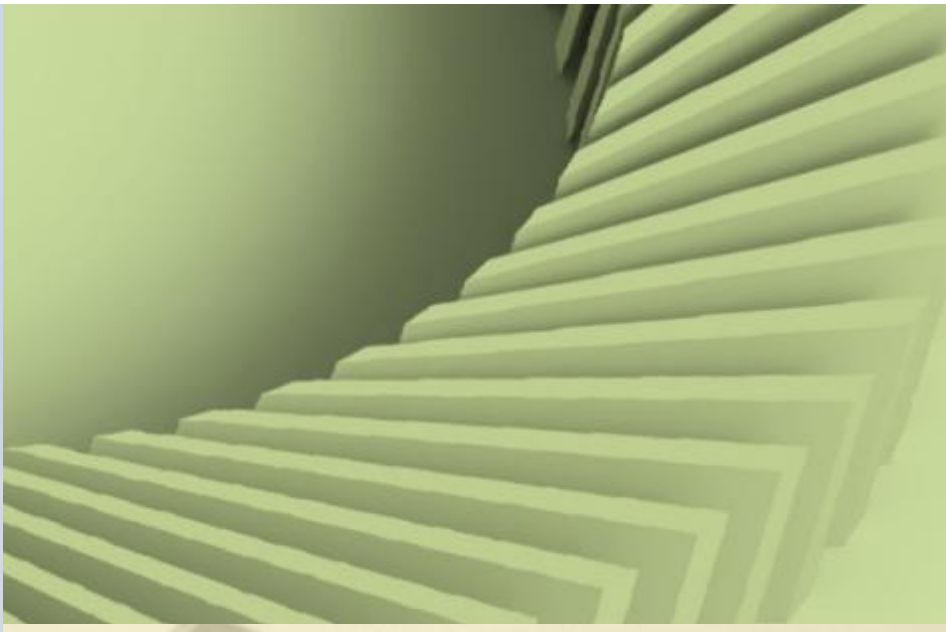
City & Country Group EPS

Land East of Trowes Lane, Swallowfield

Outline Energy and Sustainability Statement

September 2025



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Appendices

1.0 Executive Summary

The proposed development will be located at the Land East of Trowes Lane, Swallowfield. The proposed development seeks approval for outline planning permission for the construction of up to 79 residential dwellings (Use Class C3), together with access, landscaping and associated infrastructure, with all matters reserved except access.

This statement has reviewed the scheme in accordance with the Wokingham Borough Local Plan Update: Proposed Submission Plan 2023-2040 policy document. It has concluded that the draft policies CE1, CE3, CE4, CE5 are relevant. It is noted that this policy document is currently not under adoption with Wokingham Borough Council at time of writing, however the design and client team are choosing to conform to the requirements of this new plan rather than the current existing plan, to improve and emphasise the desire for a more sustainable and energy efficient development.

As part of the approach, the National Design Guide has been considered in conjunction with the nominated planning polices. Sections relating to the efficient use of resources and lifespan of developments have key consideration, and align with the requirements set out by Wokingham Borough Council.

As the application is submitted in outline, design details and construction specifications have not been established, but based on preliminary discussions, an initial specification has been put forward. The table below demonstrates how the specification of the proposal at the site compares to Approved Document Part L's limiting standards.

Table 1: Comparison with Building Regulations Part L 2021

Building Element	Limiting Part L 2021 Specification	Proposed Outline Part L 2021 Specification
External Walls U-Value	0.26	0.18
Roof U-Value	0.16	0.13
Ground Floor U-Value	0.18	0.15
Window U-Value	1.60	1.40 (0.63 G Value)
Pressure Test	8.00	4.00

In addition to the proposed fabric specification, the development is also proposing an efficient M&E strategy. It is currently predicted that space and hot water heating will be serviced via an Air Source Heat Pump system to each dwelling, with the incorporation of Solar PV to help supplement the energy use in day to day operation.

Detailed design specification performance data is unavailable at this stage, however through the commitments to align to the Wokingham Borough Local Plan Update policies, there is intention to demonstrate a site average space heating demand of 15-20kWh/m^2/year and a site average total energy demand of 35 kWh/m^2/year, through a 'fabric first' approach to construction. In turn, the development will look to demonstrate that it generates at least the same amount of renewable electricity on-site as it demands over the course of a year.

