Habitats Regulations Assessment of the Pre-Submission Surrey Heath Local Plan:

Regulation 19

Surrey Heath Borough Council

May 2024

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	January 2022	Initial HRA draft for client comment	JR	James Riley	Technical Director
1	February 2022	HRA issue following client comments and final amendments to the consultation version Local Plan	JR	James Riley	Technical Director
2	December 2022	HRA issue following final amendments and addition of air quality analysis	JR	James Riley	Technical Director
3	May 2024	HRA issue for pre-submission, Regulation 19 version of Local Plan.	JR	James Riley	Technical Director

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1. Introduction

Background

1.1 Surrey Heath Borough Council (SHBC) has commissioned AECOM to undertake a Habitats Regulations Assessment (HRA) of the Pre-submission Regulation 19 Surrey Heath Local Plan version (SHLP), which will cover the period between 2019 – 2038. The objective of an HRA is to identify any aspects of a Plan that may result in Likely Significant Effects (LSEs) and, where relevant, adverse effects on the integrity of the National Site Network (NSN), either in isolation or in combination with other plans and projects. The NSN is comprised of Habitats sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government policy, Ramsar sites). Furthermore, the HRA is also to advise on appropriate policy mechanisms for delivering mitigation where adverse effects on integrity are identified. Under the Conservation of Habitats and Species Regulations 2017 (as amended), an Appropriate Assessment of impact pathways is required, where a plan or project is likely to result in Likely Significant Effects (LSEs) upon a Habitats Site, either individually or in combination.

1.2 The SHLP will guide future development in the Borough, including the provision of new homes, the protection of employment sites and the vitality of Surrey Heath's town, district and local centres. Additionally, it also seeks to protect other assets of the borough that are important to people, including the Green Belt, open spaces and historic sites. Overall, the SHLP allocates a minimum of 5,680 new homes and explicitly protects Strategic and Locally Important Employment Sites with the aim to meeting the forecast required increase in the total number of Employment Use Class jobs.

1.3 Surrey Heath Borough lies in the north-west corner of Surrey, adjoining the counties of Berkshire and Hampshire. The north-east part of the borough comprises countryside and heathland, which represent important environmental assets of the borough. The authority area covers approx. 9,507ha and has a population of 89,200. Most housing development is concentrated in the western part of the borough, including the major settlements of Camberley and Frimley, and smaller settlements such as Bagshot, Frimley Green, Mytchett and Deepcut. Surrey Heath Borough is permeated by several strategic transport routes connecting it to London and the south coast, including the M3, A331 Blackwater Relief Road, A322 and A30. Many of these roads run past sensitive heathland sites in the central and eastern part of the borough.

1.4 An initial appraisal of the Habitats sites within and surrounding Surrey Heath Borough, and the impact pathways linking to the proposed growth, indicates that several sites require consideration. Importantly, the borough encompasses large parts of the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC, which have well-established and long-standing issues with recreational pressure and atmospheric pollution. Additionally, some sites located outside the borough boundary (e.g. Windsor Forest & Great Park SAC and the South West London Waterbodies SPA / Ramsar) and linked to the SHLP by impact pathways, also require consideration.

Legislation

1.5 The UK left the European Union (EU) on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). While the UK is no longer a member of the EU, a requirement for Habitats Regulations Assessment will continue as set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[1].

1.6 The HRA process applies the 'Precautionary Principle'[2] to Habitats sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the Habitats site(s) in question. To ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the Plan or project in question. Figure 1 below sets out the legislative basis for Appropriate Assessment.

[1] These don't replace the 2017 Regulations but are just another set of amendments.

[2] The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: *"When human activities may lead to morally unacceptable harm* [to the environment] *that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis".*

1.7 Plans and projects that are associated with potential adverse impacts on Habitats sites may still be permitted if there are no reasonable alternatives 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.

Conservation of Habitats and Species Regulations 2017 (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*".

Figure 1: The legislative basis for Appropriate Assessment

1.8 Over time the phrase 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Regulations from screening through to IROPI. This has arisen in order to distinguish the process from the individual stage described in the law as an 'Appropriate Assessment'.

1.9 In spring 2018 the 'Sweetman' European Court of Justice ruling[3] clarified that 'mitigation' (i.e. measures that are specifically introduced to avoid or reduce a harmful effect on a Habitats site that would otherwise arise) should **not** be taken into account when forming a view on Likely Significant Effects. Mitigation should instead only be considered at the Appropriate Assessment stage. This HRA is cognisant of that ruling.

Scope of the Project

1.10 There is no pre-defined guidance that dictates the physical scope of an HRA of a Plan document. Current guidance suggests that the following Habitats sites should be included in the scope of an HRA assessment:

- All Habitats sites within the boundary of Surrey Heath Borough; and,
- Other Habitats sites shown to be linked to development set out in the SHLP through a known 'pathway' (discussed below).

1.11 Generally, it is uncommon for development plans to be deemed to have significant impacts on Habitats sites situated more than 10km from areas of growth. For example, most core recreational catchments (except for some coastal sites) are under 10km in size and the average vehicle commuting distance of a UK resident is approx. 10km. It should be noted that the presence of a conceivable impact pathway linking a Plan to a Habitats site does not mean that Likely Significant Effects (LSEs) will occur.

1.12 In some cases, development impacts can extend beyond 10km, particularly where hydrological pathways are involved, which is why the source-pathway-receptor concept is also used to help determine whether there are potential pathways connecting development to Habitats sites. This takes site-specific sensitivities into account, including issues such as nutrient neutrality or water levels, quantity and flow.

1.13 Briefly defined, impact pathways are routes by which the implementation of a policy within a Local Plan document can lead to an effect upon a Habitats site. An example of this would be new residential development resulting in an increased population and thus increased recreational pressure, which could affect Habitats sites through, for example, disturbance of ground-nesting birds. Guidance from the Ministry of Housing, Communities and Local Government (MHCLG) states that the HRA 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*' (MHCLG, 2006, p.6).

1.14 This basic principle has also been reflected in court rulings. The Court of Appeal[4] has ruled that providing the Council (competent authority) was duly satisfied that proposed mitigation could be 'achieved in practice' to satisfy that the proposed development would have no adverse effect, then this would suffice. This ruling has since been applied to planning permissions (rather than a Plan level document)[5]. In this case the High

[3] People Over Wind and Sweetman v Coillte Teoranta (C-323/17)
[4]No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council Court of Appeal, 17th February 2015
[5]High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

Court ruled that for '*a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of Reg 61 of the Habitats Regulations'*.

1.15 Given an initial assessment of the relevant Habitats sites and the impact pathways present, and referring to the HRA work that was undertaken for the adopted SHLP, this HRA will discuss (at least as far as the LSEs stage) the following Habitats sites:

- Thames Basin Heaths SPA (a composite site with several parcels located within Surrey Heath);
- Thursley, Ash, Pirbright & Chobham SAC (a composite site with several parcels located within Surrey Heath);
- Windsor Forest & Great Park SAC (located approx. 1.8km to the north of Surrey Heath Borough in the authorities of Windsor & Maidenhead, Runnymede and Bracknell Forest);
- South West London Waterbodies SPA / Ramsar (a composite site that lies approx. 4.9km to the north-east of Surrey Heath Borough at its closest point);
- Thursley, Hankley and Frensham Commons SPA (located approx. 10.5km to the south of Surrey Heath in the authority of Waverley);
- Thursley and Ockley Bog Ramsar (located approx. 11.8km to the south of Surrey Heath in the authority of Waverley);
- Mole Gap to Reigate Escarpment SAC (located approx. 15.8km to the south-east of Surrey Heath in the authorities of Mole Valley and Reigate and Bansted);
- Wealden Heaths Phase II SPA (a composite site that lies approx. 15.5km to the south of Surrey Heath Borough at its closest point in the authority of Waverley);
- East Hampshire Hangers SAC (a composite site that lies approx. 16.6km to the south-west of Surrey Heath Borough at its closest point in the authority of East Hampshire);
- Burnham Beeches SAC (located approx. 17.5km to the north of Surrey Heath Borough in the authority of South Bucks).

1.16 For the HRA, the views of the statutory nature conservation advisors, namely Natural England, will be sought as part of the consultation process on the scope of the Habitats sites assessed. The distribution of the above Habitats sites in relation to Surrey Heath Borough is shown in Appendix A. An introduction to, the qualifying features (species and habitats), Conservation Objectives, and threats and pressures to the integrity of these Habitats sites are set out in Chapter 3. The screening assessment of policies in the SHLP is provided in Appendix B.

1.17 In order to fully inform the screening for LSEs stage, several studies and online information databases have been consulted. These include:

- Future development proposed (and, where available, HRAs) for the adjoining authorities of Guildford, Woking, Runnymede, Windsor and Maidenhead, Bracknell Forest, Hart and Rushmoor;
- Road traffic statistics from the Department for Transport (https://roadtraffic.dft.gov.uk);
- Journey-to-work data from the Population Census 2011 (https://www.nomisweb.co.uk/census/2011/WU03UK);
- Visitor surveys carried out in the Thames Basin Heaths SPA by Footprint Ecology (initial survey in 2006, followed by a repeat survey in 2012 / 13) and EPR in 2018 (the later ones largely replicating the methodology of the initial survey to provide comparative data on recreational pressure);
- The HRA produced for the adopted Surrey Heath Local Plan;
- Site Improvement Plans and Supplementary Conservation Advice Notes for relevant Habitats sites published by Natural England;
- The UK Air Pollution Information System (www.apis.ac.uk); and
- Multi Agency Geographic Information for the Countryside (MAGIC) and its links to SSSI citations and the JNCC website (www.magic.gov.uk).

Quality Assurance

1.18 This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

1.19 All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2019).

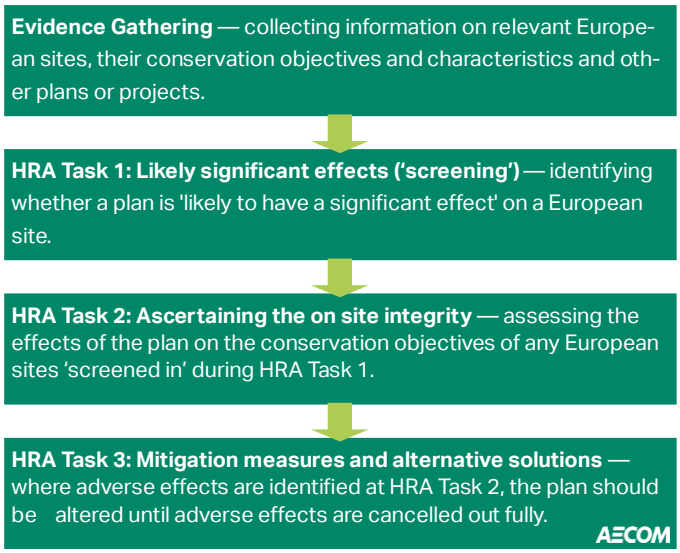
2. Methodology

Introduction

2.1 The HRA has been carried out with reference to the general EC guidance on HRA[6] and general guidance on HRA published by government in July 2019[7]. AECOM has also been mindful of the implications of European case law in 2018, notably the Holohan ruling and the People over Wind ruling, both discussed below.

2.2 Figure 2 below outlines the stages of HRA according to current EC guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the Plan.

Figure 2: Four Stage Approach to Habitats Regulations Assessment. Source EC, 2001[6].



Description of HRA Tasks

HRA Task 1 – Screening for Likely Significant Effects (LSEs)

2.3 Following evidence gathering, the first stage of any Habitats Regulations Assessment is the screening for Likely Significant Effects (LSEs), essentially a high-level assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

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

2.4 The objective is to filter out those Plans and projects that can, without any detailed appraisal, be concluded to be unlikely to result in any impacts upon Habitats sites, usually because there is no mechanism for a negative interaction. This stage is undertaken in Chapter 5 of this report and in Appendix B.

HRA Task 2 – Appropriate Assessment (AA)

2.5 Where it is determined that a conclusion of 'no Likely Significant Effects (LSEs)' cannot be drawn, the analysis proceeds to the next stage of HRA known as Appropriate Assessment. Case law has clarified that

[6] European Commission (2001): Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.
[7] https://www.gov.uk/guidance/appropriate-assessment

'Appropriate Assessment' is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to Appropriate Assessment compared to the screening stage.

2.6 By virtue of the fact that it follows screening for LSEs, there is a clear implication that the analysis will be more detailed than undertaken at the previous stage. One of the key considerations during Appropriate Assessment is whether there is available mitigation that would entirely address the potential effect. In practice, the Appropriate Assessment would take any policies or allocations that could not be dismissed following the high-level screening and assess the potential for an effect in more detail, with a view to concluding whether there would be a potential for an adverse effect on site integrity (in other words, disruption of the coherent structure and function of the Habitats site(s)). A decision by the European Court of Justice[8] concluded that measures intended to avoid or reduce the harmful effects of a proposed Plan or project on a Habitats site may no longer be considered by competent authorities at the screening for LSEs stage of HRA. That ruling has been taken into account in producing this HRA.

2.7 Also. in 2018 the Holohan ruling[9] was handed down by the European Court of Justice. Among other provisions paragraph 39 of the ruling states that '*As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, … typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area*' [emphasis added]. Due account of this decision has been given in this HRA in relation to the Thames Basin Heaths SPA, which is designated for mobile ground-nesting birds (although it is to be noted that the qualifying species are not considered to be critically dependent on functionally linked habitats).

HRA Task 3 – Avoidance and Mitigation

2.8 Where necessary, measures are recommended for incorporation into the Plan in order to mitigate and / or avoid adverse effects on Habitats sites. There is considerable precedent concerning the level of detail that a Local Plan document needs to contain regarding mitigation for impact pathways on Habitats sites (e.g. regarding recreational pressure). The implication of this precedent is that it is not necessary for all measures to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.

2.9 When discussing mitigation for a Local Plan, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the details of the mitigation measures themselves since a Local Plan document is a high-level policy document.

2.10 In any Local Plan, there are numerous policies for which there is a limit to the degree of assessment that is possible at the Plan level. This is because either:

- The policy in question does not contain any specifics as to what will be delivered or where, and so cannot be assessed in detail at the Plan level. In these cases, the Appropriate Assessment focusses on precautionary mitigation that can be included in the plan to ensure that whatever proposals come forward will not result in adverse effects on integrity; or
- The nature of potential impacts (e.g. visual and noise disturbance arising from construction or loss of functionally linked habitat) are related to how the development will be designed and constructed, and therefore cannot be assessed in detail at the plan level. In these instances, the Appropriate Assessment focusses on available mitigation measures, the extent to which such measures would be achievable and effective, and whether an adequate protective framework exists to ensure that the policy would not lead to an adverse effect on the integrity of any internationally designated sites.

2.11 In these instances, the advice of Advocate-General Kokott[10] is also worth considering. She commented that: *'It would …hardly be proper to require a greater level of detail in preceding plans* [rather than planning applications] *or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of*

[8] People Over Wind and Sweetman v Coillte Teoranta (C-323/17)
[9] Case C-461/17
[10] Opinion of Advocate General Kokott, 9th June 2005, Case C-6/04. Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland, paragraph 49 http://curia.europa.eu/juris/document/document.jsf?docid=58359&doclang=EN

conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan.

3. Habitats Sites

Thames Basin Heaths SPA

Introduction

3.1 The Thames Basin Heaths Special Protection Area (SPA) covers an area of approx. 8,274ha and spans 11 local authorities in south-west England. The site forms part of a larger network of sites in southern England that comprise blocks of lowland heathland, which have significantly shrunk in the past. The heathland forms important breeding habitats for bird populations, including Dartford warbler, nightjar and woodlark. Four SSSI units that form part of the SPA lie wholly or partly within Surrey Heath Borough; including Ash to Brookwood Heaths SSSI, Broadmoor to Bagshot Woods and Heaths SSSI, Chobham Common SSSI and Colony Bog and Bagshot Heath SSSI.

3.2 The SPA comprises agriculturally unimproved heathland, scrub and woodland that were once continuous, but have now been fragmented by roads, urban development and farmland. Furthermore, the heathland parcels represent an important recreational resource for the local population (about 75% of the SPA has open public access, either being designated as common land or open country under the Countryside and Rights of Way Act 2000). Therefore, recreational pressure, especially from dog walkers, has been a longstanding issue. All qualifying bird species nest on or close to the ground, making them especially vulnerable to disturbance and predation from free-roaming dogs. In order to ensure compliance with the Conservation of Habitats and Species Regulations 2017 (as amended), Surrey Heath Borough Council has produced the Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document (SPD), which provides the council's approach to development in its authority area.

Qualifying Species[11]

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

During the breeding season

- Nightjar Caprimulgus europaeus
- Woodlark Lullula arborea
- Dartford warbler *Sylvia undata*

Conservation Objectives[12]

3.4 With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

3.5 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

[11] Available at: https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9012141.pdf [Accessed on the 06/12/2021]
[12] Available at: http://publications.naturalengland.org.uk/publication/4952859267301376 [Accessed on the 06/12/2021]

Threats / Pressures to Site Integrity[13]

3.6 Natural England's Site Improvement Plan (SIP) highlights the following key pressures / threats to the integrity of the Thames Basin Heaths SPA:

- Public access / disturbance
- Undergrazing
- Forestry and woodland management
- Hydrological changes
- Inappropriate scrub control
- Invasive species
- Wildfire / arson
- Air pollution: Impact of atmospheric nitrogen deposition
- Military
- Habitat fragmentation

Thursley, Ash, Pirbright and Chobham SAC

Introduction

3.7 The Thursley, Ash, Pirbright and Chobham SAC is a 5,154.5ha large site comprising heath / scrub (75%), bogs and marshes (10%), coniferous woodland (10%) and inland water bodies (5%), which largely overlaps with the Thames Basin Heaths SPA (discussed above). The site is an extensive complex of heaths (both wet and dry), acid mire and bog pools. The underlying geology (particularly the Sandgate Beds) are made up of finer-grained material, impeding drainage and giving rise to the wet heaths / mire systems.

3.8 The SAC includes outstanding examples of valley mire vegetation, supporting rich assemblages of wetland invertebrates, bryophytes and scarce plants. These in turn provide habitats for breeding birds, such as curlew, snipe and designated SPA species. For example, the SAC represents lowland northern Atlantic wet heaths. At Thursley Common the NVC type is M16 *Erica tetralix* – *Sphagnum compactum*, including a range of rare plants including great sundew *Drosera anglica*, bog hair-grass *Deschampsia setacea*, bog orchid *Hammarbya paludosa* and brown beak-sedge *Rhynchospora fusca*. The site is also an important site for the nationally rare white-faced darter *Leuccorhinia dubia*. Much of the SAC (like the overlapping Thames Basin Heaths SPA) is accessible to the public, making it sensitive to recreational pressure through processes such as trampling damage and nutrient enrichment from dog fouling.

Qualifying Features[14]

3.9 Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Depressions on peat substrates of the Rhynchosporion

Conservation Objectives[15]

3.10 With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

[13] Available at: http://publications.naturalengland.org.uk/publication/6249258780983296 [Accessed on the 06/12/2021]
[14] Available at: https://sac.jncc.gov.uk/site/UK0012793 [Accessed on the 06/12/2021]
[15] Available at: http://publications.naturalengland.org.uk/publication/5141075941392384 [Accessed on the 06/12/2021]

3.11 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely.

Threats / Pressures to Site Integrity[16]

3.12 Natural England's Site Improvement Plan (SIP) highlights the following key pressures / threats to the integrity of the Thursley, Ash, Pirbright and Chobham SAC:

- Public access / disturbance
- Undergrazing
- Forestry and woodland management
- Hydrological changes
- Inappropriate scrub control
- Invasive species
- Wildfire / arson
- Air pollution: Impact of atmospheric nitrogen deposition
- Military
- Habitat fragmentation

Windsor Forest and Great Park SAC

Introduction

3.13 The Windsor Forest and Great Park SAC is located 2.7km from Surrey Heath Borough, largely within the authority of Windsor and Maidenhead. It covers an area of 1,680.18ha, comprising 95% of broadleaved deciduous woodland, dry grassland / steppes (4.5%) and inland water bodies (0.5%). The SAC represents old acidophilous oak woods in the south-eastern part of its UK range and supports the largest number of veteran oak trees in Britain (and likely Europe). It is important for its abundance and diversity of saproxylic invertebrates, including rare beetles (e.g. *Lacon querceus*), and a rich fungal assemblage.

3.14 The SAC is thought to support the largest population of click beetles *Limoniscus violaceus* in the UK. Primarily this is due to the site's large population of ancient trees, which combined with the historical continuity of woodland cover, offers optimal habitat for fauna that is dependent on decaying timber.

