

Matter 3: Hearing Statement

Mid Sussex Site Allocations DPD Examination in Public

On behalf of Sigma Homes Ltd

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Sigma Homes Ltd

May 2021

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Appendices

A. Energy and Sustainability Statement

1. Introduction

- 1.1 DMH Stallard LLP act on behalf of Sigma Home Ltd (“Sigma Homes”) in relation to the Mid Sussex Site Allocations DPD (“SA DPD”) and the Examination in Public (“EiP”).
- 1.2 Sigma Homes have an option agreement with the landowner of Rogers Farm, Fox Hill, Haywards Heath , which is allocated at Policy SA21 of the SA DPD.
- 1.3 Policy SA21 of the SA DPD allocates the Site for 25 dwellings on approximately 1.3ha of land. A library of supporting documentation is set out in documents SA21.1 – SA21.8.
- 1.4 This Hearing Statement refers to Matter 3, as set out in the Inspector’s Matters, Issues and Questions (“MIQs”) – Document ID-02. It supplements the representations made at Regulation 19 stage (Doc ID SA21.8).

2. Does the Plan deliver both the quantitative and qualitative aspects of housing provision in the District Plan to meet Mid Sussex's requirements over the plan period in accordance with national policy?

New Homes Quantum (SA10 & SA11)

Is the updated Minimum Residual Requirement for Mid Sussex, which has been reduced from 2,439 units in policy DP4 of the District Plan, to 1,280 units in the submitted Plan, supported by the evidence?

2.1 No comment.

The Plan makes provision for 1,764 dwellings in its site allocations (SA12 - SA33), which amounts to an 'over-supply' or buffer of 484 dwellings over the residual housing requirement, which is identified as 1,280 dwellings in Table 2.3 of the Plan. Does this increased housing provision, which equates to 37.8% above the minimum residual requirement or 2.95% above the minimum District requirement of 16,390 dwellings over the plan period, amount to a sufficient buffer to enable the Plan to ensure there is enough flexibility of housing land over the plan period? If the Plan is found to be insufficiently flexible in this regard, what further steps should the Council take to rectify this? Are there any sound arguments to support the notion that the amount of the buffer is too great or has been incorrectly applied? Is the buffer excessive in relation to the requirements of paragraph 73 of the NPPF or Framework?

2.2 The minimum housing requirement, set out in Policy DP4 of the District Plan is a minimum, it is for the Council to consider the level of housing identified over and above this requirement (alongside the evidence) to ensure that the identified housing need is met and there is sufficient flexibility to account for delays and competition in the market.

2.3 The SA DPD is the daughter document to the District Plan, these combined represent the Local Plan for the district, it is crucial that an over supply is measured against the minimum housing requirement (16,390) as set out in the District Plan and not simply against the SA DPD.

Should an allowance for non-implementation be built into the Plan? Some parties have suggested a figure of 10%.

2.4 No comment.

The Council places a significantly high reliance on the implementation of strategic sites in policies DP9, DP10, DP11 and DP12 to enable the delivery of the District's objectively assessed need over the plan period. These four strategic sites are expected to deliver a total of 5,800 dwellings, or 35.4% of the minimum District requirement of 16,390 dwellings. Is this total realistically deliverable within the plan period, and if not, does the Council need to allocate further additional housing sites in this Plan?

2.5 No comment.

Proposed Distribution of New Homes

Does the proposed distribution of the additional new homes in the allocations in the Plan (as set out in table 2.5) to meet the Minimum Residual Housing Requirement, accord with the principles of sustainable development, particularly as set out in policies DP4 to DP6 of the District Plan, including taking account of considerations such as:

- i. Enabling the most sustainable pattern of growth for Mid Sussex, based primarily on the three towns, including the majority of development to be directed towards the town of Burgess Hill, and having regard to be sensitive to key environmental considerations, such as the setting of the SDNP, the High Weald AONB, the Ashdown Forest 7km Zone of Influence, landform and visual impact, conservation of important conservation and heritage assets, wildlife conservation and constraints such as areas at risk to significant flooding;*

2.6 The SA DPD accords with the settlement hierarchy set out in Policy DP6 of the District Plan, directing the majority of development towards Category 1 Settlements – the most sustainable settlements in the District, considered to be a:

“Settlement with a comprehensive range of employment, retail, health, education, leisure services and facilities. These settlements will also benefit from good public transport provision and will act as a main service centre for the smaller settlements. ”

-
- 2.7 Additionally, Policy DP4 and the supporting text to Policy DP6, sets out the spatial distribution of housing in accordance with the settlement hierarchy (which has already been found sound through the District Plan Examination). Policy DP4 identifies a minimum housing requirement for Category 1 Settlements of 10,653 of which 2,551 is to be delivered in Haywards Heath (supporting text to Policy DP6).
- 2.8 Policy 10 of the SA DPD sets out the spatial distribution of housing across the Plan period. Category 1 settlements are required to deliver a minimum of 706 dwellings through the SA DPD (and set out again at Table 10 of the Sustainability Appraisal (“SA”).
- 2.9 It is wholly appropriate that the allocation of further housing sites to meet the district wide residual housing requirement, is first met on the most sustainable sites, namely those on the edges of Category 1 settlements, such as Haywards Heath. This would accord with the residual housing requirement set out in Policy DP4 of the District Plan and Policy 10 of the SA DPD. It would also accord with the settlement hierarchy set out in Policy DP6 of the District Plan and would ensure that the majority of homes are delivered in areas which have access to a range of services and facilities, including public transport.
- 2.10 Moreover, the distribution of housing within the SA DPD should have regard for the environmental qualities of the district, guiding development to those areas of least constraint. The land at Rogers Farm, Haywards Heath is outside the AONB, is some distance from the South Downs National Park and it is not constrained by ecological designations. It is acknowledged that it is in close proximity to listed buildings, but these can be protected through detailed scheme design. Therefore the allocation of Rogers Farm, Haywards Heath (Policy SA21) represents sustainable development as it accords with the settlement hierarchy, delivers development on the edge of one of the most sustainable settlements and is not located in an environmentally sensitive area.

Providing development to meet local needs in towns and villages which offer key community facilities (including public transport) and some employment opportunities; where settlements have already met their minimum development requirement as set out in the table attached to policy DP4, is it appropriate for this Plan to allocate additional housing?

- 2.11 No comment.

Strictly controlling development in the open countryside;

2.12 No comment.

Maximising the re-use of previously developed sites which are sustainably located;

2.13 No comment.

With an expectation that development is required to provide infrastructure in accordance with the infrastructure needs of each town, the accompanying Infrastructure Delivery Plan (IDP) or other needs as they arise?

2.14 No comment.

Housing delivery over the Plan Period

Does the Plan provide sufficient evidence to demonstrate that the proposed new homes total in each of the allocations can be implemented over the plan period, in accordance with the housing trajectory?

2.15 Land at Rogers Farm, Fox Hill, Haywards Heath (Policy SA21) is for 25 dwellings. Sigma Homes, as site promoter, have undertaken initial site assessment (set out in the Site Allocation Library at SA21.1 – SA21.8) which demonstrates there are no constraints to development of the Site which would hinder development coming forward. A Site Layout Plan (Doc ID SA21.7) demonstrates how 25 units can be delivered within the constraints and opportunities of the Site.

2.16 Paragraph 68 of the NPPF acknowledges that small and medium sites can make an important contribution to meeting the housing requirement, as they are often capable of being built out relatively quickly. Sigma Homes intend to bring forward a detailed planning application at the earliest opportunity to accord with Policy SA21. Commencement of development can take place shortly after planning permission is granted and it is considered therefore that it can be delivered not only within the Plan period, but within the first 5yr period of the SA DPD.

Policy SA21: Land at Rogers Farm, Fox Hill, Haywards Heath

Can each of the following housing allocations demonstrate their sustainability and deliverability in relation to the following considerations:

(i) *the willingness (or otherwise) of the landowner(s) to implement their sites on the basis of the relevant policy;*

2.17 The Site is in single ownership and is under the control of Sigma Homes by way of an Option Agreement. The landowner is fully committed to development of the Site.

any conflict with a made Neighbourhood Plan;

2.18 The Haywards Heath Neighbourhood Plan (HHNP) was made in 2016, this predates the District Plan 2018 and the SA DPD, as such it does not provide for the development needs of the District. Accordingly, further allocations of land to meet the minimum housing requirement set out in Policy DP4 of the District Plan, would need to be identified, largely on land outside defined settlement boundaries, giving rise to 'conflict' with the HHNP which cannot be avoided.