Whilst full assessments are expected at a time of Reserved Matters application, the developer's commitments to embodied carbon and circular economy have been outlined. Promoting the intentions towards sustainable material selection and a long life development, it not only delivers the on the core principle of housing, but does so with sustainable decision making to reduce the carbon emissions associated with both construction and operation phases.

2.0 Introduction

2.1 Purpose of the Report

Instructions were received from City & Country Group EPS to produce an outline Energy and Sustainability Statement for the proposed development at Land East of Trowes Lane, Swallowfield. This report has been produced to support the planning application to be submitted for the development.

This statement provides a response to the relevant planning policy objectives within Wokingham Borough Council.

It is intended the proposed site development is to make use of an energy efficient building fabric and efficient heating systems to achieve compliance and a reduction to the emissions specified by Part L1 of the 2021 Building Regulations.

2.2 Site and Building Description

The site is located on the southern edge of Swallowfield, east of Trowes Lane. It is bounded to the north by the rear gardens of Foxborough.

To the east, the site is bounded by trees, a watercourse, and the rear gardens of houses on Part Lane. It is bounded by woodland and fields to the south.

2.3 Methodology

Due to the nature of application being submitted in outline, sufficient detailed design information is not available. Nevertheless, where possible, details of the project intentions and strategies have been put forward in order to assess compliance against the relevant planning policy criteria.

This report will assess the fabric performance of the proposed building, determine the feasibility of connection to district heating networks and where required assess the feasibility of incorporating on site renewable technologies

The report will demonstrate how the proposed scheme complies with the required Wokingham Borough Council policies.

2.4 Limitations

This statement is generated based upon early design stage information, limited by the information available at the time of generation. Best endeavours have been undertaken to generate the necessary calculations to fulfil the requirements of the specific policy and demonstrate compliance.

However, the design may be subject to change and the tools used are a guide limited by their design as regulation compliance measures against a notional performance, they are not a guarantee of 'As Built' performance nor should they be treated as such.

3.0 Planning Policy

The Wokingham Borough Local Plan Update: Proposed Submission Plan 2023-2040 outlines the requirements for new developments regarding sustainability. Applicable draft policies have been provided and are detailed below.

It is noted that this policy document is currently not under adoption with Wokingham Borough Council at time of writing, however the design and client team are choosing to conform to the requirements of this new plan rather than the current existing plan, to improve and emphasise the desire for a more sustainable and energy efficient development.

3.1 Wokingham Borough Local Plan Update

3.1.1 Policy CE1: Design principles for efficient buildings

Policy CE1: Design principles for efficient buildings

Development proposals should adequately demonstrate the following design principles have been considered, in the order listed:

a) Orientation of buildings – positioning buildings to maximise opportunities for useful solar gain and minimising winter cold wind heat loss;

b) Form of buildings – creating buildings that are more efficient to heat and stay warm in colder conditions and stay cool in warmer conditions because of their shape and design;

c) *Fabric of buildings:*
   - *minimising the operational impacts of development through use of materials and building techniques that reduce heat and energy needs and*
   - *reducing the embodied impacts of development by specifying materials with a lower embodied carbon content and/or high practical recyclable content and designing for durability, adaptability and deconstruction;*
   - *Heat supply – meeting a building's space-heating needs without direct use of fossil fuels. This means no connection to the gas network or use of oil, bottled gas, coal or other fossil fuels; and*
   - *Renewable energy generation – generating enough energy from renewable sources onsite (and preferably on plot) to meet reasonable estimates of all regulated and unregulated total annual energy demand across the year.*

An Energy and Sustainability statement, as required by Policies CE2 and CE3, must set out all practical steps taken to meeting each of the above principles.

3.1.2 Policy CE3: Environmental standards for residential development

Residential development proposals involving new buildings must be supported by an Energy and Sustainability Statement which confirms that the proposals satisfy the following requirements:

a) *The development proposal generates at least the same amount of renewable electricity on-site (and preferably on-plot) as it demands over the course of a year, such demand including all energy use (regulated and unregulated), calculated using a methodology proven to accurately predict a building's actual energy performance; and*

b) *To help achieve point 1 above, residential development is expected to achieve a site average space heating demand of around 15-20kWh/m2/year and a site average total energy demand of 35 kWh/m2/year, through a 'fabric first' approach to construction. No single dwelling is to have a total energy demand in excess of 60 kWh/m2/year, irrespective of amount of on-site renewable energy production. (For the avoidance of doubt, 'total energy demand' means the amount of energy used as measured by the metering of that home, with no deduction for renewable energy generated on site).*

