistributing materials on site. This will minimise the need for importing/exporting materials to provide a sustainable solution to site remediation.

Environmental Benefit

Casey are committed to ensuring environmental benefit as outlined in the submitted Biodiversity Enhanced Management Plan produced by Urban Green. The approach to Biodiversity Net Gain is outlined in the accompanying assessment; Biodiversity Net Gain Assessment.

2. Part L Building Regulations (SMDC Local Plan Policy SD3 – Sustainability Measures in Development)

“Supporting developers who propose thermal efficiency”

Casey intends to exceed the requirements of Part L of the building regulations by taking a fabric first approach to the build. Enhanced detailing across all thermal bridges and improved air tightness together with efficient M&E services will reduce the carbon

emissions. Heating & hot water will be provided using low carbon high efficiency air source heat pumps with ventilation provided by extract fans.

Table 4.1 from part L Volume 1, 2021 edition stated the following limiting U values for fabric elements and air permeability in new dwellings. The table below shows the U value proposed by Casey.

Element Type	Maximum U Value (W/m²k)	Casey Proposed U Value
(W.m²k)		
Ground Floor	0.18	0.12
External Wall	0.26	0.17
Roof	0.16	0.10
Windows	1.6	1.4
Doors	1.6	1.2
Air Permeability	8.0m ³ @50Pa	5.0m ³ @ 50Pa

Casey will employ an independent certified sustainability consultant to develop the design and provide full compliance reporting through to completion.

3. Drainage and Flood Risk (SMDC Local Plan Policy SD4 Pollution and Water Quality & Policy SD5 Flood risk)

“On previously developed sites the aim should be to reduce runoff rates and volumes”

Drainage Strategy

The drainage strategy is to collect runoff from the roof and all external areas and direct it to the new surface water drainage networks that is proposed to connect to the existing SW sewers around the site (ref ‘Proposed Drainage Plan’ for the finalised drainage layout).

Due to the sites topographical constraints (minimum FFL’s to be achieved is 145.91m) and as part of the development design intent there are three separate SW networks to be located within the proposed adoptable highways.

The proposed drainage layout for the proposed properties and highways has been designed in accordance with Design & Construction Guidance (DCG), BS EN 752: 2008 and Building Regulations Part H guidance, i.e. up to the 30-year storm return period criterion and tested for the 1 in 100 year return period including a 40% increase to account for climate change to confirm that there is no flood risk to the properties.

SUDS

The proposed development is to utilise below and above ground storage SUDS techniques to accommodate the restricted surface water discharge rate. Surface Water (SW) flows up to the 1 in 30-year event will be contained below ground to satisfy all guidance.

In the case of this development, any exceedance flooding for storms in excess of the 1 in 30-year event and up to the 1 in 100-year event (including a 40% increase to allow for climate change) is to be stored within an offline detention basin, oversized pipes or an offline geocellular storage tank.

Silt is to be prevented from entering the drainage system by the use of trapped gullies and channels with silt traps.

Post development discharge rates for the proposed development have been limited to a maximum 160.7l/s, this is a significant reduction in the existing run off rates, as highlighted in the submitted Ridge drainage strategy (Table 1. 'Existing Impermeable Area' and 'Proposed Impermeable Area')

Foul Water Strategy

In line with the STW Pre-development response, two new foul networks will serve the proposed development. 'Network 1' located within the western area, is to discharge no more than 55 dwellings into the existing 375mm foul sewer via a new manhole connection. The remaining dwelling will discharge into the diverted 450mm foul water sewer, located east of the proposed development.

The proposed drainage layout for the new development site has been designed in accordance with Design & Construction Guidance, BS EN 752: 2008 and Building Regulations Part H guidance.

Flood risk

The existing site is classed as a brownfield site, therefore in line with the FRA (approved Flood Risk Assessment produced by Flood Risk Consultancy LTD Report No. 2013-069-01 rev C dated 17/01/2014), the proposed development is to provide a 20% betterment on the existing run off rates.

Submitted documents

For further detailed information on the development sustainability, refer documents produced and submitted as part of the planning application process, including:

- Drainage Information Report and technical note - Ridge
- Transport Statements and drawings - Eddisons
- Travel Plan Framework - CBO Transport
- Design and Access Statement – Planit
- Air quality assessment – Royal Haskoning
- Noise assessment - SRL
- Stage 1 desktop contamination report – Smith Grant
- Remediation & Enabling works strategy – E3P
- Arboricultural Impact Assessment - Urban Green
- Ecology Assessment and Mitigation Strategy - Urban Green
- Biodiversity Net Gain Assessment – Urban Green
- Biodiversity Enhanced Management Plan – Urban Green

