

Date: 3 July 2024
Application: 241567

WBC Sustainability Development Management & Compliance
P.O. Box 157
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Dear WBC Sustainability,

Full Planning Approval Consultation

Application Number: 241567

Applicant: .

Site Address: Land To The East Of Longwater Road, Finchampstead, RG40 3TS

Parish: Invalid code

Grid Reference: Easting - 479637, Northing - 162696

Type of Development: Major Dwellings (10+)

Proposal: Full application for the proposed erection of 40no. dwellings (Use Class C3), together with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access, and associated works.

Case Officer: Adriana González

Development Management has received the above application and we require your comments on the proposal using the recommended memorandum below. The documents associated with this are available to view in NEC DM using the application number 241567. Alternatively, public documents are available to view on the Council's planning application search page: Wokingham Borough Council Online Planning.

Please index your response into NEC DM against the application. If you are recommending conditions, you should give a reason with reference to relevant policies. A list of standard conditions can be found on the Z Drive at: Z:\Standard Planning Conditions.

Your observations are required in respect of this application within 10 working days of the above date or 15 working days if the development type is classed as a major development.

Yours sincerely,
Development Management & Compliance

MEMORANDUM

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	241567
Address:	Land To The East Of Longwater Road, Finchampstead, RG40 3TS.		
Proposal:	Full application for the proposed erection of 40no. dwellings (Use Class C3), together with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access, 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 – revised 01/25 in response to receipt of revised information.
 - 1.1. Since application 241567 deals with development of 40 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 Sustainability & Energy Statement and Addendum prepared by consultants Icen Projects alongside the Design and Access Statement authored by Thrive Architects 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*

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

soon as possible by:"

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 Sustainability & Energy Statement states that *"the proposed dwellings will achieve an approximate minimum on-site carbon dioxide emissions saving of 64.3% through energy efficiency measures and renewable and low carbon energy technologies over the Part L:2021 baseline."*² through passive design measures to reduce operational energy demand (a fabric-first approach) alongside provision of air-source heat-pumps (ASHP) to provide heating to all homes when compared with a baseline of notional buildings.

2.2.1. The ASHP strategy proposes one ASHP unit be provided to each home. The model used will be Vaillant Arotherm Plus 5kw and will deliver both space heating and domestic hot water. No capability for reverse operation (cooling) is proposed.

2.2.2. *"Time and temperature zones will be employed in all dwellings which will be controlled by the suitable arrangement of plumbing and electrical systems."*³ This measure will contribute to the efficiency of the proposed space and water heating measures and is positively weighed.

2.2.3. The Sustainability & Energy Statement further commits to the provision of *"a Home User Guide, to ensure all plant and equipment provided is used correctly and to enable efficiency of use to be maximised."*⁴ This measure will contribute to the effective running of the low and zero carbon technology and associated systems and is positively weighed.

2.2.4. The provision of Energy Management Systems in the form of Smart Meters is a further benefit to the scheme which will contribute to minimisation of operational energy demand.⁵

2.2.5. BREL Compliance Reports are shown for a sample of six of the proposed homes,⁶ this sample captures outputs across a range of the different typologies within the development. As modelled, the respective Dwelling Emission Rates (DERs) for the six sample dwellings achieve a reduction of between 64.15% and 69.14% compared with the Target Emission Rates (TERs) generated by the SAP. This supports the assertion that the development will achieve an overall minimum carbon emissions reduction of 64.3%. This quantum of carbon reduction is in excess of the level required for compliance with WBC policies and is positively weighed.

² Icení Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. P.49

³ Ibid. p.44

⁴ Ibid. p.44

⁵ Ibid. p.44

⁶ Ibid. pp.57-113

2.2.6. While no acoustic screening is proposed for the ASHP units at this stage, the Sustainability & Energy statement states that *“as the design progresses, it is recommended that acoustic measures to further limit the noise generated by the outside unit of the system during operation are considered.”*⁷

2.2.7. The specified model is quoted as having a sound output in the range 51-60 dB at a distance of three metres, making it one of the quieter products on the market.⁸ As noise is an Environmental Health rather than Sustainability issue, a condition relating to the level of sound output may be imposed by WBC’s Environmental Health consultee at their discretion.