The Energy and Sustainability Statement must include details of assured performance arrangements, calculated using a methodology proven to accurately predict a buildings true energy performance, such as CIBSE TM54 or the PHPP, against 1 a) and b) above. As a minimum, this will require:

a) *The submission of 'pre-built' estimates of energy performance; and*

b) *Prior to each dwelling being occupied, the submission of updated, accurate and verified 'as built' calculations of energy performance. Such a submission should also be provided to the first occupier (including a Non-Technical Summary of such estimates).*

Proposals should demonstrate a deliverable commitment to on-going monitoring of energy consumption, post-occupation, which has the effect, when applicable, of notifying the occupier that their energy use appears to significantly exceed the expected performance of the building and explaining to the occupier steps they could take to identify the potential causes of such high energy use. Non-residential buildings should meet the equivalent of a 'Good' standard, as a minimum, with regard to the BREEAM water consumption targets for the development type.

Water standards 5. To minimise impact on the water environment, all residential development proposals must: a) Meet the higher water efficiency standard of 105 litres or less per person per day (excluding allowance of up to five litres for external water consumption). Development proposals which go further than this (to, for example, 85 litres per day per person) are encouraged.

3.1.3 Policy CE4: Supporting a circular economy

In order to understand and reduce the lifecycle impacts of development, development proposals which demonstrate compatibility with, or furthering of, a strong circular economy in the local area will be supported in line with wider sustainable development objectives.

Residential development proposals of 10 dwellings or more, or non-residential development proposals of 1,000 m2 or greater gross internal area, will be required to submit a circular economy strategy as part of the Energy and Sustainability Statement. Where the development proposal includes the demolition of existing buildings or structures, the circular economy strategy should include a pre-demolition audit quantifying the material to be deconstructed and identifying suitable recovery routes.

3.1.4 Policy CE5: Embodied carbon

Development proposals should, where practical and viable, take opportunities to reduce the development's embodied carbon content, through the careful choice, use and sourcing of materials. Sustainability statements submitted in support of applications should detail how the need to reduce embodied carbon has influenced the design.

Residential development proposals of 50 dwellings or more, or non-residential development proposals of 5,000 m2 or more gross internal area, will be required to submit a whole-life carbon assessments through a nationally recognised Whole Life-Cycle Carbon Assessment methodology and demonstrate actions taken to reduce life-cycle carbon emissions. This should explicitly set out what opportunities to lower a building's embodied carbon content have been considered, and which opportunities, if any, are to be taken forward.

3.2 National Design Guide

As part of the approach, the National Design Guide has been considered in conjunction with the nominated planning polices. Sections relating to the efficient use of resources and lifespan of developments have key consideration, and align with the requirements set out by Wokingham Borough Council.

4.0 Energy and Sustainability Analysis

4.1 Proposed Fabric and Services Specification

4.1.1 Proposed Fabric Specification

The nature of the application for the development at Land East of Trowes Lane, Swallowfield is limited in outline at this stage, as a result, aspects of the design and service strategies have not been established. Despite this, there is an emphasis from the project team to highlight the importance of an energy efficient strategy, which demonstrates a reduction in the overall carbon emissions associated with the day-to-day operation.

A specification has been put forward with an uplift on the minimum requirements of Approved Document Part L, and also specification of efficient mechanical and electrical services to improve efficiency and performance.

The table below demonstrates how the specification of the development at Land East of Trowes Lane, Swallowfield compares to the limiting values and minimum efficiencies allowed within Part L 2021:

Table 2: Comparison with Building Regulations Part L 2021

Building Element	Limiting Part L 2021 Specification	Outline Part L 2021 Specification
External Walls U-Value	0.26	0.18
Roof U-Value	0.16	0.13
Ground Floor U-Value	0.18	0.15
Window U-Value	1.60	1.40 (0.63 G Value)
Pressure Test	8.00	4.00

The development is outlining to adopt a 'fabric first' approach to specification, and as detailed above, the proposed U-Values demonstrate an improvement on the minimum requirements under Part L.

All of the main building elements have been designed to provide a thermally efficient building envelope that achieves an improvement on the minimum requirements set out within Part L.

It is currently envisioned a timber frame construction approach will be adopted. Insulated cavity wall, roof, floors and openings provide a comfortable environment within the development and reduce each dwelling's reliance on the main heating system.