2.19 It is not considered that there is any further conflict with the HHNP and a forthcoming planning application will need to adhere to the HHNP as part of the development plan, insofar as it does not conflict with the District Plan and SA DPD.

(ii) *any conflict with national planning policy;*

2.20 It is not considered that there is any conflict with national policy arising from the allocation of policy SA21.

(iii) *any significant infrastructure considerations, including vehicular access, traffic circulation and highway and pedestrian safety, flooding, drainage and sewerage implications; are any of these 'showstoppers';*

2.21 There are no 'showstoppers'.

2.22 A Transport Technical Note was submitted to MSDC in support of the site allocations (Doc ID SA21.2), which sets out the locational sustainability of the Site. It also demonstrates that the appropriate access and visibility splays can be achieved with the site and highway boundary, to reflect the current speed limit of Fox Hill. It also confirms that there is capacity in the local road network for the Site without the need for additional mitigation.

2.23 It is acknowledged that there are some local concerns regarding highways and it is considered that these are satisfactorily dealt with in the Transport

Technical Note (Doc ID SA21.2), however, further full highways assessment will be forthcoming as part of planning application and assessed in detail by the Highway Authority.

2.24 Additionally, a Flood Risk and Drainage Technical Summary Note was submitted in support of the allocation and is in the Site Library at Doc ID SA21.4. This demonstrates that the Site is located within Flood Zone 1. It is acknowledged that there is an area of surface water flood risk and this is accounted for in the preliminary Site Layout Plan (Doc ID SA21.7); the Technical Note also sets out how surface water can be satisfactorily be accommodated on site, through Sustainable Urban Drainage Systems.

(iv) any significant impact on the living conditions of neighbouring occupiers, or future occupiers of the proposed development;

2.25 Is it not considered that the allocation of land at Rogers Farm will give rise to any significant impact on the living conditions of neighbouring occupiers.

2.26 The Site is to the south of existing residential development and the defined built up area, however, it is well screened by a mature treed hedgerow. Furthermore, the dwellings to the north front the Site and are separated from it by a road, boundary trees and a landscaped area. The indicative Site Layout Plan (Doc ID. SA21.7) shows how the Site can be delivered which shows that the proposed units would be 'side-on' to the development to the north, further reducing any potential for overlooking or conflict.

(v) any significant impact on the quality of the landscape, e.g. the integrity of any green gaps, and the ecology of the site and the surrounding area, and proximity to ancient woodland;

2.27 The Site is not within the AONB or any other protected landscape including the South Downs National Park. A Landscape and Visual Appraisal (LVA) was submitted to MSDC in support of the site allocation (Doc ID SA21.5) which concludes that a carefully considered layout will ensure that the proposed development can be integrated into the locality and will form a natural addition to the existing suburban setting.

2.28 The Site is of limited ecological merit. It comprises around 1.3ha of poor semi-improved grassland with small areas of bracken and boundary woodland. The boundary trees are considered to be of high ecological value and will be retained as part of any proposals which is required in the policy wording. The remaining site area, which would form the developable area of the site is considered to be of limited ecological importance.

2.29 Through the site allocation, policy wording and development of the Site, ecological and landscape enhancement can be delivered, including a buffer to the road frontage.

any impact on Conservation Areas, heritage assets or areas of archaeological significance;

2.30 There are no heritage assets on the Site, but there are three grade II listed buildings within close proximity as follows:

- Cleavewater – Opposite / east of the Site (separated by the main road)
- Roger’s Farm – South of the Site
- The Olde Cottage – South West of the Site

2.31 The promotion of the Site has been supported by a Heritage Impact Assessment (Doc ID SA21.3), which concludes that the development would have a low level of less than substantial harm to just Cleavewater, noting that there is a sense of strong enclosure of the Site which visually separates the Site from the listed buildings to the south.