Qualifying Features[17]

3.15 Annex I habitats that are a primary reason for selection of this site:

- Old acidophilous oak woods with *Quercus robur* on sandy plains

3.16 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraea* or *Ilici-Fagenion*)

[16] Available at: http://publications.naturalengland.org.uk/publication/6249258780983296 [Accessed on the 06/12/2021]
[17] Available at: https://sac.jncc.gov.uk/site/UK0012586 [Accessed on the 06/12/2021]

3.17 Annex II species that are a primary reason for selection of this site:

- Violet click beetle *Limoniscus violaceus*

Conservation Objectives[18]

3.18 With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

3.19 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Threats / Pressures to Site Integrity[19]

3.20 Natural England's SIP specifies the following threats / pressures to the integrity of the Windsor Forest and Great Park SAC:

- Forestry and woodland management
- Invasive species
- Disease
- Air pollution: Impact of atmospheric nitrogen deposition

South West London Waterbodies SPA / Ramsar

Introduction

3.21 The South West London Water Bodies SPA / Ramsar site lies 4.5km from Surrey Heath Borough. It comprises a series of embanked water supply reservoirs and former gravel pits that encompass a range of man-made and semi-natural still open water habitats. The composite site is situated in south-west London on the floodplain of the River Thames. The designated waterbodies differ in character from artificial concrete-lined reservoirs to restored sand and gravel pits that are adjoined by mature habitats, such as scrub, grassland and woodland.

3.22 The SPA is designated for overwintering waterfowl that use the waterbodies for feeding, roosting and resting. Recreational pressure is an issue in some of the lakes and reservoirs, principally those that are accessible to the public for sailing, canoeing, water-skiing, fishing, birdwatching, diver training and open water swimming. Additionally, there are several functionally linked waterbodies surrounding the SPA that are also used by overwintering waterfowl. Given their importance to the SPA bird populations, these off-site habitats must be viewed as part of the fabric that supports the SPA / Ramsar integrity. The Thorpe Park No.1 Gravel Pit SSSI is the closest component part of the site to Surrey Heath, thus making it the most likely destination of residents from the authority.

[18] Available at: http://publications.naturalengland.org.uk/publication/5175000009015296 [Accessed on the 06/12/2021]
[19] Available at: http://publications.naturalengland.org.uk/publication/6221375450644480 [Accessed on the 06/12/2021]

SPA Qualifying Features[20]

3.23 The SPA is designated for the following species that are listed in Annex II of Directive 92/43/EEC:

- Northern shoveler *Anas clypeata*
- Gadwall Anas strepera

Ramsar Qualifying Features[21]

3.24 Ramsar Criterion 6:

Over winter the site regularly supports internationally important populations of gadwall *Anas strepera* and shoveler *Anas clypeata*.

SPA Conservation Objectives[22]

3.25 With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

3.26 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Threats / Pressures to Site Integrity of the SPA[23]

3.27 Natural England's SIP specifies the following threats / pressures to the integrity of the South West London Waterbodies SPA:

- Public access / disturbance
- Changes in species distributions
- Invasive species
- Natural changes to site conditions
- Fisheries: Fish stocking
- Inappropriate weed control

Thursley, Hankley and Frensham Commons SPA

Introduction

3.28 The Thursley, Hankley and Frensham Commons SPA (also known as Wealden Heaths Phase I SPA) is located 11km from Surrey Heath Borough. It forms a large complex of lowland heaths situated in Surrey, close to the Hampshire border. Surrounding habitats include oak woodland, coniferous woodland and small pastures. Its reason for designation is that the site provides breeding habitat for bird species that nest on or close to the ground, including Dartford warbler, nightjar and woodlark.

[20] Available at: https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9012171.pdf [Accessed on the 06/12/2021]
[21] Available at: https://rsis.ramsar.org/RISapp/files/RISrep/GB1038RIS.pdf [Accessed on the 06/12/2021]
[22] Available at: http://publications.naturalengland.org.uk/publication/4901473695563776 [Accessed on the 06/12/2021]
[23] Available at: http://publications.naturalengland.org.uk/publication/6662064386867200 [Accessed on the 06/12/2021]

3.29 The SPA lies close to the northern limit of the northern European range for Dartford warblers, which are strongly associated with lowland heaths and extensive patches of mature gorse. Dartford warblers are distributed widely across the site with particular numbers occurring on Hankley and Frensham Common. Nightjar regularly use areas of the SPA for nesting and feeding, with areas of preference in patches of heath with high structural diversity (e.g. bare patches, short vegetation). High numbers of nightjar have been recorded on Thursley, Hankley, Frensham and Elstead common. Woodlarks have been reported in high numbers across the entire site complex.

3.30 While several areas of the SPA are used for military training with controlled access, most of the remainder of the site (i.e. the commons) has open public access and is popular for recreational activities, such as dog walking, hiking, birdwatching, horse riding, cycling and orienteering. As such, the breeding birds of the SPA are at particular risk from disturbance by humans, trampling damage and free-roaming dogs.

Qualifying Features[24]

3.31 The site is designed as a SPA for the following bird species listed in Annex II of Directive 92/43/EEC:

- Nightjar Caprimulgus europaeus
- Woodlark Lullula arborea
- Dartford warbler *Sylvia undata*

Conservation Objectives[25]

3.32 With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

3.33 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Threats / Pressures to Site Integrity[26]

3.34 The following threats / pressures to the integrity of the Thursley, Hankley and Frensham Commons SPA have been identified in Natural England's SIP:

- Public access / disturbance
- Undergrazing
- Forestry and woodland management
- Hydrological changes
- Inappropriate scrub control
- Invasive species
- Wildfire / arson
- Air pollution: Impact of atmospheric nitrogen deposition

[24] Available at: https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9012131.pdf [Accessed on the 06/12/2021]
[25] Available at: http://publications.naturalengland.org.uk/publication/5735025425252352 [Accessed on the 06/12/2021]
[26] Available at: http://publications.naturalengland.org.uk/publication/6249258780983296 [Accessed on the 06/12/2021]

- Military
- Habitat fragmentation

Thursley and Ockley Bog Ramsar

Introduction

3.35 The Thursley and Ockley Bog Ramsar lies approx. 12km from Surrey Heath Borough. The site represents a valley mire complex and lies within the Thursley, Hankley and Frensham Commons SPA, in a matrix of heathland parcels. Mire habitat has formed as a consequence to impeded drainage, resulting in the build-up of a deep peat layer from decaying remains of bog-moss *Sphagnum* spp. Several areas of open water also exist within the site, contributing to the overall structural diversity of the site, which includes acidic boggy pools, ditches and large ponds.

3.36 Interestingly, Ockley bog has developed on relatively flat, poorly drained ground and shows remarkable similarity to a raised mire in that the surface of the bog is gradually growing above groundwater influence. The presence of a river valley mire with clear vegetation zonation and relatively high nutrient status along the central water-course, adds to the interest of the Thursley peatland complex.

Qualifying Features[27]

3.37 Ramsar Criterion 2

Supports a community of rare wetland invertebrate species including notable numbers of breeding dragonflies.

3.38 Ramsar Criterion 3

It is one of the few sites in Britain to support all six native reptile species. The site also supports nationally important breeding populations of European nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*.

Conservation Objectives

3.39 Conservation Objectives are not published for Ramsar sites.

Threats / Pressures to Site Integrity

3.40 The key environmental sensitivities of the site include adverse changes in water quality and significant alterations of water quantity, level and flow. However, the Information Sheet on Ramsar Wetlands indicates that there currently are no factors that negatively impact on the site's ecological character.

Mole Gap to Reigate Escarpment SAC

Introduction

3.41 The Mole Gap to Reigate Escarpment SAC lies approx. 16km from Surrey Heath Borough. It is a 892.3ha large site, comprising broad-leaved deciduous woodland (60%), dry grassland / steppes (25%) and heath / scrub (15%). Extensive areas of (ancient) woodland remain within this site, such as at Dean Wood and Updown Wood. On the lime-rich chalk slopes, dominant tree species include beech, ash, yew, field maple, whitebeam and occasional large-leaved lime, a scarce native tree. Box is only native at this site and a few other places in Britain.

3.42 The chalk grassland supports local or rare plants, including musk orchid *Herminium monorchis*, green-winged orchid *Orchis morio*, round-headed rampion *Phyteuma orbiculare*, early gentian *Gentianella anglica* (found only in Britain), ground pine *Ajuga chamaepitys* and meadow clary *Salvia pratensis*. Areas of open turf at Burford Bridge Ridge and Juniper Top support a rich lichen flora with many noteworthy species. A

[27] Available at: https://rsis.ramsar.org/RISapp/files/RISrep/GB647RIS.pdf [Accessed on the 06/12/2021]

small area of chalk heath is found, a habitat that is particularly sensitive to damage, and now only found in a few places in Britain.

3.43 A large number of rare beetles (Coleoptera) have been recorded and a large true bug (a Hemipteran) *Gonocerus acuteangulatus* found here occurs nowhere else in Britain. A wide variety of woodland birds breed within the site, including hawfinch, sparrowhawk, nightingale, and all three species of British woodpecker. An old chalk mine is used as a winter roost by several species of bats, and the site also supports great-crested newts.

Qualifying Features[28]

3.44 Annex I habitats that are a primary reason for selection of this site:

- Stable xerothermophilous formations with *Buxus sempervirens* on rock slopes (*Berberidion p. p.*)
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites)
- *Taxus baccata* woods of the British Isles

3.45 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths
- Asperulo-Fagetum beech forests

3.46 Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- Great-crested newt *Triturus cristatus*
- Bechstein's bat Myotis bechsteinii

Conservation Objectives[29]

3.47 With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

3.48 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Threats / Pressures to Site Integrity[30]

3.49 Natural England's SIP specifies the following threats / pressures to the integrity of the Mole Gap to Reigate Escarpment SAC:

- Disease

[28] Available at: https://sac.jncc.gov.uk/site/UK0012804 [Accessed on the 06/12/2021]
[29] Available at: http://publications.naturalengland.org.uk/publication/4911739200077824 [Accessed on the 06/12/2021]
[30] Available at: http://publications.naturalengland.org.uk/publication/5966636066537472 [Accessed on the 06/12/2021]

- Inappropriate scrub control
- Change in land management
- Public access / disturbance
- Air pollution: Risk of atmospheric nitrogen deposition

Wealden Heaths Phase II SPA

Introduction

3.50 The Wealden Heaths Phase II SPA is a composite site made up of extensive areas of lowland heath, which are similar in character to the nearby heathland complexes in the Thames Basin Heaths SPA and Thursley, Hankley and Frensham Commons SPA. The qualifying features of the site include bird species that nest on or close to the ground, such as Dartford warbler, nightjar and woodlark. Dartford warblers, strongly associated with areas of lowland heath and mature gorse, have particular strongholds at Woolmer Forest and Ludshott Common. Nightjar, which use areas of heath with high structural diversity, are primarily found at Woolmer Forest and Bramshott Common. Woodlark, a species that depends on lowland heaths and rotationally managed conifer plantations, has its highest number recorded at Woolmer Forest and Broxhead Common.

3.51 While public access to the site is restricted in areas that are used for live military training, many other areas are popular for a wide range of recreational activities, including dog walking, walking, birdwatching, orienteering and cycling. Therefore, recreational impacts within the site are a primary consideration for the conservation status of the site. The closest component part of the SPA to Surrey Heath Borough is the Devil's Punch Bowl SSSI at approx. 16km distance.

Qualifying Features[31]

3.52 The site is designated as a SPA for the following species listed in Annex II of Directive 92/43/EEC:

- Nightjar Caprimulgus europaeus
- Woodlark Lullula arborea
- Dartford warbler *Sylvia undata*

Conservation Objectives[32]

3.53 With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

3.54 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

[31] Available at: https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9012132.pdf [Accessed on the 07/12/2021]
[32] Available at: http://publications.naturalengland.org.uk/publication/5729030657540096 [Accessed on the 07/12/2021]

Threats / Pressures to Site Integrity[33]

3.55 The following threats / pressures to the integrity of the Wealden Heaths Phase II SPA are listed in Natural England's SIP:

- Change in land management
- Invasive species
- Hydrological changes
- Public access / disturbance
- Military
- Air pollution: Impact of atmospheric nitrogen deposition
- Wildfire / arson

East Hampshire Hangers SAC

Introduction

3.56 The East Hampshire Hangers SAC is a 561.69ha large site, comprising broad-leaved deciduous woodland (79.3%), coniferous woodland (7%), mixed woodland (5%), humid grassland (5%) and dry grassland / steppes (3.7%). Overall, the site's main importance is due to its beech *Fagus sylvatica* woodland that are extremely rich in vascular plants, including white helleborine *Cephalanthera damasonium*, violet helleborine *Epipactis purpurata*, green-flowered helleborine *Epipactis phyllanthes* and Italian lords-and-ladies *Arum italicum*. Throughout the site there are transitions to mixed woodland, including areas of small-leaved lime *Tilia cordata* and yew *Taxus baccata*. The closest component SSSI of the SAC is the Upper Greensand Hangers: Empshott to Hawksley, approx. 17km from Surrey Heath Borough.

Qualifying Features[34]

3.57 Annex I habitats that are a primary reason for selection of this site:

- Asperulo-Fagetum beech forests
- *Tilio-Acerion* forests of slopes, screes and ravines

3.58 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites)
- *Taxus baccata* woods of the British Isles

3.59 Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- Early gentian Gentianella anglica

Conservation Objectives[35]

3.60 With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

3.61 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

[33] Available at: http://publications.naturalengland.org.uk/publication/5431913779036160 [Accessed on the 07/12/2021]
[34] Available at: https://sac.jncc.gov.uk/site/UK0012723 [Accessed on the 07/12/2021]
[35] Available at: http://publications.naturalengland.org.uk/publication/6500658190483456 [Accessed on the 07/12/2021]

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Threats / Pressures to Site Integrity[36]

3.62 Natural England's SIP highlights the following threats / pressures to the integrity of the East Hampshire Hangers SAC:

- Air pollution: Risk of atmospheric nitrogen deposition
- Invasive species
- Forestry and woodland management

Burnham Beeches SAC

Introduction

3.63 The Burnham Beeches SAC is a 383.71ha large site that comprises broad-leaved deciduous woodland (90%), coniferous woodland (5%) and heath / scrub (5%). It occupies an extensive area of the Burnham Plateau and supports mature / developing woodland, old coppice, scrub and heath. A large portion of the SAC consists of an extensive area of former beech *Fagus sylvatica* wood-pasture with many old pollards and associated beech and oak *Quercus robur* high forest. As a result, it is also one of the most important sites in the UK for saproxylic invertebrates and epiphytic communities (e.g. *Zygodon forsteri*). Within the site, an extensive are of acid mire with locally uncommon plants is found, including bog pimpernel *Anagallis tenella*, marsh St. John's wort *Hypericum elodes* and royal fern *Osmunda regalis*.

3.64 In the last 20 years low intensity grazing has been reintroduced in parts of the site to reflect former management practices. This takes place on 164ha of the site, with the aim to create a more open and diverse structure within the SAC. Importantly, part of the SAC has open public access and is a very attractive recreational space welcoming over 500,000 visitors annually. The SAC is managed by the City of London and is partly designated as a National Nature Reserve.

Qualifying Features[37]

3.65 Annex I habitats that are a primary reason for selection of this site:

- Atlantic acidophilous beech forests with *Ilex* and sometimes *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)

Conservation Objectives[38]

3.66 With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

3.67 Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

[36] Available at: http://publications.naturalengland.org.uk/publication/5890345141272576 [Accessed on the 07/12/2021]
[37] Available at: https://sac.jncc.gov.uk/site/UK0030034 [Accessed on the 07/12/2021]
[38] Available at: http://publications.naturalengland.org.uk/publication/6014456282742784 [Accessed on the 07/12/2021]

- The extent and distribution of qualifying natural habitats
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely.

Threats / Pressures to Site Integrity[39]

3.68 The following threats / pressures to the integrity of the Burnham Beeches SAC are identified in Natural England's SIP:

- Air pollution: Risk of atmospheric nitrogen deposition
- Public access / disturbance
- Habitat fragmentation
- Deer
- Species decline
- Invasive species

[39] Available at: http://publications.naturalengland.org.uk/publication/5689860228644864 [Accessed on the 07/12/2021]

4. Impact Pathways

Recreational Pressure

4.1 There is concern over the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfill conservation objectives while also providing recreational opportunity. Various research reports have provided compelling links between changes in housing and access levels[40], and impacts on Habitats protected sites[41] [42]. This applies to any habitat, but recreational pressure from housing growth is of particular significance for Habitats sites designated for their bird interest. Different Habitats sites 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. HRAs of planning documents tend to focus on recreational sources of disturbance as a result of new residents[43].

Trampling Damage, Nutrient Enrichment and Wildfires

4.2 Most terrestrial habitats (especially heathland, woodland and dune systems) can be affected by trampling and other mechanical damage, which dislodges individual plants, leads to soil compaction and erosion. The following studies have assessed the impact of trampling associated with different recreational activities in different habitats:

4.3 Wilson & Seney)[44] examined the degree of track erosion caused by hikers, motorcyclists, horse riders and cyclists in 108 plots along tracks in the Gallatin National Forest, Montana. Although the results proved difficult to interpret, it was concluded that horses and hikers disturbed more sediment on wet tracks, and therefore caused more erosion, than motorcycles and bicycles.

4.4 Cole et al[45] conducted experimental off-track trampling in 18 closed forest, dwarf scrub and meadow & grassland communities (each trampled between 0 – 500 times) over five mountain regions in the US. Vegetation cover was assessed two weeks and one year after trampling, and an inverse relationship with trampling intensity was discovered, although this relationship was weaker after one year than two weeks indicating some recovery of the vegetation. Differences in plant morphology was found to explain more variation in response than soil and topographic factors. Low-growing, mat-forming grasses regained their cover best after two weeks and were considered most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. The cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks but had recovered well after one year and as such these were considered most resilient to trampling. Chamaephytes (plants with buds above the soil surface) were least resilient to trampling. It was concluded that these would be the least tolerant of a regular cycle of disturbance.

4.5 Cole [46] conducted a follow-up study (across four vegetation types) in which shoe type (trainers or walking boots) and trampling weight were varied. Although immediate damage was greater with walking boots, there

[40] Weitowitz D.C., Panter C., Hoskin R. & Liley D. (2019). The effect of urban development on visitor numbers to nearby protected nature conservation sites. *Journal of Urban Ecology* **5**. https://doi.org/10.1093/jue/juz019
[41] Liley D, Clarke R.T., Mallord J.W., Bullock J.M. (2006a). The effect of urban development and human disturbance on the distribution and abundance of nightjars on the Thames Basin and Dorset Heaths. Natural England / Footprint Ecology.
[42] Liley D., Clarke R.T., Underhill-Day J., Tyldesley D.T. (2006b). Evidence to support the appropriate Assessment of development plans and projects in south-east Dorset. Footprint Ecology / Dorset County Council.
[43] The RTPI report 'Planning for an Ageing Population' (2004) which states that 'From being a marginalised group in society, the elderly are now a force to be reckoned with and increasingly seen as a market to be wooed by the leisure and tourist industries. There are more of them and generally they have more time and more money.' It also states that 'Participation in most physical activities shows a significant decline after the age of 50. The exceptions to this are walking, golf, bowls and sailing, where participation rates hold up well into the 70s'.
[44] Wilson, J.P. & J.P. Seney. (1994). Erosional impact of hikers, horses, motorcycles and off-road bicycles on mountain trails in Montana. *Mountain Research and Development* **14**:77-88
[45] Cole, D.N. (1995a). Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* **32**: 203-214
Cole, D.N. (1995b). Experimental trampling of vegetation. II. Predictors of resistance and resilience. *Journal of Applied Ecology* **32**: 215-224
[46] Cole, D.N. (1995c). Recreational trampling experiments: effects of trampler weight and shoe type. Research Note INT-RN-425. U.S. Forest Service, Intermountain Research Station, Utah.

was no significant difference after one year. Heavier tramplers caused a greater reduction in vegetation height than lighter tramplers, but there was no differential impact on vegetation cover.

4.6 Cole & Spildie[47] experimentally compared the effects of off-track trampling by hikers and horse riders (at two intensities – 25 and 150 passes) in two woodland vegetation types (one with an erect forb understorey and one with a low shrub understorey). Horse trampling was found to cause the largest reduction in vegetation cover. The forb-dominated vegetation suffered greatest disturbance but recovered rapidly. Generally, it was shown that higher trampling intensities caused more disturbance.

4.7 In heathland sites, trampling damage can affect the value of a site to wildlife. For example, heavy use of sandy tracks loosens and continuously disturbs sand particles, reducing the habitat's suitability for invertebrates[48]. Species that burrow into flat surfaces such as the centres of paths, are likely to be particularly vulnerable, as the loose sediment can no longer maintain their burrow. In some instances, nature conservation bodies and local authorities resort to hardening paths to prevent further erosion. However, this is concomitant with the loss of habitat used by wildlife, such as sand lizards and burrowing invertebrates.