Intelligent construction methods and high quality of construction is also utilised in the specification of this development. The more onerous air permeability target will ensure that performance is enhanced by minimising heat and energy losses through air gaps.

4.1.2 Proposed Mechanical and Electrical Services

In addition to the robust fabric specification as detailed above, the client is also proposing an efficient M&E strategy.

Table 3 – MEP Services

Building Element	Limiting Part L 2021 Specification	Proposed Part L 2021 Specification
Heating Efficiency	100%	Seasonal COP 239%
Lighting Efficacy	80lm/w	80lm/w
Ventilation	Intermittent Fans	Decentralised Mechanical Ventilation

The proposed development will incorporate the installation of Air Source Heat Pump systems to provide heating and hot water to each dwelling. Air Source Heat Pumps (ASHP) can extract heat from the outdoor air, even when the outside temperatures are very low, for use in space heating and hot water systems. They are typically very efficient in relation to heating efficiency.

The use of an all-electric heating solution strategy brings the client in line with the requirements of Policy CE1, and what appears to be the Government's preferred direction of travel for domestic heating going forward. Given the continuing decarbonisation of the grid, electricity can be seen as an increasingly low carbon solution.

To summarise, all the main building elements outlined in Tables 2 and 3 have been designed to provide a thermally efficient building envelope that achieves an improvement on the minimum requirements set out within Part L. These elements along with the incorporated heating and ventilation systems ensure enhanced energy efficiency and reduce CO_2 emissions, thus mitigating the impacts of climate change and ingraining principles of sustainable construction.

Figure 1 – Initial impressions of representative house type

4.1.3 Passive Design Measures

The development will be planned, designed and built in a way that is prepared for changing climate conditions.

Passive solar design enhances the energy and environmental performance of a building. As this application is submitted in outline, there is limited design aspects completed at this stage, however it is envisioned a G-Value of 0.69 will be used for windows, allowing solar gains to be observed and passive heating incorporated, reducing the reliance of the main heating system for each dwelling.

In conjunction with the above considerations will also be given to orientations of dwellings, to encourage passive solar heating. The site location also confirms that any dwellings will not be significantly shaded by surrounding buildings. It will be ensured in design that there will be sufficient space between the buildings so that overshadowing will not be an issue.

Current projections dictate that temperatures are set to increase in future years, causing potential overheating issues and more uncomfortable internal environments. The utilisation of a timber frame construction inherently helps to regulate internal temperatures, due to the insulating properties of the timber. This will assist in creating a more comfortable environment for residents, as temperatures are set to increase.

The proposed scheme will be assessed against the Part O Overheating Building Regulations. It is currently expected that compliance will be achieved through a combination of passive measures and mechanical ventilation, a strategy to ensure Part O Compliance will be presented at detailed design stage. Where further measures are required to ensure Part O Compliance, these will be installed in full

The nature of the construction type allows design flexibility and adaptability, partitions and internal walls can be removed to suit new layouts or designs, without the need for a full demolition of the property. Change of use applications or repurposing of residential use can be more streamlined.

4.2 Low Carbon Heating (Be Clean)

In-keeping with the requirements of the energy hierarchy, opportunities for efficient energy supply through the use of communal heating networks have been undertaken. An exercise has been completed reviewing the possibility for the development to connect to an existing low carbon heat network. The Department for Energy Security & Net Zero Heat Networks Planning Database has been used to confirm the closest possible connection point.

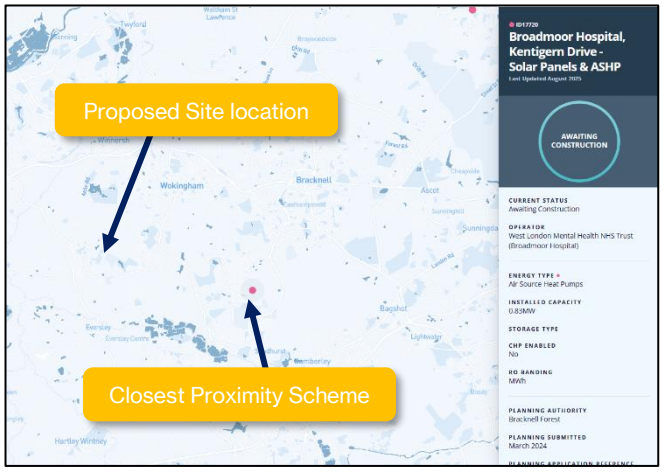

Figure 2 – Department for Energy Security & Net Zero Heat Networks Planning Database - https://data.barbour-abi.com/smart-map/repd/desnz/?type=heat_network

As demonstrated in Figure 2, the closest connection point is the *Broadmoor Hospital, RH10 1UZ* approximately 12 miles from the proposed site location, however it has not started construction at present time.

