

MID SUSSEX DISTRICT



Feasibility Study for Development Options at Haywards Heath

HAYWARDS HEATH

Final Report (Part 2)
(Confidential)

May 2006



ATKINS

Contents

Part I – Setting the Context	3
Chapter 1: Introduction	3
Chapter 2: Planning Policy Context	7
Chapter 3: Appreciating the Local Context	11
Part II – Development Options	29
Chapter 4: Site Options and Capacity	29
Part III – Impacts on Transport and Community Infrastructure	31
Chapter 5: Transport Impacts and Infrastructure Requirements	31
Chapter 6: Identification of Social and Community Infrastructure	35
Part IV – Summary of Findings and Conclusions	37
Chapter 7: Summary of Findings	37
Annex A – Transport Analysis Report	
Annex B – Assessment of Social and Community Infrastructure	



Part I - Setting The Context

1. Introduction

1.1 Background

Atkins consultants were commissioned in November 2005 to undertake a feasibility study to examine the potential for additional strategic development on land around Haywards Heath. The objective of the study is to explore and gain an understanding of the issues and implications for development around Haywards Heath in order to inform the response from Mid District Council to the Lewes District LDF process and to inform the preparation of the Core Strategy for Mid Sussex.

1.2 Approach

The aim of this study is to investigate whether there are any areas within the identified Study Area, i.e. contiguous with the Haywards Heath urban area, which could be developed to provide viable, sustainable new communities of up to 1,000 dwellings.

The consultants approach has involved evaluating land within the study area which is not environmentally constrained and identifying site options with an indication of capacity based on 30 dwellings per hectare.

The study also includes an assessment of the impacts of any potential development on the surrounding transport and social and community infrastructure to assess whether they could be satisfactorily mitigated.

1.3 Content and Structure of Final Report

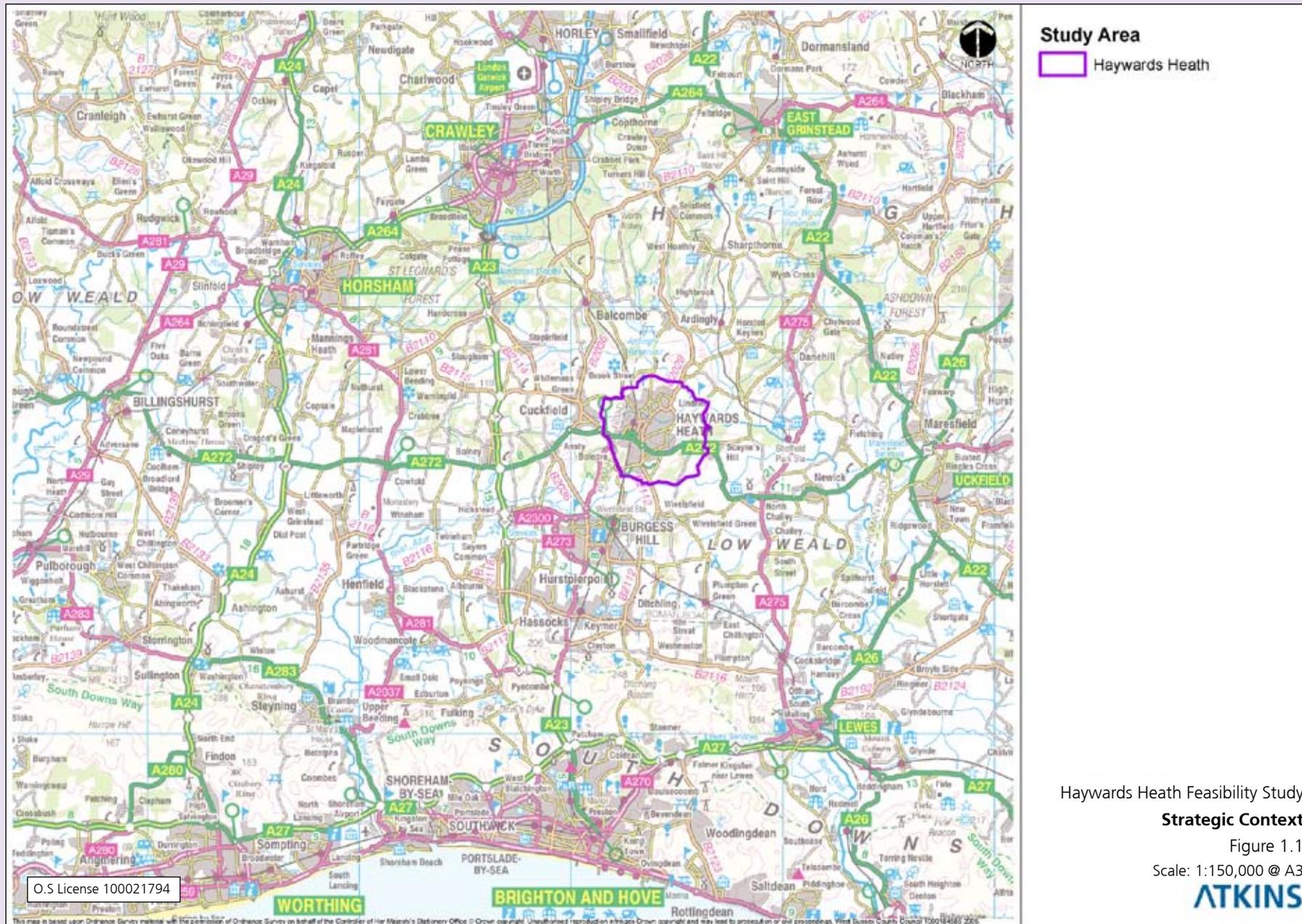
This document is set out in four parts. Part I discusses the background to the site and provides the context for site development. Part II identifies the potential developable areas and the capacity of these sites. Part III summarises the impacts on the transport network and identifies the transport and social and community

infrastructure that would be required to support development of the preferred site options. Part IV provides a summary of the findings and a conclusion.

1.4 Strategic Context

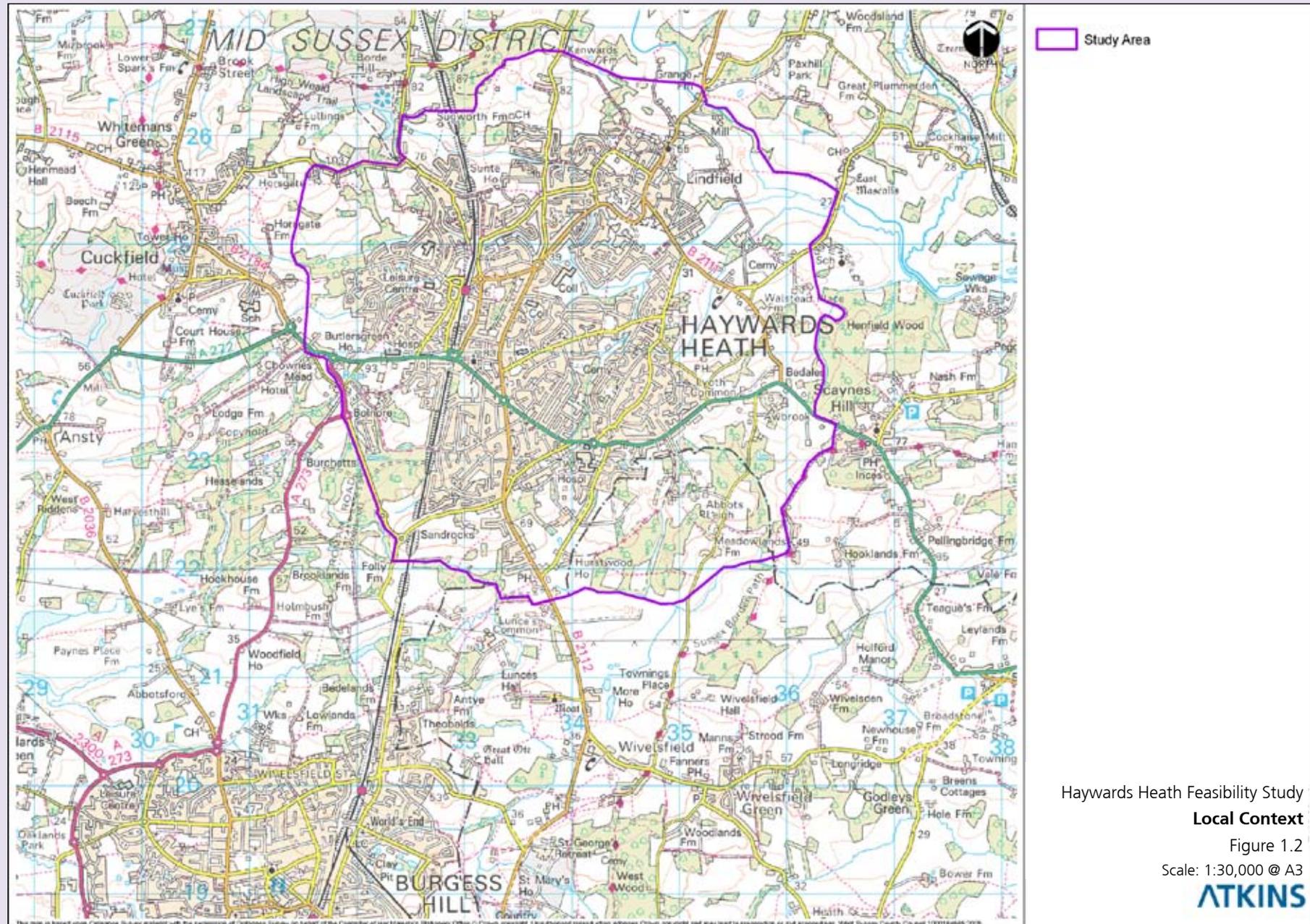
Figure 1.1: Strategic Context, illustrates the strategic location of Haywards Heath in relation to its sub-region. It is located approximately 17 miles from Brighton to the south and 45 miles from London to the north. It is served by a fast rail service between London Victoria and Lewes/Brighton.

Figure 1.2 illustrates the location of Haywards Heath in relation to the surrounding urban areas of Cuckfield to the west, Scaynes Hill to the east and Burgess Hill to the south.