4.8 A major concern for nutrient-poor terrestrial habitats (e.g. heathlands, sand dunes, bogs and fens) is nutrient enrichment associated with dog fouling (addressed in various reviews, e.g.[49]). It is estimated that dogs will defecate within 10 minutes of starting a walk and therefore most nutrient enrichment arising from dog faeces will occur within 400m of a site entrance. In contrast, dogs will urinate at frequent intervals during a walk, resulting in a more spread out distribution of urine. For example, in Burnham Beeches National Nature Reserve it is estimated that 30,000 litres of urine and 60 tonnes of dog faeces are deposited annually[50]. While there is limited information on the chemical constituents of dog faeces, nitrogen is one of the main components[51]. Nutrient availability is the major determinant of plant community composition and the effect of dog defecation in sensitive habitats is comparable to a high-level application of fertiliser, potentially resulting in a shift towards plant communities that are more typical of improved grasslands.

Bird Disturbance

4.9 Human activity can affect birds either directly (e.g. by eliciting flight responses) or indirectly (e.g. by damaging habitat or reducing bird fitness in less obvious ways such as through inducing stress responses). The most obvious direct effect is that of immediate mortality such as death by shooting, but human activity can also lead to much subtler behavioural (e.g. alterations in feeding behaviour, avoidance of certain areas and use of sub optimal areas etc.) and physiological changes (e.g. an increase in heart rate). While such changes are less noticeable, they might result in major population-level changes by altering the balance between immigration / birth and emigration / death[52].

4.10 Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and time spent responding to disturbance is time that is not spent feeding[53]. Disturbance therefore increases energetic expenditure while reducing energetic intake, which can adversely affect the 'condition' and ultimately survival of birds. Additionally, displacement of birds from one feeding site to another can increase the pressure on the resources available within alternative foraging sites, which must sustain a greater number of birds[54]. Moreover, the higher proportion of time a breeding bird spends away from its nest, the more likely it is that eggs will cool and the more vulnerable they, or any nestlings, are to

[47] Cole, D.N., Spildie, D.R. (1998). Hiker, horse and llama trampling effects on native vegetation in Montana, USA. *Journal of Environmental Management* **53**: 61-71
[48] Taylor K., Anderson P., Liley D. & Underhill-Day J.C. (2006). Promoting positive access management to sites of nature conservation value: A guide to good practice. English Nature / Countryside Agency, Peterborough and Cheltenham.
[49] Taylor K., Anderson P., Taylor R.P., Longden K. & Fisher P. (2005). Dogs, access and nature conservation. English Nature Research Report, Peterborough.
[50] Barnard A. (2003). Getting the facts – Dog walking and visitor number surveys at Burnham Beeches and their implications for the management process. *Countryside Recreation* **11**:16-19.
[51] Taylor K., Anderson P., Liley D. & Underhill-Day J.C. (2006). Promoting positive access management to sites of nature conservation value: A guide to good practice. English Nature / Countryside Agency, Peterborough and Cheltenham.
[52] Riley, J. (2003). Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.
[53] Riddington, R. *et al*. (1996). The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* **43**:269-279.
[54] Gill, J.A., Sutherland, W.J. & Norris, K. (1998). The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* **12**: 67-72.

predators. Recreational effects on ground-nesting birds are particularly severe, with many studies concluding that urban sites support lower densities of key species, such as stone curlew and nightjar[55] [56].

4.11 Several factors (e.g. seasonality, type of recreational activity) may have pronounced impacts on the nature of bird disturbance. Disturbance in winter may be more impactful because food shortages make birds more vulnerable at this time of the year. In contrast, this may be counterbalanced by fewer recreational users in the winter months and lower overall sensitivity of birds outside the breeding season. Evidence in the literature suggests that the magnitude of disturbance clearly differs between different types of recreational activities. For example, dog walking leads to a significantly higher reduction in bird diversity and abundance compared to hiking[57]. Scientific evidence also suggests that key disturbance parameters, such as areas of influence and flush distance, are significantly greater for dog walkers than hikers[58]. Furthermore, differences in on-site route lengths and usage patterns likely imply that key spatial and temporal parameters (such as the area of a site potentially impacted and the frequency of disturbance) will also differ between recreational activities. This suggests that activity type is a factor that ought to be taken into account in HRAs.

Summary

4.12 Several Habitats sites relevant to Surrey Heath Borough are designated for habitats and species that are sensitive to recreational pressure, including the Ashdown Forest SAC (supports parcels of dry and wet heathland), Ashdown Forest SPA (supports nightjar and Dartford warbler, which nest on or close to the ground) and the Castle Hill SAC (designated for semi-natural dry grassland and scrubland). The increase in residential development allocated in the SHLP will lead to an increase in the local population and demand for access to outdoor spaces. The HRA process needs to adequately assess potential recreational pressure effects of the Plan on these Habitats sites.

4.13 Overall, the following Habitats sites within 20km of the Surrey Heath Borough boundary are sensitive to increased recreational access, due to the allocation of residential development in the Surrey Heath Local Plan (the sites in **bold** are taken forward into the following HRA chapters):

- **Thames Basin Heaths SPA** (some of the SSSI component parts of the SPA lie wholly or partly within Surrey Heath, including the Broadmoor to Bagshot Woods and Heaths SSSI, Chobham Common SSSI, Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI)
- **Thursley, Ash, Pirbright and Chobham SAC** (some of the SSSI component parts of the SAC lie wholly or partly within Surrey Heath, including the Chobham Common SSSI, Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI)
- **Thursley, Hankley & Frensham Commons SPA** (the SPA lies approx. 10.5km to the south of Surrey Heath Borough, in the authority of Waverley)
- **Wealden Heaths Phase II SPA** (the closest component part of the SPA is the Devil's Punch Bowl SSSI approx. 15.5km to the south of Surrey Heath Borough, in the authority of Waverley)
- **South West London Waterbodies SPA / Ramsar** (the closest component part of the SPA / Ramsar is the Thorpe Park No.1 Gravel Pit SSSI approx. 4.9km to the north-east of Surrey Heath Borough, in the adjoining authority of Runnymede)
- **Windsor Forest & Great Park SAC** (the SAC lies approx. 1.8km to the north of Surrey Heath Borough and is distributed over the authorities of Runnymede, Windsor & Maidenhead and Bracknell Forest)
- **Burnham Beeches SAC** (the SAC lies approx. 17.5km to the north of Surrey Heath Borough in the authority of South Bucks)

[55] Clarke R.T., Liley D., Sharp J.M., Green R.E. (2013). Building development and roads: Implications for the distribution of stone curlews across the Brecks. *PLOS ONE*. https://doi:10.1371/journal.pone.0072984.
[56] Liley D. & Clarke R.T. (2003). The impact of urban development and human disturbance on the numbers of nightjar *Caprimulgus europaeus* on heathlands in Dorset, England. Biological Conservation **114**: 219-230.
[57] Banks P.B., Bryant J.Y. (2007). Four-legged friend or foe? Dog walking displaces native birds from natural areas. *Biology Letters* **3**: 14pp.
[58] Miller S.G., Knight R.L., Miller C.K. (2001). Wildlife responses to pedestrians and dogs. *Wildlife Society Bulletin* **29**: 124-132.

Atmospheric Pollution (Nitrogen and Ammonia Deposition)

4.1 The main pollutants of concern for Habitats sites are oxides of nitrogen (NOx), ammonia (NH_3) and sulphur dioxide (SO_2) and are summarised in Table 1. Ammonia can have a directly toxic effect upon vegetation, particularly at close distances to the source such as near road verges[59]. NOx can also be toxic at very high concentrations (far above the annual average Critical Level). High levels of NOx and NH_3 are likely to increase the total N deposition to soils, potentially leading to deleterious knock-on effects in resident ecosystems. Increases in nitrogen deposition from the atmosphere can, if sufficiently great, enhance soil fertility and lead to eutrophication. This often has adverse effects on the community composition and quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats[60] [61].

Table 1: Main sources and effects of air pollutants on habitats and species[62]

Pollutant	Source	Effects on habitats and species
Sulphur Dioxide (SO_2)	The main sources of SO_2 are electricity generation, and industrial and domestic fuel combustion. However, total SO_2 emissions in the UK have decreased substantially since the 1980's. Another origin of sulphur dioxide is the shipping industry and high atmospheric concentrations of SO_2 have been documented in busy ports. In future years shipping is likely to become one of the most important contributors to SO_2 emissions in the UK.	Wet and dry deposition of SO_2 acidifies soils and freshwater, and may alter the composition of plant and animal communities. The magnitude of effects depends on levels of deposition, the buffering capacity of soils and the sensitivity of impacted species. However, SO_2 background levels have fallen considerably since the 1970's and are now not regarded a threat to plant communities. For example, decreases in Sulphur dioxide concentrations have been linked to returning lichen species and improved tree health in London.
Acid deposition	Leads to acidification of soils and freshwater via atmospheric deposition of SO_2, NOx, ammonia and hydrochloric acid. Acid deposition from rain has declined by 85% in the last 20 years, which most of this contributed by lower sulphate levels.	Gaseous precursors (e.g. SO_2) can cause direct damage to sensitive vegetation, such as lichen, upon deposition. Can affect habitats and species through both wet (acid rain) and dry deposition. The effects of acidification include lowering of soil pH, leaf chlorosis, reduced decomposition rates, and compromised reproduction in birds / plants. Not all sites are equally susceptible to acidification. This varies depending on soil type, bed rock geology, weathering rate and buffering capacity. For example, sites with an underlying geology of granite, gneiss and quartz rich rocks tend to be more susceptible.
Ammonia (NH_3)	Ammonia is a reactive, soluble alkaline gas that is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but ammonia concentrations are directly related to the distribution of livestock. It is also emitted from some vehicles.	The negative effect of NH_4+ may occur via direct toxicity, when uptake exceeds detoxification capacity and via N accumulation. Its main adverse effect is eutrophication, leading to species assemblages that are dominated by fast-growing and tall species. For example, a shift in

[59] http://www.apis.ac.uk/overview/pollutants/overview_NOx.htm.
[60] Wolseley, P. A.; James, P. W.; Theobald, M. R.; Sutton, M. A. (2006). Detecting changes in epiphytic lichen communities at sites affected by atmospheric ammonia from agricultural sources. *Lichenologist* **38**: 161-176.
[61] Dijk, N. (2011). Dry deposition of ammonia gas drives species change faster than wet deposition of ammonium ions: evidence from a long-term field manipulation. *Global Change Biology* **17**: 3589-3607.
[62] Information summarised from the Air Pollution Information System (http://www.apis.ac.uk/).

Pollutant	Source	Effects on habitats and species
	Ammonia reacts with acid pollutants such as the products of SO_2 and NO_X emissions to produce fine ammonium (NH_4+) - containing aerosol. Due to its significantly longer lifetime, NH_4+ may be transferred much longer distances (and can therefore be a significant trans-boundary issue). While ammonia deposition may be estimated from its atmospheric concentration, the deposition rates are strongly influenced by meteorology and ecosystem type.	dominance from heath species (lichens, mosses) to grasses is often seen. As emissions mostly occur at ground level in the rural environment and NH_3 is rapidly deposited, some of the most acute problems of NH_3 deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides (NO_x)	Nitrogen oxides are mostly produced in combustion processes. Half of NO_X emissions in the UK derive from motor vehicles, one quarter from power stations and the rest from other industrial and domestic combustion processes. In contrast to the steep decline in Sulphur dioxide emissions, nitrogen oxides are falling slowly due to control strategies being offset by increasing numbers of vehicles.	Direct toxicity effects of gaseous nitrates are likely to be important in areas close to the source (e.g. roadside verges). A critical level of NOx for all vegetation types has been set to 30 ug/m3. Deposition of nitrogen compounds (nitrates (NO_3), nitrogen dioxide (NO_2) and nitric acid (HNO_3)) contributes to the total nitrogen deposition and may lead to both soil and freshwater acidification. In addition, NO_x contributes to the eutrophication of soils and water, altering the species composition of plant communities at the expense of sensitive species.
Nitrogen deposition	The pollutants that contribute to the total nitrogen deposition derive mainly from oxidized (e.g. NO_X) or reduced (e.g. NH_3) nitrogen emissions (described separately above). While oxidized nitrogen mainly originates from major conurbations or highways, reduced nitrogen mostly derives from farming practices. The N pollutants together are a large contributor to acidification (see above).	All plants require nitrogen compounds to grow, but too much overall N is regarded as the major driver of biodiversity change globally. Species-rich plant communities with high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication. This is because many semi-natural plants cannot assimilate the surplus N as well as many graminoid (grass) species. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
Ozone (O_3)	A secondary pollutant generated by photochemical reactions involving NOx, volatile organic compounds (VOCs) and sunlight. These precursors are mainly released by the combustion of fossil fuels (as discussed above). Increasing anthropogenic emissions of ozone precursors in the UK have led to an increased number of days when ozone levels rise above 40ppb ('episodes' or 'smog'). Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O_3 above 40 ppb can be toxic to both humans and wildlife, and can affect buildings. High O_3 concentrations are widely documented to cause damage to vegetation, including visible leaf damage, reduction in floral biomass, reduction in crop yield (e.g. cereal grains, tomato, potato), reduction in the number of flowers, decrease in forest production and altered species composition in semi-natural plant communities.

4.2 Sulphur dioxide emissions overwhelmingly derive from power stations and industrial processes that require the combustion of coal and oil, as well as (particularly on a local scale) shipping[63]. Ammonia emissions

[63] http://www.apis.ac.uk/overview/pollutants/overview_SO2.htm.

originate from agricultural practices[64], with some chemical processes also making notable contributions. As such, it can be excluded that material increases in SO_2 emissions will be associated with the Surrey Heath Local Plan. NOx emissions, however, are dominated by the output of vehicle exhausts (more than half of all emissions). A 'typical' housing development will contribute by far the largest portion of its overall NOx footprint (92%) through associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison[65]. Emissions of ammonia can also be linked to traffic although vehicles are not the major source. Therefore, emissions of NOx and ammonia can reasonably be expected to increase due to the Plan, compared to a situation without the plan, primarily due to an increase in the volume of commuter traffic associated with housing growth.

4.3 The World Health Organisation has the following critical thresholds for plant communities: The critical NOx concentration (critical threshold) for the protection of vegetation is 30 μgm^{-3} and the threshold for sulphur dioxide is 20 μgm^{-3}. Additionally, ecological studies have determined 'Critical Loads'[66] of atmospheric nitrogen deposition (that is, NOx combined with ammonia NH_3).

4.4 According to the Department of Transport's Transport Analysis Guidance, beyond 200m, the contribution of vehicle emissions from the roads to local pollution levels is insignificant (Figure 3 and [67]). Therefore, this distance has been used throughout this HRA to determine whether Likely Significant Effects (LSEs) on sensitive Habitats sites may arise due to implementation of the Plan.

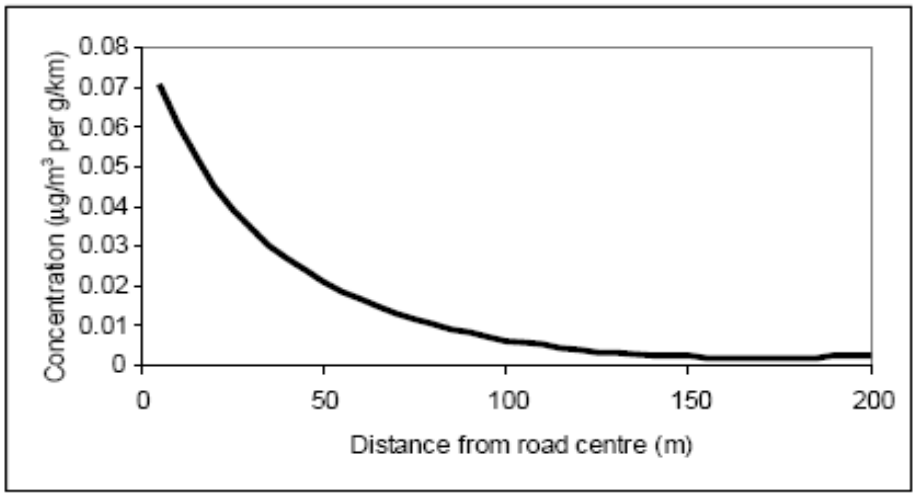


Figure 3: Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT[68])

4.5 Atmospheric pollution is a well-established issue in Habitats sites in south-east England that are designated for lowland heathland, including both the Thames Basin Heaths SPA and Wealden Heaths Phase II SPA. For example, Natural England's Site Improvement Plan for the Thames Basin Heaths SPA[69] highlights that nitrogen deposition exceeds site-relevant Critical Loads for ecosystem protection. Changes in species composition have been observed across the SPA, such as transitions in mires from *Sphagnum*-dominated to *Molinia*- and sedge-dominated communities, and the spread of *Molinia* into wet and dry heath. Relevant authorities have set out the requirement for assessing air pollution impacts in Supplementary Planning Documents (SPDs). For example, Runnymede's Thames Basin Heaths Special Protection Area SPD[70] (Surrey Heath's own SPD is discussed later) identifies that '*new residential and employment development within Runnymede has the potential to increase air pollution. Ongoing studies have highlighted a link between nitrogen deposition from air pollution to adverse impacts on the Heaths' ecology… Any measures proposed to avoid or mitigate the effects of air pollution on the SPA must be agreed with the Council and*

[64] Pain, B.F.; Weerden, T.J.; Chambers, B.J.; Phillips, V.R.; Jarvis, S.C. (1998). A new inventory for ammonia emissions from U.K. agriculture. *Atmospheric Environment* **32**: 309-313.
[65] 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 [Accessed on the 21/10/2021]
[66] The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur.
[67] Available at: http://www.dft.gov.uk/webtag/documents/expert/unit3.3.3.php#013 [Accessed on the 21/10/2021]
[68] Available at: http://www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf [Accessed on the 21/10/2021]
[69] Available at: http://publications.naturalengland.org.uk/publication/6249258780983296 [Accessed on the 15/12/2021]
[70] Runnymede Borough Council. (April 2021). Runnymede 2030 Local Plan – Thames Basin Heaths Special Protection Area Supplementary Planning Document (SPD). 50pp. Available at: https://www.runnymede.gov.uk/downloads/file/830/protection-area [Accessed on the 15/12/2021]

Natural England and satisfy the Habitats Regulations.' Atmospheric pollution from road traffic clearly is a contributing threat to the integrity of these sites and requires particular attention in HRAs of Local Plans.

4.6 Overall, the following Habitats sites within 20km of the Surrey Heath Borough boundary are sensitive to an increase in atmospheric pollution, primarily as a result of increased commuter journeys due to development outlined in the Surrey Heath Local Plan (the sites in **bold** are taken forward into the following HRA chapters):

- **Thames Basin Heaths SPA** (some of the SSSI component parts of the SPA lie wholly or partly within Surrey Heath, including the Broadmoor to Bagshot Woods and Heaths SSSI, Chobham Common SSSI, Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI)
- **Thursley, Ash, Pirbright and Chobham SAC** (some of the SSSI component parts of the SAC lie wholly or partly within Surrey Heath, including the Chobham Common SSSThI, Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI)
- **Windsor Forest & Great Park SAC** (the SAC lies approx. 1.4km to the north of Surrey Heath Borough and is distributed over the authorities of Runnymede, Windsor & Maidenhead and Bracknell Forest)
- **Thursley, Hankley & Frensham Commons SPA** (the SPA lies approx. 10.5km to the south of Surrey Heath Borough, in the authority of Waverley)
- **Mole Gap to Reigate Escarpment SAC** (the SAC lies approx. 15.8km to the south-east of Surrey Heath Borough in the authorities of Mole Valley and Reigate and Bansted)
- **Wealden Heaths Phase II SPA** (the closest component part of the SPA is the Devil's Punch Bowl SSSI approx. 15.5km to the south of Surrey Heath Borough, in the authority of Waverley)
- **East Hampshire Hangers SAC** (the closest component part of the SAC is the Upper Greensand Hangers: Wyck to Wheatley SSSI approx. 16.6km to the south-west of Surrey Heath Borough in the authority of East Hampshire)
- **Burnham Beeches SAC** (the SAC lies approx. 17.5km to the north of Surrey Heath Borough in the authority of South Bucks)

Water Quantity, Level and Flow

4.7 The water level, its flow rates and the mixing conditions are important determinants of the condition of Habitats sites and their qualifying features. Hydrological processes are critical in influencing habitat characteristics in wetlands, terrestrial systems that have hydrological associations (e.g. wet heath) and coastal waters, including current velocity, water depth, dissolved oxygen levels, salinity and water temperature. In turn these parameters determine the short- and long-term viability of plant and animal species, as well as overall ecosystem composition.

4.8 A highly cited review paper summarised the ecological effects of reduced flow in rivers and connected water-dependent ecosystems. Droughts (ranging in their magnitude from flow reduction to a complete loss of surface water) have both direct and indirect effects on dependent floral and faunal communities. For example, the unique nature of wetlands combines shallow water and conditions that are ideal for the growth of organisms at the basal level of food webs, which feed many species of birds, mammals, fish and amphibians.

4.9 Maintaining a steady water supply is of critical importance for many hydrologically dependent SPAs, SACs and Ramsars. For example, in many freshwater bodies and wetlands the hydrological regime is essential for sustaining a variety of foraging habitats for SPA / Ramsar waterfowl species. However, different species vary in their requirements for specific water levels. Splash and / or shallow flooding is required to provide suitable feeding areas and roosting sites for ducks and waders. In contrast, deeper flooding is essential to provide foraging and loafing habitats for Bewick's swans and whooper swans.