As a result, there are currently no feasible heat networks in the area based on current proposals.

At the point of reserved matters, it is encouraged a further review of available low carbon heat networks be completed, to understand if there are any new connection opportunities available. These are to be evaluated in terms of viability for the scheme.

Whilst the application will be submitted in outline, a review of Combined Heat and Power (CHP) systems has also been completed for viability. CHP systems are best suited to applications whereby there is a constant and continuous demand for heating and other electrical means.

The nature of the development is residential, as a result there will be intermittent loads and demands for power, with requirements slowing down during the overnight hours. Heating demands will also fluctuate seasonally, with those requirements reducing in summer months and peaking in winter months.

Given the site context and operational profile of the proposed dwellings, it is concluded that neither connection to an existing network nor the installation of a CHP system would represent a feasible or appropriate solution for this development at present time. However, due to the incorporation of ASHPs as the preferred heating solution, infrastructure would lend for the potential connection at a future point, as and when the proposed heating system reaches end of life.

4.3 Renewable and Low Carbon Energy

Policies CE1 and CE3 guidance encourages the use of renewable sources to meet the energy needs of new developments and the targets set. In line with this, site specific analysis has been provided for those renewable energy technologies considered feasible. For this scheme they are identified below:

1. Solar Thermal
2. Photovoltaics
3. Heat Pumps

4.3.1 Solar Thermal Heating

Solar thermal panels collect solar radiation to heat water that can then be used for either space heating or domestic hot water. There are two types of competing solar thermal technologies; flat-plate and evacuated tube.
Evacuated tube collectors are more efficient and therefore require less active collector array than the equivalent output of a flat plate system. However, in general, capital costs for the two technologies are comparable.

The system consists of solar collectors that are often roof mounted. Liquid is passed through the solar collectors and then to a heat exchanger in a domestic hot water cylinder, which will also have a top-up heat source (gas, biomass, or electricity) to ensure reliability of supply.

Solar thermal collectors can still produce energy from diffuse sunlight and are therefore less susceptible to performance reductions from orientation and angle compared to PV.

A typical 3-4m^2 collector area system (area dependent on technology) is capable of providing 50% the annual domestic hot water demand for a typical 2-3 bed house. The proportion of hot water provided varies over the course of a year, with the system achieving 100% coverage during the summer months and 5% during the winter.

It is questionable whether the Solar Thermal could meet the requirements of the development, and even if so, it would not be the most efficient or cost-effective method to do so. As such, the use of solar thermal is not considered appropriate for this scheme.

4.3.2 Heat Pumps

A ground source heat pump (GSHP) can harness the energy from the ground for use within buildings. This makes it possible to use the heat in the ground during the winter months to meet our heating needs. In the summer months it is also possible to cool buildings using ground temperatures that are lower than ambient air.

A typical ground system consists of a ground to water heat exchanger often called the 'ground loop' or 'ground coil,' a heat pump and a distribution system. Water (or other solution) is passed round the system 'absorbing' heat from the ground and upgrading this heat via the heat pump into the building.

The heat exchanger can consist of either a vertical borehole system, where long pipes are driven deep into the ground or a horizontal trench system, which operates at shallower depths.

The performance of a HP is measured using a COP (coefficient of performance). This defines the amount of useful energy output from the heat pump compared to the energy input. Typical systems can achieve a COP in the region of 350-400%.

The COP is maximised where the flow temperature of the heating circuit is between 35-40°C and therefore GSHP are ideally suited for connection to under-floor heating. The potential scale of GSHP is only limited by the availability of land for the ground loop and reasonable levels of energy abstraction. Typical costs for ground source heat pumps range from £800/kW for trench systems to £1,500/kW for vertical borehole systems.

Based on discussions with the client, the constraints of the proposed site and scheme layout do not lend well to the use of ground source heat pumps and as a result of this, this technology has not been considered to be feasible.

Air source heat pumps (ASHP) work in a similar way to ground source and are able to extract heat from the outdoor air, even when the outside temperatures are very low, for use in space heating and hot water systems. ASHP are also available in air – air formats, in which the heat is emitted into the building through ductwork, in which instance can also provide the option for air conditioning or cooling in summer, however they cannot serve hot water systems.

