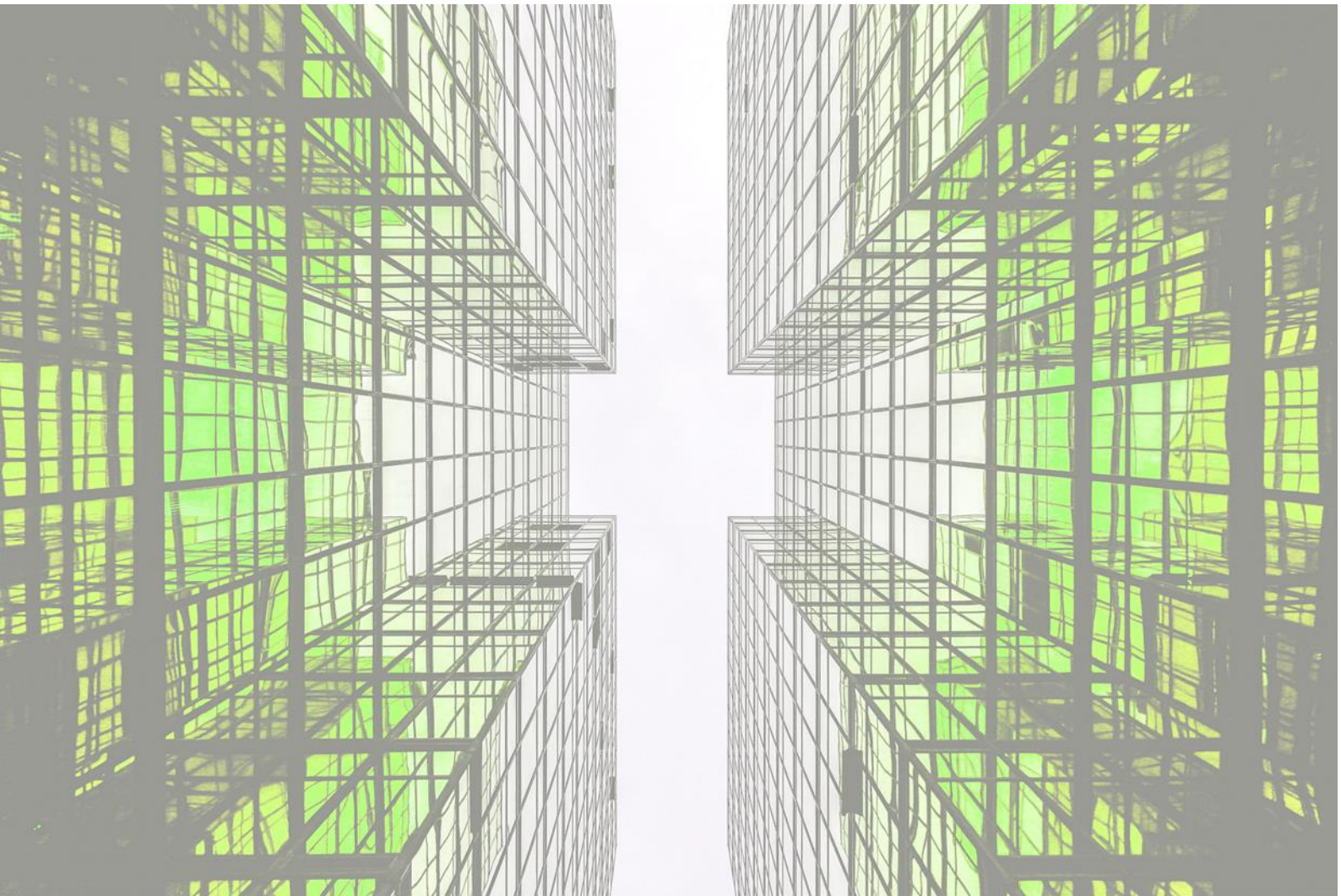


Sustainability Statement

Incorporating Energy Assessment

Alderbury

Prepared for Formula Land (Alderbury) Limited
October 2024



Revision	Date
A	October 2024

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EXECUTIVE SUMMARY

1. This Sustainability Statement incorporating Outline Energy Assessment has been prepared by Envision on behalf of Simply Planning and is submitted to support an outline planning application with all matters reserved, apart from details of access from Southampton Road, for a residential development of up to 47 dwellings, along with associated public open space, landscaping and biodiversity enhancements and a car park to serve the community allotments
2. The statement includes an appraisal of relevant sustainability and energy policies to demonstrate how the development could be taken forward in accordance with national and local planning policies, and the principles of sustainable development.
3. The National Planning Policy Framework (NPPF) encourages developments to address social progress, economic well-being and environmental protection. At a local level, the Wiltshire Council current planning policies in the current Core Strategy and Emerging Local Plan. Wiltshire council's emerging Local Plan requires all major residential developments to achieve zero carbon in operation. The development will seek to meet these emerging policies and achieve zero carbon development.
4. In compliance with adopted policy 41 of the Core Strategy and emerging policies 85,87,88, 89 and 95 the following sustainable design measures have been incorporated:
 - a) Retained areas of woodland in the centre and to the west of the site and proposed areas of wetland to increase to biodiversity of the site.
 - b) Incorporate passive design measures including low U-Values, ASHPs and PV into the design to reduce operational carbon.
 - c) Provision of sustainable drainage measures including large areas of soft landscaping, drainage ponds and an attenuation crate.
 - d) Sustainable transport measures including cycle storage and EV charging stations.