4.10 Wetland habitats rely on hydrological connections with other surface waters, such as rivers, streams and lakes. A constant supply of water is fundamental to maintaining the ecological integrity of sites. However, while the natural fluctuation of water levels within narrow limits is desirable, excess or too little water supply might cause the water level to be outside of the required range of qualifying birds, invertebrate or plant

species. This might lead to the loss of the structure and functioning of wetland habitats. There are two mechanisms through which urban development might negatively affect the water level in Habitats Sites:

- The supply of new housing with potable water will require increased abstraction of water from surface water and groundwater bodies. Depending on the level of water stress in the geographic region, this may reduce the water levels in Habitats Sites sharing the same catchment.
- The proliferation of impermeable surfaces in urban areas increases the volume and speed of surface water runoff. As traditional drainage systems often cannot cope with the volume of stormwater, sewer overflows are designed to discharge excess water directly into watercourses. Often this pluvial flooding results in downstream inundation of watercourses and the potential flooding of wetland habitats.

4.11 Surrey Heath Borough does not lie sufficiently close to Habitats sites that are sensitive to excessive flooding. Therefore, surface water runoff from impermeable urban surfaces is not considered further in this HRA. However, two sites in the wider geographic setting around the borough are sensitive to material changes in the water table, including the South West London Waterbodies SPA / Ramsar and the Thursley and Ockley Bog Ramsar. The Surrey Heath Local Plan would mediate such impacts primarily through the increased demand and supply of potable water to new residential and employment development, and this impact pathway requires further HRA consideration.

4.12 Overall, the following Habitats sites within 20km of the Surrey Heath Borough boundary are sensitive to increased recreational access, due to the allocation of residential development in the Surrey Heath Local Plan (the sites in **bold** are taken forward into the following HRA chapters):

- **South West London Waterbodies SPA / Ramsar** (the closest component part of the SPA / Ramsar is the Thorpe Park No.1 Gravel Pit SSSI approx. 4.9km to the north-east of Surrey Heath Borough, in the adjoining authority of Runnymede)
- **Thursley & Ockley Bog Ramsar** (the Ramsar lies approx. 11.8km to the south of Surrey Heath Borough in the authority of Waverley – it forms part of the Thursley, Hankley & Frensham Commons SPA and the Thursley, Ash, Pirbright & Chobham SAC)

Water Quality

4.13 The quality of the water that feeds Habitats sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

- At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.
- Eutrophication, the enrichment of water with nutrients, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing bioavailable nitrogen.
- Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.

4.14 The primary concern in relation to freshwater and freshwater-dependent sites is the discharge of phosphorus in treated sewage effluent into connecting waterbodies or Habitats sites themselves. Development in Surrey Heath Borough over the Plan period will increase wastewater production. Wastewater from within the borough is treated by Thames Water within Chobham Wastewater Treatment Works (WwTw), Camberley WwTW and Lightwater WwTW. The treated sewage discharged from these WwTWs flows into the Bourne or the River Loddon, which both drain to the R. Thames. None of these rivers are Habitats sites.

4.15 Surrey Heath Borough Council has been involved in the HMA-wide Water Cycle Study (WCS). WCS headroom modelling has identified that both Camberley WwTW and Lightwater WwTW would not have sufficient headroom under existing discharge permits to accommodate planned levels of future growth. For example, at both WwTWs there is limited flow capacity to accommodate further growth, with both technological upgrades and careful development phasing being required in the future. Treatment process upgrades will also be required using conventional treatment technologies to meet river quality targets. If upgrades are carried out, there will be no adverse impacts on receiving waters.

4.16 However, none of the waterbodies receiving effluent from Surrey Heath Borough are hydrologically connected to the Habitats sites relevant to the borough. Therefore, it is considered that there is no linking pathway of impact present. This impact pathway is screened out from further consideration.

Urbanisation

4.17 This impact is linked to recreational pressure, in that it also stems from an increased population, primarily within close proximity to an ecological receptor. Urbanisation encompasses an extensive range of process, including the following:

- *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. 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. A high proportion of domestic cats is associated with densely populated centres, with increasing residential development likely leading to increased cat predation.
- *Invasive species* – Where private gardens lie near SAC / SPA habitats, there is a potential risk of introducing invasive species, such as through airborne seed dispersal, disposal of garden waste and cross-over of seedlings from boots / vehicle tyres. Invasive species introduction can increase competition in space-limited habitats and lead to changes in community composition
- *Wildfire / arson* – An increase in residential development within close proximity to Habitats sites can lead to an increase in the occurrence of wildfire / arson, such as through illicit BBQs, disposal of cigarettes and deliberate arson. Such fires can lead to significant habitat loss, requiring extensive regeneration times to reach former complexity / maturity

4.18 Considerations regarding the proximity of residential development to sensitive Habitats sites largely derive from the Dorset Heathlands SPA and, to a lesser extent, from the Thames Basin Heaths SPA. Natural England and its Local Authority partners produced a 'Supplementary Planning Document' (SPD) for the Dorset Heathlands SPA[71], which identifies a framework for accommodating development while protecting the interest features of the site. This included the implementation of a series of zones within which varying constraints would be placed upon development. The zones relating to recreational pressure expanded to 5km and 7km respectively (these were determined to be the core recreational catchments for the sites). However, regarding urbanisation impacts (e.g. predation of chicks of ground-nesting birds by domestic cats, recreational pressure that cannot be readily diverted, fly tipping, increased incidence of fires), it was concluded that adverse impacts from residential development within 400m of the site boundaries could not be adequately mitigated.

4.19 Overall, the following Habitats sites within 20km of the Surrey Heath Borough boundary are particularly sensitive to intensified urbanisation, particularly when residential development is allocated in close proximity (the sites in **bold** are taken forward into the following HRA chapters):

- **Thames Basin Heaths SPA** (some of the SSSI component parts of the SPA lie wholly or partly within Surrey Heath, including the Broadmoor to Bagshot Woods and Heaths SSSI, Chobham Common SSSI, Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI)

[71] https://www.dorsetforyou.gov.uk/planning-buildings-land/planning-policy/joint-planning-policy-work/pdfs/heathlands/dorset-heathlands-planning-framework-supplementary-planning-document-2015-2020.pdf [accessed 20/11/2018]

- **Wealden Heaths Phase II SPA** (the closest component part of the SPA is the Devil's Punch Bowl SSSI approx. 15.5km to the south of Surrey Heath Borough, in the authority of Waverley)

5. Screening for Likely Significant Effects (LSEs)

Recreational Pressure

Thames Basin Heaths SPA

5.1 The designated bird species in the Thames Basin Heaths SPA that nest on (nightjar, woodlark) or close (Dartford warbler) to the ground are sensitive to recreational disturbance, particularly from visitors that walk their dogs off-lead. Disturbance can lead to reduced time spent incubating eggs, provisioning for chicks, increased energy expenditure and, in the case of prolonged disturbance, abandonment of eggs. Recreational trampling can also lead to the destruction of eggs, killing of chicks and damage to SAC vegetation upon which qualifying birds rely. Furthermore, adults, chicks and eggs are at high risk of predation by free-roaming dogs that are not under control by their owners. Natural England's Site Improvement Plan (SIP) identifies public access as the most important pressure / threat to the site, potentially impacting breeding birds. The SIP states that '*Parts of the Thames Basin Heaths… are subject to high levels of recreational use… This is likely to be affecting the distribution and overall numbers of ground-nesting Annex 1 birds (and breeding success)… There is also concern at the growing use of parts of the complex by commercial dog walkers and desire to control this.*'

5.2 Three component SSSIs of the Thames Basin Heaths SPA lie in Surrey Heath Borough, including the Broadmoor to Bagshot Woods and Heaths SSSI, Colony Bog and Bagshot Heath SSSI and Chobham Common SSSI. Given the SPA's popularity as a recreational resource, it is reasonable to expect that new housing delivered in the Surrey Heath Local Plan (SHLP) will lead to an increase in visitor numbers to the site, particularly in those SSSIs that lie closest to settlements where significant growth is allocated, including Camberley and Frimley.

5.3 The available evidence base highlights that recreational pressure is a significant concern for the Thames Basin Heaths SPA, with visitor numbers expected to increase in line with housing growth allocated in the SHLP and development plans of adjoining authorities. Therefore, LSEs of the SHLP on the Thames Basin Heaths SPA regarding recreational pressure cannot be excluded and the site is screened in for Appropriate Assessment.

Thursley, Ash, Pirbright and Chobham SAC

5.4 The Thursley, Ash, Pirbright and Chobham SAC supports two habitats that are sensitive to recreational pressure, including Northern Atlantic wet heaths with *Erica tetralix* and European dry heaths. One main mechanism through which recreation can have negative impacts on these SAC habitats is via direct trampling damage, effectively direct destruction of individual plants by visitors that venture off footpaths. However, various other mechanisms can also threaten the integrity of SAC habitats, such as continual path widening and erosion. Furthermore, one of the main processes adversely affecting heathland habitats is nutrient enrichment, which arises from dog fouling and, to a much lesser extent, horse riding. Because dog walking is an extremely popular activity, the cumulative input of nutrients to heaths, habitats uniquely adapted to low nutrient conditions, can equate to a strong fertiliser input.

5.5 Large sections of the Thursley, Ash, Pirbright and Chobham SAC overlap with the Thames Basin Heaths SPA, and thus have a similar distribution in relation to Surrey Heath Borough. In relation to the SHLP, the SAC's component SSSIs that are most relevant are the Colony Bog and Bagshot Heath SSSI, Ash to Brookwood Heaths SSSI and the Chobham Common SSSI. Because the SHLP allocates much of its housing growth in the western section of the authority, an increase in recreational pressure may be most likely in the Colony Bog and Bagshot Heath SSSI and Ash to Brookwood Heaths SSSI, which are both located in the western part of Surrey Heath.

5.6 Overall, given the presence of sensitive habitats and its proximity to urban centres, recreational pressure is a significant concern for the Thursley, Ash, Pirbright and Chobham SAC. As was highlighted in relation to the Thames Basin Heaths SPA, visitor numbers will increase due to an increase in housing allocated in the

SHLP and other development plans (cumulatively referred to as the in-combination growth). Therefore, LSEs of the SHLP on the SAC regarding recreational pressure cannot be excluded and the site is screened in for Appropriate Assessment.

Thursley, Hankley and Frensham Commons SPA

5.7 The Thursley, Hankley and Frensham Commons SPA (also known as Wealden Heaths Phase I SPA), is designated for bird species that nest on or close to the ground, including nightjar, Dartford warbler and woodlark. As discussed in relation to the Thames Basin Heaths SPA, which party lies within Surrey Heath Borough, these qualifying birds are sensitive to recreational disturbance, particularly from dogs that are walked off-lead. Notably, however, the SPA lies in Waverley District, which is less densely populated than other parts of south-east England.

5.8 It is to be noted that the closest point of the SPA lies approx. 10.5km to the south of the Surrey Heath Borough boundary, which is relatively far beyond the typical core catchment zone that is documented for terrestrial Habitats sites. The HRA in support of Waverley Borough Council's Local Plan Part 1[72] identified that the Thursley, Hankley and Frensham Commons SPA has a catchment of roughly 9km, which would exclude all parts of Surrey Heath. Furthermore, it must be noted that similar destinations in terms of habitat, general feel and wildlife interest are found in Surrey Heath Borough itself. Therefore, it is unlikely that new residents in Surrey Heath would regularly undertake the longer journeys to the SPA in Waverley, particularly for frequent activities such as dog walking. Overall, it is therefore concluded that LSEs of the SHLP on the Thursley, Hankley and Frensham Commons SPA regarding recreational pressure can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Wealden Heaths Phase II SPA

5.9 As established in the previous sections, the breeding nightjar, woodlark and Dartford warbler within the Wealden Heaths Phase II SPA are sensitive to public access and recreational disturbance. The allocated housing in the SHLP and development plans of adjoining authorities will place an increased demand on recreational greenspaces, particularly those that are of high societal value. The SPA is a composite site comprised of four component SSSIs, including the Devli's Punch Bowl SSSI, Woolmer Forest SSSI, Broxhead and Kingsley Commons SSSI and Bramshott and Ludshott Commons SSSI. At 15.5km distance, the Devil's Punch Bowl SSSI is the closest component part to Surrey Heath Borough.

5.10 Surrey Heath lies well beyond the core recreational catchment that has been established for the Wealden Heaths Phase II SPA (5km). Only a small number of future residents are likely to regularly travel such a distance, particularly considering that similar destinations lie within the authority itself (i.e. the Thames Basin Heaths SPA). Overall, it is therefore concluded that LSEs of the SHLP on the Wealden Heaths Phase II SPA regarding recreational pressure can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

South West London Waterbodies SPA / Ramsar

5.11 The qualifying species of the South West London Waterbodies SPA / Ramsar include two overwintering waterfowl species, namely gadwall and shoveler. These ducks make use of seven discrete SSSI waterbodies that collectively make up the SPA / Ramsar. Recreational disturbance has the potential to affect the natural foraging and resting behaviours of the ducks, with potential implications for the distribution of individuals across the component sites. Importantly, the qualifying ducks also use functionally linked waterbodies outside the SPA boundary, which may also be subject to recreational pressure and must be considered in HRAs.

5.12 The Thorpe Park No.1 Gravel Pit SSSI is the closest component part of the SPA to Surrey Heath at approx. 4.5km distance. Considering data that is available for other inland freshwater Habitats sites, this is considered within a typical core catchment zone of roughly 5km. Therefore, it can reasonably be expected that future residents of Surrey Heath would visit the site, adding to its overall recreational burden. However, the specific characteristics of this SSSI also require consideration. The primary use of St. Ann's Lake, which lies in the SSSI, is for water-skiing facilities. Access to the lake is restricted by the operating club and is only

[72] AECOM (2016) Local Plan Part 1: Strategic Policies and Sites. Pre-Submission Draft (July 2016) Habitats Regulations Assessment.

permitted for a limited number of people at any given time. Natural England's Site Condition Assessment indicates that the SSSI is in favourable condition with consistently good abundances of qualifying species, despite the lake's use for watersports.

5.13 Two waterbodies with potential functional linkage to the SPA at similar distances to Surrey Heath have also been investigated for their value to SPA birds. The Twinersh Angling Complex to the south-east of the Thorpe Park No. 1 Gravel Pit SSSI is heavily fished and is deemed to be of low value to overwintering gadwall and shoveler. However, Longside Lake, approx. 4.3km from Surrey Heath, supports high numbers of gadwall (and these individuals also use the nearby SSSI) and anecdotal data indicate that the site is used primarily by dog walkers and fishermen. Notwithstanding this, AECOM considers that the likely increase in visitor numbers due to the SHLP is very likely to be limited, especially considering that existing use levels of the lake are low. The HRA of the Runnymede Local Plan considered the potential for impacts on Longside Lake from housing growth in Runnymede (within which Longside Lake is situated). It concluded that Longside Lake was used only occasionally by dogwalkers and fishermen, and was relatively undisturbed. In 2011 there were reports of occasional anti-social behaviour (specifically quad bikes) around this lake but the site owners installed kissing gates to restrict this activity. There is no parking at Longside Lake, such that only pedestrians are likely to visit the site. This makes visits from residents of Surrey Heath unlikely given the distances involved. Overall, it is concluded that LSEs of the SHLP on the South West London Waterbodies SPA / Ramsar regarding recreational pressure can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Windsor Forest and Great Park SAC

5.14 The Windsor Forest and Great Park SAC is designated for habitats that are directly sensitive to recreational pressure, including old acidophilous oak woods and Atlantic acidophilous beech forests. Importantly, the site supports a high number of ancient and veteran trees, the root zones of which are particularly sensitive to soil compaction and hydrological changes that arise from trampling damage. Furthermore, the violet click beetle, Annex II species of the SAC, is dependent on a sufficient supply of decaying timber, the removal of which could adversely impact its population abundance.

5.15 The SAC lies approx. 1.7km to the north of Surrey Heath Borough, well within a typical 5km core recreational catchment for terrestrial Habitats sites. However, importantly Natural England's SIP does not highlight recreational pressure as an issue in the SAC. Most likely, this is due to the well-established path network within the site and ancient trees being sufficiently protected to prevent damage to the root systems. This matches the conclusion of the Windsor & Maidenhead Local Plan HRA which concludes that the SAC is resilient to recreational disturbance and that no likely significant effect will therefore arise through this impact pathway. Regarding the violet click beetle, it is generally not possible to relate development plans to relatively rare, isolated behaviours. For example, only a very small proportion of visitors will remove deadwood or decaying timber from within the SAC, which is not expected to significantly decrease the habitat available to the beetle. Overall, it is concluded that LSEs of the SHLP on the Windsor Forest and Great Park SAC regarding recreational pressure can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Burnham Beeches SAC

5.16 The Burnham Beeches SAC is designated for Atlantic acidophilous beech forests with *Ilex* and *Taxus* in the shrublayer. It is a very popular recreation destination for locals, as well as for visitors travelling from further afield. The trees within the site boundary comprise an important community of veteran trees, which are particularly vulnerable to trampling damage and soil compaction processes, which may affect water and nutrient uptake. Natural England's Site Improvement Plan lists recreational pressure as a significant pressure / threat to the integrity of the site[73]. Visitor surveys were undertaken by Footprint Ecology on behalf of the City of London Corporation in 2014, 2016 and 2017. Data from these surveys were used to establish the core catchment for the SAC (based on the distance that 75% of visitors travel to the site), which has been shown to be 5.6km. and have confirmed that Surrey Heath lies well beyond the core catchment. However, Surrey Heath Borough lies approx. 17.5km from the Burnham Beeches SAC, placing it well beyond its Zone of Influence (ZoI). Therefore, LSEs of the SHLP on the Burnham Beeches SAC regarding recreational pressure can be excluded and the site is screened out from Appropriate Assessment regarding this impact pathway.

[73] Available at: http://publications.naturalengland.org.uk/publication/5689860228644864 [Accessed on the 14/01/2022]

Screening of Policies

5.17 The following policies contained within the SHLP are screened in regarding recreational pressure in the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC, primarily because they will result in an increase in the local population and additional pressure on recreational spaces:

- Policy SS1 – Spatial Strategy (stipulates that an overall quantum of 5,578 new homes will be delivered in the borough, of which 4,848 dwellings are allocated in the west of the borough in the settlements of Camberley, Deepcut, Frimley, Frimley Green, Mytchett and Bagshot.
- Policy HA1 – Housing Allocations (allocates several smaller housing sites to meet the borough's overall housing demand, including allocations in Bagshot, Camberley and Frimley)
- Policy HA2 – London Road Block, Camberley Town Centre (allocates a strategic residential-led mixed use redevelopment at the London Road Block in Camberley Town Centre, with provision for 550 new dwellings, town centre uses and supporting infrastructure)
- Policy HA3 – Land East of Knoll Road, Camberley Town Centre (allocates a residential-led redevelopment on Land East of Knoll Road in Camberley Town Centre, with provision for 475 new dwellings and supporting infrastructure)
- Policy HA4 – Mindenhurst, Deepcut (allocates strategic residential development in Mindenhurst / Deepcut, with provision for 1,198 new dwellings, a care home and supporting infrastructure)
- Policy H12 – Site Allocations for Gypsy and Travelling Showpeople Accommodation (allocates an indicative number of five gypsy and traveller pitches at Swift Lane Extension, Bagshot)
- Policy CTC1 – Camberley Town Centre (identifies Camberley Town Centre as a key focal area for residential and employment growth, although no specific growth quanta are provided)

Atmospheric Pollution

Thames Basin Heaths SPA

5.18 The Thames Basin Heaths SPA is designated for breeding birds that depend on dwarf shrub heath, primarily for nesting and foraging. As such, the quality of these habitats is directly linked to the SPA meeting its Conservation Objectives. The Air Pollution Information System (APIS) identifies nitrogen Critical Loads for both dwarf shrub heath (10-20 kg N/ha/yr) and coniferous woodland (5-15 kg N/ha/yr). Based on APIS, an exceedance of the CL for dwarf shrub heath can lead to transitions in heather to grass dominance, decline in lichens, changes in plant biochemistry and increased sensitivity to abiotic stress. APIS concludes that atmospheric pollution effects are associated with potential negative impacts on the qualifying species due to effects on the species' supporting habitats.

5.19 The potential for LSEs associated with development plans primarily depends on the presence of potential major commuter routes within 200m of sensitive qualifying habitats. Habitat mapping on MAGIC indicates that lowland heathland lies within this distance of strategic commuter routes in Surrey Heath Borough, including the M3 (which passes adjacent to the Colony Bog and Bagshot Heath SSSI and bisects the Chobham Common SSSI). Furthermore, various heathland parcels in the Colony Bog to Bagshot Heath SSSI also lie within 200m of the A322, which connects Surrey Heath with the authority of Woking.