These systems only require space for an external condenser unit, which makes them much simpler to install when compared to GSHP. These systems also offer a significant reduction in carbon emissions from that of a conventional heating system (especially electric heating systems).

As indicated in the previous sections of the report, the current intention, although still outline, looks at incorporating a sustainable heating system for the development. ASHP specification is included in the design proposals, to service the each dwelling's heating and hot water.

4.3.3 Photovoltaics

Photovoltaic panels convert solar radiation into direct current electricity. In principle, they are an ideal source of renewable energy as they harness the most abundant source of energy on the Earth, the sun, and they produce electricity, which is the most useful form of energy.

PV's are silent in operation, have no moving parts and have a long life with low maintenance levels. PV systems can be connected to the grid or battery arrays in remote locations. Grid connected systems consist of PV arrays connected to the grid through a charge controller and an inverter. PV cells are more efficient at lower temperatures so good ventilation should be allowed around the PV modules where possible.

In addition to the inclusion of the ASHPs as noted, the development is outlining to include Solar PV to generate renewable energy and lower operational carbon emissions.

At a point of reserved matters, calculating will be completed stipulating the amount of energy generation needed to equalise energy generation with energy consumption, aligning with the requirements under Policy CE3.

4.4 Energy Performance

4.4.1 Anticipated Performance Summary

Due to the nature of the application being submitted in outline, detailed calculations of the performance are not available at this stage, and are intended to be submitted as part of the reserved matters application.

In line with Policy CE3's requirements, the developer is intending to meet the target of energy generation matching that of energy consumption. It is envisaged this will be achieved through the fabric first approach being applied to the construction, efficient M&E systems, and finally, use of Solar PV on the available roof spaces of the dwellings.

In addition to the above, the scheme will look to also meet the stated space heated demand target of an average site 15-20kWh/m^2/yr, with a total average energy demand of 35kWh/m^2/yr. To accurately ensure the performance, software used to specifically calculate the energy use will be utilised.

4.5 Water Consumption

It is a requirement that emphasis be placed on the planned water use of the buildings in operation. The proposed development whilst classified as non-residential buildings, and as such, Policy CE3 identifies that a minimum 105 Litres/per person/per day be achieved

To achieve this metric, the developer is intended to install efficient water saving sanitaryware to help reduce the development's water consumption in operation. Where this is not possible, flow restrictors will be installed to limit water use of sanitaryware items.

Table 4: Proposed Sanitaryware Specification Flow Rates

Component	Water Usage
WC's	4.5 Litres (Full Flush Volume), 3 Litres (Part Flush Volume)
Showers	8 Litres/Minute
Wash-hand basin taps	4 Litres/Minute
Kitchen taps	5 Litres/Minute
Bath	160 Litres Capacity
Washing Machine	8.17 Litres/kg (Default Figures)
Dishwasher	1.25 Litres/Place Setting (Default Figures)

As this application is submitted in outline, the proposed specification has yet to be confirmed at this stage, however, will be established during the reserved matters application. When adopted, it will be ensured that the minimum requirements of 105 Litres/per person/per day be achieved

4.6 Circular Economy

4.6.1 Circular Economy Approach for construction

The proposed site is a long-life development, it is not intended for regular change and therefore shall primarily be guided by the requirements for longevity. As such these sections of the development shall be designed to meet long term needs while being durable and resilient to a changing climate. With the intention of construction via the timber frame method, internal layouts are sized to accommodate changes in occupation and occupiers' needs over time, which maximises future adaptability.

4.6.2 Circular Economy Approach for Energy Demand

The proposed energy strategy is to meet heating demand with high efficiency heat pumps. This will supply efficient and low carbon space heating and hot water, whilst minimising heat loss associated with traditional heat networks. The renewables contribution will be further enhanced via the inclusion of solar photovoltaics (PV) to suitable roof spaces. This will ensure significant carbon savings are achieved over the Part L baseline and reduce the site energy consumption through a highly efficient building fabric design. This energy strategy is 100% reliant on electricity and shall take advantage of the decarbonisation of the national grid as it continues to become 'greener' through increased renewable energy contributions. This is in line with the Circular Economy principles for longevity as well as adaptability and flexibility.

4.6.3 Specifying & Sourcing Materials

As many materials as possible will be procured from manufacturers who have an environmental management system in place, such as ISO 14001 or BES 6001. All timber products will be FSC or PEFC certified.