Haywards Heath Feasibility Study
Strategic Context
 Figure 1.1
 Scale: 1:150,000 @ A3





Haywards Heath Feasibility Study

Local Context

Figure 1.2

Scale: 1:30,000 @ A3





2. Planning Policy Context

2.1 National Planning Policy Framework

Planning policies have had a key influence on the approach taken in this study. The national planning policy framework is provided by a series of Government Circulars, White Papers and Planning Policy Guidance notes (PPGs) and the new Planning Policy Statements (PPSs) which are now replacing PPGs, published by the ODPM and the former DTLR. Over the last five years, a number of significant changes have taken place in national planning guidance; notably:

- A new PPS1, Delivering Sustainable Development, which places stronger emphasis on the concept of sustainable development and fresh emphasis on mixed use development and design;
- The White Paper, A Strategy for Sustainable Development in the UK, which sets out the Government's wider objectives for sustainable development;
- PPG3, Housing, which aims to encourage housing development, which make more efficient use of land and considers planned extensions to existing urban areas as being likely to prove the most sustainable option after building on appropriate sites within urban areas;
- PPG25, Development and Flood Risk, which sets out the importance the Government attaches to the management and reduction of flood risk in the land use planning process, to acting on a precautionary basis and to taking account of climate change;
- PPS6, Planning for Town Centres, which replaces PPG6 and is regarded by Government as a major step in promoting planning policies that will produce more sustainable and inclusive patterns of development and confirms a policy commitment to revitalising town centres;

- A new PPS7, Sustainable Development in Rural Areas, which gives advice on the role of the planning system in relation to the countryside;
- PPG13, Transport, which seeks to promote more sustainable transport choices and reduce the need to travel, especially by car;
- A new PPS22 which replaces PPG22 and sets out the Government's planning policies for renewable energy, which planning authorities should have regard to when preparing local development documents and when taking planning decisions;
- An Urban White Paper published in November 2000, which embraces a wide range of issues including the work undertaken by The Prince's Foundation and English Partnerships (supported by DTLR and the CPRE) on sustainable urban extensions.

2.2 Development Plan Background

The Development Plan which covers this area comprises Regional Planning Guidance RPG9 (2001), the West Sussex Structure Plan (2005), the East Sussex & Brighton & Hove Structure Plan (1991), Mid Sussex Local Plan (2004) and the Lewes District Local Plan (2003). The District boundaries are illustrated on Figure 1.2, the majority of the study area falls within Mid Sussex district. Under new Government legislation the strategic planning responsibilities of the County and Unitary Authorities and its Structure Plan will be replaced by the South East England Regional Assembly (SEERA) and its Regional Spatial Strategy which will cover the period up to 2026. New legislation will require that the Local Plans are replaced by Local Development Frameworks by April 2007. Work on these has already started.

Future development will be assessed in line with revised planning policy guidance contained in the revised PPSs, Regional Spatial Strategy and Local Development Frameworks. We have taken account of the sustainable development principles which run through the Development Plan and the existing environmental designations.

The study is also based on best practice guidance. Any development should satisfy the requirements of these principles and policies and be based on:

- High quality design;
- A mix of housing types and sizes, including affordable housing;
- Adequate facilities and services to serve the new community, including local shopping, education, healthcare and community facilities;
- Adequate formal and informal public, private and amenity recreation land/open space;
- Provision of suitable access routes from the development to the adjacent transport network for public, commercial and private transport and walking and cycling;
- Integration with surrounding urban areas;
- Improvements to informal public access to the countryside;
- Retention of the main landscape features;
- Protection of the main nature conservation interests;
- Provision for the phased implementation of the development in step with employment, social and physical infrastructure;

- Adequate improvements to the sewerage and water supply systems, including the implementation of Sustainable Drainage Systems, where feasible.

2.3 Sustainable Development

The concept of sustainability means that human needs must be integrated with environmental considerations and forces us to consider the environment in the widest sense. This does not mean preventing economic growth as we need growth to provide a means to live better and healthier lives. However, growth has to respect the environment and must be soundly based so that it can last.

The theme of achieving “sustainable development” is one which runs throughout the Structure Plan and the Local Plan documents. The most common definition of sustainable development comes from the Brundtland Report (1987):

‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’

The concept of sustainable development is based on the assumption that there must be environmental gains within the development to offset the losses. There are a number of specific aspects of the proposals for which sustainable design principles have been used. These include:

- Transport;
- Energy;
- Water;
- Building Design;
- Construction Management.

‘Towards Sustainable Housing: Principles and Practice’ describes the following design principles for achieving sustainable development:

- Compact, medium to high density forms (but not high-rise);
- Mix of land uses based upon overlapping zones of living, working, leisure and shopping;
- Public transport orientated urban design;
- Pedestrian friendly streets;
- Integration of development and nature on site;
- Development patterns dictated by walking or cycle distances.

Transport

The encouragement of transport sustainability is a key issue to be addressed. This issue related back to the policy context set out in the previous section and the need to achieve a sustainable form of development which will reduce dependency on the private car.

The principal means by which this element of sustainability will be encouraged include:

- The concentration of higher density residential development (at about 40-50dph) within easy walking distance of facilities;
- The provision of public transport facilities within, or in close proximity, to the local centres and the nearby higher density residential development;
- The location of lower density residential development towards the edges of the scheme, enabling land closest to the local centres to be developed at a high density;
- The location of most residential neighbourhoods within 5-10 minutes walking distance (about 400-800m) of facilities in the local centres;

- The provision of pedestrian/cyclist routes connecting the residential neighbourhoods to the local centres and providing a safe route to the primary schools and secondary schools;

The above measures will be designed in accordance with various policy documents and design guidelines, including the final report of the Urban Task Force ‘Towards Urban Renaissance’ and the ‘Urban Design Compendium’ published by English Partnerships. Taken together, the measures outlined above will encourage the use of alternative means of transport to the private car and thereby help in achieving greater levels of sustainability.

Energy

Energy saving measures should be taken into account in the design of any new community:

- The proposed development should incorporate a high proportion of linked buildings, apartments and terraced houses;
- The orientation of the development to optimise solar potential;
- The alignment of the internal road network produces a layout which would be unlikely to avoid wind funnelling or of frost traps;
- The role of fenestration, materials and planting in encouraging energy efficiency are matters which would be addressed at the detailed design stage.

Water

Sustainable urban drainage systems (SUDS) are proposed on-site to enable surface water run-off to be retained as near to source as possible, thereby reducing the amount of drainage infrastructure and its high capital and maintenance costs. The systems that could be used on site include retention ponds and balancing ponds, into which run-off will be held prior

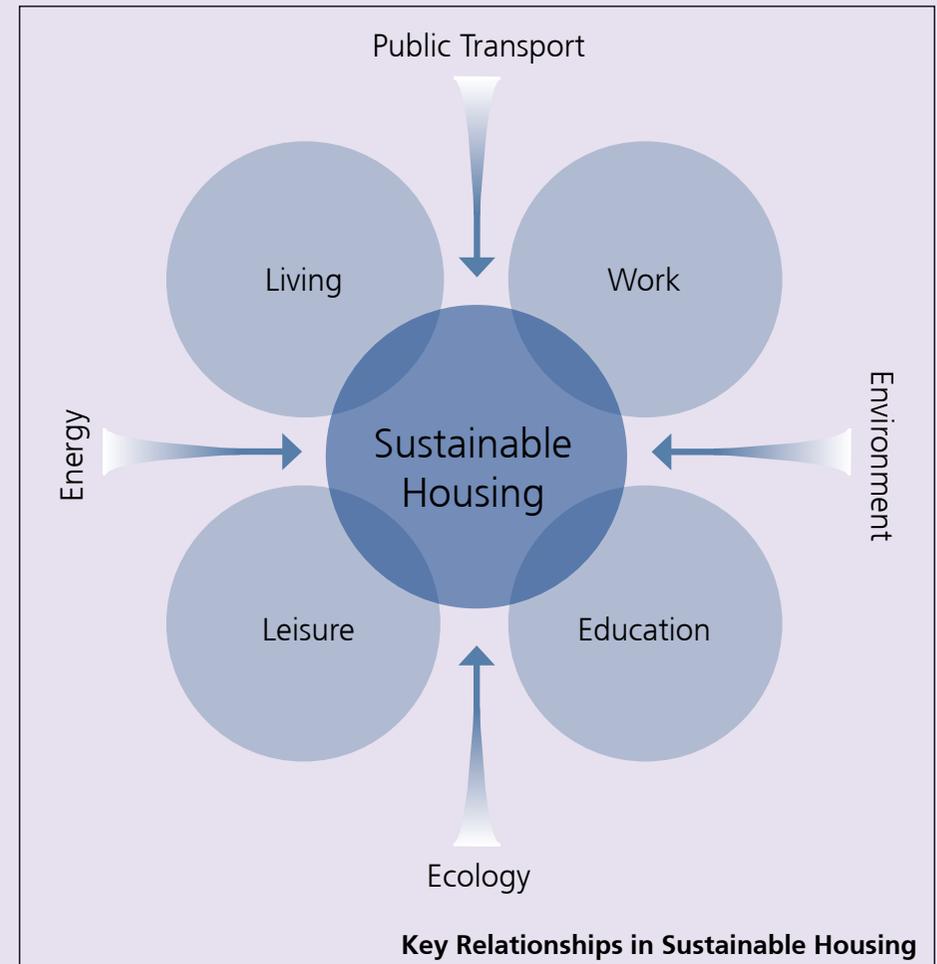
to discharge to receiving watercourses; and which will incorporate biological management measure (such as reed beds) to improve the quality of discharged water. The form of other SUDS techniques, such as infiltration trenches, filter drains and swales, can also be determined at the detailed design stage, in accordance with the current best practice. In addition to site-wide techniques, housebuilders could be encouraged to incorporate water conservation measures during construction.

Building Design/Construction Management

A series of other measures, for example, the environmental sustainability of construction materials and the re-use of topsoil on site, can be considered as part of detailed proposals.

Future site layouts should be checked against current best practice in sustainable development as demonstrated in the publication ‘Sustainable Communities’. This assessment is presented in the checklist in Table 2.1.

