



*Guildford  
Borough  
Council Draft  
Local Plan:  
strategy and  
sites*

Habitats Regulations  
Assessment

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## 1 INTRODUCTION

### 1.1 Scope of the project

URS Infrastructure & Environment UK Ltd was appointed in 2012 by Guildford Borough Council to assist the Council in undertaking a Habitats Regulations Assessment (HRA) of the Guildford Borough Local Plan. The objective of the assessment was to identify any aspects of the emerging Local Plan that would have the potential to cause a likely significant effect on Natura 2000 or European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites), either in isolation or in combination with other plans and projects, and to begin to identify appropriate mitigation strategies where such effects were identified. Such strategies would be firmed up and become more defined as the Local Plan itself became more fixed at later stages. The Issues and Options were subject to HRA during 2013. The current HRA document considers the Draft strategic policies and site allocations. URS has already undertaken preliminary HRA work on potential housing scenarios, and assessment of these is updated within this report.

### 1.2 Legislation

The need for Appropriate Assessment is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by the Conservation of Habitats & Species Regulations 2010. The ultimate aim of the Habitats Directive is to “*maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest*” (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.

The Habitats Directive applies the precautionary principle to protected areas. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This is in contrast to the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the ‘environmental report’) should be ‘taken into account’ during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

All the European sites mentioned in this document are shown in Figure 1. In order to ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question:

**Box 1. The legislative basis for Appropriate Assessment**

**Habitats Directive 1992**

Article 6 (3) states that:

*“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives.”*

**Conservation of Habitats & Species Regulations 2010 (as amended)**

The Regulations state that:

*“A competent authority, before deciding to ... give any consent for a plan or project which is likely to have a significant effect on a European site ... shall make an appropriate assessment of the implications for the site in view of that sites conservation objectives... The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site”.*

**1.3 Guildford Borough**

There is no pre-defined guidance that dictates the physical scope of a HRA of a Local Plan. Therefore, in considering the physical scope of the assessment we were guided primarily by the identified impact pathways rather than by arbitrary ‘zones’. Current guidance suggests that the following European sites be included in the scope of assessment:

- All sites within the Guildford Borough boundary; and
- Other sites shown to be linked to development within the Borough boundary through a known ‘pathway’ (discussed below).

Briefly defined, pathways are routes by which a change in activity within the Local Plan area can lead to an effect upon a European site. In terms of the second category of European site listed above, CLG guidance states that the AA should be ‘*proportionate to the geographical scope of the [plan policy]*’ and that ‘*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*’ (CLG, 2006, p.6).

There are two European sites which fall partially within Guildford Borough - the Thames Basin Heaths (TBH) SPA and Thursley, Ash, Pirbright and Chobham SAC (which overlaps with the SPA).

During HRA of previous stages of the new Local Plan (then known as the Core Strategy) in 2007, (detailed in separate reports) it was possible to conclude, in consultation with Natural England, that only the Thames Basin Heaths SPA required further consideration as the Guildford Local Plan and associated DPDs and SPDs are developed, primarily due to possible likely significant effects through recreational pressure/urbanisation and through reduced air quality. This HRA report therefore focuses on that SPA.

**1.4 This report**

Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 explores the relevant pathways of impact. Chapter 4 considers the draft strategies of the Local Plan and their potential to lead to adverse effects on the Thames Basin Heaths SPA. Chapter 5 performs this exercise for strategic site allocations. Chapter 6 considers the TBH in more detail – its designation, condition and potential effects of any Local Plan Draft strategies or site allocations screened in for further consideration from Chapters 4 and 5. The key findings are summarised in Chapter 7: Conclusions.

## 2 METHODOLOGY

### 2.1 Key Principles

This section sets out the basis of the methodology for the HRA. URS has adhered to several key principles in developing the methodology – see Table 1.

**Table 1 - Key principles underpinning the methodology**

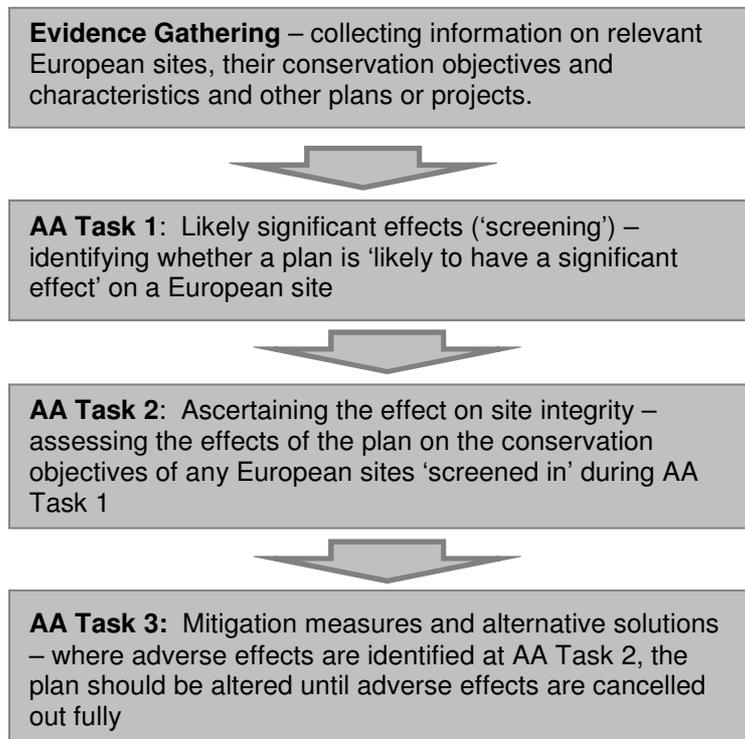
Principle	Rationale
Use existing information	Make the best use of existing information to inform the assessment. This will include information gathered as part of the SA of the emerging Plan and information held by Natural England, the Environment Agency and others.
Consult with Natural England, the Environment Agency and other stakeholders	Ensure consultation with Natural England for the duration of the assessment. We will ensure that we utilise information held by them and others and take on board their comments on the assessment process and findings.
Ensure a proportionate assessment	Ensure that the level of detail addressed in the assessment reflects the level of detail in the Plan (i.e. that the assessment is proportionate). With this in mind, the assessment will focus on information and impacts considered appropriate to the local level.
Keep the process as simple as possible	Endeavour to keep the process as simple as possible while ensuring an objective and rigorous assessment in compliance with the Habitats Directive and emerging best practice.
Ensure a clear audit trail	Ensure that the HRA process and findings are clearly documented in order to ensure a clearly discernible audit trail.

### 2.2 Process

The HRA is being carried out in the absence of formal Government guidance. Communities and Local Government released a consultation paper on Appropriate Assessment of Plans in 2006<sup>1</sup>. As yet, no further formal guidance has emerged.

Figure 2 below outlines the stages of HRA according to current draft CLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.

<sup>1</sup> CLG (2006) Planning for the Protection of European Sites, Consultation Paper



**Figure 2 – Four-Stage Approach to Habitats Regulations Assessment** (Source: CLG, 2006)

**2.3 Likely Significant Effects (LSE)**

The first stage of any Habitat Regulations Assessment (AA Task 1) is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

*"Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"*

The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism for an adverse interaction with European sites.

The purpose of the current report is to undertake this exercise with regard to the Draft Strategy and Sites stage of the Local Plan.

**2.4 Confirming other plans and projects that may act 'in combination'**

It is clearly neither practical nor necessary to assess the 'in combination' effects of the Local Plan within the context of all other plans and projects within the South East. In practice therefore, in combination assessment is of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects relate to the additional housing, transportation and commercial/industrial allocations proposed for other neighbouring authorities over the lifetime

of the Local Plan. Spatial planning policies for Local Authorities surrounding Guildford borough are at various stages of production, and Table 2 below indicates the most up to date information on quantum of delivery to be expected during the lifetime of the Guildford Local Plan.

**Table 2. Housing levels that were to be delivered in authorities surrounding the Thames Basin Heaths SPA under Local Plans and Core Strategies**

Local Authority	Total housing to 2029 unless stated	Source of data
Basingstoke & Deane	13,464	Basingstoke and Deane Revised Pre-Submission (13 June 2014) Local Plan 2011 - 2029
Bracknell Forest	11,139 (to 2026)	Core Strategy Development Plan (adopted Feb 2008)
Elmbridge	3,375	Elmbridge Core Strategy (adopted Jul 2011)
Hart	4,253	Hart Pre-Submission Core Strategy (2013)
Mole Valley	3,760 (to 2026)	Core Strategy (adopted 2009)
Runnymede	3,300 (to 2028)	Local Plan Core Strategy (Submitted 2014; currently being revised)
Rushmoor	6,350	Core Strategy (adopted Oct 2011)
Surrey Heath	3,240 (to 2028)	Core Strategy & Development Management Policies 2011- 2028 (adopted Feb 2012)
Windsor & Maidenhead	7,415	Borough Local Plan Preferred Options Consultation January 2014
Woking	4,964 (to 2027)	Core Strategy (adopted Oct 2012)
Wokingham	13,230	Adopted Core Strategy Development Plan Document (adopted Jan 2010)

There are other plans and projects that are often relevant to the ‘in combination’ assessment, most notably Water Resource Management Plans and the Environment Agency’s River Wey Catchment Abstraction Management Strategy (2012). These have all been taken into account in this assessment.

Table 3 summarises documents that we have reviewed to inform our assessment:

**Table 3. Documents reviewed in order to inform this assessment**

Document	Relevant contents
Environment Agency (2012) The Wey Catchment Abstraction Strategy	<ul style="list-style-type: none"> <li>Sets out the Environment Agency’s position regarding future abstraction within the Wey Catchment</li> </ul>

Document		Relevant contents
Guildford Borough Council (2010)	Thames Basin Heaths Avoidance Strategy	<ul style="list-style-type: none"> <li>• Guildford's approach to development in consideration of the Thames Basin Heaths area.</li> </ul>
Thames Basin Heaths Joint Strategic Partnership Board (2009)	Thames Basin Heaths SPA Delivery Framework	<ul style="list-style-type: none"> <li>• Sets out the agreed Framework regarding the Thames Basin Heaths SPA</li> </ul>
Natural England (2006)	Thames Basin Heaths Special Protection Area: Mitigation Standards for Residential Development. 26 May 2006.	<ul style="list-style-type: none"> <li>• Avoidance and mitigation for recreational impacts on heathland SPA.</li> </ul>
Environment Agency (various)	Stage 3 and 4 Appropriate Assessments: Review of Consents	<ul style="list-style-type: none"> <li>• Understanding of existing conditions at European sites</li> </ul>
Environment Agency (2006a)	Water Resources in the South East report to latest South East Plan housing provision and distribution received from SEERA. May 2006, for commentary to SEERA	<ul style="list-style-type: none"> <li>• Water resources.</li> </ul>
South East Water (June 2014)	Water Resources Management Plan	<ul style="list-style-type: none"> <li>• Sets out the proposed approach to providing water resources in the future</li> </ul>
Affinity Water (June 2014)	Water Resources Management Plan	<ul style="list-style-type: none"> <li>• Sets out the proposed approach to providing water resources in the future</li> </ul>
Thames Water (December 2013)	Revised Draft Water Resource Management Plan 2015-2040	<ul style="list-style-type: none"> <li>• Sets out the proposed approach to providing water resources in the future</li> </ul>
Environment Agency (2006b)	Creating a Better Place: Planning for Water Quality and Growth in the South East. Version 10.4	<ul style="list-style-type: none"> <li>• Sewage treatment capacity.</li> </ul>
Surrey County Council (2011)	The Surrey Local Transport Plan, 2011 – 2026.	<ul style="list-style-type: none"> <li>• Transport schemes.</li> </ul>
Core Strategies and Local Plans for neighbouring local authorities	Spatial development policies for Woking, Elmbridge, Waverley, Mole Valley, Rushmoor, and Surrey Heath	<ul style="list-style-type: none"> <li>• Provides projected levels of housing for authorities surrounding Guildford Borough</li> </ul>

In preparing this HRA we have utilised data held on the following sources in order to inform on the current ecological status of relevant European sites:

- The UK Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)); and
- Nature on the Map and its links to SSSI citations and the JNCC website ([www.natureonthemap.org.uk](http://www.natureonthemap.org.uk))

### 3 PATHWAYS OF IMPACT

#### 3.1 Introduction

In carrying out an HRA it is important to determine the various ways in which land use plans can impact on European sites by following the pathways along which development can be connected with European sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon a European site.

#### 3.2 Urbanisation

This impact is closely related to recreational pressure, in that they both result from increased populations within close proximity to sensitive sites. Urbanisation is considered separately as the detail of the impacts is distinct from the trampling, disturbance and dog-fouling that results specifically from recreational activity. The list of urbanisation impacts can be extensive, but core impacts can be singled out:

- Increased fly-tipping - Rubbish tipping is unsightly but the principle adverse ecological effect of tipping is the introduction of invasive alien species with garden waste. Garden waste results in the introduction of invasive aliens precisely because it is the 'troublesome and over-exuberant' garden plants that are typically thrown out<sup>2</sup>. Alien species may also be introduced deliberately or may be bird-sown from local gardens.
- Cat predation - A survey performed in 1997 indicated that nine million British cats brought home 92 million prey items over a five-month period<sup>3</sup>. A large proportion of domestic cats are found in urban situations, and increasing urbanisation is likely to lead to increased cat predation.

The most detailed consideration of the link between relative proximity of development to European sites and damage to interest features has been carried out with regard to the Thames Basin Heaths SPA.

After extensive research, Natural England and its partners produced a 'Delivery Plan' which made recommendations for accommodating development while also protecting the interest features of the European site. This included the recommendation of implementing a series of zones within which varying constraints would be placed upon development. While the zones relating to recreational pressure expanded to 5km (as this was determined from visitor surveys to be the principal recreational catchment for this European site), that concerning other aspects of urbanisation (particularly predation of the chicks of ground-nesting birds by domestic cats, but also including recreational pressure, fly tipping, increased incidence of fires and general urbanisation) was determined at 400m from the SPA boundary. The delivery plan concluded that the adverse effects of any development located within 400m of the SPA boundary could not be mitigated, in part because this was the range within cats could be expected to roam as a matter of routine and there was no realistic way of restricting their movements, and as such, no new housing should be located within this zone.