The developer is likely to give preference to large manufacturers and suppliers of the materials needed who are more likely to have Environmental Product Declarations (EPD) for their products. This will make estimating the whole life carbon emissions of the building easier and more robust.

4.6.4 Minimise Material Quantities

Owing to the anticipated construction form being of timber frame, this can be classified as a Modern Method of Construction (MMC). Utilising this method will ensure elements of the construction will be prefabricated and assembled within a controlled factory environment, then moved to site for fast installation onto pre-prepared fixings. This results in less wastage as waste control measures are more stringent in a factory environment, resulting in reduced waste, loss and damage. Suppliers will also be reviewed to minimise packaging for construction deliveries and promote re-use, as well as implementing careful storage and management of onsite materials to prevent damage and consequent wastage. Careful quality and design will minimise offcuts, errors and wastage.

Whilst outlining principles reflecting good practice of circular economy have been described, a full circular economy assessment will be undertaken at the point of reserved matters application, to comply with Policy CE4.

The assessment at this point will detail specific actions taken as part of the design and development proposals, once established.

4.7 Embodied Carbon

Nationally, emissions of the built environment are increasingly significant as the previously highest emitting sector, power, has rapidly decarbonised. As a result, the built environment is one of the top emitters of greenhouse gases in the UK, according to the Committee on Climate Change. Annual construction sector emissions, i.e. embodied carbon only, are approximately 43 MtCO2e. This figure alone is over 6% of annual emissions.

The development will adopt sustainable design and development principles. The dwellings are proposed to be constructed using the timber frame method, offering benefits over a traditional construction technique. As well as speed of construction and greater accuracy due to off site manufacture of some elements, the use of timber frame construction allows for a reduction in predicted Embodied Carbon when assessed against the same dwelling types constructed using a traditional masonry build.

In terms of design circularity, the dwellings will be designed for longevity. Demand for housing is highly likely to remain high for the foreseeable future, especially in the context of an increasing population. It is therefore reasonable that the circularity principle most closely followed should be building for longevity. The proposed development will be designed to stand for well in excess of 60 years which is the industry adopted norm. Through robust materials and a design aesthetic that holds broad appeal, the buildings should stand the test of time and serve the local community for a long time, thereby postponing end-of-life emissions and avoiding emissions that would occur as a result of redevelopment.

Whilst specific materials will be determined at a later stage of the project, consideration will be given to prioritising a reduction in carbon emissions through the procurement strategy. Namely, the re-use or recycled materials or low carbon options will be considered where feasible to the construction efforts, rather than defaulting to wholly new materials at each opportunity. Furthermore, where aggregates are to be used, the procurement of secondary aggregates will be assessed in terms of viability to the design.

Where feasible, contractors and site personnel required will be selected who are local to the site to aid the construction efforts. This again will reduce the associated CO_2 emissions of travel, in addition to supporting the local economy.

In order to comply with Policy CE5, a whole life carbon assessment will be undertaken at the point of reserved matters, once the design strategy has been established. This will ensure the performance noted from the assessment reflects a greater accuracy of the proposals and will detail actions taken to lower the development's embodied carbon overall.

4.8 Waste and Recycling

As part of the design development and in efforts to reduce waste throughout the construction process, the design team have implemented several measures to eliminate potential excess.

The awarded contractor will be required to have an effective site waste management system adopting waste hierarchy principles of reduce, reuse, or recycle. All waste will be handled by a licensed waste contractor who will segregate, and process waste produced. Such waste will be separated into key waste groups and recycled at a waste processing plant to be refined into new products or reused in other projects where they cannot be reformed.

A target will be set for the contractor in terms of reduction of waste that is taken to landfill that will be an improvement on standard market practices, and they will be expected to demonstrate compliance with this. Site hoarding or materials where safe and appropriate will be transported from other sites for reuse.

The design of the buildings will look to incorporate recycling facilities for residents further encouraging the principles of recycling. Wokingham Borough Council operate an alternative collection for refuse waste & recycling waste, allowing for residents to segregate waste types in a more sustainable manner. To enable efficient segregation of operational waste for their residents, sufficient spacings and access will be provided around the buildings to enable waste bins to be collected in line with the council waste collection regime.

5.0 Conclusion

This statement has reviewed the proposed development at Land East of Trowes Lane, Swallowfield. The proposed development seeks approval for outline planning permission for the construction of up to 79 residential dwellings (Use Class C3), together with access, landscaping and associated infrastructure, with all matters reserved except access. This report has provided an assessment of the proposed scheme against the relevant policies: *CE1, CE3, CE4, CE5,* in addition to conforming to the National Design Guide.