5.20 Overall, given the location of air quality-sensitive heathland adjacent to these major roads, LSEs of the SHLP on the Thames Basin Heaths SPA regarding atmospheric pollution cannot be excluded. Therefore, the site is screened in for Appropriate Assessment.

Thursley, Ash, Pirbright and Chobham SAC

5.21 The Thursley, Ash, Pirbright and Chobham SAC is designated for Northern Atlantic wet heaths and European dry heaths, two habitats which APIS identifies as being sensitive to atmospheric nitrogen deposition (see section above). The SAC largely overlaps with the Thames Basin Heaths SPA and also comprises the Colony Bog to Bagshot Heath SSSI and Chobham Common SSSI. Therefore, it is situated similarly in relation to major commuter routes (i.e. the M3 and A322).

5.22 Overall, given the location of air quality-sensitive heathland adjacent to these major roads, LSEs of the SHLP on the Thursley, Ash, Pirbright and Chobham SAC regarding atmospheric pollution cannot be excluded. Therefore, the site is screened in for Appropriate Assessment.

Windsor Forest and Great Park SAC

5.23 The Windsor Forest and Great Park SAC is partly designated for two habitats that are sensitive to nitrogen and ammonia deposition. For example, old acidophilous oak woods with *Quercus robur* have an established nitrogen CL of 10-15 kg N/ha/yr. Exceedance impacts may include a decrease in mycorrhiza, loss of epiphytic lichens and bryophytes, and changes in ground vegetation. Specifically, this habitat contains both lichens and bryophytes, which are highly sensitive to ammonia deposition. The current nitrogen deposition trend for this habitat indicates that the maximum deposition far exceeds the maximum CL, specified on APIS as being 28.6 kg N/ha/yr.

5.24 The second habitat, Atlantic acidophilous beech forests with *Ilex* and *Taxus* in the shrublayer, has a nitrogen CL of 10-20 kg N/ha/yr, which is also exceeded by the current maximum nitrogen deposition of 28.6 kg N/ha/yr. Exceedance impacts are likely to be very similar to those in oak woods described above. This habitat also comprises lichens and bryophytes, making it susceptible to ammonia deposition.

5.25 The SAC is traversed and / or adjoined by several main roads, including the A329, A332, B383 and B3022. As such, it can be reasonably expected that an increase in commuter traffic would have the potential to result in air quality impacts within the site. However, Census 2011 journey-to-work data highlight that of 19,805 outflowing car journeys from Surrey Heath, 978 are to the authority of Windsor and Maidenhead (i.e. approx. 5%), which is a relatively small proportion of the total commuter load and an even smaller proportion of the total number of commuting visits arising from Surrey Heath residents when journeys to work that start and end in Surrey Heath borough are taken into consideration. Furthermore, following a review of the road network in relation to Surrey Heath, it is to be noted that even the small number of commuter trips to the main settlements of Windsor and Maidenhead may use alternative routes that do not pass within 200m of the SAC. Overall, in consideration of this, it is concluded that LSEs of the SHLP on the Windsor Forest and Great Park SAC regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Thursley, Hankley and Frensham Commons SPA

5.26 The Thursley, Hankley and Frensham Commons SPA, designated for breeding nightjar, Dartford warbler and woodlark, is sensitive to atmospheric pollution as a result of impacts on the supporting habitats of these species, including dwarf shrub heath and coniferous woodland. As highlighted earlier, APIS identifies nitrogen CLs of 10-20 kg N/ha/yr (lowland heathland) and 5-15 kg N/ha/yr (coniferous woodland) for these habitats. The potential exceedance impact would be to see changes in community or ground flora composition with potential knock-on effects on breeding birds.

5.27 While the SPA lies in a less urbanised part of south-east England (compared to Surrey Heath), several major roads, the A3, A286 and A287, traverse SPA heathland habitat in the authority of Waverley. However, the relatively long distances of these stretches of road to Surrey Heath must be a primary consideration. The closest point of the Thursley, Hankley and Frensham Commons SPA lies approx. 11.1km from Surrey Heath (with the relevant parts of the road network being even more distant), which is beyond the average commuting distance of a UK resident of 10.1km. Therefore, it is considered that relatively few future residents of Surrey Heath would commute along the A3 into Waverley District, particularly given the relatively convoluted routes that would need to be taken to travel within 200m of the SPA.

5.28 Overall, in consideration of this, it is concluded that LSEs of the SHLP on the Thursley, Hankley and Frensham Common SPA regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Mole Gap to Reigate Escarpment SAC

5.29 The Mole Gap to Reigate Escarpment SAC is designated for five habitats which APIS identifies as having varying degrees of sensitivity to atmospheric pollution. The most air quality-sensitive habitat feature are the *Taxus baccata* woods of the British Isles with a nitrogen CL of 5-15 kg N/ha/yr, followed by European dry heaths (10-20 kg N/ha/yr) and *Asperulo-Fagetum* beech forests (10-20 kg N/ha/yr). For most of the habitat types in the SAC, current maximum nitrogen CL are already being exceeded, placing the habitats under

increased threat of further nitrogen deposition effects. However, none of the qualifying habitats occupy the entire SAC area and, therefore, a detailed assessment of these ecological receptors in relation to the road network is required.

5.30 Most importantly, the closest point of the SAC lies approx. 16km from the Surrey Heath Borough boundary, and even further from the main settlements where the SHLP allocates the largest portion of growth. The M25 and A24 are the two major commuter arteries that pass within 200m of sensitive habitat features, but residents from Surrey Heath would have to undertake very long and convoluted routes to use these roads. Clearly, the M25 represents a regionally important strategic corridor, which may also be used by a limited number of Surrey Heath residents. The M25 passes within 200m of calcareous grassland, a qualifying feature of the SAC. In December 2017, RPS undertook a HRA screening exercise in support of the Gatwick Runway 2 project, which incorporated an ecological survey of SAC habitats within SSSI Management Unit 23. The HRA concluded that the calcareous grassland was currently of insufficient condition to support orchid species and, therefore, LSEs of the project on the Mole Gap to Reigate Escarpment SAC could be excluded.

5.31 Overall, considering the distance of the SAC to Surrey Heath and the condition of SAC habitat within 200m of the M25, it is concluded that LSEs of the SHLP on the Mole Gap to Reigate Escarpment SAC regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Wealden Heaths Phase II SPA

5.32 The Wealden Heaths Phase II SPA is a composite site that is designated for bird species that nest on or close to the ground, including nightjar, Dartford warbler and woodlark. As highlighted in relation to Habitats sites discussed above, these species are reliant on habitats that are sensitive to atmospheric pollution (lowland heathland and coniferous woodland). The Devil's Punch Bowl SSSI is the closest component part of the SPA to Surrey Heath Borough, at a distance of approx. 15.5km.

5.33 While there are major commuter routes within 200m of SPA habitats, the distance to Surrey Heath is a key consideration. The average commuter distance of a UK resident is 10.1km, which is well below the distance between the borough and the SPA. As such, it is concluded that a negligible number of future Surrey Heath residents would regularly commute along the relevant roads within 200m of the Wealden Heaths Phase II SPA. Overall, considering the distance of the SPA to Surrey Heath, it is concluded that LSEs of the SHLP on the Wealden Heaths Phase II SPA regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

East Hampshire Hangers SAC

5.34 The East Hampshire Hangers SAC is a composite site, comprising a series of woodlands on the western edge of the Weald. Primarily, the site is designated for two woodland habitats, including *Taxus baccata* woods and *Tilio-Acerion* forests of slopes, screes and ravines. APIS specifies nitrogen CLs for yew woodland of 5-15 kg N/ha/yr and *Tilio-Acerion* forests of 15-20 kg N/ha/yr. Importantly, current nitrogen deposition rates far exceed the CL range, indicating that increased nitrogen deposition is a serious threat to the integrity of the site.

5.35 However, the closest component SSSI to Surrey Heath Borough is the Upper Greensand Hangers: Wyck to Wheatley, at approx. 16.6km distance. This is relatively far beyond the distance that most Surrey Heath commuters are likely to travel to work. It is also to be noted that there are no major roads within 200m of this part of the SAC, which is the maximum distance at which atmospheric pollution impacts are known to occur. In conclusion, LSEs of the SHLP on the East Hampshire Hangers SAC regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Burnham Beeches SAC

5.36 The Burnham Beeches SAC is designated for extensive tracts of Atlantic acidophilous beech forests and its characteristic shrublayer. This habitat has a nitrogen CL of 10-20 kg N/ha/yr and exceedances may lead to changes in ground vegetation and mycorrhiza, nutrient imbalances and altered soil fauna. APIS specifies that the current nitrogen deposition (28.1 kg N/ha/yr) significantly exceeds the maximum CL. Notably, the

SAC also supports notable assemblages of lichens and bryophytes, which have high sensitivity to ammonia deposition.

5.37 The most important major road within 200m is the A355, which runs along the eastern boundary of the SAC on a north-south trajectory. However, the SAC lies approx. 17.5km to the north of Surrey Heath Borough and very few Surrey Heath residents are likely to regularly commute such distances. It follows that residents from the borough contribute a negligible proportion to atmospheric pollution in the SAC. Therefore, LSEs of the SHLP on the Burnham Beeches SAC regarding atmospheric pollution can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Screening of Policies

5.38 Policies that support the delivery of residential and employment development will increase the overall volume of commuter traffic within Surrey Heath and with other adjoining authorities. The geographic location of such development (in conjunction with the road network) will determine the routes undertaken by commuters and whether future additional traffic will pass within 200m of sensitive habitats. Therefore, the following policies contained within the SHLP are screened in regarding atmospheric pollution in the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC:

- Policy SS1 – Spatial Strategy (stipulates that an overall quantum of 5,578 new homes will be delivered in the borough, of which 4,848 dwellings are allocated in the west of the borough in the settlements of Camberley, Deepcut, Frimley, Frimley Green, Mytchett and Bagshot.
- Policy HA1 – Housing Allocations (allocates several smaller housing sites to meet the borough's overall housing demand, including allocations in Bagshot, Camberley and Frimley)
- Policy HA2 – London Road Block, Camberley Town Centre (allocates a strategic residential-led mixed use redevelopment at the London Road Block in Camberley Town Centre, with provision for 550 new dwellings, town centre uses and supporting infrastructure)
- Policy HA3 – Land East of Knoll Road, Camberley Town Centre (allocates a residential-led redevelopment on Land East of Knoll Road in Camberley Town Centre, with provision for 475 new dwellings and supporting infrastructure)
- Policy HA4 – Mindenhurst, Deepcut (allocates strategic residential development in Mindenhurst / Deepcut, with provision for 1,198 new dwellings, a care home and supporting infrastructure)
- Policy H12 – Site Allocations for Gipsy and Travelling Showpeople Accommodation (allocates an indicative number of five gypsy and traveller pitches at Swift Lane Extension, Bagshot))
- Policy CTC1 – Camberley Town Centre (identifies Camberley Town Centre as a key focal area for residential and employment growth, although no specific growth quanta are provided)
- Policy CTC2 – Camberley Town Centre Primary Shopping Area (provides for Class E development in the Camberley Town Centre Primary Shopping Area, thereby increasing employment opportunities within Surrey Heath Borough)
- Policy ER1 – Economic Growth and Investment (supports the retention and growth of existing businesses across Surrey Heath Borough including the regeneration / redevelopment of Strategic and Locally Important Employment Sites with consequential increase in employment opportunities)
- Policy ER2 – Strategic Employment Sites (safeguards Strategic Employment Sites in Camberley, Frimley, Windlesham, Chobham and Mychett and supports their redevelopment for the provision of additional employment floorspace)
- Policy ER3 – Locally Important Employment Sites (safeguards Locally Important Employment Sites in Camberley, Frimley Green, Bagshot and Mychett and supports their redevelopment for the provision of additional employment floorspace)
- Policy ER4 – Yorktown Business Park (identifies the Yorktown Business Park as the borough's most important employment site and supports its potential redevelopment with an associated increase in employment floorspace)

- Policy ER5 – The Rural Economy (supports the provision of employment development outside Strategic or Locally Important Employment Sites, including in the Green Belt, provided that certain conditions are met; no growth quantum is specified)

Water quantity, level and flow

South West London Waterbodies SPA / Ramsar

5.39 The qualifying species of the South West London Waterbodies SPA / Ramsar are designated for waterfowl species, including shoveler and gadwall. These species, especially gadwall, are known to require terrestrial fringe habitats to rest up out of the water. These typically include areas of short vegetation, including grassland, rush pasture and waterside scrub. Therefore, if the potable water supply to Surrey Heath Borough would require the top level of any of the designated waterbodies to be increased to meet demand, this could result in the loss of habitats surrounding the reservoir margins, with potential knock-on impacts on SPA / Ramsar waterfowl.

5.40 An investigation into the water supply companies of Surrey Heath Borough indicates that the western part of the Borough (in which most of the growth is allocated in the SHLP), specifically the urban centres of Frimley and Camberley are supplied by South East Water. Some of the main settlements in the more rural eastern part of the borough, such as Chobham, are supplied by Affinity Water. Thames Water is the water company that uses some of the reservoirs that form part of the SPA / Ramsar. However, it does not supply potable water to Surrey Heath Borough. Importantly, even if some inter-company water transfer were to take place, Thames Water's Water Resources Management Plan (WRMP) for the period between 2020 and 2100 does not specify this to be an intended solution for its water supply strategy.

5.41 As a result, primarily because a link between water supply in Surrey Heath Borough and the SPA / Ramsar cannot be drawn, LSEs of the SHLP on the South West London Waterbodies SPA / Ramsar regarding water quantity, level and flow can be excluded, both alone and in-combination. The site is screened out from Appropriate Assessment regarding this impact pathway.

Thursley and Ockley Bog Ramsar

5.42 The Thursley and Ockley Bog Ramsar is a valley mire complex that forms part of the Thursley, Hankley and Frensham Commons SPA. This mire occurs within an area of impeded drainage due to low-permeability underlying geology. Importantly, the Ramsar supports a community of rare wetland invertebrates (such as breeding dragonflies), which are critically dependent on sufficient water levels, such as for larval development. An increase in Surrey Heath's potable water demand may have potential impacts on the Ramsar, if it were obtained from water sources in hydrological continuity with Thursley and Ockley Bog. As discussed in the previous paragraph, the company supplying potable to the western part of Surrey Heath Borough, including the growth areas of Camberley and Frimley, is South East Water (SEW). An assessment of SEW's WRMP indicates that the Thursley and Ockley Bog Ramsar lies on the eastern edge of Water Resource Zone (WRZ) 5 – Farnham. While the western parts of Surrey Heath lie in a different WRZ (WRZ 4 – Bracknell), South East Water's WRMP indicates that there will be some water transfer between WRZs 4 and 5, highlighting a potential for the Ramsar to be impacted from increased water abstractions.

5.43 Overall, given that the SHLP is associated with an increased demand for water resources to supply residential and industrial developments, and that the Ramsar lies within one of the company's WRZs, LSEs of the Plan on the Thursley and Ockley Bog Ramsar regarding water quantity, level and flow cannot be excluded. Therefore, the site is screened in for Appropriate Assessment.

Screening of Policies

5.44 The following policies contained within the SHLP are screened in regarding water quantity level and flow in the Thursley and Ockley Bog Ramsar because they will result in increased demand for potable water:

- Policy SS1 – Spatial Strategy (stipulates that an overall quantum of 5,578 new homes will be delivered in the borough, of which 4,848 dwellings are allocated in the west of the borough in the settlements of Camberley, Deepcut, Frimley, Frimley Green, Mytchett and Bagshot.

- Policy HA1 – Housing Allocations (allocates several smaller housing sites to meet the borough's overall housing demand, including allocations in Bagshot, Camberley and Frimley)

- Policy HA2 – London Road Block, Camberley Town Centre (allocates a strategic residential-led mixed use redevelopment at the London Road Block in Camberley Town Centre, with provision for 550 new dwellings, town centre uses and supporting infrastructure)
- Policy HA3 – Land East of Knoll Road, Camberley Town Centre (allocates a residential-led redevelopment on Land East of Knoll Road in Camberley Town Centre, with provision for 475 new dwellings and supporting infrastructure)
- Policy HA4 – Mindenhurst, Deepcut (allocates strategic residential development in Mindenhurst / Deepcut, with provision for 1,198 new dwellings, a care home and supporting infrastructure)
- Policy H12 – Site Allocations for Gipsy and Travelling Showpeople Accommodation (allocates an indicative number of five gypsy and traveller pitches at Swift Lane Extension, Bagshot))
- Policy CTC1 – Camberley Town Centre (identifies Camberley Town Centre as a key focal area for residential and employment growth, although no specific growth quanta are provided)
- Policy CTC2 – Camberley Town Centre Primary Shopping Area (provides for Class E development in the Camberley Town Centre Primary Shopping Area, thereby increasing employment opportunities within Surrey Heath Borough)
- Policy ER1 – Economic Growth and Investment (supports the retention and growth of existing businesses across Surrey Heath Borough including the regeneration / redevelopment of Strategic and Locally Important Employment Sites with consequential increase in employment opportunities)
- Policy ER2 – Strategic Employment Sites (safeguards Strategic Employment Sites in Camberley, Frimley, Windlesham, Chobham and Mychett and supports their redevelopment for the provision of additional employment floorspace)
- Policy ER3 – Locally Important Employment Sites (safeguards Locally Important Employment Sites in Camberley, Frimley Green, Bagshot and Mychett and supports their redevelopment for the provision of additional employment floorspace)
- Policy ER4 – Yorktown Business Park (identifies the Yorktown Business Park as the borough's most important employment site and supports its potential redevelopment with an associated increase in employment floorspace)
- Policy ER5 – The Rural Economy (supports the provision of employment development outside Strategic or Locally Important Employment Sites, including in the Green Belt, provided that certain conditions are met; no growth quantum is specified)

Urbanisation

Thames Basin Heaths SPA

5.45 Urbanisation impacts generally result from increased development in close proximity to Habitats sites. The Thames Basin Heaths SPA is designated for three bird species that nest on, or close to, the ground. Negative impacts from urbanisation can be realised through a range of pathways affecting SPA birds or the habitats they rely upon, including an increase in fly-tipping, arson / uncontrolled fires, cat predation (a significant concern, because cats may freely roam many kilometres per night) and introduction of invasive species (e.g. from private gardens). The geography of Surrey Heath implies that urbanisation is a key concern for the authority, with parts of its urban centres (e.g. Frimley and Camberley) all falling within 400m of the Thames Basin Heaths SPA. Natural England have undertaken extensive work with its Local Authority partners, set out in the Thames Basin Heaths Special Protection Area Delivery Framework, in which urbanisation effects are considered as a priority.

5.46 Generally, it was shown that 400m is a distance routinely covered by cats, resulting in increased risk of chick predation of ground-nesting SPA birds. It is also the buffer zone that is considered to be within the routine roaming distance of local residents, with higher potential for vandalism, arson and fly-tipping. Moreover, it is deemed that these impacts cannot be adequately mitigated, because it is impossible to restrict the free movement of cats and people. Therefore, the framework recommended implementing a series of zones in which varying levels of constraint are placed on development. This includes a 400m

exclusion zone around the SPA in which no net new residential development is permitted. AECOM considers that the delineation of the 400m exclusion zone effectively negates any potential impacts of urbanisation, restricting residential development to further away (where impacts are removed and / or can be mitigated through other mechanisms, such as SANG and SAMM provision).

5.47 Therefore, LSEs of the SHLP on the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright and Chobham SAC regarding urbanisation effects can be excluded, both alone and in-combination. These sites are screened out from Appropriate Assessment regarding this impact pathway.

6. Appropriate Assessment

Recreational Pressure

Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC

Recreation Patterns

6.1 Given the sensitivity of the SPA and SAC to recreational pressure and existing high levels of recreational access, several visitor surveys have been undertaken at key access points to the sites. In 2005, English Nature (predecessor of Natural England) commissioned a study of visitor access patterns[74] at 26 locations across the Thames Basin Heaths SPA to provide a baseline of recreational pressure at key access points to the site.

6.2 In 2012/13 a repeat visitor survey[75] was undertaken, replicating the methodology and most access locations (including those that are likely to be particularly relevant to residents of Surrey Heath Borough):

- Survey Locations 4 (Top of Bracknell Road) and 5 (Top of Kings Ride) that enable access to the Bagshot Woods & Heaths SSSI to the north of Camberley
- Survey Location 14 (Lightwater Country Park) that provides access to the Ockham & Wisley Commons SSSI
- Survey Location 15 (Sandpit Hill) at the Colony Bog & Bagshot Heaths SSSI
- Survey Locations 12 (Chobham Road) and 13 (Chobham Common, Staple Hill), both providing access to the Chobham Common SSSI

6.3 Many of the component parts of the Thames Basin Heaths SPA are spread across Surrey Heath Borough. Given that proximity to home is a major determinant for the likelihood of visiting, it is unsurprising that Surrey Heath residents made up by far the largest proportion of interviewees (540 of 2,316 interviewees, 23%). Overall, 2,177 mapped postcodes (94%) fell within the 5km core catchment zone delineated around the SPA. Of the local car visitors, defined as people that were visiting on a day trip from home, 75% live within 4.61km of the visited access point. These results highlight that the adopted 5km mitigation zone still represents an adequate area in which to apply mitigation requirements. Importantly, it is noted that visitor counts (defined as the total number of visitors entering respective survey locations in August) has increased markedly at several survey locations relevant to Surrey Heath Borough. For example, Location 13 (Chobham Common, Staple Hill) experienced a 79% increase in visitor numbers between 2005 and 2012/13. A 61% increase in visitors was recorded for Location 15 (Sandpit Hill).