*Source: Sustainable Housing
- Architecture, Society and
Professionalism*



GLOBAL ECOLOGY:	
Energy in transport	<ul style="list-style-type: none"> Locations that minimise trip lengths, and are well served by public transport Design that fosters walking and cycling and discourages car reliance
Energy in buildings	<ul style="list-style-type: none"> Energy-efficient built form and layout Development of community renewable energy
Biodiversity	<ul style="list-style-type: none"> Wildlife refuges and corridors Conservation and enhancement of woodland Woodland to incorporate controlled access areas to maximise ecological benefits and encourage regeneration of woodland
NATURAL RESOURCES:	
Air quality	<ul style="list-style-type: none"> Traffic reduction and air quality management
Water	<ul style="list-style-type: none"> Local sourcing and demand management Local surface water/sewage treatment Built development outside 1 in 100 year floodplain Use of sustainable drainage systems
Land and soils	<ul style="list-style-type: none"> Higher densities to reduce urban land take Local composting/organic recycling schemes
Minerals	<ul style="list-style-type: none"> Locally-sourced and recycled building materials
LOCAL ENVIRONMENT:	
Aesthetic quality	<ul style="list-style-type: none"> Attractive pedestrian-scale local environment
Image and heritage	<ul style="list-style-type: none"> Legible environment with a sense of place Design reflecting distinctive landscape and cultural heritage

SOCIAL PROVISION:	
Access to facilities	<ul style="list-style-type: none"> Accessible, good quality health, educational, community, retailing and leisure facilities
Built space	<ul style="list-style-type: none"> Diverse, affordable good quality housing stock Adaptable, good quality commercial/institutional space Flexible multi-use community buildings
Open space	<ul style="list-style-type: none"> Accessible, well run parks/playgrounds and community woodland Funding to improve quality of neighbouring playing fields and pitches
Infrastructure	<ul style="list-style-type: none"> Adaptable, easily maintained road and utility networks Establishment of a local community trust to give 'ownership' to the emerging community
ECONOMIC SUSTAINABILITY:	
Job opportunities	<ul style="list-style-type: none"> Diverse and accessible job opportunities with good local training services
Economic buoyancy	<ul style="list-style-type: none"> Encouragement for local offices/workshops/live work units, good local training services Provision of employment land
SOCIAL SUSTAINABILITY:	
Health	<ul style="list-style-type: none"> Pollution-free environment, local food production and mental well-being
Community safety	<ul style="list-style-type: none"> Safe traffic-calmed streets with good visual surveillance Socially balanced neighbourhoods
Equity and choice	<ul style="list-style-type: none"> Access to housing for all social groups All facilities easily accessed by foot or public transport, with special attention to needs of children and the disabled

Table 2.1 A Sustainability Checklist, Applied to Neighbourhoods

3. Appreciating the Context

3.1 Environmental Constraints

Figure 3.1 shows the Local Plan planning and environmental constraints for the area around Haywards Heath along with floodplain areas.

3.2 Ecological Assessment

The areas under consideration for housing development around the outskirts of Haywards Heath have been assessed for their value in terms of nature conservation and biodiversity.

This assessment aims to identify the biodiversity value of the study areas so that development areas can be refined and located to avoid the most sensitive or valuable habitats and species and to identify development areas where there is little or no known nature conservation interest. The aim has been to provide a visual representation of the nature conservation interest of the study area using a colour coded map (Figure 3.2) following the assessment criteria identified.

Red classification includes all designated sites, both statutory and non-statutory, including ancient woodland and ghyll woodland. Ghyll woodlands are ancient, steep sided, wooded valleys created by streams cutting gullies into existing slopes. As a result of their steep and rugged nature, they have remained undisturbed and can be regarded as ancient woodland. This classification indicates that no development should be undertaken in these areas.

Red - No Development

- Site of international importance (Special Area of Conservation, Special Protection Area, Ramsar site)
- Site of national importance (Site of Special Scientific Interest, National Nature Reserve)
- Site of regional or county importance (Sites of Nature Conservation Importance, Local Nature Reserves, ancient woodland, ghyll woodland)

Amber - Development with Appropriate Mitigation

- Key features of local importance and features which are characteristic of the local area (can include Biodiversity Action Plan habitats and species, significant features such as old hedgerows, ponds and streams)
- Land adjacent to designated sites of importance for nature conservation both of which may be utilised by mobile species as part of their breeding territory or foraging range

Green - Preferred Development Areas

- Sites with little or no known biodiversity interest

Amber classification includes all areas of local importance and key features of the local landscape, as well as land adjacent to designated sites that may be utilised by mobile species and which could be zoned as a 'buffer' against adverse impacts on designated sites. An amber classification indicates that development could potentially go ahead if appropriate mitigation measures can be put in place. A precautionary approach should be employed in amber areas such that the areas are assumed to be

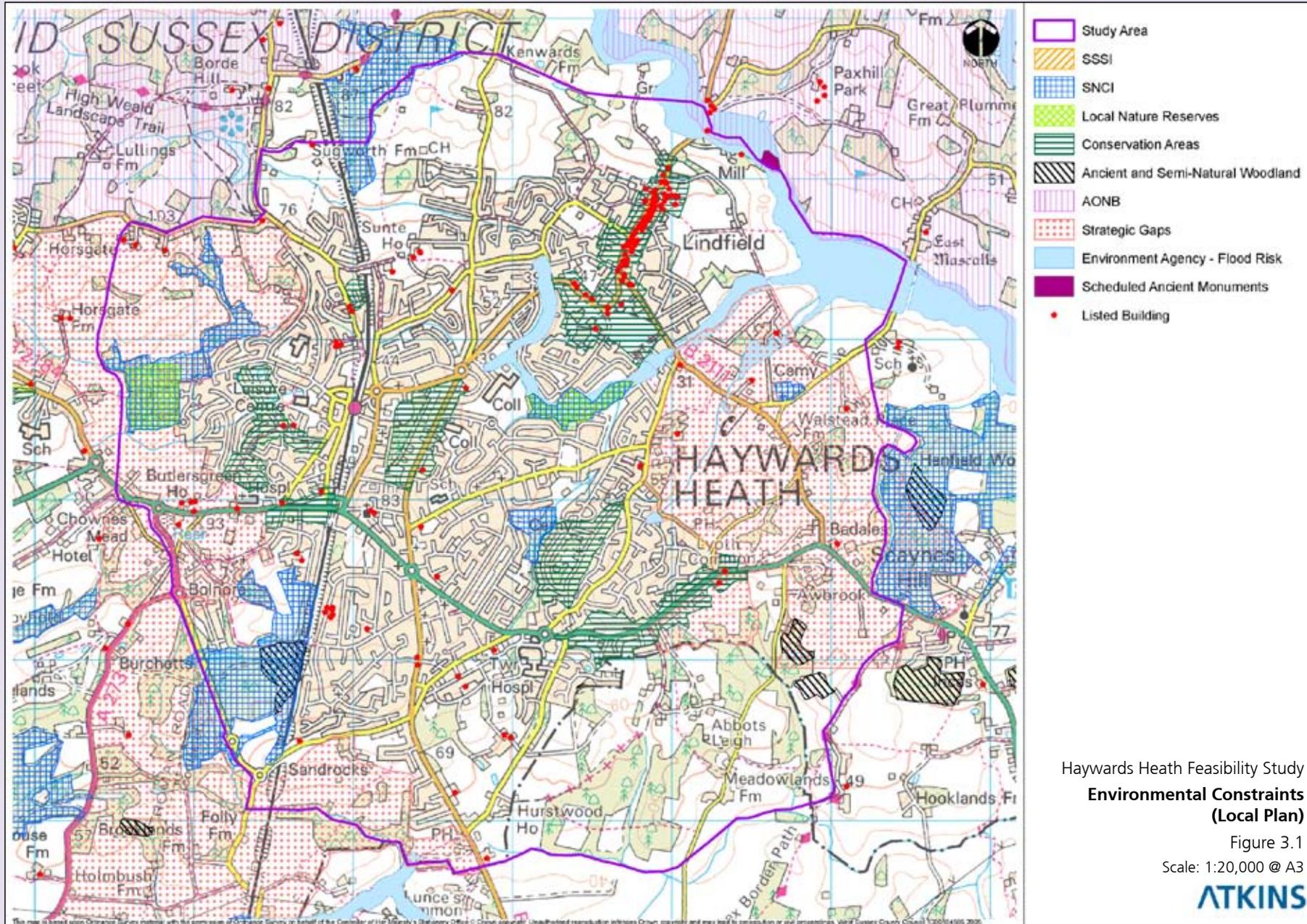
important until proven otherwise. Where protected, scarce, rare, threatened or notable species or habitats occur outside designated sites, suitable mitigation measures and management strategies will be required to enable development to go ahead.

Areas where rare or legally protected species occur outside designated sites will also be classified as amber e.g. a potential great crested newt breeding pond and the terrestrial habitat around it which could be used as a resting place or foraging habitat would be considered amber.

Green areas are those where little or no biodiversity interest is known to be present. These areas will be the preferred development areas. However, it should be noted that these green areas may include features of local importance within them which would be classified as amber e.g. hedgerows, ponds.

The assessment is desk based to identify the known biodiversity resource in the area. This resource has been mapped and used to inform potential developable areas. Field visits will be necessary prior to detailed masterplanning in order to identify the presence of suitable habitat for protected species, for example suitable terrestrial habitat around great crested newt breeding ponds, or suitable reptile habitat. This will also identify any habitats of nature conservation value present in the study areas, which need to be considered as part of the assessment, for example areas of unimproved or semi-improved grassland.