5. In addition, the energy demand assessment, appended to this statement, presents an illustrative route for future reserved matters applications to maximise on-site carbon reductions in accordance with both adopted policy 41 and emerging policy 85. The illustrative energy strategy is based on the energy hierarchy, to reduce the energy demand and includes the use of heat pumps and PV as LZC technologies to demonstrate a route for future reserved matters applications to achieve zero carbon operational energy emissions.

1 INTRODUCTION

1.1 Envision has been appointed by Formula Land (Alderbury) Limited to assist in the preparation of a Sustainability Statement in support of the outline planning application with all matters reserved, apart from details of access from Southampton Road, for a residential development of up to 47 dwellings, along with associated public open space, landscaping and biodiversity enhancements and a car park to serve the community allotments. The primary purpose of this statement is to explain how planning policy drivers, which influence the sustainability of the proposed development, would be addressed by the scheme proposals, and how these factors would continue to be considered during the further stages of the project.

1.2 This statement is structured as follows:

- Section 2 provides a description of the site and the development proposals;
- Section 3 provides a description of the main sustainability policies relevant to the application;
- Section 4 presents an appraisal of sustainability by considering how the scheme responds to relevant sustainability issues policies, including reference to the energy demand assessment, included in Appendix 1;
- Section 5 provides a concluding summary.

2 CONTEXT AND PROPOSALS

Location and Existing Situation

- 2.1 The proposed development site is located on the outskirts of Alderbury on the outskirts of Salisbury. The proposed site is situated off Junction Road with access from Southampton Road to the South West.
- 2.2 The site is a greenfield site, currently consisting of grassland and existing trees and hedgerows along the border. Figure 1 shows the existing site.