2.32 The NPPF (paragraph 196) requires that where harm to a heritage asset is identified, the level of harm should be balanced against the public benefits of the proposal. The identified harm is ‘less than substantial’, on the low end of the scale, which should be balanced against the benefits of providing housing set against an identified housing need and in a sustainable location on the edge of a Category 1 Settlement. Given the degree of visual separation the low level of less than substantial harm and the public benefits of housing, including affordable housing, development and therefore allocation of the Site is considered acceptable.

access to shops, schools, health provision and services, community facilities, public transport and employment, i.e. is the location sustainable;

2.33 The Site is on the edge of Haywards Heath, a Category 1 Settlement, as such, it has good access to a range of services and facilities, including shops, schools, health, community facilities and public transport.

2.34 A Transport Technical Note was submitted to MSDC in support of the site allocation (Doc ID SA21.2), which sets out the locational sustainability of the Site. Additionally, as set out in the site promoters Regulation 19 Consultation response (Doc ID SA21.8), the locational sustainability of the Site will be further enhanced by the development permitted at ‘Hurst Farm’, which will

deliver up to 375 dwellings, a 2FE primary school (and early years provision), Country Park and public open space.

contamination or other ground or stability issues; and

2.35 There is no known contamination of the Site.

(vi) any other material considerations which could impact on the sustainability of the proposed allocation?

2.36 Yes. In response to previous representations raising the matter of energy efficiency and sustainability, the site promoter has prepared an Energy and Sustainability Statement (Appendix A) which sets out how the development could come forward with energy efficiency measures including optimising building fabric to reduce energy consumption and the use of Air-Source Heat Pump in place of gas boilers.

Five Year Housing Land Supply: Would the Plan at adoption be able to demonstrate that it has a five-year supply of specific, viable and deliverable sites to achieve the Plan's requirements?

2.37 No comment.

Is the reliance in the Plan on windfall sites [504 over the rest of the plan period] realistic?

2.38 No comment.

Additional sites: Bearing in mind the above considerations, and the requirement of paragraphs 67 and 68 of the Framework, should the Plan identify an increased number of specific, deliverable sites in the form of housing allocations?

2.39 No comment.

Has an allowance been made for non-delivery of planning permissions for new dwellings, and if so, what is it?

2.40 No comment.

Qualitative aspects of housing supply: Is there a need for any qualitative parameters for housing provision in the Plan, such as provision for affordable housing, starter homes, older persons' accommodation (Use Class C2), care homes, accessible housing, student housing, self-build housing and

accommodation for gypsies and travellers; on the latter point, does the Plan enable the implementation of District Plan policy DP 33 [Gypsies, Travellers and Travelling Showpeople]?

2.41 No comment.

Is the range of the size of housing allocations in the Plan appropriate to address the qualitative requirements of the District?

2.42 The SA DPD allocates a range of site allocations of different sizes, this is considered appropriate to maintain a supply of housing.

2.43 At paragraph 68 of the NPPF it is acknowledged that small and medium sized sites can make an important contribution to meeting the housing requirement of an area, and are often built-out relatively quickly. It is therefore appropriate that the SA DPD allocates a range of site sizes, to deliver against a range of housing needs.

Are there any other housing issues which this Plan should be addressing?

2.44 No comment.

Appendix A



ENERGY AND SUSTAINABILITY STATEMENT

—
ROGERS FARM
HAYWARDS HEATH

—
PREPARED FOR
SIGMA HOMES LTD

—
26 JANUARY 2021
REVISION 1

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ISSUE SCHEDULE

PREPARED BY MICHAEL WHITE		CHECKED BY REBECCA ROSE		AUTHORISED BY LIAM CLARK
DATE 25 JANUARY 2021		DATE 26 JANUARY 2021		DATE 26 JANUARY 2021
REVISION	DATE	BY	STATUS	DETAILS
0	26.01.2021	MW	SUBMISSION	-
1	08.02.2021	MW	SUBMISSION	Minor updates to client comments



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1 INTRODUCTION

.01 PURPOSE OF THE ASSESSMENT

MCA Consulting Engineers Ltd has been commissioned by Sigma Homes, to prepare an Energy and Sustainability Assessment in support of the proposed development at Rogers Farm, Haywards Heath.

This Assessment demonstrates how the development could meet the expected requirements of national, regional, and local planning policy and guidance in relation to energy and carbon emissions, and provides evidence to confirm that the development exceeds the required standards following the update to Approved Document Part L.