Guildford Council is a participatory organisation within the Thames Basin Heaths SPA Delivery Plan, including the prohibition on net new housing within 400m of the SPA.

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<sup>2</sup> Gilbert, O. & Bevan, D. 1997. The effect of urbanisation on ancient woodlands. *British Wildlife* 8: 213-218.

<sup>3</sup> Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174-188

### 3.3 Recreational pressure

Consultation for the HRA of the South East Plan (now revoked, but with the exception of Policy NRM6 that seeks to protect the Thames Basin Heaths SPA) revealed that potentially damaging levels of recreational pressure are already faced by many European sites. Recreational use of a site has the potential to:

- Cause disturbance to sensitive species, particularly ground-nesting birds such as woodlark and nightjar, and wintering wildfowl;
- Prevent appropriate management or exacerbate existing management difficulties;
- Cause damage through erosion; and
- Cause eutrophication as a result of dog fouling.

Different types of European sites (e.g. heathland, chalk grassland) are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex.

The effects of recreation on heathland sites have been described in a series of English Nature Research Reports<sup>4 5 6 7 8 9</sup>. It would appear that recreational pressure can have a significant adverse effect on the Annex 1 bird species for which the SPAs in this area are designated. Disturbance can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. A literature review on the effects of human disturbance on bird breeding found that 36 out of 40 studies reported reduced breeding success as a consequence of disturbance<sup>10</sup>. The main reasons given for the reduction in breeding success were nest abandonment and increased predation of eggs or young. Over years, studies of other species have shown that birds nest at lower densities in disturbed areas, particularly when there is weekday as well as weekend pressure<sup>11</sup>.

A number of studies have shown that birds are affected more by dogs and people with dogs than by people alone, with birds flushing more readily, more frequently, at greater distances and for longer (Underhill-Day, 2005). In addition, dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals, and can cause eutrophication near paths. Nutrient-poor habitats such as heathland are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces<sup>12</sup>.

<sup>4</sup> Liley, D. and R.T. Clarke (2002) – Urban development adjacent to heathland sites in Dorset: the effect on the density and settlement patterns of Annex 1 bird species. *English Nature Research Reports*, No. 463.

<sup>5</sup> Murison, G. (2002) – The impact of human disturbance on the breeding success of nightjar *Caprimulgus europaeus* on heathlands in south Dorset, England. *English Nature Research Reports*, No. 483.

<sup>6</sup> Land Use Consultants (2005) – Going, going, gone? The cumulative impact of land development on biodiversity in England. *English Nature Research Reports*, No. 626.

<sup>7</sup> Rose, R.J. and R.T. Clarke (2005) – Urban impacts on Dorset Heathlands: Analysis of the heathland visitor questionnaire survey and heathland fires incidence data sets. *English Nature Research Reports*, No. 624.

<sup>8</sup> Tyldesley, D. and associates (2005) – Urban impacts on Dorset heaths: A review of authoritative planning and related decisions. *English Nature Research Reports*, No. 622.

<sup>9</sup> Underhill-Day, J.C. (2005) – A literature review of urban effects on lowland heaths and their wildlife. *English Nature Research Reports*, No. 623.

<sup>10</sup> Hockin, D., M. Oundsted, M. Gorman, D. Hill, V. Keller and M.A. Barker (1992) – Examination of the effects of disturbance on birds with reference to its importance in ecological assessments. *Journal of Environmental Management*, **36**, 253-286.

<sup>11</sup> Van der Zande, A.N., J.C. Berkhuisen, H.C. van Letesteyn, W.J. ter Keurs and A.J. Poppelaars (1984) – Impact of outdoor recreation on the density of a number of breeding bird species in woods adjacent to urban residential areas. *Biological Conservation*, **30**, 1-39.

<sup>12</sup> Shaw, P.J.A., K. Lankey and S.A. Hollingham (1995) – Impacts of trampling and dog fouling on vegetation and soil conditions on Headley Heath. *The London Naturalist*, **74**, 77-82.

Underhill-Day (2005) summarises the results of visitor studies that have collected data on the use of semi-natural habitat by dogs. In surveys where 100 observations or more were reported, the mean percentage of visitors who were accompanied by dogs was 54.0%.

However these studies need to be treated with care. For instance, the effect of disturbance is not necessarily correlated with the impact of disturbance, i.e. the most easily disturbed species are not necessarily those that will suffer the greatest impacts. It has been shown that, in some cases, the most easily disturbed birds simply move to other feeding sites, whilst others may remain (possibly due to an absence of alternative sites) and thus suffer greater impacts on their population<sup>13</sup>. A recent literature review undertaken for the RSPB<sup>14</sup> also urges caution when extrapolating the results of one disturbance study because responses differ between species and the response of one species may differ according to local environmental conditions. These facts have to be taken into account when attempting to predict the impacts of future recreational pressure on European sites.

It should be emphasised that recreational use is not inevitably a problem. Many European sites are also National Nature Reserves (e.g. Thursley Common) or nature reserves managed by wildlife trusts and the RSPB. At these sites, access is encouraged and resources are available to ensure that recreational use is managed appropriately.

Where increased recreational use is predicted to cause adverse impacts on a site, avoidance and mitigation should be considered. Avoidance of recreational impacts at European sites involves location of new development away from such sites; Local Plans (and other strategic plans) provide the mechanism for this. Where avoidance is not possible, mitigation will usually involve a mix of access management, habitat management and provision of alternative recreational space:

- *Access management* – restricting access to some or all of a European site - is not usually within the remit of the Council and restriction of access may contravene a range of Government policies on access to open space, and Government objectives for increasing exercise, improving health etc. However, active management of access is possible, for example as practised on nature reserves.
- *Habitat management* is not within the direct remit of the Council. However the Council can help to set a framework for improved habitat management by promoting cross-authority collaboration and S106 funding of habitat management. In the case of Guildford, opportunities for this are limited since, according to Natural England, the majority of Thames Basin Heath component SSSI units are in favourable or favourable recovering conditions.
- *Provision of alternative recreational space* can help to attract recreational users away from sensitive European sites, and reduce additional pressure on them. Some species for which European sites have been designated are particularly sensitive to dogs, and many dog walkers may be happy to be diverted to other, less sensitive, sites. However the location and type of alternative space must be attractive for users to be effective.

### 3.4 Atmospheric pollution

The main pollutants of concern for European sites are oxides of nitrogen (NO<sub>x</sub>), ammonia (NH<sub>3</sub>) and sulphur dioxide (SO<sub>2</sub>). NO<sub>x</sub> can have a directly toxic effect upon vegetation. In addition, greater NO<sub>x</sub> or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the

<sup>13</sup> Gill et al. (2001) - Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation*, **97**, 265-268

<sup>14</sup> Woodfield & Langston (2004) - Literature review on the impact on bird population of disturbance due to human access on foot. *RSPB research report* No. 9.

atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

**Table 4. Main sources and effects of air pollutants on habitats and species**

Pollutant	Source	Effects on habitats and species
Acid deposition	SO <sub>2</sub> , NO <sub>x</sub> and ammonia all contribute to acid deposition. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased nitrogen emissions may cancel out any gains produced by reduced sulphur levels.	Can affect habitats and species through both wet (acid rain) and dry deposition. Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH <sub>3</sub> )	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO <sub>2</sub> and NO <sub>x</sub> emissions to produce fine ammonium (NH <sub>4</sub> <sup>+</sup> ) containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH <sub>3</sub> is rapidly deposited, some of the most acute problems of NH <sub>3</sub> deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO <sub>x</sub>	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations.	Deposition of nitrogen compounds (nitrates (NO <sub>3</sub> ), nitrogen dioxide (NO <sub>2</sub> ) and nitric acid (HNO <sub>3</sub> )) can lead to both soil and freshwater acidification. In addition, NO <sub>x</sub> can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.
Nitrogen (N) deposition	The pollutants that contribute to nitrogen deposition derive mainly from NO <sub>x</sub> and NH <sub>3</sub> emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.	Species-rich plant communities with relatively high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
Ozone (O <sub>3</sub> )	A secondary pollutant generated by photochemical reactions from NO <sub>x</sub> and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. The increase in combustion of fossil fuels in the UK has led to a large increase in	Concentrations of O <sub>3</sub> above 40 ppb can be toxic to humans and wildlife, and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops, decreased forest production and altered species composition in

Pollutant	Source	Effects on habitats and species
	background ozone concentration, leading to an increased number of days when levels across the region are above 40ppb. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	semi-natural plant communities.
Sulphur Dioxide SO <sub>2</sub>	Main sources of SO <sub>2</sub> emissions are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total SO <sub>2</sub> emissions have decreased substantially in the UK since the 1980s.	Wet and dry deposition of SO <sub>2</sub> acidifies soils and freshwater, and alters the species composition of plant and associated animal communities. The significance of impacts depends on levels of deposition and the buffering capacity of soils.

Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO<sub>2</sub> or NH<sub>3</sub> emissions will be associated with Local Plans. NO<sub>x</sub> emissions, however, are dominated by the output of vehicle exhausts. Within a 'typical' housing development, by far the largest contribution to NO<sub>x</sub> (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison<sup>15</sup>. Emissions of NO<sub>x</sub> could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the LDF.

According to the World Health Organisation, the critical NO<sub>x</sub> concentration (critical threshold) for the protection of vegetation is 30 µgm<sup>-3</sup>; the threshold for sulphur dioxide is 20 µgm<sup>-3</sup>. In addition, ecological studies have determined 'critical loads'<sup>16</sup> of atmospheric nitrogen deposition (that is, NO<sub>x</sub> combined with ammonia NH<sub>3</sub>) for key habitats within European sites.

**Local Air Pollution**

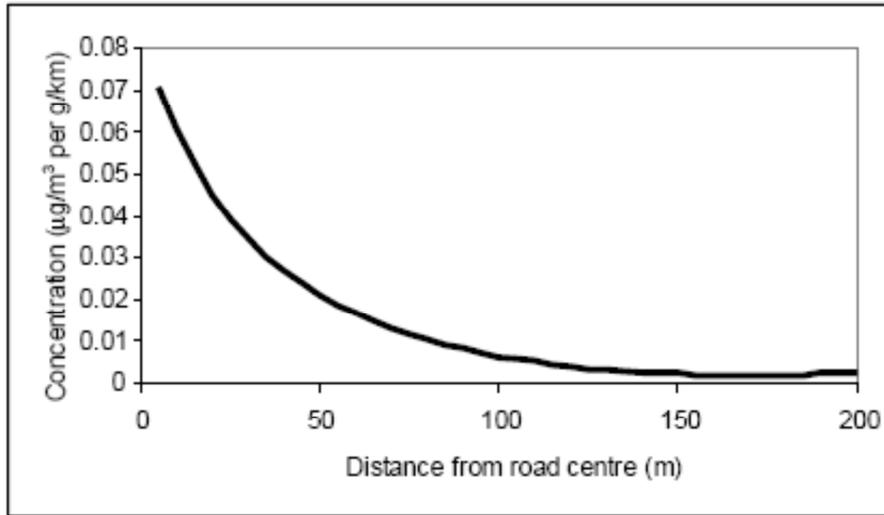
According to the Department of Transport's Transport Analysis Guidance, "Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant"<sup>17</sup>.

<sup>15</sup> Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <http://www.airquality.co.uk/archive/index.php>

<sup>16</sup> The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

<sup>17</sup> [www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf](http://www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf)

**Figure 3. Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)**



This is therefore the distance that has been used throughout this HRA in order to determine whether European sites are likely to be significantly affected by development under the draft Local Plan. Given that the Thames Basin Heaths SPA lies within 200m of numerous roads that may be regularly used by vehicle journeys arising from within Guildford borough as a result of the increased population, it was concluded that air quality should be included within the scope of this assessment. The location of these roads in relation to the SPA is shown in Figure 1.