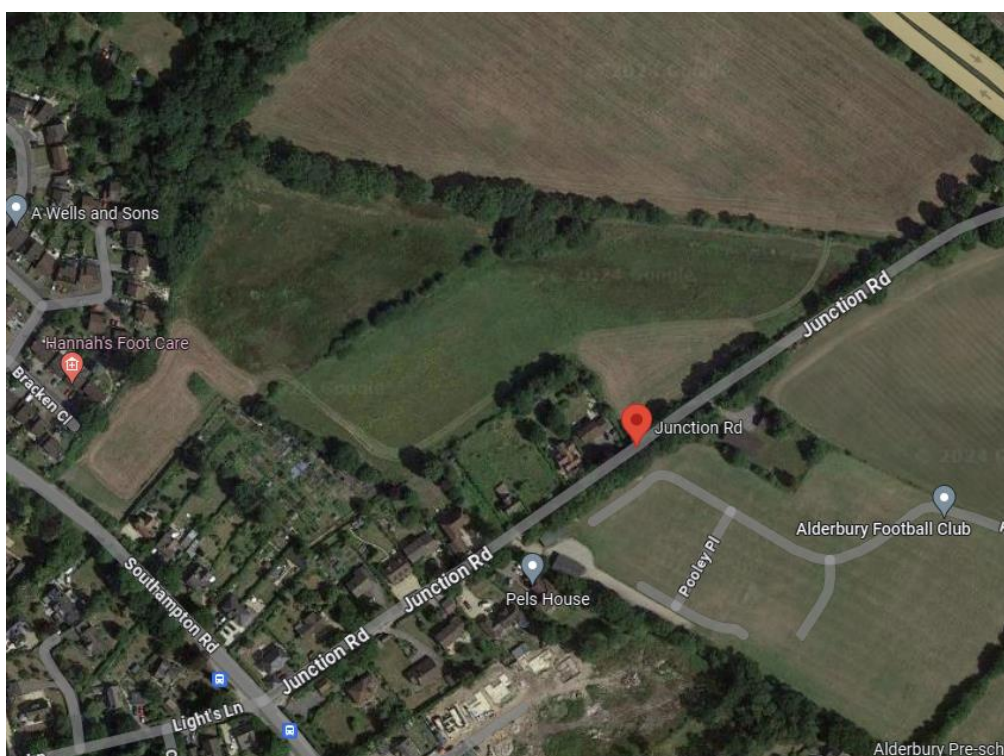


Figure 1 –Site Location

The Proposed Development

- 2.3 The outline planning application seeks consent for the development of up to 47 residential units, including landscaping, an area of ponding and woodland, associated infrastructure and new access route to the site.
- 2.4 The illustrative plan of the proposed development is shown in figure 2.



Figure 2 – Illustrative Masterplan

- 2.5 The Site Plan includes an indicative housing schedule, to demonstrate the distribution and layout of the scheme. This indicative schedule has been used in the energy demand assessment (see Appendix 1) in order to assess the likely energy demands of the development.
- 2.6 The proposed development will retain the existing landscaping and biodiversity where possible, including the retention of a woodland area situated in the centre of the site and hedge rows situated around the external boundaries. Large areas of landscaping have been incorporated into the design including a wetland and series of ponds.
- 2.7 The proposed development will have a new access route directly off Southampton Road and a footway to the southeast side of the site.

3 SUSTAINABILITY POLICY CONTEXT

National Policy

- 3.1 The National Planning Policy Framework was updated in December 2023 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018, updated in February 2019 and revised in July 2021.
- 3.2 The NPPF sets out a presumption in favour of sustainable development, and the need to support economic growth through the planning system. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):
- an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 3.3 The NPPF notes that the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.
- 3.4 Furthermore, the NPPF sets out how local authority development plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures.

Current Local Policy

- 3.5 The most relevant policies which need to be considered when assessing the scheme's compliance to sustainability policy are those provided within Wiltshire Council's current core strategy and emerging local plan.
- 3.6 Wiltshire Council's current local plan consists of the Core Strategy (2015). Councils are required to review and update their local plans every 5 years. As a result, Wiltshire Council is also in the advanced stages of developing its emerging local plan. Guidance has not been provided to when the new local plan will be published however it is anticipated to be within the next 12 months and remain in place until 2038.
- 3.7 Consideration will be given to both the current and emerging Local Plan when developing the sustainability and energy strategy for the development.

Wiltshire Core Strategy (2015)

- 3.8 The Wiltshire Council Core Strategy was adopted in 2015.
- 3.9 Core Policy 41 Sustainable Construction and Low Carbon Energy requires proposals to be accompanied by a sustainable energy statement, outlining the low carbon strategy for the development.
- 3.10 Policy 41 requires demonstrating how energy demand has been reduced through design features. Furthermore, all major developments to demonstrate a 19% carbon savings (equivalent of Code for Sustainable Homes Level 4).

Wiltshire Councils Emerging Local Plan

- 3.11 The local authority, Wiltshire Council, are currently in the advanced stages of developing the emerging Local Plan to replace the current Core Strategy (2015). The following Environmental policies set out the sustainable design principles which will be required in order to gain planning permission.
- 3.12 Policy 85 Sustainable Construction and Low Carbon Energy: The council require New build residential developments to achieve a zero-carbon in operation standard, by significantly reducing heat and power demand of the building through energy efficient design and/or modern methods of construction. New dwellings are required to demonstrate the following:
- space heating demand less than 30kWh/m²/annum;
 - total energy use less than 40kWh/m²/annum;
 - on site renewable energy generation to match the total energy use, with a preference for roof mounted solar PV, subject to building orientation and heritage considerations; and
 - connection to a district heating network where one is available.
- 3.13 Policy 87 Embodied Carbon: Major residential scheme will need to be supported by an Embodied Carbon Assessment that demonstrates a score of less than 900kg/ sqm of carbon use can be achieved within the development of the substructure, superstructure, and finishes.

