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Capacity of Mid Sussex District to accommodate development

Report for Mid Sussex District Council
Prepared by LUC
June 2014

Project Title: Capacity of Mid Sussex District to accommodate strategic development

Client: Mid Sussex District Council

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Planning & EIA
Design
Landscape Planning
Landscape Management
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LUC BRISTOL
14 Great George Street
Bristol BS1 5RH
Tel:0117 929 1997
Fax:0117 929 1998
bristol@landuse.co.uk

Offices also in:
London
Glasgow
Edinburgh

FS 566056
EMS 566057

Land Use Consultants Ltd
Registered in England
Registered number: 2549296
Registered Office:
43 Chalton Street
London NW1 1JD
LUC uses 100% recycled paper

Contents

1 Introduction

1.1 LUC was commissioned by Mid Sussex District Council (MSDC) in March 2014 to undertake a study to assess the capacity of the District to accommodate development. The study has an important role in providing an evidence base for the Mid Sussex District Plan and helping MSDC fulfil its Duty to Cooperate with neighbouring authorities regarding provision of housing across housing market areas.

Aim and objectives

1.2 The overall aim of the study was to provide a detailed and robust assessment of the constraints to development in Mid Sussex District, in order to understand the capacity of the District to accommodate development and identify the most sustainable areas for development.

1.3 The study was undertaken to form part of the evidence base for the District Plan in relation to the level of development that can be satisfactorily and sustainably accommodated within the district. The study looked at four areas that were considered to have an impact on the overall capacity of the District to accommodate development:

- Environment
- Infrastructure
- Landscape Capacity
- Sustainability

1.4 The study objectives were to:

a. Provide an analysis of the impact of local and national environmental designations, on the capacity for growth in Mid Sussex.

b. Provide an analysis of the impact of environmental issues (including water supply, flood risk, waste water and Air Quality Management Areas) on the capacity for development in Mid Sussex.

c. Provide an analysis of the sustainability of the District, in terms of access to services (including schools and GP's) on the capacity for development in Mid Sussex.

d. Draw conclusions regarding the capacity of the District to accommodate development.

e. Make recommendations on how issues that have potentially limiting impact on development could be overcome.

f. Make recommendations on the most sustainable areas for development, taking into account all the issues above.

Background and Context

1.5 Mid Sussex is a District within the south east of England (see **Figure 1.1**) and covers approximately 334km^2 and has a population of around 140,000. The District is predominantly rural, with most of the population residing in the three main towns of Burgess Hill, Haywards Heath and East Grinstead. Mid Sussex has a number of important environmental assets which can limit capacity of the District to accommodate development. Around 60% is under national landscape protection designations, with 50% in the High Weald AONB in the northern part of the District and 10% in the South Downs National Park covering the southern corner of the District. The historic environment in the District is also of high quality. While there are no European-

designated or Ramsar sites within the District there are thirteen Sites of Special Scientific Interest (SSSIs), covering 639.7 hectares (1.9%) of the District, and the Ashdown Forest SAC and SPA 7km zone of influence extends into the north eastern edge of the District (in this zone, planning applications proposing a net increase in residential dwellings will be required to mitigate their effects of increased recreational pressure). Local designations, including Sites of Nature Conservation Importance and Local Nature Reserves cover a further 3.8% of the District. Mid Sussex is also the tenth most wooded District in the South East, with two-thirds of woodland comprising Ancient Woodland.

1.6 In addition to environmental designations, other infrastructure issues represent potential constraints to the capacity of Mid Sussex to accommodate development. Water supply deficit is a recognised problem in the District. There is also an existing issue with waste water treatment capacity in several areas of the District (particularly Burgess Hill and East Grinstead), where existing water treatment works do not have enough capacity to accommodate planned housing development.

1.7 Mid Sussex is one of seven Districts within West Sussex County in the South East of England where pressure for development, particularly housing and associated infrastructure, is high. There is a need for local authorities within West and East Sussex counties to co-operate regarding provision of housing to meet projected need.

1.8 The Mid Sussex District Plan as submitted in July 2013 made provision for 530 houses per year and between 20 and 30 hectares of employment development. Locations proposed to accommodate this development were mainly in the town of Burgess Hill (around half of the total housing development over the lifetime of the plan), as the District Council assessed (in its Sustainability Appraisal) that it is less constrained than Haywards Heath and East Grinstead, with the rest of the development delivered in other towns and villages. In the first stages of examining the plan, the Inspector had queried whether or not Mid Sussex District Council had met the Duty to Cooperate, particularly with respect to potentially delivering some of the housing requirements of neighbouring coastal authorities. The first public hearing session for the District Plan took place on the 12th November 2013, and was focused solely on hearing evidence on whether or not MSDC had met the Duty to Cooperate. The Inspector has subsequently concluded he is not satisfied that the Council has met the Duty to Cooperate with some of its neighbouring authorities, and has advised the Council to withdraw the plan, which was formally withdrawn by the District Council in May 2014. This means the Council cannot proceed to the next stage of hearings until it has carried out more work with neighbouring councils, and this capacity study forms an important part of the evidence base for this work.

Principles of environmental capacity

1.9 The environment provides a range of services or benefits to society. These 'ecosystem services' are important for two main reasons:

- Some are important for sustaining life (e.g. the need for clean air to breathe, water to drink, food to eat, materials for housing, protection from flooding, genetic biodiversity, pollination of plants and crops, etc.).
- Some are important for enriching the quality of life (e.g. sense of place and heritage, tranquillity, attractive landscapes and townscapes).

1.10 Without some ecosystem services we could not survive. Without others the quality of our lives would be severely diminished.

1.11 There are strong links between ecosystem services, environmental limits and thresholds, and environmental capacity. Common to them all is the important concept of 'acceptability'. It can be argued that the environmental limit of a location to accommodate development is at the point when the loss, damage or erosion to the environment turns from being acceptable to being unacceptable.

1.12 Acceptability is determined by society. This can be done in a variety of ways:

(i) At the international and national level, acceptability is often decided by the setting of quantitative targets or standards. For example, targets or standards have been set for carbon emissions in order to prevent climate change, for pollutants to air to ensure human health, for pollutants in water, and for the maintenance of the integrity of Natura 2000 sites to protect ecological diversity and networks.

(ii) Some are set down in national policy, most notably through the National Planning Policy Framework (NPPF), and related guidance, such as for flood risk, and for the protection of SSSIs, historic assets, designated landscapes, and best and most versatile agricultural land. These comprise a mix of quantitative and qualitative measures that can often involve interpretation and argument.

(iii) Some can only realistically be set at the local level, through engagement with Council Members, stakeholders and the general public, to determine what is acceptable or unacceptable to communities. Examples of these may include how much development a local community might be willing to accept on greenfield land to deliver essential housing, economic activity, or community infrastructure. In these instances, there are likely to be widely divergent views depending upon the priorities of the individuals or communities concerned.

1.13 The purpose of an environmental capacity study, therefore, is not only to determine the point at which targets, standards and policy intent is likely to be compromised. It is also to provide in an as objective way as possible, a description and evaluation of the effects of further development in order to inform those with an interest and, ultimately, those who have to make decisions.

1.14 In order to determine environmental capacity, it is important not just to focus on each environmental theme or topic in isolation. The cumulative impact of development on a range of topics and themes also needs to be taken into account. Thus, a development proposal such as an urban extension may not breach any single identifiable environmental limit, but it may impinge on a range of environmental limits that, together, could be considered to breach the environmental capacity of a location.

1.15 Finally, it is possible to mitigate and compensate for the impacts of development in such a way as to ensure that environmental capacity is not breached. For example, investment in the upgrading of a sewage treatment works may allow more development to be accommodated without damaging water quality. The incorporation of water efficient appliances and sustainable drainage systems may allow for more development to be delivered without risk of unacceptable water abstraction or flooding. The use of materials and design in development, so that they strengthen local character and distinctiveness, can help to make new developments more acceptable to local people. The restoration and creation of new habitats (e.g. green infrastructure) can help to compensate for those lost to development.

1.16 All of these factors are important in feeding into decisions on the environmental capacity of a location to accept development. Ultimately, it is only by going through such thought processes that policies in Local Plans can be developed, tested, consulted upon, and adopted. The benefit of undertaking an environmental capacity study is that it makes this process explicitly rather than simply implicitly implied.

Structure of the report

1.17 **Section 2** of the report sets out the baseline position for a number of environmental and sustainability themes. For each theme, the following information is presented:

- **Why is it important?** A description of the policy context for the theme and why it is important in the consideration of environmental capacity, such as the services and benefits it provides to society.
- **Vulnerability to climate change:** A short description is provided on how climate change may, over time, impact upon the environmental theme concerned.
- **How can we measure performance?** An indication of how capacity of each theme might be measured with reference to any national or local standards and targets, where available.

- **Data sources:** Available data sources, both national and local, are provided.
- **Application to the capacity study:** a description is provided on how the above data can be applied to the environmental capacity study.
- **Assessing capacity to accommodate development:** Using the identified data sources, an assessment is made of the baseline position with respect to each environmental theme in Mid Sussex, noting any particular aspects where it could be considered that environmental limits could be at risk of being breached.

1.18 **Section 3** summarises the relevant findings of the Landscape Capacity Study undertaken for the District in 2007[1], and includes an assessment of areas that were not included in the previous study.

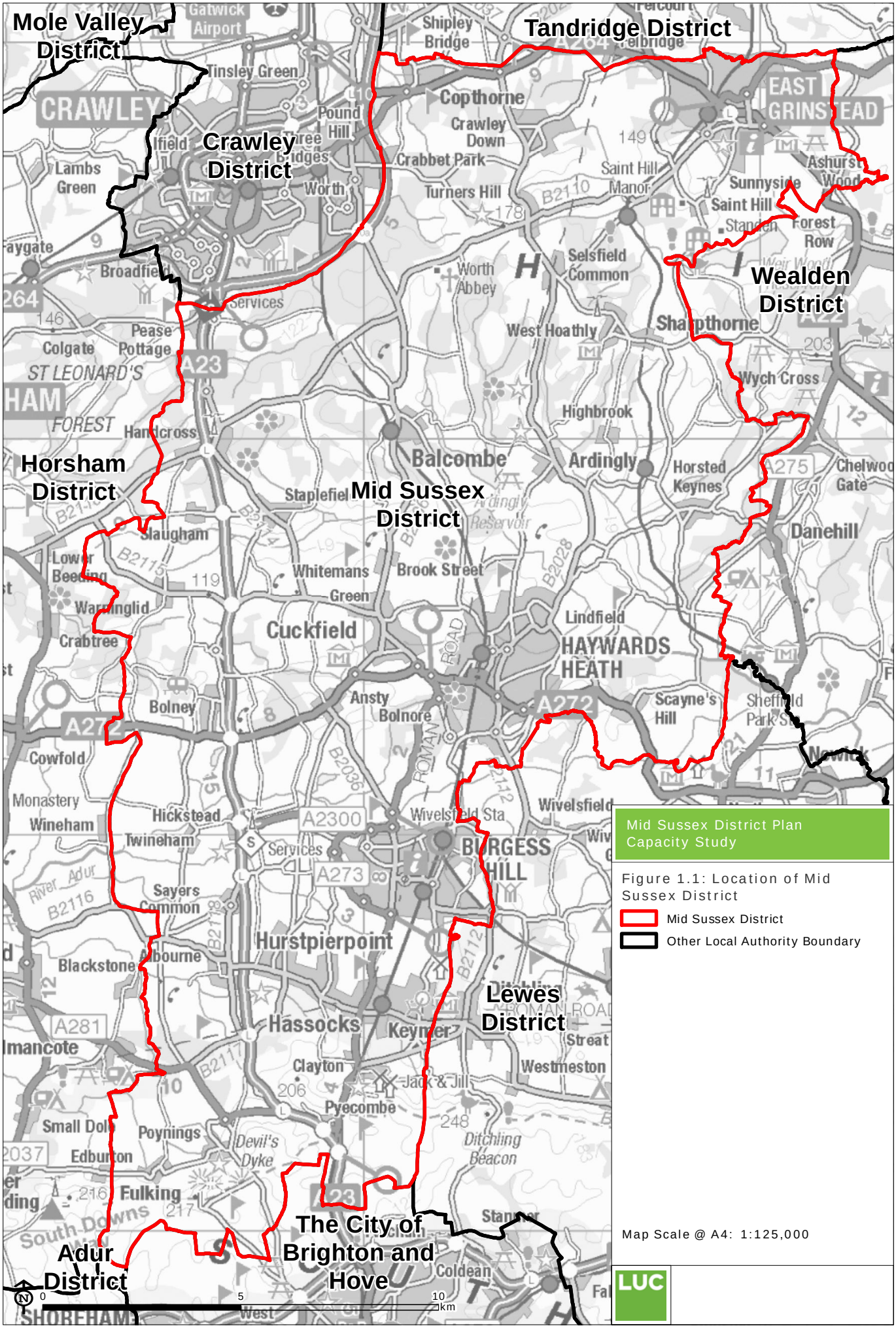
1.19 **Section 4** goes on to bring the various themes together. It seeks to identify those aspects of the environment that could be considered to be **primary constraints** (i.e. where significant development is likely to be precluded), and those which represent **secondary constraints** (i.e. where significant development may not be precluded, but where there is the risk of negative impacts).

1.20 **Section 5** provides an assessment of how well the District is served by services and facilities and in particular those areas that are less constrained by primary and secondary constraints.

1.21 **Section 6** summarises the findings and conclusions of the study regarding the least constrained areas in the District and its overall capacity to accommodate development.

1.22 All figures (maps) referred to are found at the end of each Section.

[1] http://www.midsussex.gov.uk/8306.htm



Mid Sussex District Plan
Capacity Study

Figure 1.1: Location of Mid Sussex District

Mid Sussex District

Other Local Authority Boundary

Map Scale @ A4: 1:125,000

LUC

2 Potential constraints on the capacity of Mid Sussex to accommodate development

Introduction

2.1 The study has looked at four main areas that will have an impact on the overall capacity of the District to accommodate development:

- **Environmental Designations** (including biodiversity, landscape, and heritage).
- **Environmental Issues and Infrastructure** (including air quality, water quantity and quality, flood risk, soil/agricultural land quality, energy supply, green infrastructure and transport infrastructure).
- **Landscape Capacity** (based on assessment of landscape sensitivity and value).
- **Sustainability** (including how well the District is served by services and facilities that support the health, social, recreational, economic and cultural well-being of existing and future communities).

2.2 For each of the individual themes within the first two areas (Environmental Designations and Environmental Issues and Infrastructure), this section sets out the following information:

- **Why is it important?** A description of the policy context for the theme and why it is important in the consideration of environmental capacity, such as the services and benefits it provides to society. Note that for each theme, the relevant current local policy contained in the Mid Sussex Submission District Plan (2013) is provided in **Appendix 1**.
- **Vulnerability to climate change:** A short description is provided on how climate change may, over time, impact upon the theme concerned.
- **How can we measure performance?** An indication of how capacity of each theme might be measured with reference to any national or local standards and targets, where available.
- **Data sources:** Available data sources, both national and local, are provided.
- **Application to the capacity study:** a description is provided on how the above data can be applied to the capacity study.
- **Assessing capacity to accommodate development:** Using the national and local policy objectives and data sources, an assessment is made of the baseline position with respect to each theme in Mid Sussex, noting any particular aspects where it could be considered that environmental limits could be at risk of being breached.

2.3 Landscape Capacity and Sustainability have been considered for those areas of the District that are least constrained by the environmental designations and issues. These are discussed further in **Sections 3** and **5** respectively.

1. Environmental Designations

2.4 Mid Sussex has a number of important biodiversity, landscape and heritage designations which can limit capacity of the District to accommodate development. **Figures 2.1-2.5** show the extent of land covered by environmental designations in the District, as discussed further below.

1a. Biodiversity

Why is it important?

2.5 Biodiversity has intrinsic importance and at a global scale, its preservation is also vital to the continued functioning of complex ecosystem interactions which underpin the habitability of the planet and provide a host of services to humans. Examples of these 'ecosystem services' include provision of food, fuel and fibre; purification of air and water; provision of a 'bank' of genetic resources which are a key input to new crop varieties and medicines; maintenance of soil fertility through nutrient cycling and decomposition of wastes[2]. Biodiversity also has an important role to play as an indicator of the health of a local authority's natural environment since thriving biodiversity provides evidence that other environmental factors (e.g. water resources, water quality, air quality, soil fertility etc.) are in good condition.

National Planning Policy Framework

2.6 Section 11 of the NPPF states that:

"The planning system should contribute to and enhance the natural and local environment by: (…) minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."[3]

2.7 The same section of the NPPF also states that local planning authorities should set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure."[4]

"To minimise impacts on biodiversity and geodiversity, planning policies should:

- *Plan for biodiversity at a landscape-scale across local authority boundaries;*
- *Identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;"*[5]

2.8 The NPPF also sets out six principles by which local planning authorities should aim to conserve and enhance biodiversity when determining planning applications, including:

- *"if significant harm resulting from a development cannot be avoided (…) then planning permission should be refused;*
- *Proposed development on land within or outside of a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted (…)*
- *Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats (…)"*[6]

Sustainability Appraisal / Habitats Regulations Assessment

2.9 Biodiversity is included within the Environmental Characteristics described in the Sustainability Appraisal[7], and highlights the following:

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[2] Secretariat of the Convention on Biological Diversity (2000) Sustaining life on Earth: How the Convention on Biological Diversity promotes nature and human well-being.

[3] National Planning Policy Framework, CLG (2012) pp25-26

[4] National Planning Policy Framework, CLG (2012) p26

[5] National Planning Policy Framework, CLG (2012) p27

[6] National Planning Policy Framework, CLG (2012) pp27-28

[7] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p15-17

- There is a variety of nature conservation sites within the District which are important for biodiversity, including 50 Sites of Nature Conservation Importance (SNCIs), 13 Sites of Special Scientific Interest (SSSIs) and six Local Nature Reserves (LNRs).
- In 2011-2012, 95.2% of SSSI units in Mid Sussex were found to be in 'favourable' or 'unfavourable but recovering' condition.
- The District is also important for species identified in the Sussex Biodiversity Action Plan (BAP), which are subject to protection under British and European legislation. Species include the great crested newt, dormice, nesting birds, badgers and bats as well as numerous other species.
- Mid Sussex is the tenth most wooded district in the South East and two-thirds of this woodland is classified as 'ancient'.
- There is a need to maintain and enhance the high quality natural, built and historic environment and biodiversity of the District.

2.10 In addition, the Sustainability Appraisal highlights the important issue of the Ashdown Forest Special Protection Area (SPA) and Special Area of Conservation (SAC), which lies to the east of the District in Wealden District. The potential for effects from development in Mid Sussex on the SPA/SAC is assessed in more detail in the Habitats Regulations Assessment (HRA)[8]. The HRA Report concluded that the qualifying bird species are vulnerable to disturbance by walkers and their dogs, and that increased pressure would arise from new development within the vicinity of the SPA/SAC. As the majority of visitors originate from within 7km of the Forest boundary, following consultations with Natural England, a 7km zone of influence around Ashdown Forest has been established. Within this zone, all planning applications proposing a net increase in residential dwellings will be required to mitigate their effects of increased recreational pressure in the form of providing a financial contribution towards Strategic Access Management and Monitoring measures, and Suitable Alternative Natural Greenspaces.

Vulnerability to climate change

2.11 The Biodiversity 2020 strategy states that:

"To date, climate change has had a relatively small impact on the UK's biodiversity and ecosystems, though it has, for example, affected species ranges, population sizes, timing of biological events such as flowering, and increased sea levels. (…) However, we do know that in the longer term, over a fifth (22%) of priority habitats are at high risk of direct impacts. (…) We do know that managing our biodiversity is important to both 'mitigation' (addressing the causes of climate change by removing greenhouse gases from the atmosphere) and 'adaptation' (helping to reduce the impacts of climate change). All of this poses a challenge to the way we try to conserve biodiversity"[9].

How can we measure performance?

2.12 There is a hierarchy of protection for sites containing nature conservation value. This ranges from non-statutory locally designated protection (Sites of Biological Importance) through to statutory local and national designations (Local Nature Reserves, National Nature Reserves and Sites of Special Scientific Interest (SSSIs)) to international designations (Special Areas of Conservation, Special Protection Areas and Ramsar sites).

2.13 In addition to these designated sites, the Natural Environment and Rural Communities (NERC) Act 2006, required the publication of a list of habitats and species which are of principal importance for the conservation of biodiversity in England. This list (the UK Biodiversity Action Plan or UK BAP list) identifies 1,150 species and 65 habitats which are a conservation priority in England.

2.14 In line with the England Biodiversity Strategy and the South East Biodiversity Strategy, the Sussex Biodiversity Action Plan (which is based online[10] rather than in a published document) aims to integrate the needs of species and habitats within landscape-scale delivery. In Sussex,

[8] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013)
[9] Biodiversity 2020: A strategy for England's wildlife and ecosystem services, DEFRA (2011) p16
[10] http://www.biodiversitysussex.org.uk/habitats/

almost half (508) of the priority species on the UK BAP list have been recorded. There are also a number of priority habitats in Mid Sussex included under the following six themes (the habitats under the Coastal and Marine themes will not be relevant to Mid Sussex):

- *Lowland Farmland*
- *Wetlands*
- *Coastal*
- *Woodland*
- *Marine*
- *Urban*

2.15 Quality of biodiversity within Mid Sussex could be measured by looking at the condition of designated sites, and this is discussed below. In addition, the extent of priority habitats and species present within the District could also be an indicator of the quality of biodiversity in the District. However, despite the extensive species records held by the Sussex Biodiversity Record Centre, the records have come from over 2,000 individual recorders and recording organisations, and there are acknowledged limitations associated with the records as some taxonomic groups or geographic areas are particularly well covered, and some not[11]. Therefore, it would be difficult to make District-wide assumptions about presence of priority species on a consistent basis.

Data sources

2.16 The following data sources are relevant to Biodiversity.

GIS data

- Local Nature Reserves.
- National Nature Reserves.
- SSSI Unit Areas.
- SACs.
- SPAs.
- UK Biodiversity Action Plan (UK BAP) Priority Habitats.

Documents

National

- Biodiversity 2020: A strategy for England's wildlife and ecosystem services, DEFRA (2011).

County Level

- Sussex Biodiversity Action Partnership website.

Local

- Habitats Regulations Assessment for the Mid Sussex District Plan, Urban Edge Environmental Consulting (2013)
- Mid Sussex District Plan Sustainability Appraisal, Mid Sussex District Council (2013)

Application to the Capacity Study

2.17 It is relatively straightforward to map designated sites as a constraint to development. Beyond this, various assumptions need to be made to provide qualitative commentary on the potential impacts of additional development on ecological networks, habitat fragmentation, etc., with specific reference to priority habitats and species.

Assessing capacity to accommodate development with respect to biodiversity

2.18 **Figure 2.1** shows the extent of nature conservation designated sites, ancient woodland and biodiversity opportunity areas within Mid Sussex as described below.

[11] http://sxbrc.org.uk/biodiversity/speciesdata/

Special Areas of Conservation/Special Protection Areas

2.19 As shown in **Figure 2.1**, there are no SACs/SPAs in Mid Sussex, although the Ashdown Forest SAC/SPA is adjacent to the eastern boundary in Wealden District and, as identified through the Habitats Regulations Assessment, a 7km zone of influence around Ashdown Forest has been established, within which residential development will be required to mitigate effects through provision of SANGs and financial contributions to Strategic Access Management and Monitoring measures. The 7km zone of influence extends into Mid Sussex, covering a number of parishes in the northeast of the District.

Sites of Special Scientific Interest

2.20 There are thirteen Sites of Special Scientific Interest in Mid Sussex which cover a total of 639.7 hectares or 1.9% of the district. All of the SSSIs within Mid Sussex are also within either the AONB or National Park. Ditchling Common SSSI in Lewes District is adjacent to the boundary of Mid Sussex on the eastern edge of Burgess Hill. Two units of this SSSI are classed as 'favourable' condition whilst three are 'unfavourable – recovering'.

2.21 Outcome 1A of the Biodiversity 2020 agreement states that, by 2020, 50% of SSSIs should be in 'favourable' condition, with at least 95% in 'favourable' or 'recovering' condition. The condition of SSSIs is regularly assessed by Natural England[12]. The 38 SSSI Units within the District are shown in **Figure 2.2**, along with their condition status:

- 21 are classed as in favourable condition (327.9ha).
- 15 as unfavourable recovering (291.75ha).
- 1 is classed as unfavourable no change (5.2ha).
- 1 is in unfavourable declining condition (14.85ha).

2.22 In terms of the percentage of the total area of the SSSIs within the Study Area (639.7ha), there are:

- 51.26% SSSI units in favourable condition.
- 45.61% SSSI units in unfavourable recovering condition.
- 0.81% SSSI units in unfavourable condition no change.
- 2.31% SSSI units in unfavourable declining condition.

2.23 Therefore the target for 2020 is currently being met with just over 51% of the area of SSSIs within the District in favourable condition, and 96.9% in either favourable or recovering condition.

Ancient Woodland

2.24 Mid Sussex is the tenth most wooded District in the South-East and two-thirds of this woodland is classified as Ancient Woodland. This habitat resource and a 15 metre buffer surround the woodland should be protected from development under the NPPF (Para. 118), Policy 36 in the Mid Sussex District Plan and as best practice set out in Standing Advice for Ancient Woodland issued by Natural England. However, the presence of Ancient Woodland may not necessarily completely rule out development – careful design of the site in order to incorporate ancient woodland as well as a suitable buffer zone may help to mitigate any impact development may have on ancient woodland.

Sites of Nature Conservation Importance

2.25 There are a total of 50 Sites of Nature Conservation Importance (SNCIs) covering 1,109 hectares (3.32%) of the District. A number of these are also within the AONB and National Park, but some are within close proximity to the main settlements of Haywards Heath and Burgess Hill. Policy 36 in the Mid Sussex Local Plan states that development must avoid damage to and protects the special characteristics of SNCIs.

[12] http://www.sssi.naturalengland.org.uk/Special/sssi/reportIndex.cfm

Local Nature Reserves

2.26 There are six Local Nature Reserves in the Mid Sussex District, covering a total area of 132 hectares (0.4% of the District). Policy 36 in the Mid Sussex District Plan also states that development must avoid damage to and protects the special characteristics of Local Nature Reserves. Only one of these is within the AONB near Ardingly, four are in and around Haywards Heath, and one is in Burgess Hill:

- Ardingly Reservoir, Ardingly.
- Bedelands Farm, Burgess Hill.
- Scrase Valley, Haywards Heath.
- Blunts Wood / Paiges Meadow, Haywards Heath.
- Catts Wood / Bolnore Woods, Haywards Heath.
- Eastern Road, Lindfield.

Biodiversity Opportunity Areas

2.27 Biodiversity Opportunity Areas (BOAs) have been identified throughout the South East and are the regional priority areas of opportunity for restoration and creation of BAP habitats. The BOAs do not include all BAP habitats in the region, nor do they include all the areas where BAP habitat could exist. They are a spatial representation of the BAP targets and do not represent a statutory designation or a constraint upon activities. Instead, they indicate where there are substantial opportunities to make positive changes for biodiversity. Eleven of the BOAs extend within Mid Sussex as shown on **Figure 2.1**. Most of them are within the AONB and National Park, but there are three BOAs outside of these landscape designations:

- Copthorne Common in the north of the District.
- Burgess Hill Green Crescent, which wraps around the north, west and south of Burgess Hill,.
- Western Ouse Streams and Ashdown Forest, which is mostly in Wealden District but a small corner extends into Mid Sussex east of Haywards Heath and Scaynes Hill.

Key issues for Biodiversity

2.28 The above analysis, including review of the existing Habitats Regulations Assessment, indicates that the current key issues for the District's biodiversity resource are as follows:

- An increase in the number of dwellings in the 7km buffer zone around the European designated Ashdown Forest SPA/SAC may result in increased pressure on biodiversity from recreational disturbance, particularly by dog walkers.
- Specifically relating to SSSIs, the 2020 condition target[13] could be threatened if increased pressures prevented the continued recovery of areas currently classified as in 'unfavourable recovering' condition.
- There are a number of LNRs and SNCIs within and around the main settlements of Burgess Hill and Haywards Heath whose special characteristics need to be protected and for which damage from development in these locations needs to be avoided.
- Mid Sussex is a heavily wooded district with two thirds of this being Ancient Woodland, which needs to be protected or suitably incorporated into development while avoiding harm to the woodland.
- Eleven of the South East Biodiversity Opportunity Areas are within or extend into Mid Sussex, and these should be seen not as constraints to development, but as opportunities for habitat creation and linkages, which would also be important green infrastructure resources.

[13] For at least 50% of SSSIs to be in 'favourable' condition, and at least 95% in 'favourable' or 'recovering' condition by 2020.

1b. Landscape

Why is it important?

2.29 Landscape, whether it be rugged coastline, peri urban green space or an urban park, is the setting for every aspect of our lives. It serves a variety of cultural functions, and provides not just aesthetic pleasure but also contributes to sense of place and tranquillity. An appreciation of how today's landscape was formed can also inform an understanding of its management over time and contribute to future land use planning. Understanding of landscape character and sense of place is also important to providing a sense of identity and community.

2.30 Landscape is also vitally important as it provides us with a wide variety of goods and services/benefits. It is therefore an essential cornerstone of quality of life for people and communities, and of sustainable development which fits within environmental limits – an ultimately finite resource which needs careful management if it is to retain its ability to provide the fullest range of services, whether provisioning (food/fuel), cultural/social, environmental or economic.

National Planning Policy Framework

2.31 Nationally designated landscapes such as National Parks and Areas of Outstanding Natural Beauty (AONBs) are afforded a high level of protection in the NPPF; para. 14 refers to the fact that although a 'presumption in favour of sustainable development should be seen as a golden thread running through both plan-making and decision-taking', Local Plans need to take account of policies in the NPPF which indicate development should be restricted in certain areas, including National Parks and AONBs[14].

2.32 Section 11 of the NPPF states that:

"The planning system should contribute to and enhance the natural and local environment by: protecting and enhancing valued landscapes(…)"[15]

2.33 It also states that:

"Great weight should be given to conserving landscape and scenic beauty in (…) Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty"[16]

2.34 In addition, at para. 116 it states that Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest.

2.35 In terms of plan-making, the NPPF states that assessments of landscape sensitivity should be prepared for areas where there are major expansion options.[17] It states at para. 113 that local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged.

Sustainability Appraisal / Habitats Regulations Assessment

2.36 Only one key sustainability issue relating to landscape was identified in the Sustainability Appraisal:

- The need to maintain and enhance the high quality natural, built and historic environment and biodiversity of the District[18].

[14] National Planning Policy Framework, CLG (2012) p4
[15] National Planning Policy Framework, CLG (2012) p25
[16] National Planning Policy Framework, CLG (2012) p26
[17] National Planning Policy Framework, CLG (2012) p41
[18] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p22

Vulnerability to climate change

2.37 The impacts of climate change upon the UK's landscape are likely to be significant. In their position statement on landscape architecture and the challenge of climate change, the Landscape Institute list the following potential impacts:

- *"Intensification of the urban heat island effect as a result of higher temperatures, particularly in summer, leading to risks to human health in the built environment.*
- *Water shortages as a result of reduced rainfall and increased evapotranspiration, affecting the vitality and productivity of vegetation.*
- *Flooding, particularly in our built environments and floodplains, as a result of increased rainfall intensity and increasingly frequent storm events.*
- *Rising sea levels leading to significant landscape impacts in coastal areas, including displacement of communities, social infrastructure, biodiversity and alterations to landform configurations.*
- *Changes in biodiversity as a consequence of new climatic conditions, particularly temperature and humidity levels. As some species increase in number and range whilst others decline, food provision, the spread of diseases and our enjoyment of a healthy and aesthetically pleasing environment all stand to be affected.*
- *Decreasing air quality as a result of higher temperatures and possible increases in ultraviolet radiation, which could have consequences for human health and comfort.*
- *The character of our landscapes, as a changing climate impacts upon environmental, cultural, social and economic factors which shape this character.* "[19]

How can we measure performance?

2.38 The European Landscape Convention (ELC) came into force in the UK in 2007. The definition of landscape within the Convention encompasses:

"The whole territory of states including all urban and peri-urban landscapes, towns, villages and rural areas, the coast and inland areas. It applies to ordinary or even degraded landscape as well as those areas that are outstanding or protected"[20]

"Success will be measured by demonstrating that all England's diverse landscapes are valued and well looked after, providing a sense of place and identity relevant to people's lives, and that their complex ecosystems function well."[21]

2.39 In 2010, the Methodological Review to the Character and Quality of England's Landscapes (CQuEL) project, identified the need to develop and monitor landscape quality objectives to implement the European Landscape Convention (ELC).[22]

2.40 Many sensitive or uncommon landscapes are protected through statutory designation such as National Parks or Areas of Outstanding Natural Beauty (AONBs). However, as identified in the ELC, the quality of the undesignated landscape can be considered just as important in terms of measuring performance for the theme.