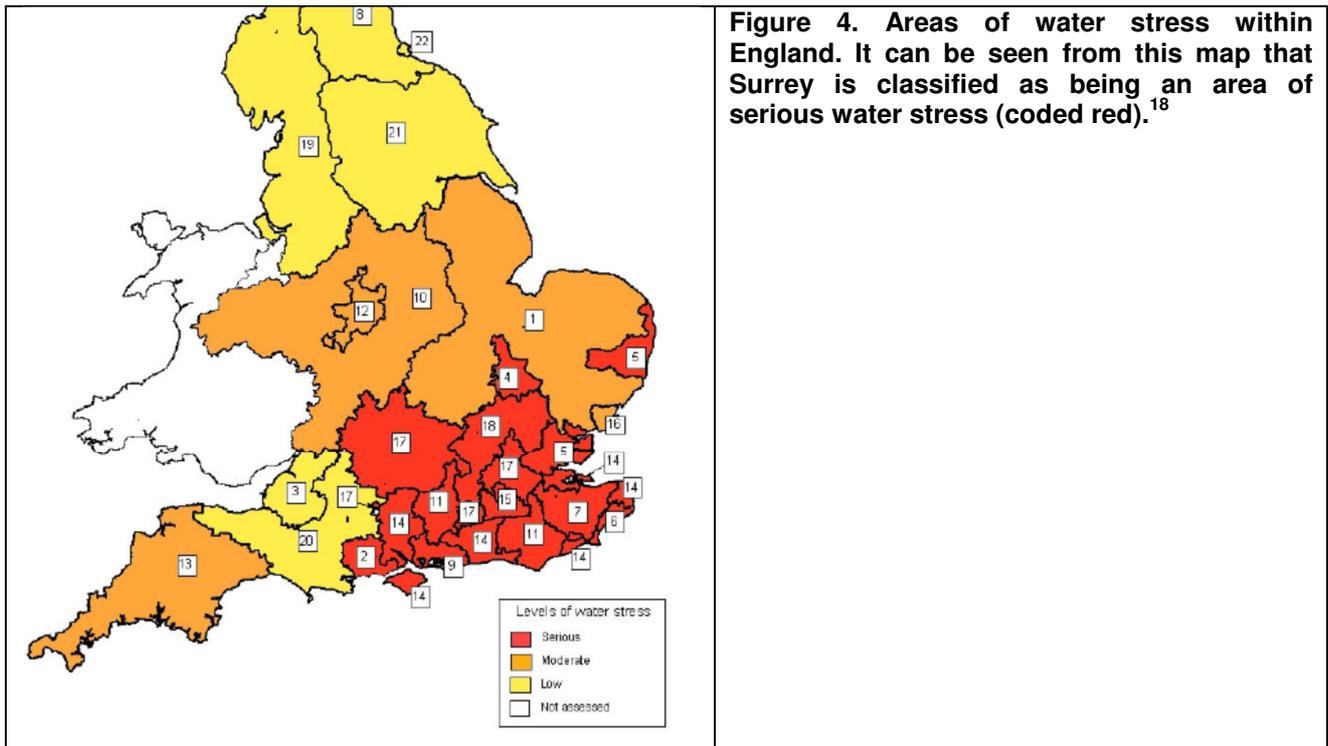
**Diffuse air pollution**

In addition to the contribution to local air quality issues, development can also contribute cumulatively to an overall deterioration in background air quality across an entire region. In July 2006, when this issue was raised by Runnymede Borough Council in the South East, Natural England advised that their Local Development Framework ‘can only be concerned with locally emitted and short range locally acting pollutants’ as this is the only scale which falls within a local authority remit. It is understood that this guidance was not intended to set a precedent, but it inevitably does so since (as far as we are aware) it is the only formal guidance that has been issued to a Local Authority from any Natural England office on this issue.

In the light of this and our own knowledge and experience, it is considered reasonable to conclude that diffuse pan-authority air quality impacts are the responsibility of higher tier strategies or national government, both since they relate to the overall quantum of development within a region (over which individual districts have little control), and since this issue is best addressed at the highest pan-authority level. Diffuse air quality issues will not therefore be considered further within this HRA.

**3.5 Water abstraction**

The South East is generally an area of high water stress (see Figure 4).



Development within Guildford Borough over the plan period will increase water demand.

According to the Wey Catchment Abstraction Management Strategy Guildford Borough lies within several Water Resource Management Units:

- Cranleigh Waters;
- Tillingbourne;
- Guildford
- Hoe Stream; and
- Weybridge

The surface water and groundwater within these Wey catchment units is that there is no water available for licensing.

Guildford borough lies within Thames Water’s Guildford Water Resource Zone. According to the draft Water Resource Management Plan (2013) this water resource zone is calculated to be in surplus over the entire plan period under normal conditions, but may have deficits under peak demand. Thames Water intends to extend their water efficiency, leakage reduction and metering programmes into the zone in order to conserve resources. Affinity Water have also identified the need to employ measures to ensure sustainable supply in their ‘Wey’ Water Resource Zone, as have South East Water in their WRZ4 and WRZ5, which extend east of Aldershot. The determination of surplus or deficit does take account of environmental limits and the implication is that there should be no requirement for damaging levels of abstraction from any of the aquifers connected to these European sites.

<sup>18</sup> Figure adapted from Environment Agency. 2007. Identifying Areas of Water Stress. <http://publications.environment-agency.gov.uk/pdf/GEHO0107BLUT-e-e.pdf>

### 3.6 Water quality

Development within Guildford Borough over the plan period will increase wastewater production. Wastewater from the District is treated by Thames Water and discharges to the River Wey or River Blackwater, which ultimately drains to the River Thames. Neither of these rivers are European sites.

Moreover, research carried out by the Environment Agency has indicated that future sewage treatment capacity at Guildford sewage treatment works can be rendered adequate to deal with projected growth, at least to 2026 given relatively small capital cost<sup>19</sup> and will therefore not have an adverse effect upon receiving waters.

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<sup>19</sup> Environment Agency. May 2006. Creating a Better Place: Planning for Water Quality and Growth in the South East.

#### 4 HRA SCREENING OF GUILDFORD DRAFT STRATEGY

The following table presents the screening assessments for each strategic policy that has been put forward for consideration. Green shading in the final column indicates a policy that has been screened out of further consideration due to the absence of any mechanism for an adverse effect on European sites. Orange shading indicates that further Appropriate Assessment (or at least further screening in the presence of further information) is required since a pathway of impact exists that cannot be screened out at this stage.

**Table 5. HRA Screening of Guildford Draft Local Plan Strategies for Effects on Thames Basin Heaths SPA**

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
1 – Presumption in Favour of Sustainable Development	<p>When considering development proposals we will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. We will always work proactively with applicants jointly to find solutions that mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.</p> <p>Planning applications that accord with the policies in this Local Plan (and, where relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.</p> <p>Where there are no policies relevant to the application or they are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole or specific policies in that Framework indicate that development should be restricted.</p>	<p>This policy reflects the position of the NPPF in the presumption in favour of sustainable development. However, there is a caveat with respect to ‘material considerations’, which in the context of the NPPF will explicitly include protection of European sites. Thus in itself, this policy does not create any likely significant adverse effects.</p>
2 – Borough Wide Strategy	<p>During the plan period (2011-31), we will make provision for 13,040 new homes, which equates to an annual requirement of 652 new homes a year and 21.6 – 29.2 hectares of employment land to help meet the needs for new homes, support the economy and supply of 10,900 – 14,800 additional jobs.</p>	<p>The delivery of 13,040 new dwellings will lead to an increased demand on space for leisure activities within the Borough. Unmitigated, this could lead to excessive recreational pressure and disturbance on</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>In order to provide a level of flexibility and to ensure that the realigned Green Belt boundaries endure beyond the plan period, we are safeguarding approximately 99 hectares of land.</p> <p>We will provide for 43 permanent pitches for Gypsies and Traveller and 6 permanent plots for Travelling Show people within Guildford borough between 2012 -17. Between 2017 and 2027 an additional 30 pitches and 2 plots will be permitted or any new target as identified within an updated traveller accommodation assessment.</p>	<p>the Thames Basin Heaths SPA, since much of this development will lie within 5km of the SPA, a zone in which the Thames Basin Heaths Avoidance Strategy requires mitigation to be applied to avoid such effects.</p> <p>The development of new housing and employment opportunities has the potential to lead to increased road journeys within the Borough, and therefore potentially reduced air quality on the SPA where it lies within 200m of major roads.</p> <p>The above effects also apply to the SPA outside of Guildford, where leisure or business journey could affect the SPA beyond the Borough boundaries.</p> <p>Similarly, development in Guildford must be considered in the context of development in surrounding local authorities, where developmental pressure may also apply to the SPA.</p>
3 – Homes for all	<p><b>Housing Mix</b></p> <p>New residential development is required to deliver a wide choice of homes and meet a range of housing needs as set out in the latest Strategic Housing Market Assessment. New development should provide a mix of housing tenures, types and sizes as appropriate to the site size, characteristics and location. We will expect new residential development to be on sustainable sites and to offer a real choice of homes to meet the accommodation needs of our communities. Concentrations of any one type of accommodation in any one place will be avoided.</p> <p><b>Density</b></p> <p>New residential development is required to make the most efficient use of land whilst responding to local character, context and distinctiveness. Residential densities will</p>	<p>There is no likely significant effect on the Thames Basin Heaths SPA as a result of this policy. The provision of traveller accommodation specifically lists the need to provide adequate amenity and utilities, and to avoid harm to environmentally sensitive areas.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>vary dependent upon the local area context and character and the sustainability of the location.</p> <p>Higher density development will be supported in Guildford town centre.</p> <p><b>Specialist housing</b></p> <p>We will support the provision of specialist forms of accommodation in appropriate sustainable locations, taking into account local housing needs.</p> <p><b>Students</b></p> <p>We will expect a minimum of 60 per cent of the University of Surrey student population (full time equivalent) to be provided with student accommodation on their campus or on university owned land. Should other higher education establishments expand through new development of academic floor space they will be expected to make student accommodation provision of up to 30 per cent of their increased student population (full time equivalent).</p> <p><b>Travellers</b></p> <p>We will provide for travellers in accordance with the level of need identified in Policy 2.</p> <p>These will be for a mix of tenures and provided on a number of small sites. The sites must have adequate utility services and amenity space, space for related business activities where appropriate, safe vehicular access, turning space and parking and be in areas with reasonable access to schools, health services and local services.</p> <p>Sites should not significantly impact on the visual amenity and local character of the area or adversely affect an environmentally sensitive location.</p> <p>We will also expect to see traveller accommodation provided on site as part of any proposals that could reasonably be considered to form part of a strategic development. For 500 to 999 homes we would expect two pitches or plots, 1,000 to 1,499 homes four pitches or plots, 1,500 to 1,999 homes six pitches or plots and</p>	

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>2,000 to 2,500 homes eight pitches or plots.</p> <p><b>Houses in multiple occupation</b></p> <p>Proposals for houses in multiple occupation that require planning permission will only be supported where the balance of housing types and character of the immediate locality would not be adversely affected and there is sufficient amenity space available.</p> <p><b>Viability</b></p> <p>We will consider on a case-by-case basis evidence of viability if an applicant can demonstrate that the requirements of this policy cannot be met</p>	
4 – Affordable homes	<p>As well as providing and managing affordable housing ourselves, we will work with Registered Providers, developers and landowners to ensure that at least 40 per cent of all new homes built in the borough are affordable housing. This equates to 5,126 new affordable homes.</p> <p>Subject to viability, these affordable homes will be provided:</p> <ul style="list-style-type: none"> <li>• on development sites of at least five homes (gross). On previously developed sites that meet these thresholds at least 40 per cent of the homes will be provided as affordable homes. On greenfield sites and on public land, at least 45 per cent will be provided as affordable homes,</li> <li>• On allocated sites, in accordance with individual site allocations and</li> <li>• on developments providing solely affordable housing either on public sector-owned land or developments by Registered Providers, and</li> <li>• on developments of off-campus student accommodation and elderly people’s housing (Use Class C3) of at least 20 bedrooms on sites that would otherwise be suitable for general housing in accordance with the formula.</li> </ul> <p>The tenure and size of affordable homes must meet the needs identified in the</p>	No likely significant effect on the Thames Basin Heaths SPA.

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>Strategic Housing Market Assessment 2014 or subsequent evidence document. This currently includes a tenure split of at least 70% rented, with the remainder being other forms of affordable housing.</p> <p>Affordable Rent must be no more than the maximum percentage of market rent set out in our most recent housing guidance or strategy.</p> <p>We will not grant planning permission for development that would result in the net loss of any affordable homes that have been built on site, secured by planning obligation.</p>	
<p>5 – Rural exception homes</p>	<p>We will permit small affordable housing developments, including pitches for travellers, to meet identified local housing needs, provided that :</p> <ul style="list-style-type: none"> <li>• the site is within the defined boundary of a settlement, or the site adjoins or is closely related to and in short, safe and easy walking distance of a defined or a non-defined rural settlement, and</li> <li>• the number, size and tenure of homes would be appropriate to meet, or to contribute to meeting, the identified local affordable housing needs, and the homes are all secured as affordable homes in perpetuity.</li> </ul>	<p>Although this policy is unlikely to result in delivery of significant amounts of housing, at this stage it does not preclude development in close proximity to the Thames Basin Heaths SPA.</p> <p>The policy would benefit from including text to state that development that would have detrimental effects on the environment, including the Thames Basin Heaths, would not be permitted.</p>
<p>6 – Making better places</p>	<p>We require all new developments, whether individual buildings or large-scale development schemes to achieve high quality design and enhance the environment in which they are set.</p> <p>Larger scale residential developments (20 or more dwellings or 0.5 hectares or more) informed by the Guildford Design Principles must:</p> <ul style="list-style-type: none"> <li>• provide a harmonious, integrated mix of uses that fosters a sense of community and contributes to the creation of inclusive communities that provide the facilities and services needed by them;</li> <li>• provides places for communities to meet and interact, such as play and recreation and other public spaces in large developments;</li> </ul>	<p>This policy is positive in that it encourages a reduction in car transport and increase in walking and cycling. Therefore it should assist in reducing the likelihood of adverse effects from air pollution.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<ul style="list-style-type: none"> <li>• give priority to non car based modes of transport;</li> <li>• be designed to facilitate and promote walking as a means of transport, providing a high quality environment for pedestrians. Where possible residential areas should allow short walking distances to amenities; and</li> <li>• provide convenient and safe routes through the development and to nearby areas for cyclists.</li> </ul> <p>All developments will:</p> <ul style="list-style-type: none"> <li>• promote and reinforce local distinctiveness to create a sense of place. Innovative architecture will be encouraged and supported in the appropriate context;</li> <li>• be expected to have regard to and perform well against Building for Life criteria;</li> <li>• be expected to use art and materials of a nature appropriate to their setting;</li> <li>• take account of the context in which they are sited.</li> </ul>	
<p>7 – Sustainable design, construction and energy. Sustainable development</p>	<p>We will give strong support and encouragement to proposals for Zero Carbon development and we expect all development (which includes new development and refurbishment of, conversion or extensions to existing buildings) to achieve the following:</p> <ul style="list-style-type: none"> <li>• the highest levels of energy and water efficiency that are practical and viable and</li> <li>• the lowest level of carbon emissions, including direct and embodied emissions, that is practical and viable.</li> </ul> <p>In meeting any sustainability requirements, all developments should follow the energy and waste hierarchies, except where it can be demonstrated that greater carbon reductions can be achieved by utilising measures further down the hierarchy. In particular, development proposals will be expected to demonstrate how the following have been incorporated:</p>	<p>There are no likely significant adverse effects on the Thames Basin Heaths SPA from this policy.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<ul style="list-style-type: none"> <li>• sustainable design and construction practice, specifically through:               <ul style="list-style-type: none"> <li>o waste minimisation and the re-use of material derived from excavation and demolition</li> <li>o the use of materials, both in terms of embodied carbon and energy efficiency</li> <li>o landform, layout, building orientation, massing and landscaping</li> </ul> </li> <li>• water efficiency measures</li> <li>• measures that reduce the waste produced by building occupants; and</li> <li>• biodiversity improvements.</li> </ul> <p>We encourage early engagement between developers and the Council to help achieve the greatest sustainability benefit.</p> <p><b>Climate Change Adaptation</b></p> <p>New developments should be fit for purpose and remain so into the future, taking full account of the impacts of climate change. Proposals for all development will be expected to demonstrate how they are adapted for a changing climate and changing weather patterns.</p> <p>New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change and built to standards that offer high levels of resilience.</p> <p><b>Renewable, low carbon and decentralised energy</b></p> <p>We support the development of decentralised and renewable energy and recognise the responsibility of all communities to help achieve this. We will give strong support and encouragement for the development of renewable and decentralised energy schemes, especially where there is a strong degree of community benefit and/or community ownership.</p>	