- 3.14 Policy 88 Biodiversity and Geodiversity and Policy 89 Biodiversity Net Gain: The development must demonstrate how it has followed the mitigation hierarchy, protected features of nature conservation value from harm whilst demonstrating a minimum of 20% biodiversity net gain.
- 3.15 Policy 95 Flood Risk: All developments are required to consider the effect of the proposed-on flood risk from all sources, on and off site. All major developments should achieve a 20% betterment on greenfield runoff rates by the utilisation of drainage strategies and SUDs.
- 3.16 Despite the local plan being emerging the development will aim to comply with the Local plan (2020) by maximising onsite carbon savings and achieve a zero-carbon strategy.

4 SUSTAINABILITY STATEMENT

- 4.1 This section provides an account of the sustainability benefits of the scheme, and how relevant policy would be addressed through the development proposals. The section is structured providing an initial high-level description of how the proposed development meets the sustainable development policies set out in the Environmental section of the emerging Local Plan.

Sustainable Design

Energy Efficiency and Renewable Energy

- 4.2 Plan policy requires that an Energy Assessment is undertaken for proposed new developments, to demonstrate how the scheme will achieve zero carbon in operation. The energy demand assessment of this proposed development is included in Appendix 1 of this report. This sets out the principles of good energy design that would be adopted for the proposed new dwellings, following the principles of the energy hierarchy. The Energy Demand Assessment demonstrates an indication of how the scheme will achieve Net Zero emissions in operation. A full energy assessment will be undertaken at reserved matters stage.
- 4.3 Based on energy efficiency measures and low/zero carbon technologies assumed to be included within the detailed design, as set out in Appendix 1, . As explained in Appendix 1, this is based on the illustrative mix of dwellings and an appropriate energy strategy, and a reserved matter application will be supported by a full energy strategy on the detailed design.

Embodied Carbon

- 4.4 Materials with low embodied carbon will be specified. Where possible, materials will be procured locally and with recycled content. During the reserved matter application, a Whole Life Cycle Carbon Assessment will be completed to demonstrate the embodied carbon of the proposed development inline with Policy 87 of the emerging Local Plan the development will demonstrate a score of less than 900kg.CO₂e/m² of whole-life carbon emissions.

Water Efficiency

- 4.5 The detailed design of the dwellings would aim to reduce potable water used within the development through use of efficient fittings such as low flush WC's and flow restrictors where feasible.
- 4.6 Water fittings will be specified with the following or similar flow rates to meet the target water consumption of 85 l/p/day for the development:
- Wash basin taps – 5 l/min
 - Showers – 6 l/min
 - Bath – 120l to overflow
 - Dishwasher - 1.2 l/place setting
 - Washing machine - 7 l/kg load
 - WC – 4/2 litre dual flush

- Kitchen taps – 5 l/min

4.7 Water meters will be installed to encourage residents to limit their consumption.

Light Pollution

4.8 All lighting will be low energy light fittings specified to have a luminous efficacy greater than 95lm/W. All external lighting will be appropriately controlled to ensure that spaces not lit during daylight hours and PIR sensors to provide light only when the area is occupied. The proposed development is in an urbanised location, and therefore will not significantly contribute to increasing the effects of light pollution.

Flooding

4.9 The development has been identified as being in Flood Zone 1 which demonstrates a low risk of flooding. This is illustrated by the Environment Agency Flood Map below. The flood risk of surface water, ground water, tidal, sewers and reservoirs have all been assessed and illustrate a low risk of flooding.



Figure 4.1 – EA Flood Risk Map

4.10 To ensure adequate drainage and reduce the risk of flooding the development will incorporate a number of drainage strategies. It is proposed that an attenuation crate will be positioned in the eastern area of the site. Large areas of soft landscaping have been retained throughout the site with the western side of the site draining to the ponds and centralised habitat areas.

Microclimate

- 4.11 Acknowledging the need to consider future changes in local climatic conditions within the design of new developments, the green infrastructure included within proposed layout and landscaping strategy provides multi-functional benefits, including the provision of daytime shading and evaporative cooling at night, to help adaptation to predicted higher temperatures.
- 4.12 At the detailed design stage, the proposed dwellings would be modelled to consider the thermal comfort of future occupants the potential for overheating and to ensure the dwellings meet the Part O requirements. In addition, consideration would be given to the potential future risks to the structural and fabric resilience of the proposed buildings to changes in climatic conditions, with the identification of appropriate protection measures where needed to manage the risks.