2.41 The Landscape Character Assessment (LCA) of Mid Sussex District was carried out in 2005 to understand the current status and strategic sensitivities of the district's landscape, with the purpose of providing *'a comprehensive account of the landscape character of Mid Sussex, fostering a greater understanding of its value.'* [23]

2.42 In 2007 a Landscape Capacity Study was produced, which examined the landscape capacity of the District to accommodate proposed development areas in the then draft Core Strategy 2006-

[19] Landscape architecture and the challenge of climate change: Landscape Institute Position Statement, The Landscape Institute (2008) p2
[20] European Landscape Convention – A Framework for Implementation, Natural England (2007) p1
[21] European Landscape Convention – A Framework for Implementation, Natural England (2007) p2
[22] Preparing a detailed project plan for CQuEL. Work package 1: Methodological Review Produced by LUC, Fabis consulting and Countryscape for Natural England and DEFRA (2010) p4
[23] A Landscape Character Assessment for Mid Sussex, Mid Sussex District Council (2005) p7

2026[24] (replaced by the District Plan). However, as the latter was undertaken specifically in relation to development locations that were being considered at the time, it did not cover all areas within the District. Therefore, new assessment of landscape capacity in the areas not covered by the 2007 Landscape Capacity Study needed to be undertaken, and this is discussed further in **Section 3**.

Data sources

2.43 Data sources identified for Landscape were:

GIS data

- Landscape Character Areas
- Landscape Capacity Areas
- CPRE Tranquillity Dataset.
- Boundaries of nationally designated landscapes.

Documents

- A Landscape Character Assessment for Mid Sussex, Mid Sussex District Council (2005)
- Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007)
- Sussex Historic Landscape Characterisation (2010)
- The High Weald Area of Outstanding Natural Beauty Management Plan 2014-2019 (2014)

Application to the Capacity Study

2.44 It is relatively straightforward to map designated landscapes as a constraint to development. Landscape Character Areas do not necessarily represent a constraint to development, rather they describe particular characteristics of an area, some of which will be in more need of protection than others.

2.45 Landscape capacity is defined nationally as *"the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character, or overall change of landscape character type. Capacity is likely to vary according to the type and nature of change being proposed."*[25] Therefore, the Landscape Capacity Study is very useful as it provides more information regarding the capacity of particular areas of landscape within the District to accommodate development.

Assessing capacity to accommodate development with respect to landscape

2.46 There are two national landscape designations that pose a significant constraint to strategic development in the District, as shown in **Figure 2.3**.

- The **High Weald AONB**, which covers 163.5km^2 (49%) of the District.
- **South Downs National Park**, which covers an area of approximately 37km^2 or 11% of the District.

2.47 The variety of landscape features was recognised in the District's 2005 Landscape Character Assessment[26], which identifies ten landscape character areas (LCAs) outside of the main urban areas, and which are shown on **Figure 2.4**. The ten LCAs fall within the three National Character Areas covering the district as shown in **Table 2.1**.

[24] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007)
[25] The Countryside Agency, Topic Paper 6: Techniques and Criteria for judging capacity and sensitivity.
[26] A Landscape Character Assessment for Mid Sussex, Mid Sussex District Council (2005).

Table 2.1: National Character Areas, Landscape Character Areas and Types in Mid Sussex

National Character Area	Landscape Character Type	Landscape Character Area
South Downs	Open downs	Devil's Dyke and Clayton Downs
		Fulking to Clayton Scarp
Low Weald	Scarp footslopes	Hurstpierpoint Scarp Foot slopes
	Clay vale farmlands	Hickstead Low Weald
	River valleys	Upper Adur Valley
High Weald	Wooded ridges and valleys	High Weald
		High Weald Plateau
	Forest plateau	Worth Forest
		Ouse Valley
	River valleys	High Weald Fringes

Key issues for Landscape

- Nearly 60% of the District is under a national level landscape designation and as such, is likely to be unsuitable for major housing developments in accordance with para.s 14, 115 and 116 of the NPPF. However, there will be some limited capacity for development with the AONB to meet local needs.
- Outside of the AONB and National Park, landscape character is still a potential constraint to strategic development due to the distinctive and valuable landscapes in much of the District (see **Section 3**).

1c. Historic environment

Why is it important?

2.48 Heritage features, buildings and archaeology, field patterns (which also contribute to the character of the AONB) and land uses combine to create the historic environment. The historic environment shapes an area's character and identity, providing links with our heritage and past generations. The historic environment and the heritage features it contains are finite resources which enhance quality of life and provide communities with a sense of place which can be shared through education and enjoyed in recreation[27]. The historic environment is not limited to built features and archaeological remains, but also includes historic land uses, such as coppiced woodland or grazing marsh which may have existed in a similar form for many centuries.

National Planning Policy Framework

2.49 Section 12 of the NPPF (Conserving and enhancing the historic environment) states that:

"Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk

[27] National Planning Policy Framework (2012)

through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance."[28]

Sustainability Appraisal / Habitats Regulations Assessment

2.50 Within the Sustainability Appraisal, the wealth and good quality of historical features in the environment of Mid Sussex is recognised, along with the need to:

- maintain and enhance the high quality natural, built and historic environment of the District.[29]

Vulnerability to climate change

2.51 English Heritage identify a list of potential direct impacts of climate change upon the historic environment as (those most relevant to the study listed only):

- *Increased extremes of wetting and drying that heighten the risk of ground subsidence and accelerated decay of stonework thus pose a threat to many historic buildings*
- *More frequent intense rainfall that causes increased erosion of archaeological sites and damaging flooding in historic settlements, the latter making historic buildings difficult to insure*
- *Changes in hydrology that put buried archaeological remains, including well-preserved wetland archaeology, at risk*
- *Possible increases in the frequency or geographical range of extreme weather that could pose an increased risk of damage to some historic landscapes and buildings*

2.52 English Heritage also identify a list of potential impacts from adaptive responses;

- *New flood defences, particularly in historic towns, can cause major archaeological damage along historic waterfronts and may impair the character of historic quaysides and waterside buildings and gardens.*
- *The design integrity of some historic buildings and landscapes could be damaged by the need to provide new and more effective rainwater disposal or storage systems or flood protection features.*

2.53 Finally English Heritage identify the impact polices to mitigate future climate change may have:

- *The construction of new renewable energy infrastructure, including hydro-electric and tidal plants and onshore and offshore wind farms, may have direct impacts on archaeological remains.*
- *Wind farms need to be carefully sited to avoid compromising significant landscapes, or the visual setting of important sites or buildings where the integrity of that setting is an important part of their significance.*
- *Some types of micro-generation equipment, such as mini wind turbines, or micro combined heat and power plants, are unlikely to present problems if sensitively located on historic buildings; others may be more visually intrusive and difficult to accommodate. Consideration should be given to minimising physical impacts on the historic fabric of buildings and ensuring reversibility wherever practicable.*
- *Poorly designed or inappropriate energy-saving measures could seriously detract from the historic character and fabric of buildings and landscapes, whereas well-designed measures can make considerable savings with little or no damage. Proposals to replace historic buildings with new stock that is ostensibly more energy-efficient could result in serious losses of historic character and diversity.*[30]

[28] National Planning Policy Framework, CLG (2012) p30
[29] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p22
[30] Climate Change and the Historic Environment, English Heritage (2008)

How can we measure performance?

2.54 The quality of the historic environment can be measured through identifying the number of heritage features on English Heritage's 'Heritage at Risk Register', and by assessment of the extent to which a given area's historic landscape character is intact. The Heritage at Risk register records vulnerability of certain designated assets (such as Grade I and II* Listed Buildings, Scheduled Monuments, and Conservation Areas). It is recognised that the majority of the District's Listed Buildings are Grade II, and therefore not currently assessed for the Heritage at Risk register. It is noted that this performance measure also does not take into account undesignated heritage assets.

2.55 The NPPF identifies that heritage assets are an irreplaceable resource and sets out four considerations local authorities should take into account when planning development:

- The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation.
- The wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring.
- The desirability of new development making a positive contribution to local character and distinctiveness.
- Opportunities to draw on the contribution made by the historic environment to the character of a place.

2.56 There is a hierarchy of protection for heritage assets, as the NPPF states that:

"As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional."* (NPPF, 2012, p31).

Data sources

2.57 The following data sources are relevant for the Historic environment.

GIS data

- Listed Buildings.
- Registered Parks and Gardens.
- Scheduled Monuments.
- Conservation Areas.
- Registered Battlefields.
- Heritage at Risk.

Documents

National

- National Heritage Protection Plan, English Heritage (2011 – 2015).

County

- West Sussex Historic Environment Record[31].
- West Sussex Historic Landscape Characterisation[32].

[31] http://www.westsussex.gov.uk/default.aspx?page=8502
[32] http://www.westsussex.gov.uk/living/planning/the_county_plan/west_sussex_character_project/historic_landscape.aspx

Local

- Mid Sussex Conservation Area Map[33]
- Mid Sussex Conservation Area Appraisals[34]

Application to the Capacity Study

2.58 Designated historic assets can readily be mapped. Some will act as true constraints to development (e.g. a registered park or garden is unlikely to be developed). Others may act as either constraints or opportunities (e.g. bringing back into appropriate use a derelict listed building would be positive). The issue of setting of historic assets may also be important.

2.59 By their very nature, 'unknown' or 'unrecorded' historic assets could be omitted as a constraint through lack of knowledge. Undesignated historic landscapes may require an element of qualitative commentary based on documents referred to above.

Assessing capacity to accommodate development with respect to the historic environment

2.60 *"England's historic buildings, sites and landscapes are of fundamental importance to telling our national story; to establishing community identities and to creating a sense of place. By encouraging tourism, creating jobs and providing the places where most of us live and work, our heritage is also an important contributor to growth and prosperity within the UK. But much of this heritage is at risk of damage or destruction: sometimes sudden and catastrophic, more often gradual and incremental – threatening the distinctiveness, character and appeal of the places we care about. Damage can be caused by natural erosion, climate change, crime or poorly thought-through development. Decline often starts with neglect, abandonment or the loss of the skills needed for vital advice, maintenance and repair."*[35]

2.61 **Figure 2.5** shows the statutory designated historic assets as well as locally designated Conservation Areas in the District. There are approximately 1,054 Listed Buildings located across the District, 25 Scheduled Monuments clustered mainly in the south of the District, some around the central area and two in the north near Felbridge and Copthorne. These include for example moated sites, motte and bailey castles, a Romano-British villa and farmstead, hillfort and a deserted medieval settlement. The ten Registered Parks and Gardens are mostly within the northern half of the District. Mid Sussex District Council has also designated 36 Conservation areas since 1969, almost half of which are within and around the settlements of Haywards Heath, Burgess Hill, East Grinstead and Hurstpierpoint and Cuckfield.

2.62 The heritage environment of Mid Sussex is generally in a stable condition, with only two entries on the Heritage at Risk Register. These are the Conservation Area at Fairfields, Burgess Hill, and a motte and bailey castle in Lindfield which is a Scheduled Monument.

2.63 Of the 1,054 Listed Buildings identified from the MSDC GIS data, 18 are Grade I listed, whilst 60 a under Grade II* designation. Grade II listed buildings are nationally important and of special interest, Grade II* are particularly important buildings of more than special interest, whilst Grade I buildings are of exceptional interest, sometimes considered to be internationally important. Grade I and II* buildings are currently included on the Heritage at Risk register, but Grade II buildings are not. None of the Grade I and II* Listed Buildings within the District are on the 'at risk' register.

2.64 Four of the Registered Parks and Gardens are Grade II, whilst the remaining six are Grade II*. There are no Grade I Registered Parks and Gardens, and none within the District are included on the Heritage at Risk register.

[33] http://www.midsussex.gov.uk/8554.htm
[34] http://www.midsussex.gov.uk/8323.htm
[35] http://www.english-heritage.org.uk/professional/protection/national-heritage-protection-plan/all-about-NHPP/

Key Issues for the Historic Environment's Capacity

- There is a wealth of Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Conservation Areas in the District, but most of them are generally in a stable condition.
- Only two heritage assets within the District (a Scheduled Monument at Lindfield and Fairfields Conservation Area) are currently on the Heritage at Risk register.
- Potential development should not place any statutory designated heritage assets 'at risk', and should consider the importance of non-designated but locally important heritage.

2. Environmental Issues and Infrastructure

2.65 This part of the study considers the potential impacts of a number of environmental issues on the District's capacity to accommodate development. The environmental issues are air quality, water quantity and quality, flood risk, soil/agricultural land quality, energy supply, green infrastructure (including recreation and open space) and transport infrastructure. **Figures 2.6-2.12** show the extent of land in the District potentially affected by these environmental issues and infrastructure, as discussed further below.

2a. Air Quality

Why is it important?

2.66 Air pollution (or poor air quality) has an impact upon the health of the population, and upon the natural environment. Poor air quality can have a long term impact on health, causing premature mortality due to effects on the heart and lungs. Short term impacts include increased admissions to hospital and premature death to those people who are more vulnerable to daily changes in the levels of air pollutants[36]. Estimates indicate that air pollution reduces life expectancy in the UK by an average of six months[37]. The estimated annual economic cost of this impact is between £9 billion and £19 billion. Poor air quality is generally associated with poorer areas in England, which are often urban areas close to busy roads[38].

2.67 Impacts on the natural environment include decreasing levels of biodiversity, an impact on sensitive environments, and a reduction in agricultural crop yields[39]. In particular, air pollution could impact on the qualifying habitats and species of the Ashdown Forest SAC/SPA, and this is discussed below.

National Planning Policy Framework

2.68 Section 11 of the NPPF (Conserving and enhancing the natural environment) states that:

"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Area and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan."[40]

Sustainability Appraisal / Habitats Regulations Assessment

2.69 Air quality is included within the Environmental Characteristics described in the Sustainability Appraisal[41]. District-wide, the following key sustainability issues were identified in relation to air quality:

[36] DEFRA (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland p13
[37] http://www.defra.gov.uk/environment/quality/air/air-quality/impacts/
[38] http://www.defra.gov.uk/environment/quality/air/air-quality/impacts/
[39] http://www.defra.gov.uk/environment/quality/air/air-quality/eu/
[40] National Planning Policy Framework, CLG (2012) p29
[41] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p18 and p22

- Car ownership and use is high, contributing to congestion and climate change.
- Mid Sussex has relatively high levels of in and out commuting, which impacts on traffic and environmental quality.

2.70 Conversely, the Sustainability Appraisal found that in general, air quality in Mid Sussex is good, with only one Air Quality Management Area (AQMA) in the District.

2.71 In terms of air pollution, the Habitats Regulations Assessment Report refers to data from the Air Pollution Information System (APIS), which shows that levels of acid deposition and nitrogen deposition were already exceeding critical loads for woodland, dry heath and wet heath in Ashdown Forest SAC by 2008[42]. Therefore, it was noted that additional sources of these pollutants resulting from development in the District would need to be avoided or mitigated.

2.72 However, the Mid Sussex Stage 1 Transport Study indicates that projected traffic increases along routes that might affect the Ashdown Forest SAC are well below the threshold deemed as significant[43] i.e. the increase in daily traffic flows will be less than 1,000 annual average daily traffic movements (AADT). Therefore, the Habitats Regulations Assessment report concluded that adverse effects are unlikely, particularly taking into account measures to encourage sustainable transport and promote good air quality included within policies in the District Plan, and no further measures are necessary.[44]

Vulnerability to climate change

2.73 There is a strong link between climate change and air pollution – they share common sources[45].

"Changes in the climate will impact on air quality; increases in temperature may affect the formation of ozone, increasing the frequency and severity of summer smogs. During the UK heat-wave of August 2003, between 420 and 770 (…) deaths brought forward were attributable to air pollution in a 15 day period."[46]

How can we measure performance?

2.74 The 2008 ambient air quality directive (2008/50/EC) set legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen dioxide (NO_2).

2.75 The EU Directive was made law in England through the Air Quality Standards Regulations 2010, which also incorporates the 4th air quality daughter directive (2004/107/EC) that sets targets for levels in outdoor air of certain toxic heavy metals and polycyclic aromatic hydrocarbons[4].

2.76 Schedule 2 of the Air Quality Regulations (2010) England sets out limits for seven aerial pollutants that are applicable to local air quality management. These are presented in **Table 2.2**, below.

Table 2.2: Air Pollutant Limits

Pollutant	Averaging period	Limit Value
Sulphur dioxide	One hour	350 µg/m^3 not to be exceeded more than 24 times a calendar year
	One day	125 µg/m^3 not to be exceeded more than 3 times a calendar year
Nitrogen dioxide	One hour	200 µg/m^3 not to be exceeded more than 18 times a calendar year
	Calendar year	40 µg/m^3

[42] Habitats Regulations Assessment for the Mid Sussex District Plan, Urban Edge Environmental Consulting (May 2013) p22
[43] Mid Sussex Transport Study Stage 1, Amey Transport Consultants, (December 2012) p61
[44] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013) pp27-28
[45] Air Pollution : Action in a Changing Climate, DEFRA, (2010) p10
[46] Air Pollution : Action in a Changing Climate, DEFRA, (2010) p10

Benzene	Calendar year	5 µg/m^3
Lead	Calendar year	0.5 µg/m^3
PM_{10}	One day	50 µg/m^3, not to be exceeded more than 35 times a calendar year
	Calendar year	40 µg/m^3
$PM_{2.5}$	Calendar year	25 µg/m^3
Carbon monoxide	Maximum eight hour daily mean[47]	10 mg/m^3

Source: http://www.legislation.gov.uk/uksi/2010/1001/schedule/2/made

2.77 On a three yearly cycle Local Authorities carry out Air Quality Reviews and Assessments (which involves producing an Updating and Screening Assessment) and in the intervening two years an Air Quality Progress Report is produced. A review of air quality means a consideration of the levels of pollutants in the air for which objectives are prescribed in the Air Quality Regulations, and estimations of future levels. An assessment of air quality is the consideration of whether estimated levels for the relevant future period are likely to exceed the levels set in the objectives.

2.78 The Updating and Screening Assessment covers:

- New monitoring data.
- New objectives.
- New sources or significant changes to existing sources, either locally or in neighbouring authorities.
- Other local changes that might affect air quality.

2.79 If there is a risk that these changes may be significant, then a screening assessment should be carried out. Where the National Air Quality objectives are unlikely to be met, the local authority is required to designate an Air Quality Management Area (AQMA) at the relevant location/s. The local authority must then prepare an action plan setting out measures it intends to take in pursuit of the air quality objectives within the area covered by the AQMA.

2.80 Mid Sussex District Council Environmental Health Section undertakes monitoring for Nitrogen Dioxide (NO_2) at sites throughout the district and submits an annual report on air quality to the Department of the Environment, Food and Rural Affairs (DEFRA). Mid Sussex District Council are members of the Sussex Air Quality Partnership (Sussex Air) which benefits from the co-ordinated monitoring of air pollutants across the region. Mid Sussex District Council does not currently monitor for PM_{10}, sulphur dioxide or benzene. Monitoring at other sites in the Sussex Network found these pollutants were unlikely to exceed the national objectives in Mid Sussex and therefore no further action was required for the District (this is summarised in the Air Quality Updating and Screening Assessment Report 2009[48]).

Data sources

2.81 The following data sources have been identified.

GIS data

- Air Quality Management Areas.

Documents

National

- Air Quality Standards Regulations (2010) England [http://www.legislation.gov.uk/uksi/2010/1001/contents/made].
- DEFRA (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.

[47] The maximum daily eight hour mean concentration of carbon monoxide must be selected by examining eight hour running averages, calculated from hourly data and updated each hour. Each eight hour average so calculated will be assigned to the day on which it ends, that is, the first calculation period for any one day will be from 17:00 on the previous day to 01:00 on that day, the last calculation period for any one day will be the period from 16:00 to 24:00 on that day.

[48] 2009 Air Quality Updating and Screening Assessment, Mid Sussex Council, (2009) pp6 and 16

Local

- Air Quality Progress Report for Mid Sussex District Council (July 2013), and earlier progress reports available[49].

Application to the Capacity Study

2.82 Additional development over and above that already planned is likely to increase air pollution due to traffic generated. Air pollution can be mitigated by increased energy efficiency in the construction and operation of development, and by minimising increases in the traffic generated by new development. Cleaner fuels and engines will also have an influence.

2.83 Given that many of these influences are beyond simply the quantum of development, it is difficult to quantify changes in air quality associated with new development and how this could affect the capacity of different areas in the district to accommodate new development. However, existing trends and the existence of a designated AQMA have helped to enable qualitative commentary on where air quality issues could be exacerbated by additional development. In addition, where development would result in increases in vehicle traffic along a route that would exceed the threshold deemed as significant (i.e. an increase of 1,000 AADT or more), development may be constrained by the potential for significant effects on the integrity of the Ashdown Forest SAC.

Assessing capacity to accommodate development with respect to air quality

2.84 The Air Quality Progress Report 2008 indicated that the Stonepound crossroads area, located in Hassocks, was at risk of exceeding the annual mean air quality objective for nitrogen dioxide and consequently eight additional monitoring sites were added to the network in July 2008. The results for 2009 and 2010 confirmed this had been exceeded again and consequently in March 2012 an Air Quality Management Area (AQMA) was declared at the Stonepound Crossroads in Hassock, shown in **Figure 2.6**.

2.85 The AQMA at Stonepound Crossroads includes parts of Keymer Road, Brighton Road, London Road and Hurst Road, and the boundary has been defined on the basis of the areas which are, or are likely to exceed the air quality objectives for nitrogen dioxide and where there is "relevant exposure", that is places where people live close to the road. The main reasons for the crossroads being affected by air pollution are the volumes of road traffic and the stop start routine of driving conditions at peak times caused by the queuing traffic at the traffic lights. The area is on the brow of a hill and is partly lined with trees.

2.86 The Council is required to submit an action plan to Defra within 18 months, setting out how the air pollution will be reduced. The Council worked with Sussex Air, West Sussex County Council Transport Planning and other partners to establish a draft action plan for consultation. The final Action Plan submitted and approved by Defra as including enough well analysed measures to reduce nitrogen dioxide to below the target by 2018. A Steering Group has been established to implement the Action Plan, which includes local District, County and Parish Councillors, together with officers from local government and other relevant organisations, as required. In order for Stonepound Crossroads to be revoked as an AQMA, annual air quality monitoring data will need to show levels of air pollution at consistently below the target.

2.87 Across the District there are 22 locations where nitrogen dioxide diffusion tubes for monitoring air quality are located. The Air Quality Progress Report found that the annual means were below the NO_2 objective at 17 monitoring sites for 2012[50]. The objective was exceeded at the following locations:

1. Stonepound, Keymer Road, Hassocks
2. Overcourt, 1 Keymer Road, Hassocks
3. Lamp post, Keymer Road, Hassocks
4. Bus Stop, London Road, Hassocks
5. London Road, East Grinstead

[49] http://www.midsussex.gov.uk/airquality
[50] Air Quality Progress Report, Mid Sussex Council, (July 2013) pp

2.88 The first three are sites with relevant exposure (i.e. residential premises within 15m of a monitoring site), and the first two (Stonepound and Overcourt) are within the AQMA.

2.89 In the 2013 Air Quality Progress Report, Mid Sussex confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area. Mid Sussex confirms that all the following have been considered: road traffic sources, other transport sources, industrial sources, commercial and domestic sources, new developments with fugitive or uncontrolled sources.

Key issues for Air Quality

- There is an AQMA declared at Stonepound Crossroads in Hassock, where NO_2 levels have exceeded the national limits since 2008.
- NO_2 levels exceed the limits set out in the Air Quality Regulations (2010) at four locations in Hassocks (two of which are within the AQMA), and at one location on the London Road at East Grinstead.
- Levels of acid deposition and nitrogen deposition within the Ashdown Forest SAC/SPA are already exceeding critical loads.
- New developments have the potential to influence air quality in other locations within the District (or outside the District, e.g. the Ashdown Forest SAC/SPA) due to increases in car trips that can be generated to and from them new developments.

2b. Water supply

Why is it important

2.90 Water is a fundamental natural resource, and the need for clean water to drink is an essential human need. In addition to this most basic of needs, water is required for agriculture, for power generation and to supply industries and homes.

2.91 The Environment Agency states:

"Water is something that most of us in England and Wales take for granted. In fact, it is a precious resource that faces increasingly severe demands and conflicting pressures."[51]

National Planning Policy Framework

2.92 Chapter 10 of the NPPF sets out that:

"Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations."[52]

2.93 The NPPF also sets out that:

"Local planning authorities should work with other authorities and providers to assess the quality and capacity of infrastructure for (…) water supply (…) and its ability to meet forecast demands".[53]

Sustainability Appraisal / Habitats Regulations Assessment

2.94 'Water resources' is included as a topic within the Environmental Characteristics described in the Sustainability Appraisal[54]. District-wide, the following key sustainability issues were identified in relation to water resources:

- Demand for water is rising and residents in Mid Sussex use approximately 181 litres of water a day, which is higher than the UK average of 154.1 litres.

[51] Environment Agency (2009) Water for People and the Environment,p3
[52] National Planning Policy Framework, CLG (2012) Chapter 10 p22
[53] National Planning Policy Framework, CLG (2012) p40
[54] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p18 and p22

- The increased water usage is putting further pressure on water resources, which is further exacerbated by climate change.
- Most of the District is within an area identified as having a deficit in water supply and, therefore, during a dry year the demand for water will be more than the water available for use.
- There are already infrastructure deficits in … water supply … provision, and there are public concerns that further development will exacerbate these problems.

2.95 No likely significant effects on the Ashdown Forest SAC/SPA were found in relation to changes in water quantity arising from the Mid Sussex District Plan within the Habitats Regulations Assessment.[55]

Vulnerability to climate change

2.96 The supply of water is extremely vulnerable to climate change, as temperatures are generally expected to continue to increase, with rainfall decreasing in summer and increasing in winter. This changing pattern may lead to both droughts and floods.

How can we measure performance?

2.97 There are two main sources from which we can measure performance in terms of water supply. These are:

- The Environment Agency, within the Catchment Abstraction Management Strategies (CAMS).
- The Water Supply Companies, within their Water Resource Management Plans (WRMP).

2.98 The Catchment Abstraction Management Strategies set out the indicative water resource availability status, but have not been reviewed in detail as they are less up to date than the Water Resource Management Plans.

2.99 There are two Water Companies who manage the water supply in the majority of the study area, these are: South East Water, responsible for the supply of drinking water to the majority of Mid Sussex, and Southern Water supplies water to a small area in the southeast of the District (within the South Downs National Park). There is also a very small area north of Copthorne that is covered by Sutton and East Surrey Water. Each company produces a Water Resources Management Plan to assess future water resources within the region. The South East Water WRMP is most relevant to this capacity study as it covers the majority of the District, and the area covered by Southern Water within the National Park will be informed by the South Downs National Park Local Plan.

Data sources

2.100 The following data sources have been identified relating to Water Supply.

GIS data

- Source protection zones (Environment Agency).
- No data available for water abstraction locations.

Documents

National

- Water Resources Strategy for England and Wales (Water for People and the Environment), Environment Agency (2009).

Regional

- Water Resources Management Plan 2014. Revised Plan, South East Water (2013).

Local

- Gatwick Sub Region Outline Water Cycle Study, Entec (2011).

[55] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013)

Application to the Capacity Study

2.101 By reference to the documents referred to above, it is clear that water supply is under significant pressure already in the District and South East, and will only be able to meet forecast demand (based on housing requirements set out in current local planning documents) through implementation of water efficiency and demand management measures and a number of new water resource options.

Assessing the capacity to accommodate development with respect to water supply

2.102 The South East Water (SEW) Water Resources Management Plan (WRMP) 2014 forecasts the available supply of water, and likely demand for it, across its supply area for the period 2015 to 2040. Mid Sussex and other local authorities in the South East Water supply region are in an area of high water stress, which currently has a finite amount of water to be shared around, without increasing the number of sources available for supply.[56] South East Water reviewed current water resources to determine how much water they can actually produce, and factored in adjustments for the impacts of climate change, reductions required to protect the environment (referred to as sustainability reductions), outages and process losses. The forecast shows there is insufficient water currently available to meet demand across the supply area, and therefore the WRMP sets out the range of demand management and new water supply options that could meet that shortfall.[57]

2.103 South East Water's WRMP included three scenarios for forecasting population and household growth across the water supply area. One of the three scenarios was based on Local Plan projections, and contact was sought with the relevant local authorities during March-April 2013 to obtain updated Local Plan figures for housing requirements. MSDC confirmed that the latest figures in the Mid Sussex Submission District Plan were included in the forecasts for demand for water across the South East Water supply area[58].

2.104 The forecasting scenarios were developed by Experian for the Water Resources South East (WRSE) Group, which is made up of the six regional water companies (Southern Water, South East Water, Portsmouth Water, Affinity Water (formerly Veolia), Thames Water, and Sutton and East Surrey Water) and is chaired by the Environment Agency with input from Defra, Ofwat, the Consumer Council for Water and Natural England. By working together and through membership of the WRSE Group, South East Water notes that there have been opportunities to explore sharing existing and new strategic water resources across the region.[59] South East Water also explained that if some of the housing required for one local authority were to be provided in a neighbouring authority, this could be accommodated through the different water companies' WRMPs, due to the joint forecasting scenarios undertaken for the WRSE Group. In addition, the water companies tend to put more weight on population forecasts when estimating their supply requirements, rather than housing provision forecasts, as population forecasts remain fairly constant.[60] Therefore, variations in where housing provision is located (e.g. between neighbouring authorities) is likely to be able to be accommodated within the measures set out in the relevant water company's WRMP.

2.105 South East Water has set a target of 10% reduction in household water consumption, which they see as an ambitious approach, but are committed to delivering a range of innovative water efficiency and demand management measures, primarily through a customer metering programme and water efficiency education and awareness activities. However, these measures alone will not be enough to meet the shortfall in water and so a number of new water resource options have been selected and included in the WRMP. These include developing five groundwater sources in East Sussex, Kent and Hampshire, six water transfer schemes to share water with other water companies, developing and improving two existing water treatment works in East Sussex and Berkshire, developing two water re-use schemes in Kent and East Sussex,

[56] Water Resources Management Plan 2014. Revised Plan, South East Water (November 2013) p24 and 43

[57] Water Resources Management Plan 2014. Revised Plan, South East Water (November 2013) pp8-9

[58] Water Resources Management Plan 2014. Revised Plan, South East Water (November 2013) Appendix 4, p70 of pdf (page numbering not consecutive within document).

[59] Water Resources Management Plan 2014. Revised Plan, South East Water (November 2013) p23

[60] Lee Dance, South East Water, pers. comm. May 2014

building a new reservoir in Kent and increasing the capacity of the existing Arlington Reservoir in East Sussex.[61]

Key issues for Water Supply

- Mid Sussex and authorities in the south east of England are in an area classified by the Environment Agency as 'water-stressed'.
- There is currently insufficient water available to meet demand forecast in the South East Water area, without implementation of a number of demand management and water efficiency measures, along with numerous new water resource options, which are set out in the Water Resources Management Plan 2014.
- None of the new water resource options (e.g. groundwater sources, water transfer schemes, new reservoirs etc.) are located within Mid Sussex.

2c. Water quality

Why is it important?

2.106 Water is fundamental to life. As set out in the Water for Life DEFRA White Paper:

"Clean, thriving water bodies are an integral part of the natural environment, giving life to plants, animals and people alike. Water is also integral to the economy. We need it to grow food, for industrial processes and for energy production."[62]

National Planning Policy Framework

2.107 Section 11 of the NPPF (Conserving and enhancing the natural environment) states that:

"The Planning system should contribute to and enhance the natural and local environment by: […] preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of […] water […] pollution."[63]

Sustainability Appraisal / Habitats Regulations Assessment

2.108 Water quality is included as a topic within the Environmental Characteristics described in the Sustainability Appraisal[64]. District-wide, the following key sustainability issues were identified in relation to water quality:

- The majority of waterbodies in the District are failing to meet the Good Status objective, and it is recognised that both ground and surface waters face threats from abstraction and pollution.
- Some of the existing sewerage infrastructure within the District is operating at or near capacity and unless significant investment is made to existing or through new infrastructure, water quality within the watercourses in the District may be at risk.
- Water quality, both in watercourses and aquifers, needs to be maintained and enhanced.

2.109 No likely significant effects on the Ashdown Forest SAC/SPA were found in relation to changes in water quality arising from the Mid Sussex District Plan within the Habitats Regulations Assessment.[65]

[61] Water Resources Management Plan 2014. Revised Plan, South East Water (November 2013) p10
[62] Water for Life, DEFRA (2011) p4
[63] National Planning Policy Framework, CLG (2012) p26
[64] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p18 and p22
[65] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013)

Vulnerability to climate change

2.110 Climate change may lead to deterioration in water quality[66]. For example, decreased river flows could lead to decreases in the dilution effect of water, and there is the potential for increased algal blooms.

How can we measure performance?

2.111 The European Water Framework Directive (2000) became part of UK law in 2003, through the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003. The Environment Agency is the lead body on the Water Framework Directive but all organisations are expected to help deliver it.

2.112 For 20 years prior to 2007, the Environment Agency used a general quality assessment (GQA) scheme to assess river water quality in terms of chemistry, biology and nutrients. From 2007 onwards, a more comprehensive way of assessing the whole water environment was introduced. Under the Water Framework Directive, water quality assessment and targets are now set out in River Basin Management Plans:

"For surface waters, good status is a statement of 'overall status', and has an ecological and a chemical component. Good ecological status is measured on the scale high, good, moderate, poor and bad. Chemical status is measured as good or fail.