2.2.8. The proposals for the use of ASHP in to supply domestic hot water and space heating are feasible and represent a very positive response to compliance with Policy CP1 12) a).

2.3. Passive design measures

2.3.1. Glazing

⁷ Iceni Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. P.46

⁸ ErP datasheet: Vaillant Arotherm Plus, 2023. P1

- 2.3.1.1.1. No CIBSE TM52 analysis is provided therefore the design will be appraised for potential overheating risk through 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.
- 2.3.1.1.2. No calculated glazing ratios are provided, however the Sustainability & Energy Statement describes a general approach to solar gain and natural lighting *"Passive measures include allowing for natural ventilation and exposed thermal mass coupled with high levels of insulation, air tightness and the control of solar gain. The Site Plan shows all houses are positioned generally with either a north and south orientation or a west and east orientation. This maximises the benefit from solar gain and there are no homes with a northerly outlook. All homes have access to direct sunlight at some point throughout the day."*⁹
- 2.3.1.1.3. Paragraph 4.30 of the Iceni Addendum expands on this strategy *"The dwellings' facades will have a balanced amount of glazing to mitigate direct solar heat gain whilst optimising daylight penetration. 31 • Openable windows on multiple aspect spaces will be integrated to provide a passive ventilation strategy that utilises crossflow ventilation to maximise the potential for natural ventilation within the dwellings. • Internal heat gains will be minimised through the use of energy efficient lighting and equipment, the anticipated employment of air source heat pump (ASHP) technology, and the insulation of hot water distribution pipework to prevent heat loss into the dwelling spaces."* These measures are supported.
- 2.3.1.2. Sun path studies are not provided therefore the following analysis is based on inspection of the drawings provided.
- 2.3.1.3. Plans and elevations shown in the Sustainability & Energy Statement¹⁰ show that the homes are not over-glazed, and that the orientation of the glazing in the façade has been considered, as described on page 33 of the Energy and Sustainability Statement, along with placement relative to the plan. Some vertical shading is shown in the form of the roof soffit and canopies to external doors (which are shown with a small glazed pane). Where vertically oriented windows are present they are smaller, typically single lights, minimising the risk of morning and evening overheating.
- 2.3.1.4. The development comprises a mix of broadly North-South and East-West oriented homes. East-West orientation increases risk of unwanted solar gain in morning and evenings during the summer, however limits on the size of glazed areas effectively mitigates the

risk in this design.

2.3.1.5. It is noted that the expected G value of the double-glazed windows will be 0.63. This value is not limited in the UK Building Regulations however best practice values are in the range 0.40-0.30. A G value of 0.63 is neutrally weighed.

2.3.2. Passive ventilation. The Sustainability & Energy Statement notes the provision of opportunities for passive ventilation as part of the approach to passive regulation of internal conditions. *"All residential units will be provided with opening windows to enable a natural ventilation strategy that utilises cross ventilation where feasible to provide fresh air to habitable spaces, without increasing the risk of overheating. Where required, particularly in light of potential noise constraints, dwellings will also be provided with decentralised, mechanical extract ventilation with a Specific Fan Power (SFP) of no more than 0.15 W/l/s."*

2.3.3. Plans and elevations for six house-types are provided in pages 7-12 of the Sustainability Statement. These have been assessed against the stated intention to provide cross-ventilation wherever possible as a passive cooling measure. The assessment assumes internal doors to be closed and only considers habitable rooms. This is because bedrooms and bathrooms are primarily occupied with doors closed, and while the living spaces are mainly open plan as designed, doors to kitchens must be assumed to be closed in order to provide refuge spaces and means of escape in case of fire.

2.3.3.1. House type P31.4 permits cross ventilation in the kitchen-dining room and living room. The four bedrooms each have single-aspect ventilation via a window with multiple openable panes, despite this being a detached house type where every bedroom could potentially be designed with adjacent aspect cross-ventilation. The same is true of the ground-floor study. The bathroom, en-suite and W.C. each have single openable windows.

2.3.3.2. House type A2.1 permits cross ventilation in the open-plan ground floor. Bedrooms have single-aspect ventilation. The bathroom is arranged along the party wall and therefore has no window. There is also no window to the ground floor wet room. These rooms will rely on active extract ventilation.

2.3.3.3. House type A1.2 does not permit cross ventilation in any rooms. The bathroom and W.C. both have single, openable windows.