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>We support and encourage the development of district heating/cooling systems. All new developments should connect to existing district heating/cooling networks or support the development of new networks, unless it can be clearly demonstrated that this is not practical or viable.</p> <p>We expect all developments to meet a minimum percentage of the energy need that remains after efficiency measures have been applied through on-site provision of renewable and low carbon technologies. This percentage will be set out in a future document.</p>	
<p>8 – Surrey Hills AONB</p>	<p>The Surrey Hills Area of Outstanding Natural Beauty (AONB) will be conserved and enhanced to maximise special landscape qualities and will be protected from inappropriate development. The national significance the AONB will be afforded the highest level of protection and only proposals which can be sensitively amalgamated into the area and which complement and enhance the character of the AONB will be considered. All proposals will be considered against whether they:</p> <ul style="list-style-type: none"> <li>• conserve and/or enhance the natural beauty and/or amenities of the area</li> <li>• conserve wildlife, historic objects or natural phenomena within it</li> <li>• promote its enjoyment by the community and visitors to the area</li> <li>• support the rural economy of the Surrey Hills area and</li> <li>• provide or maintain public access to it.</li> </ul> <p>The AONB does not preclude specific types of development and proposals will be assessed on their individual merits. They will need to be able to demonstrate that they can achieve the principles set out above, whilst meeting other necessary material planning considerations.</p> <p>The delivery of the Surrey Hills AONB Management Plan will be supported and should be read in conjunction with the Local Plan. Our areas of AONB and AGLV are intrinsically linked and due to the high quality of the AGLV in its own right, and in the</p>	<p>There are no likely significant adverse effects on the Thames Basin Heaths SPA from this policy.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)		
	<p>contribution it makes to the AONB proposals within the AGLV will need to demonstrate consideration of the principles set out above, as well as the other relevant landscape and design policies of the Local Plan. Proposals within the AGLV which would have a negative impact upon views into and out of the AONB and which do not respect the setting, will not be acceptable. More detailed and specific criteria for development within the AGLV will be set out in the Local Plan: delivering development.</p> <p>The boundaries for both the AONB and the AGLV can be viewed on the Policies map. These boundaries will remain until such time as a review by Natural England is undertaken. We will work collaboratively with Natural England throughout any review process which takes place.</p> <p>In accordance with the most up to date Minerals and Waste Plan, safeguarding of applicable land within the AONB and/or AGLV may be necessary and deemed appropriate.</p>			
<p>9 – Villages and major previously developed sites</p>	<p>Development should help support the present and future economic, environmental and social sustainability of the rural settlements, commensurate to their size, character and function:</p> <ul style="list-style-type: none"> <li>• within the defined boundary of the following villages and major previously developed sites inset to the Green Belt, appropriate development and redevelopment opportunities will be supported</li> </ul> <table border="1" data-bbox="398 1038 1182 1286"> <tr> <td data-bbox="398 1038 790 1286">Villages</td> <td data-bbox="790 1038 1182 1286">Ash Green, Chilworth, East Horsley and West Horsley (North), Effingham, Fairlands, Flexford, Jacobswell, Normandy, Peasmarsh, Ripley, Send, Send Marsh/ Burntcommon, Shalford, West Horsley (South), Wood Street</td> </tr> </table>	Villages	Ash Green, Chilworth, East Horsley and West Horsley (North), Effingham, Fairlands, Flexford, Jacobswell, Normandy, Peasmarsh, Ripley, Send, Send Marsh/ Burntcommon, Shalford, West Horsley (South), Wood Street	<p>Development at rural villages and major previously developed sites could theoretically have impacts on the Thames Basin Heaths SPA through reduced air quality and increased disturbance, dependent on scale and location.</p> <p>The policy would benefit from including text to state that development that would have detrimental effects on the environment, including the Thames Basin Heaths, would not be permitted.</p>
Villages	Ash Green, Chilworth, East Horsley and West Horsley (North), Effingham, Fairlands, Flexford, Jacobswell, Normandy, Peasmarsh, Ripley, Send, Send Marsh/ Burntcommon, Shalford, West Horsley (South), Wood Street			

Policy number	Policy text		HRA screening (green = screened out, amber = screened in for Appropriate Assessment)								
	<table border="1" data-bbox="398 341 1184 624"> <tr> <td data-bbox="398 341 790 389"></td> <td data-bbox="790 341 1184 389">Village</td> </tr> <tr> <td data-bbox="398 389 790 624">Major previously developed sites</td> <td data-bbox="790 389 1184 624">Henley Business Park (former BTRE Vokes), HM Prison Send, Keogh Barracks, Mount Browne, Peasmarsh Industrial Estate, Pirbright Barracks, Pirbright Institute, The University of Law Guildford</td> </tr> </table> <p data-bbox="398 671 1429 794">within the defined boundary of the following identified villages and major previously developed sites in the Green Belt, small-scale or infill development and redevelopment opportunities that do not harm the main purposes of the Green Belt will be supported</p> <table border="1" data-bbox="398 810 1184 1093"> <tr> <td data-bbox="398 810 790 1013">Villages</td> <td data-bbox="790 810 1184 1013">Albury, Compton, East Clandon, Gomshall, Holmbury St. Mary, Peaslake, Pirbright, Puttenham, Shere, West Clandon (North and South), Worplesdon</td> </tr> <tr> <td data-bbox="398 1013 790 1093">Major previously developed sites</td> <td data-bbox="790 1013 1184 1093">Bisley Camp, Merrist Wood College, RHS Wisley</td> </tr> </table> <p data-bbox="398 1098 1429 1187">Land is excluded from the Green Belt at Fairlands, Send Marsh, Normandy and Flexford and safeguarded to meet longer term development needs. These sites can only be considered for development through a Local Plan review.</p> <p data-bbox="398 1203 1429 1294">We are keen to support economic growth in our rural areas, whilst protecting the best and most versatile agricultural land, and will support the sustainable growth and expansion of all types of business and enterprise through conversion of existing</p>			Village	Major previously developed sites	Henley Business Park (former BTRE Vokes), HM Prison Send, Keogh Barracks, Mount Browne, Peasmarsh Industrial Estate, Pirbright Barracks, Pirbright Institute, The University of Law Guildford	Villages	Albury, Compton, East Clandon, Gomshall, Holmbury St. Mary, Peaslake, Pirbright, Puttenham, Shere, West Clandon (North and South), Worplesdon	Major previously developed sites	Bisley Camp, Merrist Wood College, RHS Wisley	
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Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>buildings and well designed new buildings.</p> <p>We are also keen to retain existing and support the development of new local services and community facilities. In accordance with the NPPF, we will allow small-scale development for main town centre uses (see glossary) without applying the sequential approach. In Guildford borough, small-scale development means those of less than 280 sq m (gross).</p> <p>All development should be appropriate in scale and design, having regard to each settlement’s identity, countryside setting, and local character and distinctiveness. The detailed boundaries are defined on the inset and identified villages and major previously developed sites maps.</p>	
<p>10 – Green belt and the countryside</p>	<p>We will continue to protect the Metropolitan Green Belt against inappropriate development in accordance with national planning policy to maintain its openness and open character. As required, we will use the NPPF to judge the suitability of development in the Green Belt, including those settlements not identified in Policy 9.</p> <p>In the countryside, not designated Green Belt only the following types of development will be permitted:</p> <ul style="list-style-type: none"> <li>• development which requires a countryside location or where a rural location can be justified; or</li> <li>• proposals for the reuse of existing rural buildings for employment, visitor accommodation or community use; or</li> <li>• appropriate expansion or redevelopment of existing buildings, where the need has been demonstrated and provided the development is proportionate to the nature and scale of the site, its setting and countryside location; or</li> <li>• small scale development to maintain and enhance the rural economy</li> </ul> <p>We will support sustainable rural tourism and leisure developments that benefit businesses, communities and visitors in rural areas as long as they respect the size,</p>	<p>Development within the Green Belt could theoretically have impacts on the Thames Basin Heaths SPA through reduced air quality and increased disturbance, dependent on scale and location.</p> <p>The policy would benefit from including text to state that development that would have detrimental effects on the environment, including the Thames Basin Heaths, would not be permitted.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>character and function of the countryside and comply with national policy on Green Belts.</p> <p>We will support the development and diversification of agricultural and other land-based rural businesses.</p> <p>The Green Belt boundaries can be viewed on the Policies Map.</p>	
<p>11 – Ash and Tongham strategic location for growth</p>	<p>Land surrounding Ash and Tongham as defined on the Policies Map and Inset Maps will be designated as a Strategic Location for Growth to accommodate development. We will produce a vision and subsequent Supplementary Planning Document to illustrate how development proposals for new homes and jobs in the strategic location will contribute to the provision of the following infrastructure:</p> <ul style="list-style-type: none"> <li>• Suitable Alternative Natural Greenspace (SANG)</li> <li>• sufficient school places</li> <li>• improvements to the capacity of or provision of new Doctors and Dentist Surgeries</li> <li>• improvements to the local road network as outlined in the Infrastructure Schedule</li> <li>• provision of a local centre to provide appropriate community and social facilities to meet the needs of residents</li> </ul> <p>We will designate 140 hectares of new Green Belt as indicated on the inset map as this land fulfils the purposes of the Green Belt. (See also Policy 10 Green Belt and the Countryside)</p> <p>In order to protect Ash and Tongham and Ash Green we will designate an area of separation between Ash and Tongham urban area and Ash Green to ensure that the settlements retain their individual character and prevent their merger. Within this Area of Separation, we would expect any development proposals to show how they contributed to the ongoing separate identity of the Ash and Tongham Urban Area and Ash Green.</p>	<p>Although development within Guildford has the potential to lead, unmitigated, to adverse effects on the Thames Basin Heaths SPA, this policy appears primarily concerned with protecting greenspace in the vicinity of Ash and Tongham. Moreover, it devolves the allocation of strategic development to a separate document (SPD), which would be the appropriate place to undertake a HRA of the development referred to in Policy 11.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)									
12 – Historic environment	<p>We will conserve and enhance the historic environment. The built, natural and cultural heritage of the borough will continue to be valued and promoted. We will support development that recognises, protects and enhances the borough’s distinctive heritage and landscape assets, character and their settings, and will seek to ensure that it makes a positive contribution. The borough has many rich and varied heritage assets including listed buildings, conservation areas, scheduled monuments, historic parks and gardens and areas of archaeological value and potential.</p> <p>Designated and undesignated heritage assets, and their settings, will be conserved and enhanced appropriate to their significance and for their important contribution to local character, distinctiveness and sense of place. Consideration will be given to the contribution made by heritage assets to supporting sustainable communities, local economy, and tourism. Development should aim to sustain and enhance the significance of heritage assets and put them to viable uses consistent with their conservation. Where new development would have an impact on heritage assets, it should make a positive contribution to local character and distinctiveness having regard to the significance of the heritage assets and their setting.</p>	<p>There are no likely significant adverse effects on the Thames Basin Heaths SPA from this policy.</p>									
13 – Economic development	<p>We will support the provision of 10,900-14,800 additional B class (see glossary) jobs to 2031. We will allocate 21.6 hectares (ha) to 29.2 ha of B use class floor space (net) to ensure an adequate supply of land is available for employment purposes. This will provide a range and choice of employment floor space over the plan period and accommodate the predicted future growth in economic development required for Guildford’s economy to develop and increase. The release of allocations will be phased in five-year stages to ensure a flexible rolling supply of employment land over the plan period.</p> <table border="1" data-bbox="398 1129 1182 1276"> <thead> <tr> <th></th> <th>Lower Range (ha)</th> <th>Upper Range (ha)</th> </tr> </thead> <tbody> <tr> <td>B1</td> <td>11.3</td> <td>15.3</td> </tr> <tr> <td>B2</td> <td>1.0</td> <td>4.0</td> </tr> </tbody> </table>		Lower Range (ha)	Upper Range (ha)	B1	11.3	15.3	B2	1.0	4.0	<p>The delivery of 10,900-14,800 new jobs will potentially lead to increased road journeys within the Borough, and therefore potentially reduced air quality on the SPA where it lies within 200m of major roads.</p> <p>The above effects also apply to the SPA outside of Guildford, where business journeys could affect the SPA beyond the Borough boundaries.</p> <p>Similarly, development in Guildford must be considered in the context of development in surrounding local authorities, where developmental pressure may also apply to the SPA.</p>
	Lower Range (ha)	Upper Range (ha)									
B1	11.3	15.3									
B2	1.0	4.0									

Policy number	Policy text			HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	B8	7.3	9.9	
	Total	21.6	29.2	
	<p>We aim to ensure sustainable employment development patterns, promote smart growth (see glossary) and business competitiveness, and allow for flexibility to cater for the changing needs of the economy.</p> <p>We will:</p> <ul style="list-style-type: none"> <li>• support the retention, creation and development of small local business by encouraging a range of types and sizes of new premises,</li> <li>• support the provision of essential employment ancillary facilities close to places of employment,</li> <li>• support rural economic development opportunities.</li> </ul> <p><b>B Class Uses</b></p> <p>The 17 sites that together make up the borough’s current core supply of employment land will be protected as strategic employment sites and their change of use to non-employment uses resisted. The retention, intensification and employment based regeneration of these sites is encouraged. The strategic employment sites (defined below) are:</p> <ul style="list-style-type: none"> <li>• Guildford Town Centre employment core</li> <li>• Slyfield Industrial Estate</li> <li>• Lysons Avenue, Ash Vale</li> <li>• Riverway, Astolat, Weyvern at Peasmarsh</li> <li>• Cathedral Hill Industrial Estate/Guildford Industrial Estate</li> </ul>			

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<ul style="list-style-type: none"> <li>• Guildford Business Park</li> <li>• Woodbridge Meadows</li> <li>• Surrey Research Park</li> <li>• Middleton Road Industrial Estate</li> <li>• Merrow Lane (incl Perram Works, Bridge Park, Merrow Business Centre, SCC depot)</li> <li>• Broadford Park, Shalford</li> <li>• The Guildway, Portsmouth Road</li> <li>• Quadrum Park, Peasmarsh</li> <li>• The Pines Trading Estate, Broad Street</li> <li>• Woodbridge Park, Woodbridge Road</li> <li>• Henley Business Park, Normandy</li> <li>• Pirbright Institute</li> </ul> <p>The employment areas of the following sites will be designated as new strategic sites:</p> <ul style="list-style-type: none"> <li>• Blackwell Farm (mixed-use site)</li> <li>• Gosden Hill Farm (mixed-use site)</li> <li>• Former Wisley Airfield (mixed-use site)</li> <li>• Land at Grange Farm, Tongham (employment site)</li> <li>• Land around Burnt Common Warehouse, Send (employment site)</li> </ul>	
14 – The leisure and visitor	We expect the provision of a high quality visitor experience to our borough to increase the contribution that tourism, arts, cultural heritage and sport make to our quality of life	Development of tourism and leisure facilities could theoretically have impacts on the Thames Basin

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
experience	<p>and social and cultural wellbeing and vibrancy.</p> <p>Development that improves the leisure and visitor experience will be encouraged by:</p> <ul style="list-style-type: none"> <li>• supporting the provision of new and enhanced leisure and visitor attractions and facilities where they do not undermine the character of the area</li> <li>• supporting the provision of new and improved visitor accommodation</li> <li>• supporting the provision of new and improved accommodation and conference facilities for business visitors</li> <li>• encouraging the provision of new and improved arts and cultural facilities in our urban areas</li> </ul> <p>In rural areas, we will expect that new and enhanced leisure and visitor attractions and facilities will be accessible by one or more sustainable transport modes, including walking, cycling, low and ultra low emission vehicles, public transport and coaches.</p>	<p>Heaths SPA through reduced air quality and increased disturbance, dependent on scale and location.</p> <p>The requirement for rural development to maximise the opportunities for non-car access is a positive measure in that it should enable improvements in air quality related to the developments.</p>
15 – Guildford town centre	<p>Working with partners we will promote Guildford town centre as the key retail and service centre for Surrey county and beyond. We will ensure that it is a more attractive place to live and to visit and is resilient for the future by encouraging and facilitating :</p> <ul style="list-style-type: none"> <li>• approximately 50,000 sqm (gross) of additional comparison goods floorspace within the town centre’s primary shopping area to reinforce it as the core shopping area. This includes the allocation of the North Street regeneration site for a retail-led mixed-use development;</li> <li>• developments of other town centre uses that contribute to the liveliness of the town centre;</li> <li>• approximately 1,932 new homes, particularly as part of mixed use developments and above shops and commercial premises, and ensuring that it is a pleasant and safe place to live;</li> <li>• varied use of the centre during the evening and night-time, with residents and visitors</li> </ul>	<p>Although development of Guildford town centre for retail and leisure does not in itself affect the Thames Basin Heaths SPA, increased road traffic coming into Guildford as a result of any new development could lead to a reduction in air quality on the Thames Basin Heaths SPA where it lies within 200m of any major access routes.</p> <p>The policy at present does not contain, nor link to, other policy promoting the use of non-car access (Policy 18), with the exception of promoting cross-town linkages for pedestrians and cyclists.</p> <p>The provision of up to 1,932 new homes could, without mitigation, lead to increased recreational pressure on the Thames Basin Heaths SPA.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>feeling welcome and safe;</p> <ul style="list-style-type: none"> <li>• active use of the riverside and the river</li> <li>• more effective linkages within and across the town centre for pedestrians and cyclists</li> <li>• improved public areas</li> </ul> <p>We will produce a Supplementary Planning Document for Guildford Town Centre to deliver the Vision for the centre.</p> <p>In order to preserve its liveliness and protect the centre from new retail developments in less suitable locations, we will use the national sequential and impact assessment tests, with a local impact assessment threshold of 1,000sqm. This will be applied to proposed retail developments on unallocated land outside of the primary shopping area.</p> <p>The town centre will be the focus for developments of town centre uses of a scale appropriate to the centre’s role and function that generate a large number of journeys.</p> <p>Outside of the primary shopping area but within the wider town centre, a variety of town centre uses will be encouraged. These uses include housing, food and drink uses, cultural, and community uses that add to the liveliness, attractiveness, and economic resilience of the centre.</p>	
16 – District and local centres	<p>We will support the role of district and local centres as the focus for communities in providing for everyday shopping and service needs for the local community. In order to keep these areas lively we will encourage and facilitate new homes provided above ground floor level.</p> <p>We will embrace flexibility to enable the centres to adapt to meet changing retail and leisure habits and practices over the plan period.</p> <p>In order to protect the liveliness and economic resilience of our district and local centres, we will direct developments of town centre uses consistent with the scale and</p>	<p>The policy supports development across the district but does not define the quantum of development that will be delivered, focusing rather on the role of district and local centres. Therefore in itself it does not lead to likely significant effects on the Thames Basin Heaths SPA.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>function of the centre to a district or local centre. We will not apply this sequential approach to small developments of town centre uses not exceeding 280sqm (gross) in rural areas.</p> <p>Retail, leisure and office development proposals over 500sqm (gross) outside of local and district centres on sites not allocated in the Local Plan must be supported by an impact assessment.</p>	
<p>17 – Infrastructure and delivery</p>	<p>To support the delivery of our draft Local Plan Strategy and Sites document we have produced a supporting Infrastructure Delivery Plan (IDP). The IDP includes input from infrastructure providers and identifies the vital infrastructure needed to support the development included in this plan. The key infrastructure needed to support plan delivery is provided in an infrastructure schedule at Appendix B. The infrastructure schedule will be regularly updated to include information on infrastructure projects.</p> <p>We will ensure that infrastructure needed arising from a proposed development is provided and available when first needed to serve the occupants and users of the development.</p> <p>These provisions are set out in the Planning Contributions Supplementary Planning Document (SPD) 2011, which will be updated as needed. Provisions may include demand management strategies, such as Travel Plans as well as new capital infrastructure.</p> <p>The plan will safeguard or allocate suitable land for infrastructure where needed. This infrastructure is listed at Appendix B and shown on the accompanying site allocations proformas in this document.</p> <p>The Community Infrastructure Levy (CIL) will be used as a tariff mechanism to pool financial contributions from most new build developments. We will use CIL receipts to assist in provision of infrastructure needed to support the delivery of the plan, in accordance with Community Infrastructure legislation.</p> <p>Where suitable on strategic sites, the CIL contribution will most suitably take the form</p>	<p>This policy is positive both in acknowledging the requirement for infrastructure delivery to support new development and also in providing a mechanism for funding of infrastructure linked to new development.</p> <p>It specifically prioritises the needed for new development to make contribution through CIL to protection of the Thames Basin Heaths SPA.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>of onsite infrastructure provision in payment of some or all of the financial payment. We will continue to use planning obligations and planning conditions where appropriate, to secure the delivery of site specific infrastructure and affordable housing.</p> <p>Our use of CIL receipts and of planning obligations will ensure that vital infrastructure is available when needed and where necessary through the use of phasing provisions.</p> <p>In negotiating planning obligations, the Council will always take into account economic viability. We will ensure that the cumulative impact of planning policy, standards and infrastructure requirements do not render the sites and development identified in the plan unviable and therefore undeliverable.</p> <p>In allocating CIL receipts we will prioritise Thames Basin Heath Special Protection Area mitigation in order to ensure that we meet our responsibilities under European legislation</p>	
18 – Sustainable Transport for new developments	<p>We will expect that new developments will contribute to the enhancement and delivery of an integrated and accessible transport system to facilitate sustainable development and prosperity.</p> <p>1. We will expect new development to:</p> <ol style="list-style-type: none"> <li>a. provide high-quality, safe and direct routes within permeable layouts that strengthen, facilitate and encourage short distance trips by walking and cycling</li> <li>b. provide secure, accessible and convenient cycle parking</li> <li>c. protect, enhance and improve existing cycle and walking routes, to ensure the effectiveness and amenity of these routes</li> <li>d. secure appropriate improvements to public and community transport, including infrastructure and park and ride requirements</li> <li>e. provide off-street vehicular parking for both residential and non-residential developments at a level commensurate the Vehicle Parking Standards Supplementary</li> </ol>	<p>This policy is positive in that it seeks to delivery improved accessibility to public transport, and enhanced opportunities for walking and cycling. This should help to reduce the likelihood of air pollution affecting the Thames Basin Heaths SPA as a result of road transport emissions.</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<p>Planning Document</p> <p>f. facilitate the use of ultra low emission vehicles and</p> <p>g. protect from development the route of the proposed sustainable movement corridor in the town of Guildford.</p> <p>2. We will expect new developments to demonstrate adequate provision to mitigate the likely impacts, including cumulative impacts, of the proposal on the performance of the Local Road Network and Strategy Road Network. This provision should include the mitigation of environmental impacts, such as noise and pollution, and impact on amenity and health. This will be achieved through direct improvements and Section 106 contributions and/or the Community Infrastructure Levy (CIL), to address transport infrastructure in the wider area including across the borough boundary.</p> <p>3. We will expect new larger developments, defined as:</p> <ul style="list-style-type: none"> <li>• 20 or more dwellings or 0.5 hectares or more for residential development, and / or</li> <li>• one or more hectares for other development</li> </ul> <p>to demonstrate they have maximised opportunities for sustainable travel and will make adequate provision to mitigate the likely impacts through provision of a Transport Assessment and a Travel Plan. All other developments will be required to submit a Transport Statement.</p>	
19 – Green and blue infrastructure	<p>All development must:</p> <ul style="list-style-type: none"> <li>• protect, enhance and provide integrated and accessible networks of green and blue infrastructure</li> <li>• enable good and appropriate public access to green and blue infrastructure</li> <li>• establish the creation of green and blue corridors and improve biodiversity</li> <li>• contribute to climate change adaptation</li> </ul>	<p>This policy is positive in that it seeks to deliver greenspace linked to new development. This should help to reduce the likelihood of recreational pressure affecting the Thames Basin Heaths SPA.</p> <p>At present the policy does not define the quantum of greenspace required, and nor does it link to mechanisms for ensuring delivery.</p> <p>The policy would benefit from direct reference to</p>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
	<ul style="list-style-type: none"> <li>• enhance the amenity, landscape character and attractiveness of the borough</li> <li>• create pleasant and sustainable places in which to live in, work in or visit</li> <li>• provide additional green and blue infrastructure, including outdoor recreational space, of an appropriate type, standard and size, and make appropriate provision for future maintenance</li> </ul> <p>We will resist the loss of all green and blue infrastructure in accordance with the NPPF.</p>	<p>protection of the Thames Basin Heaths SPA and accompanying Avoidance Strategy.</p> <p>In the aforementioned Avoidance Strategy, there have been three approaches identified that can lead to avoidance or mitigation of adverse effects:</p> <ul style="list-style-type: none"> <li>• The provision of SANGS to attract people away from the SPA and hence reduce pressure on it;</li> <li>• Access management measures on, and monitoring of, the SPA to reduce the impact of people who visit the SPA (SAMM); and</li> <li>• Habitat management of the SPA, which will improve the habitat for the ground nesting birds.</li> </ul> <p>New development can provide, or make a contribution toward the provision of SANGS and SAMM, and in so doing contribute toward meeting the requirements of HRA.</p> <p>The Thames Basin Heaths Special Protection Area Delivery Framework identifies that new development between 400m and 5km from the SPA will need to develop or contribute to SANGS capacity.</p> <p>Natural England’s guidance is as follows:</p> <ul style="list-style-type: none"> <li>• No development will be possible within 400m of the SPA.</li> <li>• SANGS of 12ha or less can supply a development within a catchment area of 400m-2km;</li> <li>• SANGS of 12-20ha are sufficient to supply a</li> </ul>

Policy number	Policy text	HRA screening (green = screened out, amber = screened in for Appropriate Assessment)
		<p>4km radius;</p> <ul style="list-style-type: none"> <li>• SANGS of 20+ha can supply 5km;</li> <li>• SANGS are usually not required for development beyond 5km of the SPA. However, major development at distances of 5-7km from the SPA boundary would be assessed on a case-by-case basis.</li> </ul>

## 5 HRA SCREENING OF GUILDFORD SITE ALLOCATIONS

The following table presents the screening assessments for each site allocation that has been put forward for consideration.

**Table 6. HRA Screening of Guildford Draft Local Plan Sites for Effects on Thames Basin Heaths SPA**

Site number and name	Summary	HRA Screening
20 – North Street regeneration site	2.52ha. Non-residential – Guildford town centre. 400m-5km of Thames basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
21 – Portsmouth Road surface car park	0.33ha. Non-residential – Guildford town centre. 400m-5km of Thames basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
22 – 1 and 2 Station View, Guildford	0.68ha. Part residential (up to 177 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
23 – The Plaza	0.38ha. Residential (up to 122 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
24 – Land and buildings at Guildford railway station	3.74ha. Part residential (up to 450 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
25 – Land at Bedford Road, Guildford	0.81ha. Part residential (up to 120 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
26 – Bright Hill surface car park and adult education centre	0.88ha. Residential (up to 77 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
27 – Guildford Park car park	1.97ha. Residential (up to 110 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
28 – York House, Chertsey Street, Guildford	0.06ha. Part residential (up to 20 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.

Site number and name	Summary	HRA Screening
29 – Jewsons, Walnut Tree Close	0.73ha. Residential (up to 112 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
30 – 77 to 83 Walnut Tree Close, Guildford	0.37ha. Possible residential (up to 34 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
31 – BT telephone exchange, Leapole Road, Guildford	0.6ha. Part residential (up to 100 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
32 – Buryfields House	0.19ha. Part residential (up to 28 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
33 – Guildford crown court	0.78ha. Possible residential (up to 94 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
34 – Debenhams, Guildford	0.49ha. Part residential (up to 150 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
35 – Dolphin House, North Street, Guildford	0.25ha. Part residential (up to 44 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
36 – Guildford BC offices, Millmead, Guildford	0.97ha. Possible residential (up to 52 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
37 – Land between Farnham Road and the Mount	0.64ha. Residential (up to 70 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
38 – Guildford library, North Street, Guildford	0.05ha. Possible residential (up to 18 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
39 – Bus depot, Leas Road, Guildford	0.38ha. Residential (up to 50 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements

Site number and name	Summary	HRA Screening
		past Thames Basin Heaths SPA.
40 – Guildford Methodist church, Guildford	0.14ha. Residential (up to 25 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
41 – Pembroke House, Mary Road, Guildford	0.25ha. Part residential (up to 26 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
42 – Riverside business park, Walnut Tree Close, Guildford	0.93ha. Part residential (up to 60 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
43 – Land at Guildford cathedral, Guildford	3.28ha. Residential (up to 168 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
44 – Merrow depot, Merrow Lane, Guildford	4.51ha. Part residential (up to 50 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
45 – Land adjoining the new Guildford fire station, Guildford	0.63ha. Possible residential (up to 25 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
46 – Former Pond Meadow school, Guildford	0.6ha. Possible residential (up to 20 dwellings). 400m-5km of Thames basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
47 – Guildford college, Stoke Road, Guildford	4.8ha. Non-residential. 400m-5km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
48 – Slyfield area regeneration project	40ha. Part residential (up to 1000 dwellings). 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
49 – Bishops Nissan garage, Walnut Tree Close, Guildford	0.28ha. Possible residential (up to 28 new dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
50 – Kernal Court, Walnut Tree Close, Guildford	0.55ha. Residential (up to 136 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements

Site number and name	Summary	HRA Screening
		past Thames Basin Heaths SPA.
51 – former car showroom, Aldershot Road, Guildford	0.47ha. Residential (up to 38 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
52 – Wey corner, Walnut Tree Close, Guildford	0.38ha. Part residential (up to 35 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
53 – Ash vehicle centre, Ash Church Road, Ash	0.72ha. Residential (up to 40 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
54 – Public house, Oxenden Road, Tongham	0.17ha. Possible residential (up to 24 dwellings). 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
55 – Tongham triangle	23ha. Non-residential. 400m-5km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
56 – Land in Ash and Tongham	87ha. Residential (up to 1500 dwellings). 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
57 – East Horsley countryside depot and BT telephone exchange, East Horsley	0.3ha. Residential (up to 22 dwellings). 5-7km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
58 – Hotel, Guildford Road, East Horsley	1.3ha. Residential (up to 48 dwellings). 5-7km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
59 – Gosden Hill Farm, Guildford	89ha. Part residential (up to 2000 dwellings). 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA. The draft Plan notes that a project-level HRA would be required for this development.
60 – Blackwell Farm, Guildford	139ha. Part residential (up to 2250 dwellings). 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA. The draft Plan notes that a project-level HRA would be required for this

Site number and name	Summary	HRA Screening
		development.
61 – Land north of Keens Lane, Guildford	5.25ha. Residential (up to 140 dwellings). Partly within 400m and partly 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA. Residential development needs to avoid being within 400m of the SPA.
62 – Land at Liddington Hall, Guildford	27ha. Residential (up to 625 dwellings). 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
63 – Land north of Slyfield industrial estate	4ha. Non-residential. 400m-5km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
64 – Land at Gunners Farm and Bullens Hill Farm	3.39ha. Leisure facility. Partly within 400m and partly 400m-5km of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
65 – Land north of Salt Box Road, Guildford	7.88ha. Non-residential. Within 400m of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
66 – Land at the former Wisley airfield	69ha. Part residential (up to 2100 dwellings). Within 400m-5km of Thames Basin Heaths SPA.	Large development. Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA. The draft Plan notes that a project-level HRA would be required for this development.
67 – Tannery House, Cheriton, and land adjacent, Tannery Lane, Send	1.4ha. Non-residential. 400m-5km of Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
68 – Land at Hornhatch Farm, Chilworth	4.28ha. Residential (up to 80 dwellings). 5-7km from Thames Basin Heaths SPA	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
69 – Redevelopment of Howard of Effingham school and associated land, Effingham	17ha. Part residential (up to 310 dwellings). 5-7km from Thames Basin Heaths SPA	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
70 – Land to the north of West	8ha. Residential (up to 114 dwellings). 400m-5km from	Potential for increased disturbance on Thames Basin Heaths SPA.

Site number and name	Summary	HRA Screening
Horsley	Thames Basin Heaths SPA.	SANG is available. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
71 – Land to the west of West Horsley	8.4ha. Residential (up to 135 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. SANG is available. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
72 – Land near Horsley railway station, Ockham Road North, West Horsley	5.1ha. Residential (up to 100 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. SANG is available. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
73 – Land to the west of West Horsley (south)	9.8ha. Residential (up to 184 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
74 – Burnt Common warehouse and land around, London Road, Send	13.4ha. Part residential (up to 100 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
75 – Land at Tannery Lane, Send (inc Clockbarn Nurseries)	12ha. Residential (up to 215 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
76 – Land to the east of Aldertons Farm, Send Marsh	6.2ha. Residential (up to 116 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. SANG is available. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
77 – Land to the south of Clandon station and north of Meadowlands, West Clandon	7ha. Non-residential. Partly 400m-5km from Thames Basin Heaths and partly 5km-7km.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
78 – Land to the east of White Lane, Ash Green	1.9ha. Residential (up to 62 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
79 – Land to the south of Hazel Road, Ash Green	2.87ha. Residential (up to 71 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
80 – Land south of New Pond Road, adjoining Farcombe	16ha. Residential (up to 50 dwellings). 5-7km from Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
81 – Broadford business park,	1.5ha. Residential (up to 100 dwellings). 5-7km from Thames	Could contribute to reduced air quality through traffic movements

Site number and name	Summary	HRA Screening
Shalford	Basin Heaths SPA.	past Thames Basin Heaths SPA.
82 – Mount Browne, Guildford	21ha. Residential (up to 125 dwellings). 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
83 – Bisley Camp, Bisley, Brookwood	79ha. Non-residential. Within 400m of Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
84 – Merrist Wood College, Worplesdon	164ha. Non-residential. 400m-5km from Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
85 – RHS Wisley, Wisley	114ha. Non-residential. Partly within 400m of Thames Basin Heaths SPA and partly 400m-5km from SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
86 – Land at Oxenden Road, Ash	0.19ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
87 – Ipsley Lodge, Hogs Back, Seale	0.24ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
88 – Lakeview, Lakeside Road, Ash Vale	0.55ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
89 – Land at Home Farm, Effingham	1.78ha. Traveller pitches. 5-7km from Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
90 – Land at Wyke Avenue, Normandy	0.04ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
91 – Land rear of Palm House Nurseries, Normandy	0.73ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
92 – Land to the north of Green Lane East, Normandy	0.1ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
93 – Valley Park equestrian,	0.36ha. Traveller pitches. 5-7km from Thames Basin Heaths	Could contribute to reduced air quality through traffic movements

Site number and name	Summary	HRA Screening
East Shalford Lane, Shalford	SPA.	past Thames Basin Heaths SPA.
94 – The Orchard, Puttenham	0.17ha. Traveller pitches. 5-7km from Thames Basin Heaths SPA.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
95 – Roundoak, White Hart Lane, Wood Street village	0.07ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
96 – Four Acres Stable, Aldershot Road, Normandy	0.39ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
97 – Travellers End, Spoil Lane, Tongham	0.11ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
98 – Land south of Guildford Road, Ash	0.63ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
99 – Garages at Wharf lane, Send	0.04ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
100 – Land at Cobbetts Close, Normand	1.6ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
101 – Whittles Drive, Aldershot Road, Normandy	2.8ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
124 - Land to the west of Ipsley Lodge, Hogs Back, Seale	1.7ha. Traveller pitches. 400m-5km from Thames Basin Heaths SPA.	Potential for increased disturbance on Thames Basin Heaths SPA. Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
102 – Land at Worplesdon Road, north of Tanglely Place	5.7ha. Non-residential.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.
103 – Land to the west of Normandy, east of Westwood Lane	2.8ha. Non-residential.	Could contribute to reduced air quality through traffic movements past Thames Basin Heaths SPA.

Site number and name	Summary	HRA Screening
104 – Land at Westborough allotments, Guildford	0.48ha. Non-residential (allotments). 400m-5km from Thames Basin Heaths SPA.	No likely significant effects.
105 – Land rear of Jacobs Well village hall, Jacobs Well	0.23ha. Non-residential (allotments). 400m-5km from Thames Basin Heaths SPA.	No likely significant effects.
125 - Land north east of Spoil Lane, Tongham	0.84ha. Non-residential (allotments). 400m-5km from Thames Basin Heaths SPA.	No likely significant effects.
106 – Aldertons Farm SANG	10.9ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
107 – Benswood (SANG)	5ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments .
108 –Ash SANG	24ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
109 – Blackwell Farm SANG	54.7ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments (site 60).
110 – Broadstreet SANG	110ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
111 – Gosden Hill Farm SANG	38.4ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments (site 59).
112 – Russel Farm Place SANG	33ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
113 – Stringers Common SANG	29.6ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
114 – Tongham Pools	16.7ha. SANG allocation (2.96ha available as SANG in Guildford). 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
115 – Tyting Farm SANG	47ha. SANG allocation (20ha likely to be available). 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
116 – Former Wisley Airfield SANG	55.5ha. SANG allocation. 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments (site 66).
117 – Burpham Court Farm SANG	38.2ha. SANG allocation (not all may be available as SANG). 400m-5km from Thames Basin Heaths SPA.	Provides mitigation opportunities to alleviate disturbance arising from residential developments.
118 – Land adjoining Fairlands, Guildford	27ha. Safeguarded land for beyond Local Plan period.	No likely significant effects.

Site number and name	Summary	HRA Screening
119 – Land between Normandy and Flexford	69.4ha. Safeguarded land for beyond Local Plan period.	No likely significant effects.
120 – Land to the north of Send Marsh Road, Send Marsh	1.65ha. Safeguarded land for beyond Local Plan period.	No likely significant effects.
121 - Clay Lane link road, Guildford	Safeguarded land for beyond Local Plan period.	No likely significant effects.
122 - Sustainable movement corridor	670m. Safeguarded land for beyond Local Plan period.	No likely significant effects.
123 - Land to the east and south of Four Acre Stables Aldershot Road, Normandy	1ha. Safeguarded land for beyond Local Plan period.	No likely significant effects.

## 6 THAMES BASIN HEATHS SPA

### 6.1 Introduction

Thames Basin Heaths Special Protection Area consists of a number of fragments of lowland heathland scattered across Surrey, Hampshire and Berkshire. It is predominantly dry and wet heath but also includes area of deciduous woodland, gorse scrub, acid grassland and mire, as well as associated conifer plantations. Around 75% of the SPA has open public access being either common land or designated as open country under the Countryside and Rights of Way Act 2000. The SPA consists of 13 Sites of Special Scientific Interest (SSSI). Three of the SSSIs are also designated as part of the Thursley, Ash, Pirbright and Chobham Special Area of Conservation (SAC).

Ash to Brookwood Heaths SSSI, Whitmoor Common SSSI, Colony Bog and Bagshot Heaths SSSI and Ockham and Wisley Commons SSSI lie within or partly within Guildford Borough.

The location of the Thames Basin Heaths has resulted in the area being subject to high development pressure. English Nature (now Natural England) published a Draft Delivery Plan for the Thames Basin Heaths SPA in May 2006, partly in response to the European Court of Justice ruling of October 2005. This is updated by the 'Thames Basin Heaths Special Protection Delivery Framework' published by the Thames Basin Heaths Joint Strategic Partnership Board in January 2009. These documents aim to allow a strategic approach to accommodating development by providing a method through which local authorities can meet the requirements of the Habitats Regulations through avoidance and mitigation measures.

In addition Guildford Borough Council has produced a Thames Basin Heaths Avoidance Strategy (2009-2014), which has identified that between 400m and 5km of the SPA boundary, development will only be possible if it can demonstrate adequate avoidance or mitigation of significant adverse effects through recreational pressure.

### 6.2 Features of European interest<sup>20</sup>

Thames Basin Heaths SPA qualifies under Article 4.1 of the Birds Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season:

- Nightjar *Caprimulgus europaeus*: 7.8% of the breeding population in Great Britain (count mean, 1998-1999);
- Woodlark *Lullula arborea*: 9.9% of the breeding population in Great Britain (count as at 1997);
- Dartford warbler *Sylvia undata*: 27.8% of the breeding population in Great Britain (count as at 1999).