For groundwater, good status has a quantitative and a chemical component. Together these provide a single final classification: good or poor status."[67]

Data sources

2.113 The following data sources have been identified relating to Water Quality.

GIS data

- Surface and ground water bodies (Environment Agency)
- Groundwater protection maps (Environment Agency)

Documents

National

- Natural Environment White Paper (2011).
- Water for Life (2011) DEFRA [http://www.official-documents.gov.uk/document/cm82/8230/8230.pdf]
- Environment Agency guidance on Groundwater source protection zones.

Regional

- River Basin Management Plan: South East River Basin District, Environment Agency (2009).

Local

- Gatwick Sub Region Outline Water Cycle Study, Entec (2011).

Application to the Capacity Study

2.114 It is difficult to quantify changes in water quality as a direct result of an increase in the quantum of development. However, where watercourses which receive waste water discharges from treatment works are recorded as having bad or poor status (under the Water Framework Directive) then this may be linked to issues with waste water treatment capacity. Diffuse discharges from agriculture may also be contributing to the water quality status and these are also difficult to measure. Groundwater source protection zones may preclude development (or require conditions to allow development to go ahead) in certain locations.

[66] http://www.environment-agency.gov.uk/research/planning/116822.aspx
[67] South East River Basin Management Plan, Environment Agency (2009), pp6 and 8

Assessing the capacity to accommodate development with respect to water quality

2.115 Mid Sussex lies mostly within the Adur and Ouse River catchments, which fall within the South East River Basin District. However, a small portion in the north of the district lies within the Medway River catchment which is covered by the Thames River Basin District. Waste water treatment is provided by Southern Water to most of Mid Sussex, with Thames Water also serving a small area in the north of the District.

2.116 There are a total of twenty-three waste water treatment works (WWTW) serving the District, shown in **Figure 2.7**. The indicative catchments (or areas served by the WWTWs) are also shown on Figure 2.7. These have been derived from Figures 3.2 and 4.3 of the Water Cycle Study[68] as it was not possible to obtain GIS layers from Southern Water. The settlements served by the major WWTWs in Mid Sussex are shown in **Table 2.3**.

Table 2.3: Capacity issues in major WWTWs serving Mid Sussex District

Waste Water Treatment Works	Settlements served
Goddards Green	Burgess Hill and southern part of the District including Hassocks, Hurstpierpoint, Sayers Common and Bolney
Luxford Lane	East Grinstead (South), Sunnyside, Ashurst Wood
Eden Vale	East Grinstead (North and East)
Felbridge	Felbridge, East Grinstead (West)
Scaynes Hill	Haywards Heath

2.117 The South East River Basin Management Plan prepared in 2009 highlighted issues with the quality of effluent from some of the waste water treatment works in the South East River Basin District including Goddards Green (in Mid Sussex), Barnes Green and Coolham, as well as problems with diffuse pollution from agriculture.[69] The Water Cycle Study also found that the River Adur, which receives discharges form the Goddards Green WWTW serving Burgess Hill was at Poor status, with phosphate levels at Bad status[70] (under the Water Framework Directive). Obstruction to fish passage in the Ouse is a major problem, especially when there are prolonged periods of low river flow, and ecology would benefit from more naturalised river channels in many places. These are key reasons why more waters are not currently at good status[71], and the Water Cycle Study noted that careful consideration of the location and intensity of future housing development is required by local authorities, the Environment Agency and the sewerage providers to ensure that growth does not adversely affect existing water quality and improvements to meet Good status.[72]

2.118 The Water Cycle Study found that some of the WWTWs would not have sufficient capacity to accommodate the increased flows of waste water associated with additional development planned in Mid Sussex (based on figures in the South East Plan at the time of writing that report in 2011). However, since the preparation of the Water Cycle Study in 2011, Southern Water has invested in additional headroom at Goddards Green WWTW, which is due to be delivered in 2015. If additional wastewater treatment capacity is required to accommodate growth to be provided in the District Plan, Southern Water has advised MSDC when contacted as part of this study, that this capacity can be planned, funded and delivered through the water industry's price review process provided there is good forward planning. The adopted District Plan will inform Southern Water's investment planning, as it has a duty to provide wastewater treatment infrastructure to serve new development and meet projected population growth.[73] Crawley WWTW, which serves part of Mid Sussex (in the areas to the east of Crawley has recently been upgraded to accommodate future growth demands until 2021 (as outlined in the adopted Core Strategies of the relevant local authorities)[74]. As part of this study, Thames Water has advised MSDC that based on its review of data from Local Plans and Office of National Statistics, Crawley WWTW is

[68] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), pp35 and 56
[69] South East River Basin Management Plan, Environment Agency (2009), p45
[70] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), p29
[71] South East River Basin Management Plan, Environment Agency (2009), p45
[72] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), p29
[73] http://planningguidance.planningportal.gov.uk/blog/guidance/water-supply-wastewater-and-water-quality/water-supply-wastewater-and-water-quality-considerations-in-plan-making/#paragraph_004
[74] MSDC Draft Infrastructure Development Plan, May 2013 p32

estimated to have capacity to treat sewage from the areas it serves until around 2021-2026, although it was noted that depending on the rate of housing delivery in the area, e.g. if expansion at Gatwick Airport occurs earlier than planned, then available capacity could be reduced. However, Thames Water noted that there is spare land at the WWTW site should further upgrades be required in the future, but this would be subject to obtaining the relevant discharge consent from the Environment Agency.

Key issues for water quality

- If additional wastewater treatment capacity is required to accommodate growth to be provided in the District Plan, then this capacity can be planned, funded and delivered through the water industry's price review process.

2d. Flood risk

Why is it important?

2.119 As our climate changes, the risk of flooding in England is increasing. Floods can cause damage to property, injury and loss of life. They can also cause significant damage to infrastructure, affecting drinking water, power supplies and transport.

National Planning Policy Framework

2.120 One of the 12 core planning principles within the NPPF is that planning should:

"Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy)."[75]

2.121 Chapter 10 of the NPPF sets out that:

"Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations."[76]

2.122 Within the same chapter it states*:*

"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere."[77]

Sustainability Appraisal

2.123 Flood risk is included within the Environmental Characteristics described in the Sustainability Appraisal[78]. District-wide, the following key sustainability issues were identified in relation to flood risk:

- Flood risk, particularly relating to surface water drainage from new developments, is an issue for Mid Sussex.

Vulnerability to climate change

2.124 The supply of water is extremely vulnerable to climate change, as temperatures are generally expected to continue to increase, with rainfall decreasing in summer and increasing in winter. This changing pattern may lead to both droughts and floods.

2.125 However, the Water Cycle Study summarises the relevant Catchment Flood Management Plans for the District (Adur, Ouse and Medway) and states that Pressure for urban expansion and climate change was only likely to cause a significant increase in flood risk in Sub-area 2 of the Adur

[75] National Planning Policy Framework, CLG (2012) p5
[76] National Planning Policy Framework, CLG (2012) Chapter 10 p22
[77] National Planning Policy Framework, CLG (2012) Chapter 10 p23
[78] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p18

catchment (which includes Burgess Hill and Hassocks). In the Ouse Sub-area 2 (which includes Haywards Heath), proposed urban development is also likely have an impact on flood risk into the future, but in the Medway upper catchment Sub-area 1 (which includes East Grinstead), flood risk is managed well and risk is relatively low.[79]

How can we measure performance?

2.126 Under the Flood Risk and Coastal Change section of the National Planning Practice Guidance (NPPG)[80], it is stated that residential development falls within the More Vulnerable category of the Flood Risk Vulnerability Classification (Table 2) and that More Vulnerable land uses are only permitted in Flood Zones 1 and 2.

2.127 If More Vulnerable development types were to be located in Flood Zone 3a they would need to meet the exception test that demonstrates wider sustainability benefits of the development to the community outweigh flood risk. They would not be permitted in Flood Zone 3b (Table 3 in the guidance).

2.128 Therefore, future large-scale residential development locations in Mid Sussex should be located away from Flood Zone 3.

Data sources

2.129 The following data sources have been identified relating to Flood Risk.

GIS data

- Flood Zones 2 and 3 (EA).

Documents

National

- Flooding in England: A National Assessment of Flood Risk, Environment Agency (2009).

Regional

- Adur, Ouse and Medway Catchment Flood Management Plans, Environment Agency.

Local

- Gatwick Sub Region Outline Water Cycle Study (2011)
- Mid Sussex District Council Strategic Flood Risk Assessment (2008)

Application to the Capacity Study

2.130 The application of flood risk zones is relatively straightforward in terms of a mapping exercise. There may be a need to consider flood defences and management to refine flood risk considerations, and other mitigation such as sustainable drainage systems.

Assessing the capacity to accommodate development with respect to flood risk

2.131 The flood risk zones in the study area are shown in **Figure 2.8**. The main zones identified are:

- The River Ouse, from the north eastern edge of Haywards Heath up to Balcombe.
- The River Adur, to the west of Burgess Hill.
- The River Medway along the north eastern boundary of the District, near East Grinstead.
- The River Mole along the north western boundary of the District, which runs through Crawley.

2.132 The flood zones shown on the map are:

- Flood Zone 2: Medium probability of flooding (1% - 0.1% probability of river flooding in any year).

[79] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), p33-34
[80] http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/

- Zone 3a: High probability (>1% probability of river flooding in any year).
- Zone 3b: Functional floodplain (>5% probability of river flooding in any year, or where flood water flows or is stored).

2.133 The remaining area is classed as Zone 1, where there is a less than 0.1% chance of river flooding in any year.

2.134 The Strategic Flood Risk Assessment (2008) identifies that 9km^2 or 2.7% of the District is in a high risk flood area, mainly associated with the River Ouse to the northeast of Haywards Heath. The Water Cycle Study (2011)[81] recognises that the level of risk of fluvial flooding in Mid Sussex is comparatively low compared to the neighbouring authorities.

2.135 The risk of development causing an issue for flood risk to adjacent local authorities is identified as a potential problem; for example, poorly sited and designed development on the tributaries of the River Mole could increase existing problems with flooding in Crawley.

2.136 There are existing localised problems with surface water flooding in urban areas such as Burgess Hill, Hassocks, Haywards Heath and East Grinstead, due to urban drainage systems being overwhelmed. Urban expansion is likely to put increased pressure on these drainage systems[82].

Key issues for Flood Risk

- The main flood risk for the District relates to surface water flooding due to under capacity of urban drainage systems and streams. Adequate investment in infrastructure will be required to ensure that new development does not contribute to these existing issues.
- Inappropriate development may exacerbate the frequency and severity of flooding in adjacent authority boundaries, such as Crawley.
- Flood resilience of new properties is extremely important, as are measures to reduce placing additional strain on resources, such as implementation of SUDS techniques.

2e. Soil/Agricultural Land Quality

Why is it important?

2.137 Soil is an invaluable and non-renewable natural resource. The socio-economic and environmental contribution made by soil is often overlooked but it provides a range of vital ecosystem services including food, timber, wildlife habitats, clean water, run-off and flood management, nutrient cycling, and carbon storage. As set out in the Soil Strategy for England, *"soil is one of the building blocks of life."*[83]

National Planning Policy Framework

2.138 Section 11 of the NPPF states that:

"The planning system should contribute to and enhance the natural and local environment by: (…) protecting and enhancing (…) soils; preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil (…) pollution or land instability."[84]

2.139 The NPPF also states that:

"Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality."[85]

[81] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), p32
[82] Gatwick Sub Region Outline Water Cycle Study, Entec (2011), p33
[83] Safeguarding our soils: A strategy for England, DEFRA (2009)
[84] National Planning Policy Framework, CLG (2012) pp25-26
[85] National Planning Policy Framework, CLG (2012) p26

Sustainability Appraisal / Habitats Regulations Assessment

2.140 Soil quality/agricultural land is included within the Environmental Characteristics described in the Sustainability Appraisal[86], although no sustainability issues were identified directly in relation to soil quality.

Vulnerability to climate change

2.141 The Soil Strategy for England states that:

"Climate change has the potential to increase erosion rates through hotter, drier conditions that make soils more susceptible to wind erosion, coupled with intense rainfall incidents that can wash soil away."[87]

2.142 Although not a vulnerability, soil has a vital role to play in carbon sequestration, mitigating the effects of climate change.

How can we measure performance?

2.143 One of the key functions of soil is its ability to support food and other forms of agricultural production. The agricultural quality of soil is measured through the Agricultural Land Classification, and graded from 1 (high quality) to 5 (low quality). All soils within the 1-3a grades are defined as 'Best and Most Versatile Land'[88]. Best and most versatile agricultural land is that which is most flexible, productive and efficient in response to inputs and can best deliver future crops for food and non-food uses, such as biomass, fibres and pharmaceuticals. The Agricultural Land Classification gives a useful indication of the overall soil quality of the District. However, ALC Surveys are not carried out regularly, and so may not provide the best measure of performance on an on-going basis.

2.144 Soil quality can be significantly degraded by poor agricultural practices, leading to soil erosion and runoff. Environmental Stewardship (ES) is an agri-environment scheme that provides funding to farmers and other land managers in England to deliver effect environmental management on the land. We can measure the area of land within the district under both Entry Level and Higher Level Stewardship.

Data sources

2.145 The following data sources were identified for Soils.

GIS data

- Agricultural Land Classification.

Documents

- Safeguarding our Soils: A Strategy for England, DEFRA (2009).

Application to the Capacity Study

2.146 The agricultural land classification suggests that there is no Grade 1 agricultural land in the District. Grade 2 Agricultural Land is very limited and mainly falls within the South Downs National Park. However, the largest proportion of land is Grade 3, some of which may have the potential to be Grade 3a (i.e. best and most versatile). This is registered as a potential constraint.

Assessing the capacity to accommodate development with respect to soil quality

2.147 The area of each agricultural land classification in hectares within Mid Sussex District is set out in **Table 2.4** and **Figure 2.9**. The small amount of Grade 2 Agricultural Land (1% of the District) is mainly found in the northern edge of the South Downs National Park. Grade 3 land is common and found throughout the District (64% of the area), excluding the area around Crawley.

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[86] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p18

[87] Safeguarding our soils: A strategy for England, DEFRA (2009) p2

[88] See PPS 7 or Defra's *Agricultural Land Classification Explanatory note* (http://www.defra.gov.uk/rds/publications/technical/alc.pdf).

Table 2.4: Agricultural Land Classification Grades within District

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Non-Agricultural*	Urban
Total Area (ha)	0.00	455.7	21292.74	7753.25	146.06	1911	1844.17
Percentage	0	1.4	63.8	23.2	0.4	5.7	5.5

Soft **land uses which could easily be returned to agriculture (e.g. Golf courses, parkland, allotments)*

Key issues for Soil Quality/Agricultural Land

- There is very little in the way of best and most versatile agricultural land that could act as a constraint on development. However there are areas of Grade 3 agricultural land that could have the potential to be classified as best and most versatile agricultural land and could be a constraint to development.

2f. Energy supply

Why is it important?

2.148 The UK government believes that climate change is the greatest long-term challenge facing the world today and addressing climate change is a principal concern for sustainable development. The Climate Change Act (2008) – committed the UK to meeting challenging targets for reducing carbon emissions (80% reduction by 2050).

National Planning Policy Framework

2.149 Policies in the NPPF reiterate the importance of the role of new developments in promoting renewable energy sources in Section 10:

"To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

- design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts;

- consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources;

- identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers."[89]

Sustainability Appraisal

2.150 Energy is included within the Environmental Characteristics described in the Sustainability Appraisal[90]. District-wide, the following key sustainability issues were identified in relation to energy supply:

- There is a need to promote more sustainable forms of development that are energy and resource efficient, and increase the environmental as well as economic 'self-sufficiency' of communities within Mid Sussex and its ability to adapt to climate change.

[89] National Planning Policy Framework, CLG (2012) p23
[90] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p22

Vulnerability to climate change

2.151 The government's website states that in 2009 buildings accounted for about 43% of all the UK's carbon emissions[91].

2.152 Increasing the proportion of renewable energy supply to new housing and the energy efficiency of the buildings has a significant role to play in the reduction of the vulnerability of the District to climate change by reducing carbon emissions.

How can we measure performance?

2.153 The current national targets for renewable energy generation are for the UK to source 15% of all energy (electricity, heat and transport) from renewable sources by 2020. It is recommended to meet this target that 30% of electricity is sources from renewables by 2020.

Data sources

2.154 The following data sources for energy supply were identified.

GIS data

- National Grid data on existing major electricity supply lines and energy substations.
- Mid Sussex data on existing renewable energy installations.

Documents

- West Sussex Sustainable Energy Study (2009).

Application to the Capacity Study

2.155 Existing electricity and renewable energy installations, as well as areas of potential for renewable energy generation have been mapped and may present constraints to development as discussed below.

Assessing the capacity to accommodate development with respect to energy supply

2.156 Existing electricity and renewable energy installations, as well as areas of potential for renewable energy generation in the District are shown on **Figure 2.10**.

Electricity and gas distribution network

2.157 Electricity Distribution Companies generally do not invest in infrastructure speculatively. The existing network is adequate for existing demand and is not expected to present a constraint to development as new infrastructure will be developed in conjunction with development proposals[92]. However, the route of high voltage electricity lines and pylons are likely to be a constraint to residential development up to 100 m from the line. This is due to the potential for electric and magnetic fields to affect human health. Power frequency electric and magnetic fields (EMFs) arise from generation, transmission, distribution and use of electricity and will occur around power lines. All overhead power lines produce EMFs, and these tend to be highest directly under a line, and decrease to the sides at increasing distance.[93] International health protection guidelines were set in 1998 for both public and occupational exposure[94] and Government policy is that exposure of the public should comply with the ICNIRP (1998) guidelines. However, the National Policy Statement for Electricity Networks Infrastructure states that the balance of scientific evidence over several decades of research has not proven a causal link between EMFs and cancer or any other disease.[95] The levels of EMFs produced by power lines in normal operation are usually considerably lower than the International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998 reference levels.[96] The National Grid website shows the typical ground-level EMFs

[91] https://www.gov.uk/government/policies/improving-the-energy-efficiency-of-buildings-and-using-planning-to-protect-the-environment
[92] Mid Sussex Draft Infrastructure Development Plan (2013), p28
[93] National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011), p19
[94] http://www.icnirp.de/
[95] National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011), p19
[96] National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011), p20

from overhead power lines in the UK, and that both electric and magnetic fields decrease to negligible at 100 metres either side of 400 kV power lines.[97]

2.158 The gas distribution network is also adequate for existing development, and required reinforcements to the network to accommodate more development can be carried out to the required extent[98].

Existing renewable energy and low carbon installations

2.159 Only two existing renewable energy and low carbon installations sites have been identified in the district, a biomass heating installation at Hoathly Hill (within the AONB boundary) and an installation producing electricity from sewage gas at Goddard's Green wastewater treatment works (see **Figure 2.10**).

Areas of technical wind potential for large/medium/small scale wind energy generation

2.160 The West Sussex Sustainable Energy Study (2009) identified those areas with the best potential to accommodate wind energy development. Whilst these areas do not represent a constraint on housing development, they may need to be taken into consideration as a potential competing land use for some areas of the district.

2.161 Within Mid Sussex there is a total of 4,419 hectares of land with technical wind potential (illustrated in **Figure 2.10**), however when additional constraints are applied with regard to designated areas and high landscape sensitivity, this is reduced to 433 hectares of land[99]. Much of the resource for large scale wind is located within the South Downs National Park and there are no areas suitable for large scale wind power developments that are not in designated landscapes or areas of high sensitivity. The West Sussex Sustainable Energy Study therefore concluded that the key issue for exploiting the wind resource concerns its impact on designated areas and landscape character.[100]

Areas with potential for energy crop development

2.162 Although not necessarily a constraint to future development, competing uses for land such as the growth of energy crops may also need to be considered.

2.163 In the West Sussex Sustainable Energy Study, it was calculated that 157 hectares of land would be suitable for growing *Miscanthus* energy crops under a Scenario where 5% of all suitable arable land unconstrained by environmental designations was in use for energy crops[101].

Solar energy potential

2.164 The West Sussex Sustainable Energy Study did not identify particular areas in Mid Sussex District with more potential to generate solar energy, as the potential solar resource related to roofs of existing buildings. The study concluded that only a fraction of this would be realised due to the capital cost constraints in today's economic climate. Solar has much larger potential for new developments where its ease of application at the design stage can make it a viable proposition to developers to meet earlier lower targets or as part of an appropriate technology mix to meet later higher targets.[102] As the study was undertaken in 2009, it did not make reference to larger scale solar farms that are currently being developed around the country.

Key issues for Energy Supply

- Development in Mid Sussex must contribute to fulfilling national and local renewable energy targets by incorporating renewables into development plans.
- Accommodating increased housing numbers, at the same time as reducing CO_2 emissions, presents a challenge for the authority and developers.

[97] http://www.emfs.info/Sources+of+EMFs/Overhead+power+lines/
[98] Mid Sussex Draft Infrastructure Development Plan (2013), p29
[99] West Sussex Sustainable Energy Study, Centre for Sustainable Energy (2009), p52
[100] West Sussex Sustainable Energy Study, Centre for Sustainable Energy (2009), p99
[101] West Sussex Sustainable Energy Study, Centre for Sustainable Energy (2009), p60
[102] West Sussex Sustainable Energy Study, Centre for Sustainable Energy (2009), p100

- There may be competing uses for development land, such as larger scale renewable energy developments or energy crops.

2g. Open space, sport and recreation areas

Why is it important?

2.165 In The Value of Public Space, CABE Space define public space as:

"A vital part of everyday urban life: the streets we pass through on the way to school or work, the places where children play, or where we encounter nature and wildlife; the local parks in which we enjoy sports, walk the dog and sit at lunchtime' or simply somewhere quiet to get away for a moment from the bustle of a busy daily life. In other words, public space is our open-air living room, our outdoor leisure centre."[103]

2.166 The CABE Space document sets out the value of public space in terms of economic benefits, impact on physical and mental health, benefits for children and young people, reducing crime and fear of crime.

2.167 Open space, sport and recreation areas can be informal and formal, and can include Public Rights of Way (PROWs) as well as some indoor sport and recreation facilities. Along with nature conservation sites, some of these areas can also contribute to provision of 'green infrastructure', which is defined in the Government's Natural Environment White Paper as a term used to refer to the living network of green spaces, water and other environmental features in both urban and rural areas. It is often used in an urban context to cover benefits provided by trees, parks, gardens, road verges, allotments, cemeteries, woodlands, rivers and wetlands. Green infrastructure is also relevant in a rural context, where it might refer to the use of farmland, woodland, wetlands or other natural features to provide services such as flood protection, carbon storage or water purification. Green infrastructure maintains critical ecological links between town and country.[104]

National Planning Policy Framework

2.168 Section 8 of the NPPF states that:

"Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to health and well-being of communities. Planning policies should be based on robust and up-to-date assessments of the needs for open space, sports and recreation facilities and opportunities for new provision. (…)

"Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless:

- *An assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or*
- *The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or*
- *The development is for alternative sports and recreational provision, the needs for which clearly outweigh the loss"*[105]

2.169 Para. 75 of the NPPF states that:

"Planning policies should protect and enhance public rights of way and access. Local authorities should seek opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails."[106]

[103] The Value of Public Space: How high quality parks and public spaces create economic, social and environmental value CABE Space (2004)
[104] The Natural Choice: securing the value of nature. Defra (June 2011), p31
[105] National Planning Policy Framework, CLG (2012) p18
[106] National Planning Policy Framework, CLG (2012) p18

Sustainability Appraisal / Habitats Regulations Assessment

2.170 Open Space is included in the Social Characteristics of the Sustainability Appraisal under Leisure and Recreation[107], and states that:

"Although there have been improvements in the deficiencies of outdoor provision both in terms of quality and quantity, there are still deficiencies in most areas and new residential development is likely to increase demand and further burden current provision."

Vulnerability to climate change

2.171 Open space has relatively little vulnerability to climate change; although the nature of the space itself has potential to change, its function as part of the open space network can remain. In terms of open spaces contributing to green infrastructure, there may be changes in the composition of habitats, species may move or even be lost in response to changes in air temperature and water availability, and woodlands will be vulnerable to more frequent storm events.[108] Open space and green infrastructure can however provide important mechanisms for climate change adaptation, such as providing flood storage, or for mitigation through carbon sequestration for example.

How can we measure performance?

2.172 The PPG17 Open Spaces Assessment[109] sets out the quantity, quality and distance standards and thresholds for the provision of different typologies of open space.

2.173 Deficiencies in a number of these standards have been identified (particularly with regard to allotments and football pitches), and any housing development will need to ensure that it contributes to meeting the defined standards.

Data sources

2.174 The following data sources for Open Space were identified.

GIS data

- Open Space (with typology).
- Note that the accessible natural green spaces mapped in the SDNPA Access Network and Accessible Natural Green Space Study were not available for use in this study.

Documents

- Mid Sussex PPG17 Assessment, Mid Sussex District Council (2006).
- The SDNPA Access Network and Accessible Natural Green Space Study (2014)

Application to the Capacity Study

2.175 The open space network provides a useful reference point for determining potential constraints to development and can be mapped.

Assessing the capacity to accommodate development with respect to open space

2.176 The open space, sport and recreation areas listed in **Table 2.5**, as well as the numerous Public Rights of Way (PROWs) and two Sustrans national cycle routes within the District are shown in **Figure 2.11**.

[107] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p14, 22
[108] The Natural Choice: securing the value of nature. Defra (June 2011), p10
[109] Mid Sussex PPG17 Assessment, Kit Campbell Associates (2006), p153

Table 2.5: Current provision of open space by Mid Sussex District Council[110]

Type	Number
Parks and Gardens	9
Allotments	Two allotment sites
Equipped Playgrounds	Over 200
Tennis courts	10 sites
Football pitches	23 'senior' and 15 'junior' sites
Skate parks	Four
Bowling Greens	Three
Leisure Centres	Three

2.177 The key findings of the 2010 refresh of the PPG17 Assessment[111] are that:

"there have been some improvements in the deficiencies of outdoor provision both in terms of quality and quantity, particularly in terms of artificial pitches, play and skatepark areas. It does however remain that there are deficiencies in most areas and with increasing residential development the demand from this will create a further burden on the current provision."

2.178 A headline finding with regard to new homes includes the following:

"As the number of homes in the District continues to rise there is a need to promote the 'bigger and better' philosophy through multi sports sites to address the needs of an increased population and provide economies of scale. In addition there is a need to work with existing clubs and organisations to increase the capacity of their operations and where possible move them to provide 'sporting hubs'. This is particularly the case in the Towns[112]."

2.179 The SDNPA Access Network and Accessible Natural Green Space Study states that 22.7% of the Mid Sussex population is located with 300m of 'accessible' green space (based on the Natural England thresholds.). Accessible green space is defined by Natural England as places that are available for the general public to use free of charge and without time restrictions (although some sites may be closed to the public overnight and there may be fees for parking a vehicle). The places are available to all, meaning that every reasonable effort is made to comply with the requirements under the Disability Discrimination Act (DDA 1995).[113]

2.180 Natural England's Accessibility to Natural Greenspace Standards (ANGSt) recommend that everyone should have an accessible greenspace:

- of at least 2 hectares in size, no more than 300 metres (5 minutes' walk) from home;
- at least one accessible 20 hectare site within two kilometres of home;
- one accessible 100 hectare site within five kilometres of home; and
- one accessible 500 hectare site within ten kilometres of home, plus
- a minimum of one hectare of statutory Local Nature Reserves per thousand population.[114]

2.181 88.5% of the population have Accessible Natural Greenspace within 2km[115].

[110] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p14
[111] http://www.midsussex.gov.uk/8979.htm. Evidence Paper 42
[112] http://www.midsussex.gov.uk/8979.htm. Evidence Paper 42, p10
[113] Nature Nearby - Accessible Natural Greenspace Guidance (NE265) (2011), p8
[114] Nature Nearby - Accessible Natural Greenspace Guidance (NE265) (2011), p12
[115] South Downs NPA Access Network and Accessible Natural Green Space Study (2014), p27 and 31

Key Issues for Open Space, Sport and Recreation areas

- Quantity standards are currently being met for tennis courts and cricket pitches.
- Quantity standards are currently not being met for provision of allotments, football pitches and bowling greens.
- Accessibility standards are not being met for all types of open space, and 11.5% of the population are not within 2km of Accessible Natural Greenspace.
- Existing open space sites of all types and Public Rights of Way should be protected.

2h. Transport Infrastructure

Why is it important?

2.182 Transportation is a significant contributor to carbon emissions and therefore to climate change and poor air quality. The provision of sustainable transport infrastructure to reduce this impact has a key role in helping to reach the long term goal of reducing greenhouse gas emissions to 80% by 2050.[116]

National Planning Policy Framework

2.183 Transport Infrastructure is referenced in Section 4 of the NPPF which states that:

"Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas."

and

"Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people."[117]

Sustainability Appraisal / Habitats Regulations Assessment

2.184 Transport is included within the Social Characteristics described in the Sustainability Appraisal[118]. District-wide, the following key sustainability issues were identified in relation to transport infrastructure:

- There are existing infrastructure deficits in transport, and there are public concerns that further development will exacerbate these problems.
- Car ownership and use is high, contributing to congestion and climate change.
- Ease of access to existing facilities and services is an issue for many residents in Mid Sussex, particularly those in rural areas.

2.185 The Mid Sussex Stage 1 Transport Study concluded that projected traffic increases along routes that might result in air pollution effects on the Ashdown Forest SAC are well below the threshold deemed as significant[119] i.e. the increase in daily traffic flows will be less than 1,000 annual average daily traffic movements (AADT). Therefore, the Habitats Regulations Assessment report concluded that adverse effects are unlikely, particularly taking into account mitigation provided by policies within the District Plan, and no further measures are necessary.[120]

[116] https://www.gov.uk/government/policies/reducing-greenhouse-gases-and-other-emissions-from-transport
[117] National Planning Policy Framework, CLG (2012) pp9-10
[118] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p14 and p22
[119] Mid Sussex Transport Study Stage 1, Amey Transport Consultants, (December 2012) p61
[120] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013) pp27-28

Vulnerability to climate change

2.186 Transport infrastructure itself has only limited vulnerability to climate change when it is located in areas of flood risk, although facilitation of adequate sustainable transport infrastructure can assist in reducing the vulnerability of Mid Sussex to climate change by reducing carbon emissions.

How can we measure performance?

2.187 The Government has identified that a reduction in emissions relating to transport is essential in reaching the nations emissions reduction targets. The Submission District Plan proposed to monitor Policy DP19, which would focus on the number of sustainable transport schemes implemented annually[121].

Data sources

2.188 The following data sources for transport infrastructure were identified.

GIS data

- Ordnance Survey data for strategic road and rail network.

Documents

- Mid Sussex Transport Study Stages 1 and 2 Reports (2012 and 2013).
- East Grinstead Strategic Development Transport Advice Stages 1 and 2 Reports (2009)

Application to the Capacity Study

2.189 Existing motorways, A and B Roads, as well as mainline train routes have been mapped and capacity of the road network in particular may present constraints to development.

Assessing the capacity to accommodate development with respect to transport infrastructure

2.190 Existing motorways, A and B Roads, as well as mainline train routes in the District are shown on **Figure 2.12**. All of the main towns (East Grinstead, Haywards Heath and Burgess Hill) are served by mainline rail stations. The main London to Brighton line runs north-south through the centre of the District. This runs from outside the District in Crawley (Three Bridges Station) through Balcombe, Haywards Heath, Burgess Hill (both Burgess Hill and Wivelsfield stations) and Hassocks, terminating at Brighton.. East Grinstead is served by a direct line from London Victoria, and is the last stop on the line. There is no direct link between the London − Brighton and London − East Grinstead lines until further up the line at East Croydon. The main primary roads in the District are the A23, which runs north-south down the western side of Mid Sussex and the A272, which crosses through Haywards Heath in an east-west direction. East Grinstead is served by the A22 and the A264. The majority of remaining roads in Mid Sussex are rural in nature and therefore not designed to accommodate large amounts of traffic, which could present a constraint to future residential development.