The key objectives of the Energy and Sustainability Assessment are to:

- examine and comprehend the key energy efficiency themes and associated standards within the national, regional and local planning policy and guidance
- assess the performance of the development proposals in achieving the energy standards
- identify any opportunities and appropriate actions required to ensure sustainability is delivered at the detailed design stage.

.02 PROPOSAL

The site is situated to the south of Cape Road. The proposed development consists of 25no. residential dwellings with access from Lunce's Hill. The dwelling mix includes 6no. apartments, 6no. detached houses and 13no. semi-detached / terraced houses. The proposed buildings will all been designed with consideration to energy efficiency, and consideration will be given to local generation of energy from renewable and low carbon sources.

.03 NATIONAL POLICIES

.01 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The Government has developed a planning system with which to help create sustainable development and communities. This system plays a key role in delivering the Government's objectives on sustainable development and comprises a number of different policy documents, each tackling a different sustainability issue. The system encourages a proactive process, which promotes environmental protection, economic growth and ensures a better quality of life for all.

The UK Government published its sustainable development strategy entitled "A better quality of life: A strategy for sustainable development in the UK" in 1999. This sets out four main objectives for sustainable development in the UK:

- Social progress that recognises the needs of everyone
- Effective protection of the environment
- Prudent use of natural resources
- Maintenance of stable high levels of economic growth and employment.

The most relevant national planning policy guidance on sustainability is set out in The National Planning Policy Framework - 2019. The NPPF identifies a set of 17 core land-use planning principles, one of which is to:

The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.



.02 REGIONAL AND LOCAL POLICIES

.01 Mid Sussex District Plan

Adopted March 2018

The Mid Sussex District Plan, adopted March 2018, presents a sustainable future for Mid Sussex, by providing the homes and jobs needed in a way that respects the unique built and natural environment of Mid Sussex.

Policy DP39 sets out the requirement for the development to demonstrate that it has minimised on-site carbon dioxide (CO₂) emissions by using less energy through maximising energy efficiency, supplying energy efficiently using low carbon and communal heating systems, and using on-site renewable sources of energy. The development is also expected to maximise efficient use of resources, and achieve water use of 110 litres/person/day in accordance with Policy DP42. Finally, the risks associated with future climate change should be planned for as part of the layout of the scheme and design of its buildings.

The residential development is not required to meet zero carbon, as “The Government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established.” as set out in the 2015 government publication ‘Fixing the Foundations: Creating a more prosperous nation’.

.03 OTHER

.01 Mid Sussex District Council Sustainable Energy Study

October 2014

The Sustainable Energy Study provides background information in relation to how the Mid Sussex District Plan – Policy DP39 was formulated. The guidance outlined in the Sustainable Energy Study has largely been included within the Mid Sussex District Plan.

.04 PROPOSED POLICY CHANGES

MCA have reviewed the proposed changes to Approved Document Part L and the associated changes to energy assessments following its implementation. We have included some commentary on the expected performance of the site against these proposed changes to assist in ensuring that the site will comply with these.

MCA have also reviewed the consultation version of the Future Homes Standard which targets the net zero emissions from dwellings by 2050 and the removal of fossil fuels from 2025 in new dwellings.

