
MEMORANDUM

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	251486
Address:	Land to the north of Arborfield Road, west of Shinfield Eastern Relief Road.		
Proposal:	Full application for the proposed erection of 16 no. dwellings with new access off Edney's Hill, plus footpaths, car ports, parking, landscaping and associated works.		
Type of Development:	Major Dwellings (10+)		
Site Visit Made:	No		

Summary Of Recommendations

- ☐ No comment
- ☐ No objection
- ☒ No objection subject to conditions (and reasons) **stated below**
- ☐ Request further information before determination as **stated below**
- ☐ Objection due to the reason(s) **stated below**

Comments On Proposal

1. Response to evidence submitted.

- 1.1. Since application 251486 deals with development of 16 new homes, a detailed sustainability statement is required per the Wokingham Borough Council Sustainable Design and Construction Supplementary Planning Document 2010.¹
- 1.2. The following comments are based on the information provided in the Energy Statement prepared by consultants Ashby Energy Assessors alongside the Design and Access Statement authored by Abbeymill Homes and associated drawings.
- 1.3. This note specifically examines the application's approach to LDF policies on sustainable development, energy including any provision of renewables on site, and water use.

2. Response to WBC Core Strategy Policy CP1

- 2.1. *"12) Contribute towards the goal of reaching zero-carbon developments as soon as possible by:"*

¹ Wokingham Borough Council. 'Sustainable Design and Construction Supplementary Planning Document'. 2010. p.10

2.1.1. “a) Including appropriate on-site renewable energy features; and”

2.1.2. “b) Minimising energy and water consumption by measures including the use of appropriate layout and orientation, building form, design and construction, and design to take account of microclimate so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form.”

2.2. Renewable energy and low carbon technology. The development comprises 16 homes of which two are detached houses, eight are semidetached houses and six are apartments:

Dwelling type	Typology code	Bedrooms	Number of units	Plot number/s
Detached house	1003	3	1	5
Detached house	358	3	1	14
Semidetached house	1003	3	6	1,2,3,4,15,16
Semidetached house	852	2	2	6,7
Apartment	552	1	2	8-13
Apartment	788	2	4	8-13

2.3. The Energy Statement states that the following rates of emissions reduction are achieved relative to the respective TER's for the various dwelling types:

Dwelling type	Cumulative emissions reduction relative to TER
Detached house	57.43%
Semidetached house	55.74%
Apartment	56.53%

2.4. This translates to a side average 56.25% reduction in emissions, which is achieved through a combined strategy of reducing energy demand and provision of air-source heat-pumps (ASHP) to supply space heating and domestic hot water to all homes.² SAP outputs are provided in support of the Energy Statement.

2.4.1. No location plan for ASHP siting is provided. The ASHP model proposed is not specified, and no comment is made on capability for reverse operation in the Energy Statement .

2.4.2. Baseline emissions for the site are stated as 199,961 kgCO₂ yearly. Modelled emissions based on the ASHP strategy are stated as 55,008 kgCO₂ per year – a difference of 72.5%.

2.4.3. The proposals for the use of ASHP alongside fabric performance improvements are feasible and represent a very positive response to compliance with Policy CP1 12) a).

2.5. Passive design measures

2.5.1. Glazing

2.5.1.1.1. No CIBSE TM52 analysis is provided therefore the design will be appraised for potential overheating risk through

² Ashby Energy Assessors, Energy Statement, New Dwellings Coppid Hill House, Wokingham. January 2025, P.17

Part O of the Building Regulations only. These regulations provide limits on the amount of hours during which a space is permitted to exceed maximum temperatures for indoor thermal comfort. The comments on potential risks and mitigating factors for overheating provided in this note do not seek to anticipate the outcome of Part O analysis but rather to identify the degree to which passive design measures have been implemented as part of the overall approach to operational energy demand reduction.

2.5.1.1.2. No calculated glazing ratios are provided, however the Energy Statement describes a general approach to solar gain and natural lighting *“The design of this building has been optimised to maximise natural light where possible, allowing for solar gains to reduce energy use.”*³

2.5.1.2. The energy statement does not cover ventilation strategies or other means of mitigating overheating risk.

2.5.2. Passive ventilation. The Energy Statement states that *“Where possible dwellings will be able to benefit from cross-ventilation to effectively purge warm air from the properties during periods of hot weather. Window opening areas will be considered and guided by the Part O assessment, with increased opening areas being designed in as required.”*⁴ The plans show that opportunities for cross ventilation exist in some habitable rooms but this cooling strategy has not been prioritised as most rooms, even those with multiple aspects, are not shown to benefit from possible cross ventilation. The statement that increased opening areas may be designed in as required in response to the outcome of assessing dwellings at Building Control, is of concern. The glazing strategy should be fixed prior to this, not least due to its significant impact on elevations and thereby character, overlooking, embodied carbon and so on.