2.191 Additional, District-wide transport assessment has been undertaken. The Mid Sussex Transport Study was undertaken in two stages during 2012 and 2013. Stage 1 assessed the likely impacts of development proposed in the Consultation Draft District Plan (October 2011). It concluded that overall traffic flows (existing plus associated with development proposals) would increase significantly on the a number of routes as a consequence of strategic development in Burgess Hill, together with neighbourhood plan allocations spread across Mid Sussex.[122] There were also a number of highway links on which the addition of substantial traffic, arising specifically from strategic developments in Burgess Hill, would contribute to congestion, as evidenced by a ratio of flow to capacity (RFC) exceeding 100% (e.g. A2300 eastbound and westbound), A272 eastbound, from A273, Bolnore, to B2028, Haywards Heath; and the B2113 westbound, from Keymer Road to Civic Way, in Burgess Hill. Additional highway links would also experience congestion and stress,

[121] Mid Sussex Submission District Plan (2013) p68
[122] Mid Sussex Transport Study Stage 1, Amey Transport Consultants, (December 2012) p63

as a consequence of overall strategic and neighbourhood plan development trips, and the study concluded that mitigation would be needed to resolve these congestion problems.[123]

2.192 Therefore, Stage 2 of the Mid Sussex Transport Study considered transport schemes needed to bring forward development over the course of the Plan period. The transport modelling was updated to reflect development proposed in the May 2013 Submission Mid Sussex District Plan. The study concluded that, despite a number of junction and congestion issues that could occur due to the growth proposed in the District Plan, with the transport schemes suggested in the report, the level of development proposed in the housing allocations in the Submission District Plan could be delivered without having an unacceptable impact on the transport network. The transport schemes included introducing further remedial interventions at each of the junctions affected (e.g. A2300 / Northern Arc Spine junction, Burgess Hill; A2300 / Cuckfield Road junction, Burgess Hill; A23 / A2300 Hickstead interchange; A272 / A273 Butlers Green junction, Haywards Heath; B2115 / B2110 Leechpond Hill junction, Lower Beeding), and by providing dual 2-lane carriageway on the A2300, between the A273 Jane Murray Way and the A23 enhanced Hickstead interchange.[124]

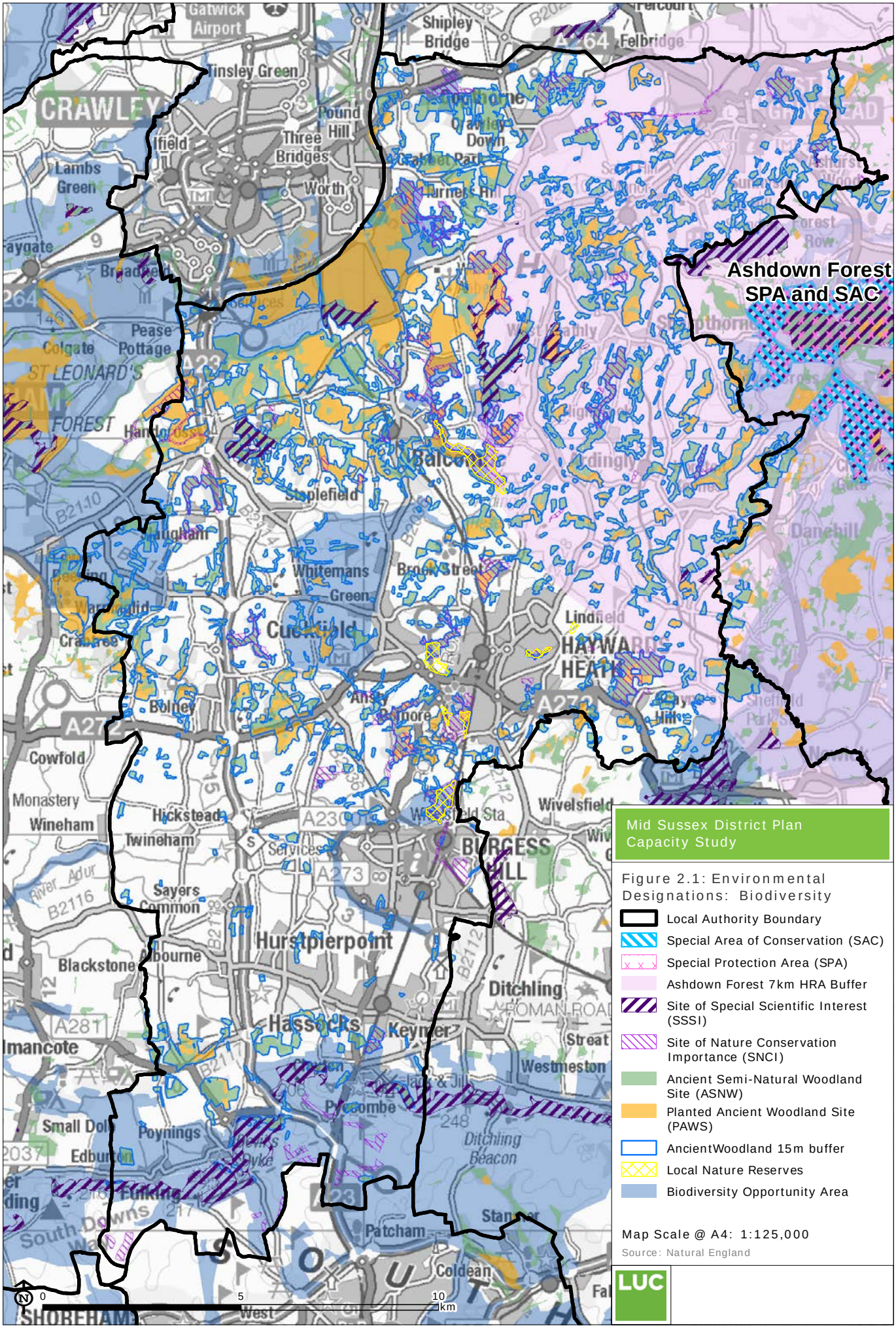
2.193 Due to strategic development locations proposed in the former South East Plan, which included a proposal for development "west and south-west of East Grinstead for 2,500 homes after 2006" (which was carried forward from the West Sussex Structure Plan 2001-2016), a number of studies relating to transport capacity at East Grinstead have been undertaken during preparation of the Mid Sussex District Plan. In particular, the District Council sought to facilitate the implementation of a mixed use strategic development at East Grinstead of up to 2,500 homes through the East Grinstead Area Action Plan. This work highlighted the need for a supporting transport package including a relief road.[125]

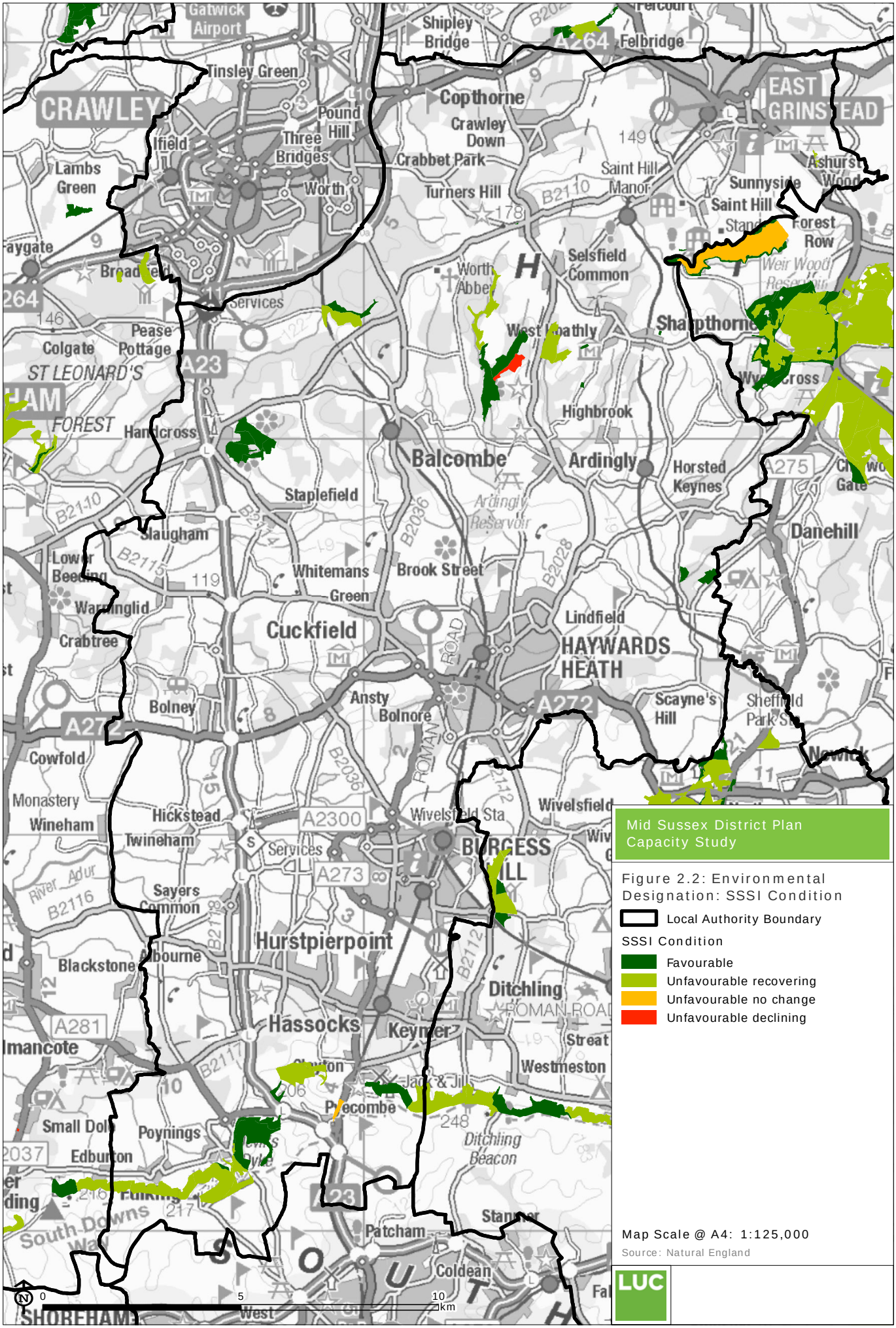
2.194 In 2009, the East Grinstead Strategic Development Transport Advice report was commissioned to explore whether development could come forward without the need for a full or partial relief road and the amount of development acceptable in transport terms. The report was delivered to the Council in two stages. Stage 1 outlined the initial study results and a range of proposed measures, surveys and study work for consideration. Stage 2 confirmed the results of Stage 1 and indicated a development capacity of up to 2,570 homes at East Grinstead. However, West Sussex County Council officers doubted the report's assumed levels of movement away from the private car and the potential for junction capacity increases beyond 5% and concluded that given the limited scope for mitigation, a development ceiling of 2,000 homes of which some could be provided as a strategic allocation to the west of the town if other sites were not progressed. A Stage 3 report was commissioned by West Sussex County Council in response to a request by East Grinstead Town Council that looked in more detail at the options for resolving problems of congestion on the A22 at East Grinstead. The report focussed on five key A22/A264 junctions in the town. The report concluded that in bringing these junctions within theoretical capacity, a limited capacity of 190 homes could be enabled in addition to existing planning permissions or development plan allocations. However, these improvements would cost at least £2.25m and dependent on sufficient additional land being made available to facilitate the required junction improvements.

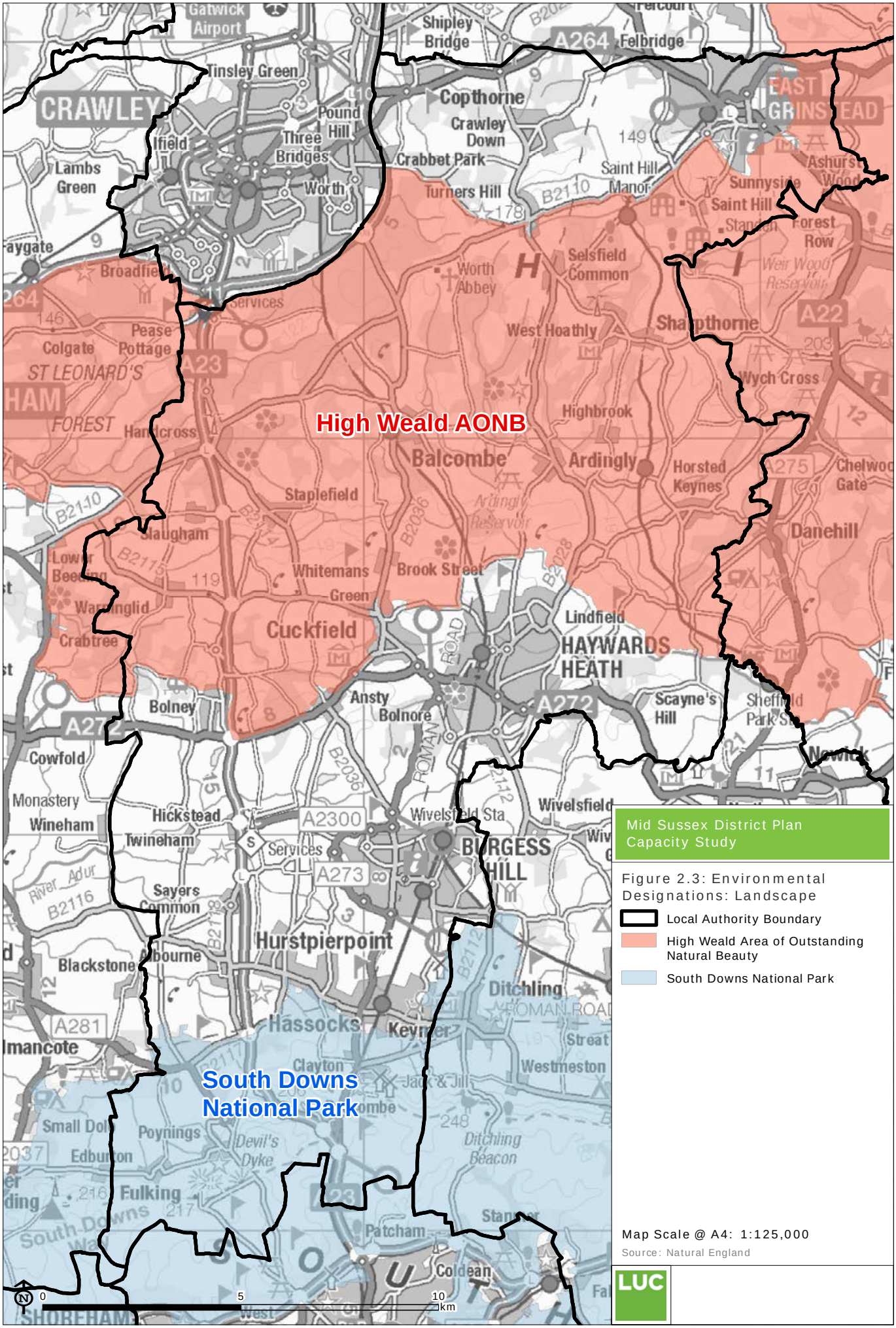
Key issues for Transport Infrastructure

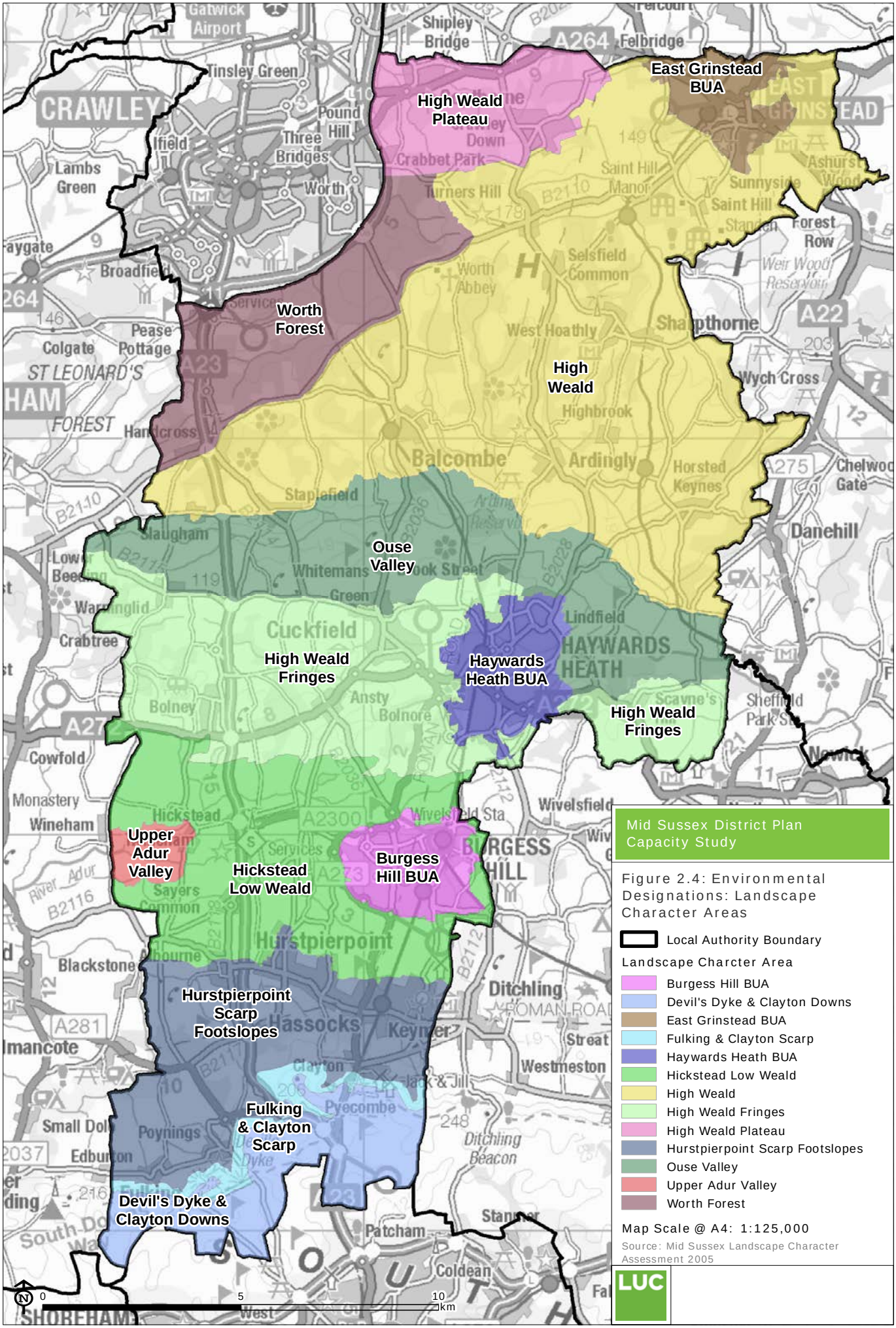
- The main railway route runs in an arc between Crawley (Three Bridges), Haywards Heath, Burgess Hill and south to Brighton. There is not a direct line between Haywards Heath/East Grinstead in the centre of the District.
- Traffic congestion in certain parts of the District may be exacerbated by additional development, however, development at the level proposed in the Submission District Plan could be accommodated provided certain transport schemes are implemented, e.g. remedial interventions at affected junctions and provision of a dual 2-lane carriageway on the A2300between the A273 Jane Murray Way and the A23 enhanced Hickstead interchange.

[123] Mid Sussex Transport Study Stage 1, Amey Transport Consultants, (December 2012) pp63-64
[124] Mid Sussex Transport Study Stage 2, Amey Transport Consultants, (October 2013) p50
[125] http://www.midsussex.gov.uk/8313.htm









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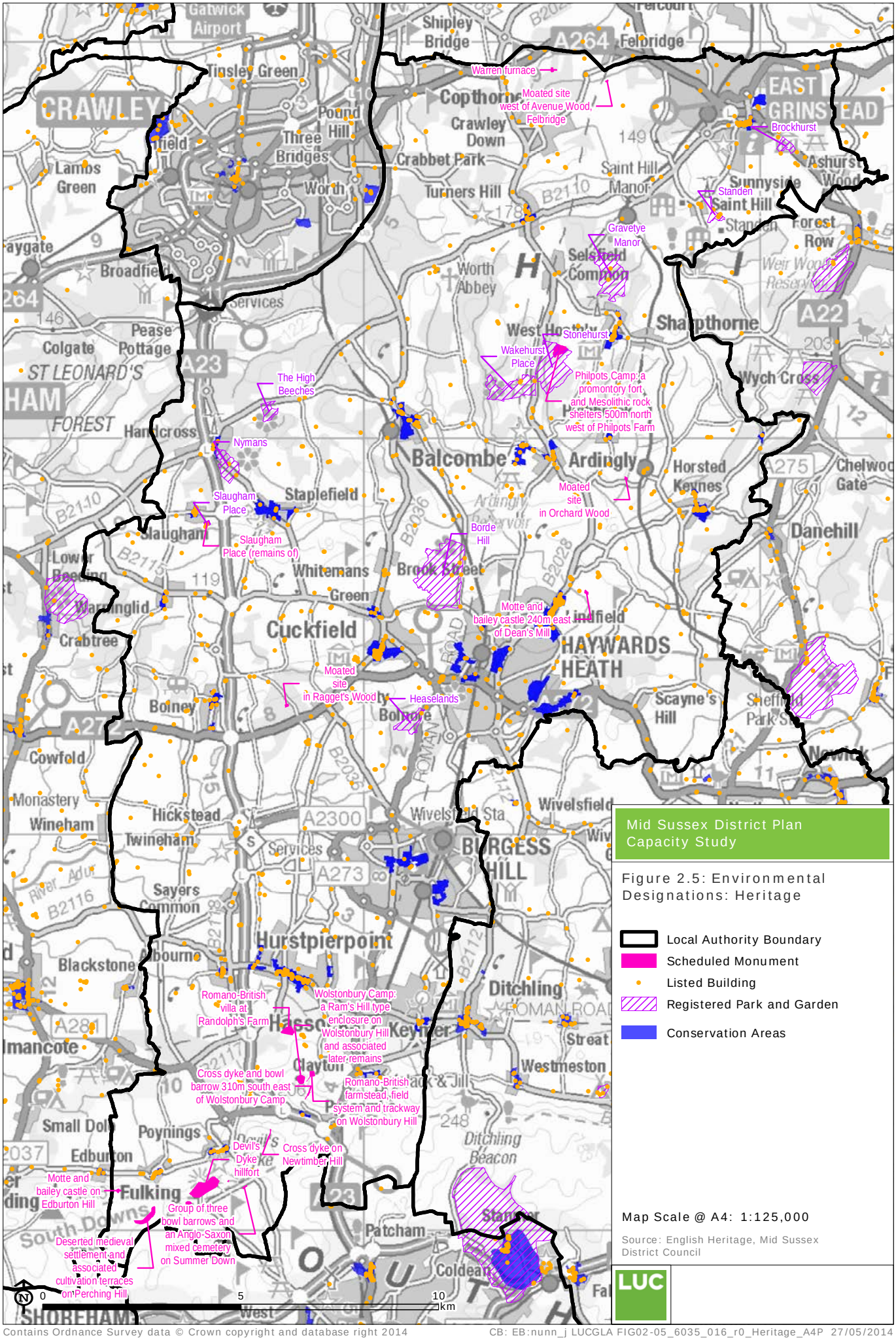


Mid Sussex District Plan Capacity Study

Figure 2.6: Environmental Issues: Air Quality

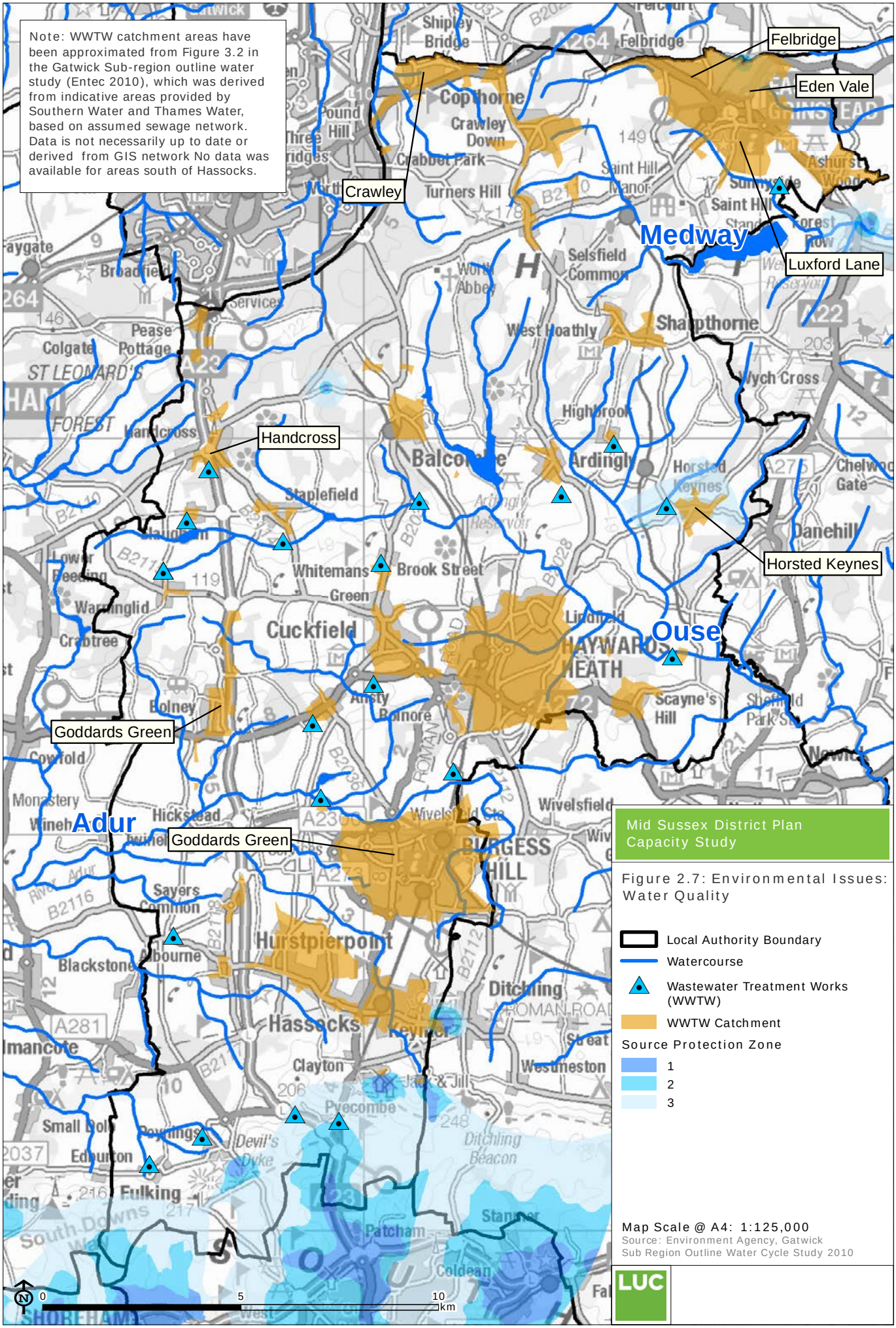
Mid Sussex District Boundary

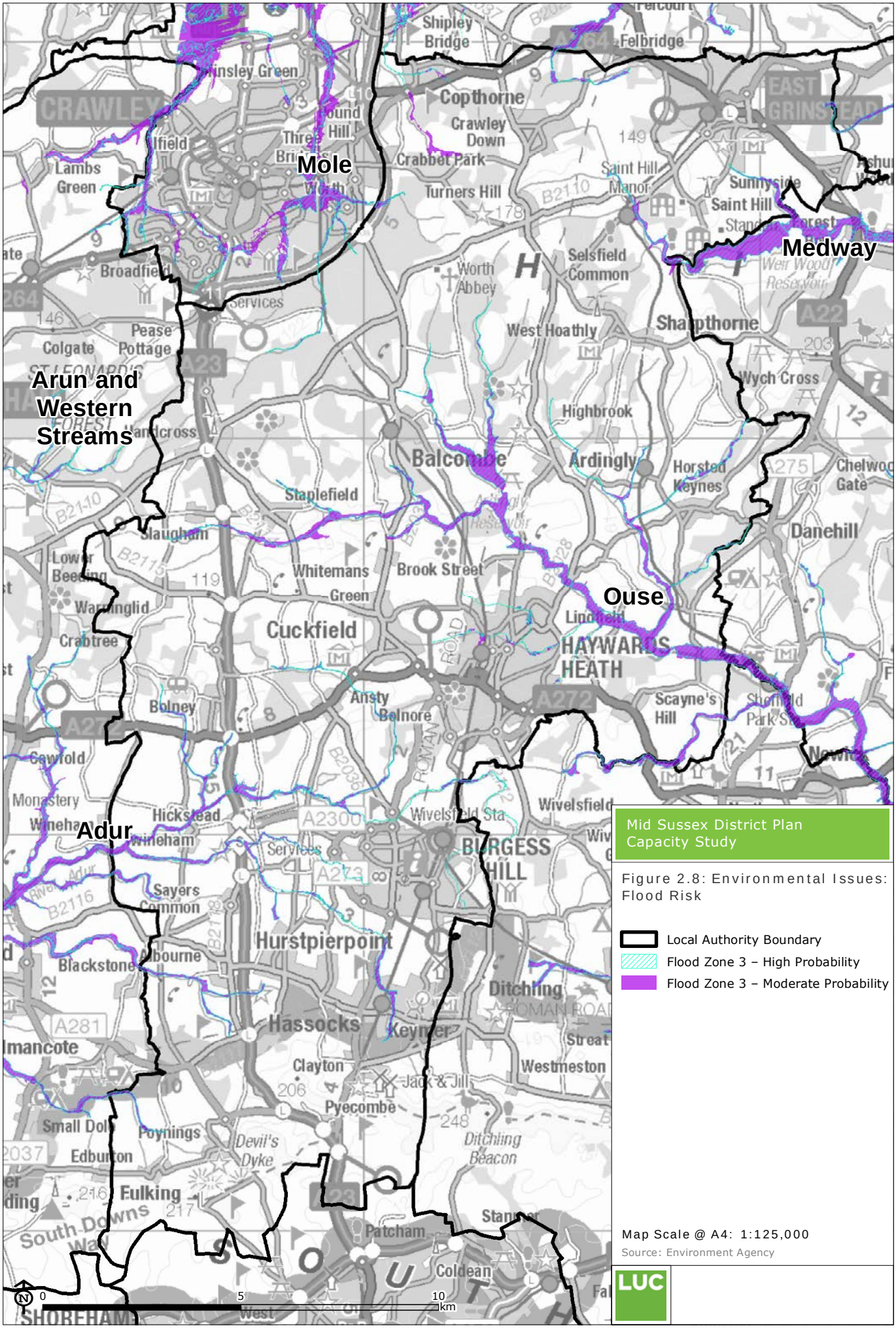
Air Quality Management Area (AQMA)