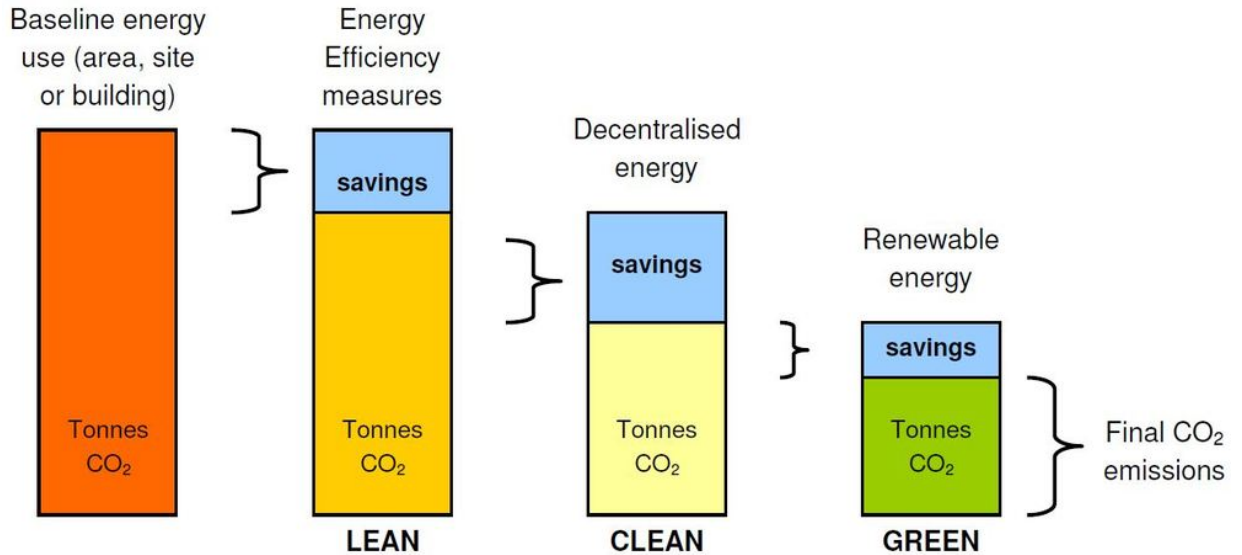


2 ENERGY STRATEGY

.01 ENERGY HIERARCHY

In line with best practice, the proposed energy strategy for this development will follow the principals of the energy hierarchy.

The energy hierarchy has three priorities, seeking to reduce energy use before meeting remaining demand by the cleanest means possible:



.02 BE LEAN (USE LESS ENERGY)

Optimise the building fabric, glazing, and structure to minimise energy consumption in the first instance by using low U-values and good air tightness, and ensuring that building services systems run as energy-efficiently as possible.

.01 FABRIC ENERGY EFFICIENCY

Enhancing the thermal performance of the building envelope helps to future-proof the structure and also yields the greatest CO₂ savings. Adding renewable technology will then yield maximum carbon reductions with lower long-term costs for the developer.

The proposed development will achieve compliance with Approved Document L1A of the Building Regulations (2013) without reliance on the contribution of renewable technologies.

The following energy-efficient design measures are proposed:

DOMESTIC (RESIDENTIAL)

	CURRENT BUILDING REGULATIONS L1A REQUIREMENT	PROPOSED BUILDING REGULATIONS L1A REQUIREMENT (DRAFT)
1. EXTERNAL WALLS	0.30 (W/m ² K)	0.26 (W/m ² K)
2. EXPOSED ROOF	0.20 (W/m ² K)	0.16 (W/m ² K)
3. EXPOSED FLOOR	0.25 (W/m ² K)	0.18 (W/m ² K)
4. FENESTRATION	2.00 (W/m ² K)	1.60 (W/m ² K)
5. PARTY WALLS	0.20 (W/m ² K)	0.20 (W/m ² K)
6. AIR PERMEABILITY	10 m ³ /(h.m ²)	8 m ³ /(h.m ²)
7. THERMAL BRIDGING	Accredited Construction Details	Default Y=0.15
8. SOLAR SHADING	Sunlight/shading: Average Windows fully open	ADL1A Criterion 3: Overheating risk identified as slight

NOTE: To meet the Target Fabric Energy Efficiency Rate the energy efficiency of some elements will need to be significantly better than the limiting standards in Table above.

	VALUE PROPOSED FOR THIS DEVELOPMENT
1. EXTERNAL WALLS	0.18 (W/m ² K)
2. EXPOSED ROOF	0.10 (W/m ² K)
3. EXPOSED FLOOR	0.10 (W/m ² K)
4. FENESTRATION	1.20 (W/m ² K)
5. PARTY WALLS	0.00 (W/m ² K)
6. AIR PERMEABILITY	4.0 m ³ /(h.m ²)
7. THERMAL BRIDGING	Accredited Construction Details
8. SOLAR SHADING	Sunlight/shading: Average Windows fully open

.02 BUILDING SERVICES SYSTEMS

Following the proposed reduction in energy demand through improvements to the fabric, this development shall seek to reduce energy consumption further through the specification of mechanical and electrical systems with efficiencies that surpass the requirements of the Domestic Building Services Compliance Guide.