The first part of the desk study involved contacting the Sussex Biodiversity Record Centre (SxBRC) for

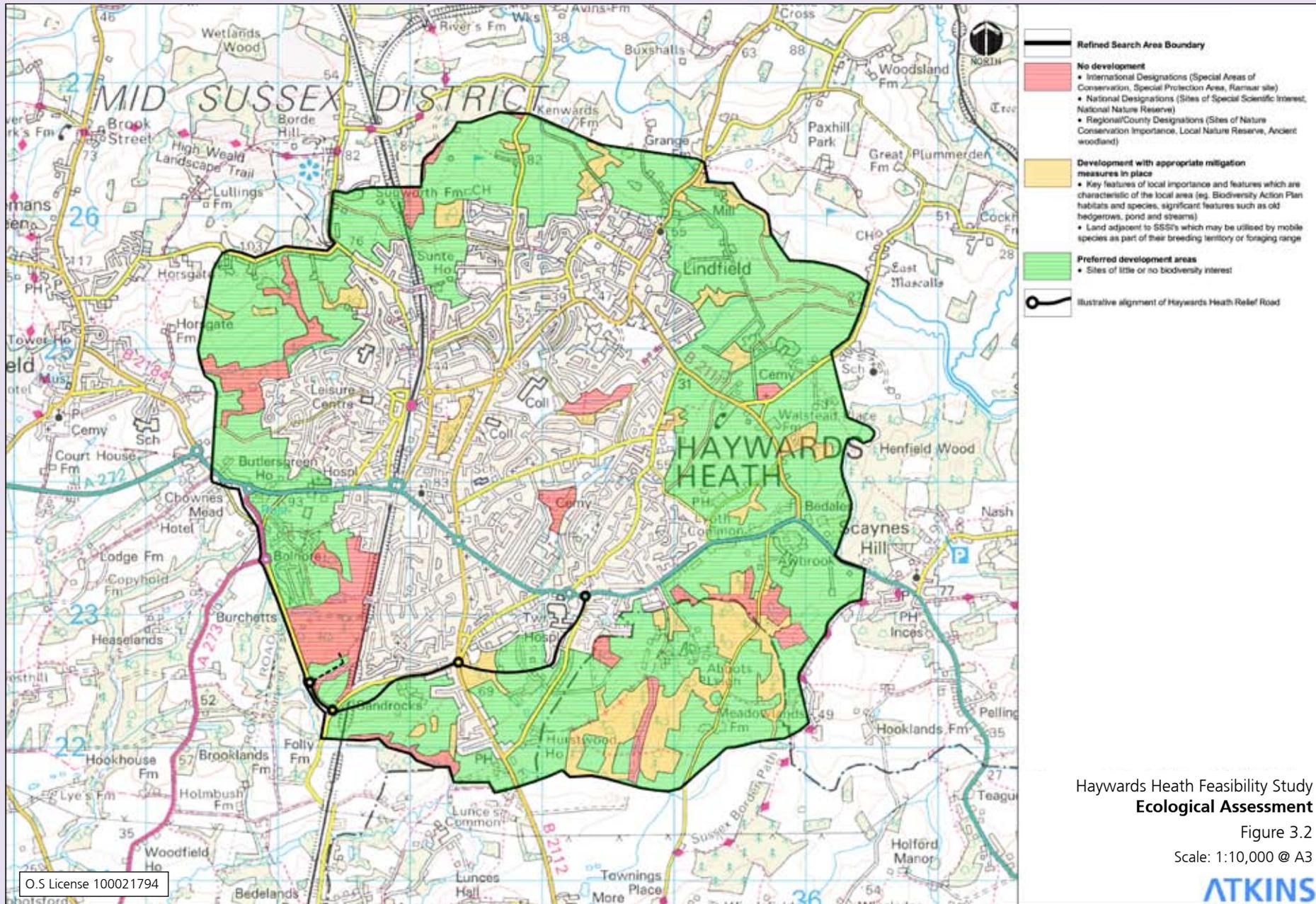


Haywards Heath Feasibility Study
Environmental Constraints
(Local Plan)

Figure 3.1

Scale: 1:20,000 @ A3





information regarding protected and notable (rare or scarce) species and nationally, internationally and locally designated sites occurring within 2km of the study area, in accordance with Planning Policy Statement 9 (Biodiversity and Geological Conservation).

The desk study has also involved consultation of the Government web site of Multi-Agency Geographic Information for the Countryside www.magic.gov.uk to gain information about designated sites and ancient woodland in the study area.

Designated areas

There are no internationally designated sites or National Nature Reserves in the study areas or within the 2km zones around them.

As indicated by the assessment criteria, the red areas on the evaluation map include the Sites of Nature Conservation Importance (SNCI), ancient and gyhll woodland sites. SNCI sites within the Haywards Heath study area include the Local Nature Reserves at Blunts Wood (within the urban area) and Scrase Valley to the west.

Key Features

The amber areas on the nature conservation evaluation map, other than those listed above, include habitats such as non-ancient woodland, recently planted areas of wood, species-rich hedgerows, ponds and streams. Each of these habitat types are important for different reasons, as outlined below.

Species-rich hedgerows are important for biodiversity within the farmland landscape, acting as a corridor providing protection and facilitating movement between different habitat areas in an otherwise unsuitable environment. Hedgerows are also important habitats in their own right. Bats and

badgers can also use hedgerows for foraging, travelling through the landscape and for roosting or creating setts respectively.

Streams are an important linear feature in the landscape assisting the movement of species through the farmland environment. The habitats surrounding streams can also be influenced by the watercourse, creating damp grassland and woodland areas and wetland habitats including reedbeds. Streams are important habitats for bats, particularly Daubenton's, and birds including kingfisher. Many invertebrates are dependent on the wetland mosaic that can arise around streams.

There are a number of ponds within the study area. These provide another important habitat for wildlife. The number of ponds in the UK has declined dramatically over the past 100 years due to a number of reasons including neglect, agricultural intensification, land drainage, urban encroachment and pollution. This habitat is important for amphibians including the great crested newt, invertebrates including southern damselfly, reptiles, particularly grass snakes, bats and many bird species.

Conclusions

Within the study area there are areas of high nature conservation value (classified red) and intermediate nature conservation value (classified amber). High value areas include the designated Local Nature Reserves, development should not be undertaken in these areas.

There are no national or international designated sites and no National Nature Reserves (NNR).

It should be noted that this is not a full assessment of the study areas, only an evaluation of the desk study information provided. A full assessment, considering all protected, rare and BAP species and BAP habitats

along with a field survey should be undertaken prior to detailed masterplanning work. The results of these further studies may result in additional small areas of the study area being classified as amber.

3.3 Landscape and Visual Assessment

The landscape has been assessed in terms of its capacity to accept development following the assessment criteria identified below and on Figure 3.3. No part of the Study Area lies within an Area of Outstanding Natural Beauty. There are Strategic Gaps to parts of the west, east and south of Haywards Heath and these have been included in the assessment in order to provide a comprehensive and independent review of the study area. However, where land is considered to play an important role in visually separating Haywards Heath from adjacent settlements this has been taken into account, regardless of whether it falls within a Strategic Gap.

The visual setting of conservation areas and listed buildings has been considered as a factor in the assessment. The proposed Haywards Heath Relief Road has also been taken into account as this provides a new boundary to the urban area.

Whilst the brief stated that no development should take place to the north of Haywards Heath, for completeness this land has been included in the landscape assessment.

Red: Land Unsuitable for Development

- Ridgelines, hilltops and visually prominent hillsides
- Steep valley sides and river valleys/corridors including floodplains
- Ancient Woodland, woodland blocks, significant tree belts and hedgerows

Amber: Land Potentially Suitable for Lower Density Housing or Open Space

- Ridgelines, generally not visible from a distance
- Sloping land partially concealed by landform or woodland
- Paddocks and small fields adjacent to settlements
- Former parkland

Green: Land Suitable for Medium and Higher Density Housing

- Flat or shallow sloping land, generally not visible from a distance
- Land visible from only a small number of existing properties
- Land already affected by major infrastructure or disturbed land

The hilltop location of Haywards Heath means that there are often long views towards the settlement and the land immediately abutting the town is often the most visible. In some instances however, the strong structure of hedgerows and woodlands that is typical of the area would help to visually integrate new development with the wider setting.

Figure 3.7 shows the location of the viewpoints, included at the end of this chapter, which illustrate the landscape character of areas around Haywards Heath.

3.4 Flooding and Surface Water

Figures 3.1 and 3.4 show the extent of the Environment Agency’s current Indicative fluvial and tidal Floodplains in the area.

It should be noted that these flood extents do not take into account the possible effects of climate change on sea level and river flood levels and of local flooding of small watercourses such as those within the site.

There are existing flooding issues at Lewes, downstream of Haywards Heath. A flood risk assessment (FRA) may be required and SUDS incorporated into any development to ensure that downstream flooding is not exacerbated. A FRA would also examine the possible effect of climate change on the flood extents.

Figure 3.4 illustrates that all of the areas under consideration around Haywards Heath appear to be on slowly permeable silty soils meaning that infiltration of surface water is unlikely to be effective. It is likely that, if SUDS are required, significant attenuation (by ponds, or swales, etc.) will be necessary.

There is a small zone of groundwater vulnerability to the north east of Haywards Heath associated with a borehole near Ludwell. As the overlying geology has low permeability then contamination of this aquifer will not be an issue.

3.5 Transport

Haywards Heath is served by a single rail station located on the west side of the town on the Brighton main line and served by Southern services operating between Brighton and London Victoria.