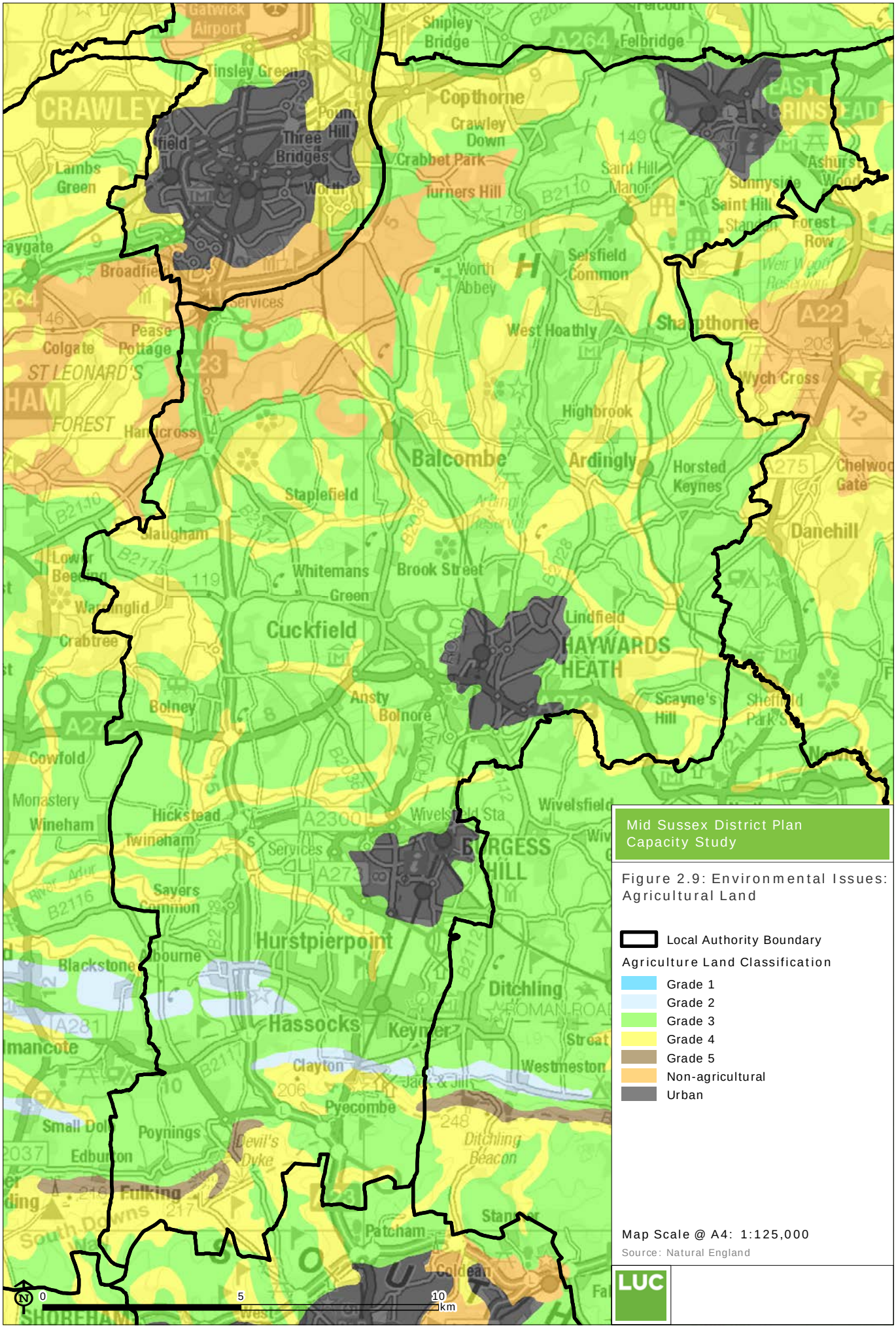
Map Scale @ A4: 1:5,000

Source: Mid Sussex District Council

LUC







Mid Sussex District Plan
Capacity Study

Figure 2.9: Environmental Issues: Agricultural Land

Local Authority Boundary

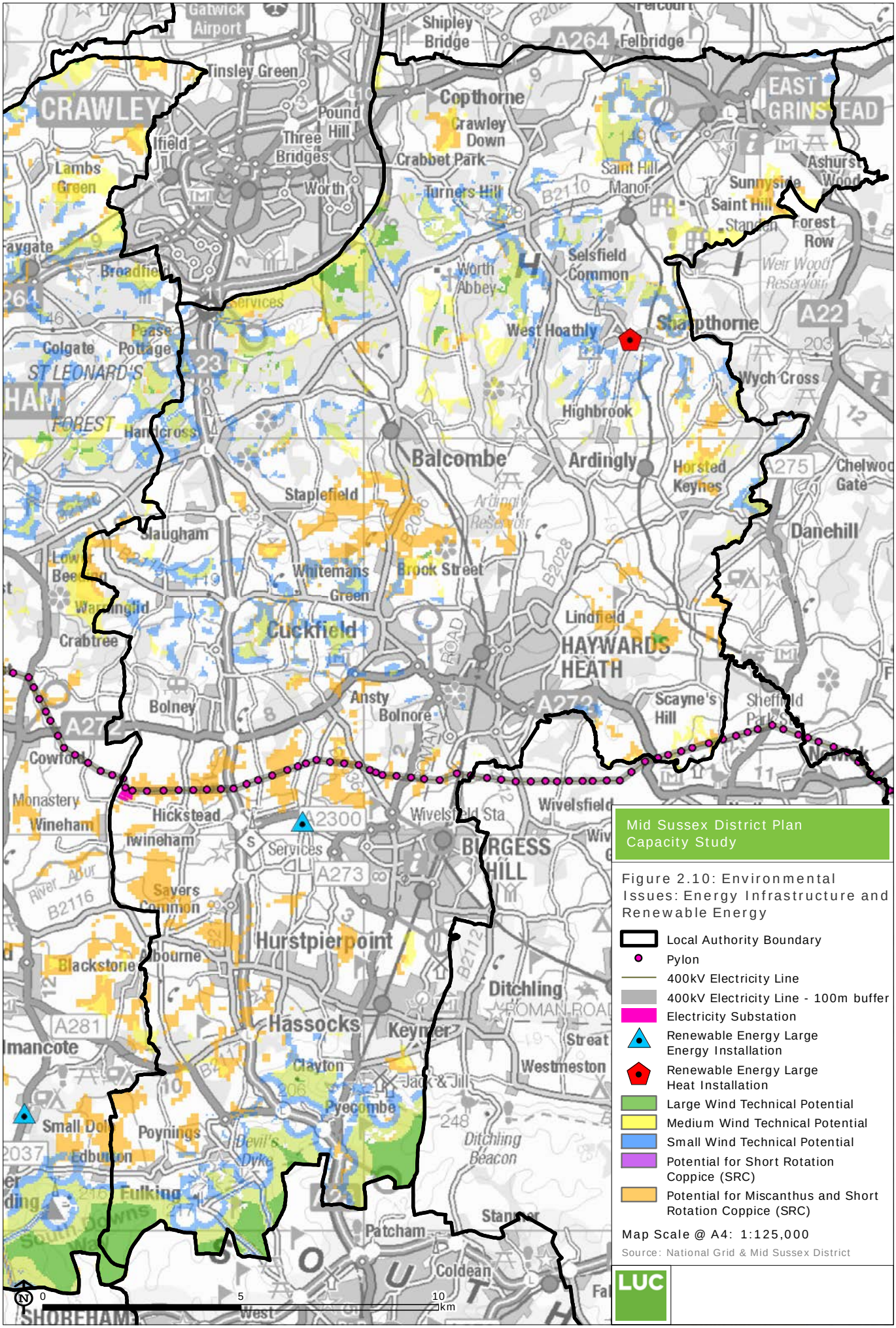
Agriculture Land Classification

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non-agricultural
- Urban

Map Scale @ A4: 1:125,000

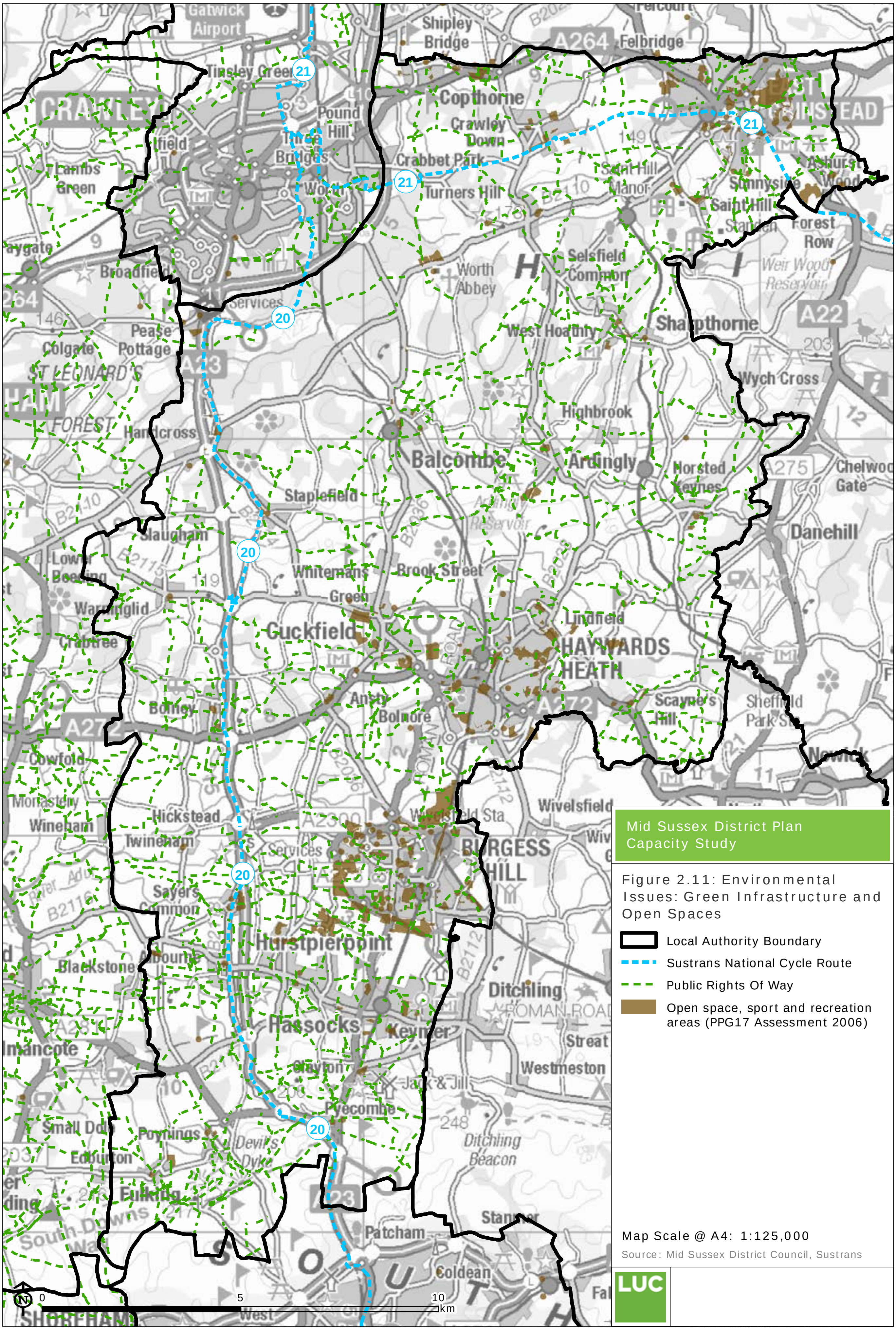
Source: Natural England

LUC



Mid Sussex District Plan
Capacity Study

Figure 2.11: Environmental Issues: Green Infrastructure and Open Spaces



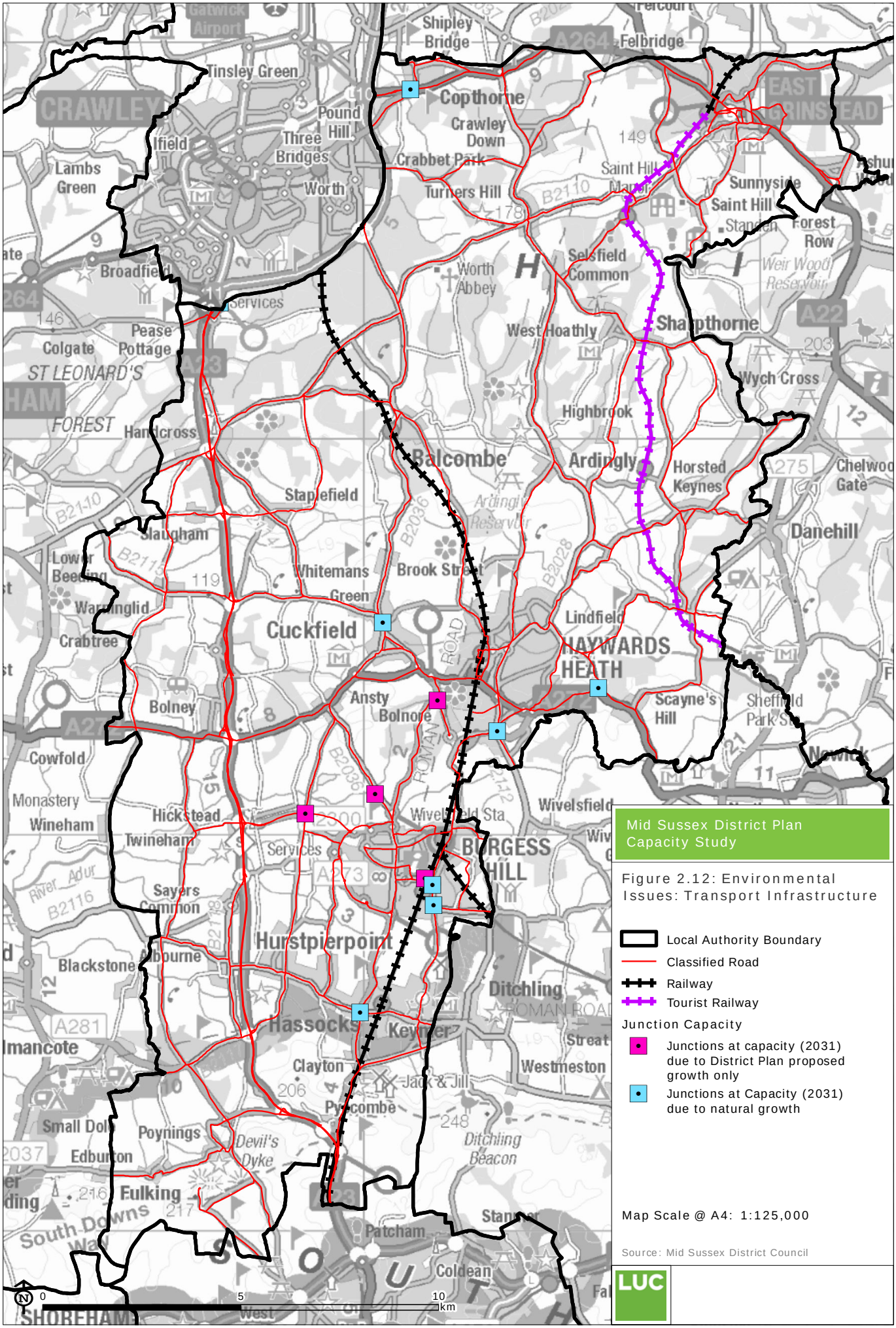
Gatwick Airport
Shipley Bridge
Felbridge
A264
Tinsley Green
CRAWLEY
Copthorne
Crawley Down
Pound Hill
Three Bridges
Crabbet Park
Ifield
Lambs Green
Worth
Turners Hill
Saint Hill
Ashurst Wood
Sunnyside
Saint Hill
Forest Row
Weir Wood Reservoir
Broadfield
Services
Worth Abbey
Selsfield Common
Sharpthorne
A22
Pease Pottage
Colgate
ST LEONARD'S FOREST
West Hoathly
Wych Cross
A23
Highbrook
Handcross
Balcombe
Ardingly
Horsted Keynes
Chelwood Gate
Staplefield
Slaugham
Danehill
Lower Beeding
Whitemans Green
Brook Street
Warninglid
Cuckfield
Lindfield
Crabtree
HAYWARDS HEATH
Ansty
Bolney
Bolnore
Scaynes Hill
Sheffield Park
A272
Cowfold
Newick
Wivelsfield
Wineham
Hickstead
Twineham
BURGESS HILL
Services
Sayers Common
Hurstpierpoint
Blackstone
Albourne
Ditchling
Hassocks
Keymer
Streat
Westmeston
Clayton
Jack & Jill
Pyecombe
Ditchling Beacon
Small Dole
Poynings
Devil's Dyke
Edburton
Fulking
Patcham
Stanmer
Coldean
SHOREHAM
0
5
10
km

- Local Authority Boundary
- Sustrans National Cycle Route
- Public Rights Of Way
- Open space, sport and recreation areas (PPG17 Assessment 2006)

Map Scale @ A4: 1:125,000

Source: Mid Sussex District Council, Sustrans

LUC



Mid Sussex District Plan
Capacity Study

Figure 2.12: Environmental Issues: Transport Infrastructure

- Local Authority Boundary
- Classified Road
- Railway
- Tourist Railway

Junction Capacity

- Junctions at capacity (2031) due to District Plan proposed growth only
- Junctions at Capacity (2031) due to natural growth

Map Scale @ A4: 1:125,000

Source: Mid Sussex District Council

LUC

3 Landscape capacity

3.1 This section of the study summarises the relevant findings of the Landscape Capacity Study undertaken for the District in 2007[126], and includes an assessment of areas that were not included in the previous study. It has also reviewed the previously assessed areas against a slightly revised scale for landscape capacity.

Definition of new landscape character areas not covered in the 2007 Landscape Capacity Study

3.2 The 2007 Landscape Capacity Study covered most of the district, but there were some areas that were not assessed, due to its focus on areas surrounding existing settlements. The 2007 Study was undertaken to inform the Core Strategy that was being produced at the time, and considered the capacity of the landscape to accommodate strategic development under three broad options: concentrating development around the three towns (East Grinstead, Haywards Heath and Burgess Hill); a more dispersed pattern spreading development across the District including sites adjacent to the larger and smaller villages; and the possibility of a new settlement. The 2007 Study divided the study area into nine main zones based on a landscape structure analysis, which identified the main elements that contribute to the structure, character and setting of the settlements. The study area was then divided into 75 landscape character areas (LCAs), as shown on **Figure 3.1**.

3.3 In the areas of the district that were not previously covered by the 2007 study, LUC has defined five new character areas (also shown on **Figure 3.1**) as a basis for the assessment of their landscape value, sensitivity and subsequently their capacity. Due to time constraints with this current study, it has not been feasible to repeat the exact methodology of the 2007 Landscape Capacity Study whereby a large number of smaller local Landscape Character Areas were defined using Landscape Character Types defined in the 2005 Landscape Character Assessment.

3.4 Instead, a desk assessment of the landscape character in the areas not previously covered by the 2007 Study was carried out, resulting in five new character areas which were checked and refined in the field. These areas were defined using the usual sources of information for landscape character assessment, including geological data, OS mapping to view topography and field patterns, designations for landscape, heritage, and biodiversity and historic landscape characterisation. This was partially informed by the spatial framework and descriptions in the 2005 Landscape Character Assessment for the District, although the following limitations are noted:

- The ten 2005 landscape character areas were on a larger scale than the 75 LCAs defined in the 2007 Study.
- Information in the 2005 LCA may be dated.

3.5 The five new landscape character areas are listed below, and shown on **Figure 3.1**, numbered 76 to 80:

- 76: Bolney High Weald Fringe
- 77: Ansty High Weald Fringe
- 78: Twineham Green Low Weald
- 79: Upper Adur Valley
- 80: Trusler's Hill Lane Footslopes

[126] http://www.midsussex.gov.uk/8306.htm

3.6 **Table 3.1** sets out the key characteristics and landscape sensitivities identified by LUC for each of these five new landscape character areas.

Table 3.1: Key characteristics and landscape sensitivities of the five new landscape character areas

Character Area	Key characteristics	Key landscape sensitivities
Bolney High Weald Fringe	• Gently sloping, rural landscape with a woodland feel due to pockets of both ancient woodland and orchards. • Located on the edge of the High Weald AONB, forming a transitional landscape to the Low Weald. Views of the Low Weald are afforded from higher elevations. • Settlement consists of scattered farmsteads and manor houses and their estates, several of which are listed. • Historic small scale irregular field patterns giving a sense of enclosure and intimacy to the landscape. • Primary agricultural land use is arable, with orchards forming characteristic features. There are also uses of a modern origin such as vineyards. • A sense of intimacy, seclusion and tranquillity due to the enclosure provided by woodland and absence of modern development. • Valued habitats including historic wood pasture and willow carr.	• High levels of woodland cover limit the visual sensitivity of the landscape and provides a sense of intimacy, seclusion and tranquillity. • The field pattern originating from medieval times contributing to the intimacy of the landscape. • The estate influence, with mature specimen trees, evoking a strong historic sense of place. • The proximity of the High Weald AONB and long views to the south from the open ground. • The sparsely settled, highly rural character of the landscape.
Ansty High Weald Fringe	• Part of High Weald fringes on the edge of the AONB, forming a transitional landscape to the Low Weald. • Gently undulating landscape with long views over the Low Weald. • Wooded character with pockets of plantation and semi-natural woodland, substantial amounts of which are classified as ancient. Some woodland areas are designated Sites of Nature Conservation Importance. • Includes the southern part of Ansty village; much of the existing settlement is concentrated here, with scattered farms and manor houses elsewhere. • Field enclosures form a mosaic, with a mixture of small irregular fields of medieval origin and some larger enclosures. • Some farm buildings and residences are designated as Listed Buildings. • A sense of intimacy and seclusion offered by the high woodland cover, although this is impacted	• Unobtrusive, scattered settlement pattern. • Long views from open ground. • Areas of valued semi-natural woodland cover conferring an intimate and secluded feel. • Historic, small-scale field pattern defining much of the area, with an estate influence. • Sites of Nature Conservation Importance, locally designated for their contribution to the District's biodiversity resource.

Character Area	Key characteristics	Key landscape sensitivities
	in places by the presence of busy road routes including the A272 and proximity to larger settlements such as Cuckfield, Haywards Heath and Burgess Hill.	
Twineham Green Low Weald	• Quiet rural landscape west of the A23 trunk road, gently sloping down to the Adur Valley. • High levels of perceived naturalness, although there are some intrusive pylon lines. • A mixture of field shapes and sizes, including some which are medieval in origin, bound by thick hedgerows with trees. The field pattern has been degraded in places due to agricultural intensification and field amalgamation. • Farms and historic country houses scattered throughout, some of which are designated Listed Buildings. • Some blocks and bands of valued ancient woodland, linked to thick hedgerows with trees contributing to a strong wooded feel.	• Parts of the area have strong intervisibility with the high ground of the South Downs National Park to the south. • Strongly rural landscape with limited modern development, with an historic sense of place provided by an estate character across large parts of the area. • Important areas of small-scale historic field patterns bounded by thick hedgerows linking to ancient woodlands.
Upper Adur Valley	• River valley of the Adur, which has a high level of rurality. • A strong network of hedgerows with hedgerow trees enclosing a range of field sizes. • Smaller pastures in the valley bottoms and mixed arable and pastoral farming, medium to large-sized fields on the valley sides. • Wildlife corridor with pockets of biodiversity provided by wetlands, riparian vegetation and woodland, which is important for green infrastructure in the District. • Grade I listed St. Peter's church, of 16th century origin. • Rural settlement sparsely scattered throughout and consists of varied traditional rural buildings built with diverse materials including flint, timberframing and varieties of local brick and tile-hanging. Several of the farmhouses are Listed Buildings. • Pylons crossing the landscape intrude on the sense of rurality.	• The tranquil, rural character of the landscape. • Pockets of valued biodiversity including pockets of woodland and riparian vegetation. • Its sparsely settled character, limited to farmsteads. • The setting of valued historical features such as St. Peter's church (Grade I Listed Building).
Trusler's Hill Lane Footslopes	• This area is to the south of the Adur valley, and comprises gently sloping hills on either side the Chess Stream. The South Downs National Park lies immediately to the south. • Settlement mainly consists of small farmsteads (some historic in origin) and cottages concentrated in High Cross and along Trusler's	• Its strong intervisibility with and function as an immediate setting to the South Downs National Park. • The setting provided to valued historical features such as the Grade II* listed Albourne Place.

Character Area	Key characteristics	Key landscape sensitivities
	Hill Lane. • Fields are generally medium-large and regular in size and are primarily used for arable farming with some pasture. • Linear belts and pockets of woodland provide a valued biodiversity resource and sense of enclosure along lanes. • Albourne Place in the east of the area is a large mansion of 16th century origin and is a Grade II*listed building. • The Singing Hills Golf Course in the south of the study area is well integrated into the woodland setting of the adjacent South Downs. • Varied traditional rural buildings built with diverse materials including flint, timberframing, Horsham Stone roofing and varieties of local brick and tile-hanging.	• The overall rural and tranquil feel of the landscape. • Area of valued woodland along roads and rural lanes.

Approach taken to assessing landscape capacity

3.7 Landscape capacity is defined as *"the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character, or overall change of landscape character type. Capacity is likely to vary according to the type and nature of change being proposed*[127]*."*

3.8 Assessments of landscape capacity should reflect:

- The inherent sensitivity of the landscape itself, but more specifically its sensitivity to the particular type of development in question.
- The value attached to the landscape or to specific elements in it.

3.9 The basis of the assessment involves scoring each study area against criteria for both landscape sensitivity and landscape value. These scores are then combined to give an overall score on the landscape capacity of each particular area.

Redefining the criteria for assessing landscape sensitivity and landscape value

3.10 The 2007 Study took the following factors into account when assessing **landscape sensitivity**:

- Inherent landscape quality, i.e. the intactness and condition of the landscape.
- Contribution each area makes to the distinctive setting of a particular settlement.
- Consistency with the form or pattern of existing settlement and the relationship the settlement has with the underlying landscape structure.
- Contribution to the rurality of the surrounding landscape, either by virtue of its own inherent rurality or the containing influence of the landscape being assessed on neighbouring settlements.
- Contribution to the separation between existing settlements.[128]

3.11 The 2007 Study took the following factors into account when assessing **landscape value**:

[127] The Countryside Agency, Topic Paper 6: Techniques and Criteria for judging capacity and sensitivity.
[128] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) pp2-3

- National and local landscape designations, which do not include gap policies.
- Non-landscape designations for example; Heritage, amenity, biodiversity and flood zones.
- Contribution to outstanding assets which includes the AONB.
- Special cultural or historic associations, time depth and
- Perceptual aspects such as scenic beauty, tranquillity or remoteness.[129]

3.12 The 2007 Study used a five point scale (very low, low, medium, high, very high) and assigned corresponding value (1-5) to each of the above factors for the landscape sensitivity and landscape value analysis.[130]

3.13 However, due to a different team working on the update, the criteria used in the 2007 Study were redefined by LUC to make them able to be applied consistently across the areas assessed in the 2007 Study and the additional areas. As per the previous study, LUC's scoring system uses a five point scale from low to high for both landscape sensitivity and landscape value. LUC's redefined criteria, and the factors considered in reaching a judgement for each criterion to assess landscape sensitivity are defined in **Table 1** and for landscape value in **Table 2** in **Appendix 1** to this report.

3.14 The landscape sensitivity and the landscape value of the five new character areas has been assessed using the redefined criteria shown in Appendix 1. A desk-based analysis was undertaken first using the data sources described in Appendix 1, and this was followed up by a field visit to the five new areas to verify judgements.

Redefining the scoring system for landscape capacity

3.15 In the 2007 Study, landscape capacity, which is a combination of the assessment of landscape sensitivity and landscape value, was scored on a seven point scale ranging from negligible capacity through negligible/low, low, low/medium, medium, medium/high, high to very high capacity, as shown in **Table 3.2**. For clarity and simplicity, LUC altered this to a five point scale, i.e. low, low/medium, medium, medium/high and high capacity, as illustrated in **Table 3.3**. It is important to note that these scores are only indicative of potential capacity and would need to be tested through more detailed assessment at the site-specific level when proposals for specific development locations are known.

Table 3.2: Seven point scale for landscape capacity judgements in 2007 Study[131]

		Landscape Value				
		Major	**Substantial**	**Moderate**	**Slight**	**Negligible**
Landscape Sensitivity	**Major**	Negligible	Negligible	Negligible / low	Low	Low / medium
	Substantial	Negligible	Negligible / low	Low	Low / Medium	Medium
	Moderate	Negligible / Low	Low	Medium	Medium / high	High / medium
	Slight	Low	Low / medium	Medium /high	High	High / Very high/
	Negligible	Low / medium	Medium	High / medium	High / Very high/	Very high

[129] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) p3
[130] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) p3
[131] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) p16

Table 3.3: LUC's five point scale for landscape capacity judgements

Landscape sensitivity	Landscape value: High	Moderate/High	Moderate	Low/ Moderate	Low
High	LOW	LOW	LOW	LOW/ MEDIUM	LOW/ MEDIUM
Moderate /High	LOW	LOW	LOW/ MEDIUM	MEDIUM	MEDIUM
Moderate	LOW	LOW/ MEDIUM	MEDIUM	MEDIUM	MEDIUM/ HIGH
Low/ Moderate	LOW/ MEDIUM	MEDIUM	MEDIUM	MEDIUM/ HIGH	HIGH
Low	LOW/ MEDIUM	MEDIUM	MEDIUM/ HIGH	HIGH	HIGH

3.16 The definitions of landscape capacity for LUC's revised five point scale are very similar to those used in the 2007 Study because the 2007 Study grouped its lowest three and highest three capacity ratings together, as shown in **Table 3.4**. For this reason, the recommendations from the 2007 Study for areas with Medium and Medium/High capacity still apply.

Table 3.4: Definition of each landscape capacity rating

Landscape capacity rating	Description in 2007 Study[132]	Description in current study
Low	A Low or Negligible rating for landscape capacity indicates that development would have a significant and detrimental effect on the character of the landscape as a whole, and, or, on the setting to existing settlement or outstanding assets in the District. Development in these character areas should only be small scale and proposals would need to demonstrate no adverse impacts on the setting to settlement or wider landscape. *Note that no separate description was provided for the Negligible/Low capacity rating in the 2007 Study. It is therefore assumed that it was considered in the same way as the description above for*	A Low rating for landscape capacity indicates that development is likely to have a significant and adverse effect on the character of the landscape area as a whole and is thus unsuitable for strategic scale development.

[132] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) p49

Landscape capacity rating	Description in 2007 Study[132]	Description in current study
	Low or Negligible ratings.	
Low/medium	*Note that no description was provided for the Low/Medium capacity rating in the 2007 Study. It is therefore assumed that it was considered in the same way as the description above for Low or Negligible ratings.*	A Low/medium capacity rating indicates that development is likely to have an adverse effect on most of the character area and while smaller development may be possible in a very few locations within the character area, it will not be suitable for strategic scale development.
Medium	A rating of Medium identifies a landscape character area with the capacity for limited development in some parts of the character areas (e.g. infill sites or small urban extensions). The landscapes are general small scale, with a degree of enclosure and internal structure. New development would need to be closely related and having regard for the setting and form of existing settlement and the character and sensitivity of adjacent landscape character areas[133].	A Medium capacity rating indicates that there is the potential for limited smaller-scale development to be located in some parts of the character area, so long as there is regard for existing features and sensitivities within the landscape.
Medium/high	Medium/High capacity identifies a landscape character area that has a generally lower sensitivity which could accommodate significant allocations of development, but which has specific considerations such as sensitive adjacent character area (e.g. within the AONB), separation between settlements or setting to settlements.	Medium/high capacity landscapes generally have lower sensitivity to development, therefore may be able to accommodate larger-scale development, but may have special considerations that need to be taken into account, such as more valuable/sensitive areas close by.
High	High capacity identifies landscape character areas with the least constraints; they are of low sensitivity and low landscape value which, from a landscape perspective could accommodate significant allocations of development. Proposals should however have regard for setting to existing settlements and impacts on the wider landscape. *Note that no separate description was provided for the Very High and High/Very High capacity ratings in the 2007 Study. It is therefore assumed that it was considered in the same way as the description above for the High rating.*	Landscapes with a high capacity to accommodate development are the least constrained, and are likely to be able to accommodate significant allocations of development (proposals should still take care to minimise adverse impact on the wider landscape).

[133] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) pp49 and 54

3.17 For the previously assessed 75 landscape character areas from the 2007 Study (see **Figure 3.1**), the scores for landscape sensitivity and landscape value (summarised in Table 3 in the 2007 Study[134]) were input into LUC's new landscape capacity matrix (**Table 3.3** above) to give an updated landscape capacity score on the five point scale; high, medium/high, medium, low/medium and low capacity (see **Table 3** in **Appendix 1** of this report). This has enabled comparison of the landscape capacity between the 75 landscape character areas from the 2007 Study and the five new character areas identified in the current study.

3.18 **Tables 4 to 8** in **Appendix 1** present the detailed assessment of the five new character areas against the criteria defined in Tables 1 and 2 of Appendix 1.

Landscape capacity findings

2007 Study findings

3.19 The results of the 2007 Landscape Capacity Study identified that a large proportion of the Study Area is either of high sensitivity, or high value, or both. This reflects the high proportion of AONB within the District. It also identified that many of the landscape character areas outside of the AONB are also distinctive and valuable landscapes sensitive to potential development. These landscapes are less dramatic than the South Downs or High Weald but exhibit a high degree of naturalness, such as the Ouse Valley, or, are largely intact and intimate in character as seen within the High Weald Fringe landscapes. Consequently much of the study area is heavily constrained with regard to the potential impacts of strategic levels of development.[135]

3.20 However, the study did identify a limited number of character areas which could accommodate a degree of change, in the form of new development. Areas that were judged in the 2007 Study as having 'High' and to a lesser extent 'Medium/High' capacity were considered, from a landscape perspective, to be able to accommodate significant allocations of new development without significant detrimental effects on the character of the landscape as a whole. However the report recommended that such development would need to have regard for the setting and form of the existing settlement and the character and sensitivity of adjacent landscape character areas. The areas identified as High and Medium/High landscape capacity were (see Figure 3.1 for their location):

Landscape Capacity: Medium/High (according to 2007 Study's 7 point scale – see Table 3.2 above)

- **Felbridge High Weald** (LCA 08): Area of open, arable fields to the west of East Grinstead. Bounded by Worth Way to the south. Contributes to separation between East Grinstead and Crawley Down.
- **Hill Place High Weald** (LCA 10): Immediately west of East Grinstead significant boundary loss, poor hedgerow structure. Intervisibility with East Grinstead, consistent with settlement pattern.
- **Haywards Heath North Weald** (LCA 45): Heavily wooded backdrop to Haywards Heath, golf course and adjacent fields closely related to existing settlement, consistent with settlement pattern. Adjacent to AONB and setting to listed buildings close to town edge.

Landscape Capacity: High (according to 2007 Study's 7 point scale – see Table3.2 above)

- **Fox Hill** (LCA 53): Abuts townscape on sloping ground consistent with adjacent development. Provides a mixture of wooded and hard urban edges. Poor hedgerow structure but shaws and woodland blocks along southern edge. Minor contribution to separation between Haywards Heath and Burgess Hill.

[134] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) pp46-48
[135] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) pp48-49

- **West Burgess Hill Low Weald** (LCA 58): Mosaic of small fields with low sensitivity or landscape value. Part of wider undulating landscape, but sloping towards Burgess Hill, high urban influence. No gap function. Poor condition and low scenic beauty.[136]

2014 Study findings

3.21 The five new landscape character areas that were not assessed in the 2007 Study were found to have the following landscape capacity:

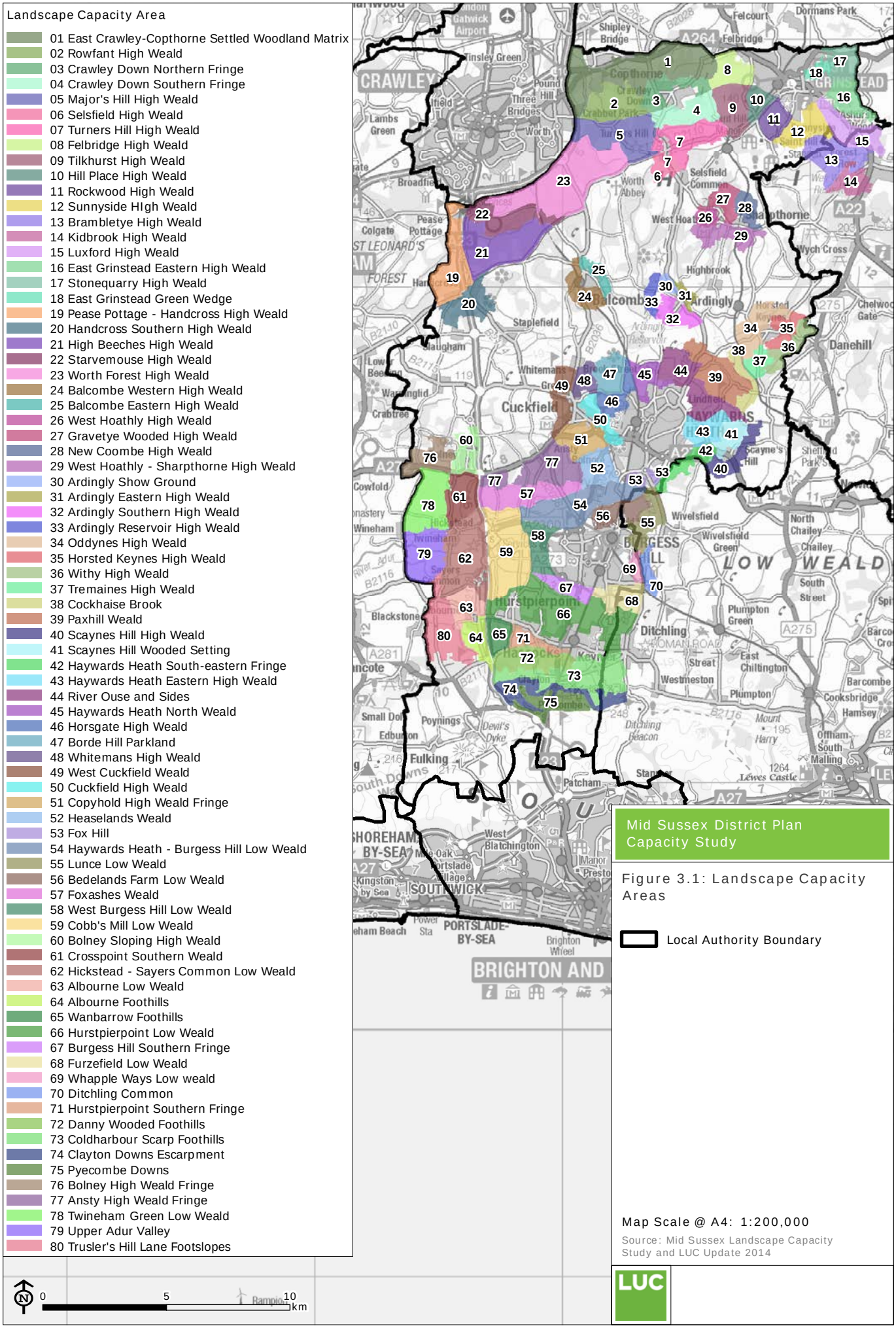
- **Bolney High Weald Fringe** (LCA 76): Low capacity
- **Ansty High Weald Fringe** (LCA 77): Low/medium capacity
- **Twineham Green Low Weald** (LCA 78): Low/medium capacity
- **Upper Adur Valley** (LCA 79): Low/medium capacity
- **Trusler's Hill Lane Footslopes** (LCA 80): Low/medium capacity

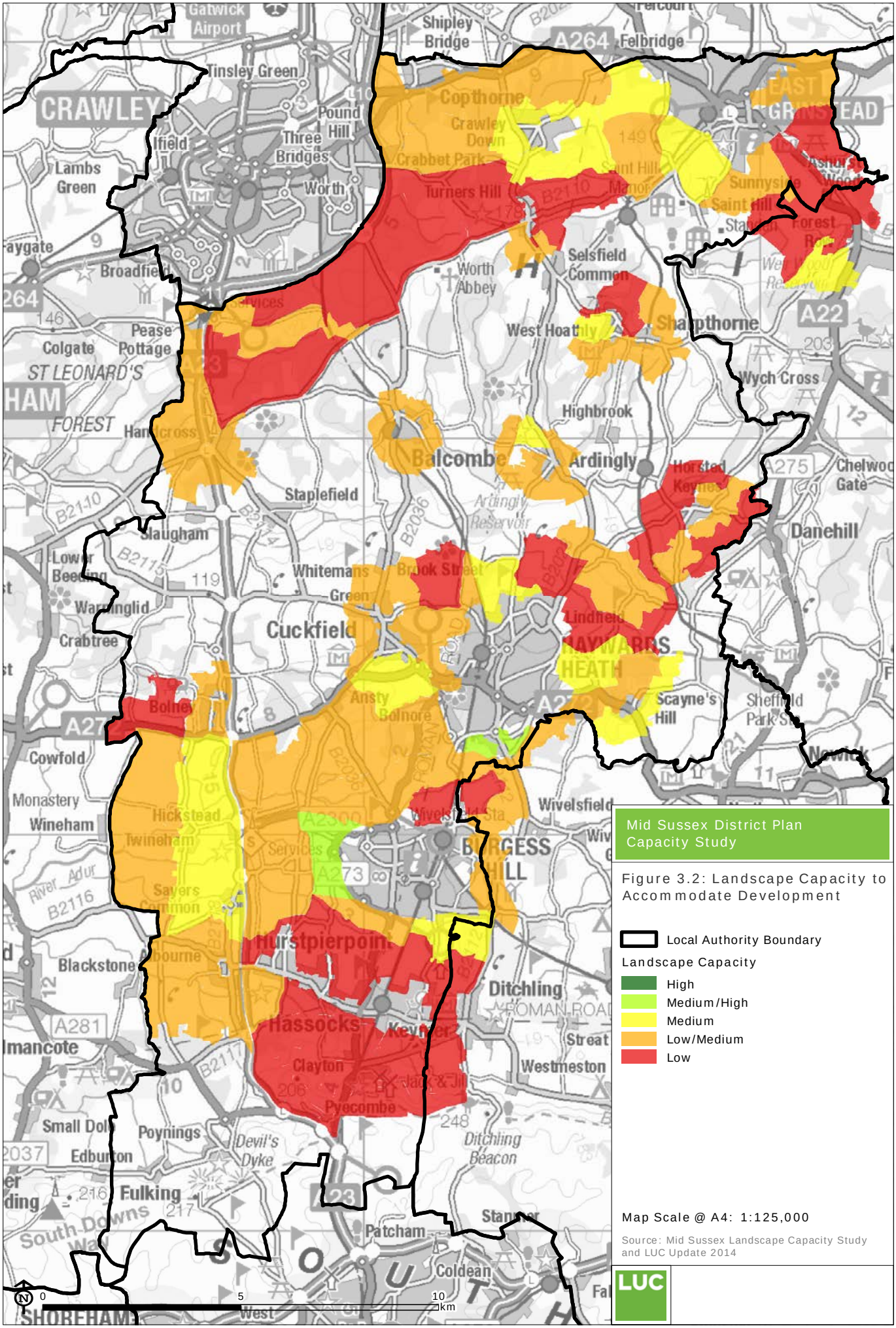
3.22 The revised landscape capacity judgements based on LUC's 5 point scale (see Table 3.3 above) for the 75 landscape character areas in the 2007 Study and the five new character areas assessed in the current study are shown in **Figure 3.2**. As to be expected in a District with 60% of its area designated as AONB and National Park due to its high quality landscapes, even outside of the AONB and National Park, there are no areas assessed as having high landscape capacity (i.e. likely to be able to accommodate significant allocations of housing development).

3.23 As identified in the 2007 Study, there are still two areas with medium/high capacity (shown in pale green on **Figure 3.2**) i.e. generally lower landscape sensitivity and therefore more able to accommodate large-scale development: LCA 53 Fox Hill immediately south of Haywards Heath, and LCA 58 West Burgess Hill Low Weald, on the western edge of Burgess Hill.

3.24 15 of the LCAs are now judged as having medium capacity (shown in yellow on **Figure 3.2**), and there is the potential for limited development to be located in some parts of these character areas, so long as there is regard for existing features and sensitivities within the landscape.

[136] Mid Sussex Landscape Capacity Study, Hankinson Duckett Associates (2007) pp53-54





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4 Constraints mapping and analysis

4.1 To further assist with identifying what the constraints to development might be within the study area, for each theme described in **Section 2**, we have identified the assets which could be considered as 'primary constraints' due to their environmental sensitivity and the policy safeguards that apply to them (i.e. where significant development is likely to be precluded) and those which are 'secondary constraints' as they are still sensitive but have less weight applied to them in national policy (i.e. where significant development may not be precluded, but where there is the risk of negative impacts, which could be significant, for example at the sub-national level). In some, but not necessarily all, instances it may be possible to avoid or reduce negative impacts on secondary constraints through mitigation. The primary and secondary constraints are identified in **Table 4.1** below.

4.2 Most importantly, this approach enables the themes to be considered in combination with one another, and considered spatially, which helps to identify the least constrained areas of the District. Areas that are less constrained by environmental designations and issues may be more able to accommodate significant development. However, further analysis has been undertaken to consider the sustainability of the least constrained areas, in terms of how well they are served by services and facilities that support the health, social, recreational, economic and cultural well-being of future and existing communities. This is discussed in **Section 5**.

Table 4.1: Primary and secondary constraints to development in Mid Sussex

Theme	Primary Constraints	Secondary Constraints	Notes
Environmental Designations			
Biodiversity	All designated sites (i.e. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) Ramsar sites, Sites of Special Scientific Importance (SSSIs), Sites of Nature Conservation Importance (SNCIs), National Nature Reserves (NNRs) Local Nature Reserves (LNRs), Local Wildlife and Local Geological Sites (LWSs, LGSs)	Relevant buffer zones around designated sites: 7km from Ashdown Forest SPA Ancient Woodland including 15m buffer	There are a number of SSSIs, SNCIs and LNRs, but no SACs, SPAs, Ramsars, NNRs, LWSs or LGSs within the District. 7km buffer from Ashdown Forest SPA is the Zone of Influence identified through the HRA Report for the District Plan[137], as the majority of visitors originate from within 7km of the Forest boundary. Within this zone, which covers a number of parishes in the northeast of the District, all planning applications proposing a net increase in residential dwellings will be required to mitigate their effects through a provision of SAMM and SANGs. The 15m buffer zone reflects Natural England's Standing Advice for Ancient Woodland[138] which advises that a minimum buffer of at least 15m should be maintained between

[137] Habitats Regulations Assessment for the Submission Mid Sussex District Plan, UE Associates, (May 2013) pp35-47
[138] Standing Advice for Ancient Woodland, Natural England (2012), p18

Theme	Primary Constraints	Secondary Constraints	Notes
			the ancient woodland and a development boundary.
Landscape	AONB, National Park	Buffer zone of 1km around AONB and National Park Areas with "Low" and "Low/Medium" landscape capacity	Buffer zone is indicative only.
Historic Environment	All designated assets (World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Battlefields)	Conservation Areas	No World Heritage Sites or Registered Battlefields within the District.
Environmental Issues and Infrastructure			
Air Quality	Not applicable	Current AQMA	
Water Supply	Not applicable	Not applicable	Water supply is likely to be a significant constraint across the whole of the District until measures in the Water Resource Management Plans are implemented. However, there are no spatial differentiations within the District regarding water supply issues.
Water Quality	Not applicable	Source Protection Zone 1	
Flood Risk	Flood Zones 3a and 3b	Flood Zone 2	There is no separate data for zones 3a and 3b therefore as a precautionary approach both are considered to be a primary constraint and therefore unsuitable for development. Areas in Flood Zone 2 may be developed on if the development is not classified as highly vulnerable in the National Planning Practice Guidance – highly vulnerable developments will have to meet 'exception test' requirements with appropriate design and mitigation.
Soil Quality	Agricultural Land Grades 1 and 2	Not applicable	Grade 3a land would be a primary constraint, but data not available.

Theme	Primary Constraints	Secondary Constraints	Notes
Energy Supply	Not applicable	Buffer zone of 100m either side of high voltage (400kV) electricity line	Exposure to electric and magnetic fields can occur up to 100 m from 400 kV overhead power lines. Although there are no proposals currently within the District Plan, areas with potential to provide renewable energy in the future could be developed on, but the balance between renewable energy provision and housing would need to be considered as part of decision-making on strategic allocations.
Open space, sport and recreation areas	Public Rights of Way	Sites identified as open space within PPG17 assessment Sustrans national cycle routes	Public Rights of Way should be protected as per para. 75 in the NPPF. Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless provision of areas of equivalent or better quality is made elsewhere in the District (para. 74 of the NPPF). Although not mentioned in the NPPF, the Sustrans national cycle routes within the District are important recreational routes that would need to be taken into account if development were to impact on the route.

4.3 It should be noted that the buffer zones developed for the secondary constraints are indicative of the area where development may cause the most negative impacts, or where mitigation is most likely to be needed. In practice, each location for development would need to be assessed individually for potential effects on the environment and mitigation needed. For example, the effects on the setting of the AONB or on a listed building can vary markedly depending upon their context, from very localised (e.g. a few hundred metres in locations that are well screened; to many kilometres where vistas and views are important).

4.4 Where possible, we have drawn on evidence to set the buffer zones, as set out in the notes column of Table 4.1, but in practice there are no defined and agreed standard zones common to all environmental assets, within which mitigation will be essential, and beyond which no mitigation will be needed. Even for an individual asset (such as High Weald AONB) it is not possible to set a consistent distance all around the AONB, which can be considered the setting, as changes in topography and land cover change the implications of development in proximity to the AONB at different locations.

4.5 The constraints arrived at, however, aim to show the zones within which mitigation is most likely to be needed, or where impacts may be most damaging, and therefore where strategic development is less easily accommodated within the District.

4.6 **Figure 4.1** shows the extent of the all of the primary and secondary constraints within the District, based on the assumptions set out in Table 4.1. It is evident from the map that the vast majority of Mid Sussex District is covered by either a primary or a secondary constraint.

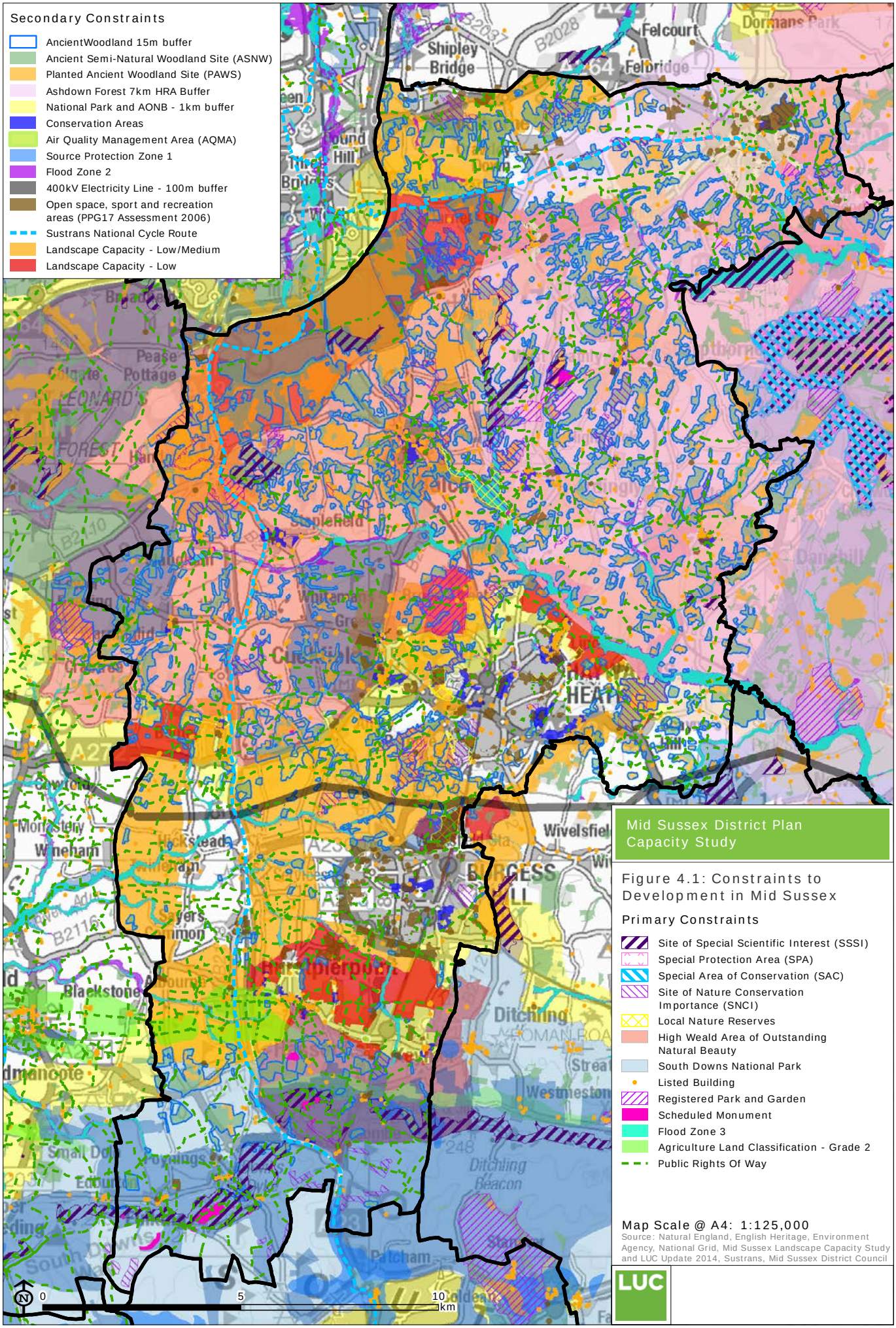
4.7 **Figure 4.2** shows the areas covered by primary constraints in red, and areas outside of the primary constraints that are covered by secondary constraints in yellow. Much of the northern half of the District is highly constrained, mainly due to the large coverage of the High Weald AONB (plus 1km buffer), and also the 7km Zone of Influence for the Ashdown Forest SPA in the north-eastern corner. The southern edge of the District is covered by a primary constraint as it falls into the boundary of the South Downs National Park.

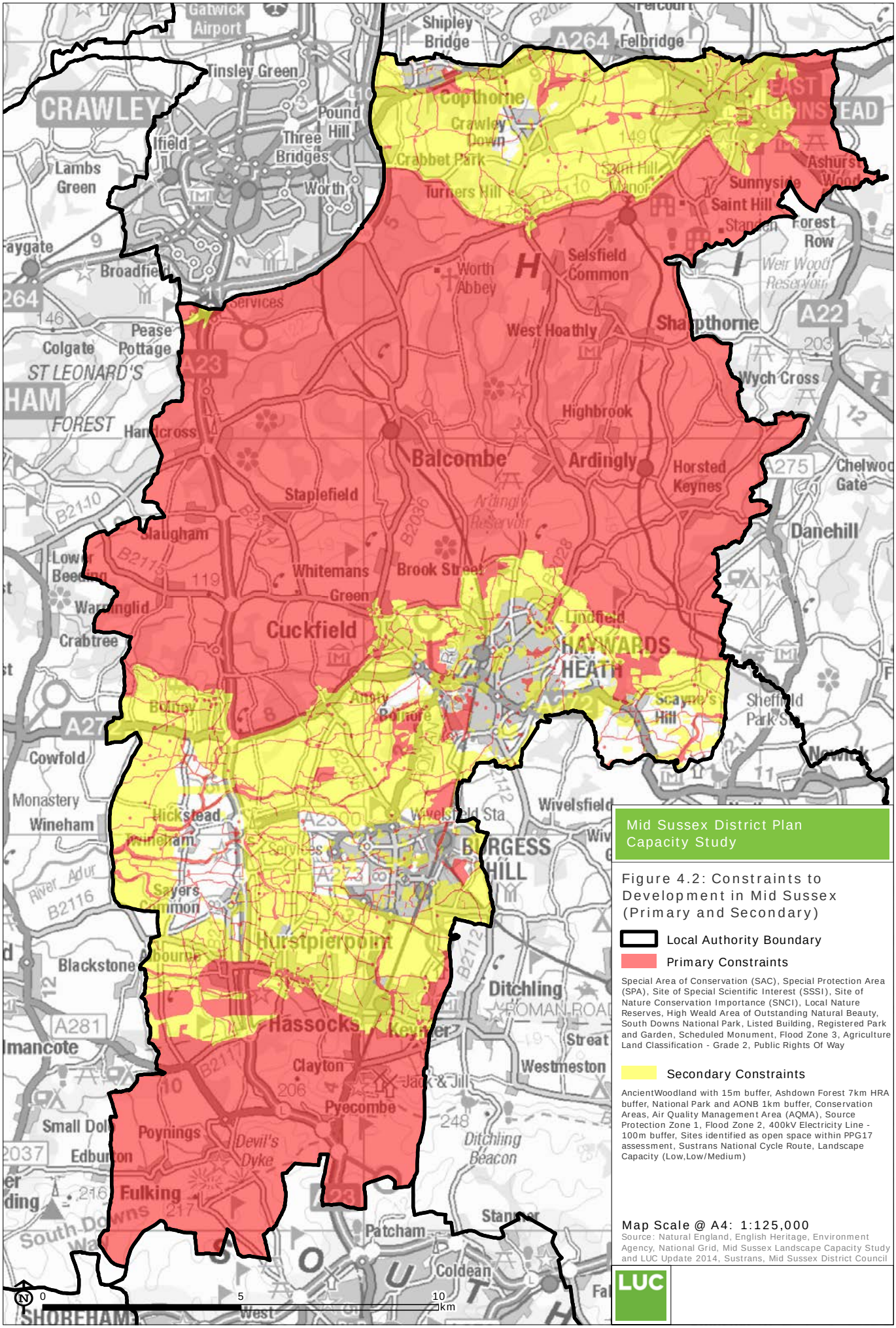
4.8 **Figure 4.3** shows the weight and number of constraints across the District in terms of whether areas are covered by primary constraints to development, and for the areas outside of the primary constraints, areas that are constrained by one or more (up to six) secondary constraints. **Table 4.2** shows the percentage of the District covered by these different levels of constraint. Primary constraints (including the National Park, AONB, nationally designated nature conservation and heritage sites) cover 63.6% of the District. When areas covered by secondary constraints are added to this, almost the entire District (92.1%) is shown to be constrained.

4.9 If urban areas are not counted, then it can be seen from Table 4.2 that only 4% of the District is completely unconstrained by the primary and secondary constraints in Table 4.1. These are the 'white' areas on Figures 4.2 and 4.3 in the northern part of the District on the northern and western edges of Crawley Down, and in the central part of the District to the east, south and west of Haywards Heath, west of Burgess Hill and the rural area along the western edge of the A23. Whilethese are highlighted as less constrained areas of the District, they may not be sustainable locations in terms of access to services (such as schools, health facilities and public transport). **Section 5** looks at this in more detail.

Table 4.2 Areas and percentage of Mid Sussex constrained by primary and/or secondary constraints

	Total area (ha)	% of total District area	Area (ha) excluding urban areas	% of total District area
Area of District	33,402.93	**100.00**	30172.38	**90.33**
Urban areas	3,230.55	**9.67**	-	-
Primary constraints	21,236.13	**63.58**	20,908.83	**62.60**
Secondary constraints	24,307.02	**72.77**	22,379.92	**67.00**
Secondary constraints only (outside of the primary constraints)	9,519.64	**28.50**	7,841.05	**23.47**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 6 secondary constraints	21,237.44	**63.58**	20,909.94	**62.60**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 5 secondary constraints	21,245.36	**63.60**	20,917.79	**62.62**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 4 secondary constraints	21,359.19	**63.94**	21,028.89	**62.96**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 3 secondary constraints	22,245.20	**66.60**	21,842.58	**65.39**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 2 secondary constraints	25,771.27	**77.15**	24,760.59	**74.13**
Area of district covered by primary constraints plus areas outside of primary constraints but with at least 1 secondary constraint	30,755.77	**92.08**	28,749.68	**86.07**
Area of district covered by no primary and secondary constraints	2,652.04	**7.94**	1,427.95	**4.27**





Mid Sussex District Plan
Capacity Study

Figure 4.2: Constraints to Development in Mid Sussex (Primary and Secondary)

Local Authority Boundary

Primary Constraints

Special Area of Conservation (SAC), Special Protection Area (SPA), Site of Special Scientific Interest (SSSI), Site of Nature Conservation Importance (SNCI), Local Nature Reserves, High Weald Area of Outstanding Natural Beauty, South Downs National Park, Listed Building, Registered Park and Garden, Scheduled Monument, Flood Zone 3, Agriculture Land Classification - Grade 2, Public Rights Of Way

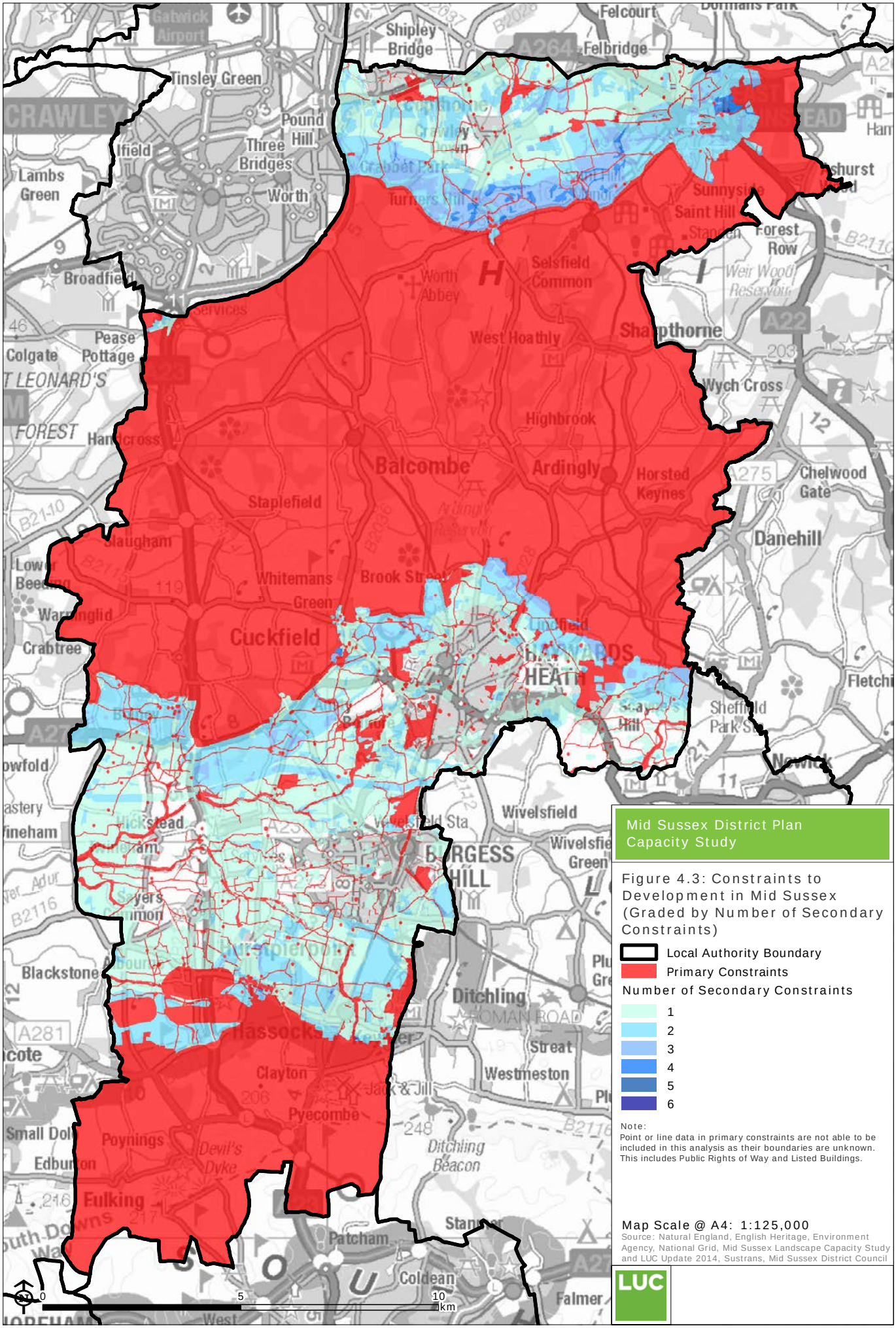
Secondary Constraints

AncientWoodland with 15m buffer, Ashdown Forest 7km HRA buffer, National Park and AONB 1km buffer, Conservation Areas, Air Quality Management Area (AQMA), Source Protection Zone 1, Flood Zone 2, 400kV Electricity Line - 100m buffer, Sites identified as open space within PPG17 assessment, Sustrans National Cycle Route, Landscape Capacity (Low,Low/Medium)

Map Scale @ A4: 1:125,000

Source: Natural England, English Heritage, Environment Agency, National Grid, Mid Sussex Landscape Capacity Study and LUC Update 2014, Sustrans, Mid Sussex District Council

LUC



Mid Sussex District Plan Capacity Study

Figure 4.3: Constraints to Development in Mid Sussex (Graded by Number of Secondary Constraints)

Local Authority Boundary

Primary Constraints

Number of Secondary Constraints

1
2
3
4
5
6

Note:
Point or line data in primary constraints are not able to be included in this analysis as their boundaries are unknown. This includes Public Rights of Way and Listed Buildings.

Map Scale @ A4: 1:125,000

Source: Natural England, English Heritage, Environment Agency, National Grid, Mid Sussex Landscape Capacity Study and LUC Update 2014, Sustrans, Mid Sussex District Council

LUC

5 Sustainability of District in terms of access to services

5.1 This section provides an assessment of how well the District is served by services and facilities, and in particular those areas that are less constrained by primary and secondary constraints.

5.2 Mid Sussex District Council has mapped a number of services within the District, including GP surgeries, schools, convenience stores, larger shops, bus stops and train stations. Through work on its Strategic Housing Land Availability Assessment (SHLAA), the Council has also identified 'walking distance' zones to each facility, which are as follows:

- GP surgeries – 1.6 km
- Schools – 1.6km
- Convenience stores – 1.6km
- Larger shops – 2km
- Bus stops – 0.8km
- Train stations – 1.6km
- Open spaces – 0.3km

5.3 The walking distances are based on the assumption that average walking times would be 10 minutes for 0.8km, 15 minutes for 1.2km and 20 minutes for 1.6km, and that is reasonable to assume that people might walk 10-20 minutes to access services. The open space walking distance is derived from Natural England's Accessibility to Natural Greenspace Standards, which include the recommendation that everyone should have an accessible greenspace of at least 2 hectares in size, no more than 300 metres (5 minutes' walk) from home.

5.4 **Figure 5.1** shows the areas in the District which are within walking distance of the above services and facilities. **Figure 5.2** then shows the areas that have at least one and up to seven different services and facilities within walking distance.

5.5 It is clear that the three main settlements of East Grinstead, Haywards Heath and Burgess Hill, as well as the village of Hassocks have the greatest range of services and facilities within walking distance for residents, including GP surgeries, schools, convenience stores, libraries, open space and leisure centres plus a range of transport options. In particular, they are all served by main line train stations, as is the village of Balcombe, which sets Hassocks and Balcombe apart from other villages in the District. There are six railway stations in Mid Sussex, five of which are on the main Brighton to London line: Hassocks, Burgess Hill, Wivelsfield, Haywards Heath and Balcombe. East Grinstead railway station is on the East Grinstead to London line.

5.6 A large number of the smaller settlements have bus stops within walking distance (in particular settlements along the A23, A272, A273 and A264 corridors and some of the smaller routes within the AONB and National Park). However, the bus services in some parts of the District (generally the rural areas) are infrequent and do not operate in the evenings or weekends[139] reducing their attractiveness to potential users. The Sustainability Appraisal Report notes that private bus operators run services connecting the three towns with many of the District's villages, larger regional centres such as Horsham and Crawley and Brighton.[140]

5.7 The three main settlements and a number of villages also have a GP surgery within walking distance. The Infrastructure Delivery Plan (IDP) notes that there are no planned upgrades or improvements to health care facilities in the District at present, and that there are a number of issues of concern with respect to GP surgery provision, including: two GP surgeries that are non-

[139] MSDC Draft Infrastructure Development Plan, May 2013 p11

[140] Mid Sussex District Plan Proposed Submission Sustainability Appraisal Main Report, Mid Sussex District Council (May 2013) p14

compliant with the Disability Discrimination Act (DDA 1995), (Brow Surgery in Burgess Hill and Judges Close Surgery in East Grinstead); some surgery buildings in densely populated areas of the District are up to 25 years old and are constrained in delivery by size (e.g. The Meadows and The Brow surgeries in Burgess Hill, and Judges Close and Moatfield surgeries in East Grinstead); and a small number of practices are finding new funding pressures and may struggle to keep branch surgeries open.[141]

5.8 All the main settlements and a large number of villages have a school within walking distance, with 27 primary and seven secondary schools serving the District.[142] West Sussex County Council's Capital and Asset Management Team provided information on school accommodation issues and school capacity within Mid Sussex District for the IDP.[143] The IDP notes that there is a new Special Educational Needs (SEN) school for Early Years, Key Stages 1, 2 and 3 (130 pupils), including an assessment nursery and a replacement for Oakmeeds workplace nursery built in Burgess Hill, with proposals for six existing primary schools to expand to cater for existing or forecast future demand. Information on early year's infrastructure provision has not been easily established and will be subject to further discussion between Mid Sussex District Council and West Sussex County Council.