DOMESTIC (RESIDENTIAL)

	VALUE PROPOSED FOR THIS DEVELOPMENT
1. LIGHTING: LOW ENERGY LED	100%
2. HEATING: AIR-SOURCE HEAT PUMP SYSTEM	Wet system with underfloor heating and radiators, flow temp <45 ^o c.
3. HOT WATER: FROM MAIN SYSTEM	DHW storage volumes: 150L – flats 175L – semi-detached houses 200L – detached houses
4. HEATING CONTROLS	Time and temperature zone control
5. VENTILATION	Natural ventilation (bathroom & kitchen extract) System 3 extract fans

There is a gas service locally which could be extended into the site to provide individual gas fire boilers within each property, although it is understood that there may be an issue with the existing capacity on the network which would need to be investigated further should this be the preferred strategy. It should be feasible to meet both the current and proposed energy requirements with mains gas boilers but to align with the Future Homes Standard and the move towards omitting fossil fuels, ASHP may be the better option.

.03 BE CLEAN (SUPPLY ENERGY EFFICIENTLY)

Further reduce carbon emissions through the use of decentralised energy, where feasible.

.01 CONNECTION TO A HEAT NETWORK

Reference has been made to the Mid Sussex District Council Sustainable Energy Study and it has been ascertained that the development is below the threshold for consideration for a district heating scheme (Minimum development of 100 dwellings). It is not currently feasible to connect to a Decentralised Energy Network (DEN), however future connection may be possible. This would entail replacement of the proposed Air Source Heat Pumps with a Thermal Interface Unit.

.02 COMBINED HEAT AND POWER

Combined heat and power (CHP), also called co-generation, is a de-centralised method of producing electricity from a fuel and ‘capturing’ the heat generated for use in buildings. The plant is essentially a small-scale electrical power station. The production and transportation of electricity via the National Grid is very inefficient, with over 65% of the energy produced at the power station being lost to the atmosphere and through transportation. Consequently, CHP can demonstrate significant CO₂ savings and, although not classed as renewable energy (depending on the fuel), the technology is low carbon.

For a CHP plant to be economically viable it needs to operate for as much of the time as possible (usually deemed to be in excess of 16 hours per day) and the size of the units are therefore usually based upon the hot water load of the buildings, with additional boilers being used to meet the peak space heating demand.

The feasibility of a gas-fired CHP for the site has been considered, however, in this case the base load is insufficient and the absence of a gas service in the local area make CHP infeasible. CHP is therefore not considered to be feasible or desirable for this project, due to the cost of implementation.



.04 BE GREEN (USE LOW AND ZERO CARBON TECHNOLOGY)

When the above design elements have been reasonably exhausted, and supply energy is generated by low and zero carbon (LZC) technology.

.01 LOW AND ZERO CARBON TECHNOLOGY – OPTIONS CONSIDERED

.01 BIOMASS

The spatial limitations of the site may be prohibitive to the storage and delivery of sufficient biomass fuel. Due to the suburban location, deliveries of biomass fuel may be unnecessarily disruptive, for example during adverse weather conditions.

The use of biomass as a fuel source has been considered but because these types of systems suffer from higher levels of emissions, particularly NO_x and particulates, their incorporation would have a significantly detrimental impact on local air quality. Airborne pollution is being monitored in the District, and parts of this Local Authority have been declared a Smoke Control Area. Consequently, it has been decided not to pursue this type of installation.

.02 HEAT PUMPS

High-efficiency air-source heat pumps have been considered for all areas of the development. This is likely to be the most feasible option for space and water heating as this removes the reliance on a gas service to the site.

.03 SOLAR PHOTOVOLTAIC (PV)

The available roof area of each dwelling should be suitable for the installation of solar panels, on both the houses and the roof of the apartments. However, a fabric-first approach has been adopted, in order to meet the requirements of the Building Regulations Part L, without requiring any renewable energy.

3 CONCLUSION

The site is likely to start following the release of the revised regulations so the strategy will need to be reviewed following this; however, the fabric strategy, with U-Values below the requirements, and the building services strategy, including Air Source Heat Pumps, are expected to be sufficient to meet these requirements.