As discussed throughout the report, due to the nature of the application being submitted in Outline, detailed design of the construction strategy and performance are not yet available but will be provided at a point of reserved matters. The proposed development is however aligned to achieve the policy requirements. The resulting impact of achieving the stated policies will be a reduction in energy use, favourable towards future residents' operational costs in occupation. A lesser energy use will also in turn result in a reduction in omitted carbon emissions, helping to promote the sustainability aspects of the scheme and steer towards the local council's and wider national efforts to reduce the effects of climate change.

The statement has highlighted that the scheme is outlining to utilise a fabric first approach towards the thermal envelope to minimise heat loss, as well as efficient heating via ASHPs, lighting systems and Solar PV, which will drive energy efficiency in the buildings. This is in line with the required policy objectives of sustainable design and reducing energy use.

Initial details of the proposal's sustainable construction methods, including that of circular economy and embodied carbon have been outlined, with full assessments being completed to verify performance at reserved matters submission. Efforts to reduce waste and promote efficiency have been discussed. This will be achieved through an effective procurement strategy and implementation of measurable on-site practices, underpinning the stated performance of the site in relation to it's energy efficiency and carbon emission savings predicted.

The suggested design and services strategy are the anticipated solution at time of writing, reflecting the level of development at Outline application. The strategy and required performances stated may be subject to change as design develops and through the reserved matters application. Nonetheless, it will be ensured that where any changes are made, the policy requirements listed will be maintained.

This statement has been produced based upon early design stage information, limited by the information available at the time of generation. Any changes to the known design following the completion of this statement may have an impact on the noted performance and policy requirements.

Appendix 1

Illustrative Masterplan

Focus Consultants 2010 LLP, Focus House, Millennium Way West, Phoenix Business Park, Nottingham NG8 6AS T. 0115 976 5050

Rev	Date	Description	Drn	Chk
P03	11.09.25	Updates to DAS	KYZ	SV
P02	27.08.25	Updated to adjacent scheme and precedent images	KYZ	SV
P01	22.08.25	First Issue	KYZ	SV

Title: Outline Landscape Masterplan

Project: Swallowfield, Wokingham
Client: City & Country

Date: August 2025
Scale: NTS @ A3

Drawing No: 2909-LLA-ZZ-GF-SK-L-0001
Revision: P03
Suitability: Planning

Project No: 2909

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LIZ LAKE ASSOCIATES
LANDSCAPE ARCHITECTS

Appendix 2

Part G Water Calculations

Focus Consultants 2010 LLP, Focus House, Millennium Way West, Phoenix Business Park, Nottingham NG8 6AS T. 0115 976 5050

breglobal

Job no:	R4575
Date:	September 2025
Assessor name:	
Registration no:	
Development name:	Swallowfield

PRINTING: before printing please make sure that in "Page Setup" you have selected the page to be as "Landscape" and that the Scale has been set up to 70% (maximum)

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS - (BASIC CALCULATOR)

	House Type:	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7		Type 8		Type 9		Type 10	
	Description:	Specification 1																			
Installation Type	**Unit of measure**	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day
Is a dual or single flush WC specified?		Dual		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Click to Select		Click to Select		Click to Select	
WC	Full flush volume	4.5	6.57		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Part flush volume	3	8.88		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Taps (excluding kitchen and external taps)	Flow rate (litres / minute)	4	7.90		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Are both a Bath & Shower Present?		Bath & Shower		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Bath	Capacity to overflow	160	17.60		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Shower	Flow rate (litres / minute)	8	34.96		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Kitchen sink taps	Flow rate (litres / minute)	4	12.12		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a washing machine been specified?		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Washing Machine	Litres / kg	8.17	17.16		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a dishwasher been specified?		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Dishwasher	Litres / place setting	1.25	4.50		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a waste disposal unit been specified?		No	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00
Water Softener	Litres / person / day		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Calculated Use		109.7		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	Normalisation factor		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91
Code for Sustainable Homes	**Total Consumption**		**99.8**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**
	Mandatory level		**Level 3/4**		-		-		-		-		-		-		-		-		-
Building Regulations 17.K	External use		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0
	Total Consumption		**104.8**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**
	17.K Compliance?		**Yes**		-		-		-		-		-		-		-		-		-