5.9 In terms of primary school provision, schools in the south of the District in Hassocks, Hurstpierpoint and Twineham will be oversubscribed. Likewise, in the central area of the District, Balcombe, Blackthorns, Bolney, Handcross, and Lindfield primary schools will experience capacity issues of varying severity. In the north of the District some localised capacity problems exist, but the overall level of provision is expected to be able to cater for estimated need. New development is likely to increase the identified capacity problems, and depending on the size and scale of development, additional demands placed on the primary schools will need to be accommodated through extensions to the existing provision.[144]

5.10 Secondary schools in the East Grinstead area and Hassocks will be approaching or at capacity in the early part of the plan period. Existing secondary schools in Haywards Heath are not currently expected to experience significant increases in pupil numbers over the plan period. However, significant development could place significant pressure on these resources and capacity would have to be reviewed if such development is proposed. Similarly, existing secondary schools in Burgess Hill will not have capacity to cater for the number of pupils that may be generated by large-scale development. The IDP notes that depending on the size and scale of new development additional secondary school capacity will need to be accommodated either through extensions to the existing provision or in some locations a new secondary school of sufficient size and scale to be able to accommodate 1,200 pupils.[145]

5.11 Unsurprisingly, there are large areas of the AONB in particular that are not served by any facilities, as well as areas within the National Park (see **Figure 5.1**). Some of the western central parts of the District (west and east of the A23 corridor), and small pockets to the east of Scaynes Hill and south of Haywards Heath also have no services and facilities accessible by foot.

5.12 In sustainability terms, it would be better to locate new housing developments in areas that are accessible to an existing range of services including public transport routes, as this would encourage more journeys by public transport, walking and cycling and reduce car journeys. This has associated benefits of reducing CO_2 emissions, noise and air pollution.

5.13 However, if development is over a certain scale (e.g. 500-1,000 dwellings[146]) then it may be necessary to invest in provision of new services and facilities to serve the development. Conversely, unless proposed development includes 500 or more dwellings, then it is likely to have to rely on existing services (and potentially invest in those services). Therefore, the most

[141] MSDC Draft Infrastructure Development Plan, May 2013 pp16-17

[142] MSDC Draft Infrastructure Development Plan, May 2013 p13

[143] MSDC Draft Infrastructure Development Plan, May 2013 p14

[144] MSDC Draft Infrastructure Development Plan, May 2013 p14

[145] MSDC Draft Infrastructure Development Plan, May 2013 p15

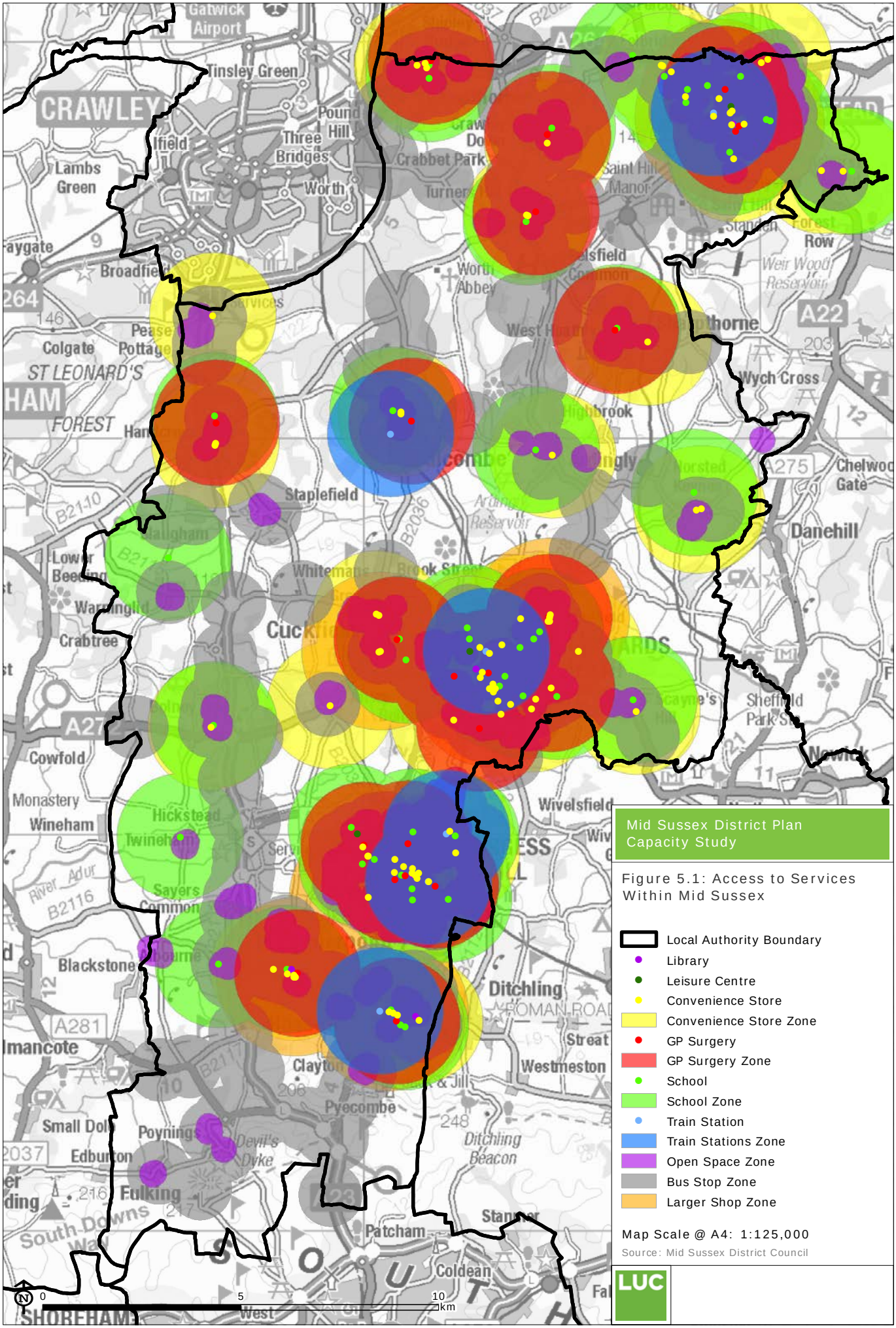
[146] Sustainable urban neighbourhoods. Building communities that last. Joseph Rowntree Foundation (February 2012) p12 – notes that in order to count as a 'sustainable urban neighbourhood' new settlements should have a wide choice of housing and facilities, and that a neighbourhood with some common facilities requires a minimum of between 500 and 1,000 units.

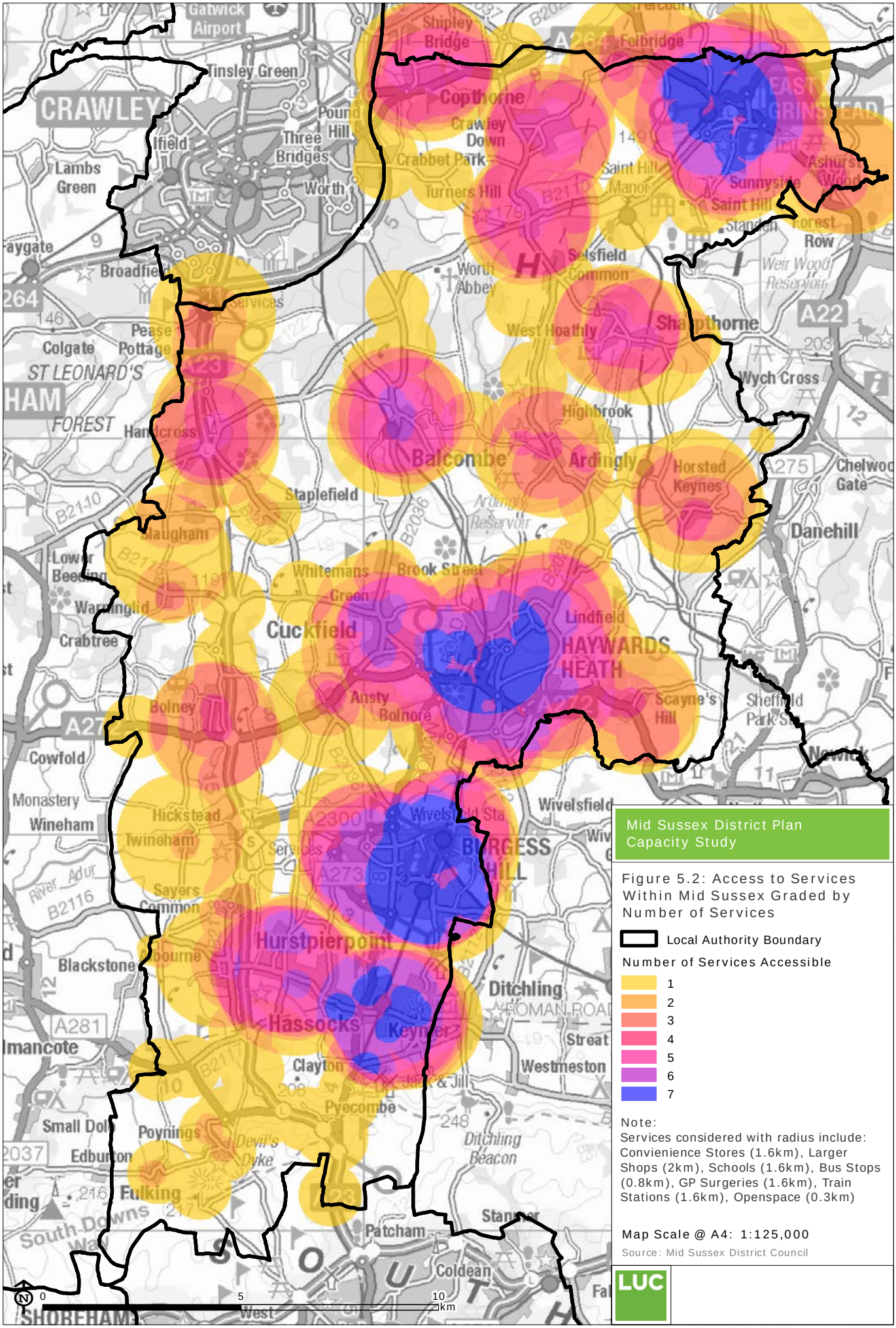
sustainable locations in the District to accommodate new development are likely to be those areas that are least constrained, and are in walking distance of a range of services. The accessibility to services of areas within the District with less than four secondary constraints is shown in **Figure 5.3**, and in the areas with no primary or secondary constraints in **Figure 5.4**.

5.14 Figure 5.3 shows that the more sustainable locations in the District are likely to be around the edges of the main urban settlements of East Grinstead, Haywards Heath and Burgess Hill, as well as Hurstpierpoint, Hassocks, Keymer, Bolney, Crawley Down and Copthorne, although these areas still have up to three secondary constraints that would need to be considered when assessing their suitability to accommodate development.

5.15 Figure 5.4 shows that very few areas in the District are not constrained by primary and secondary constraints but also have at least three services in walking distance. There is nowhere around East Grinstead and Burgess Hill has only an area to the west. There are more opportunities at Haywards Heath than the other two main settlements (to the west, south and east of Haywards Heath). Finally, a small area west of Hurstpierpoint and the A23, and areas to the north and west of Crawley Down have no primary/secondary constraints and access to at least three services.

5.16 However, even the areas shown on Figure 5.4 may not be completely 'unconstrained'. Although they do not fall within the categories of primary and secondary constraints identified in this study (see Table 4.1), there may be other potential constraints to development to take into account, such as Grade 3a best and most versatile agricultural land or medium sensitivity landscapes, as well as access, ownership, and infrastructure issues at the local level which may make delivery of new housing more of a challenge than Figure 5.4 suggests.





Mid Sussex District Plan
Capacity Study

Figure 5.2: Access to Services Within Mid Sussex Graded by Number of Services

Local Authority Boundary

Number of Services Accessible

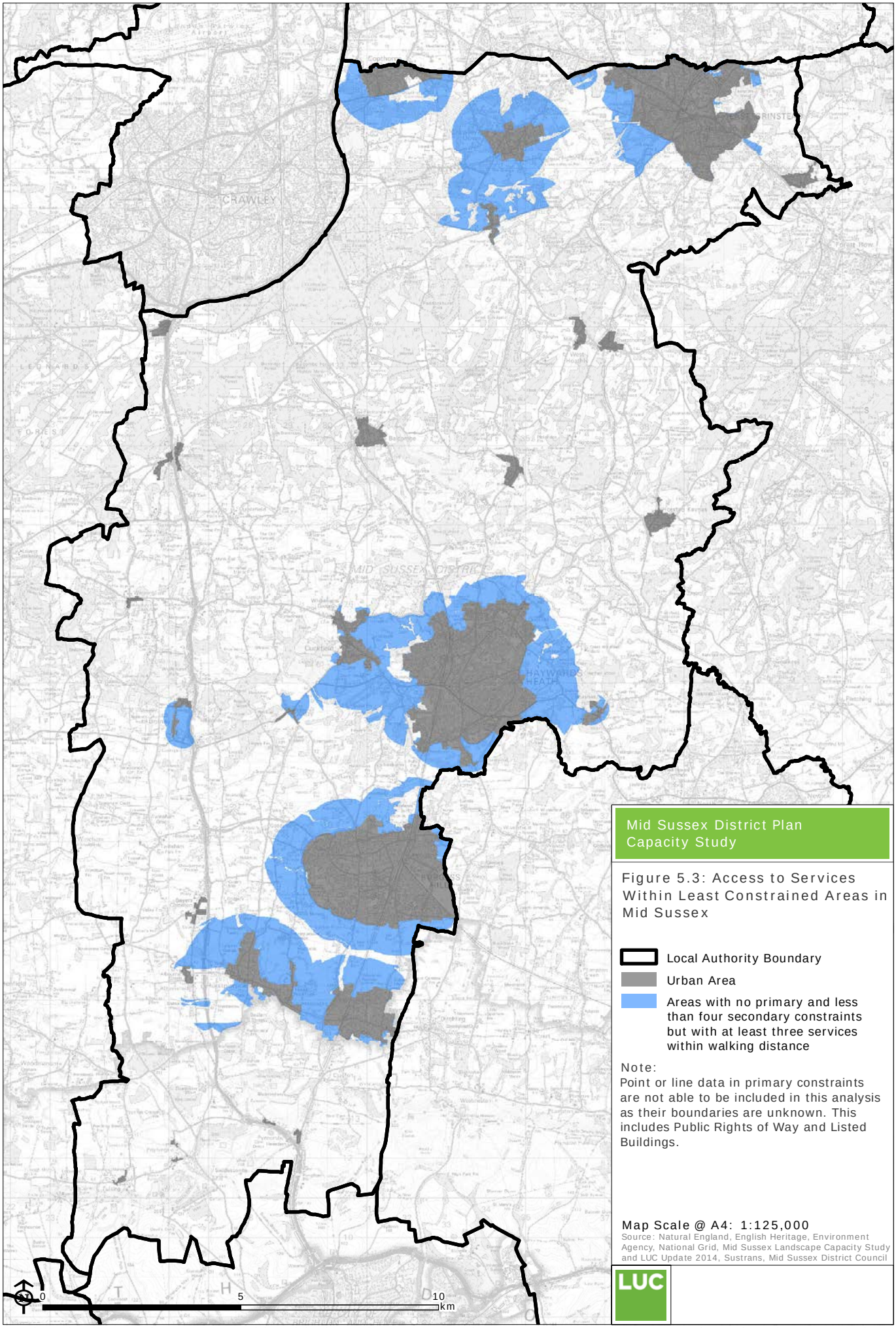
- 1
- 2
- 3
- 4
- 5
- 6
- 7

Note:
Services considered with radius include: Convienience Stores (1.6km), Larger Shops (2km), Schools (1.6km), Bus Stops (0.8km), GP Surgeries (1.6km), Train Stations (1.6km), Openspace (0.3km)

Map Scale @ A4: 1:125,000

Source: Mid Sussex District Council

LUC



Mid Sussex District Plan
Capacity Study

Figure 5.3: Access to Services Within Least Constrained Areas in Mid Sussex

- Local Authority Boundary
- Urban Area
- Areas with no primary and less than four secondary constraints but with at least three services within walking distance

Note:
Point or line data in primary constraints are not able to be included in this analysis as their boundaries are unknown. This includes Public Rights of Way and Listed Buildings.

Map Scale @ A4: 1:125,000

Source: Natural England, English Heritage, Environment Agency, National Grid, Mid Sussex Landscape Capacity Study and LUC Update 2014, Sustrans, Mid Sussex District Council

LUC

6 Summary and conclusions

6.1 This section summarises the findings of the study and draws conclusions regarding the capacity of the District to accommodate development and the most sustainable areas for development in the District. The analysis undertaken has shown that outside of the urban areas only 4% of the District is not covered by a primary or secondary constraint.

Overall context

6.2 Mid Sussex is one of seven Districts within West Sussex County in the South East of England. The District is predominantly rural, with three towns - Burgess Hill, East Grinstead and Haywards Heath – and a good mix of large and smaller villages/hamlets each with their own distinctive heritage and characteristics. Around 140,000 people live in the District, with 62% living in the three main towns and the remaining 38% living in the villages.[147]

6.3 The District is consistently ranked highly on quality of life measures (including housing, environment, health and education).[148] This may be in part due to the attractiveness of the District's countryside, natural environment and heritage. Around 60% is under national landscape protection designations, with 50% in the High Weald AONB in the northern part of the District and 10% in the South Downs National Park covering the southern corner of the District. The results of the 2007 Landscape Capacity Study identified that many of the landscape character areas outside of the AONB and National Park are also distinctive and valuable landscapes sensitive to potential development. There are no areas assessed as having high landscape capacity (i.e. likely to be able to accommodate significant allocations of housing development). There are only two areas with medium/high capacity i.e. generally lower landscape sensitivity and therefore more able to accommodate large-scale development: LCA 53 Fox Hill immediately south of Haywards Heath, and LCA 58 West Burgess Hill Low Weald, on the western edge of Burgess Hill. Consequently much of the study area is heavily constrained with regard to the potential impacts of development on the landscape character of the District.

6.4 While there are no European-designated or Ramsar sites within the District there are thirteen Sites of Special Scientific Interest (all of which are within the AONB or National Park), and the Ashdown Forest SAC and SPA 7km zone of influence extends into the north eastern edge of the District (in this zone, planning applications proposing a net increase in residential dwellings will be required to mitigate their effects of increased recreational pressure). In addition, there are a number of local designations, including Sites of Nature Conservation Importance and Local Nature Reserves. Mid Sussex is also the tenth most wooded District in the South East, with two-thirds of woodland comprising Ancient Woodland. Together these provide a rich network of ecological assets, often linked by non-designated habitats that help to support the coherence of the overall resource for biodiversity, but are vulnerable to erosion and fragmentation by development, infrastructure and other human activity such as insensitive farming practices.

6.5 The historic environment in the District is also of high quality. There are over a thousand Listed Buildings located across the District, 25 Scheduled Monuments clustered mainly in the south of the District, some around the central area and two in the north near Felbridge and Copthorne, including moated sites, motte and bailey castles, a Romano-British villa and farmstead, hillfort and a deserted medieval settlement. The ten Registered Parks and Gardens are mostly within the northern half of the District. Mid Sussex District Council has also designated 36 Conservation areas since 1969, almost half of which are within and around the settlements of Haywards Heath, Burgess Hill, East Grinstead, Hurstpierpoint and Cuckfield.

[147] 2011 Census data.
[148] Mid Sussex District Plan. Submission version (May 2013), p6

6.6 Economically, the District is generally successful with high levels of employment and a very low level of unemployment. It has a relatively skilled and educated workforce and has access to higher educational establishments within the District (Central Sussex College) and two universities in Brighton (University of Brighton and University of Sussex). The District is well connected with good links by road and rail to London, Brighton and Gatwick and is within easy travelling distance of the Channel Tunnel, Southampton and Dover. Around 45% of workers commute out of the District. The nature of the local economy is therefore strongly influenced by the wider regional context in which it sits.[149]

6.7 Due to the high quality of the surroundings, accessibility to London and high quality of life in the District and along the south east coastal authorities, pressure for development, particularly housing and associated infrastructure, is high. However, the attractiveness of Mid Sussex District and its high quality landscapes, natural environment and heritage also represent significant constraints to development. In addition, capacity of infrastructure supporting towns and villages in the District is under pressure. These issues are summarised below along with the implications for capacity of Mid Sussex to accommodate development.

Environmental constraints to development

6.8 **Figure 4.1** shows the environmental and infrastructure related primary and secondary constraints identified in the District in Sections 2 and 3, and highlights how constrained Mid Sussex is. There are only very small pockets of the District that are not already developed and have no significant environmental or infrastructure constraints, and even some of these may still be constrained (e.g. Grade 3 agricultural land has not been included in the primary and secondary constraints, nor has landscape with medium capacity for development).

6.9 However, not all constraints to development have equal weight. As discussed in Section 4, primary constraints have been identified where it is unlikely that there would be capacity for any significant development, because of both their high environmental sensitivity and the strong policy safeguards that apply to them. Primary constraints cover approximately 63% of the District, as shown in **Figure 4.2**. These largely comprise the nationally designated landscapes of the High Weald AONB and the South Downs National Park, as well as smaller areas in the District covered by national nature conservation and heritage designations, public rights of way, areas of highest flood risk (zone 3) and high agricultural land quality (Grades 1 and 2, although there is no Grade 1 agricultural land in the District).

6.10 Outside the primary constraints, a further 29% of the District is covered by at least one secondary constraint. This means that, including the urban areas, 92% of the District is covered by one form of 'mappable' constraint or another. After urban areas (which cover 4%) are removed this leaves only 4% of the District without a primary or secondary constraint.

6.11 The secondary constraints mostly comprise the 7km buffer zone around Ashdown Forest SPA, which extends into the north east of Mid Sussex, the 1km buffer zones around the edges of the AONB and National Park, ancient woodland sites including a 15m buffer, open space, sports and recreation areas and areas assessed as having "Low" and "Low/Medium" landscape capacity to accommodate development (i.e. very sensitive landscapes where development would have a significant impact on landscape character). Although these secondary constraints do not necessarily represent areas that cannot be developed, some are afforded protection under national policy, and often they represent areas where significant environmental impacts could occur, and where mitigation measures are likely to be required to avoid or reduce the significance of the impacts.

6.12 In the parts of the District not covered by primary constraints, development could be more challenging where there is more than one secondary constraint due to the added costs and challenges that would be required to adequately mitigate the potentially significant impacts on the environment in those areas (depending upon the nature of the constraint concerned). **Figure 4.3** highlights those areas in the District where there are more than one secondary constraint.

[149] Mid Sussex District Plan. Submission version (May 2013), pp6-7

However, as shown in **Table 4.2**, there are only very small areas outside of the primary constraints that are covered by between three and six secondary constraints:

- 63.6% of the District is covered by primary constraints.
- 63.9% of the District is covered by primary constraints with at least four secondary constraints outside the primary constraints area.
- 66.6% of the District is covered by primary constraints with at least three secondary constraints outside the primary constraints area.
- 77.2% of the District is covered by primary constraints with at least two secondary constraints outside the primary constraints area.
- 92% of the District is covered by primary constraints plus at least one secondary constraint outside the primary constraints area. The main reason for this step-change is the extent of the landscape of the District outside of the primary constraints that has been assessed as having low or low/medium capacity to accommodate development.
- Built-up areas account for 4% of the District, leaving only 4% that is not covered by a primary or secondary constraint.

Infrastructure constraints to development

6.13 In addition to the environmental constraints, the capacity of existing transport, waste water and water supply infrastructure to support development in Mid Sussex is also under pressure.

6.14 While there are good rail connections within the District, there are high levels of car ownership, and much of the road network in the District comprises narrow, winding rural roads. There are congestion issues in the main towns and at major junctions, and East Grinstead in particular has acknowledged congestion problems along the A22/A264.[150]

6.15 Mid Sussex and other local authorities in the south east of England are in an area classified by the Environment Agency as 'water-stressed'. There is currently insufficient water available to meet demand forecast in the South East Water area, without implementation of a number of demand management and water efficiency measures, along with numerous new water resource options, which are set out in South East Water's Water Resources Management Plan 2014.

6.16 South East Water sets out in the Water Resources Management Plan 2014 a number of demand management and water efficiency measures that will be implemented, along with numerous new water resource options to ensure that forecast demand for water will be met to 2040. None of the new water resource options (e.g. groundwater sources, water transfer schemes, new reservoirs etc.) are located within Mid Sussex.

6.17 In terms of sewage treatment, while some of the WWTWs in the District may not currently have sufficient capacity currently to accommodate growth, investment funded by Southern Water and scheduled for delivery by 2015 will provide headroom at Goddards Green for approximately 3,000 dwellings. In addition, the water companies have advised that where need is identified through the local plan process, further expansion of the wastewater treatment works would be planned, funded and delivered through the water industry's price review process, subject to Environment Agency approval.

Access to services

6.18 In sustainability terms, it would be better to locate new housing developments in areas that are accessible to an existing range of services including public transport routes, as this would encourage more journeys by public transport, walking and cycling and reduce car journeys. This has associated benefits of reducing CO_2 emissions, noise and air pollution.

[150] Mid Sussex District Plan. Submission version (May 2013), pp7-8

6.19 However, if development is over a certain scale (e.g. 500-1,000 dwellings[151]) then it may be necessary to invest in provision of new services and facilities to serve the development. Conversely, unless proposed development includes 500 or more dwellings, then it is likely to have to rely on existing services (and potentially invest in those services). Therefore, the most sustainable locations in the District to accommodate new development are likely to be those areas that are least constrained, and are in walking distance of a range of services.

6.20 The more sustainable locations in the District are likely to be around the edges of the main urban settlements of East Grinstead, Haywards Heath and Burgess Hill, as well as Hurstpierpoint, Hassocks, Keymer, Bolney, Crawley Down and Copthorne, although these areas still have up to three secondary constraints that would need to be considered when assessing their suitability to accommodate development (see **Figure 5.3**).

6.21 Only 2.3% of the District is not constrained by primary and secondary constraints and also has at least three services in walking distance. There is nowhere around East Grinstead, and Burgess Hill has only an area to the west. There are more opportunities at Haywards Heath than the other two main settlements (to the west, south and east of Haywards Heath). Finally, a small area west of Hurstpierpoint and the A23, and areas to the north and west of Crawley Down have no primary/secondary constraints and access to at least three services (see **Figure 5.4**).

6.22 However, even the areas shown on Figure 5.4 may not be completely 'unconstrained'. Although they do not fall within the categories of primary and secondary constraints identified in this study (see Table 4.1), there may be other potential constraints to development to take into account, such as Grade 3a best and most versatile agricultural land or medium sensitivity landscapes, as well as access and infrastructure issues at the local level which may make delivery of new housing more of a challenge than Figure 5.4 suggests. In addition, there are other factors not included in this study such as site ownership and availability that will also need to be taken into consideration in the plan-making process, and may mean that areas outside of primary and secondary constraints are unsuitable for development.

Conclusions

6.23 Mid Sussex District is heavily constrained by environmental designations and its attractive countryside and high quality landscape character in particular. This study has brought together information from a number of sources and mapped the various environmental constraints to development that exist in the District. **Figure 4.1** showed the numerous different national and local designations and environmental assets that cover almost all of Mid Sussex.

6.24 **Figure 6.1** highlights that almost two thirds of the District is covered by primary level constraints, i.e. areas that are afforded the highest protection under national policy. In the remaining parts of the District, very few areas (only 4% of the District) are not also covered by one or more secondary constraints (still sensitive but have less weight applied to them in national policy) or not already built upon. Only those areas in close proximity to the main settlements have more than three services within walking distance and are therefore likely to be more sustainable locations for new development (shown in purple hatching). However, as shown on Figure 6.1, most of the areas around the main settlements are also constrained by at least one secondary constraint.

6.25 For development to occur in areas around the main settlements which still have secondary constraints, a number of mitigation measures are likely to be needed, including for example:

- Contributions to mitigation and provision of SANGs would be needed for development within the 7km Zone of Influence for the Ashdown Forest SPA/SAC (i.e. around East Grinstead and Haywards Heath).
- A detailed ecological assessment would be required to determine the existing biodiversity within potential development locations, its status and condition, and its potential in order to

[151] Sustainable urban neighbourhoods. Building communities that last. Joseph Rowntree Foundation (February 2012) p12 – notes that in order to count as a 'sustainable urban neighbourhood' new settlements should have a wide choice of housing and facilities, and that a neighbourhood with some common facilities requires a minimum of between 500 and 1,000 units.

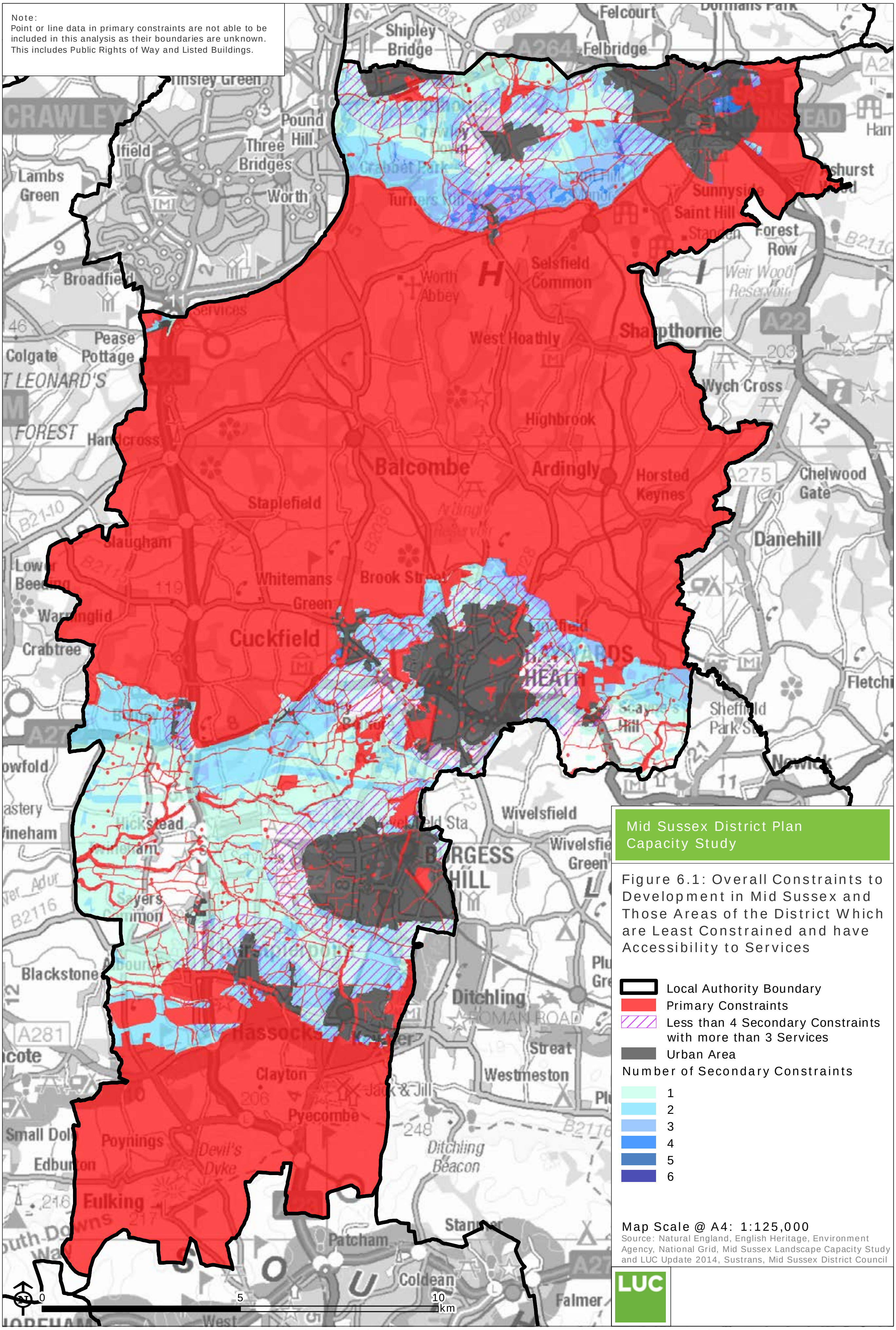
inform what mitigation measures would be required to safeguard and enhance the District's biodiversity interest (such as areas of ancient woodland).

- Development would need to be designed to maintain or where possible enhance the quality of the rural and landscape character of the District.
- A detailed assessment would need to be undertaken to determine the potential for significant effects on designated historic assets and the likelihood of historic assets being present.
- Discussions with the Environment Agency and water companies may be needed to determine the extent and feasibility of investment in waste water treatment works to accommodate additional development without breaching water quality targets.
- Development in the south of the District around Hurstpierpoint would need to take account of the economic and other benefits of the best and most versatile agricultural land in that area and seek to use areas of poorer quality agricultural land in preference to that of higher quality.
- Development in the areas around some of the main settlements may need to avoid small areas of flood risk zone 2 and 3, and incorporate SuDS into new development to ensure that run-off is managed so that the risk of flooding is not exacerbated elsewhere.
- Development would need to protect and incorporate the National Cycle Routes and PRoWs, as well as existing open space, sport and recreation areas.
- Development would need to ensure that the surrounding transport infrastructure has sufficient capacity to accommodate the needs of new residents, or can be upgraded to serve higher volumes of traffic.

6.26 **Figure 6.1** also shows that there is a relatively unconstrained area of the District to the west of the A23 south of Bolney which is only slightly constrained by some small areas of flood risk zone 3 and PROWs. However, this area does not have access to more than three services, indeed Figure 5.1 showed there to be only a school, open space and a bus service along the A23, within walking distance of this area. This area is categorised as having only medium landscape capacity (see Figure 3.2), therefore, development in this location could have a significant effect on landscape character. In addition, the location close to the A23 might encourage commuting by unsustainable modes of transport, which suggests that it may not be the most sustainable option for accommodating further growth..