6.4 In line with the 5-yearly requirement for updated visitor monitoring, EPR undertook a visitor questionnaire survey in 2018[76] at all survey locations that were included in the 2012/13 study. The main purpose of this study was to reassess recreation patterns in the SPA and, ultimately, demonstrate whether the deployed mitigation measures are effective. Importantly, the data highlight that the number of entries per hour has dropped slightly from 6.8 to 6.3 between 2012/13 and 2018, despite an increase in housing growth surrounding the SPA. The percentage change in hourly footfall (average of entries and exits) significantly differs between survey points, with some locations experiencing declines (e.g. Chobham Common, -64.1%) and considerable increases being observed at other access points (e.g. Lightwater Country Park, +432.7%).

[74] Liley D., Jackson D. & Underhill-Day J. (2005). Visitor Access Patterns on the Thames Basin Heaths. English Nature Research Report. English Nature, Peterborough. 51pp. Available at: https://www.footprint-ecology.co.uk/reports/Liley%20et%20al.%20-%202006%20-%20Visitor%20Access%20Patterns%20on%20the%20Thames%20Basin%20Heaths.pdf [Accessed on the 07/01/2022].
[75] Fearnley H. & Liley D. (2013). Results of the 2012/13 visitor survey on the Thames Basin Heaths Special Protection Area (SPA). Natural England Commissioned Reports, Number 136. 107pp. Available at: http://publications.naturalengland.org.uk/publication/4514481614880768 [Accessed on the 07/01/2022].
[76] Southgate J., Brookbank R., Cammack K. & Mitchell J. (2018). Visitor Access Patterns on the Thames Basin Heaths SPA: Visitor Questionnaire Survey 2018. Natural England Commissioned Report. 82pp. Available at: https://surreyheath.moderngov.co.uk/documents/s16014/07di%20-%20SAMM%20Project%20Report%20Annex%20C%20Thames%20Basin%20Heaths%20Visitor%20Access%20Survey.pdf [Accessed on the 07/01/2022].

Compared to the survey years 2005 (59%) and 2012/13 (66%), there was a marked increase in the proportion of dog walkers (74.6%). Overall, it appears that the pressure by dog walkers on the bird interest of the SPA is increasing. Notwithstanding this, the report concludes that the implementation of the SANG is very likely to have contributed to the decline in visitor footfall that has been recorded between 2005 and 2018 at many locations in the SPA.

Surrey Heath's Thames Basin Heaths SPA Avoidance Strategy

6.5 To comply with the Conservation of Habitats and Species Regulations 2017 (as amended) and allow future housing development to come forward, Surrey Heath Borough Council published the Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document (SPD)[77] in 2012, which was subsequently updated in 2019. This sets out the principles for avoidance of harm, how these will be delivered and the framework put in place to manage financial developer contributions.

6.6 The SPD recognises the large number of authorities involved and the in-combination scope required to address recreation impacts. The Thames Basin Heaths Joint Strategic Partnership Board (JSPB) has been installed as a strategic platform from which adequate mitigation measures are administered. A strategic delivery framework has been endorsed by the JSPB, which is based on the following three pillars:

- A 400m exclusion zone for residential development surrounding the SPA has been established, because adverse effects arising from recreational pressure within this short walking distance cannot be mitigated
- Provision of Suitable Alternative Natural Greenspace (SANG) – these are un- or underused areas that are not currently in use for recreation and are tailored to provide attractive alternative recreation destinations (discussed in paragraph 6.5)
- Provision of Strategic Access Management and Monitoring (SAMM) – these are inter-authority management and monitoring measures for visitor pressure within the SPA (e.g. education programmes, on-ground wardening and visitor monitoring; discussed in paragraph 6.8)

6.7 Surrey Heath's SPD establishes key criteria for the delivery of SANGs to ensure that adequate provision is made. Generally, the authority requires SANG delivery at a rate of 8ha per 1,000 population increase as a minimum, which is subject to a case-by-case consultation with Natural England. Residential developments comprising fewer than 136 net new dwellings may acquire from strategic SANGs, while developments over 136 dwellings are generally required to provide bespoke on-site SANG. When calculating the amount of SANG capacity required for a development, this is based on a tiered structure determined by the number of bedrooms per dwelling. Importantly, the SPD states that SANG delivery must be secured in-perpetuity (defined as 125 years), meaning that recreational pressure will also be offset indefinitely. SANG capacity should be in place prior to the occupation of new dwellings. All SANG proposals must be accompanied by a detailed SANG Management Plan that outlines habitat management measures and how Natural England's SANG criteria will be met. Furthermore, the SPD outlines the process of strategic SANG contributions, which requires developers to pay the Council towards strategic SANGs via the CIL Charging Schedule or, in some cases, Section 106 payments.

SANG Mitigation

6.8 Surrey Heath Borough is situated amidst parcels of the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC. All residential sites allocated in the SHLP lie within the 5km core catchment zones of these sites and will require mitigation through SANG. Table 2 lists Surrey Heath's housing allocations (where planning permission has not already been granted) and their corresponding capacities, resulting in a total growth of 2,373 dwellings. In turn, 47.46ha of SANG will be required to support the projected growth (Table 3).

[77] Surrey Heath Borough Council. (March 2019). Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document. 32pp. Available at: https://www.surreyheath.gov.uk/sites/default/files/Thames%20Basin%20Heaths%20Special%20Protection%20Area%20SPD%202019.pdf [Accessed on the 07/01/2022]

Table 2: Residential sites allocated in the SHLP, sorted from highest to lowest capacity, and the SANG these are most likely to be counted towards.[78] [79]

Site ID	Site Name	Capacity	SANG most likely counted towards
HA2	London Road Block	524	West of Borough
HA3	Land East of Knoll Road	340	West of Borough
HA1/05	Sir William Siemens Square, Chobham Road	170	West of Borough
HA1/03	Camberley Station, Station House Pembroke Broadway	150	West of Borough
HA1/06	Chobham Rugby Club, Windsor Road, Chobham	91	East of Borough
HA1/08	Land off Spencer Close, Frimley Green	60	West of Borough
HA1/01	Bagshot Depot and Archaeology Centre, London Road	50	East of Borough
HA1/09	Former Portesbury School, Portesbury Road, Camberley	36	West of Borough
HA1/02	Camberley Centre, Francis Hill Drive	35	West of Borough
HA1/07	St James House, Knoll Road, Camberley	30	West of Borough
HA1/04	York Town Car Park, Sulivan Road	27	West of Borough
HA1/18	Land North of Guildford Road, Deepcut, GU16 6NT	21	West of Borough
HA1/21	103 - 109 Guildford Road, Lightwater, GU18 5SB	21	East of Borough
HA1/10	Land rear of 192-210 London Road, Bagshot, GU19 5EZ	20	East of Borough
HA1/11	The Deans, Bridge Road, Bagshot, GU19 5AT	20	East of Borough
HA1/25	Land at Chamness, Woodlands Lane, Windlesham, GU20 6AS	20	East of Borough
HA1/132	317 to 319 Guildford Road, Bisley, GU24 9AA	17[80]	Extant planning permission, no SANG requirement
HA1/20	The Grange, St Catherines Road, Deepcut, GU16 9NN	17	West of Borough
HA1/23	St Margarets Cottage And The Ferns, Woodlands Lane, Windlesham, Surrey, GU20 6AS	16	East of Borough
HA1/22	Land adjacent to Sherrard Way, Mytchett, GU16 6AU	16	West of Borough
HA1/24	Land East of Benner Lane, West End, GU24 8DN	16	East of Borough
HA1/13	280 Gordon Avenue, Camberley, GU15 2NU	15	West of Borough
HA1/16	439 - 445 London Road, Camberley, GU15 3HZ	15[81]	Extant planning permission, no SANG requirement
HA1/17	Broadford, Castle Grove Road, Chobham, GU24 8EF	15	East of Borough
HA1/16	Land Rear of 1 - 47 Sullivan Road, Camberley, GU15 3AZ	14	West of Borough
G5ggggHA1/19	Former Premier Site, Newfoundland Road, Deepcut, GU16 6TH	13	West of Borough
HA1/14	Burwood House Hotel, 15 London Road, Camberley, GU15 3UQ	10	West of Borough

[78] According to the SPA Avoidance Strategy, all residential sites in excess of 136 dwellings will need to be supported by bespoke SANG, whereas sites of 136 dwellings or fewer can contribute towards strategic SANG.
[79] There is flexibility in the West of the Borough. 4.20 of the SPD states In addition, larger developments in the Western Urban Area, that are unable to realistically provide land for SANGs may also be able to use capacity at strategic SANGs. This approach may also apply to sites outside this area that have particular, site specific circumstances which support the need for off-site SANGs provision, subject to the availability of SANG capacity.
[80] Not included in total as no SANG requirement.
[81] Not included in total as no SANG requirement

Site ID	Site Name	Capacity	SANG most likely counted towards
	Identified sites with less than 10 units	145	East & West of Borough
	Windfall Development	481	East & West of Borough
Total		**2373**	

Table 3: Summary of SANG requirement for the SHLP, taking account of average occupancy rates (based on a three bedroom dwelling) and Natural England SANG standards.

Total dwellings proposed in the 5km mitigation zone	Additional population generated (at average housing occupancy of 2.5)	SANG required (ha; at 8ha / 1,000 population increase)
2,373[82]	5,932 (2,373 * 2.5)	47.46ha (5,932* 0.008)

6.9 SHBC recognises the need for adequate SANG provision to support emerging residential planning applications and has produced a SANG Acquisition Strategy. This provides background on existing SANG capacity in Surrey Heath, details the approach taken to secure additional capacity and identifies potential future SANG sites in the borough. Table 4 provides a summary of the bespoke and strategic SANGs currently operational within Surrey Heath Borough and relevant adjoining authorities. Proposed increases to the availability of SANG are summarised in Table 4: List of Suitable Alternative Natural Greenspaces (SANGs) as currently operational in Surrey Heath Borough and relevant adjoining authorities, detailing SANG type and area (ha).below.

Table 4: List of Suitable Alternative Natural Greenspaces (SANGs) as currently operational in Surrey Heath Borough and relevant adjoining authorities, detailing SANG type and area (ha).

SANG Name	SANG Type	Area (ha)
Deepcut PRB SANG	Bespoke	35.65
Ridgewood		7.3
Earlswood		7.33
St Catherine Road		1.62
Waters Edge		11.89
Little Heath Nursery		6.6
Windlemere	SHBC Strategic	15.11
Diamond Ridge Woods		17.83
Chohbam Meadows		25.88
Chobham Place Woods (identified as being at capacity)		12.58
Shepherds Meadows (identified as very limited capacity available)	Bracknell Forest District Council Strategic	35.15

[82] It is to be noted that for a proportion of this housing figure, bespoke or strategic SANG has already been allocated (see Table 2).

Hawley Meadows and Blackwater Park (identified as being at capacity)	Hart District Council Bespoke	35.14
Swan Lakes (identified as being at capacity)		9.1
Bramshot and Hawley Park Farm (Hart DC)		36.83

SANG Deficit

6.10 In the East of the Borough, at Regulation 18 stage there was a minor shortfall identified by the end of the Period (176 dwellings at 2.5 average occupancy). This was mainly due to the east of the Borough SANGs taking all the Windfalls and sites under 10 units.

6.11 In the West of the Borough, a deficit of 1,516 dwellings was projected at Regulation 18 stage. Based on the draft SLAA 2022, with no change in the assumptions (e.g. 2.5 average occupancy based on a 3 bed average), the projected deficit based on current capacity levels is reduced to 1,448 dwellings. Moreover, this figure does not take account of the dwelling mix anticipated for the Camberley Town Centre sites, which would both have a lower average dwelling person capacity than those usually assumed for SANG calculations (2.5 persons, reflecting a 3 bed). As such, it is likely to reflect a worst-case scenario.

Regulation 19 SANG Provision Improvements

6.12 Table 5 shows options for increasing SANG for the new version (Regulation 19) of the local plan.

Table 5: Summary of SANG options for the new Surrey Heath Local Plan

Site Name	Location	Additional SANG capacity
Diamond Ridge Woods	Camberley, Surrey Heath	350 dwellings
Land at St Catherines Road	Frimley Green, Surrey Heath	1,500 dwellings
Bramshot Park and Hawley Park Farm SANG	Hart District Council	Up to 850 dwellings

6.13 In consultation with Natural England, the SHBC Greenspaces Team has developed an inventory of amendments and improvements to the Diamond Ridge Woods SANG, allowing for its capacity to be increased by 350 dwellings.

6.14 Additional SANG capacity has been identified from Hart SANG, equating to a total capacity of 850 dwellings, to meet the needs of site allocations in the Plan, including London Road Block and Sir Williams Siemens Square:

6.15

6.16 Land at St Catherines Road, a densely wooded area that is situated south of Frith Hill woodland and east of St Catherines Road to the east of Frimley is now in the ownership of SHBC and is in the process of being converted to SANG. The potential SANG has a capacity of 1,500 dwellings and catchment size of 5km. This will cover the entire Western Urban Area.

SANG Capacity Assessment

6.17 Sites have been categorised into “West of Borough” and “East of Borough” for the purposes of SANG provision and the areas include the following sites.

West of Borough:

- Hawley Meadows,
- Shepherds Meadows,
- Swan Lakes,
- Blackwater Park,
- Additional capacity from Hart,
- St Catherines Road (New SANG option with 1,500 capacity), and
- Diamond ridge Uplift

East of Borough:

- Windlemere
- Chobham

6.18 SANG Capacity calculation is based on the following:

- Dwelling capacity, at a 2.5 person average. As such, is it likely showing a worst case scenario, as a large proportion of flats will be delivered (especially in the West) which have lower occupancy rates and therefore us less capacity per unit.
- It also does not take account of the private SANG market.
- It assumes that approved applications already have SANG capacity allocated, so only sites in the SLAA that do not benefit from a permission as of the 1st April 2023 are included.
- The 15 year period matches the SLAA period of 2023 to 2038.

6.19 Figure 4 and Figure 5 illustrate the SANG capacity through the period of the plan, in summary:

- The West of the Borough will have 834 dwelling SANG capacity remaining (see Figure 4 trajectory).
- The East of the Borough will have 168 dwelling SANG capacity remaining (see Figure 5 trajectory).

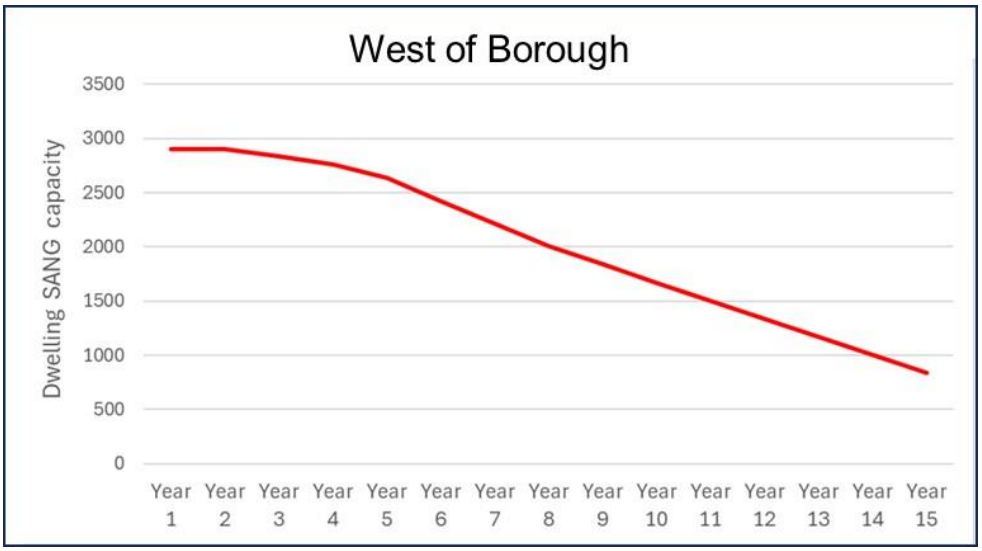


Figure 4: SANG Capacity West of Borough

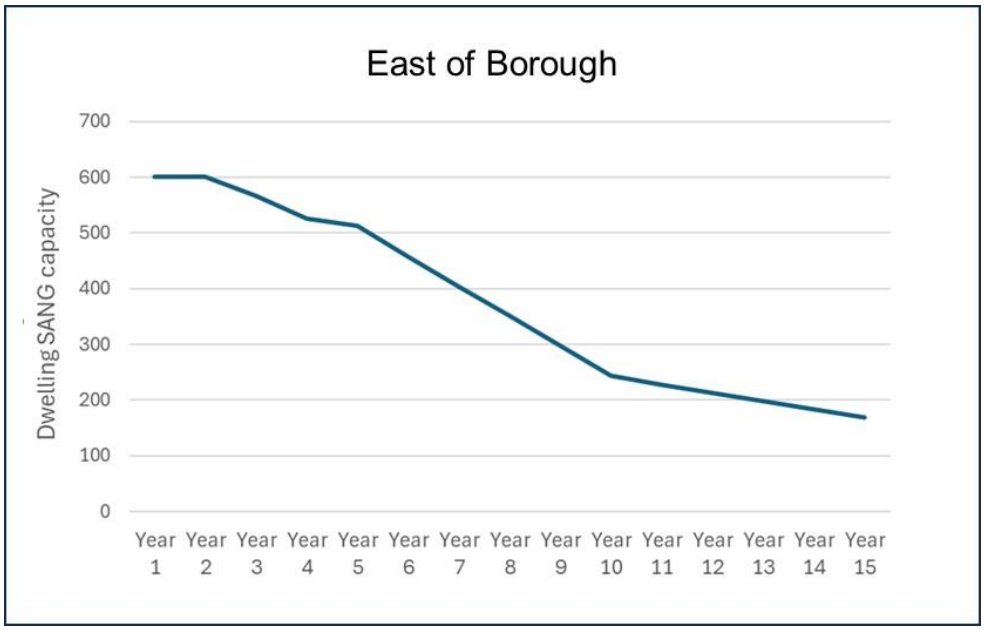


Figure 5: SANG Capacity East of Borough

SAMM Mitigation

6.20 Contribution to SAMM is required for all net new residential development within 5km of the Thames Basin Heaths SPA. SAMM measures are funded through a single tariff that is collected centrally and utilised strategically across the SPA. Hampshire County Council is the administrative body that collects monies from the relevant authorities and Natural England then delivers the mitigation. SAMM contributions are determined on a per-bedroom basis, with larger residential developments paying higher tariffs. For example, currently, a one-bedroom unit is subject to a tariff of £490.46, which increases to £1296.20 for a five-bedroom unit[83]. Furthermore, SAMM contributions are updated annually in line with inflation and / or changing costs of works and personnel.

Mitigation Contained in the Local Plan

6.21 The SHLP encompasses several policy mechanisms that are designed to protect the integrity of the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC. Most importantly, **Policy E1** (**Thames Basin Heaths Special Protection Area**) establishes the key mitigation approach towards the Thames Basin Heaths SPA, including:

- 400m exclusion zone around the SPA in which no new residential development Is being permitted
- 5km mitigation zone around the SPA in which all net new residential developments will be required to provide and / or contribute to SANG and SAMM provision

6.22 The supporting text to Policy E1 also refers to the Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document 2019, which sets out further detail on the types of development affected, SANG creation guidelines and financial contributions. For example, all developments of 10 or more dwellings will need to lie in the catchment of the SANG they are allocated to. Furthermore, developments with 136 units or more will generally be required to provide bespoke SANG solutions. Importantly, given the limited space in built-up environments, it has been identified that larger developments in the Western Urban Area will also be able to utilise strategic SANG capacity.

6.23 More generic protection to Habitats sites is provided in **Policy E2** (**Biodiversity and Geodiversity**), which stipulates that '*Development proposals will be permitted where they protect and enhance biodiversity… Where harm or loss of biodiversity and/or geodiversity cannot be avoided, mitigation will be required such that it can be robustly demonstrated that: a) There will be no adverse effect on the integrity of international,*

[83] Tariffs from March 2023 Available at: https://www.surreyheath.gov.uk/planning-and-building-control/planning-policy/thames-basin-heaths-special-protection-area/sang-and-samm-mitigation [Accessed on the 27/01/2022]

national and local designated sites.' This policy text ensures that harmful effects on the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC will not arise. Furthermore, this policy also assigns the highest weight of protection to internationally designated sites. Effective avoidance, mitigation and compensation will be secured through legal planning obligations, which ties in the policy with Policy E1.