2.3.3.4. House type A2.2.2 permits cross ventilation in the open-plan ground floor living/kitchen area. The bedrooms could benefit from double-aspect cross ventilation but have been designed with single-aspect ventilation. The W.C. has no window. The bathroom has a single openable window.

2.3.3.5. House type 3.6 permits cross ventilation in the kitchen-dining room (through ventilation), adjacent aspect cross ventilation in the living room and master bedroom and single-aspect ventilation in bedrooms 2 and 3 as well as the bathroom and W.C. Bedroom 2

¹⁰ Icen Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. Pp.7-12

has two adjacent external walls but only one is provided with an openable windows, meaning it has single-aspect ventilation only.

2.3.4. While some rooms in some house types do permit cross ventilation, there are some missed opportunities for optimised passive ventilation across the development. This necessitates the use of powered extract ventilation.

2.3.5. Passive cooling from landscape measures. Dwellings are arranged in short streets with soft landscaping and gardens surrounding. Properties are spaced with hardstanding parking areas between. Few trees are shown either retained or proposed within shading distance of the proposed homes. The relatively low density of the scheme, along with the proportion of green space surrounding and between the homes will contribute to reducing the risk of summer overheating.

2.3.6. Heat loss form factor. The homes are relatively simple in form, and some are semi-detached. 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. The need to minimise thermal bridging is noted in the Sustainability and Energy Statement.¹¹

2.3.7. Thermal mass. The BREL Reports do not show any indicative Thermal Mass Parameter (TMP) so the relative merits of placement of specified thermal mass cannot be assessed.

2.3.8. Thermal performance of building elements (dwellings).

Building element	Unit	Part L 2021 limiting value	Best practice value	Proposed Specification (maximum)
External wall	W/m2.K	0.26	0.12	0.18
Roof	W/m2.K	0.16	0.10	0.08
Floor	W/m2.K	0.18	0.10	0.12
Vertical windows	W/m2.K	1.60	0.80	1.20-1.40
Air permeability	m3/h.m3 @ 50 Pa	8.0	<1.0	4.5

2.3.8.1. 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, a value in the best practice range is proposed. This is noted as positively contributing to the sustainability of the development.

2.4. Active building systems. As above, extract ventilation will be used for some rooms. All homes will be supplied with air-source heat pumps. Reversible heat pumps are not being considered for this project.

¹¹ Iceni Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. P.43

2.4.1. Low-energy LED lighting is proposed to reduce energy load from lighting.¹²

2.5. Whole life impacts. It is noted in the Energy & Sustainability Statement that *“materials should be responsibly sourced by the main contractor”*¹³

2.5.1. The addendum expands on this strategy, stating that *“At this stage, a commitment is made to procuring insulation materials in consideration of their global warming potential (GWP), seeking to only procure materials with a GWP less than 5, where technically feasible, practicable and appropriate. Similarly, it is intended that materials will be procured in consideration of Environmental Product Declarations (EDPs), seeking to only procure materials that have a verified EDP available, where technically feasible, practicable and appropriate.”*¹⁴

2.5.2. These measures are supported and contribute positively to the sustainability of the proposals.

3. Response to WBC MDD Local Plan Policy CC04

3.1. The commitment to deliver a reduction in regulated operational GHG emissions of 64.3% for the development overall through the use of air-source heat-pumps and improved building fabric performance 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. The proposed flow rates for water appliances are shown below, in comparison to best practice values.

Fitting type	Specified maximum consumption	Non low-flow consumption	Best practice consumption
WC	6/3 L (dual flush)	5 - 9 L	< 4 L
Shower	9 L / minute	13 L / minute	6 L / minute
Handwash basin taps	5 L / minute	8 L / minute	2 L / minute
Sink taps	5 L / minute	10 L / minute	4 L / minute
Dishwasher	1.25 L / place setting	1.25 L / place setting	< 0.7 L / place setting
Washing machine	7 L / kg	14 L / kg	6 L / kg

3.3. These fittings demonstrate an improvement on non low-flow fixtures which is positively weighed.

3.4. A speculative water efficiency calculation for new dwellings is provided, demonstrating that per capital internal water consumption is modelled at 107.2 L per day.¹⁵ Total water consumption is measured as total internal use plus total external use where external use is assumed to be 5 L per capita per day, therefore to meet the enhanced standard, internal consumption

must be no more than 105 L per capita per day.¹⁶ A planning condition is suggested to ensure the development meets this requirement.