These species nest on or near the ground and as a result are susceptible to predation and disturbance.

<sup>20</sup> Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

### 6.3 Conservation objectives

The Conservation Objectives for the European interests on the SSSI are, subject to natural changes:

- to maintain\*, in favourable condition, the habitats for the populations of Annex 1 bird species+ of European importance, with particular reference to: lowland heathland and rotationally managed plantation.

\* maintenance implies restoration if the feature is not currently in favourable condition.

+ Nightjar, woodlark and Dartford warbler.

### 6.4 Key environmental conditions

The key environmental conditions that support the features of European interest have been defined as:

- Appropriate management.
- Management of disturbance during breeding season (March to July).
- Minimal air pollution.
- Absence or control of urbanisation effects, such as fires and introduction of invasive non-native species.
- Maintenance of appropriate water levels.
- Maintenance of water quality.

### 6.5 Potential effects of the plan

Two potential impacts of the LDF Core Strategy upon the SPA have been identified:

- Recreational disturbance.
- Air pollution.

#### **Recreational disturbance**

Ground-nesting birds are vulnerable to disturbance, particularly from walkers and dogs. Disturbance can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. Several studies have demonstrated that site-specific information is required to understand the relationship between recreational use of a site and any disturbance effects.

An estimated 5 million visitors use the Thames Basin Heaths per annum and of those people interviewed 13% had arrived on foot from less than 1.5km away and 83% had driven from within 5km<sup>21</sup>. The survey was conducted at a number of access points to the SPA and reported a positive correlation between the number of visitors recorded and both the proximity of the access point to a residential area and the amount of parking available.

The population of the 11 authorities around the Thames Basin Heaths SPA is forecast to increase from 1.19 million in 2003 (1.21 million in 2006) to 1.3 million in 2026 (2003 sub-national population projections). This 10% increase in population is notwithstanding the

<sup>21</sup> Liley, D. et al. 2005. Visitor access patterns on the Thames Basin Heaths. *English Nature Research Report*, English Nature, Peterborough

forecasted reduction in average household size or any changes in population growth trends subsequent to the 2003 statistics. The projected 10% growth in population (assuming similar usage of recreational facilities) could lead to at least comparable increase in visits to the Thames Basin Heaths<sup>22</sup>. Such an increased use could have a cumulative impact upon the SPA.

Effects of the plan could occur due to housing development leading to increased recreational pressure. However, this would effectively be mitigated by implementation of the strategically agreed Thames Basin Heaths Delivery Framework in Guildford with the provision of 8ha/1000 population of Suitable Accessible Natural Greenspace (SANG) and contributions to the Strategic Access Management and Monitoring (SAMM) programme.

The strategic site allocations presented in the draft Local Plan represent a pattern of distribution across the Borough. Given the proximity of the majority of Guildford Borough to the Thames Basin Heaths SPA, the broad distribution scenario is not key to assessment through HRA, since the majority of development would occur within 5km of the SPA. Of 13,040 new dwellings to be delivered, only 610 are allocated at distances greater than 5km from the SPA (i.e. less than 5%).

The Thames Basin Heaths SPA Avoidance Strategy (2009-2014) developed by Guildford Borough in accordance with the Thames Basin Heaths Delivery Framework has identified that between 400m and 5km of the SPA boundary, development will only be possible if it can demonstrate adequate avoidance or mitigation of significant adverse effects due to recreational pressure.

In the aforementioned Avoidance Strategy, there have been three approaches identified that can lead to avoidance or mitigation of adverse effects:

- The provision of SANGS to attract people away from the SPA and hence reduce pressure on it;
- Access management measures on, and monitoring of, the SPA to reduce the impact of people who visit the SPA (SAMM); and
- Habitat management of the SPA, which will improve the habitat for the ground nesting birds.

New development can provide, or make a contribution toward the provision of SANGS and SAMM, and in so doing contribute toward meeting the requirements of HRA.

The Thames Basin Heaths Special Protection Area Delivery Framework identifies that new development between 400m and 5km from the SPA will need to develop or contribute to SANGS capacity.

Natural England's guidance is as follows:

- No development will be possible within 400m of the SPA.
- SANGS of 12ha or less can supply a development within a catchment area of 400m-2km;
- SANGS of 12-20ha are sufficient to supply a 4km radius;
- SANGS of 20+ha can supply 5km;
- SANGS are usually not required for development beyond 5km of the SPA. However, major development at distances of 5-7km from the SPA boundary would be assessed on a case-by-case basis.

<sup>22</sup> Submission of Wokingham Borough Council (7265) to the Thames Basin Heaths Technical Sessions for the Examination in Public of The South East Plan

**Air Pollution**

Development proposed within the draft Local Plan is likely to result in increased car use, notably as a consequence of housing development.

Department for Transport Guidance as expressed in the Design Manual for Roads and Bridges (DMRB)<sup>23</sup> states that the first process in determining air quality impacts from road schemes is to determine whether the road in question is an ‘affected road’ which is defined as, among other criteria, if it will experience an increase in flows of more than 1,000 per day (Average Annual Daily Traffic (AADT)).

An analysis of cumulative traffic impacts of various preliminary scenarios for future residential and commercial development within and outside the borough was undertaken in 2013. This has been updated in 2014 using the Guildford Options Growth Scenarios Transport Assessment Report (January 2014), The change in flows on a series of roads, including various that lie within 200m of the SPA within Guildford borough was forecast for Scenario 7 (the preferred option). These take into account not only the proposed residential and commercial development in the borough, but also background population growth in surrounding authorities over the Local Plan period. For those roads where increases in Average Annual Daily Traffic were forecast to exceed 1,000 AADT, air quality calculations were then undertaken.

Environment Agency guidance<sup>24</sup>, to which Natural England also subscribe, advises that ‘Where the concentration within the emission footprint [i.e. the contribution of the project/plan in question] in any part of the European site(s) is less than 1% of the relevant long-term benchmark (EAL, Critical Level or Critical Load), the emission is not likely to have a significant effect alone or in combination irrespective of the background levels’. However, this does not mean that an increase in deposition rate equivalent to more than 1% of the critical level/load will lead to an adverse effect, but rather than further consideration is required.

**Table 7 – Modelled NOx concentrations within 200m of the Thames Basin Heaths SPA on roads within Guildford Borough**

Road	Grid reference	Is increase greater than 1% of the critical level?	Would total future concentration exceed critical level? <sup>25</sup>	Distance band from road at which exceedence applies (modelled at 3, 50 and 100m)
A322	496769,154045	Yes	Yes	3m; total NOx concentrations would decline to below the critical level beyond that distance.
A324	492999,152530	Yes	Yes	3m; NOx levels would decline to below the critical level beyond that distance.

<sup>23</sup> Design Manual for Roads and Bridges, Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1: Air Quality

<sup>24</sup> Environment Agency. 2007. Appendix ASC 1 Environment Agency Stage 1 and 2 Assessment of New PIR Permissions under the Habitats Regulations

<sup>25</sup> Critical level for NOx in relation to vegetation is 30 µgm<sup>-3</sup>

Road	Grid reference	Is increase greater than 1% of the critical level?	Would total future concentration exceed critical level? <sup>25</sup>	Distance band from road at which exceedence applies (modelled at 3, 50 and 100m)
A320	499482,153816	No	No	None
B3032	495465,154732	Yes	No	None

An increase in NOx concentration equivalent to more than 1% of the critical level would occur alongside the A322, A324 and B3032 due to traffic associated with the new housing.

In relation to the A322 and the A324 not only would an increase in NOx concentrations at the roadside equivalent to more than 1% of the critical level occur, but the total NOx concentrations would also slightly exceed the critical level of 30µgm<sup>-3</sup>. A slight deleterious effect on vegetation at the roadside may theoretically therefore occur unless it was over-ridden by other factors such as local drainage or management. However, this would only occur immediately adjacent to the roadside with concentrations declining below the critical level beyond that. As such, an adverse effect on the integrity of the SPA would not occur since the areas immediately adjacent to the road are likely to already be subject to considerable edge effects due to other reasons and the vegetation is therefore already likely to be atypical for the SPA.

At no point on any of the transects would changes in acid deposition rate exceed 1% of the critical load<sup>26</sup> Moreover, the UK Air Pollution Information Systems indicates that the species for which the SPA is designated (nightjar, woodlark and Dartford warbler) are not sensitive to acid deposition.

Changes in nitrogen deposition would result in an increase above 1% of the minimum critical load for heathland at 3m from the A324. However, the total deposition predicted for 2031 does not exceed the critical load (being 9.71kg N/ha/year compared to a critical load of 10kg N/ha/year). As such, it is unlikely that an adverse effect on the integrity of the SPA would occur.

**In Combination Effects**

Development within Guildford borough will operate cumulatively with that in surrounding authorities to result in an increase in vehicle flows on roads within 200m of the Thames Basin Heaths SPA and an increase in recreational visit to the SPA. When coupled with the approximately 75,000 new homes identified for the remaining Boroughs adjacent to the Heaths (Windsor & Maidenhead, Wokingham, Bracknell Forest, Basingstoke & Deane, Rushmoor, Hart, Surrey Heath, Elmbridge, Mole Valley, Runnymede and Woking), there is an even greater likelihood of a substantial increase in traffic movements on the major roads that bisect the components of the European sites.

**6.6 Avoidance and Mitigation**

Recreational Pressure

Guildford’s proposed new SANG capacity as outlined in the draft Local Plan (site allocations 106-117) is 422.26ha, including 148.6ha of allocation that will offset development under site

<sup>26</sup> The critical load for acid deposition is a CLmaxN of 0.91 keq/ha/yr. 1% of the critical load is therefore 0.0091 keq/ha/yr. This is effectively 0.01 keq/ha/yr since air quality modelling cannot be undertaken with precision to more than 2 decimal places.

allocations 59 and 60 and 66. In addition to this, Guildford already has an existing SANG capacity of 70ha, that would be available to accommodate some of the development proposed in the draft Local Plan.

SANG delivery within the 5km zone, according to the Avoidance Strategy, should be at 8ha/1000 head of population, and it is assumed that the average occupancy rate would be 2.4 residents per dwelling.

Therefore the maximum number of net new dwellings that could be delivered within the identified SANGS capacity would be approximately 25,625 ( $492.26/8=61.5$ ;  $(61.5 \times 1,000)/2.4=25,625$ ).

**Therefore there is capacity for Guildford to deliver 13,040 new dwellings. Precise locations for delivery will need to be considered in relation to distribution and capacity of such SANGS – Guildford Borough Council have undertaken an exercise that demonstrates that this should be possible.**

The draft Local Plan indicates that SANG capacity has already been identified for site allocations 59, 60 and 66

For site allocations 59, up to 2000 new dwellings are allocated. The available SANG capacity from site allocations 111 is 38.4ha, which could serve 1,980 new dwellings ( $38.4/8 = 4.8$ ;  $(4.8 \times 1000)/2.4 = 2,000$ ). Therefore there is sufficient SANG to support site 59.

For site allocations 60, up to 2250 new dwellings are allocated. The available SANG capacity from site allocations 109 is 55ha, which could serve 2867 new dwellings ( $55/8 = 6.88$ ;  $(6.88 \times 1000)/2.4 = 2867$ ). Therefore there is sufficient SANG to support site 60.

For site allocations 66, up to 2100 new dwellings are allocated. The available SANG capacity from site allocations 116 is 55.5ha, which could serve 2033 new dwellings ( $55.5/8 = 6.93$ ;  $(6.93 \times 1000)/2.4 = 2888$ ). Therefore there is sufficient SANG to support site 66.

Even discounting the residual SANG available from each of these developments, then the remaining SANG capacity (273.7ha) would need to serve only 6,690 new dwellings elsewhere in the Borough, as these three developments account for up to 6,350 houses.

Guildford Council has undertaken a spatial analysis and are able to confirm that the distribution of available SANG is sufficient to enable delivery of their housing site allocations. The Council should confirm that sufficient SANG is deliverable in order to enable full confidence in delivery of housing commitments.

#### Air Quality

In consultation on Local Plans and Core Strategies for surrounding local authorities, Natural England has referred to the following document for mitigation measures that could be included in Local Plan Strategies:

<http://www.westlondonairquality.org.uk/uploads/documents/Best%20Practice%20Guide/WLA%20Best%20Practice%20Air%20Quality%20and%20Transport%20Guide%2020051.pdf>

The report identifies four broad types of mitigation measure:

- Behavioural measures and modal shift - reducing the amount of traffic overall;
- Traffic management - modifying traffic behaviour to control where emissions are generated;
- Emissions reduction at source - reducing the emissions level per vehicle; and

- Roadside barriers - reducing the impact on the public of emissions.

The measures identified in the draft Local Plan (in particular Policy 18) cover all of these categories, except for the fourth (roadside barriers) which is not within the remit of local planning policy. The Local Plan document contains positive measures that should aim to mitigate or avoid the likelihood of significant adverse effects from reduced air quality on the SPA.

For those sustainable transport measures which are available at the strategic planning level, it is not possible to predict in advance the precise quantum of improvement that can be delivered by a given mitigation measure due to both the novel nature of the mitigation tools available and the limitations of the science. Vegetative changes that theory identifies as being likely to result from changes (either negative or positive) in atmospheric nitrogen deposition can fail to appear in practice since they are relatively subtle and can be dwarfed by changes in management regime. Moreover, it is rarely possible to separate the effects of atmospheric nitrogen deposition and other causes and the effects of atmospheric nitrogen deposition arising from vehicle exhausts from those arising from other sources (e.g. agriculture). For example, a policy to 'require developers to produce travel plans indicating that they have maximised opportunities for sustainable transport' may prove effective in practice, but cannot be predictively linked to a specific scale of improvement of air quality.

It is therefore important that where air quality problems are identified there is also a mechanism established to monitor the effectiveness of the measures adopted (using the critical load/level as a monitoring target against which the success or failure of mitigation measures can be evaluated) and amend them as required.