2.5.3. Heat loss form factor. In general the homes are relatively simple in form. This is beneficial to the building performance and helps to mitigate the risk of an energy performance gap caused by heat loss through cold bridges in a complex architectural form.

2.5.4. Thermal mass. Indicative TMP specified in the SAP outputs is shown as 208.5 kJ/m²K.

2.5.5. Thermal performance of building elements (dwellings).

Building element	Unit	Part L 2021 limiting value	Best practice value	Proposed Specification (maximum)
External wall	W/m ² .K	0.26	0.12	0.19
Roof	W/m ² .K	0.16	0.10	0.11
Floor	W/m ² .K	0.18	0.10	0.11
Vertical windows	W/m ² .K	1.60	0.80	1.20

³ Ashby Energy Assessors, Energy Statement, New Dwellings Coppid Hill House, Wokingham. January 2025, P.11

⁴ Ibid. p.8

Doors	W/m2.K	1.60	0.80	1.20
Air permeability	m3/h.m3 @ 50 Pa	8.0	<1.0	5.00

2.5.5.1. The proposed thermal performance of building elements is within the legal limits set in Part L of the Building regulations. In the case of the roof and floor, a value approaching best practice is proposed. This is noted as positively contributing to the sustainability of the development. The specification of better performing doors and windows would benefit the thermal performance of the proposed homes.

2.6. Active building systems. As above, all homes will be supplied with air-source heat pumps. No details are provided of low energy fixtures (for example lighting).

3. Response to WBC MDD Local Plan Policy CC04

3.1. The commitment to a deliver a reduction in regulated operational GHG emissions of 56.25% for the development overall through the use of air-source heat-pumps confers a significant benefit and is favourably viewed.

3.1.1. Application of the standard condition ensuring that the provision for onsite renewable energy is delivered at the level described is recommended.

3.2. A basic speculative water efficiency calculation for new dwellings is provided, demonstrating how the maximum domestic consumption rate of 105 L per capita per day required to comply with MDD Policy CC04 might be achieved, it estimates that per capita use will be 102.9 L per day on average.⁵

3.2.1. A condition is recommended to ensure compliance with this part of Policy CC04.

4. Conclusion

4.1. In summary, the Sustainability and Energy Statement and its appendices show that an acceptable approach to sustainable development is taken.

4.2. The level of operational energy displacement through the use of improved building fabric performance and on-site renewable and low carbon technologies is a particular benefit of this scheme, as is the commitment to use insulants with a low global warming potential.

4.3. No objection is raised to approval of this application subject to the below conditions.

Conditions & Reasons (if required)

Domestic water consumption

Prior to the commencement of development, a scheme achieving a maximum domestic water consumption of 105L per capita per day for the residential portion of the scheme shall be submitted to and approved in writing by the

⁵ Ibid. pp.18-19

local planning authority. The approved scheme shall be implemented before the development is first occupied and shall remain operational for the lifetime of the development.

Reason: To ensure developments contribute to sustainable development. Relevant policy: NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal Change), WBC Climate Emergency Action Plan, Core Strategy policy CP1, Managing Development Delivery Local Plan policy CC04 & the Sustainable Design and Construction Supplementary Planning Document.

On-site renewables

Prior to the commencement of development, a scheme for achieving a 10% reduction in the predicted carbon emissions arising from operation of the development through the use of decentralised renewable and/or low carbon sources (as defined in the glossary of Planning Policy Statement: Planning and Climate Change (December 2007) or any subsequent version) shall be submitted to and approved in writing by the local planning authority. The minimum 10% reduction shall be achieved in addition to the levels of reduction in carbon emissions required through the Building Regulations in force at the time of the submission of planning application. The approved scheme shall be implemented before the development is first occupied and shall remain operational for the lifetime of the development.

Reason: To ensure developments contribute to sustainable development in accordance with NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal Change), WBC Climate Emergency Action Plan, Core Strategy policy CP1, MDDL policy CC05 & the Sustainable Design and Construction Supplementary Planning Document.

Date:

12/08/20
24

Signed:

