FEBRUARY 2026

Sustainability & Energy Statement

Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road Crawley Down West Sussex

Iceni Projects Limited on behalf of

Wates Developments Limited

February 2026

ICENI PROJECTS LIMITED ON BEHALF OF WATES DEVELOPMENTS LIMITED

Sustainability & Energy Statement
LAND WEST OF TURNERS HILL ROAD AND NORTH OF HUNTSLAND, INCLUDING LAND AT HURST FARM, TURNERS HILL ROAD CRAWLEY DOWN WEST SUSSEX

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CONTENTS

1. EXECUTIVE SUMMARY

1.1 Iceni Projects Ltd has been commissioned by Wates Developments Limited to produce a Sustainability & Energy Statement to accompany the outline planning application for the proposed residential-led development of the Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road Crawley Down West Sussex.

1.2 This outline planning application proposes the provision of up to 230 homes, a 70 bed care home, a community facility and associated infrastructure, including new access points from Turners Hill Road, open space, play facilities, utilities and surface water drainage features.

1.3 Sustainability is a core consideration of the application and has been incorporated from the project outset. Energy and water efficiency have been maximised, whilst the production of waste and pollution is to be minimised, thus ensuring the impact of the proposals on its immediate surroundings and the environment as a whole is minimised.

1.4 Consideration has been given to Chapter 14 of the National Planning Policy Framework (NPPF), the Mid Sussex District Plan 2014 – 2031, as well as the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications) in the overall formulation of this strategy, with two key elements proposed for the approach to the scheme's sustainability proposals, as follow:

- The overall development has been assessed using the Mid Sussex District Plan 2014 – 2031, as well as the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications), to demonstrate that the proposed dwellings will maximise resource efficiency, minimise the generation of waste and pollution, and ensure the risk of flooding on-site is mitigated during both construction and in operation, to provide dwellings that meet the recommended standards for well-being of future occupants; and

- The carbon dioxide (CO_2) emissions reduction strategy for the proposals is based on the energy hierarchy to provide a rigorous methodology, which aims to reduce the carbon dioxide emissions from the development as far as possible. This is intended to be achieved through the employment of highly efficient building fabric components to reduce energy demand, and the potential inclusion of renewable and low carbon energy technologies to deliver further carbon dioxide emissions reductions. It is anticipated that the proposed carbon dioxide emissions reduction strategy will facilitate significant carbon dioxide emissions savings compared to the Part L:2021 baseline, aiming to significantly exceed the current requirements of Mid Sussex District Council and to align with the draft policies set out within the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications).

1.5 The proposed strategy has been based around Strategic Objectives 1 and 6 and Policies DP39 and DP42 of the Mid Sussex District Plan 2014 – 2031 and the Strategic Objectives and Policies DPS1, DPS2, DPS5, DPS5 and DPA14 of the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications). In summary, based on this strategy, the proposed development will;

- make efficient use of land;
- promote the use of sustainable and active modes of transport;
- reduce the risk of flooding on-site and in the surrounding area;
- minimise internal water consumption to 105 litres per person per day;
- incorporate low-impact materials, according to the BRE Green Guide to Specification;
- minimise waste production during construction and maximise the proportion of waste to be diverted from landfill;
- mitigate the risk of overheating;
- incorporate measures to improve site biodiversity, including biodiverse planting;
- ensure air, noise, ground, light and water pollution are minimised as far as possible;
- minimise energy demand through the specification of low U-values, low air permeability and low thermal bridging to reduce heat loss;
- be fossil fuel free, utilising electric-only systems, such as air source heat pumps (ASHPs) to serve the space and water heating demands of the proposed dwellings;
- utilise renewable technology, such as rooftop photovoltaic panels, to provide renewable electricity; and
- achieve a significant reduction in CO_2 emissions for the proposed dwellings, following the Energy Hierarchy methodology.

1.6 Overall, the proposals constitute sustainable development in accordance with national and local policy requirements and will provide a development that seeks to promote these principles in operation.

2. INTRODUCTION

2.1 Iceni Projects Ltd has been commissioned by Wates Developments Limited to produce a Sustainability & Energy Statement to accompany the outline planning application for the proposed residential development of the Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road Crawley Down West Sussex.

Report Objective

2.2 This document details the sustainable design and construction measures adopted by the proposed development and gives an overview of the design proposals that will ensure the development operates in a sustainable manner over the lifespan of the scheme. The Sustainability & Energy Statement report headlines will provide a framework for the project team to operate consistently within sustainability guidelines set out by Mid Sussex District Council.

2.3 The report is structured to meet these guidelines as follows:

- Section 3 discusses the planning context and policies which are relevant to sustainability;
- Section 4 discusses the development response to the policy drivers for sustainability;
- Section 5 sets out the development's energy strategy to minimise CO_2 emissions; and
- Section 6 summarises the development's design response.

Site and Surroundings

2.4 The application site (Appendix A1) is located to the west of Turners Hill Road (B2028), immediately to the west of the village of Crawley Down, West Sussex. The site is bound by properties fronting onto Turners Hill Road (B2028) and Wychwood Place to the east, and intermittent woodland and greenspace, in addition to a private road, known as Huntsland, to the south. Mature woodland, including Pescotts Wood and Wins Wood, form the northwestern boundary of the site, with footpath 35W running along the northern boundary, beyond which is Westlands a grade II listed building, and areas of woodland agricultural fields bound the site to the west, along with the grounds of the property known as Shanely. The closest town, East Grinstead, is located approximately 6km to the east of the site, whilst the town of Crawley is situated approximately 7km to the west.

2.5 The application site itself currently comprises large agricultural fields (Fields 1 and 2) that are currently used as pasture, and which are subject to an outline planning permission for up to 150 dwellings and a 70-bed care home (ref. DM/25/0016). A number of farm buildings and residential dwellings are also present within the site boundaries on Field 8/Hurst Farm, in addition to existing

trees and hedgerows. The surrounding area is predominantly residential to the east, with the site located at the western edge of Crawley Down. The surrounding area to the north, south and west is predominantly rural in nature, with a number of small villages, including Copthorne, Rowfant, and Turners Hill, located to the north, west and south.

The Proposed Development

2.6 The description of development is as follows:

> *"Outline planning application (appearance, landscaping, layout and scale reserved) for the erection of up to 230 dwellings, a care home (Use Class C2) up to 70 beds, and community facility, and associated infrastructure including new access points off of Turners Hill Road, with associated spine road and car and cycle parking, together with provision of open space, play facilities, utilities infrastructure, surface water drainage features, and associated works"*.

2.7 The illustrative masterplan is shown in Figure 2.1 below, whilst the red line boundary of the site is displayed in Appendix A1.

Figure 2.1 Illustrative Masterplan

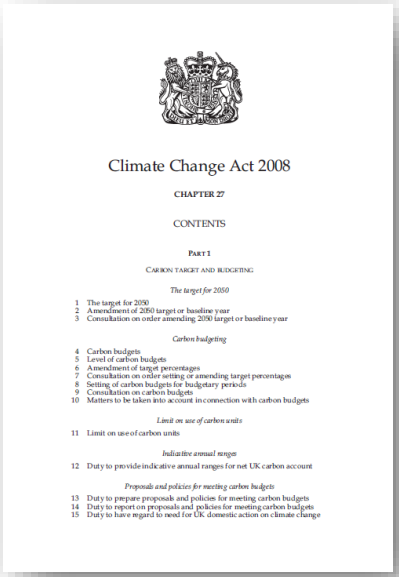
3. PLANNING POLICY FRAMEWORK

3.1 Built environment sustainability is incorporated within policy and regulation at a national and local level, as set out below.

National

Climate Change Act 2008 (November 2008)

3.2 On 26th November 2008, the UK Government published the Climate Change Act 2008; the world's first long-term legally binding framework to mitigate against climate change. Within this framework, the Act sets legally binding targets to increase greenhouse gas emission reductions through action in the UK and abroad from the 60% target set out in the Energy White Paper, to 80% by 2050.



Climate Change Act 2008

CHAPTER 27

CONTENTS

PART 1

CARBON TARGET AND BUDGETING

The target for 2050

1 The target for 2050
2 Amendment of 2050 target or baseline year
3 Consultation on order amending 2050 target or baseline year

Carbon budgeting

4 Carbon budgets
5 Level of carbon budgets
6 Amendment of target percentages
7 Consultation on order setting or amending target percentages
8 Setting of carbon budgets for budgetary periods
9 Consultation on carbon budgets
10 Matters to be taken into account in connection with carbon budgets

Limit on use of carbon units

11 Limit on use of carbon units

Indicative annual ranges

12 Duty to provide indicative annual ranges for net UK carbon account

Proposals and policies for meeting carbon budgets

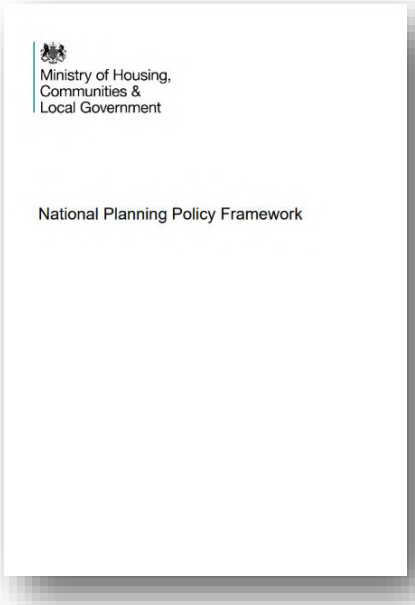
13 Duty to prepare proposals and policies for meeting carbon budgets
14 Duty to report on proposals and policies for meeting carbon budgets
15 Duty to have regard to need for UK domestic action on climate change

3.3 As required under Section 34 of the Climate Change Act, the Sixth Annual Carbon Budget was accepted by the Government in April 2021. This sets out a budget for UK emissions for the period 2033 – 2037.

3.4 Following a commitment in June 2019, the Climate Change Act has been amended to target net zero carbon emissions by 2050.

National Planning Policy Framework (December 2024)

3.5 The Ministry of Housing, Communities & Local Government determines national policies on different aspects of planning and the rules that govern the operation of the system. Accordingly, the National Planning Policy Framework (NPPF), which came into force in March 2012 and was updated in February 2019, aims to strengthen local decision making. Additional updates have since been made through the latter half of 2020 and in January and July 2021 to reflect changes related to use classes, permitted development rights, the calculation of housing need, and requirements to achieve beauty alongside sustainability. Further updates were made in September and December 2023 with respect to



Ministry of Housing, Communities & Local Government

National Planning Policy Framework

onshore wind development, and beauty, design, infrastructure, neighbourhood and the environment, respectively. In December 2024, the NPPF was revised in response to reforms to the Framework, and consultations on other changes to the planning system.

3.6 Paragraphs 10 and 11 of the NPPF confirm that at the heart of this document is a "*presumption in favour of sustainable development*", and that development proposals that accord with an up-to-date development plan should be approved without delay.

3.7 Paragraph 7 states that the purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

3.8 Achieving sustainable development means that the planning system has three overarching activities, 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 Role –** ensuring the provision of land and infrastructure needed to help build a *strong, responsive and competitive economy.*

- **A Social Role –** supplying the required amount of housing while at the same time ensuring and building *strong, vibrant and healthy communities.* Ensuring that the built environment is sited around accessible local services which help support a community's *health, social and cultural well-being.*

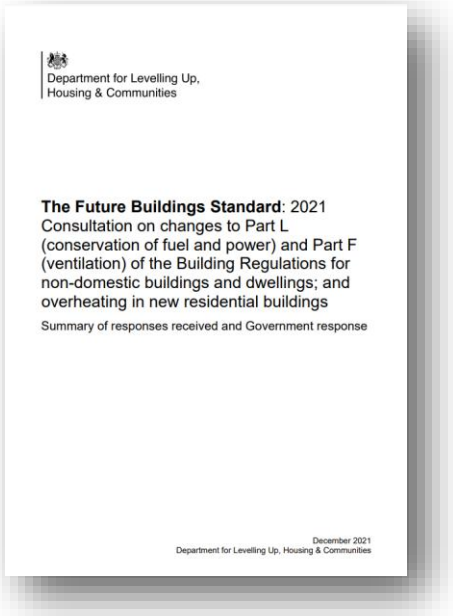
- **An Environmental Role –** ensuring development contributes to the protection and enhancement of the *natural, built and historic environment* through the improvement of biodiversity, minimising the use of natural resources and production of pollution / waste, and guaranteeing sufficient adaptation to climate change.

Future Homes Standard (March 2019)

3.9 Within the Spring Statement 2019, the Chancellor announced the future introduction of the Future Homes Standard. The Standard will mandate the end of fossil fuel heating systems in new homes from 2026 and target "world-leading levels of energy efficiency". In doing this, the Standard aims to utilise green technology to reduce environmental impacts, as well as reducing consumer energy bills.

3.10 This Standard is expected to build on the Prime Minister's Clean Growth Grand Challenge mission, which aims to at least halve the energy usage of new build properties by 2030. It also looks to halve the costs of renovating existing buildings to achieve a similar standard of energy efficiency as new buildings, whilst improving their quality and safety.

Future Buildings Standard 2025 (December 2023)



3.11 On 13th December 2023, the government published the consultation for the next step towards the full Future Buildings Standard. The Standard will deliver new non-domestic buildings that are zero-carbon, use low-carbon heat only, high-performance fabric standards and efficient fixed building services. As the electricity grid continues to decarbonise, buildings built to the Standard will become net zero carbon over time, with no need for further energy efficiency retrofit work as they will not rely on fossil fuels for heating and hot water, or inefficient fabric. This draft consultation builds on the 2021 edition by further strengthening regulation across more building types and improving long-term outcomes through: reducing energy demand, cutting emissions, lowering energy bills, and improving thermal comfort, and building resilience and comfort.

3.12 This Standard is expected to build on the Prime Minister's Clean Growth Grand Challenge missions, which aims to at least halve the energy usage of new buildings by 2030. It also looks to halve the costs of renovating existing buildings to achieve a similar standard of energy efficiency as new buildings, whilst improving their quality and safety.

Part L:2021 of the Building Regulations (June 2022)

3.13 Part L of the Building Regulations relates to the conservation of fuel and power, and applies to both new and existing buildings. The current edition covers the energy efficiency requirements of the building regulations as set out in Part L of Schedule 1 to the Building Regulations. Technical guidance is contained in two Part L Approved Documents.

3.14 The documents of relevance to this scheme include:

- **Approved Document L Volume 1: Dwellings.** This provides the methodology for new build, domestic buildings to meet current energy efficiency standards, including backstop U-values, carbon dioxide emissions calculations and minimising the risk of overheating. Carbon dioxide emissions reductions are prescribed for 'regulated' emissions only, and relate to heating, hot water, lighting, auxiliary and cooling (where specified). Emissions from domestic appliances (cooking, for example) are considered to be unregulated emissions, and are excluded from the analysis.

- **Approved Document L Volume 2: Buildings other than dwellings.** This provides the methodology for new build, non-domestic buildings to meet current energy efficiency standards, including backstop U-values, carbon dioxide emissions calculations and minimising the risk of overheating. Carbon dioxide emissions reductions are prescribed for 'regulated' emissions only, and relate to heating, hot water, lighting, auxiliary and cooling (where specified). Emissions from other equipment (computers, for example) are considered to be unregulated emissions, and are excluded from the analysis.

Local

3.15 In determining the local context, the Mid Sussex District Plan 2014 – 2031 (March 2018) sets out policy relevant to sustainability.

Mid Sussex District Plan 2014 – 2031 (March 2018)

3.16 The Mid Sussex District Plan sets out broad guidance on the distribution and quality of development in the form of 'higher level' strategic policies. The following policies are considered of great relevance to this proposal:

- **Strategic Objective 1** seeks to promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change.

- **Strategic Objective 6** seeks to ensure that development is accompanied by the necessary infrastructure in the right place at the right time that supports development and sustainable communities. This includes the provision of efficient and sustainable transport networks.

- **Policy DP39: Sustainable Design and Construction** states that all development proposals must seek to improve the sustainability of development and should, where appropriate and feasible according to the type and size of development and location, incorporate the following measures:

    - Minimise energy use through the design and layout of the scheme, including through the use of natural lighting and ventilation;

    - Explore opportunities for efficient energy supply through the use of communal heating networks where viable and feasible;

    - Use renewable sources of energy;

    - Maximise efficient use of resources, including minimising waste and maximising recycling/re-use of materials through both construction and occupation;

    - Limit water use to 110 litres/person/day in accordance with Policy DP42: Water Infrastructure and the Water Environment;

- Demonstrate how the risks associated with future climate change have been planned for as part of the layout of the scheme and design of its buildings to ensure its longer term resilience.

- **Policy DP42: Water Infrastructure and the Water Environment** states that new development proposals must be in accordance with the objectives of the Water Framework Directive, and accord with the findings of the Gatwick Sub Region Water Cycle Study with respect to water quality, water supply and wastewater treatment and consequently the optional requirement under Building Regulations – Part G applies to all new residential development in the District. Development must meet the following water consumption standards:

  - Residential units should meet a water consumption standard of 110 litres per person per day (excluding external water 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.

  Development proposals which increase the demand for off-site service infrastructure will be permitted where the applicant can demonstrate;

  - that sufficient capacity already exists off-site for foul and surface water provision. Where capacity off-site is not available, plans must set out how appropriate infrastructure improvements approved by the statutory undertaker will be completed ahead of the development's occupation; and

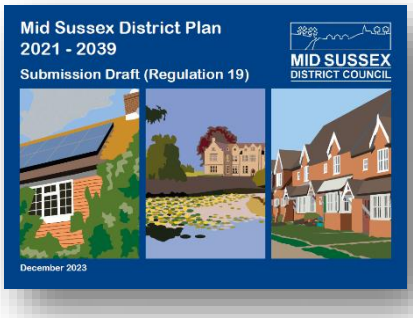
  - that there is adequate water supply to serve the development. environment.

  Planning conditions will be used to secure necessary infrastructure provision.

  Development should connect to a public sewage treatment works. If this is not feasible, proposals should be supported by sufficient information to understand the potential implications for the water.

  The development or expansion of water supply or sewerage/sewage treatment facilities will normally be permitted, either where needed to serve existing or proposed new development, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impacts and that any such adverse impact is minimised.

Mid Sussex District Plan 2021 – 2039 (Regulation 19; December 2023; with Main Modifications July 2024)



3.17 The draft District Plan 2021 – 2039 comprises an updated vision, strategy, set of site allocations and policies that will supersede the adopted Mid Sussed District Plan 2014 – 2031. Whilst not yet formally adopted, when accounting for the Schedule of Main Modifications set out in July 2024, the policies of relevance to the proposed development detailed within the draft District Plan 2021 – 2039 include:

- **Strategic Objectives: Environment** seeks to protect and enhance the natural, built and historic environment by:
    - Creating and maintaining easily accessible high quality green and blue infrastructure in the right places to encourage active travel, improve physical and mental health, support biodiversity, and address climate change mitigation and adaptation.
    - Promoting development that embodies the 20-minute neighbourhood principles and makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change.
    - Promoting well located and designed development that reflects the District's distinctive towns and villages, retains their separate identity and character and prevents coalescence.
    - Conserving and enhancing valued landscapes for their visual, historical and biodiversity qualities.
    - Protecting valued characteristics of the built environment for their historical and visual qualities.
    - Ensuring that development is accompanied by the necessary infrastructure in the right place at the right time that supports development and sustainable communities. This includes as a priority the provision of efficient and sustainable transport networks.
    - Protecting and enhancing the natural environment, achieving net gains in biodiversity, nature recovery and tree cover.
- **Policy DPS1: Climate Change** states that the Council will take an integrated and holistic approach to address the causes of climate change and to increase resilience to the effects of climate change. This will be achieved by:

Reducing carbon emissions

1. Development will be required to demonstrate that measures have been taken to reduce carbon emissions, including improvements in energy efficiency and in the design and construction of buildings. This includes new buildings and the conversions of existing buildings. Detailed requirements are set out in Policies DPS2: Sustainable Design and Construction, DPS3: Renewable and Low Carbon Energy Schemes, and the Mid Sussex Design Guide SPD.

2. The Council will support renewable and low carbon energy schemes in line with the requirements set out in Policy DPS3: Renewable and Low Carbon Energy Schemes.

3. Development should embed the principles of the 20-minute neighbourhood and local living and prioritise active travel such as walking and cycling and sustainable transport such as public transport to reduce reliance on private modes of transport and to facilitate healthy lifestyles. Detailed requirements are set out in Policies DPT1: Placemaking and Connectivity; DPT3: Active and Sustainable Travel; and DPB1: Character and Design.

4. Development likely to be sources of other greenhouse gas emissions (methane, nitrous oxide and fluorinated gases) will be required to demonstrate that opportunities have been taken to reduce these emissions. This includes proposals that may use these other greenhouse gases in their design and operation, for example, refrigerants and air conditioning systems.

Maximising carbon sequestration

5. Development will be required to protect existing trees, woodland and hedgerows and their soils and seek opportunities to plant new hedgerows and appropriate species of trees in appropriate places including street trees. Detailed policy requirements are set out in Policy DPN4: Trees, Woodland and Hedgerows.

6. Development will be required to protect existing carbon sinks and stores and take opportunities to provide nature-based solutions for carbon capture and sequestration.

7. Development will be required to take opportunities to improve soil health and minimise disturbance to soils in order to protect soil biodiversity and carbon storage. Detailed policy requirements are set out in Policy DPN1: Biodiversity, Geodiversity and Nature Recovery.

Climate change adaptation and mitigation

8. Development must be designed to minimise vulnerability from the effects of climate change particularly in terms of overheating, food security, flood risk and water supply. Detailed policy

requirements are set out in Policies DPS2: Sustainable Design and Construction and DPS4: Flood Risk and Drainage.

9. Development will be required to incorporate green and blue infrastructure and nature-based solutions to moderate surface and air temperatures, increase biodiversity and as part of sustainable drainage systems. Detailed requirements are set out in Policies DPB1: Character and Design; DPS4: Flood Risk and Drainage; and DPN3: Green and Blue Infrastructure.

10. Development will be required to achieve a net gain in biodiversity and contribute to ecological networks and the Local Nature Recovery Strategy. Detailed policy requirements are set out in Policies DPN1: Biodiversity, Geodiversity and Nature Recovery, and DPN2: Biodiversity Net Gain.

11. The Council will seek adaptation and mitigation measures that improve resilience to climate change and allow communities, businesses, buildings, infrastructure and ecology to adapt to the impacts of climate change.

- **Policy DPS2: Sustainable Design and Construction** states that all development must submit a proportionate Sustainability Statement to demonstrate how through its design, construction, operation and use it will contribute to the reduction of greenhouse gas emissions, increase resilience to the impacts of climate change and improve sustainability and includes incorporation of measures set out at Principle DG37 of the Mid Sussex Design Guide SPD.

  Zero carbon development

  Unless it can be demonstrated that doing so is not technically feasible or unviable, using a fabric first approach, all new build development must achieve zero operational GHG emissions by reducing heat and power demand and then supplying all (regulated and unregulated) operational energy through on-site renewables.

  Energy Use

  The carbon reduction requirements for achieving net zero development must be met by using a fabric first approach following the energy hierarchy:

  i. Minimise the demand for energy.

  ii. Maximise energy efficiency.

  iii. Utilise renewable energy.

  All developments must include decentralised, renewable or low carbon energy provision. Residential and non-residential renewables such as solar panels (including ground mounted)

and associated infrastructure, will be supported in principle but should seek to minimise the visual impact wherever possible

Heating to all new build developments and major refurbishments shall be provided using renewable energy (not fossil fuels).

Residential new build: Until superseded by higher national standards, development must achieve a 100% emissions reduction against the Target Emissions Rate (TER) on all new build dwellings. Compliance shall be demonstrated via the Standard Assessment Procedure (SAP) calculations and detailed submitted as part of an Energy Statement.

Development is encouraged to exceed this standard where feasible and viable, and alternative routes such as Passivhaus standards will be supported where evidence is provided. Passivhaus compliance shall be evidenced by submitting full Passivhaus Planning Package outputs demonstrating that Passivhaus certification is achievable.

Non-residential new build: Major development must achieve maximum credits in the “Energy performance”, and “Prediction of operational energy consumption” and “Beyond zero net regulated carbon” categories of BREEAM (or equivalent) to demonstrate that the development has surpassed net zero regulated emissions.

All minor new build developments have the option to demonstrate achievement of zero operational GHG emissions through the Part L of Building Regulations rather than a BREEAM assessment.

Evidence must be provided to demonstrate every feasible and viable option has been explored to fully achieve the net zero target on-site. Only in exceptional circumstances, where any shortfall is identified, appropriate mitigation should be formally agreed with the Council.

Assessment frameworks

BREEAM Technical Standards: Planning applications of a scale and nature defined in the table below, must be accompanied by a pre-assessment, demonstrating how the BREEAM Technical Standards and/or any future replacement standards, will be met.

Evidence demonstrating the project has been registered with BRE during the design stage shall be submitted with any application and conditions/ requirements will be imposed to secure appropriate final (post-construction/ post-refurbishment stage) certification to demonstrate compliance with this policy.

Where Passivhaus certification is being sought, a ‘preconstruction compliance check’ completed by a Passivhaus certifier will be required; secured by condition and upon completion, a Quality Approved Passivhaus certification for each dwelling/building will be required.

Development, as defined below, will be required to meet the relevant minimum defined standards until they are superseded by higher national standards.

Development Type	Scale of Development	Minimum Standard
Non-residential and mixed-use new build	Major	BREEAM Excellent
Non-residential Refurbishment and/or extension	Major	BREEAM Excellent – Refurbishment and Fit Out Technical Standards

Post-occupancy monitoring: All major non-residential new build developments must achieve a credit for POE in the category Man 05 Aftercare under the relevant BREEAM scheme.

Developers should share their POE information with the built environment sector to ensure transparency and inform wider lesson learning.

Embodied Carbon

Development proposals must prioritise retention and retrofit of existing buildings or structures to capture the embodied carbon associated with the building's original construction; unless it can be demonstrated to be unviable to do so.

Major new build developments: Major new build developments must undertake a whole life-cycle (WLC) carbon assessment using a nationally recognised assessment methodology. Relevant credits in BREEAM, or equivalent, shall be achieved to demonstrate reasonable endeavours have been made to minimise embodied carbon.

The use of sustainably sourced wood in construction, particularly from local sources, is strongly encouraged.

Householder development

Proposals for householder development must demonstrate that they have been designed to be as energy efficient and sustainable as possible through good design and by:

1. Increasing the energy efficiency of the proposed new elements, and

2. Increasing the energy efficiency of other parts of the building.

All measure should be set out in a proportionate Sustainability Statement.

Prevent overheating

All new development must demonstrate how design measures have been incorporated to:

3. Minimise potential overheating such as through the layout, orientation and design of buildings.

4. Maximise passive cooling through natural ventilation and other passive means. Reliance on air conditioning systems should be avoided. Green and blue infrastructure incorporated in line with Policy DPN3: Green Infrastructure to provide natural cooling and shading

Water resources and water efficiency

New development proposals must accord with the findings of the Gatwick Sub Region Water Cycle Study with respect to water resources, water quality, water supply and wastewater treatment.

All residential new build: Development must meet a maximum water consumption standard of 85 litres per person per day to minimise the impact of the development on water resources and water quality.

Major non-residential new build: Development must achieve 3 credits in BREEAM category Wat 01 and demonstrate reasonable endeavours to achieve an 'Outstanding' rating overall.

All development will be required to meet the relevant minimum standards set out above until they are superseded by higher national standards.

Sustainable water consumption rates can be achieved through incorporation of measures to reduce water use and reuse water including:

- Water efficient fittings and appliances
- Rainwater harvesting, including incorporation of rainwater butts
- Greywater recycling

Minimise waste

In accordance with relevant policies in the West Sussex Waste Local Plan, all development must support the circular economy by minimising construction, demolition and excavation waste disposed of in landfill and follow the waste hierarchy to maximise recycling and re-use of material.

New development must be designed with adequate and easily accessible storage space that supports separate collection of dry recyclables and food waste, as well as residual waste taking account of guidance in the Mid Sussex Design Guide SPD.

- **Policy DPS6: Health and Wellbeing** states that, to enable and support healthy lifestyles and address health and wellbeing needs in Mid Sussex, all new development must be designed to achieve healthy, inclusive and safe places by embedding the principles of the 20-minute neighbourhood and 'local living'.

  In order to maximise opportunities to enable healthy lifestyles, all new development must address all of the following (where applicable for the type of development proposed):

  1. Be of high quality in its design and construction and be set within an attractive environment.

  2. Be well-designed to ensure legibility of layout and the public realm including through the use of materials.

  3. Meet the needs of the community through accessible, inclusive and safe design including incorporating measures to reduce opportunities for crime.

  4. Prioritise active travel such as walking and cycling and sustainable transport such as public transport, and take opportunities to enhance recreational routes and public rights of way.

  5. Incorporate green and blue infrastructure and biodiversity enhancements.

  6. Provide high quality private outdoor space and publicly accessible open and green space.

  7. Support and facilitate healthy eating including through the provision, where possible, of local and domestic food production such as allotments, community growing spaces and community orchards.

  8. Take opportunities to increase community connectivity and social inclusion such as by providing spaces for the community to gather, exercise, socialise and interact.

  9. Take opportunities to improve the factors that can contribute to poor health and social inequalities such as noise, air quality, crime, access to education and employment, local amenity, and access to open space and the countryside.

  10. Incorporate measures to provide resilience against the effects of climate change including overheating, flood risk and drought.

- **Policy DPA9: Land to west of Turners Hill Road, Crawley Down** lists the following policy requirements:

  1. Assess the areas of archaeological interest – Crest of Sandstone Ridge and the stream running through the High Weald that has a potential pre-historic bank.

2. Follow a sequential approach by directing development away from areas of flood risk and mitigate impacts through integration of SUDS to deliver biodiversity/environmental improvements and flood resilience.

3. Avoid any direct and indirect impacts associated with Ancient Woodland (on and adjacent to the site) including Front Wood, Wallage Wood, Wallage Lodge Shaw, Bushy Wood, Pescotts Wood (east and west parcels), which will be excluded from development.

4. Provide a woodland buffer to existing vegetation along the southern boundary and set development back from the Worth Way to mitigate potential visual impact to the route and help enhance its setting.

5. Provide a 5m landscape buffer to existing hedgerows.

6. Integrate and enhance the existing PRoWs within the site and retain the character of PRoWs that border the site.

7. Provide suitable pedestrian and cycle connections to Crawley Down, including via the Worth Way.

8. Integrate development with the site to the north (DPA10) such as through the design of the site layout and by providing pedestrian and cycling connections between the developments, green infrastructure and ecological corridors.

9. Provide suitable access to Turners Hill Road to each of the three areas of the site. The northern access is to be via Wychwood Place and the middle access and route through site is to be separate from Huntsland which will remain a no through road and public right of way.

10. Avoid development in the most sensitive areas, including the central ridge.

11. Provide a countryside open space in southern part of site and along western boundary linking the north and south parts of the site. It meets the requirements of other relevant development plan policies.

12. Meet the requirements of other relevant development plan policies.

- **Policy DPA10: Hurst Farm, Turners Hill Road, Crawley Down** lists the following policy requirements:

1. Mitigation measures will be required to protect the setting and form of parts of the site that fall within and adjacent to sensitive landscape areas.

2. Avoid any direct and indirect impacts associated with Ancient Woodland (on and adjacent to the site) including Pescotts Wood East and Pescotts Wood West.

3. Integrate development with the site to the south (DPA9) such as through the design of the site layout and by providing pedestrian and cycling connections between the developments, green infrastructure and ecological corridors.

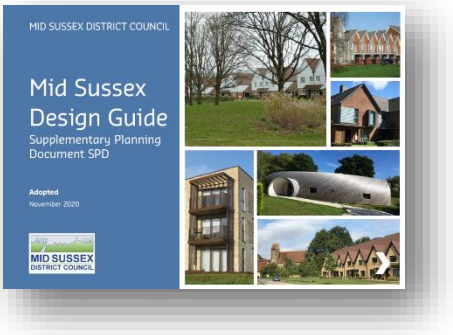
4. Informed by a Heritage Statement, provide layout and design which preserves the setting of Grade II listed building 'Westlands'.

5. Provide suitable vehicular, pedestrian and cycle access from Turners Hill Road.

6. Investigate, assess and address any land contamination issues arising from former uses of the site or from uses, or former uses, of land in proximity to the site.

7. Meet the requirements of other relevant development plan policies.

Mid Sussex Design Guide Supplementary Planning Document (SPD; November 2020)



3.18 The Mid Sussex Design Guide Supplementary Planning Document (SPD) provides a number of design principles that aim to deliver high quality new development across Mid Sussex. It is states that all new development should be designed to high environmental standard. This applies to both the building design and layout, which should have regard to the following:

- Sustainable construction principles including maximising energy and water efficiency, minimising carbon emissions and use of resources;

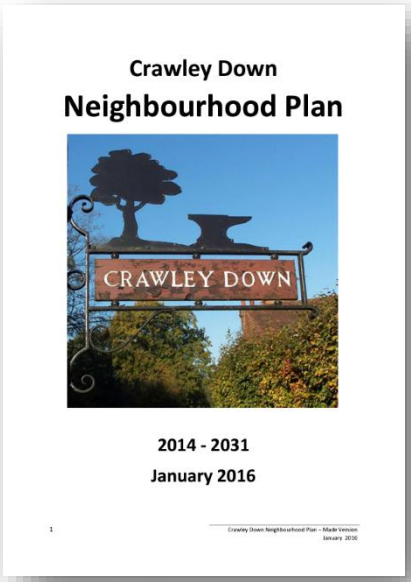
- Optimising development opportunities especially on brownfield sites and in locations close to facilities or with good transport links;

- Organising development around green transport principles that reduce travel distances, prioritise pedestrian and cycle movement and integrate public transport;

- Planning schemes around Green Infrastructure provision that is underpinned by: (a) healthy living and well-being principles; (b) helping to deliver a net gain in bio-diversity; (c) responding to the beauty of the natural landscape and ensuring that natural features are retained and enhanced; and

- Designing for adaptation and resilience to future weather events (drier/hotter summers and wetter/warmer winters).

Crawley Down Neighbourhood Plan 2014 – 2031 (January 2016)



3.19 The Crawley Down Neighbourhood Plan sets out 11 policies which together with the NPPF and the Local Plan ensure that new development in the Crawley Down Neighbourhood Plan Area will be sustainable and in accordance with the following vision:

"A thriving and attractive village community set in unspoilt and accessible countryside that provides an excellent quality of life for residents, visitors, and those who work in, or travel through, the area."

Other Considerations

Climate and Sustainability Action

3.20 Mid Sussex Council is committed to playing its part in supporting internation and national plans to allow prosperity to continue, but to move away from old and polluting ways of doing things. Key actions that the Council is taking to aid in the achievement of this include:

- The use of the United Nations (UN) Sustainable Development Goals in the preparation of future plans and policies, to guide thinking and reporting on wider measures of social, environmental and economic wellbeing.

- The commissioning of climate change experts in June 2021 to advise how to create an effective pathway to reduce greenhouse gas emissions in line with the government's 2050 net-zero target.

- Requesting that the Council is proactive in including young people in the 'Climate Emergency' process.

- With the guidance of the recommendations of the Net Zero report, the updating of policy approaches to environmental sustainability, through the development of the Sustainable Economy Strategy and the review of the Local Plan during 2021 – 2022.

Position Statement 1: Delivering Sustainable Development in Mid Sussex (December 2025)

3.21 The Position Statement 1: Delivering Sustainable Development in Mid Sussex, published by the Mid Sussex District Council in December 2025, sets out the Council's approach to delivering sustainable development, whilst also providing guidance to developers and stakeholders in the preparation and determination of planning applications. Within the Position Statement, the Council sets out how they will seek to deliver sustainable development within the District, the preferred sites for development beyond those allocated within relevant development plan documents, and a series of Development Principles that will be used to consider planning applications of speculative sites. The Development Principles to be used, and which will form a material consideration when determining planning applications are:

- Principle 1: Sustainability
    - Climate Change
    - Flood Risk and Sustainable Drainage
    - Health and Wellbeing
- Principle 2: Natural Environment and Green Infrastructure
    - Biodiversity and Nature Recovery
    - Green Infrastructure
    - Pollution
- Principle 3: Countryside
    - Protected Landscapes
- Principle 4: Built Environment
- Principle 5: Transport
- Principle 6: Economy
    - Employment
    - Rural Economy and Tourism
    - Retail
- Principle 7: Housing
- Principle 8: Infrastructure

4. SUSTAINABILITY STATEMENT

4.1 The Sustainability & Energy Statement for the proposed development is divided into two main parts.

4.2 The sustainability strategy for the proposed development has been assessed in line with the guidance set out within relevant policies of Mid Sussex District Plan 2014 – 2031, as well as the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications). This enables a holistic sustainability approach to be set out for the proposed development. The Mid Sussex District Plan 2014 – 2031, the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications) encourage new development to incorporate high-quality design measures, and therefore represents best practice guidance to meet high standards of sustainable design and construction.

4.3 The carbon dioxide (CO_2) emissions reduction strategy for the proposed buildings to be delivered as part the development is based on the energy hierarchy to provide a rigorous methodology, which maximises cost-effective opportunities for emissions reduction, as detailed in Section 5.

Sustainable Design and Construction

4.4 In line with the guidance provided in the Mid Sussex District Plan 2014 – 2031, the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications), the sustainability features of the proposed development are outlined below.

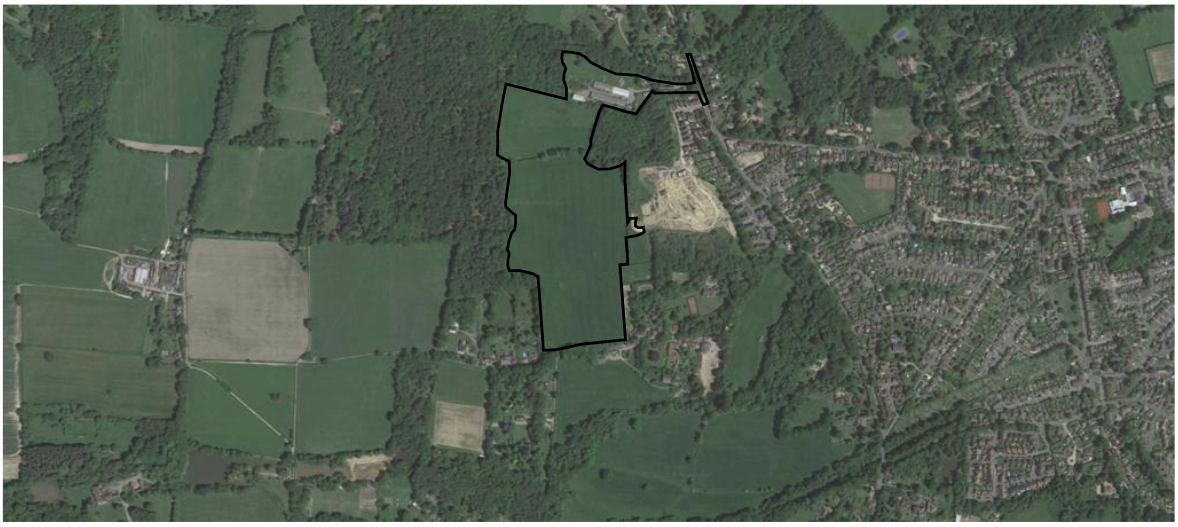
4.5 Issues related to energy conservation, renewables and reducing greenhouse gases follow in a dedicated section.

Making Effective Use of Land

4.6 Figure 4.1 below shows the location of the development site with respect to its surroundings.

Figure 4.1 Current site

Approximate site boundary



4.7 As shown above, the proposed development site is located at the edge of an existing settlement, with residential properties located to the east of the site within the village of Crawley Down. A range of community facilities and amenities are located within Crawley Down and the surrounding area, including nurseries, a primary school, shops, cafes and areas of public open space, all within walking or cycling distance of the application site.

4.8 The proposed development is therefore considered to be an extension of the existing village of Crawley Down, and therefore makes effective use of land, located within an established settlement.

Location and Transport

4.9 Accessibility to public transport connections contributes to the sustainability of a site's location. Three Bridges railway station is located approximately 5km to the west of the site, and East Grinstead railway station is located approximately 8.3km to the east. These stations provide frequent access to a range of destinations, including East Croydon, Clapham Junction and London via Southern and Thameslink services, and access towards Haywards Heath, Burgess Hill and Brighton is also provided from Three Bridges railway station via Thameslink services.

4.10 The nearest bus stop is located on Turners Hill Road (B2028), broadly opposite and adjacent to the Hurst Farm Access, approximately 600m from the centre of the proposed development site. Additional bus stops are located on Turners Hill Road (B2028), to the south of Grange Road, approximately 1km from the site. These stops are served by the following routes:

- Route 272, which runs between Brighton and Crawley via Haywards Heath and Burgess Hill. Services are provided every one to two hours on weekdays, and every two to three hours on Saturdays.

- Route 281, which runs between Crawley and Lingfield via Three Bridges, Crawley Down and East Grinstead. Services are provided hourly on weekdays and Saturdays.

- Route 291, which runs between Crawley and Tunbridge Wells via Three Bridges, Crawley Down and East Grinstead. Services are provided hourly on weekdays and Saturdays, and every one to two hours on Sundays.

4.11 There are a number of existing footways that provide access to the site, including a continuous footway along Turners Hill Road (B2028), Sandy Lane, Vicarage Road and Grange Road to the east. Footways are also present on Wychwood Place, brought forward as part of a development of 67 dwellings (refs. 14/02000/OUT and DM/15/3614/OUT) to the east of the proposed development site. A pedestrian / cycle link is also provided into the Wychwood Place site to the south of the junction with Turners Hill, with a further pedestrian connection to Huntsland also present. Further to this, there are a number of Public Rights of Way (PRoWs) located within the surrounding area, as well as routing through the site. These PRoWs, which are to be retained and enhanced as part of the proposed development, include:

- Footpath 32W and 33W, also known as Huntsland, route east to west directly to the south of the site, providing a connection to Turners Hill Road (B2028), and footpath 29W.

- Footpath 29W continues to the west outside of the site, providing access to the Sussex Border Path (30W and 28S).

- Footpath 34W runs north – south, largely within the land south of Huntsland, and provides a link between Huntsland and Wallage Lane. This footpath also includes a stepped connection to the Worth Way cycle route.

- Footpath 35W runs along the northern boundary of the site, before southing south along the western boundary, providing a connection between Huntsland and Turners Hill Road (B2028) to the north of the proposed development site.

4.12 With respect to cycling facilities, it is noted within the Transport Assessment, prepared by iTransport LLP, that the majority of the roads in the vicinity of the proposed development site are single carriage way and residential in nature, with speeds limits of 30mph. It is therefore considered that these roads are suitable for cycling. In addition to this, National Cycle Route (NCR) 21 is located immediately to the south of the South of Huntsland site, on the Worth Way bridleway. This NCR is a predominately off-road route that connects East Grinstead, Crawley Down and Crawley.

4.13 As detailed within the Transport Assessment, the proposed development site will be provided with a vehicular access point at the location of the existing access of Hurst Farm, off the western side of Turners Hill Road (B2028). In addition to this main vehicular access point, multiple pedestrian and cycle connections will be provided into the proposed development, including:

- Pedestrian and cycle access will be provided in tandem with the main vehicular access point.
- Pedestrian, cycle and emergency vehicle access onto Wychwood Place. Arrangements will be put in place to prevent unauthorised vehicular access in this location.
- Pedestrian connection to the site boundary from Woods View.
- Pedestrian connection between the southern boundary of the proposed development site and Huntsland.
- Pedestrian connection into PRoW footpath 35W at the site boundary.

4.14 Whilst the internal layout of the proposed development is to be determined at the Reserved Matters stage, it is intended that layout will ensure future residents and site users will be able to easily walk and cycle within the site itself, and beyond, within the local community. This will be achieved through the delivery of the pedestrian and cycle access points outlined above, in addition to the employment of a hierarchy of street types within the proposed development itself. It is considered, therefore, that the internal layout of the proposed development, and the provision of multiple pedestrian / cycle access points, will aid in encouraging the use of sustainable mode of transport.

4.15 Both cycle and car parking proposals for the scheme will be confirmed as part of future Reserved Matters Applications. Parking provision will adhere to West Sussex County Council's 'Guidance on Parking at New Developments', unless otherwise agreed. As a statement of intent, the following will be provided as part of the proposed development:

- One visitor car parking space per 0.2 dwellings, and sufficient visitor cycle parking.
- Garages with a minimum internal dimension that allows for 0.5 parking spaces.
- Electric vehicle (EV) charging infrastructure provision will adhere to the adopted EV charging standards in place at the time of the Reserved Matters application. It is noted that, at the time of writing, this equates to the provision of at least on charging point per new dwelling.

4.16 A Sustainable Transport Strategy is also set out within the Transport Assessment, to encourage travel by sustainable modes, which plays a key role in facilitating future growth in the context of various constraints, including the Climate Emergency. The Sustainable Transport Strategy seeks to take a 'Reduce, Contain and Facilitate Alternatives' approach to travel demands, as follows:

<u>Reduce</u>

- Fast broadband connectivity will be provided, to reduce the need for future residents to travel off-site for work, and to enable online shopping and associated deliveries.

- Easy access for shopping and parcel drop-offs.

- Provision of comprehensive EV charging facilities for the proposed dwellings.

Contain

- Design of walkable networks, and the delivery of a site layout that provides permeability and direct routes for pedestrians and cyclists.

- Provision of on-site facilities, both within the proposed development site and the South of Huntsland site, including community facilities, a care home, and play areas.

Modal Shift

- Delivery of a car club with three years' free membership for new residents.

- Improvements to be made to existing bus stops adjacent to Wychwood Place.

- Contribution to improve and enhance the 272 bus service for 2.5 years.

- Improvements proposed by the permitted development to the south:

    - Introduction of dropped kerbs and tactile paving on local side roads.

    - Provision of a signalised crossing on Turners Hill Road (B2028).

    - Widening of the footway on the eastern side of Turners Hill Road (B2028), to the south of Grange Road, in order to enhance access to the nearby bus stop.

    - Contributions to Improvements to the surface of the Worth Way PRoW.

- Implementation of a Framework Travel Plan, with the provision of vouchers for residents to incentivise cycle and bus use.

4.17 As noted above, a Framework Travel Plan will be implemented, identifying a number of soft measures to encourage the use of sustainable and active modes of transport, in lieu of private cars. The Framework Travel Plan sets out a number of measures to promote walking and cycling, including: the provision of information, including walking and cycling maps and health information, to future residents; the delivery of a package of walking and cycling infrastructure improvements; the delivery of a walkable neighbourhood layout, including interconnecting streets and walking / cycling routes; the offer of a sustainable travel voucher to each dwelling for the purchase of cycle or electric cycle equipment; the setting up of a Bicycle User Group (BUG); and the promotion of Brompton bike and electric bike hire schemes. Similarly, the use of public transport facilities will be encouraged via the

Framework Travel Plan through the promotion of digital travel applications, the provision of bus stop infrastructure within the proposed development site, and the offer of a Bus Taster ticket.

4.18 Based on the information contained within the Transport Assessment, it is considered that there is no reason that the proposed development should be refused on highways grounds.

Reducing Flood Risk and Surface Water Run-off

4.19 Information contained within the Flood Risk Assessment, prepared by Ramboll, confirms that the entirety of site falls within Flood Zone 1, indicating a less than 1 in 1,000 (0.1%) chance of flooding from rivers or the sea per year. In addition, and as demonstrated in Figure 4.2 below, the vast majority of the site is at 'very low' risk of flooding from surface water sources. There are, however, areas within the northern portion of the site, associated with the existing Hurst Farm, that are considered to be at 'high' risk of surface water flooding. It is highlighted, however, that the employment of the proposed surface water drainage strategy will ensure surface water runoff generated in the post-development context will be suitably managed. To further mitigate the risk of surface water flooding, the following additional measures are recommended:

- Setting of all finished floor levels (FFLs) and thresholds to at least 150mm to 200mm above the surrounding ground level.

- The designing of the proposed surface water management strategy to accommodate potential exceedance overland flow routes.

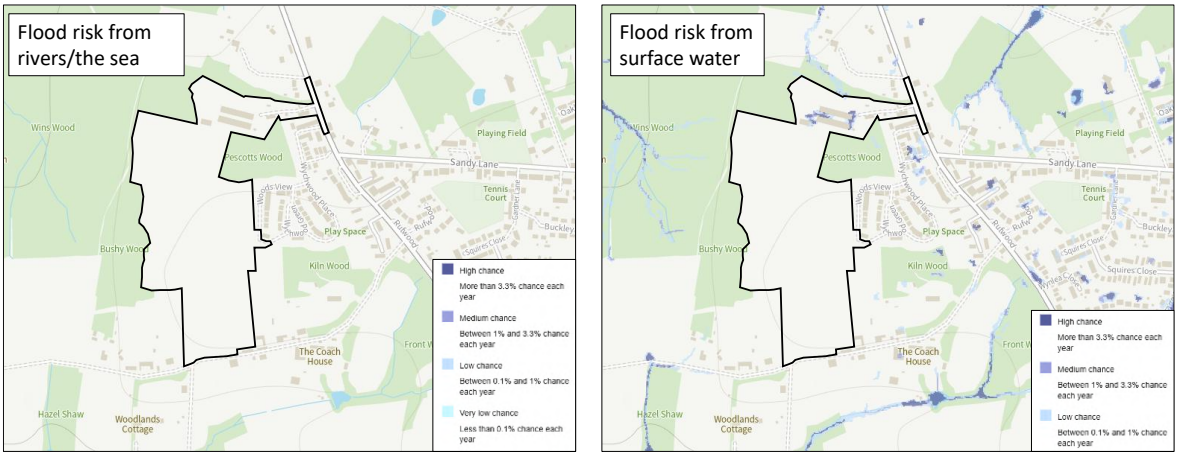
- The designing of external gradients to fall away from buildings, where possible, to channel overland flow generated during extreme events away from building entrances. Where this is not possible, linear interceptor drains should be located at building entrances.

- Strategic location of features to be delivered as part of the proposed surface water management strategy to aid in the management of flood extents.

4.20 The Flood Risk Assessment also notes that there is a moderate risk of flooding from groundwater sources, however it is noted that, through the delivery of the proposed surface water drainage strategy, the overall risk to the proposed development will be low. It is also highlighted that no basement levels are proposed, which will also aid to negate groundwater flood risk to internal areas of the site. Further to this, it is highlighted that, should groundwater emergence at the surface occur, this would be managed by the proposed surface water management strategy. It is also confirmed that the risk of flooding from reservoirs, canals and other artificial sources at the site is low, as is the risk of flooding relating to sewer surcharging, when accounting for the intended employment of the proposed surface water management strategy.

Figure 4.2 Extract from the Environment Agency's online flood map

Approximate site boundary



4.21 The proposed surface water drainage network, set out within the Drainage Strategy prepared by Ramboll, seeks to collect surface water runoff within a series of swales and larger storage or attenuation basins, strategically located across the site. Surface water will be attenuated within these features, prior to its discharge at a rate restricted to the QMED greenfield runoff rate for a 1 in 1 year event via three discharge points to existing watercourses located in the northwest of Field 1, Field 2 and Field 8 / Hurst Farm, respectively. The proposed attenuation features and surface water drainage network have been designed to ensure that the surface water generated at the site in the post-development context is adequately managed up to and including the 1 in 100 year +40% climate change storm event. Details on the treatment of attenuated surface water runoff and the maintenance of the proposed SuDS features are provided in the Drainage Strategy, which accompanies this submission.

Reducing Water Consumption

4.22 The majority of England is under water stress, with more water often being consumed than is available during dry weather. As the population continues to grow, and with changes to the frequency of rainfall events projected as a result of climate change, this situation will be further exacerbated, with even greater pressure exerted on the supply of potable water.

4.23 In order to actively mitigate against this, it is intended that water efficient fittings and appliances shall be installed within the residential development to target a maximum internal water consumption of no more than 85 litres per person per day, based on the water efficiency calculator for new dwellings provided in Appendix A of Part G of the Building Regulations. Full details of the water consumption calculations are provided in Appendix A2. It should be noted that, whilst examples of fittings that may be specified as part of the proposed development are included within Appendix A2, the calculations undertaken here are indicative only, and the specification of internal sanitation fittings will be confirmed as part of a Reserved Matters application.

4.24 Table 4.1 forms a basis for the residential element of the proposals, subject to changes at later detailed design stages.

Table 4.1 Proposed water use

Fitting	Consumption
Low volume dual flush toilet	6 litres (full) / 3 litres (part)
Wash hand basin tap	5 litres per minute
Kitchen sink tap	5 litres per minute
Bath (where fitted)	178 litres capacity (to overflow)
Shower	9 litres per minute
Washing machine	7 litres/kg
Dishwasher	1.25 litres/place setting

4.25 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. Rainwater harvesting or greywater systems may also be employed to serve internal, non-potable water demands, such as toilet flushing. The potential to incorporate systems of this type will continue to be explored as part of the detailed design stage.

4.26 For the non-domestic elements of the proposed development, it is recommended that water-efficient fittings, such as low flush volume toilets and low water use spray taps, be provided to aid the minimisation of internal water consumption. It is also recommended that rainwater harvesting be employed, with collected water used in toilet flushing and other non-potable applications, such as the irrigation of soft landscaping. Additional measures may also be considered for incorporation during the detailed design stage, such as the employment of leak detection systems and solenoid shut-off valves controlled with PIR systems.

4.27 Further to this, it is recommended that drought-resistant and drought-tolerant species be incorporated within the proposed Landscape Strategy, where appropriate, to reduce external water demand.

Materials and Waste

4.28 Materials should be responsibly sourced by the main contractor, and be specified to have a low embodied impact. Materials with a low embodied impact, as defined within the BRE Green Guide to Specification, should be selected for use in the building design and construction.

4.29 The selection of materials is determined by a variety of factors, such as the architectural context, design rationale, embodied carbon and maintenance requirements. For the proposed development, consideration will be given to the lifecycle environmental performance with materials selected in consideration of the BRE's Green Guide to Specification, aiming for A or B rated materials wherever possible.

4.30 The use of locally sourced materials will be prioritised wherever possible to reduce the impacts associated with the transportation of materials. Using materials produced in the local area will also aid in developing the identity of the development, by ensuring it is in line with the local character and context. For the proposed development, there will be a focus on sustainable design, with materials selected that are in keeping with the local vernacular and landscape character, aiming for locally sourced materials where possible.

4.31 During detailed design of the building fabric, consideration will be given to minimising the environmental impact of materials, by selecting non-toxic and robust materials to ensure longevity and a minimal impact on the health of occupants.

4.32 Timber will be selected and purchased in consideration of sustainability certification. It is intended that all structural timber elements along with any timber used for temporary uses, such as scaffolding, will be sustainably sourced, e.g. from FSC and/or PEFC sources.

4.33 Consideration has been given to the reduction and recycling of waste during both the construction and operation phases.

4.34 During the construction phase, the principal contractor will be required to implement a Site Waste Management Plan (SWMP), which will detail who will be responsible for resource management, which types of waste will be generated, how the waste will be managed (e.g. reduced, reused or recycled), which contractors will be used, and how the quantity of waste generated by the project will be measured.

4.35 To encourage a greater proportion of the operational waste to be diverted from landfill, it is proposed to provide dedicated spaces of sufficient size and within convenient locations for each of the new dwellings and non-domestic buildings. All waste collection and storage facilities will be considerate of Building Regulations and Council requirements. A dedicated external waste storage area for

refuse and recycling will also be allocated for each dwelling and non-domestic building to be delivered as part of the proposed development.

Tackling Increased Temperatures and Drought

4.36 In order to protect the development against overheating in the future, a number of key design features have been proposed to ensure the proposals are resilient to increased temperatures, which may be experienced as a result of climate change. The following measures are deemed to contribute to the mitigation of the effects of climate change:

- The facades of the dwellings and non-domestic buildings will have a balanced amount of glazing to mitigate direct solar heat gain whilst optimising daylight penetration.

- 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 and non-domestic buildings.

- Internal heat gains will be minimised through the use of energy efficient lighting and equipment, the anticipated employment electric-only heating systems, such as air source heat pump (ASHP) technology, and the insulation of hot water distribution pipework to prevent heat loss into the dwelling spaces and the occupiable spaces of the non-domestic buildings.

- Soft landscaping, blue and green infrastructure and trees will be integrated throughout the proposed development, aiding to mitigate the green island effect, and providing opportunities for shading.

4.37 It is anticipated that detailed overheating assessments will be undertaken for the proposed development at the detailed design stage to ensure the potential risk of overheating is sufficiently mitigated. This will aid to inform any further mitigation measures that may be required to reduce this risk.

Ecology and Landscape

4.38 The Arboricultural Implications Report, prepared by SJA Trees, confirms that no statutory or non-statutory nature conservation designations are present within the site, however it is noted that the areas of woodland that abut the north and west boundaries of the site, known as Pescotts Wood, Wins Wood and Busy Wood, are classified as ‘Ancient’. These areas of woodland are therefore considered to comprise an important and irreplaceable habitat, and to avoid negative effects on areas of Ancient Woodland, an appropriate buffer zone of semi-natural habitat of at least 15m should be left between the development and the woodland. It is noted within the Arboricultural Implications Report that unavoidable incursions of the buffer zone associated with Wins Wood will occur as a result of the proposed development, but that these incursions will avoid potentially harmful effects on the woodland as the root protection areas (RPAs) of individual trees will be avoided, and the semi-natural habitat of the buffer zone will be retained. The proposed development will therefore not result

in the loss of Ancient Woodland, and will avoid any potentially harmful effects on the areas of woodland located adjacent to the site boundaries.

4.39 It is also confirmed that no trees present within the site in the existing case are covered by a tree preservation order (TPO). It is also highlighted that no trees of high landscape or biodiversity value are to be removed in order to facilitate the proposed development, with none of the trees that are to be removed making an important or significant contribution to the character of the local landscape. It is considered that the proposed removal of individuals and groups of trees will represent no alteration to the main arboricultural features of the site, and will result only a minor alteration to the overall arboricultural character of the site, and that there will be no significant adverse impact on the arboricultural character and appearance of the local landscape as a result of the proposed development.

4.40 Whilst the pruning of trees is noted to be required to facilitate the delivery of the proposed development, it is noted that this will be minor in extent, and will not detract from the health or appearance of the trees. It is noted that any potential incursions into the root protection areas (RPAs) of the retained trees would be minor to moderate. However, subject to the implementation of the measures recommended on the Tree Protection Plan included within the appendices of the Arboricultural Implications Report, there will be no significant or long-term damage to the root systems of retained trees, or the rooting environments within which they are situated. It is also considered that none of the proposed dwellings are likely to be shaded by the retained trees to an extent that would interfere with their reasonable use by future occupiers.

4.41 The Ecological Appraisal, prepared by Aspect Ecology, confirms that no statutory or non-statutory nature conservation designations are present within the site. The nearest statutory designated site is Turner's Hill Site of Special Scientific Interest (SSSI), located approximately 1.7km to the south of the site. Further to this, Hedgecourt SSSI is located approximately 2.4km to the northeast. The closest European designation to the site is Ashdown Forest Special Area of Conservation (SAC) and Special Protection Area (SPA) located approximately 6.8km to the southeast. The nearest non-statutory designation to the site is Worth Way Country Park cycle route, located directly adjacent to the southern boundary of the South of Huntsland site. Whilst this section of the cycle route is not designated for its conservation interest, parts of the Worth Way are designated as a Local Wildlife Site (LWS), approximately 1.2km east of the site. Lobbs Wood and Furnace Pond LWS is also located approximately 0.7km to the northeast of the site. It is considered that all statutory and non-statutory nature conservation designations are well separated from the site and, given the scale and nature of the proposed development, in addition to the provision of extensive areas of open space that will accommodate much of the associated recreational activity, the identified designated sites are unlikely to be adversely affected.

4.42 A number of areas of woodland present within and adjacent to the site are identified as 'Deciduous Woodland' Priority Habitat, including two areas of woodland within the site, and further areas adjacent to the site, designated as Ancient Semi-Natural Woodland (ASNW). Several small Traditional Orchards, which also comprise Priority Habitats, are present within the area surrounding the site. The proposed development will not result in the loss of Ancient Woodland, with all areas of ASNW falling outside of the site boundaries. These areas of ASNW adjacent to the site will be safeguarded through the provision of buffers. Where possible, it is recommended dwellings be orientated to face onto the buffers, to provide visual surveillance, and to prevent informal garden extensions and fly tipping. A hard edge to the built development will also be provided where possible to reinforce this, for example in the form of roads or footpaths. Additional planting will also be provided within the buffers to strengthen the woodland edge. It is highlighted that other areas of woodland present within and adjacent to the site will be largely unaffected by the proposed development, with only a small section of woodland located within the site boundaries. A cycle and pedestrian link is proposed through this area of woodland, however the proposed routing has been designed to minimise tree loss, and the provision of permeable surfacing will ensure impacts on adjacent trees and woodland soils will be minimised. It is also highlighted that no veteran trees are present within the site, and therefore veteran trees will not be adversely affected by the proposed development.

4.43 A number of existing hedgerows and lines of trees are also present along the site boundaries, with the vast majority of these features to be retained as part of the proposed development. Limited areas of hedgerow would be lost in order to facilitate the provision of a road access, and in the northern part of the site in order to locate the access road further north, in order to avoid the Ancient Woodland buffer. It is noted, however, that new hedgerow planting will also be provided as part of the Landscape Strategy to compensate for any hedgerow losses.

4.44 Within the site and immediate surroundings, a number of trees and existing buildings have been identified as potentially suitable for supporting roosting bats. Similarly, a number of the habitats present have been identified as potentially suitable for supporting foraging and commuting bats. It is highlighted within the Ecological Appraisal that three of the buildings located within the site are considered to support low status roosting or feeding potential for bats. The loss of these buildings would have a small impact on local bat populations, however given the low status of the roosts recorded, they are not considered to be crucial to the long-term conservation of these populations. It is noted, however, that a mitigation strategy will be implemented under a Natural England licence to ensure bats are fully safeguarded during the works, and that roosting opportunities within the site are carefully maintained. It is highlighted that all other buildings identified as potentially supporting roosting bats are located outside of the site, and are buffered by open space, meaning they will not be adversely affected by the proposed development. As noted above, the vast majority of the existing areas of woodland and trees are to be retained as part of the proposed development. Accordingly, the main features of importance for roosting, foraging and commuting bats will be maintained, whilst habitat creation and enhancement with proposed open space should increase the value of these

areas for bats. A sensitive lighting scheme will be implemented as part of the proposed development to ensure these areas remain suitable for light sensitive species.

4.45 The site contains suitable habitat for Dormouse, particularly within the woodland and at its edge, as well as hedgerows and scrub. However, it is noted that the majority of the site is dominated by open grassland fields which are unsuitable for this species, and it is noted that no evidence of this species was observed on the site during the surveys undertaken as part of the Ecological Appraisal. Similarly, many of the habitats present within the site are considered unsuitable for Water Vole and Otter, and these species are considered to be absent, or do not form a constraint to the proposed development. No evidence of any other protected, rare or notable mammal species was recorded within the site. There is potential, however, for habitat losses arising from the proposed development having significant effects on Hedgehog. It is noted that the provision of new gardens and open space will aid to mitigate this, however, and that precautionary safeguards are recommended to minimise the risk of harm to this species, and other mammals that may be present within the site. Further to this, whilst surveys undertaken as part of the Ecological Appraisal indicate that populations of reptiles supported by the site are of local importance only, it is highlighted that the introduction of the proposed surface water drainage system, including new wetland habitat, in addition to the establishment of more diverse grassland and scrub within the open space to be delivered as part of the proposed development will benefit these species. Two offsite ponds have been identified as supporting populations for Great Crested Newt, however these ponds will not be directly affected by the proposed development, and it is considered that no specific mitigation is therefore required in relation to this species. The site is considered to support a diverse assemblage of birds, albeit with species primarily associated with the woodland areas, and almost no breeding activity recorded within the open fields. It is therefore considered that the bird assemblage is unlikely to be significantly impacted by the proposed development. No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site, and it is therefore considered unlikely that the proposed development will result in significant harm to any protected, rare or notable invertebrate populations.

4.46 A number of mitigation measures are recommended within the Ecological Appraisal to ensure harm to habitats and species as a result of the proposed development are minimised, including:

- The protection of all hedgerows and trees to be retained in line with standard arboricultural best practice (BS5837:2012) during construction.

- The maintenance of buffers, with a minimum 15m width, between built development and Ancient Woodland, in addition to the delivery of a drainage strategy that has specific regard to the Ancient Woodland, seeking to maintain greenfield runoff rates, and a level of water quality that will ensure adverse hydrological effects on woodlands are avoided.

- New native woodland and hedgerow planting will be provided to compensate for minor losses of trees and short sections of hedgerows.

- Safeguards will be implemented to prevent against pollution arising from potential run-off or pollution events during construction, including:

    - Storage of chemical and fuels, washing of vehicles, and refuelling of plant and vehicles at least 10m away from the existing watercourse.

    - Disposal of silty water to the foul sewer, with agreement of the sewer undertaker, or via alternative means such as transport by tanker offsite, where possible.

- Undertaking of updated tree and building inspections where trees and buildings are to be removed prior to felling or works to confirm the absence of potential bat roosting features.

- Undertaking of works to the buildings identified as offering roosting potential for bats under a Natural England licence, with suitable safeguarding measures, such as the undertaking of precautionary check surveys, and the staged removal of building materials, to be put in place during the demolition of these buildings.

- Employment of a sensitive lighting strategy, with light-spill onto retained and newly created habitat to be minimised as far as possible, in line with good practice guidance.

- Undertaking of the clearance of vegetation suitable for nesting birds outside the bird-nesting season (1st March to 31st August, inclusive). Where is this not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests.

- During the clearance of potential reptile habitats identified within the site, a habitat manipulation exercise will be undertaken, which will involve the cutting of suitable vegetation to a short height to encourage reptiles to disperse, and to allow for a fingertip search of the area to be carried out. After this, a destructive search will be undertaken. This exercise should be carried out during the active reptile season (generally March / April to September / October), under the supervision of a competent ecologist.

- Employment of safeguards for small mammals, such as the provision of means of escape for any trenches left open overnight and the dismantling of piles of material present onsite by hand.

- Provision of holes within garden fences or under gates to ensure access to suitable foraging habitats for Hedgehog and other small mammals.

4.47 The following enhancements are also recommended within the Ecological Appraisal:

- Delivery of new planting, comprising native species of local providence, where practicable. Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.

- Creation of wildflower grassland within areas of open space. Within recreation and amenity areas, consideration can be given to seeding of flowering lawns. This will provide a further flowering and pollen resource for invertebrates.

- Provision of scrub habitat along the woodland margins, hedgerows and within grassland areas, to form valuable ecotone habitats for a range of wildlife, including reptiles, small mammals and invertebrates.

- Potential creation of wetland habitats as part of the proposed surface water management strategy. Such measures will benefit a range of wetland species including birds, aquatic invertebrates and amphibians whilst also helping to attenuate surface water run-off.

- Delivery of new lengths of hedgerow along the boundaries of green space and around built development areas. Existing hedgerows should also be subject to supplementary planting where necessary to fill gaps and strengthen the integrity of the hedgerow.

- Long-term management of existing woodland areas to maintain and enhance value for biodiversity, and to increase the quality of the existing habitat resources.

- Integration of bat and bird boxes throughout the proposed development, including on new buildings and retained trees.

- Retaining of a proportion of deadwood arising from vegetation clearance within areas of new planting, new wetland habitats or areas of wildflower grassland in order to provide potential habitat opportunities for invertebrate species, which in turn could provide a prey source for a range of other wildlife.

- Incorporation of bee bricks and insect boxes to provide nesting opportunities for declining populations of non-swarming solitary bee populations and other invertebrates.

4.48 The Illustrative Landscape Masterplan, prepared by SLR, is shown in Figure 4.3.

Figure 4.3 Illustrative Landscape Masterplan

4.49 It is concluded within the Biodiversity Net Gain (BNG) Assessment report, prepared by Aspect Ecology that, through the delivery of the habitats and features within the Landscape Strategy set out above, the proposed development will result in a net gain in habitat and hedgerow units within the site boundaries. At the outline planning stage, it is anticipated that the net gains in biodiversity that may be achieved are in excess of 15% for both habitats and hedgerows, thus exceeding the requirements of national and Mid Sussex District Council policy.

4.50 In addition to the above, it is confirmed within the Landscape and Visual Impact Assessment (LVIA), prepared by SLR, that the landscape and visual effects associated with the portion of the development that comprises the land at Hurst Farm will be highly localised to receptors immediately adjacent to and within Hurst Farm. The mature nature of the existing boundaries provides a sense of enclosure in the landscape, and the proposed Green Infrastructure will allow for the enhancement of the boundaries and woodland edges. The delivery of additional native planting will also aid to enhance the woodland and woodland edges. Further to this, through the incorporation of the proposed buffers to existing valued landscape features across the wider proposed development site, and the introduction of countryside open space, the proposed development will be successfully integrated into the countryside, and that any landscape and visual effects above moderate will be reduced in the long term.

Water Pollution

4.51 The implementation of the proposed surface water drainage network, outlined in the Drainage Strategy, prepared by Ramboll, will include appropriate pollution control measures to minimise the risk of pollution entering the ground and surface water bodies from surface water runoff from the development. An appropriate sustainable drainage system (SuDS) treatment train, consisting of series of swales and larger storage or attenuation basins, has been incorporated within the design to treat surface water before it is discharged to the main watercourse, located within the southwestern section of the site.

4.52 Additional measures will also be adopted during construction to minimise the risk of ground and surface water pollution, including:

- Oil separators;
- Clear marking and signage of drainage stems;
- Full bunding of on-site fuel or oil delivery areas;
- Bunding of areas to be used for cleaning activities; and
- Best practice measures, implemented as part of a Construction Environmental Management Plan (CEMP), to mitigate the impacts of construction-related dust and emissions.

5. ENERGY STRATEGY

5.1 With reference to the policy requirements, guidance and industry best practice detailed in Section 3, a comprehensive energy and carbon dioxide (CO_2) emissions assessment has been carried out for the proposed development. The energy performance of the scheme has been analysed and evaluated against the most up-to-date iteration of Part L of the Building Regulations and pertinent Mid Sussex District Council policies.

5.2 In order to maintain a degree of flexibility in meeting the national standards set out in the Building Regulations on carbon and energy performance, as required by Mid Sussex District Council, the measures outlined below describe a potential means of achieving a reduction in CO_2 emissions over the Part L:2021 baseline. Therefore, the final building specification may be subject to change during detailed design, although the overall principles proposed below will be retained to deliver low carbon dwellings and buildings in operation.

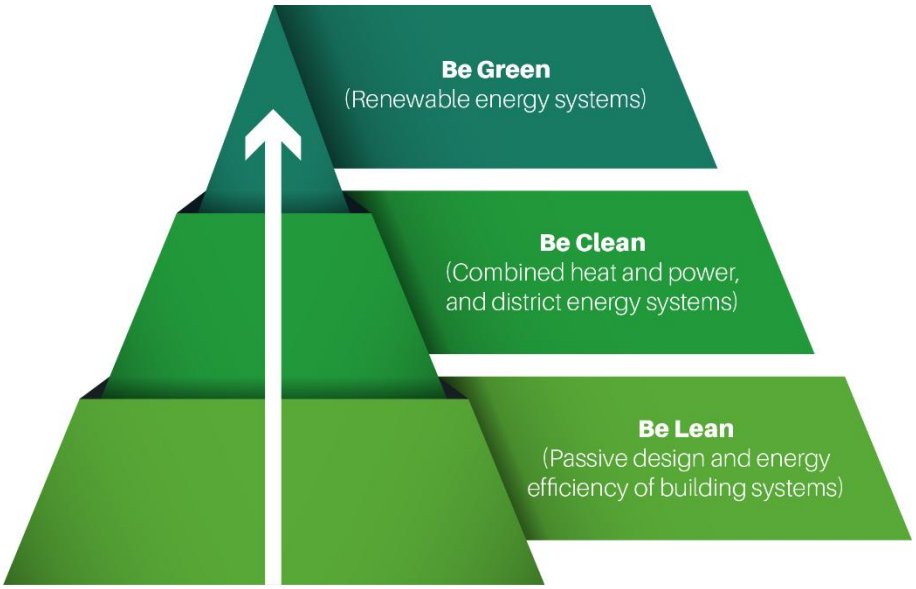
The Energy Hierarchy

5.3 The proposed strategy is based upon the principles of the Energy Hierarchy on the basis that it is preferable to reduce carbon dioxide emissions through reduced energy consumption above decarbonisation through alternative energy sources.

5.4 The tiers of the Energy Hierarchy are:

- Be Lean Use less energy
- Be Clean Supply energy efficiently
- Be Green Use renewable energy

Figure 5.1 The Energy Hierarchy



'Be Lean' (Use Less Energy)

5.5 Within the first stage of the energy hierarchy, it is proposed to incorporate high levels of passive and energy efficient design measures in order to reduce the development's energy consumption and associated CO_2 emissions, utilising a 'fabric first' approach to reduce energy demand.

5.6 Details of the passive design and indicative energy efficiency measures proposed have been detailed below.

Domestic

5.7 Passive design utilises daylight, solar energy, shading and stack or wind driven ventilation to illuminate, heat, shade where necessary and ventilate/cool the building, thus requiring less (mechanical) energy to achieve the performance standards for health and wellbeing of the residents.

5.8 Site characteristics relating to local climate, surroundings, scale and size of the development therefore passively influence the potential energy requirement and savings that can be achieved through the consideration of these aspects. The parameters that most influence the potential to utilise sunlight and solar gains are the orientation and layout of buildings, however these are typically driven by various factors other than energy efficiency or bioclimatic design considerations (e.g. aesthetics, function, etc.).

5.9 As shown in Figure 2.1 above, the orientation of the dwellings will be dictated by the plot orientation in order to give the overall scheme a cohesive design approach. The distances between buildings will be optimised to ensure sufficient access to natural daylight and passive solar gains to the

dwellings. Light and solar gain will also be influenced by the fenestration and the selection of glazing with a high degree of light transmittance.

5.10 The following U-values, which align with the anticipated requirements of the upcoming Future Homes Standard, are proposed as a means of limiting heat loss through the dwellings' building fabric.

Table 5.1 Proposed residential building fabric U-values

Building Fabric Element	Part L1:2021 backstop U-values (W/m²K)	Proposed U-values (W/m²K)
Ground floor	0.18	0.13
External wall	0.26	0.18
Roof	0.16	0.13
Windows	1.60 (including frame)	1.20 (including frame)
Doors	1.60	1.00

5.11 It is expected that glazing will be double glazed, with a low emissivity coating. Although this has yet to be formally specified, it is anticipated that thermally efficient glazing will be employed, with window U-values of 1.20 W/m^{2}K or better (including frame), a g-value of 0.63 and light transmission of ~70% to improve natural daylight penetration.

5.12 A high level of air tightness is proposed, where a level equal to or below 5 m^3/h/m^2 shall be targeted, meaning that air infiltration between the internal and the external environment will be largely controlled, and space heating/cooling demand further reduced.

5.13 The other significant means of heat loss from dwellings is due to thermal (or cold) bridging. This is typically a construction detail which has higher thermal conductivity than the surrounding materials, creating a path of least resistance for heat transfer. Thermal bridges result in an overall reduction in thermal resistance of the building elements and should be designed out where possible to minimise unwanted heat loss. In order to minimise heat loss through thermal bridges it is intended that low y-value will be targeted for each dwelling.

5.14 High efficiency plant, equipment and controls are proposed to limit the energy consumed in order to provide the required level of indoor environmental performance and control. Performance efficiency values have been specified in line with the requirements of the Building Regulations in order to minimise carbon dioxide emissions as far as possible through the 'Be Lean' stage.

- Low energy LED lighting will be installed throughout the residential units.
- In order to remove the need for fossil fuel combustion on-site, it is recommended that space and water heating will be provided by all-electric systems, such as air source heat pumps (ASHPs). This is addressed in more detail in the renewable and low carbon energy technology section below.
- 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.
- Energy management systems, such as smart meters, will be installed in all dwellings to enable future residents to monitor their energy usage, and therefore aid in reducing their energy consumption.
- All future residents will be provided with a Home User Guide, to ensure all plant and equipment provided is used correctly and to enable efficiency of use to be maximised.
- Suitable controls will be provided for heating systems, for example through the use of time and temperature zones that are controlled by the suitable arrangement of plumbing and electrical systems.

Non-Domestic

5.15 Similarly to the domestic elements of the proposed development, the non-domestic component will include a wide range of energy efficiency measures, intended to reduce energy demand.

5.16 The proposed development will deliver a 70-bed care home and a community facility. The building fabric specification has therefore been driven by the energy demand profiles associated with these building uses.

5.17 The passive design of the non-domestic buildings will, where practicable, include a number of specific energy efficiency features.

5.18 The following U-values, which align with the anticipated requirements of the Future Buildings Standard, are proposed as a means of limiting heat loss through the building fabric of the proposed non-domestic buildings.

Table 5.2 Proposed non-residential building fabric U-values

Building Fabric Element	Part L1:2021 backstop U-values (W/m²K)	Proposed U-values (W/m²K)
Ground floor	0.18	0.13
External wall	0.26	0.18
Roof	0.16	0.11
Windows	1.60 (including frame)	1.40 (including frame)

5.19 Subject to confirmation, it is proposed that glazing will be double or triple glazed, with a low emissivity coating. Although this has yet to be formally specified, it is expected that thermally efficient glazing will be employed, with window U-values of 1.40 W/m^{2}K or better (including frame).

5.20 A high level of air tightness is proposed, where it is recommended that a level equal to or below 5 m^3/h/m^2 be targeted, meaning that air infiltration between the internal and the external environment will be largely controlled, and space heating/cooling demand further reduced.

5.21 High efficiency plant, equipment and controls are proposed to limit the energy consumed in order to provide the required level of indoor environmental performance and control. Performance efficiency values have been specified in line with the requirements of the Building Regulations in order to minimise carbon dioxide emissions as far as possible through the 'Be Lean' stage.

- Low energy LED lighting is recommended to be installed throughout the non-domestic spaces of the proposed development, including daylight dimming and presence detection controls where appropriate.

- In order to remove the need for fossil fuel combustion on-site, it is intended that space and water heating will be provided by all-electric systems, such as air source heat pump (ASHP) systems. This is addressed in more detail in the renewable energy technology section below.

- It is recommended that the non-domestic spaces be naturally ventilated during the summer months, with outside air provided via mechanical ventilation with heat recovery (MVHR) during the winter. It is recommended that, where provided, MVHR systems with a specific fan power (SFP) of 1.1 W/l/s and heat exchanger efficiency of 70% be employed. Toilets should be provided with extract ventilation only, using fans with a specific fan power not greater than 0.3 W/l/s.

- Whilst the cooling demands of the non-domestic buildings will be reduced as far as possible, through the prioritisation of passive means of cooling, it may be necessary in some instances to

employ active cooling within some spaces. Where cooling is required, it is recommended that this be provided using a variable refrigerant flow (VRF) system with a seasonal energy efficiency ratio of no less than 5.0.

- Energy usage should be separately sub-metered to ensure that energy usage can be appropriately measured and managed, based on the end use category.
- It is recommended that variable speed pumps be employed to modulate flow rates as required by demand.
- Where relevant, the electricity power factor should be greater than 0.95, and light metering with warnings about out of range values will be utilised as part of the building management system

'Be Clean' (Supply Energy Efficiently)

5.22 The potential for the proposed development to incorporate a low carbon heating system has been reviewed for the scheme.

5.23 Local heat and power sources minimise distribution losses and achieve greater efficiencies when compared to a separate energy system. This in turn reduces the site-wide energy consumption and associated carbon dioxide emissions.

5.24 The potential integration of a district heating network (DHN) or a conventional gas-fired combined heat and power (CHP) plant to provide low carbon heat and power on-site has been evaluated for the development, in compliance with industry best practice and appropriate planning policies.

District Heating Feasibility

5.25 The feasibility of a DHN is heavily dependent on a location's heat demand. In turn, heat demand in the locality is dependent on building usage and the surrounding area heat demand density. The establishment of a new DHN is capital intensive and, to ensure economic viability, requires areas of high thermal demand density in order to minimise losses and associated costs. A threshold thermal density value of 50 kWh/m^2 is typically required to ensure viability, as is a location in proximity to an anchor heat load, such as a hospital.

5.26 Figure 5.2 below displays the development site within its proposed surroundings. From this, it can be concluded that the site itself is undeveloped, with a low-density residential settlement to the east. The surrounding area is therefore likely to be characterised by a low heat demand, and it is considered that no anchor heat load is present within the surroundings of the site.

Figure 5.2 Site and surroundings

Approximate site boundary

5.27 There are no existing or proposed district heating networks within close proximity to the site. In addition, due to the relatively low density of the development, and the cost of the infrastructure required to connect a peri-urban location to a district heat network, it is not deemed cost effective to establish a district heat network on the site as part of the proposed development.

5.28 The proposed development will deliver buildings that are designed to comply with the most up to date iteration of the Building Regulations and the upcoming Future Homes and Buildings Standards, which will reduce the energy demand of the buildings. It is anticipated, therefore, that the thermal demand density of the proposed development will be far less than the threshold value stated above. Further to this, densities well in excess of 100 dwellings per hectare are typically required at a minimum to ensure the efficient operation of a DHN. As demonstrated in Figure 2.1 above, the proposed development will not seek to deliver the densities required to support the efficient operation of a DHN.

5.29 Therefore, based on the low density of the proposed development, and the costs associated with the establishment of a DHN in a peri-urban location, in combination with the fact that there are no existing or proposed DHNs within close proximity to the site, it is not considered to be feasible to incorporate a DHN as part of the proposed development.

Combined Heat and Power Feasibility

5.30 Based on the anticipated timescale of the proposed development and the predicted trajectory of the national electricity grid decarbonisation, the establishment of a CHP network powered by fossil fuels is not considered to be a carbon efficient approach.

5.31 It is considered that projected changes to the carbon content of electricity and gas will result in technologies that have lower operational emissions than CHP, and which are able to optimise local energy sources, being the preferred option for serving the heating demands of the built environment. These technologies are likely to be able to offset more carbon emissions than traditional, gas-engine CHP systems.

5.32 The incorporation of a gas-fired CHP network will lock the development into relatively carbon intensive gas-fired heating and hot water technology, and will not facilitate the transition to less carbon intensive solutions.

'Be Green' (Utilise Renewable and Low Carbon Technologies)

5.33 The proposed development has given consideration to renewable and low carbon energy technologies that may be applicable to deliver the required level of carbon dioxide savings over the Part L:2021 baseline, and the likely local effects on the environment.

5.34 In determining the appropriate renewable and low carbon energy technology for the site, a number of factors including carbon dioxide savings, site constraints, and potential visual impacts have been considered. Further details of each technology and its associated assessment in relation to the development are provided below.

- **Biomass** – This technology is not considered a practical solution for reducing carbon dioxide emissions, in the view of storage space requirements for combustible material, and the transport related carbon emissions which are not normally accounted for within energy modelling. Furthermore, high nitrous oxide (NOx) and particulate matter (PMx) emissions are associated with the use of biomass fuel, and as the proposed development is located within proximity to existing, and will introduce new, residential dwellings and a care home, the permitted emissions will be restricted. It is noted that alternative technologies, such as ceramic filters or bag filters, have the potential to significantly reduce the emissions associated with biomass fuels, and this may therefore be explored as the design of the proposed development continues to progress.

- **Air Source Heat Pumps (ASHP)** – Given the site location and the lack of local existing or proposed heat networks, the use of air source heat pump (ASHP) technology is considered appropriate to serve the space and water heating demands of the proposed dwellings and non-domestic buildings, in addition to the cooling demands of the proposed non-domestic buildings where this is required. ASHPs do not produce emissions at the point of use, and do not impact on air quality within their locality. This technology is therefore considered appropriate for the proposed development, and should the intention be to incorporate ASHPs, details of their integration would be provided as part of a Reserved Matters Application. It is noted that, should this type of system be employed to deliver space heating, low temperature systems, such as underfloor heating or low temperature radiators, would be recommended. Furthermore, should

this technology be incorporated within the proposed development, it is recommended that acoustic measures to limit the noise generated by the outside unit of any ASHP systems employed during operation are considered.

- **Ground Source Heat Pumps (GSHP)** – As detailed above for air source heat pump (ASHP) technology, the location of the site means that the incorporation of ground source heat pump (GSHP) technology may also be appropriate to serve the space and water heating, and cooling where relevant, demands of the proposed development. Ground temperatures are typically stable throughout the year, and GSHPs are therefore able to provide a consistent level of performance throughout the year. It is highlighted, however, that there are uncertainties concerning the thermal properties of the ground, and that ground investigation and borehole drilling has the potential to be cost prohibitive, with the potential that a suitable energy source is not present. Furthermore, there is potential that the carbon dioxide and energy cost savings arising from the use of GSHP systems may not be significant when compared to that of ASHP systems, particularly as high-grade heat is required to generate domestic hot water. It is also noted that GSHP systems are typically around twice as expensive as ASHP technology, which may therefore make the use of this technology economically unviable. Notwithstanding, the use of GSHP technology is potentially appropriate and feasible within the proposed development, and the potential use of systems of this type will continue to be considered as the detailed design of the proposed development progresses.

- **Photovoltaics (PV)** – This technology is considered to be appropriate for the proposed development, in light of the potential to deliver a proposed layout that includes for dwellings and non-domestic buildings with areas of unobstructed south-east to south-west facing roof space. This technology may therefore be employed to generate renewable energy on-site, with the potential for excess power to be exported to the grid or harnessed using battery storage. The use of this technology, which typically has minimal maintenance requirements, should therefore be considered during the detailed design stage to contribute to the proposed development's compliance with Part L:2021 of the Building Regulations and the Future Homes and Future Buildings Standards. As such, it is recommended that the incorporation of PV technology continues to be explored through the detailed design stage and, should this technology be incorporated, details of the PV systems to be employed be provided as part of a Reserved Matters application.

- **Solar Thermal Hot Water (STHW)** – This technology may also be considered appropriate for the proposed development, in light of the potential to deliver dwellings and non-domestic buildings with areas of unobstructed southeast to south-west facing roof space. The incorporation of this technology can contribute to the meeting of a building's domestic hot water demand, and this technology can be employed effectively alongside a range of heating systems. It is noted that the incorporation of this technology would need to account for the requirements of other technologies that may be employed, such as heat pump or PV systems. In addition to

this, the potential for hot water demand to fall outside the energy generating period for STHW systems should be accounted for, as this may result in a reduced ability for this technology to significantly reduce carbon dioxide emissions during operation. The potential incorporation of this technology within the proposed development will continue to be explored throughout the detailed design stage, and should this technology be included for, details of the systems will be provided as part of a Reserved Matters Application.

- **Wind Turbines** – Wind turbines may be employed to harness the kinetic energy of wind to generate electricity on-site. The employment of this technology should account for the need for a steady source of wind that does not have an uneven direction. This technology is typically incorporated at the roof level of buildings that are significantly higher than their immediate surroundings, or within an open area, to ensure disruption to prevailing winds is minimised. When accounting for the nature of the proposed development and the area within which it is situated, it is considered that the incorporation of this technology is inappropriate.

5.35 Based on the information set out above, it is recommended that air source heat pump (ASHP) systems and rooftop photovoltaic (PV) panels be employed to serve the space and water heating demands of the proposed dwellings and non-domestic buildings, as well as the cooling demands of the non-domestic buildings where relevant, and to generate carbon free electricity on-site. The incorporation of these technologies will aid the achievement of a significant reduction of carbon emissions in operation when compared to the Part L:2021 of the Building Regulations baseline, which is in line with the aspirations of the proposed scheme, as well as the requirements of both the adopted Mid Sussex District Plan 2014 – 2031, and the emerging policies set out within the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications).

6. SUMMARY

6.1 This Sustainability & Energy Statement provides an overview as to how the development of Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road Crawley Down contributes to sustainable development in the context of the strategic, design and construction considerations.

6.2 Consideration has been given to Chapter 14 of the National Planning Policy Framework (NPPF), the Mid Sussex District Plan 2014 – 2031, as well as the Mid Sussex Design Guide Supplementary Planning Document, the Crawley Down Neighbourhood Plan, and the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications) in the formulation of this strategy, aiming to minimise the environmental impact of the proposed development during construction and operation, and ensure the development is constructed to rigorous sustainability standards.

6.3 By designing to rigorous energy standards, employing electric-only systems, and integrating renewable and low carbon energy technologies, the application will respond directly to the Climate Emergency declared by the Council in July 2019. These measures combine to facilitate significant carbon dioxide emissions savings compared to the Part L:2021 baseline, aiming to significantly exceed the current requirements of Mid Sussex District Council and to align with the draft policies set out within the Mid Sussex District Plan 2021 – 2039 (Regulation 19; with Main Modifications).

6.4 Sections 4 and 5 of this statement demonstrate that the siting and design of the proposals support relevant policies relating to sustainable development. This shows that the proposed development:

- make efficient use of land;
- promote the use of sustainable and active modes of transport;
- reduce the risk of flooding on-site and in the surrounding area;
- minimise internal water consumption to 85 litres per person per day;
- incorporate low-impact materials, according to the BRE Green Guide to Specification;
- minimise waste production during construction and maximise the proportion of waste to be diverted from landfill;
- mitigate the risk of overheating;
- incorporate measures to improve site biodiversity, including biodiverse planting;

- minimise energy demand through the specification of low U-values, low air permeability and low thermal bridging to reduce heat loss;

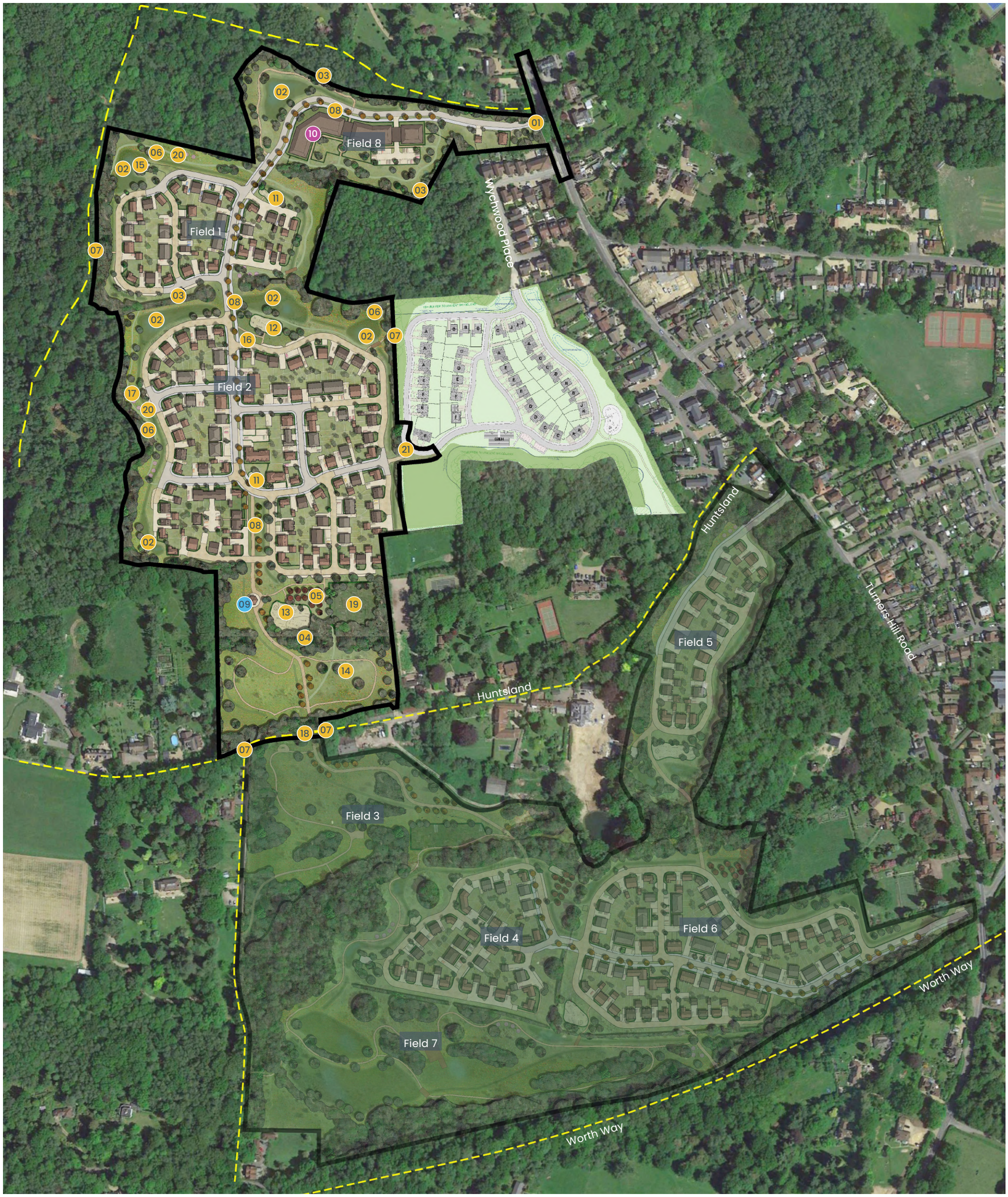
- be fossil fuel free, utilising electric-only systems, such as air source heat pumps (ASHPs) to serve the space and water heating demands of the proposed dwellings and non-domestic buildings, in addition to the cooling demands of the non-domestic buildings, where relevant;

- utilise renewable technology, such as rooftop photovoltaic panels, to provide renewable electricity; and

- achieve a significant reduction in CO_2 emissions for the proposed dwellings, following the Energy Hierarchy methodology.

6.5 Overall, the proposals for the scheme are in line with the principles of sustainable development as well as the policy requirements of the NPPF and Mid Sussex District Council and will provide a development that promotes these principles in operation.

A1. SITE PLAN



- Application site
- 01 Vehicular/pedestrian and cycle access point
- 02 Sustainable drainage system including swales
- 03 Retained and enhanced vegetation
- 04 Tree belt planting
- 05 Community orchard/garden
- 06 Meadow planting and species-rich landscapes
- 07 Pedestrian connection points
- 08 Shared cycle/footpath
- 09 Community heart including gathering space/band stand area and St Leonards lookout
- 10 Up to 70 bed care home
- 11 Local Area for Play
- 12 Local Equipped Area for Play
- 13 Neighbourhood Equipped Area for Play
- 14 Countryside open space
- 15 Pumping station
- 16 Substation
- 17 Mown paths
- 18 Cycle and pedestrian connection point
- 19 Community allotments
- 20 Play on the way
- 21 Emergency, cycle and pedestrian connection point
- Public right of way: Footpath

N.

Not to scale

CLIENT: WATES DEVELOPMENTS

PROJECT: LAND WEST OF CRAWLEY DOWN

DRAWING: ILLUSTRATIVE MASTERPLAN NORTH & HURST FARM

PROJECT NUMBER: 1314

DRAWING NUMBER: SK001-08

REVISION: V5

DATE: 17.02.2026

MOSAIC
Urban Design & Masterplanning

A2. WATER USAGE CALCULATOR

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)	4	1.46	0.00	5.84
	Part flush Volume (litres)	2.6	2.96	0.00	7.70
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	2.00	1.58	1.58	4.74
Bath (where shower also present)	Capacity to overflow(litres)	130.00	0.11	0.00	14.30
Shower (where bath also present)	Flow Rate(litres / minute)	6.00	4.37	0.00	26.22
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	6.00	0.44	10.36	13.00
Washing Machine	(Litres/kg dry load)	5.63	2.1	0.00	11.82
Dishwasher	(Litres/place setting)	0.98	3.6	0.00	3.53
Waste disposal unit	(Litres/use)	☐ Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			87.15
	(6)	Contribution from greywater (litres/person/day)			0
	(7)	Contribution from rainwater (litres/person/day)			0
	(8)	Normalisation factor			0.91
	(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)			79.31
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			84.3

Installation Type	Make/Model (mandatory)	Litres/Person/Day
WC (dual flush)	Grohe Concealed Cistern	13.54
Taps	Vado Basin Mixer	4.74
Baths (shower(s) present)	Renaissance Grove	14.30
Showers (bath(s) present)	Aqualisa CMD100FS Thermostatic	26.22
Kitchen Taps	Reginox Ressini	13.00
Washing Machines	Samsung WW90T684DLH	11.82
Dishwasher	Samsung 2021 Series 11	3.53

Terms and Conditions
System Requirements

A3. GENERAL NOTES

A3.1 The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Iceni Projects Ltd for inaccuracies in the data supplied by any other party.

A3.2 The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.

A3.3 No site visits have been carried out, unless otherwise specified.

A3.4 This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.

A3.5 The copyright in the written materials shall remain the property of Iceni Projects Ltd but with a royalty-free perpetual licence to the client deemed to be granted on payment in full to Iceni Projects Ltd by the client of the outstanding amounts.

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