Designing for waste and recycling

- 4.13 From a design perspective, the detailed design of each dwelling of the proposed development would include appropriate external space in order to allow for the adequate provision of space for external waste storage. This space would be sized to accommodate containers provided by the Local Authority or number of containers of a similar size, whilst allowing separation of recyclables from general waste.
- 4.14 At the detailed design stage, internal storage capacity for up to 40 litres of storage for household waste would also be provided within the kitchen of each dwelling and would include space for the storage of recyclable household waste. Each residential unit would be provided with a recycling bin, refuse bin and food waste bin.

Biodiversity

- 4.15 In line with Policy 88 and 89, the proposed development has been designed to take into consideration any potential impacts on the natural environment and where possible, has incorporated a number of measures to protect and enhance the site biodiversity. An Ecological appraisal has been completed by Cotswold Wildlife Surveys.
- 4.16 The ecology survey concluded that the site is of low ecological value with little evidence of reptile and newt species. As many of the existing ecological features, including bordering hedgerows and woodland areas are being retained the risk of the loss of any nesting bird or bat species is low.
- 4.17 The proposed soft landscaping plans demonstrate the biodiversity features proposed for the site. A number of existing features are to be retained including areas of woodland and bordering hedgerows. Site ecology will be enhanced by the provision of a new wetland area in the northern region of the site. An area of soft landscaping, with planting, dedicated for community use is also proposed.

Sustainable Transport

- 4.18 The development will be designed to promote sustainable modes of transport. A Transport Assessment and Travel Plan have been produced by Mayber Brown to support the planning application. The application is an outline application however it is anticipated that the following will be included within the development; Footways to link with existing pedestrian networks, provision of cycle storage in all properties and EV charging station. The design of this will be finalised during the detail-design phase.

- 4.19 The development is situated within walking distance of several amenities including a convenience store, playing fields, primary school, public house and village hall, within a 1km vicinity. These can be accessed via local pedestrian pathways along the northern side of Southampton Road.
- 4.20 The National Cycle Network Route 24 passes through the northern section of Alderbury along Southampton Road, approximately 300m from the site. This provides good access to the surrounding area via bike, reducing the need to travel by car.
- 4.21 The development has good access to existing public transport network with bus stops situated on Southampton Road. It is anticipated that the development will financially contribute, through a Section 106, to off-site highway improvements to include improvements to the existing bus stops in the local area.

Sustainable Construction

Materials

- 4.22 A responsible approach would be taken in managing all resources used in the construction phase. A procurement process would be operated ensuring where possible, all construction materials would be responsibly sourced and of low environmental impact, this would be pursued further during the detailed design stage.
- 4.23 All materials sourced will hold a responsible sourcing certificate including an ISO14001, BES6001 or FSC for timber materials (including temporary site timber). Where possible materials will be sourced with Environmental Product Declarations also.

Site Waste Management

- 4.24 Waste minimisation would be delivered through a proposed sustainable materials selection strategy and the principal contractor would adopt a Site Waste Management Plan (SWMP) for the construction phase. This is based on the principles of waste hierarchy, focusing on the initial minimisation of waste, followed by re-use and recycling throughout each phase of the construction process. The amount of non-hazardous waste generated on-site would be minimised in line with best practice levels. Waste would be appropriately disposed of within the correct landfill facility and using certified waste hauliers. The SWMP would additionally outline the procedures to follow for the appropriate removal and disposal of any hazardous waste.

Pollution

- 4.25 Through effective management of the construction activities, potential pollution risks from construction activities can be minimised. All contractors involved with construction would subscribe to the Considerate Constructors Scheme, and introduce measures for reducing the social and environmental impact of their activities. This would be overseen by a site Construction Environmental Management Plan (CEMP) to ensure that any local environmental impact is minimised.

5 CONCLUSION

- 5.1 This Sustainability Statement incorporating Energy Assessment supports an outline planning application on the Land at Southampton Road. The residential development consists of up to 47 dwellings, along with associated public open space, landscaping and biodiversity enhancements and a car park to serve the community allotments. The statement demonstrates how the proposals would be able to meet the sustainability policy requirements of Wiltshire Council, and how wider sustainability benefits would be realised by the proposals. Some of the key features are as follows:
- a) Retained areas of woodland in the centre and to the west of the site and proposed areas of wetland to increase to biodiversity of the site.
 - b) Incorporate passive design measures including low U-Values, ASHPs and PV into the design to reduce operational carbon.
 - c) Provision of sustainable drainage measures including large areas of soft landscaping, drainage ponds and an attenuation crate.
 - d) Sustainable transport measures including cycle storage and EV charging stations.
- 5.2 In general, the proposed development would make a strong contribution to sustainability of the local area and will comply with Wiltshire Council's sustainability planning policies.

APPENDIX 1

Energy Demand Assessment

Introduction

Envision has been appointed by Formula Land (Alderbury) Limited to produce an Energy Demand Assessment to support their outline planning application for the proposed development at Land at Southampton Road. This Energy Demand Assessment has been prepared in accordance with national and local policy guidance, specifically the National Planning Policy Framework (NPPF), on preparing energy assessments, and the policies detailed in Wiltshire Council's emerging Local Plan.

Calculation Methodology

In order to assess predicted energy demand of the site, Envision has prepared sample Standard Assessment Procedure (SAP) assessments to determine energy consumption and carbon emissions associated with the scheme. SAP assessments have been developed from the planning stage layouts, and based on a representative sample of standard house typologies.

This Energy Demand Assessment establishes the parameters for detailed design, but remains at a strategic level at this time. The calculations in this document are an indication of system size and carbon emissions based on guidance documents, approved software and practical experience. They are not design calculations but establish the viability and feasibility of various technologies for the proposed development.

Step 1 – Establishing Baseline CO₂ Emissions and Energy Demand

In order to demonstrate the reduction in carbon emissions, first the baseline energy demand must be calculated. This is the baseline against which the measures implemented must show an improvement. The calculated carbon emissions and total energy demand for a Building Regulations 2021 compliant model are shown in the ensuing section.

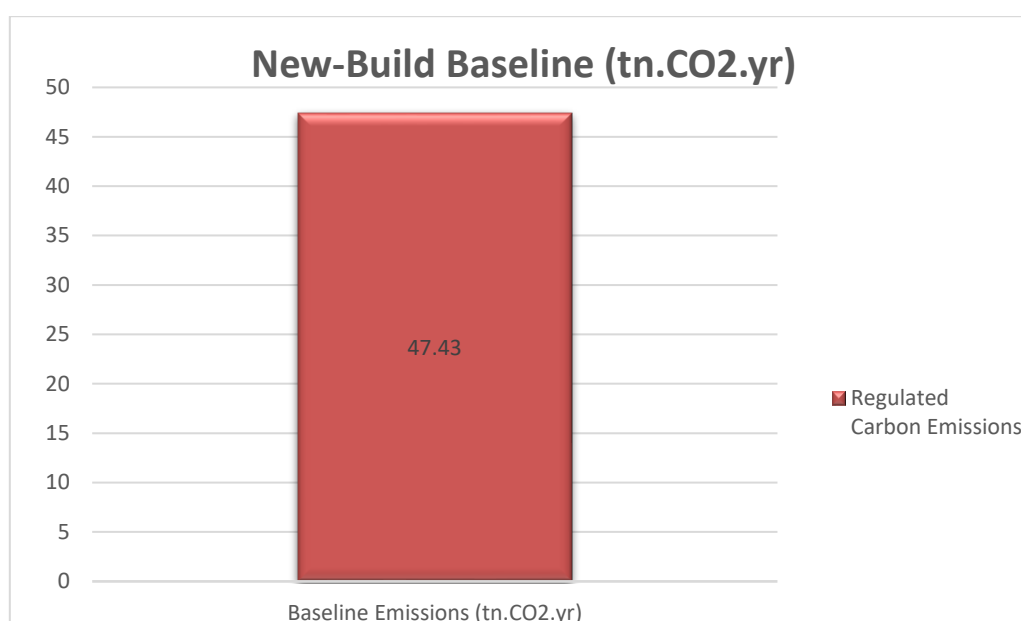
For the purpose of the report all house types have been modelled, this is shown in the table below;

Table A.1 Indicative housing schedule

Building Type	Amount
2-Bed Residential	13
3-Bed Residential	32
4-Bed Residential	2

Table A.3 TER Baseline values

Unit	Total Floor Area (m ²)	TER	Target CO ₂ (tn.CO ₂ .yr)	TPER	Target Regulated Energy (kWh.yr)	No units
2 Bed	72	12.98	12,149	69.96	65,482.56	13
3 Bed	82	12.48	32,748	65.27	171,268.48	32
4 Bed	121	10.45	2,529	54.72	13,242.24	2
Total =			47,425.70		249,993.28	



Based on the figures above, an indicative baseline CO₂ emissions for the development have been calculated at 47.43 tn.CO₂.yr and an indicative baseline energy demand at 249,993.28 kWh per annum.