3.5. The sustainability statement also describes various measures such as rainwater harvesting which can be used to reduce consumption. The Sustainability and Energy Statement notes that *“To aid in reducing potable water consumption for external uses, it is recommended that water butts, or similar, be provided for each dwelling to enable rainwater harvesting for irrigation purposes. It is also recommended that drought-resistant and drought-tolerant species be incorporated within the proposed Landscape Strategy to reduce external water demand.”*¹⁷ It is not clear that any measures as described are adopted in the design. The lack of commitments or defined goals in this recommendation means that it cannot confer benefit or be weighed as evidence in support of the development’s sustainability.

3.5.1. Revised information and a condition is required to ensure compliance with this part of Policy CC04.

4. Response to Finchampstead Neighbourhood Development Plan Policy ES1

4.1. *“Development proposals for residential development should meet the following environmental standards: 1. The achievement of improvements beyond those defined in Part L of the Building Regulations 2021 for minor residential developments or satisfy any higher standard that is required under new national planning policy or Building Regulations.”* The proposals meet this requirement.

4.2. *“2. In addition, major residential development should be designed to achieve carbon neutral homes where this is both practicable and viable.”* While a 63.4% minimum reduction in regulated operational emissions is projected through building fabric improvements along with ASHPs, the residual 36.6% are not addressed in the Energy and Sustainability Statement. In order to demonstrate compliance with Policy ES1 part (2) which requires major residential development to be carbon neutral, this residual demand should be either met through further on-site renewable energy generation, or offset through a suitable scheme, or a combination of these methods.

4.3. Paragraph 6.4 of the Iceni Addendum notes that neutrality is not considered feasible due to the quantum of affordable homes. This statement is not supported by cost modelling, however it is accepted that the development achieves a commendable level of carbon reduction and other sustainability benefits highlighted in this response which mitigate potential harm caused by the development falling short of the carbon neutrality requirement of Policy ES1.

¹² Iceni Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. P.43

¹³ Ibid.p.32

¹⁴ Iceni Projects Limited, Sustainability & Energy Statement Addendum, Land to the East of Longwater Road, Finchampstead, 2024. P.33

¹⁵ Iceni Projects Limited, Sustainability & Energy Statement, Land to the East of Longwater Road, Finchampstead, 2024. P.55

¹⁶ HM Government, Building Regulations, Approved Document G, Sanitation, hot water safety and water efficiency, amended 2024. Appendix A, P. 38

¹⁷ Ibid. P.32

4.4. *“4. Provision is made for charging for electric vehicles in all domestic dwellings where garages or vehicle parking spaces are provided.”* Provision of electric vehicle charging points is not covered in the Energy & Sustainability Statement, however the Design & Access Statement notes that *“Electric vehicle charging points are provided for every dwelling.”* This is sufficient to comply with FNDP ES1 (4) and will be secured via condition.

5. Conclusion

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

5.2. The level of operational energy displacement through the use of on-site renewable and carbon technologies is a particular benefit of this scheme, as is the commitment to provide a Home User Guide for new residents.

5.3. No objection is raised to approval of this application subject to the provision of the evidence as stated and application of 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 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.

Low and zero-carbon technology

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.

Electric Vehicle Charging

Prior to commencement of development hereby permitted, details for electric vehicle charging points serving the development shall be submitted to and approved in writing by the Local Planning Authority. The electric vehicle charging points shall be implemented in accordance with such details as may be approved before any part of development hereby permitted is first brought into use and shall be permanently retained in the approved form for the charging of electric vehicles and used for no other purpose.

To ensure that sufficient dedicated electric vehicle charging facilities are provided to encourage the use of sustainable modes of travel. In accordance with NPPF Section 9 (Promoting Sustainable Transport), WBC Climate Emergency Action Plan, WBC Core Strategy policies CP1, CP3 & CP6 and Managing Development Delivery Local Plan policy CC07 and Finchampstead Neighbourhood Development Plan policy ES1 part (4).

Date:	15.01.2024	Signed:	
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Úna Haran
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Lead Sustainability Planning
Officer