6.27 In conclusion, if there is a development need identified for the District that cannot be accommodated within the areas identified as not being covered by primary and secondary constraints and/or within walking distance of a range of services and facilities, then decisions will come down to levels of 'acceptability' (as discussed in Section 1), which in turn may be influenced by mitigation measures proposed and how well they can be implemented.

6.28 There is also a need to recognise that development will need to take place to meet requirements beyond a local plan period. Depending on the rate of development in the short term, there may be less flexibility to deliver development in the future without compromising the environmental capacity of the District.


Note:
Point or line data in primary constraints are not able to be included in this analysis as their boundaries are unknown.
This includes Public Rights of Way and Listed Buildings.
Mid Sussex District Plan Capacity Study
Figure 6.1: Overall Constraints to Development in Mid Sussex and Those Areas of the District Which are Least Constrained and have Accessibility to Services
Local Authority Boundary
Primary Constraints
Less than 4 Secondary Constraints with more than 3 Services
Urban Area
Number of Secondary Constraints
1
2
3
4
5
6
Map Scale @ A4: 1:125,000
Source: Natural England, English Heritage, Environment Agency, National Grid, Mid Sussex Landscape Capacity Study and LUC Update 2014, Sustrans, Mid Sussex District Council
LUC
0
5
10
km

Appendix 1
Relevant policies from the Submission District Plan

This appendix sets out the policies in the Submission District Plan which are relevant to the environmental designations, issues and infrastructure of Mid Sussex, as discussed in Chapter 2 of the main report. It should be noted that while the District Plan has now been withdrawn, the policies give a useful indication of the Council's intentions (although they will be subject to change as revisions to the District Plan are made).

1a. Biodiversity

Local Policy

Policy DP36 – Biodiversity states that the biodiversity within the District will be protected and enhanced by ensuring development:

> *"Pursues opportunities to improve, enhance, manage and restore biodiversity, so that there is a net gain in biodiversity, including creating new designated sites and incorporating biodiversity features within developments;*
>
> *Protects existing biodiversity, so that there is no net loss of biodiversity. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances);*
>
> *Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase resilience;*
>
> *Avoids damage to and protects the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation, nationally designated Sites of Special Scientific Interest, and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors and Nature Improvement Areas."*[152]

Policy DP14 – Ashdown Forest Special Protection Area (SPA) commits the Council to working with partners and developing a strategic approach to protecting the SPA from recreational pressures. Residential development within 400m of the SPA boundary will not be permitted, and the policy also states that:

> *"Within a 7 km buffer zone around the Ashdown Forest, residential development leading to a net increase in dwellings will be required to contribute to:*
>
> *- The provision of Suitable Alternative Natural Green Space (SANGs) to the level of 8ha per 1,000 net increase in population or in the form of financial contributions to SANGS elsewhere; and*
>
> *- The Ashdown Forest Access Management and Monitoring Strategy."*[153]

1b. Landscape

Local policy

Policies relating to landscape include:

Policy DP13 – High Weald Area of Outstanding Natural Beauty sets out that:

> *Within the High Weald Area of Outstanding Natural Beauty (AONB), as shown on the Policies Maps, development will only be permitted where it conserves and enhances natural beauty and has regard to the High Weald AONB Management Plan, in particular;*
>
> - *The identified landscape features or components of natural beauty and to their setting;*
> - *The traditional interaction of people with nature, and appropriate land management;*
> - *Character and local distinctiveness, sense of place and setting of the AONB;*
> - *An emphasis on small scale proposals that are sustainably located and designed; and*
> - *Proposals which support the economies and social well-being of the AONB (in particular land based workers or activities that directly support land management) and its communities*

[152] Mid Sussex Submission District Plan (2013), pp57-58
[153] Mid Sussex Submission District Plan (2013), p37

including 100% affordable housing schemes (provided that they are compatible with the aim of conserving and enhancing natural beauty).

Policy DP15 – South Downs National Park, which states:

Within the South Downs National Park, as shown on the Policies Map, development must conserve and enhance the special character of the National Park, having regard to the South Downs Management Plan.

Policy DP16 – Setting of the South Downs National Park, which recommends that:

Development (including rural exception sites) within land adjoining the South Downs National Park that contributes to the setting of the Park will only be permitted where it enhances and does not detract from the visual qualities and essential characteristics of the National Park, and in particular should not adversely affect the views into and out of the Park by virtue of its location or design.

1c. Historic Environment

Local Policy

Policy DP32 – Listed Buildings and Other Buildings of Merit states that

"Development will be required to protect listed buildings and their settings. (…) The Council will seek to conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the character and quality of life of the District. Significance can be defined as the special interest of a heritage asset, which may be archaeological, architectural, artistic or historic."[154]

Policy DP33 – Conservation Areas:

"Development in a conservation area will be required to preserve and enhance its special character and appearance.

Development will also protect the setting of the conservation area and in particular views into and out of the area."[155]

Policy DP34 – Historic Parks and Gardens states:

"The character, appearance and setting of a registered park, or park or garden of special local historic interest will be protected. This will be achieved by ensuring that:

- *Any development within or adjacent to a registered park or park or garden of local historic interest will only be permitted where it protects and enhances its special features and protects the setting and views into and out of the park or garden."*[156]

Policy DP35 – Archaeological Sites and Heritage Assets sets out that:

"Development that would have a detrimental impact on sites of archaeological importance and their settings will only be permitted where the benefits of the proposal (which cannot reasonably be located elsewhere) are so great as to outweigh the possible effects on the archaeological importance of the site."[157]

2a. Air Quality

Local policy

Policy DP10 – Noise, Air and Light Pollution of the Submission District Plan, sets out that: *"The environment, including nationally designated environmental sites; areas of nature conservation or geological interest and the quality of people's life will be protected from unacceptable levels of noise, light and air pollution by only permitting development where …:*

Air Pollution:

[154] Mid Sussex Submission District Plan (2013), pp54-55
[155] Mid Sussex Submission District Plan (2013), pp55-56
[156] Mid Sussex Submission District Plan (2013), p56
[157] Mid Sussex Submission District Plan (2013), pp56-57

- It does not cause unacceptable levels of air pollution;

- Development on land adjacent to an existing use which generates air pollution or odour where this can be mitigated to reduce exposure to poor air quality and/or would not cause any adverse effects on the proposed development;

- Development proposals (where appropriate) are consistent with Air Quality Management Plans."[158]

Policy DP31 – Gypsies, Travellers and Travelling Showpeople, also sets out that *"new gypsy and traveller sites, and extensions to existing sites, including transit sites, will be permitted provided … the development is located and designed to the recognised best practice standards to ensure good quality living accommodation for residents and that the local environment (noise and air quality) of the site would not have a detrimental impact on the health and well being of the travellers."*[159]

Policy DP19 – Transport, contains measures to promote sustainable transport over the plan period (which should encourage less journeys and therefore reduce air pollution), stating that at the local level, *"development will only be permitted where … it is sustainably located to minimise the need for travel (and) … it facilitates and promotes the increased use of alternative modes of transport to the private car, such as the provision of safe and convenient routes for walking, cycling and public transport."*[160]

2b. Water Supply

Local policy

Policy DP38 – Sustainable Resources states that (in relation to water and energy consumption):

"New residential developments will only be permitted where it achieves, as a minimum:

- Level 4 of the Code for Sustainable Homes from the start of the plan period

- Level 5 against the Code for Sustainable Homes from 2016.

All non-residential developments will only be permitted where it achieves, as a minimum:

- BREEAM rating 'Very Good' from the start of the plan period;

- BREEAM rating 'Excellent' from 2016."[161]

Policy DP42 – Water Infrastructure and the Water Environment also states that:

"For new residential developments of more than 10 dwellings, applicants must demonstrate:

- That capacity exists off-site for foul and surface water provision. Where capacity off-site is not available, plans must be in place for its provision to have been completed ahead of the development's occupation;

- That there is adequate water supply to serve the development."[162]

2c. Water Quality

Local policy

Policy DP42 – Water Infrastructure and the Water Environment states that:

"For new residential developments of more than 10 dwellings, applicants must demonstrate:

- That capacity exists off-site for foul and surface water provision. Where capacity off-site is not available, plans must be in place for its provision to have been completed ahead of the development's occupation;

- That there is adequate water supply to serve the development."[163]

[158] Mid Sussex Submission District Plan (2013), p50
[159] Mid Sussex Submission District Plan (2013), p54
[160] Mid Sussex Submission District Plan (2013), p42
[161] Mid Sussex Submission District Plan (2013), p60
[162] Mid Sussex Submission District Plan (2013), p63
[163] Mid Sussex Submission District Plan (2013), p63

2d. Flood Risk

Local Policy

Policy DP41 – Flood Risk and Drainage states that:

> *"Development proposals must avoid areas at risk from flooding, and not increase the risk of flooding elsewhere. In identifying flood risk areas, reference will be made to the District Council's Strategic Flood Risk Assessment (SFRA), which identifies fluvial (including rivers and streams), surface water, groundwater, infrastructure and reservoir flood risks.*
>
> - *Particular attention will be paid to areas of the District that have experienced flooding in the past. Where possible, proposals for development should seek to rectify these problems and reduce the risk of flooding in these areas.*
> - *Land that is considered to be required for current and future flood management will be safeguarded from development."*[164]

2e. Soil/Agricultural Land Quality

Local Policy

Policy DP9 – Protection and Enhancement of Countryside sets out that development will only be permitted if:

> *"it takes account of the economic and other benefits of the best and most versatile agricultural land and seeks to use areas of poorer quality land in preference to that of higher quality."*[165]

2f. Energy Supply

Local Policy

Policy DP39 – Renewable Energy in New Developments requires that:

> *"For residential or employment developments applicants will be required to submit an assessment of the proposed development's CO2 demand and reduce this CO2 demand by at least 20% by using decentralised (on-site) renewable energy sources, unless it can be demonstrated by the developer that this is not viable or feasible…*
>
> *New large scale development (over 100 units / greater than 2ha, or with a density over 50dph) will be required to implement on-site 'community energy systems', such as Combined Heat and Power, to meet the energy needs of the development."* [166]

Policy DP40 – Renewable Energy Scheme supports new schemes as follows:

> *"Large and small-scale renewable energy schemes will be supported where it is demonstrated these will not have a significant detrimental impact on the environment and is in accordance with other policies in the Plan. Consideration of the wider environmental benefits will be balanced against any likely local effects on the environment, particularly in sensitive locations such as the South Downs National Park, High Weald AONB, SSSIs, SNCIs and Conservation Areas."*[167]

2g. Open space, sport and recreation areas

Local Policy

Policy DP 22[168] –Leisure and Cultural Facilities and Activities states that:

> *"Proposals that involve the loss of open space, sports and recreational buildings and land, including playing fields, will not be supported unless:*
>
> *An assessment has been undertaken which has clearly shown the open space, sports land or recreational building to be surplus to requirements; or*
>
> *The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or*

[164] Mid Sussex Submission District Plan (2013), p62
[165] Mid Sussex Submission District Plan (2013), p32
[166] Mid Sussex Submission District Plan (2013), p60
[167] Mid Sussex Submission District Plan (2013), p61
[168] Mid Sussex Submission District Plan (2013), p44

The development is for alternative sports and recreational provision, the needs for which clearly outweigh the loss."

Policy DP24 – Character and Design, states that:

"All development will be required to demonstrate that:

It contributes positively to the private and public realm (including streets and open spaces) to create a sense of place"[169]

2h. Transport Infrastructure

Local Policy

Policy DP19 – Transport states that to meet the objectives of the West Sussex Local Transport Plan:

"development will only be permitted where:

- *It is sustainably located to minimise the need for travel;*
- *It facilitates and promotes the increased use of alternative modes of transport to the private car, such as the provision of safe and convenient routes for walking, cycling and public transport;*
- *Does not cause an unacceptable impact in terms of road safety and increased traffic congestion;"* [170]

[169] Mid Sussex Submission District Plan (2013), p46

[170] Mid Sussex Submission District Plan (2013) p41-42

Appendix 2
Landscape capacity criteria and assessment tables

Table 1: Landscape character and visual sensitivity criteria, including examples of how each criterion is assessed on a five point scale (low to high)

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
Inherent landscape quality, i.e. the intactness and condition of the landscape.	***Landscape condition*** The condition and intactness of the physical landscape from visual, functional and ecological perspectives.			Field survey and Ordnance Survey 1:25000 mapping.
Lower sensitivity →				Higher sensitivity
e.g. The landscape and its features are fragmented and in very poor condition or have been destroyed.	e.g. The quantity of features within the landscape are limited or have been significantly damaged.	e.g. The landscape condition is fair and reasonably intact, with some moderate losses or damage to features within it.	e.g. The landscape is primarily intact and of high quality and condition, with any damage or losses not being detrimental to the overall landscape character.	e.g. The landscape and its features are intact and in good condition.
Contribution each area makes to the **distinctive setting of a particular settlement.**	***Settlement setting*** The extent to which an area contributes to the identity and distinctiveness of a settlement, by way of its character or its role as a settlement boundary. Landscapes which provide a distinctive setting to existing settlements will be of higher sensitivity to new strategic-level housing development.			Landscape Character Assessment for Mid Sussex (2005), field survey.
Lower sensitivity →				Higher sensitivity
e.g. The landscape is distant from and not immediately associated with any settlement.	e.g. The landscape is mostly distant from settlement or does not provide any distinctive contribution to a settlement.	e.g. Landscape provides a contribution to the setting of settlement but is not overly distinctive.	e.g. Landscape provides a distinct setting to part of a settlement.	e.g. Landscape provides a highly distinctive setting to one or more settlements.
Consistency with the	This criterion has not been included in the 2014 Capacity Study as it is considered to overlap			

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
form or pattern of existing settlement and the relationship the settlement has with the underlying landscape structure.	and therefore duplicate other sensitivity criteria (e.g. Settlement setting)			
Contribution to the rurality of the surrounding landscape, either by virtue of its own inherent rurality or the containing influence of the landscape being assessed on neighbouring settlements.	***Sense of rurality*** The most rural and undeveloped areas (where little modern human influence is evident), which may form a valued setting to existing settlements and contribute greatly to the characteristic rurality of the district as a whole are likely to have higher levels of sensitivity to strategic level housing development. Developments of this type may intrude on this valued quality and introduce uncharacteristic features into the landscape.			Ordnance Survey 1:25000 mapping, field survey, Landscape Character Assessment for Mid Sussex (2005).
Lower sensitivity	→			Higher sensitivity
e.g. An area with existing urban development where rurality is not apparent or is highly negatively impacted.	e.g. A landscape with some existing urban development or intervisibility with urban areas effects its sense of rurality.	e.g. A landscape which may contain significant areas of scattered settlement, but an element of rurality is retained by the presence of naturalistic features.	e.g. A landscape with some limited settlement, but naturalistic features such as woodland and hedgerows mean that a feel of rurality prevails.	e.g. Areas with a remote feel without urban influence, which may be enclosed by woodland or widely visible.
Contribution to the separation between existing settlements.	***Settlement separation*** Areas which presently form a distinct gap between existing settlements are likely to be more sensitive to strategic level housing development as this may lead to the coalescence of settlements and a loss of distinct identity.			Ordnance Survey 1:25000 mapping, field survey, MSDC open space data.
Lower sensitivity	→			Higher sensitivity
e.g. An area which does not	e.g. An area that contributes	e.g. An area which	e.g. An area which provides	e.g. An area which provides

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
contribute to the separation of settlements.	to gaps between scattered pockets of settlement, preventing their coalescence.	contributes to the wider separation between settlements.	partial separation between main settlements and make a significant contribution to the separation of settlements.	a distinct gap between one or more settlements.

Table 2: Landscape value criteria, including examples of how each criterion is assessed on a five point scale (low to high)

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
National landscape designations, which do not include gap policies.	***Landscape designations*** The presence of nationally designated landscapes, including National Parks and AONBs.			Boundaries of designated landscapes (AONBs and National Parks)
Lower value	→			Higher value
e.g. An area which is not within or adjacent to a nationally designated landscape.	e.g. An area which only slightly abuts a nationally designated landscape.	e.g. An area which is directly adjacent to a nationally designated landscape.	e.g. An area which is partially contained within a nationally designated landscape.	e.g. An area which is contained entirely within a nationally designated landscape.
Non-landscape designations for example; Heritage, amenity, biodiversity and flood zones.	***Other environmental designations*** The presence of sites designated at a European, national or local level for their contribution to biodiversity and amenity will be more valued than areas without such designations.			GIS data for SSSIs, SNCIs, LNRs, Ancient Woodland.
Lower value	→			Higher value
e.g. A landscape with no environmental designations.	e.g. An area with very limited amounts of locally designated resource.	e.g. An area with multiple locally designated sites, covering a moderate amount of the area.	e.g. A landscape which includes internationally or nationally designated sites, or a large coverage of local designations (e.g. SINCs).	e.g. An area with one or more internationally or nationally designated sites covering a significant proportion of the landscape.
Contribution to outstanding assets which includes the AONB.	***Setting of valued assets and features*** Contribution to the setting of valued assets and features within the landscape. These features may or may not be designated.			Setting of AONB, National Park, Listed Buildings, Scheduled Monuments, Conservation Areas, Historic Parks and Gardens, distinctive landform features, field survey

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
Lower value	→			Higher value
e.g. The landscape does not offer any contribution or is detrimental to valued assets.	e.g. The landscape offers a minor contribution to the wider setting of valued assets, although setting is not a significant characteristic of the feature.	e.g. The landscape contributes to the wider setting of valued assets.	e.g. The landscape makes a significant contribution to the setting of a valued feature or features.	e.g. The landscape forms a valued setting or backdrop to a feature considered to be outstanding, or a large number of other valued features.
Special cultural or historic associations, time depth	***Cultural and historical associations*** Landscapes which are recognised as having a strong intrinsic historic landscape character significance or potential for preserved archaeological evidence, or which have strong cultural associations, would be more highly valued than landscapes dominated by modern human influence which lack these qualities.			Ordnance Survey 1:25000 mapping, Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, Sussex Historic Landscape Characterisation, field survey.
Lower value	→			Higher value
e.g. A landscape with no cultural or historical influence or associations	e.g. A landscape with some visible historic/cultural influence although these are limited and modern influence prevails.	e.g. A landscape with visible and intact historic/cultural influences which may not be of particular significance.	e.g. A landscape with significant cultural/historical features or associations	e.g. An area which is highly valued for internationally or nationally important cultural/historical features or associations.
Perceptual aspects such as scenic beauty, tranquillity or remoteness	***Perceptual qualities*** Scenic and special qualities may relate to landscapes that are not formally designated as well as landscapes designated for their natural beauty. Additionally, landscapes that are relatively remote or tranquil (due to freedom from human activity and perceived naturalness or traditional rurality with few modern human influences) would be of a higher value compared to landscapes that contain existing signs of modern development.			CPRE Tranquillity data, field survey.

Original criteria definition (in 2007 Landscape Capacity Study)	Modified criteria names and criteria definitions for this study			Sources of information to inform the assessment
Lower value	→			Higher value
e.g. An area of low tranquillity with existing modern or urban development	e.g. A settled area with low levels of tranquillity but which may retain some naturalistic features.	e.g. A generally tranquil and remote landscape with a rural and naturalistic feel that may be slightly impacted by existing development.	e.g. Levels of tranquillity and special qualities and features are limited by influence from roads, urban areas or modern development.	e.g. A highly tranquil and intimate small-scale landscape, with a predominantly naturalistic feel.

Table 3: Landscape Character Areas and their Sensitivity, Value and Capacity scores

Note that for LCAs 1-75, the landscape sensitivity and landscape value scores are taken from the 2007 Study (Tables 1 and 2). However, the Landscape Capacity judgements in the final column have been revised to reflect LUC's 5 point scale as described in Section 4 of this report. The landscape sensitivity and landscape value scores for LCAs 76-80 were assessed by LUC in this current study, using the criteria and assumptions set out in Tables 1 and 2 above.

LCA Number	Landscape Character Area	Landscape Sensitivity	Landscape Value	Landscape Capacity
1	East Crawley - Copthorne Settled Woodland Matrix	Substantial	Moderate	**Low/Medium**
2	Rowfant High Weald	Moderate	Substantial	**Low/Medium**
3	Crawley Down Northern Fringe	Substantial	Slight	**Medium**
4	Crawley Down Southern Fringe	Moderate	Moderate	**Medium**
5	Major's Hill High Weald	Substantial	Substantial	**Low**
6	Selsfield High Weald	Substantial	Moderate	**Low/Medium**
7	Turners Hill High Weald	Substantial	Substantial	**Low**
8	Felbridge High Weald	Moderate	Slight	**Medium**
9	Tilkhurst High Weald	Substantial	Moderate	**Low/Medium**
10	Hill Place High Weald	Slight	Moderate	**Medium**
11	Rockwood High Weald	Moderate	Moderate	**Medium**
12	Sunnyside High Weald	Moderate	Substantial	**Low/Medium**
13	Brambletye High Weald	Substantial	Substantial	**Low**
14	Kidbrook High Weald	Slight	Substantial	**Medium**
15	Luxford High Weald	Substantial	Substantial	**Low**
16	East Grinstead Eastern High Weald	Substantial	Substantial	**Low**
17	Stonequarry High Weald	Moderate	Substantial	**Low/Medium**
18	East Grinstead Green Wedge	Substantial	Moderate	**Low/Medium**
19	Pease Pottage – Handcross High Weald	Substantial	Moderate	**Low/Medium**
20	Handcross Southern High Weald	Moderate	Substantial	**Low/Medium**
21	High Beeches High Weald	Substantial	Substantial	**Low**
22	Starvemouse High Weald	Substantial	Moderate	**Low/Medium**
23	Worth Forest High Weald	Substantial	Major	**Low**
24	Balcombe Western High Weald	Substantial	Moderate	**Low/Medium**
25	Balcombe Eastern High Weald	Moderate	Substantial	**Low/Medium**

LCA Number	Landscape Character Area	Landscape Sensitivity	Landscape Value	Landscape Capacity
26	West Hoathly High Weald	Moderate	Moderate	**Medium**
27	Gravetye Wooded High Weald	Substantial	Substantial	**Low**
28	New Coombe High Weald	Moderate	Substantial	**Low/Medium**
29	West Hoathly – Sharpthorne High Weald	Substantial	Moderate	**Low/Medium**
30	Ardingly Show Ground	Moderate	Moderate	**Medium**
31	Ardingly Eastern High Weald	Substantial	Moderate	**Low/Medium**
32	Ardingly Southern High Weald	Substantial	Moderate	**Low/Medium**
33	Ardingly Reservoir High Weald	Moderate	Substantial	**Low/Medium**
34	Oddynes High Weald	Substantial	Substantial	**Low**
35	Horsted Keynes High Weald	Moderate	Substantial	**Low/Medium**
36	Withy High Weald	Substantial	Substantial	**Low**
37	Tremaines High Weald	Substantial	Moderate	**Low/Medium**
38	Cockhaise Brook	Substantial	Substantial	**Low**
39	Paxhill Weald	Moderate	Substantial	**Low/Medium**
40	Scaynes Hill High Weald	Substantial	Slight	**Medium**
41	Scaynes Hill Wooded Setting	Substantial	Moderate	**Low/Medium**
42	Haywards Heath South-eastern Fringe	Substantial	Moderate	**Low/Medium**
43	Haywards Heath Eastern High Weald	Moderate	Moderate	**Medium**
44	River Ouse and Sides	Substantial	Substantial	**Low**
45	Haywards Heath North Weald	Slight	Moderate	**Medium**
46	Horsgate High Weald	Moderate	Substantial	**Low/Medium**
47	Borde Hill Parkland	Substantial	Substantial	**Low**
48	Whitemans High Weald	Moderate	Substantial	**Low/Medium**
49	West Cuckfield Weald	Moderate	Substantial	**Low/Medium**
50	Cuckfield High Weald	Substantial	Moderate	**Low/Medium**
51	Copyhold High Weald Fringe	Moderate	Slight	**Medium**
52	Heaselands Weald	Substantial	Moderate	**Low/Medium**
53	Fox Hill	Slight	Slight	**Medium/High**
54	Haywards Heath –	Substantial	Moderate	**Low/Medium**

LCA Number	Landscape Character Area	Landscape Sensitivity	Landscape Value	Landscape Capacity
	Burgess Hill Low Weald			
55	Lunce Low Weald	Substantial	Moderate	**Low/Medium**
56	Bedelands Farm Low Weald	Substantial	Substantial	**Low**
57	Foxashes Weald	Substantial	Moderate	**Low/Medium**
58	West Burgess Hill Low Weald	Slight	Slight	**Medium/High**
59	Cobb's Mill Low Weald	Moderate	Substantial	**Low/Medium**
60	Bolney Sloping High Weald	Moderate	Substantial	**Low/Medium**
61	Crosspoint Southern Weald	Substantial	Slight	**Medium**
62	Hickstead – Sayers Common Low Weald	Substantial	Slight	**Medium**
63	Albourne Low Weald	Substantial	Moderate	**Low/Medium**
64	Albourne Foothills	Substantial	Moderate	**Low/Medium**
65	Wanbarrow Foothills	Moderate	Substantial	**Low/Medium**
66	Hurstpierpoint Low Weald	Substantial	Substantial	**Low**
67	Burgess Hill Southern Fringe	Substantial	Moderate	**Low/Medium**
68	Furzefield Low Weald	Moderate	Moderate	**Medium**
69	Whapple Way Low Weald	Substantial	Moderate	**Low/Medium**
70	Ditchling Common	Substantial	Moderate	**Low/Medium**
71	Hurstpierpoint Southern Fringe	Substantial	Substantial	**Low**
72	Danny Wooded Foothills	Moderate	Major	**Low**
73	Coldharbour Downland Scrap Foothills	Substantial	Major	**Low**
74	Clayton Downs Escarpment	Substantial	Major	**Low**
75	Pyecombe Downs	Major	Major	**Low**
76	Bolney High Weald Fringe	Moderate/High	Moderate/High	**Low**
77	Ansty High Weald Fringe	Moderate	Moderate/High	**Low/Medium**
78	Twineham Green Low Weald	Moderate/High	Moderate	**Low/Medium**
79	Upper Adur Valley	Moderate/High	Moderate	**Low/Medium**
80	Trusler's Hill Lane Footslopes	Moderate/High	Moderate	**Low/Medium**

Table 4: Landscape capacity assessment for LCA 76: Bolney High Weald Fringe

LCA 76: Bolney High Weald Fringe	**Landscape Character and Sensitivity**				
	Landscape condition	*Settlement setting*	*Sense of rurality*	*Settlement Separation*	Overall score for Sensitivity
	Substantial woodland and thick hedgerows, although some have been lost to field amalgamation.	Located to the West of Bolney, and contributes to the woodland setting that surrounds the village.	Recognised rural quality with high levels of seclusion and tranquillity. Rural uses of a modern origin such as vineyards.	Does not contribute significantly to settlement separation but prevents coalescence of pockets of rural settlement.	Moderate/High Sensitivity
	Landscape Value				
	Landscape designations	*Other environmental designations*	*Setting of valued assets and features*	*Cultural & Historical Associations*	*Perceptual qualities*	Overall score for Value
	Is not contained within a designated landscape but borders the High Weald AONB to the north.	Contains a moderate amount of ancient semi-natural woodland.	The landscape provides a setting for the High Weald AONB and for valued heritage features, including Ormonde Hall.	Has numerous Grade II listed buildings. Field pattern medieval in origin, with an estate character. Valued habitats including historic wood pasture and willow carr.	A sense of intimacy, seclusion and tranquillity due to the high level of enclosure provided by woodland. Forms an extension of the High Weald AONB.	Moderate/High Value
	Landscape capacity					**LOW**

Table 5: Landscape capacity assessment for LCA 77: Ansty High Weald Fringe

LCA 77: Ansty High Weald Fringe	**Landscape Character and Sensitivity**				
	Landscape condition	*Settlement setting*	*Sense of rurality*	*Settlement Separation*	Overall score for Sensitivity
	Hedgerows that are mostly intact, with some boundaries lost or degraded due to field amalgamation. In places hedgerows are intensively managed and low-cut.	Located to the south of Ansty and contributes to the wooded surroundings of the village. Buffer between Ansty and the large settlements of Haywards Heath and Burgess Hill.	Areas of woodland offer a sense of enclosure and increase the rural feel of the area, although is slightly impacted by busy roads and proximity to large settlements.	Contributes to the wider separation between Cuckfield and Haywards Heath.	Moderate Sensitivity
	Landscape Value				
	Landscape designations	*Other environmental designations*	*Setting of valued assets and features*	*Cultural & Historical Associations*	*Perceptual qualities*	Overall score for Value
	The whole northern edge of this area abuts the High Weald AONB.	Contains areas of ancient woodland and two Sites of Nature Conservation Importance.	Contributes to the wider setting of the AONB. From elevated levels there is intervisibility with the South Downs Scarp.	Some listed buildings which are rural in nature. Historical field pattern visible in some areas. Estate character of fields with large mature trees remains in some areas.	In some areas there is a sense of seclusion that is impacted in some areas by busy roads and proximity to large settlements. Other areas are more open with large, intensively farmed fields.	Moderate/High Value
	Landscape capacity				**LOW/MEDIUM**	

Table 6: Landscape capacity assessment for LCA 78: Twineham Green Low Weald

LCA 78: Twineham Green Low Weald	**Landscape Character and Sensitivity**				
	Landscape condition	*Settlement setting*	*Sense of rurality*	*Settlement Separation*	Overall score
	Field boundaries and woodland blocks are largely intact, although some have been impacted by the presence of pylons. Varied land cover pattern.	Provides a wider rural setting for Twineham Green and scattered rural settlement which fits well within the landscape.	Strongly rural landscape, although there are areas of modern intrusion, particularly around Bolney substation.	Contributes to the wider separation between the hamlets of Twineham, Twineham Green and scattered rural settlements.	Moderate/High Sensitivity
	Landscape Value				
	Landscape designations	*Other environmental designations*	*Setting of valued assets and features*	*Cultural & Historical Associations*	*Perceptual qualities*	Overall score
	Is not within or adjacent to any designated landscapes.	This area has small pockets of ancient woodland.	Wider intervisibility with the South Downs scarp in the distance.	Some rural listed buildings and a historic field pattern in places with an estate influence. Traditional red brick buildings with hung tiles.	Has a high level of perceived naturalness, although this is impacted by its proximity to the A23 and by pylon lines.	Moderate Value
	Landscape capacity				**LOW/MEDIUM**	

Table 7: Landscape capacity assessment for LCA 79: Upper Adur Valley

LCA 79: Upper Adur Valley	**Landscape Character and Sensitivity**				
	Landscape condition	*Settlement setting*	*Sense of rurality*	*Settlement Separation*	Overall score for Sensitivity
	Areas of woodland block and significant hedgerow network that is largely intact, although amalgamated pony paddocks have impacted on the intactness of the landscape in places.	Distinctive river valley setting to the villages of Wineham and Twineham.	A good level of rurality is afforded by the strong hedgerow network with hedgerow trees. However in places there is more intensive agricultural land use.	Contributes to the wider separation between the villages of Wineham and Twineham	Moderate/High Sensitivity
	Landscape Value				
	Landscape designations	*Other environmental designations*	*Setting of valued assets and features*	*Cultural & Historical Associations*	*Perceptual qualities*	Overall score for Value
	Is not within or adjacent to any designated landscapes.	Area has small pockets of ancient woodland	Intervisible with and provides a wider setting to the South Downs scarp in the National Park.	Historic manor houses and farm buildings. Historic field pattern on valley floor with remnant wood pasture habitat. Several listed buildings, including the Grade I parish church of St Peter.	Quiet and tranquil nature, particularly in the river valley, although impacted by pylons in places.	Moderate Value
	Landscape capacity				LOW/MEDIUM	

Table 8: Landscape capacity assessment for LCA 79: Trusler's Hill Lane Footslopes

LCA 80: Trusler's Hill Lane Footslopes	**Landscape Character and Sensitivity**				
	Landscape condition	*Settlement setting*	*Sense of rurality*	*Settlement Separation*	Overall score for Sensitivity
	Thick hedgerows generally intact although some moderate losses to agricultural intensification. Some limited areas of woodland.	This area has pockets of settlement around High Cross and linear settlement along Trusler's Hill Lane, which fit well with the rural surroundings.	There are some traditional rural buildings and naturalistic features, although the more suburban land uses found in this study area (such as a golf course, country club and manicured gardens of modern houses) detract from this rural feel.	Contributes to the wider separation of the villages of Albourne and Woodmancote, as well as the coalescence of scattered rural settlement.	Moderate/High Sensitivity
	Landscape Value				
	Landscape designations	*Other environmental designations*	*Setting of valued assets and features*	*Cultural & Historical Associations*	*Perceptual qualities*	Overall score for Value
	The southern edge of this landscape partly abuts the South Downs National Park	Small amount of ancient woodland.	This area is visually exposed to the South Downs scarp which overlooks much of this study area.	Albourne Place 16th century mansion is Grade II* listed. Field pattern is more modern and horse paddocks are common.	Fairly quiet and naturalistic in places, although this is impacted by noise from nearby A23 and A281 and the presence of pylons. Wineham Lane is a busy rural lane used as an alternative route to the A roads.	Moderate Value
	Landscape capacity				**LOW/MEDIUM**	