Step 2.1 – Carbon Savings

Fabric Efficiency

Opportunities to implement passive design technologies, including consideration of the building orientation, natural daylighting and use of cross ventilation along with improved air tightness has been applied at this initial stage of the assessment where practical, reflecting the use of the end-building. The passive measures combined with high performance material U-values (see Table below) have been applied to the planning models to show energy and CO₂ emission reductions before the application of any LZC (low or zero carbon) technologies.

Table A.4 Indicative U-Values

Elements	New Thermal Elements: U-Values (W/m ² K)
External Walls	0.13
External Roof	0.1
Ground Floors	0.1
External Door	1
External Window	1.1
Thermal Bridges	Y= 0.08

Ventilation

For the purposes of this energy demand assessment, the following ventilation conditions have been assumed in the model:

- APR set at 4m³/h.m²;
- Basic Extract fans to all WCs and kitchen hoods.

Space Heating

For the purposes of this energy demand assessment, the following space heating parameters have been assumed:

- Individual Vaillant Arotherm Systems have been specified for all houses of varying sizes.
- 2-Bed unit will adopt a 3KW ASHP with a minimum space heating efficiency of 300%
- 3-Bed unit will adopt a 5KW ASHP with a minimum space heating efficiency of 302.5%
- 4-Bed unit will adopt a 7KW ASHP with a minimum space heating efficiency of 323%

Water Heating

For the purposes of this energy demand assessment, the following water heating demands have been assumed:

- 2-Bed, 3-Bed and 4-Bed Units would be specified with a 300 Litre Water Cylinder, with a measured loss of 1.77/day, cylinderstat and fully insulated pipework with water heating timed separately.

Lighting Strategy

- The Light fittings will be specified as LED, low-energy with local manual switching and if appropriate, occupancy sensing. The light fittings have been specified as to have a 100 lm/W efficiency.

PV Array

- Each unit will include a PV array in order to achieve zero carbon regulated emissions. Approximate PV array have been calculated. A 4 kWp for the 2 bed units and 6kWp for the 3 and 4 bedroom units will be adopted. This was calculated based on the available roof space for each unit. The size of PV array required to achieve Zero Carbon will be calculated during the detailed design stages.

Regulated Carbon Emissions

The energy reduction and renewable energy solutions proposed would result in the following energy demand and CO₂ emissions;

Table A.5 Proposed Development Emissions

Unit	Total Floor Area (m ²)	DER	Total CO ₂ (tn.CO ₂ .yr)	DPER	Regulated Energy (kWh.yr)	No units
2 Bed	72	-1.69	-1.58	7	6,552.00	13
3 Bed	82	-2.74	-7.19	6.23	16,347.52	32
4 Bed	121	-1.88	-0.45	2.99	723.58	2
Total =			-			
			9.22		23.62	
		Difference over Baseline	56.65		226370.18	
		% Difference	119.45%		90.55%	

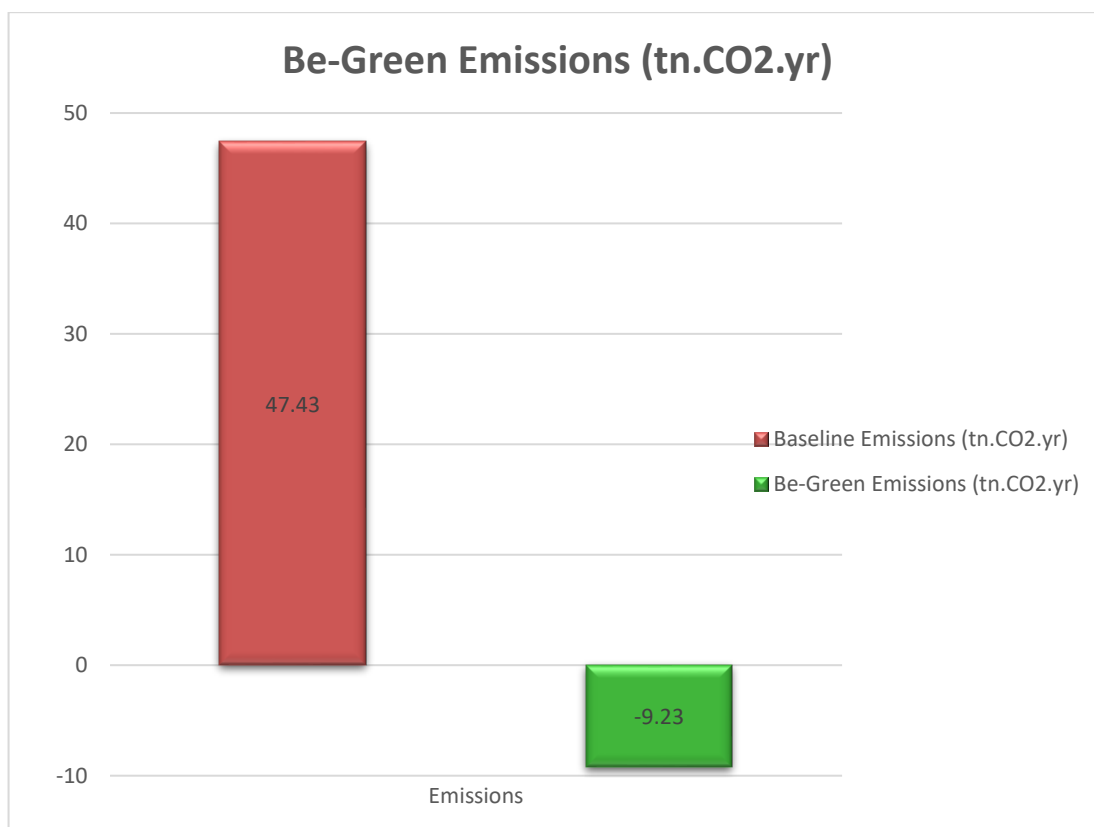


Figure A.2 Proposed Development

Through the incorporation of energy-efficient design measures and renewable energy sources, the proposed development achieves an overall saving of 119.45% in regulated CO₂ emissions and 90.55% in primary regulated energy demand through the inclusion of ASHPs and a PV array. The development complies with Part L requirements. The future reserved matters application will be accompanied by a full energy strategy.

Wiltshire Emerging Local Plan Policies

In order to comply with Wiltshire Councils emerging Local Plan the development needs to strive for Zero Carbon in operation including both regulated and unregulated emissions. The development has utilised the maximum potential roof space for PV and therefore in order to achieve Zero Carbon in Operation, an offset payment will be made to offset the remaining carbon emissions.

Table A.6 Operational (Regulated and Unregulated) Carbon Emissions

Unit	Total Floor Area (m ²)	DER	Regulated Energy (kWh.yr)	No. units
2 Bed	72	4.48	27,673.75	13
3 Bed	82	5.39	96368.00	32
4 Bed	121	3.63	5892.20	2
Regulated Total			129,933.95	
Plus Unregulated ¹			114,260.89	
Total Sitewide Demand			244,194.09	
PV Generation			176,178.14	
Shortfall of Operational Energy			68,015.95	
Shortfall of Carbon Emissions from Zero Carbon (tn.CO2.yr)			9.25	

Table A.6 demonstrates the regulated and unregulated energy and PV production for the development. This highlights a shortfall in energy production by renewable energy sources by 68,015.95 kWh.yr which equates to 9.25 tn.CO2.yr of Carbon. Overall, the development has achieved an 80.5% saving in operational carbon emissions. These calculations have been based on Sample SAP assessments based on the indicative housing schedule provided. During a reserved matters application an energy strategy will be prepared based on the detailed design of the scheme. This will allow for the precise energy demand and carbon savings to be calculated, based on the finalised design and a route to net zero demonstrated.

In line with the requirements of Wiltshire's emerging plan the developments achieve the following space heating and energy totals onsite.

Table A.7 Space Heating and Total Energy Demand.

Elements	Space Heating Demand kWh/m ² /yr	Total Energy Demand kWh/m ² /yr
2 Bed	14	30.2
3 Bed	13.6	36.7
4 Bed	13.2	24.5

¹ Calculated using the method prescribed under Appendix L in the Government's Standard Assessment Procedure for Energy Rating of Dwellings.