6.24 In addition to SANG provision, **Policy IN5** (**Green Infrastructure**) and **Policy IN6** (**Green Space**) provide additional mechanisms through which the SPA and SAC may be buffered from recreational pressure. Policy IN5 outlines two key proposals with regard to green infrastructure:

- Reinforce, link, buffer and create new green infrastructure
- Promote, manage and enhance public enjoyment of green infrastructure

The provision of connected and attractive green infrastructure, while not subject to stringent SANG standards, is an important pillar of mitigating recreational pressure. If a network of local greenspaces is available locally, especially when allowing for long-distance circular routes, residents are more likely to make use of such spaces and, potentially, avoiding the SPA. Policy IN5 also protects Surrey Heath from the loss of green infrastructure. Policy IN6 recognises the recreational value of designated green spaces and protects the borough against their loss.

Conclusions

6.25 Overall, given that SHBC has identified sufficient SANG capacity in collaboration with Natural England and adequate reference to the Avoidance Strategy is made in the Plan, AECOM concludes that there will be no adverse effects of the SHLP on the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC regarding recreational pressure, both alone and in-combination. No additional policy recommendations are made for inclusion in the Plan.

Atmospheric Pollution

Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC

Sensitivity of the SPA and SAC to Atmospheric Pollution

6.26 Both the Thames Basin Heaths SPA (indirectly via effects on nesting / foraging habitats of qualifying birds) and the Thursley, Ash, Pirbright & Chobham SAC are sensitive to atmospheric pollution. Heathlands are nutrient-poor and particularly susceptible where they lie near major roads. The major impact of nitrogen fertilisation is a change in community composition with a marked decline in heather *Calluna vulgaris* and increased abundance of grasses. The physical and measurable manifestations of heathland responses to atmospheric pollution generally occur as reductions in species richness, vegetation cover and habitat structure / function[84]. The Air Pollution Information System (APIS) identifies a nitrogen Critical Load (CL) of 10-20 kg N/ha/yr for both European dry heaths and Northern Atlantic wet heaths with *Erica tetralix*.

6.27 In addition to nitrogen deposition, ammonia pollution can also lead to direct damage of sensitive species, including lichens, mosses and heather. Furthermore, deposition of excessive ammonia can lead to changes in ground flora community assemblages, particularly bryophytes and lichens. An ammonia Critical Level of 1 ug/m^3 has been established for these plant groups using field observations and using a statistical technique to identify a no-effects level.

6.28 Two qualifying bird species in the Thames Basin Heaths SPA, the European nightjar and wood lark, partly depend on coniferous woodland in their life cycle. APIS identifies coniferous woodland has having a nitrogen CL of 5-15 kg N/ha/yr, with exceedance impacts including changes in soil processes, nutrient imbalance, altered mycorrhiza and ground vegetation composition. However, the coniferous woodland in the SPA represents rotationally managed plantation. It is considered that the associated management practices are much more likely to determine habitat suitability than nitrogen deposition, such that any atmospheric pollution impacts will be negligible.

[84] CIEEM. (2021). Advice on Ecological Assessment of Air Quality Impacts. Chartered Institute of Ecology and Environmental Management. Winchester, UK. 25pp. Available at: https://cieem.net/wp-content/uploads/2020/12/Air-Quality-advice-note.pdf [Accessed on the 06/01/2022]

Road Traffic Network

6.29 Owing to the developed nature of Surrey Heath Borough, various component SSSIs of the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC lie within 200m of major traffic arteries. Sensitive lowland heathland is typically widely distributed within the SAC boundary, such that specific locations are not highlighted here. The most significant commuter artery is the M3, which traverses Surrey Heath Borough on a west-east axis. The Department for Transport's road traffic statistics highlight that manual count point 46010, sandwiched between the component parts of Chobham SSSI (which forms part of both the SPA and SAC), had Annual Average Daily Traffic (AADT) of 71,490 cars, 19,450 light goods vehicles and 7,615 heavy goods vehicles in 2020. This is by far the busiest road in the borough and it is expected that traffic growth due to the SHLP will be highest here.

6.30 Another important road is the A322 (Guildford Road) that connects Camberley and Bagshot with the east of the borough and the adjoining authority of Woking. Importantly, the northern stretch of the A322 is a dual carriageway, reducing to a single carriageway at the intersection with the A319. DfT statistics show that the stretch of dual carriageway had an AADT of 16,849 cars, 5,437 light goods vehicles and 857 heavy goods vehicles in 2020. The traffic volume on the road reduces significantly where it becomes a single carriageway. The difference in current and future traffic flows is expected to have significant consequences for the load of atmospheric pollutants deposited to roadside habitats.

6.31 The A30 connects Camberley in the western part of Surrey Heath with the authority of Hart, traversing the Castle Bottom to Yateley and Hawley Commons SSSI (part of the Thames Basin Heaths SPA). DfT road traffic statistics indicate an AADT of 8,669 cars, 1,785 light goods vehicles and 164 heavy goods vehicles for 2020 at manual count point 6311. Similar to the A322, the A30 also becomes a dual carriageway in the east of Hart District, indicating that traffic volume and atmospheric pollution are likely to be more significant issues along this section of the road.

Traffic and Air Quality Modelling

6.32 The borough of Surrey Heath lies in a highly populated area of south-east England, adjoining other urban centres, and is served by a complex road network. As such, it can be difficult to identify obvious routes or accurately predict traffic flows. Clearly, air quality assessments must focus on the strategic routes that are likely to be associated with the largest increase in commuter traffic.

6.33 The scope of the air quality modelling work, including methodology and transects, was agreed with Natural England[85]. The air quality assessment methodology is in Appendix C. The full results are in Appendix D. The purpose of the assessment was to model the roads most likely to be significantly affected by traffic growth in Surrey Heath Borough that also lie within 200m of SPA/SAC, rather than to model every road in Surrey Heath Borough that lies within 200m of the SPA/SAC. We have therefore not modelled all minor roads, or those which do not comprise through routes.

6.34 The following road links and associated air quality transects were modelled:

- Two road links on the A30 (London Road) in the adjoining authority of Hart, representing sections of single and dual carriageway of the road that connects to Surrey Heath to the north of Camberley – two transects covering sensitive heathland in the Castle Bottom to Yateley and Hawley Commons SSSI;
- Two transects on the A322 (Guildford Road) in Surrey Heath Borough to the south of Bagshot, representing the road that leads to the eastern part of the borough and the adjoining authority of Woking, covering sensitive heathland in the Colony Bog and Bagshot Heath SSSI;
- One section of the M3 in the eastern part of Surrey Heath Borough traversing the Chobham Common SSSI and connecting to the adjoining authority of Runnymede – two transects, north and south of the M3 respectively.

6.35 These data have then been used to undertake the ecological impact assessment for the Thames Basin Heaths SPA and Thursley, Ash, Pirbright and Chobham SAC. In doing that assessment we have taken account of the following factors:

- Paragraph 5.26 of Natural England guidance on the issue[86] states that '*An exceedance* [of the critical level or load] *alone is insufficient to determine the acceptability (or otherwise) of a project'*. So, the fact that the critical level for NOx, or ammonia, or critical load for nitrogen are already exceeded is not a

[85] Email from Paige Eke-Goodwin to James Riley dated 03/10/22

[86] 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations. Version: June 2018'. http://publications.naturalengland.org.uk/publication/4720542048845824

legitimate basis to conclude that any further NOx, ammonia, or nitrogen (no matter how small) will result in an adverse effect;

- Paragraph 4.25 of the same NE guidance states '…*1% of critical load/level are considered by Natural England's air quality specialists (and by industry, regulators and other statutory nature conservation bodies) to be suitably precautionary, as any emissions below this level are widely considered to be imperceptible…There can therefore be a high degree of confidence in its application to screen for risks of an effect'*. Therefore, the first step would be to determine whether the 1% of the critical load/level threshold would be exceeded either alone or in combination with other plans and projects. Even if it is exceeded that doesn't necessarily mean an adverse effect on integrity would arise.

Traffic & Air Quality Modelling Ecological Context

6.36 The nature and distribution of habitat, in other words the ecological context, is particularly relevant to interpreting effects on the integrity of Thames Basin Heaths SPA because this site is designated for breeding nightjar, woodlark, and Dartford warbler rather than for its vegetation or habitats. Nightjar and woodlark will nest in rotationally managed commercial forestry but not in mature permanent woodland and in this SPA they nest primarily in areas of heathland. This is relevant because much roadside habitat within this SPA constitutes permanent woodland. Nightjar probably will forage within permanent woodland and it is possible that any net increase in nitrogen deposition might somewhat reduce the abundance of some invertebrates (such as moths) in that belt. However, nightjar do not have highly specialised foraging requirements, foraging in a wide range of common and widespread habitats well beyond the SPA wherever they can obtain a supply of insects of sufficient size including heathland, plantation woodland, deciduous woodland, rough pasture, arable field margins and gardens. This is supported by Natural England's Supplementary Advice on Conserving and Restoring Site Features[87] for the Thames Basin Heaths SPA, which states on page 4 that *'Within this SPA the principal habitats supporting these qualifying species are lowland heathland and rotationally managed coniferous plantation woodland'.*

6.37 Although nightjar and woodlark do nest in rotationally managed commercial plantations, research in Breckland Forest[88] has identified that the amount of plantation in each growth stage and (for woodlark) the planting and restock period management regime (such as whether the area was de-stumped or ploughed, and factors such as brash cover and weed control) explain the vast majority of the recorded spatial and temporal variation in nightjar and woodlark abundance. Provided these aspects of management are appropriate, other factors are therefore less likely to influence the achievement of biodiversity objectives for these species in rotational forestry than they do in more natural habitats. This is supported locally by the Site Improvement Plan for the Thames Basin Heaths SPA which states that '*Large parts of Thames Basin Heaths are occupied by commercial forestry plantations where the maintenance of suitable conditions for Annex 1 birds is dependent upon rotational felling'*. Therefore, impacts on heathland are most relevant to consideration of whether the ability of the SPA to achieve its Conservation Objectives will be compromised.

6.38 Heathland habitats are at risk from excessive nitrogen deposition effects because they are inherently nutrient-poor ecosystems with plant communities that are specifically adapted to such conditions. At high loadings, nitrogen deposition may have a 'fertiliser' effect that leads to compositional changes in botanical communities. For example, high nutrient concentrations can lead to a shift in dominance from heather to grasses, a decline in lichens and increased sensitivity to abiotic stress.

6.39 The dwarf shrub heath components are also directly sensitive to nitrogen oxides (NOx), which are the result of reactions of oxygen and nitrogen compounds during high-temperature combustion processes. Fossil-fuelled vehicles are the primary source of NOx emissions and thus have the potential to directly impact on sensitive lichen communities. Research has shown that lichens respond to increased NOx levels through a shift towards nitrogen-tolerant communities, with resultant losses of nitrogen-sensitive species. Dwarf shrub heathland and coniferous woodland both have an annual mean NOx Critical Level of 30 µg/m^3, which is set by APIS for all vegetation types. Ammonia is also a significant source of nitrogen and is also emitted by the exhausts of some vehicles. The consideration of nitrogen deposition in this assessment therefore includes that attributable to both NOx and ammonia.

[87] http://publications.naturalengland.org.uk/file/4590853229117440

[88] Probably the largest commercial plantation in England. Reference: Dolman, P. and Morrison, C. (2012). *Temporal change in territory density and habitat quality for Breckland Forest SSSI woodlark and nightjar populations*. Report to Forestry Commission and Natural England, number ENV103/11/19.

Traffic & Air Quality Modelling Results

6.40 Each pollutant is discussed in turn below. The full results are provided in Appendix D, to assess the following three growth scenarios:

1. Scenario 1: Baseline
2. Scenario 2: Do Minimum (includes growth in authorities adjoining Surrey Heath Borough, **but excluding** development due to the Surrey Heath Local Plan)
3. Scenario 3: Do Something (includes growth in authorities adjoining Elmbridge Borough **and** that allocated in the Surrey Heath Local Plan)

6.41 Scenario 3 is therefore the Scenario of greatest relevance. Comparison with Scenario 2 shows the contribution of Surrey Heath Local Plan. The modelling can be considered highly precautionary as it takes no account of the expected introduction of Euro7 standard vehicles (with further improvements in NOx emissions technology) from c. 2025, or the government's policy to ban the sale of new petrol and diesel cars and vans entirely from 2030 and includes no further changes in the vehicle fleet (due to older vehicles being replaced by newer vehicles compliant with Euro6) after 2030, almost a decade prior to the end of the Local Plan period.

NOx

6.42 The only point at which the modelled future scenarios indicate an exceedance of the NOx Critical Level of 30 µg/m^3 is up to 20m from the roadside of Transects 5 and 6. These transects are at Chobham Common and the road in question is the M3. At high concentrations (e.g. 75 µg/m^3) NOx can be directly toxic to vegetation[89] but its main importance is as a source of nitrogen, which is then deposited on adjacent habitats[90]. Therefore, the fact that the critical level criterion for NOx is exceeded certainly indicates nitrogen deposition requires consideration but does not itself lead to a conclusion of adverse effects on the SAC/SPA.

Ammonia

6.43 Under all scenarios annual mean ammonia concentrations are above the minimum critical level (1µg/m^3) throughout all transects. This is primarily due to the background sources rather than traffic growth. Moreover, scrutiny of ammonia data from the UKEAP national ammonia monitoring network for a range of sites covering 2010-2019 shows that the normal variation in ammonia concentrations throughout a year due to meteorology and other factors can be as high as 3-4 µg/m^3, and even at rural sites concentrations generally fluctuate by more than 1 µg/m^3 (100% of the critical level) throughout the year. Therefore, caution should be applied regarding reading too much into the significance of small changes in annual average ammonia concentrations. Ammonia concentrations are also above the upper critical level (3 µg/m^3) on Transects 5 and 6 (the M3 at Chobham Common) up to 50m from the roadside.

6.44 The 'in combination' dose exceeds 1% of the lower critical level (0.01 µg/m^3) throughout Transects 1, 3, 5 and 6 and up to 30m from the roadside of Transect 2. It does not exceed 1% of the lower critical level on Transect 4. Therefore, likely significant effects cannot be dismissed due to elevated ammonia from traffic growth in combination. However, on all transects the contribution of Surrey Heath Local Plan is so small that it does not show in the model[91]. It is therefore concluded that Surrey Heath Local Plan will not interfere with the ability of Thames Basin Heaths SPA/Thursley, Ash, Pirbright & Chobham SAC to achieve its Conservation Objective air quality targets and will therefore not have an adverse effect on the SAC/SPA even in combination with other plans or projects.

Nitrogen

6.45 The minimum part of the critical load range for heathland (10 kg N/ha/yr) will be exceeded throughout all transects under all growth scenarios, but that is common across much of the country and is attributable to existing sources. The 'in combination' nitrogen dose exceeds 1% of the critical load up to c. 100m from Transect 1, and throughout Transects 3, 5 and 6. Therefore, likely significant effects cannot be dismissed due to elevated nitrogen from traffic growth in combination. However, on all transects the contribution of Surrey Heath Local Plan is so small that it barely registers in the model except literally at the roadside of

[89] APIS identifies that negative effects of NO_2 in atmosphere (as distinct from its role in nitrogen deposition) are most likely to arise in the presence of equivalent concentrations of sulphur dioxide (SO_2).

[90] For example, the APIS website states that *'It is likely that the strongest effect of emissions of nitrogen oxides across the UK is through their contribution to total nitrogen deposition…'* http://www.apis.ac.uk/overview/pollutants/overview_NOx.htm

[91] Air quality data are conventionally not presented to more than 2 decimal places to avoid false precision, as air quality modelling software is not accurate to more than 2 decimal places. This is particularly true for ammonia since the quantities in question are far below the scale of change that could be detected as a change in the field.

Transects 3 and 6, and even here the contribution is equivalent to 0.4% of the critical level, 60% below the threshold (1% of the critical load) at which the contribution is deemed to be imperceptible.

6.46

- Paragraph 5.28 of the aforementioned Natural England guidance states that '*In practice, where a site is already exceeding a relevant benchmark, the extent to which additional increments from plans and projects would undermine a conservation objective to 'restore' will involve further consideration of whether there is credible evidence that the emissions represent a real risk that the ability of other national or local measures and initiatives to otherwise reduce background levels will be compromised in a meaningful manner*'. Therefore, even when the critical load is exceeded and the 'in combination' dose due to traffic growth exceeds 1% of the critical load, it does not necessarily mean an adverse effect on integrity will arise. Key factors to consider in interpreting the air quality modelling results are: a) how much of the SAC would be affected by the forecast impacts, b) how does that habitat function in enabling the SAC to achieve its conservation objectives and are there other factors that might limit the effects of nitrogen deposition in that specific location, c) how important is traffic as an overall source of nitrogen at the SAC and what is the contribution of the plan or project in question to that impact, and d) what is the current and likely trend for these pollutants from various sources. All of these factors will influence which sources of nitrogen are most important to control and reduce in order to ensure the SAC achieves the above-mentioned conservation objective target of restoring air quality to below critical loads/levels.

6.47 With this in mind, each relevant transect is therefore discussed in turn below.

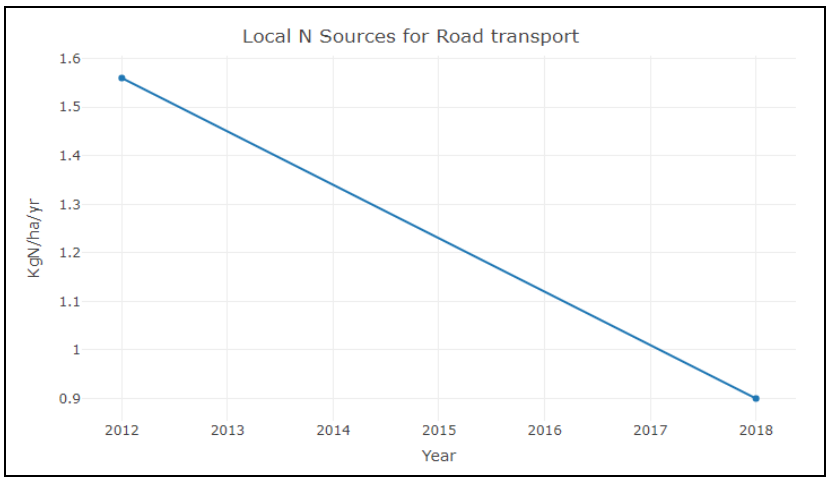
Transect 1

6.48 This transect is from the A30 into Yateley Common. According to aerial photography and heathland habitat data presented on MAGIC, the nearest area of heathland lies 15m from the A30, the intervening area being road verge and trees. By this distance from the roadside, the contribution of Surrey Heath Local Plan is so small it is no longer visible in the model. Therefore, it can be concluded with confidence that the Local Plan will not make a perceptible contribution to the in combination effect on this transect.

Transect 3

6.49 This transect is from Red Road (B311) into Colony Bog & Bagshot Heath SSSI. As with Transect 1 there is a 15m intervening area of verge and trees between the road and the nearest area of heathland. At this distance from the road the contribution of Surrey Heath Local Plan is 0.04 kgN/ha/yr, which is very small. By 40m from the roadside this has fallen to 0.01 kgN/ha/yr i.e. so small it barely registers in the model. These numbers are far below anything that could be monitored and reflect the small contribution of Surrey Heath Local Plan to traffic growth on this link. Surrey Heath Local Plan's contribution to the 'in combination' traffic growth between the base year and 2038 is 10% of the total increase. Therefore, the 'in combination' nitrogen deposition dose is driven by growth in surrounding authorities rather than Surrey Heath.

6.50 Moreover, as can be seen from source attribution data for Colony Bog & Bagshot Heath available on the Site Relevant Critical Load app in APIS, nitrogen deposition to the SSSI from traffic has been getting progressively better (smaller) notwithstanding traffic growth on the local network over the same time period.



Graph from APIS showing the trend in nitrogen deposition to Colony Bog & Bagshot Heath SSSI for traffic. Deposition from traffic has been consistently improving (falling) since at least 2012 despite traffic growth on the network

6.51 In addition, AECOM have taken no account of the UK-wide ban on petrol and diesel cars and vans from 2030 in our modelling, so even the very small contribution reported above for Surrey Heath Local Plan is probably an overestimate for 2038.

6.52 The total area of heathland affected by a greater than imperceptible dose from Surrey Heath Local Plan (i.e. the area from 15m-40m from Red Road) measures 1.9ha. This is 0.2% of Colony Bog & Bagshot Heath SSSI and 0.04% of Thursley, Ash, Pirbright & Chobham SAC and therefore constitutes a very small proportion of the SAC. An inspection of the area of heathland in question shows that it has relatively recently been subject to extensive tree and gorse clearance. This has opened up the vegetation considerably and is enabling regrowth of young heather plants and other plants typical of heathland.