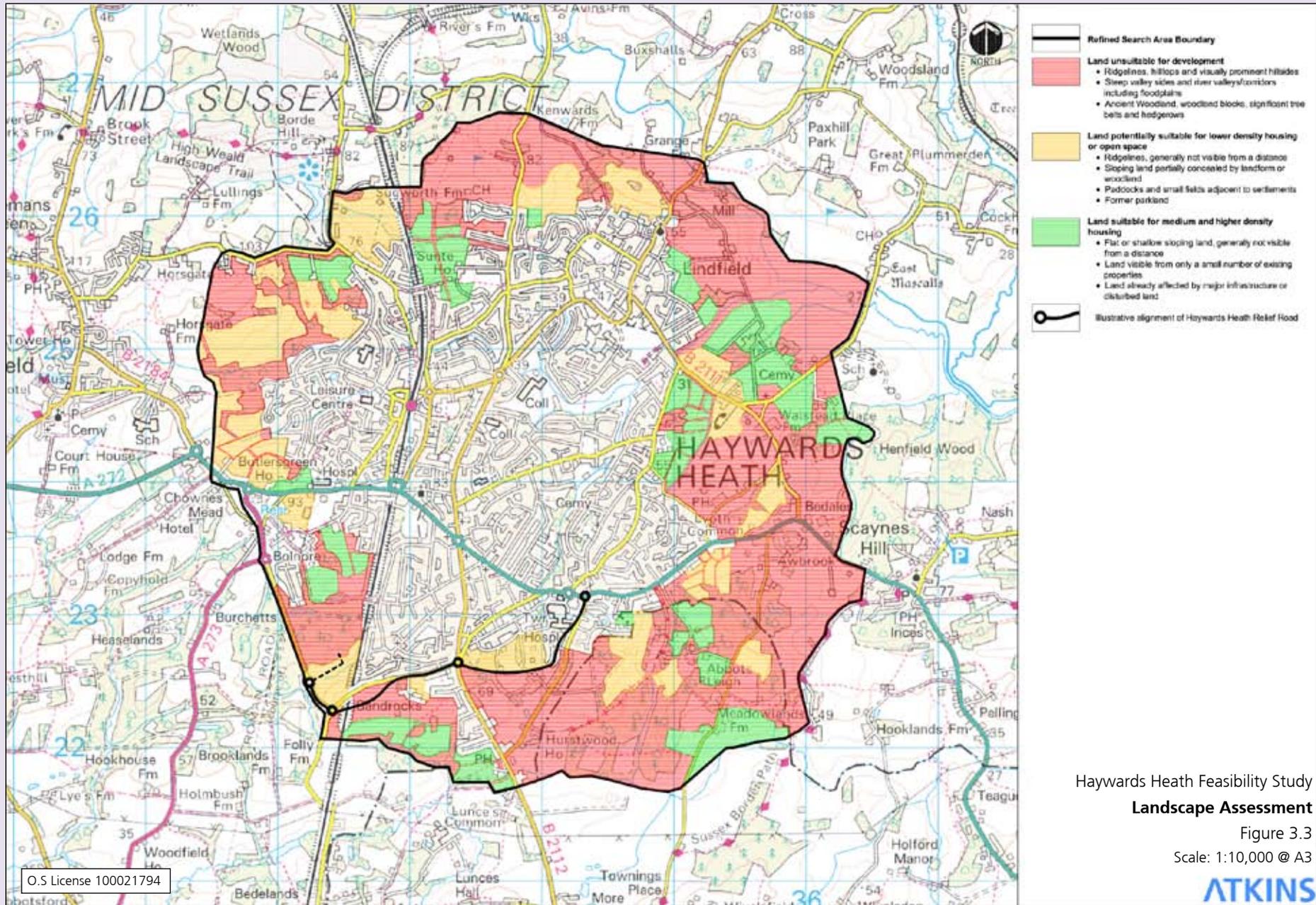
There are also around 16 bus services passing through the town though many of these are infrequent and designed to serve the surrounding villages.

Haywards Heath lies to the east of the A23 Trunk Road, which connects to the M23 south of Crawley and provides a north-south route between the M25 and the south coast (Brighton). The Town is connected to the A23 by the A272 which runs east-west between Petersfield and Uckfield. The main north-south routes passing through the town include the B2112/B2028 and B2111.

Existing traffic data suggests that the key highway links in Haywards Heath are within theoretical capacity, with the exception of the A272 which is the main route for through traffic and town centre traffic. Existing on-site observation supports this, with Peak Hour congestion concentrated along the A272 and around key junctions within the town centre and stations.

3.6 Potential Developable Areas

Figure 3.5 provides the composite information from the landscape and ecological assessment to provide a clear indication of land which is considered suitable for development, land which has potential for development subject to appropriate mitigation and land unsuitable for development. Up to date floodplain information has been taken into account.

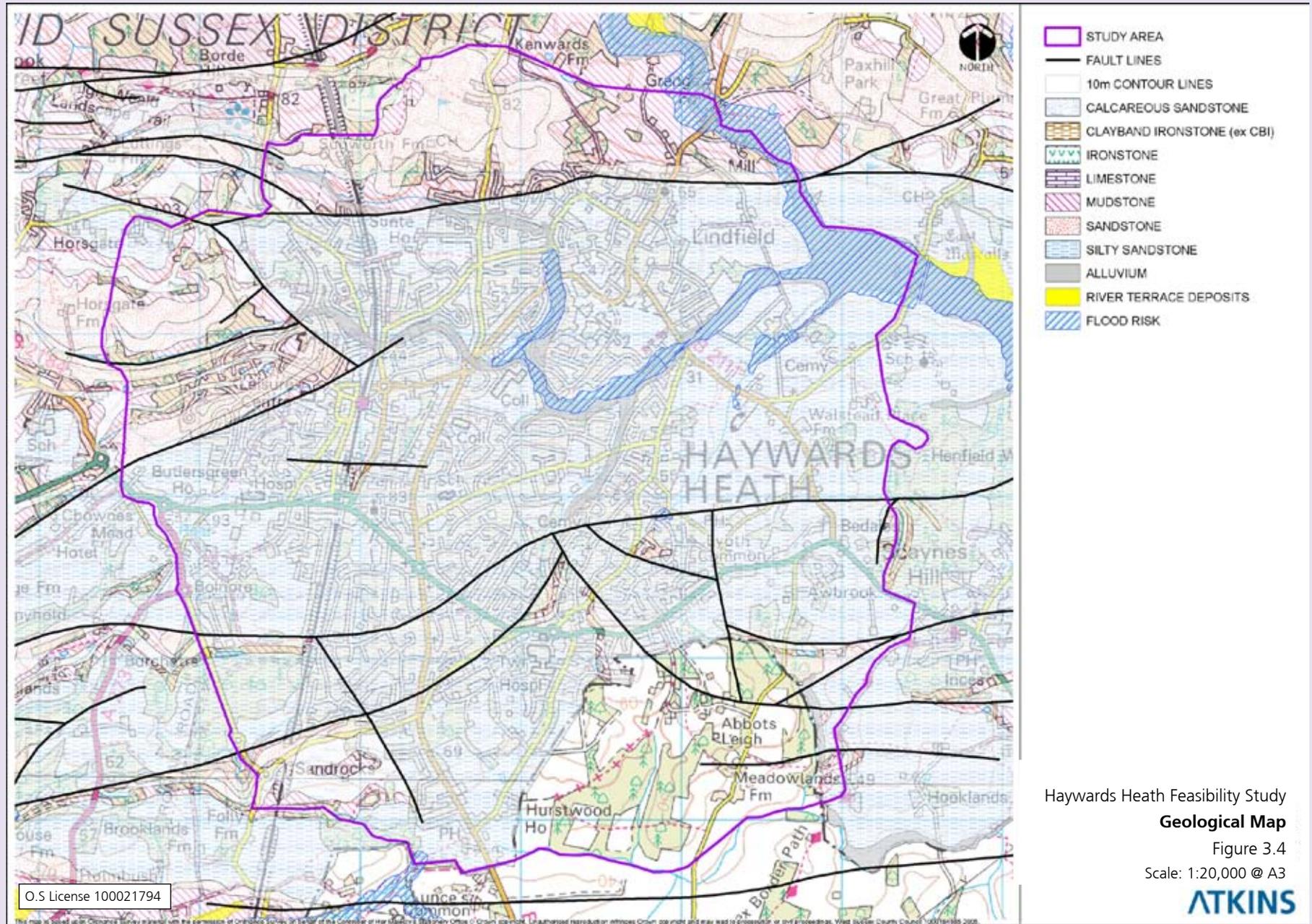


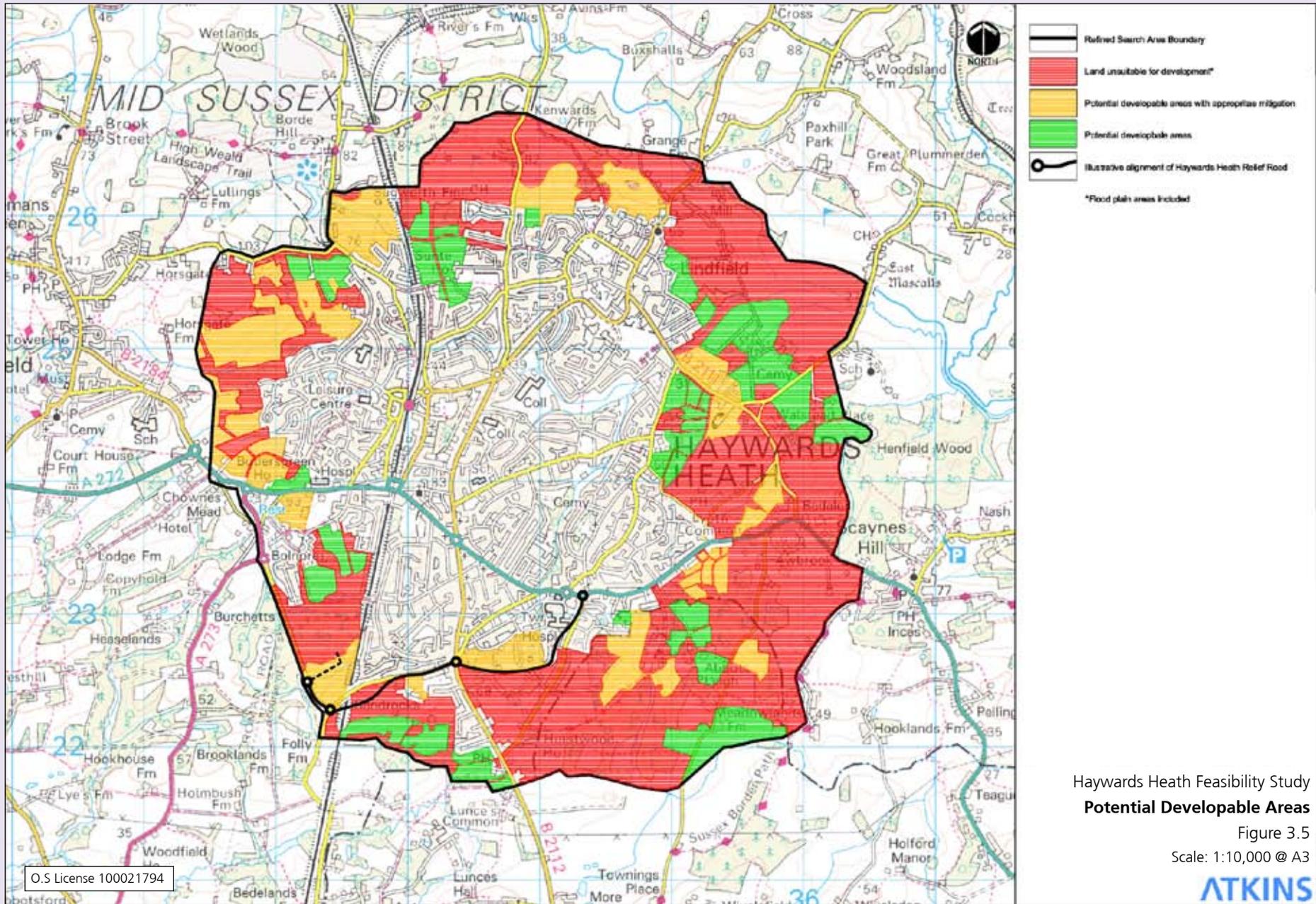
Haywards Heath Feasibility Study
Landscape Assessment