This is in line with the precautionary principle as set out in EC Guidance<sup>27</sup> on its use:

*'If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human, animal or plant health, which would be inconsistent with the protection normally afforded to these within the European Community, the Precautionary Principle is triggered.*

*Decision-makers then have to determine what action to take. They should take account of the potential consequences of taking no action, the uncertainties inherent in the scientific evaluation, and they should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.*

*Action is then undertaken to obtain further information enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as the scientific information remains inconclusive and the risk unacceptable.'*

The Council therefore should commit to working with other local authorities, land managers, and strategic highway authorities to develop a framework by which air quality measures can be linked to monitoring of the air quality in the European site before and for a number of years after introduction of the measures, such that further measures<sup>28</sup> can be devised if the air quality does not improve. In making these assessments the critical load for the relevant habitat should be used as the target for assessment. The Council has, in Policy 18 of the draft Local Plan, required new development to contribute under the CIL toward 'transport infrastructure improvements in the wider area including across the borough boundary.'

<sup>27</sup> European Commission (2000): Communication from the Commission on the use of the Precautionary Principle.

While not mitigation in itself, monitoring is an essential factor when dealing with an issue such as air quality which has a high degree of uncertainty, since it will enable the effectiveness of air quality improvement measures to be evaluated and amended over the draft Local Plan period.

#### **6.7 Conclusion**

Taking into consideration policies already included in the draft Local Plan, if the further approaches recommended above are committed to within the future iterations of the draft Local Plan, then it will be possible to conclude that no likely significant effects should occur on the Thames Basin Heaths SPA, either alone, or in combination with other Plans and projects.

## CONCLUSIONS

The draft Local Plan Strategies and Sites document has been subjected to HRA screening to determine if there are Policies that could lead to a likely significant effect on the Thames Basin Heaths SPA.

The majority of the policies contained within the draft document were screened out as being not likely to lead to significant adverse effects on European sites.

It has been identified that the following policy could not, prior to mitigation be screened out, due to potential effects of reduced air quality on the SPA:

- Policy 13 (Economic Development)

It has been identified that the following policies could not, prior to mitigation be screened out, due to potential effects of reduced air quality and increased recreational pressure on the SPA:

- Policy 2 (Borough-wide Strategy)
- Policy 5 (Rural Exception Sites)
- Policy 9 (Villages and Major Previously Developed Sites)
- Policy 10 (Green Belt and the Countryside)
- Policy 14 (The Leisure and Visitor Experience)
- Policy 15 (Guildford Town Centre)

Policies not listed above are not considered to have an impact upon the Thames Basin Heaths SPA.

The following policies provide mitigation for effects of development on the SPA:

- Policy 6 (Making Better Places) – includes promotion of non-car transport and hence improved air quality.
- Policy 17 (Infrastructure and Delivery) – includes acknowledgement of the need for infrastructure to support new development, and provides mechanisms for funding delivery of such.
- Policy 18 (Sustainable Transport) – includes measures to promote public transport opportunities and walking and cycling, and thus improved air quality.
- Policy 19 (Green and Blue Infrastructure) – promotes provision of greenspace to accompany new development and thus mitigates for recreational pressure on the Thames Basin Heaths SPA.

The site allocations included in the draft Local Plan include provision of SANG to offset the development of new housing and provide mitigation for recreational pressure on the Thames Basin Heaths SPA. There would appear to be sufficient SANG to enable delivery of the quantum of development outlined in Policy 2.

Modelling analysis of air quality on the SPA adjacent to major roads indicates that the quantum of new development listed in Policy 2 can be delivered without significant adverse effects on the SPA through reduced air quality.

It is recommended that the following further approaches and text are included in the Local Plan in order to be able to conclude that the Plan as a whole will not lead to likely significant effects on the SPA:

- There should be confirmation of SANG locations and quantity and deliverability in relation to developments in order to be able to calculate that there is sufficient SANG availability to serve development across the borough;
- With regard to air quality, growth scenarios lead to potential for air quality reductions on the SPA immediately adjacent to the A322, A324 and B3032. The policies presented do allow for reduced reliance on road transport, and measures to improve air quality within the Borough. It is recommended that the Council commit to working in collaboration with neighbouring authorities and relevant stakeholders, specifically to monitor air quality on the Thames Basin Heaths SPA at relevant locations;
- Site allocations 64, 65, 83 and 85 allocate development within 400m of the Thames Basin Heaths SPA. In order to comply with the Thames Basin Heaths Avoidance Strategy it should be made clear that this will not include residential development (the current proposed developments under these policies do not include new housing, though leisure and tourism is included). The policies should make clear that the developments would need to be subject to project-level HRA screening due to their location adjacent to the designated site.
- At present, Policy 8 seeks to protect the Surrey Hills AONB from inappropriate development. It would be beneficial to expand this policy to cover the Thames Basin Heaths SPA, stating that development that would have detrimental effects on the environment, including the Thames Basin Heaths, would not be permitted.

## 8 APPENDIX 1 – AIR QUALITY CALCULATIONS

Amber shading equals an exceedence, green shading equals below exceedence thresholds.

**Table 1: Background Pollutant Concentrations**

Site: Nearest Road	1 km x 1 km OS Grid Square	Year	Annual mean background NO <sub>x</sub> concentrations (µg/m <sup>3</sup> )
Thames Basin Heaths SPA: A322	496769 154045	2010	19.0
		2031*	12.8
Thames Basin Heaths SPA: A324	492999 152530	2010	18.0
		2031*	12.3
Thames Basin Heaths SPA: A320	499482 153816	2010	21.0
		2031*	13.8
Thames Basin Heaths SPA: B3032	495465 154732	2010	19.2
		2031*	13.0

\* Concentration for 2030 as this is the limit of background projections

**Table 2: NO<sub>x</sub> Concentrations at Thames Basin Heaths SPA @ A322**

Distance from named link* (m)	Annual Mean NO <sub>x</sub> (µg/m <sup>3</sup> )			Change (µg/m <sup>3</sup> )	
	2010 Base	2031** Do-Min	2031** Do-Some	Do-Some – Do-Min	Do-Some – Base
3	37.24	28.03	29.76	+1.73	-7.48
50	24.67	17.54	18.07	+0.53	-6.60
100	20.69	14.21	14.37	+0.16	-6.32

\* This is distance from named road. Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 3: NO<sub>x</sub> Concentrations at Thames Basin Heaths SPA @ A324**

Distance from named link* (m)	Annual Mean NO <sub>x</sub> (µg/m <sup>3</sup> )			Change (µg/m <sup>3</sup> )	
	2010 Base	2031** Do-Min	2031** Do-Some	Do-Some – Do-Min	Do-Some – Base
3	31.59	23.81	27.35	+3.54	-4.24
50	22.18	15.85	16.98	+1.13	-5.20
100	19.24	13.36	13.69	+0.34	-5.55

\* This is distance from named road. Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 4: NO<sub>x</sub> Concentrations at Thames Basin Heaths SPA @ A320**

Distance from named link* (m)	Annual Mean NO <sub>x</sub> (µg/m <sup>3</sup> )			Change (µg/m <sup>3</sup> )	
	2010 Base	2031** Do-Min	2031** Do-Some	Do-Some – Do-Min	Do-Some – Base
187	21.43	14.12	14.14	+0.02	-7.28

\* This is distance from named road. Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 5: NO<sub>x</sub> Concentrations at Thames Basin Heaths SPA @ B3032**

Distance from named link* (m)	Annual Mean NO <sub>x</sub> (µg/m <sup>3</sup> )			Change (µg/m <sup>3</sup> )	
	2010 Base	2031** Do-Min	2031** Do-Some	Do-Some – Do-Min	Do-Some – Base
3	25.28	18.62	20.61	+2.00	-4.66
50	21.08	14.75	15.37	+0.62	-5.71
100	19.76	13.52	13.71	+0.18	-6.06

\* This is distance from named road. Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 6: Nitrogen Deposition Rates at Thames Basin Heaths SPA @ A322**

Distance from named link* (m)	Year	Nitrogen deposition rate (kg N/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.89	15.26	16.15
	2031** DM	0.74	9.98	10.72
	2031** DS	0.82	9.98	10.80
	<b>DS-DM</b>	-	-	<b>+0.08</b>
	DS-Base	-	-	-5.35
50	2010 Base	0.29	15.26	15.55
	2031** DM	0.24	9.98	10.22
	2031** DS	0.26	9.98	10.25
	<b>DS-DM</b>	-	-	<b>+0.03</b>
	DS-Base	-	-	-5.30
100	2010 Base	0.09	15.26	15.35
	2031** DM	0.07	9.98	10.05
	2031** DS	0.08	9.98	10.06
	<b>DS-DM</b>	-	-	<b>+0.01</b>
	DS-Base	-	-	-5.28
Critical Load				10-20

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 7: Nitrogen Deposition Rates at Thames Basin Heaths SPA @ A324**

Distance from named link* (m)	Year	Nitrogen deposition rate (kg N/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.67	13.72	14.39
	2031** DM	0.56	8.98	9.54
	2031** DS	0.73	8.98	9.71
	<b>DS-DM</b>	-	-	<b>+0.18</b>
	DS-Base	-	-	-4.68
50	2010 Base	0.21	13.72	13.93
	2031** DM	0.18	8.98	9.15
	2031** DS	0.23	8.98	9.21
	<b>DS-DM</b>	-	-	<b>+0.06</b>
	DS-Base	-	-	-4.72
100	2010 Base	0.06	13.72	13.78
	2031** DM	0.05	8.98	9.03
	2031** DS	0.07	8.98	9.05
	<b>DS-DM</b>	-	-	<b>+0.02</b>
	DS-Base	-	-	-4.74
Critical Load				10-20

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 8: Nitrogen Deposition Rates at Thames Basin Heaths SPA @ A320**

Distance from named link* (m)	Year	Nitrogen deposition rate (kg N/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
187	2010 Base	0.02	15.26	15.28
	2031** DM	0.50	9.98	10.48
	2031** DS	0.50	9.98	10.48
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-4.80
Critical Load				10-20

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 9: Nitrogen Deposition Rates at Thames Basin Heaths SPA @ B3032**

Distance from named link* (m)	Year	Nitrogen deposition rate (kg N/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.31	15.26	15.57
	2031** DM	0.28	9.98	10.26
	2031** DS	0.38	9.98	10.36
	<b>DS-DM</b>	-	-	<b>+0.10</b>
	DS-Base	-	-	-5.21
50	2010 Base	0.10	15.26	15.36
	2031** DM	0.09	9.98	10.07

	2031** DS	0.12	9.98	10.10
	<b>DS-DM</b>	-	-	<b>+0.03</b>
	DS-Base	-	-	-5.25
100	2010 Base	0.03	15.26	15.29
	2031** DM	0.03	9.98	10.01
	2031** DS	0.04	9.98	10.02
	<b>DS-DM</b>	-	-	<b>+0.01</b>
	DS-Base	-	-	-5.27
Critical Load				10-20

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 10: Acid Deposition Rates at Thames Basin Heaths SPA @ A322**

Distance from named link* (m)	Year	Acid deposition rate (keq/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.09	1.09	1.18
	2031** DM	0.08	1.09	1.17
	2031** DS	0.08	1.09	1.17
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-0.01
50	2010 Base	0.03	1.09	1.12
	2031** DM	0.02	1.09	1.11
	2031** DS	0.03	1.09	1.12
	<b>DS-DM</b>	-	-	<b>+0.01</b>
	DS-Base	-	-	-<0.01
100	2010 Base	0.01	1.09	1.10
	2031** DM	0.01	1.09	1.10
	2031** DS	0.01	1.09	1.10
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-<0.01
Critical Load (CL <sub>max</sub> N)				0.91

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 11: Acid Deposition Rates at Thames Basin Heaths SPA @ A324**

Distance from named link* (m)	Year	Acid deposition rate (keq/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.07	0.98	1.05
	2031** DM	0.06	0.98	1.04
	2031** DS	0.07	0.98	1.05
	<b>DS-DM</b>	-	-	<b>+0.01</b>
	DS-Base	-	-	+<0.01
50	2010 Base	0.02	0.98	1.00
	2031** DM	0.02	0.98	1.00
	2031** DS	0.02	0.98	1.00
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-<0.01

100	2010 Base	0.01	0.98	0.99
	2031** DM	0.01	0.98	0.99
	2031** DS	0.01	0.98	0.99
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-<0.01
Critical Load (CL <sub>max</sub> N)				0.91

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 12: Acid Deposition Rates at Thames Basin Heaths SPA @ A320**

Distance from named link* (m)	Year	Acid deposition rate (keq/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
187	2010 Base	<0.01	1.09	1.09
	2031** DM	0.05	1.09	1.14
	2031** DS	0.05	1.09	1.14
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	+<0.05
Critical Load (CL <sub>max</sub> N)				0.91

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools

**Table 13: Acid Deposition Rates at Thames Basin Heaths SPA @ B3032**

Distance from named link* (m)	Year	Acid deposition rate (keq/ha/yr)		
		Road Contribution	Average Rate in 5km square	Total
3	2010 Base	0.03	1.09	1.12
	2031** DM	0.03	1.09	1.12
	2031** DS	0.04	1.09	1.13
	<b>DS-DM</b>	-	-	<b>+0.01</b>
	DS-Base	-	-	-<0.01
50	2010 Base	0.01	1.09	1.10
	2031** DM	0.01	1.09	1.10
	2031** DS	0.01	1.09	1.10
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-<0.01
100	2010 Base	<0.01	1.09	1.09
	2031** DM	<0.01	1.09	1.09
	2031** DS	<0.01	1.09	1.09
	<b>DS-DM</b>	-	-	<b>+&lt;0.01</b>
	DS-Base	-	-	-<0.01
Critical Load (CL <sub>max</sub> N)				0.91

\* This is distance from named road . Other roads included within calculation if within 200m

\*\* Calculation carried out for 2025 as that is the limit of the emission factor tools