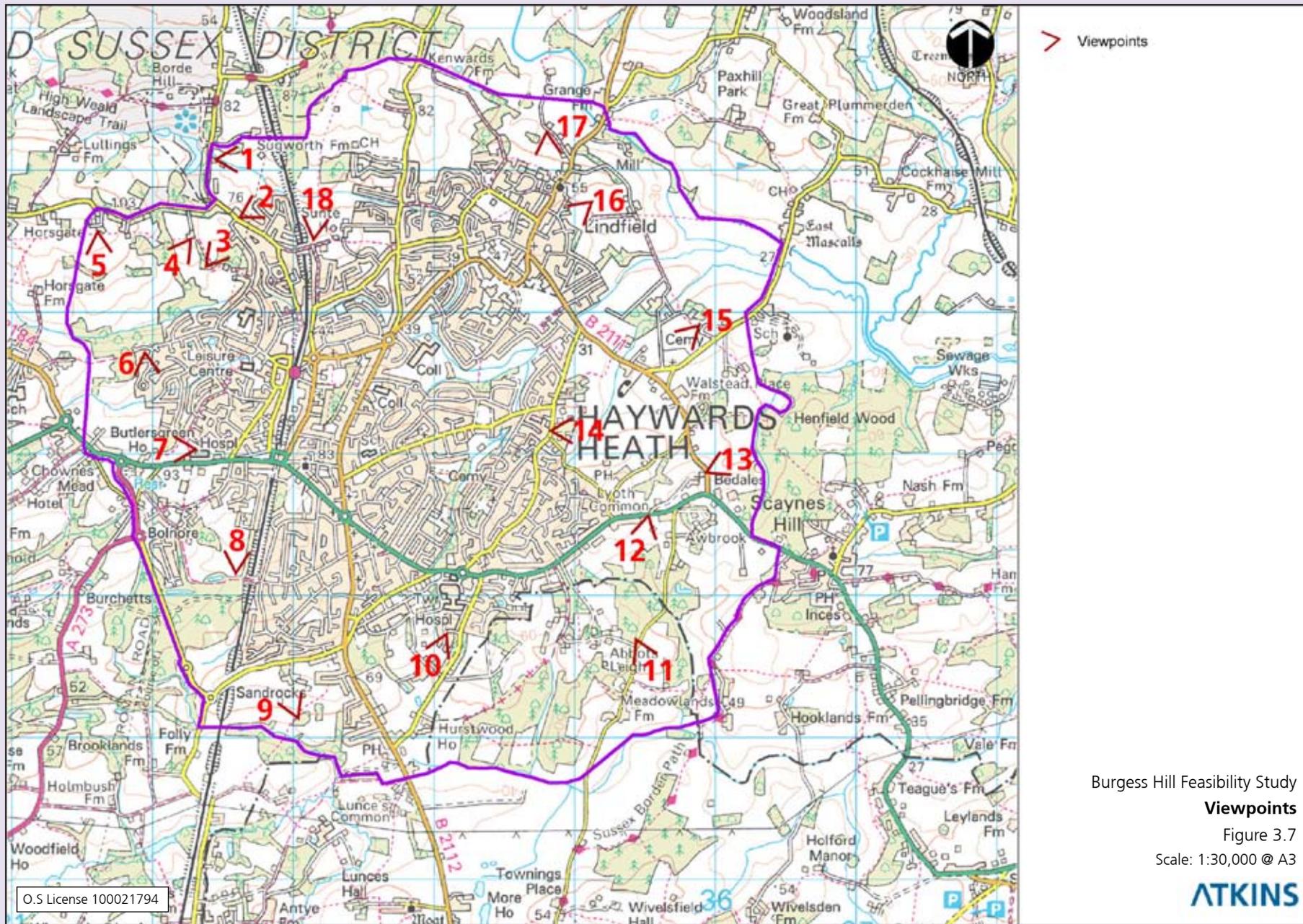
Figure 3.3

Scale: 1:10,000 @ A3









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Burgess Hill Feasibility Study

Viewpoints

Figure 3.7

Scale: 1:30,000 @ A3

ATKINS



Viewpoint 1



Viewpoint 2



Viewpoint 3



Viewpoint 4



Viewpoint 5



Viewpoint 6



Viewpoint 7



Viewpoint 8



Viewpoint 9



Viewpoint 10



Viewpoint 11



Viewpoint 12



Viewpoint 13



Viewpoint 14



Viewpoint 15



Viewpoint 16



Viewpoint 17



Viewpoint 18

Part II - Development Options

4. Site Options and Capacity

Figure 4.1 illustrates the site development options which have been identified from the potential developable areas. The areas already allocated for housing in the Mid Sussex Local Plan were not considered as part of this Study.

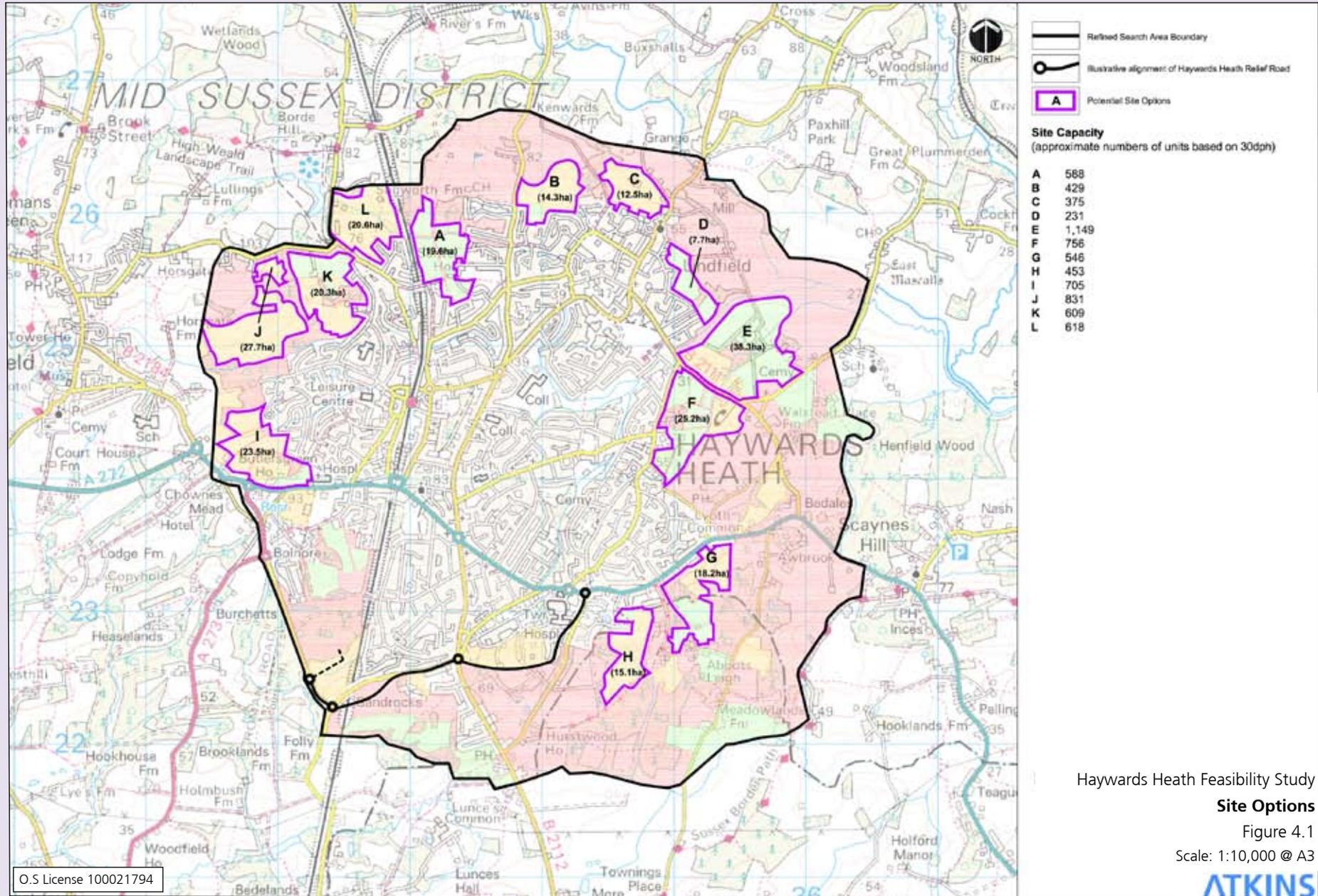
The areas identified have been measured to illustrate land which could accommodate approximately 1,000 dwellings. Large areas of woodland have been excluded from the measurement of the site areas. The calculation of the potential number of dwellings is based on 30 dwellings per hectare. This is an approximate gross density which takes account of a range of a mix of low to high densities, internal roads and community facilities.

Only Site Option E has the potential to accommodate approximately 1,000 dwellings. Site Option F could form a potential future extension. Both sites are well contained by the floodplain extent and topography which would prevent coalescence with Scaynes Hill and unacceptable visual impacts on views from the east.

Development of a combination of Site Options J and K or K and L would also result in approximately 1,000 dwellings. These sites are closer to the town centre. Site L is designated as Amber due to the high landscape value and potential impact on the adjoining Borde Hill Registered Park and Garden. However, Sites K and L are well contained by existing mature tree belts. Site K includes an Amber area to the south which represents an existing school with associated large areas of recreational space. This would have to be relocated or integrated within any development.

Site J is Amber, development here would need to be sensitive to the topography, valuable areas of woodland and the Scrase Valley Local Nature Reserve to the south.

Following Consultation with Mid Sussex District Council it was agreed to take forward Site Options D, E and F for further analysis to demonstrate whether these sites could work together to provide a Sustainable Community of 2,000 dwellings.



Haywards Heath Feasibility Study

Site Options

Figure 4.1

Scale: 1:10,000 @ A3



PART III – INFRASTRUCTURE REQUIREMENTS

5. Summary of Transport Impacts and Infrastructure Requirements

Annex A presents the analysis of transportation needs and impacts. Measures are identified to improve the accessibility of potential development sites by modes of travel other than the private car as well as accommodation necessary private car trips. This Chapter summarises the key findings of the transport analysis.

5.1 Development Potential

The development potential of 2,000 houses located across sites D, E and F has been considered.

Site D is located to the east of Lindfield village centre, east of the B2028 High Street and north of the B2111 Lewes Road. The site is bounded by residential development to the west and south and by farmland to the north and east. Preliminary analyses suggest that site D could accommodate up to 231 houses. However site D has been excluded from further study due to the fact that difficulties in obtaining highway access to the site, combined with the small number of houses that would be served, make it unviable in transport terms.

Site E is located to the south of Site D and is bounded by B2111 Scamps Hill to the south, farmland to the north and west and East Muscalls Lane to the east. Site E could accommodate up to 1,149 houses.

Site F is located to the south of Site E on the opposite side of the B2111. The site is bounded by Scamps Hill to the north, Gravelye Lane to the west, residential development to the south and farmland to the east. The site could accommodate up to 756 houses.

All three potential development sites are located on the eastern edge of Haywards Heath close to Lindfield. Haywards Heath town centre and rail station are located more than two kilometres to the west of the sites which is considered to be beyond reasonable walking distance. However, this is within reasonable cycling distance and would take approximately 10 minutes to cycle.

The sites are also beyond reasonable walking distance of a secondary school. The closest secondary school, Oathall Community College, is located approximately 2 kilometres to the west of the sites, with the maximum reasonable walking distance being 1.2 kilometres. Oathall Community College is within reasonable cycling distance of the site.

The only facilities within reasonable walking distance of the sites are primary schools (Lindfield Primary School and Blackthorns Community Primary School) and Lindfield village centre (which has a post office and some local shops).

5.2 Development Trip Generation

A multi-modal trip generation spreadsheet was developed using 2001 Census data and National Travel Survey (NTS) data for the period 2000-2002. The trip generation and distribution exercise comprised the following stages:

1. Stage 1: Trips per household;
2. Stage 2: Trips by journey purpose;

3. Stage 3: Internal trips;
4. Stage 4: Site trip attraction;
5. Stage 5: Modal share by journey purpose;
6. Stage 6: Total external trips by journey purpose and mode;
7. Site 7: Total internal trips by journey purpose and mode; and
8. Stage 8: Distribution of external trips by journey purpose and mode.

This process provided the total number of AM peak PM peak and daily mullet-modal trips generated by each development site option. The trips were distributed to each ward in Haywards Heath and four external zones (north, east, south and west).

The development trips were then manually assigned to the highway network and a public transport passenger load, patronage and revenue estimation was undertaken.

The major sources of demand for public transport and highway trips under both development scenarios are as follows:

1. North of Haywards Heath (towards London and Gatwick);
2. Bentswood Ward (schools and colleges);
3. Heath Ward (contains the town centre and rail station);
4. South of Haywards Heath (towards Brighton); and
5. Lucastes Ward (leisure centre and Haywards Heath College).

Road	Development Conditions	Analysis	Future Condition
A272	Increase in flow in both directions during peak periods.	Traffic running between the development and the A23. The A272 is already congested.	Increased delays during peak periods. Haywards Heath Relief Road required to alleviate.
A23	Increase in traffic flow, particularly northbound during the AM peak and southbound during the PM peak.	Associated with trips from new development with work destinations outside Haywards Heath.	Free flowing. May impact upon narrow sections of carriageway.
B2028	Increase in traffic flow, particularly to the south of the development sites.	Associated with in the town centre.	Likely to remain free flowing with minor congestion during peak periods. Junction capacity assessment required
B2111	Increase in flow, particularly close to development sites.	Traffic from the development accessing town centre and stations.	May impact upon existing congestion at key junctions. Junction improvements will be required.
Residential roads between sites and town centre.	May be used as a rat run for traffic from the sites accessing the town centre and beyond.	Rat running traffic.	Many roads already contain traffic management but further measures may be required. Capacity should not be increased along these sections of road.

Table 5.1 - Development Traffic Impact Summary

This pattern reflects the location of trip attractors within the Haywards Heath area itself (particularly for education and health) and to the north of Haywards Heath for Work.

5.3 Development Impact and Mitigation

Traffic Assignment and Impact

In order to determine the impact of the development of 2,000 houses across sites E and F on the existing highway network within Haywards Heath the development car trips from the trip generation exercise have been manually assigned to the highway network. The assignment flows represent demand flows, i.e. the route(s) traffic would ideally take if capacity was available.

In addition a link capacity analysis has been undertaken based on existing traffic flows provided by Mid Sussex District Council which have been growthed to 2016 to provide base 2016 flows. These have been compared

to base 2016 with development flows to gain an understanding of the impact of the development options on the existing highway network. The results are summarised in Table 5.1.

Based on the information presented above and site visits to determine the existing patterns of traffic congestion within Haywards Heath the following highway infrastructure improvements will probably be required to support the development of 2,000 houses on Sites E and F:

1. Completion of the A272 relief road to the south of Haywards Heath (this is beyond the scope of this note);
2. Link through Site E from B2111 Scamps Hill (opposite Gravelye Lane) to East Mascalls Lane;
3. Link into Site F from Gravelye Lane and from B2111 Scaynes Hill Road;

4. Enhancement to the existing B2111 / Gravelye Lane priority junction to a signalised crossroads incorporating the Site E access or a roundabout;
5. Enhancement to the existing B2111 / East Mascalls Lane junction to a signalised crossroads incorporating the access road to Site F or a roundabout; and
6. Priority junctions for the site accesses on Gravelye Lane and East Mascalls Lane.

Highway infrastructure cost estimates for the above improvements are provided in Table 6.3 of Annex A. The total cost for the improvements is likely to be in the range of **£7,000,000 to £8,000,000.**

It should be noted that the above assessment has not considered the impact of development trips on junction capacity. It is expected that junctions within the town would require mitigating measures in order

to support the development sites. In particular the B2111/B2028 junction to the west of the development site has severely restricted visibility and is likely to receive increase traffic throughput as a result of the proposed development. Further work would be required to assess the existing capacity of this junction and its ability to cope with future increases in traffic both in terms of capacity and safety. It is likely that this junction will form the basis for assessing the total

number of houses which could be built on sites E and F. This is likely to be less than 2,000 houses.

Public Transport Assessment

Bus service 31 travels along Gravelye Lane and Scamps Hill and thus passes alongside Site F and between Sites F and E. This could be rerouted with minimal impact on journey times. In addition it is possible to serve the town centre and railway station with a single bus

route in either a clockwise or anti-clockwise direction. In order to minimise duplication of the existing commercially operated services on America Lane it is recommended that the new route is via Franklands Village and Franklynn Road (see Figure 5.1).

It is proposed that the new service operate a similar service pattern to the existing routes 30A and 30B. Analyses suggest that a revenue support subsidy in the order of £7,000 per annum would be required to operate the service.

Provision for Pedestrians and Cyclists

In order to support the development of houses across sites E and F it is recommended that that adequate pedestrian and cycle crossings, cycle and walk routes, cycle lanes and cycle storage are provided between the site and local destinations and services.

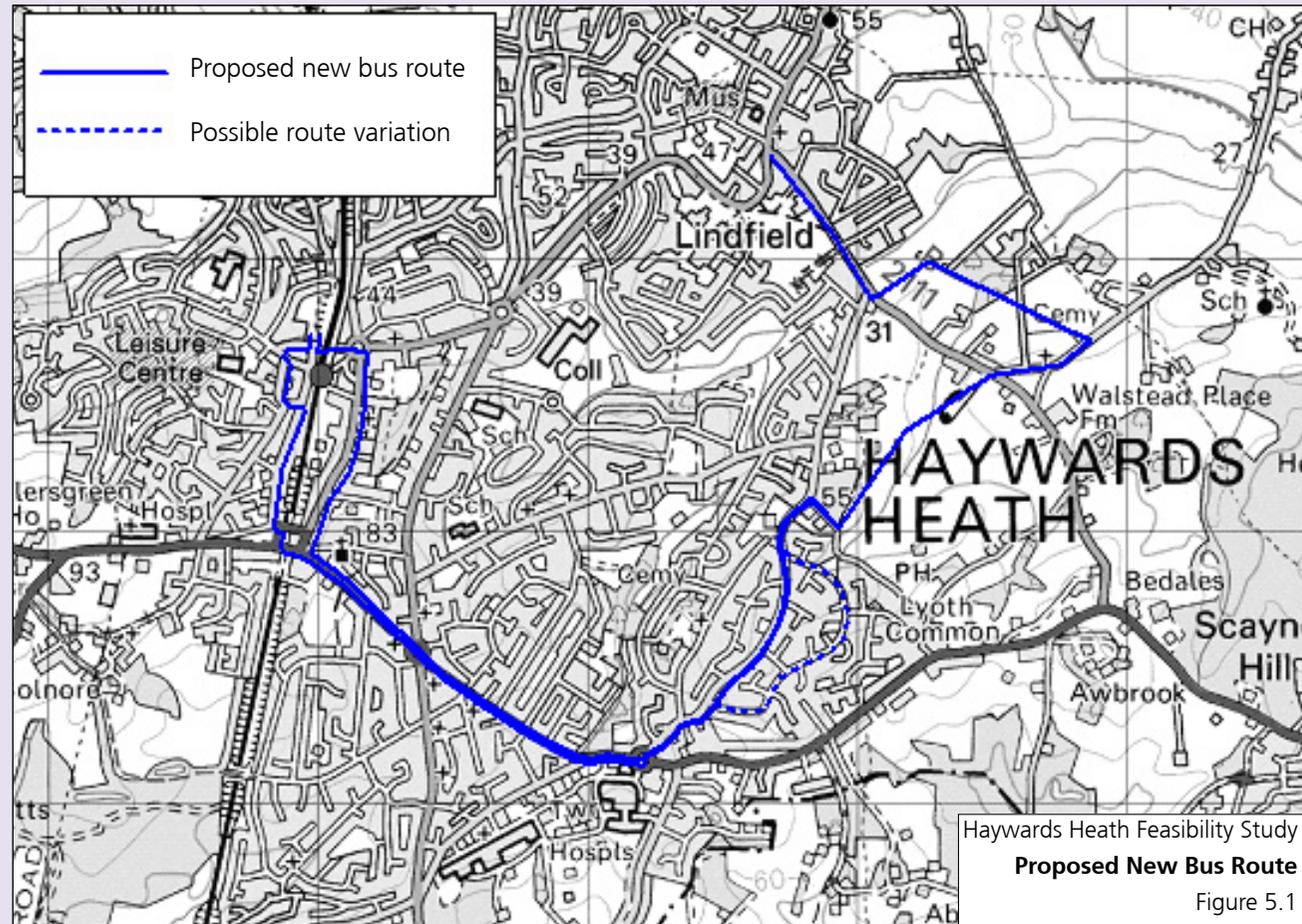
Total Transport Costs

Analysis of highway and public transport improvements suggest that the total cost per dwelling required for transport improvements for 2000 dwellings is **£6,100** with the signalised highway improvement options and **£6,800** with the roundabout highway improvement options. This is based on the assumption of 40% affordable housing.

It is likely that all of the proposed improvements associated with each development site will be implemented through Section 106 agreements and paid for by the developer.

5.4 The Way Forward

The results of this transport study suggest the proposed development of up to 2,000 houses across sites E and F could be supported by associated improvements in transport networks. This would include investment in highway infrastructure works and public transport



services. This would also be dependant on completion of the Haywards Heath relief road which is beyond the scope of this study.

This study is strategic in nature and has used available traffic count, bus patronage and rail data. This has allowed the study to take an overview of the transport impact of the development of houses on sites E and F in terms of existing and proposed infrastructure. However, the strategic nature of the study does not allow the transport impact to be assessed at a local scale. It is strongly recommended that if the development options are progressed to the next stage, further study at a local scale should be carried out. This would need to include junction assessments particularly for the B2028/B2111 junction which may put a constraint on the number of houses which can be developed on the sites.

6. Identification of Social and Community Infrastructure

Following consultation with the Client team on the Development Options identified, there was a consensus to take forward Options D, E and F for further more detailed analysis. The transport analysis has identified that development of Option D would not be feasible due to access constraints. The development schedules and social and community infrastructure assessment therefore relates to Site Options E and F only.

The purpose of the assessment was to assess the technical feasibility of developing Options E and F at a density of 30 dwellings per hectare and to consider whether the sites have the potential to support a target of 2,000 dwellings. This chapter summarises the key findings of the full assessment which is included as Annex B to this report.

6.1 Indicative Land Budget

The land budget has been informed by an assessment of the social and community infrastructure needs associated with the target number of dwellings. An assessment has been made of the additional land and floorspace requirements covering employment needs, local retailing, education facilities, primary healthcare infrastructure, open space and indoor recreation facilities to support such a community post 2016.

The assessment considers the requirements relating to each land use in total followed by a schedule identifying the sizing of sites and the balance of uses required to support each site. The schedule represents a target land use mix which has informed the masterplanning process, however some of the requirements vary slightly from the land use mix to reflect other on site environmental constraints.

An assessment of the combined potential development capacity of development options E and F has been undertaken. Two density scenarios have been tested, Scenario A was based on an average density of 30 dwellings per hectare. The Scenario B assessment was undertaken to ascertain whether the housing target could be accommodated by increasing the housing density considering the density parameters established in Draft PPS 3. Within the typology of locations identified in PPS3, Haywards Heath falls within the 'suburban' location type where appropriate housing densities are considered to be between 33-55 dwellings per hectare.

The assessment considers the requirements relating to each land use in total followed by a schedule identifying the sizing of land parcels and the balance of uses required to support the community.

6.2 Scenario A

This assessment finds that assuming a density of 30 dwellings per hectare a total of 1,440 dwellings can potentially be accommodated on the site, including allowances for social and community provision that are outlined in the Annex B assessment and summarised in Table 6.1.

6.3 Scenario B

The rationale for this assessment was to provide a range of dwelling types and sizes within each site. The distribution of medium and high density would be concentrated around a neighbourhood centre and along bus routes in order to maximise access and the viability of these services. Low density development would be located around more environmentally

sensitive areas within parcels and adjoining the countryside edge to soften the visual impact of development.

Using higher density assumptions, areas E and F have the potential to support some 1,768 dwellings taking into consideration appropriate levels of community and social infrastructure levels to meet the needs.

Density Assumptions

30% at 30 dwellings per hectare
50% at 50 dwellings per hectare
20% at 60 dwellings per hectare

Table 6.1 identifies the target land use budget for social and community infrastructure based on the housing density mix identified above. The residual developable area for Scenario B is some 4.9 ha less than Scenario A due to the additional community and infrastructure needs of the larger population. Notably, meeting the needs of a larger population particularly increases the land take requirements of education (0.42 ha), open space provision (2.63 ha) and employment (1.76 ha).

6.4 Transport Costs

The assessment of the development capacity of Sites E and F, taking into account social and community infrastructure, has identified a potential of between 1,440 to 1,770 dwellings. The total transport costs in the previous section identified costs per dwelling based on 2,000 dwellings (40% of which would be affordable housing). The lower dwelling numbers would increase these transport costs from £6,800 (with the signalised highway improvements) to between

£7,674 for Scenario B to £9,443 for Scenario A. This high cost for Scenario A scheme demonstrates that developing Sites E and F at low densities could have a significant impact on the financial viability of the development.

Scenario	A	B
Total Parcel Area	63.5	63.5
Neighbourhood Centre	0.17	0.19
Education	2.62	3.04
Open Space	11.6	14.29
Indoor Sports and Other Built Facilities	0.14	0.14
Employment	0.96	2.72
Residual Developable Area	49.07	43.1
No Dwellings		
30 dph	1439	388
40 dph	-	863
60 dph	-	518
Total Dwellings	1439	1768

Table 6.1: Development Schedules

Part IV – Summary of Findings and Conclusions

7. Summary of Findings

The aim of this feasibility study is to identify whether there is potential for additional strategic development to provide up to 1,000 dwellings on land around Haywards Heath to accommodate post 2016 housing needs beyond the adopted Structure Plan commitment. The study was undertaken in two stages, firstly a site analysis and secondly an assessment of likely significant impacts on the surrounding transport and social and community infrastructure and the infrastructure requirements to meet the needs of the development. The site analysis was produced at the end of December 2005 to provide an initial analysis of potential development options and identify which options should be taken forward for further investigation.

7.1 Site Analysis

The first stage involved a comprehensive site analysis to identify opportunities and constraints to developing areas contiguous with the Haywards Heath urban area and to determine the potential capacity of these areas. This involved undertaking landscape and ecological assessments and a desk based assessment of site specific water and infrastructure related issues.

The site analysis demonstrates that the study area is heavily constrained by environmental designations and areas of landscape value. The most significant constraints to development are the floodplain areas to the north east, ecological areas to the west, areas of high landscape value and the topography which allows long distance views towards the settlement.

Although the majority of the area is in agricultural use, there are areas of woodlands, hedgerows and streams which should be protected. These areas could be incorporated within any potential development to provide a strong landscape framework and enhance the biodiversity.

Potential developable areas were identified from the site analysis. These sites were measured to illustrate whether they could accommodate 1,000 dwellings at an average density of 30 dwellings per hectare. Only Site Option E has the potential to accommodate approximately 1,000 dwellings. Site Option F could form a potential future extension. Both sites are well contained by the floodplain extent and topography which would prevent coalescence with Scaynes Hill and unacceptable visual impacts on views from the east. These sites were taken forward along with Site option D, which is adjacent to these sites, for further analysis. All three potential development sites are located on the eastern edge of Haywards Heath close to Lindfield.

7.2 Impact Assessment

Stage two involved assessing the impacts of the maximum site capacity on the surrounding transport network in order to determine whether adverse impacts could be satisfactorily mitigated. The Transport Analysis looked at potential trip generation and the distribution and assignment of vehicular trips to the local highway network. A link capacity assessment was also undertaken to identify the capacity of the network to accommodate more traffic and inform the need for infrastructure improvements.

Site D was excluded from further study at this stage due to the fact that difficulties in obtaining highway access to the site, combined with the small number of houses that would be served, make it unviable in transport terms.

The results of this analysis suggest the proposed development of up to 2,000 homes in Haywards Heath could be supported by associated improvements in transport networks. This would depend on the completion of the proposed relief road and include enhancement to existing junctions and roads, new link roads connecting the sites and investment in an additional bus service. Analysis of highway and public transport improvements suggest that the total cost per dwelling required for transport improvements is **£7,674 (using Scenario B assumptions)** with the signalised highway improvement options and roundabout highway improvement options. This is based on the assumption of 40% affordable housing.

This study is strategic in nature and has used available traffic count, bus patronage and rail data. This has allowed the study to take an overview of the transport impact of the development of houses on sites E and F in terms of existing and proposed infrastructure. However, the strategic nature of the study does not allow the transport impact to be assessed at a local scale. It is strongly recommended that if the development options are progressed to the next stage, further study at a local scale should be carried out. This would need to include junction assessments particularly for the B2028/B2111 junction which may

put a constraint on the number of houses which can be developed on the sites.

7.3 Development Capacity

An assessment was undertaken to assess the technical feasibility of developing Options E and F at a density of 30 dwellings per hectare and to consider whether the sites have the potential to support a target of 2,000 dwellings. Two density scenarios have been tested, Scenario A was based on an average density of 30 dwellings per hectare. The Scenario B assessment was undertaken to ascertain whether the housing target could be accommodated by increasing the housing density considering the density parameters established in Draft PPS 3. This assessment finds that assuming a density of 30 dwellings per hectare a total of 1,440 dwellings can potentially be accommodated on the site, including allowances for social and community provision. Using higher density assumptions Options E and F have the potential to support some 1,770 dwellings taking into consideration appropriate levels of community and social infrastructure levels to meet the needs.

7.4 Conclusions

Options E and F combined is the area with the largest development potential and provides the opportunity to create a new sustainable community allowing for future growth. This option would allow for successful integration with existing communities and could accommodate between 1,440 and 1,770 dwellings and all social and community facilities required to meet the new population. Distributing the housing requirement rather than concentrating it in a large self-contained community has not been assessed as part of this study.