6.53 The background nitrogen deposition rate in this area is 15 kgN/ha/yr. Research by Caporn et al. (2016)[92] indicates that at these background rates it requires a 1.3 kg N/ha/yr increase in nitrogen deposition to result in the net reduction in species richness in lowland heathland of one species[93]. In contrast the total 'in combination' forecast dose is 0.39 kgN/ha/yr and the contribution of Surrey Heath Local Plan to that amount is 0.04 kgN/ha/yr. According to the same research this would result in a reduction in species richness equivalent to 0.6% of the maximum (i.e. 0.2 species) and a 0.1% increase in grass cover.

6.54 Therefore, even in a heathland without such significant structural and botanical change as has happened in Unit 5 of Colony Bog & Bagshot Heath, the negative effect on the forecast 'in combination' nitrogen

[92] Caporn S., Field C., Payne R., Dise N., Britton A., Emmett B., Jones L., Phoenix G., Power S., Sheppard L. & Stevens C. (2016). Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance. Natural England Commissioned Reports, Number 210.

[93] Note that this isn't a literal loss, but a reduction in average species richness of one species i.e. if you dropped a random quadrat one less species would be recorded

deposition will be minimal and the contribution of Surrey Heath Local Plan to botanical change would be negligible. In practice, the management-related vegetation clearance in this area is likely to have an effect on habitat structure and openness that will far offset any potential negative effect through increased grass growth (for example) of the very small amount of nitrogen deposition attributable to Surrey Heath Local Plan. This is even more the case because of the conservative assumptions made in the modelling regarding uptake of electric vehicles to 2038 and because no net deterioration in nitrogen deposition is expected; a net improvement will still arise even with forecast traffic growth.

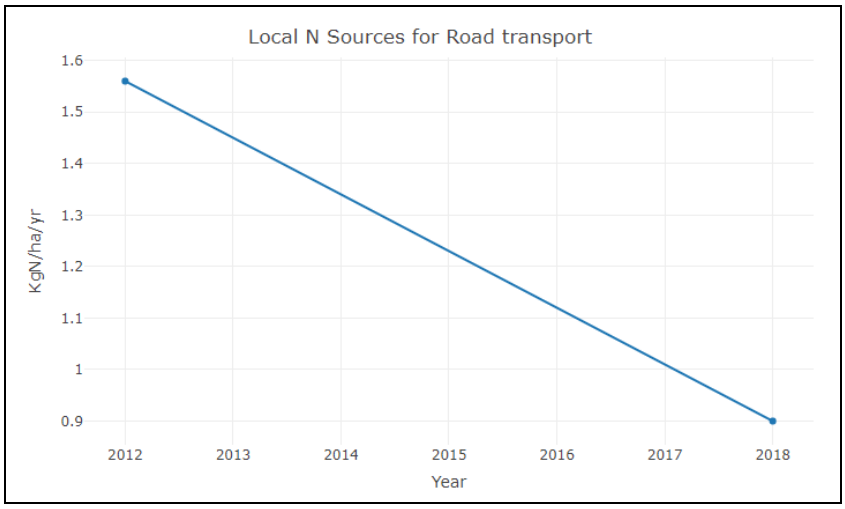
6.55 One way to visualise the Surrey Heath Local Plan in the context of this net improvement is to consider to what extent the Surrey Heath Local Plan would slow, or retard, the improvement in nitrogen deposition that would otherwise be forecast to occur without the Local Plan. This can be done by comparing the difference between 2019 baseline and 2038 future baseline, with the same figure if Surrey Heath Local Plan is included. A net improvement of 1.86 kgN/ha/yr is forecast to occur over the 19 years between 2019 and 2038 in the absence of any housing or employment growth. This equates to an average improvement (reduction) of 0.1 kgN/ha/yr. As discussed above the additional nitrogen attributable to Surrey Heath Local Plan by 2038 will be 0.04 kgN/ha/yr. Therefore, Surrey Heath Local Plan will only delay progress with the site reaching its conservation objective for air quality (i.e. reducing nitrogen deposition to the critical load) by c. 5 months. Moreover, this is a conservative estimate due to the conservative assumptions made about conversion from petrol and diesel cars/vans to electric vehicles between 2030 and 2038.

6.56 With regard to whether '*the ability of other national or local measures and initiatives to otherwise reduce background levels will be compromised in a meaningful manner'* (to quote the Natural England guidance) by the Surrey Heath Local Plan, it is therefore concluded that traffic growth on Red Road due to the Local Plan will not materially interfere with the conservation objective target for this SAC to reduce air pollution to below critical levels and loads. It is therefore concluded that Surrey Heath Local Plan will have no adverse effect on the integrity of the Colony Bog & Bagshot Heath part of the SAC either alone, or in combination with other plans or projects.

Transects 5 and 6

6.57 These transects are located either side of the M3 at Chobham Common. A minimum 35m belt (wider in many places) of the SAC adjacent to the M3 is regularly mown as a firebreak, which is clearly visible on the ground and on Google Earth. The main negative effect of nitrogen deposition on heathlands is to encourage excessive woody growth and an increased abundance of grasses, outcompeting the wildflower species that are less able to utilise the additional nitrogen and shading them out of the sward. However, a process of regular close mowing to maintain the firebreak removes growth and keeps the sward short and open. This process of regular cutting will therefore have a more controlling effect on habitat structure and botanical diversity in this location than nitrogen deposition. As such, nitrogen deposition within the mown firebreak is not likely to materially affect botanical diversity or structure.

6.58 Beyond the firebreak, the contribution of Surrey Heath Local Plan is a maximum of 0.01 kgN/ha/yr on Transect 5 (north of the M3) i.e. so small it only registers in the model because it has been rounded up to 2 decimal places. On Transect 6 (south of the M3) the contribution of Surrey Heath Local Plan doesn't show in the model at all. Moreover, as the graphs below illustrate, nitrogen deposition from traffic has been getting progressively better (smaller) notwithstanding traffic growth on the local network over the same time period.



Graph from APIS showing the trend in nitrogen deposition to Chobham Common SSSI for traffic. Deposition from traffic has been consistently improving (falling) since at least 2012 despite traffic growth on the network.

6.59 In addition, AECOM have taken no account of the UK-wide ban on petrol and diesel cars and vans from 2030 in our modelling, so even the very small contribution reported above for Surrey Heath Local Plan is probably an overestimate for 2038.

6.60 With regard to whether '*the ability of other national or local measures and initiatives to otherwise reduce background levels will be compromised in a meaningful manner'* (to quote the Natural England guidance) by the Surrey Heath Local Plan, it is therefore concluded that traffic growth on the M3 due to the Local Plan will not materially interfere with the conservation objective target for this SAC to reduce air pollution to below critical levels and loads. This is for the following reasons:

- The most affected part of Chobham Common is mown as a firebreak which will have a more controlling effect on habitat structure and botanical diversity in this location than nitrogen deposition. As such, nitrogen deposition within the mown firebreak is not likely to materially affect botanical diversity or structure.
- The contribution of Surrey Heath Local Plan to traffic growth on the M3 (0.1% of all traffic by 2038) and to forecast deposition beyond the firebreak (maximum of 0.01 kgN/ha/yr) is very small, and deposition from the Local Plan would only affect an area local to the M3 and is probably over-estimated due to inability at this stage to account for the large uptake of electric vehicles that can be expected in the second half of the plan period.
- Nitrogen deposition due to traffic has been improving since at least 2012 and is expected to continue to improve in the future, such that even allowing for traffic growth there will still be a large net reduction in nitrogen deposition by 2038.

6.61 It is therefore concluded that Surrey Heath Local Plan will have no adverse effect on the integrity of the Chobham Common part of the SAC either alone, or in combination with other plans or projects.

Positive air quality measures in the Local Plan

6.62 The SHLP includes several policies that contain positive wording regarding the issues of atmospheric pollution. These are not being relied upon for mitigation as the conclusion of the assessment is that mitigation is not required but will be positive for air quality and are referenced here for completeness. **Policy E2 (Biodiversity and Geodiversity)** extends general protection to environmental designations, based on their status and significance. The policy states that '*Development proposals will be permitted where they protect and enhance biodiversity… Where harm or loss of biodiversity and/or geodiversity cannot be avoided, mitigation will be required such that it can be robustly demonstrated that: a) There will be no adverse effect on the integrity of international, national and local designated sites.*' Furthermore, **Policy E4 (Pollution and Contamination)** protects Surrey Heath Borough from unacceptable levels of pollution. Specifically, it stipulates that '*Where development is proposed on or near a site that may be impacted by… pollution, such a proposal must be supported by an assessment that investigates the risks associated with*

the site and the possible impacts on the development… and the natural and built environment. The assessment should propose adequate mitigation or remediation when required to achieve a safe and acceptable development.' While Policy E4 is not specifically targeted at atmospheric pollution, it does imply that any air quality impacts on the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC will need to be considered and, where relevant, mitigated.

6.63 A more specific pillar of the SHLP directly addresses the emissions from fossil-fuelled vehicles. The Plan has a strong focus on sustainable transport modes with the aim to help shift road traffic towards electric vehicles. **Policy IN2 (Transportation)** supports new development that '*is located where travel can be minimised and the use of sustainable transport modes is maximised.*' The policy also gives '*priority to walking and cycling routes over vehicular traffic and maximising catchment areas for bus or other public transport services.*' New development which provides Electric Vehicle Charging points in accordance with the Council's adopted standards will be supported.

Conclusions

6.64 Overall, it is concluded that Surrey Heath Local Plan will not interfere with the ability of Thames Basin Heaths SPA/Thursley, Ash, Pirbright & Chobham SAC to achieve its Conservation Objective air quality targets and therefore AECOM concludes that there will be no adverse effects of the Surrey Heath Local Plan on the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC regarding atmospheric pollution, both alone and in-combination. No additional policy recommendations are made for inclusion in the Plan.

Water Quantity, Level and Flow

Thursley and Ockley Bog Ramsar

6.65 The Thursley and Ockley Bog Ramsar is situated in the authority of Waverley and comprises a valley mire complex that lies in an area of heathland with impeded drainage. A deep layer of peat has built up from decaying *Spaghnum* spp, which represents the dominant vegetation within the site. Several areas of open water, including acidic boggy pools, ditches and large ponds, contribute to the overall diversity of the site. The Ramsar is designated for its community of rare wetland invertebrate species (such as dragonflies) and diverse assemblage of native reptile species (including all six native species). The fauna of the site critically depends on sufficient water levels for all stages of its life cycle and is, therefore, at particular risk of drying up of aquatic habitats.

6.66 The SHLP allocates a minimum of 4,852 new dwellings in the western part of Surrey Heath Borough, such as in Camberley, Deepcut, Frimley, Frimley Green, Mytchett and Bagshot. Furthermore, policies contained in the Plan also allow for the regeneration / redevelopment of employment sites in the western part of the borough, particularly in Camberley. There is a statutory requirement for all these developments to be supplied with potable water, which will place increased pressure on regional water resources. Meeting the increased water demand in the western part of Surrey Heath may require increases to existing abstraction consents or the utilisation of new water resources. Such resource options would have the potential to reduce the water level in the Thursley and Ockley Bog Ramsar, if they were to affect surface waterbodies or groundwater sources that are in hydrological continuity with the site.

6.67 Water in the western part of Surrey Heath Borough, including most of its strategic growth areas, is supplied by South East Water (SEW). SEW's strategy for water supply is outlined in its 2019 Water Resources Management Plan (WRMP). It is noted that the company operates in an area of high water stress, which is defined as an area where current and projected water demand constitutes a high proportion of the effective rainfall. The supply areas of water companies are typically divided into distinct Water Resource Zones (WRZs), within which water resources are largely (but not fully) self-contained. SEW's WRMP indicates that the western section of Surrey Heath lies in the company's 'West' area in WRZ4 (Bracknell). In contrast, the Thursley and Ockley Bog Ramsar is situated in WRZ5 (Farnham). Therefore, typically, resource options to address any supply-demand deficit in WRZ4 would be considered unlikely to impact environmental designations in WRZ5. However, the WRMP also specifies that there is a degree of inter-zonal water transfer between WRZ4 and WRZ5 (although this is not quantified), indicating that increased supply to western Surrey Heath may have impacts on the Ramsar.

6.68 In line with guidance from the Environment Agency, SEW undertook separate assessments of the integrity of each WRZ and potential resource options required to meet identified water supply deficits. The most relevant aspects of these assessments are briefly discussed in the following. The WRMP highlights that

WRZ4 (in which parts of Surrey Heath lie) will go into supply-demand deficit in 2039/40, reaching -55.7 Ml/d by 2079/80. A negative supply-demand balance indicates water supply shortage and a need for resource options to be deployed, either in the form of additional resources being exploited or demand management options. The company's Preferred Plan for addressing the supply-demand deficit in WRZ4 is summarised on page 156 of the WRMP, which includes leakage reduction, water efficiency measures, catchment management and a temporary reduction of inter-company water transfer. Importantly, there is no planned increase in water transfer from WRZ5, which includes the Thursley and Ockley Bog Ramsar.

6.69 With regard to potential impacts on the water quantity, level and flow in the Thursley and Ockley Bog Ramsar, the hydrological characteristics of the site must also be considered. SEW's WRMP specifies that a high proportion (approx. 73%) of its water supply is abstracted from underground aquifers, including the chalk and greensand. Bogs may be fed from groundwater sources or surface water sources (e.g. streams, rainfall, etc.). As highlighted earlier, the Ramsar lies amidst heathland with impeded drainage, suggesting that it is unlikely to be highly reliant on deeper geologies, including the aquifer that will be used by SEW for public water supply. Therefore, any additional water abstractions undertaken in WRZ5 to meet increased demand in WRZ4 (including the western part of Surrey Heath) are considered very unlikely to hydrologically impact the Thursley and Ockley Bog Ramsar.

6.70 Overall, it is concluded that the SHLP will not result in adverse effects on the Thursley and Ockley Bog Ramsar regarding water quantity, level and flow. No policy wording recommendations regarding this impact pathway are made.

7. Conclusions & Recommendations

7.1 Surrey Heath Borough Council (SHBC) commissioned AECOM to undertake a Habitats Regulations Assessment (HRA) of the emerging Surrey Heath Local Plan (SHLP), which identifies a minimum of 6,012 new homes and protects / provides for potential expansion of existing Strategic and Locally Important Employment Sites. The objective of this HRA was to identify any aspects of a Plan that may result in Likely Significant Effects (LSEs) and, where relevant, adverse effects on the integrity of the National Site Network (NSN), either in isolation or in combination with other plans and projects. Furthermore, the HRA is also to advise on appropriate policy mechanisms for delivering mitigation where adverse effects on integrity are identified. While several Habitats sites were considered initially, Likely Significant Effects (LSEs) screening resulted in only three sites being taken forward to Appropriate Assessment:

- Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC – regarding recreational pressure and atmospheric pollution; and
- Thursley and Ockley Bog Ramsar – regarding water quantity, level and flow.

Recreational Pressure

7.2 The Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC are sensitive to recreational pressure and, being located in a highly populated area, have well-documented issues with visitor pressure. As a result, adjoining authorities have developed legally binding planning guidance in collaboration with Natural England, aimed at protecting the integrity of these sites. SHBC published the Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document (SPD)[94] in 2012, which was subsequently updated in 2019. The authority recognises the need for adequate SANG provision to support emerging residential planning applications and has produced a SANG Acquisition Strategy. This provides background on existing SANG capacity in Surrey Heath, details the approach taken to secure additional capacity and identifies potential future SANG sites in the borough. Three key SANG sources have been proposed to meet the needs of housing to 2038:

- Diamond Ridge Woods SANG will provide additional mitigation for 350 dwellings (at 2.5 average occupancy), subject to increasing area of and securing improvements to the site.
- Land at St Catherines Road, a densely wooded area that is situated south of Frith Hill woodland and east of St Catherines Road to the east of Frimley is now in the ownership of SHBC and is in the process of being converted to SANG. The potential SANG has a capacity of 1,500 dwellings and catchment size of 5km. This will cover the entire Western Urban Area.
- Additional SANG capacity has been identified from Hart SANG, equating to a total capacity of 850 dwellings, to meet the needs of site allocations in the Plan, including London Road Block and Sir Williams Siemens Square.

7.3 Contribution to SAMM is required for all net new residential development within 5km of the Thames Basin Heaths SPA. SAMM measures are funded through a single tariff that is collected centrally and utilised strategically across the SPA. Hampshire County Council is the administrative body that collects monies from the relevant authorities and Natural England then delivers the mitigation. SAMM contributions are determined on a per-bedroom basis, with larger residential developments paying higher tariffs. For example, currently, a one-bedroom unit is subject to a tariff of £490.46, which increases to £1,296.20 for a five-bedroom unit. Furthermore, SAMM contributions are updated annually in line with inflation and / or changing costs of works and personnel.

7.4 Overall, given that SHBC is working on identifying sufficient SANG capacity in collaboration with Natural England, SAMM monies are being secured and adequate reference to the Avoidance Strategy is made in the Plan, AECOM concludes that there will be no adverse effects of the SHLP on the Thames Basin Heaths

[94] Surrey Heath Borough Council. (March 2019). Thames Basin Heaths Special Protection Area Avoidance Strategy Supplementary Planning Document. 32pp. Available at: https://www.surreyheath.gov.uk/sites/default/files/Thames%20Basin%20Heaths%20Special%20Protection%20Area%20SPD%202019.pdf [Accessed on the 07/01/2022]

SPA and Thursley, Ash, Pirbright & Chobham SAC regarding recreational pressure, both alone and in-combination. No additional policy recommendations are made for inclusion in the Plan.

Atmospheric Pollution

7.5 This HRA identified two Habitats sites that are sensitive to atmospheric pollution, which may be impacted by the SHLP (due to sensitive habitat occurring within 200m of major commuter routes). The following road links and associated air quality transects have been modelled:

- Two road links on the A30 (London Road) in the adjoining authority of Hart, representing sections of single and dual carriageway of the road that connects to Surrey Heath to the north of Camberley – two transects covering sensitive heathland in the Castle Bottom to Yateley and Hawley Commons SSSI;
- Two transects on the A322 (Guildford Road) in Surrey Heath Borough to the south of Bagshot, representing the road that leads to the eastern part of the borough and the adjoining authority of Woking, covering sensitive heathland in the Colony Bog and Bagshot Heath SSSI;
- One section of the M3 in the eastern part of Surrey Heath Borough traversing the Chobham Common SSSI and connecting to the adjoining authority of Runnymede – two transects, north and south of the M3 respectively.

7.6 The purpose of the assessment was to model the roads most likely to be significantly affected by traffic growth in Surrey Heath Borough that also lie within 200m of SPA/SAC, rather than to model every road in Surrey Heath Borough that lies within 200m of the SPA/SAC. We have therefore not modelled all minor roads, or those which do not comprise through routes.

7.7 Overall, it is concluded that Surrey Heath Local Plan will not interfere with the ability of Thames Basin Heaths SPA/Thursley, Ash, Pirbright & Chobham SAC to achieve its Conservation Objective air quality targets and therefore AECOM concludes that there will be no adverse effects of the Surrey Heath Local Plan on the Thames Basin Heaths SPA and Thursley, Ash, Pirbright & Chobham SAC regarding atmospheric pollution, both alone and in-combination. No additional policy recommendations are made for inclusion in the Plan.

Water Quantity, Level and Flow

7.8 Water in the western part of Surrey Heath Borough, including most of its strategic growth areas, is supplied by South East Water (SEW). SEW's WRMP indicates that the western section of Surrey Heath (in which much of the SHLP development will occur) lies in the company's 'West' area in WRZ4 (Bracknell). In contrast, the Thursley and Ockley Bog Ramsar is situated in WRZ5 (Farnham). Therefore, typically, resource options to address any supply-demand deficit in WRZ4 would be considered unlikely to impact environmental designations in WRZ5. However, the WRMP also specifies that there is a degree of inter-zonal water transfer between WRZ4 and WRZ5 (although this is not quantified), indicating that increased supply to western Surrey Heath may have impacts on the Ramsar.

7.9 Therefore, with regard to potential impacts on the water quantity, level and flow in the Thursley and Ockley Bog Ramsar, the hydrological characteristics of the site were considered. SEW's WRMP specifies that a high proportion (approx. 73%) of its water supply is abstracted from underground aquifers, including the chalk and greensand. Bogs may be fed from groundwater sources or surface water sources (e.g. streams, rainfall, etc.). However, the Ramsar lies amidst heathland with impeded drainage, suggesting that it is unlikely to be highly reliant on deeper geologies, including the aquifer that will be used by SEW for public water supply. Therefore, any additional water abstractions undertaken in WRZ5 to meet increased demand in WRZ4 (including the western part of Surrey Heath) are considered very unlikely to hydrologically impact the Thursley and Ockley Bog Ramsar.

7.10 Overall, it is concluded that the SHLP will not result in adverse effects on the Thursley and Ockley Bog Ramsar regarding water quantity, level and flow. No policy wording recommendations regarding this impact pathway are made.

Appendix A Figures

Figure 6: Sites allocated in the Surrey Heath Local Plan and Habitats sites within 10km of the Surrey Heath Borough boundary.

Revision: 0 Drawn: MH Checked: ER Approved: JR Date: 2024-05-23

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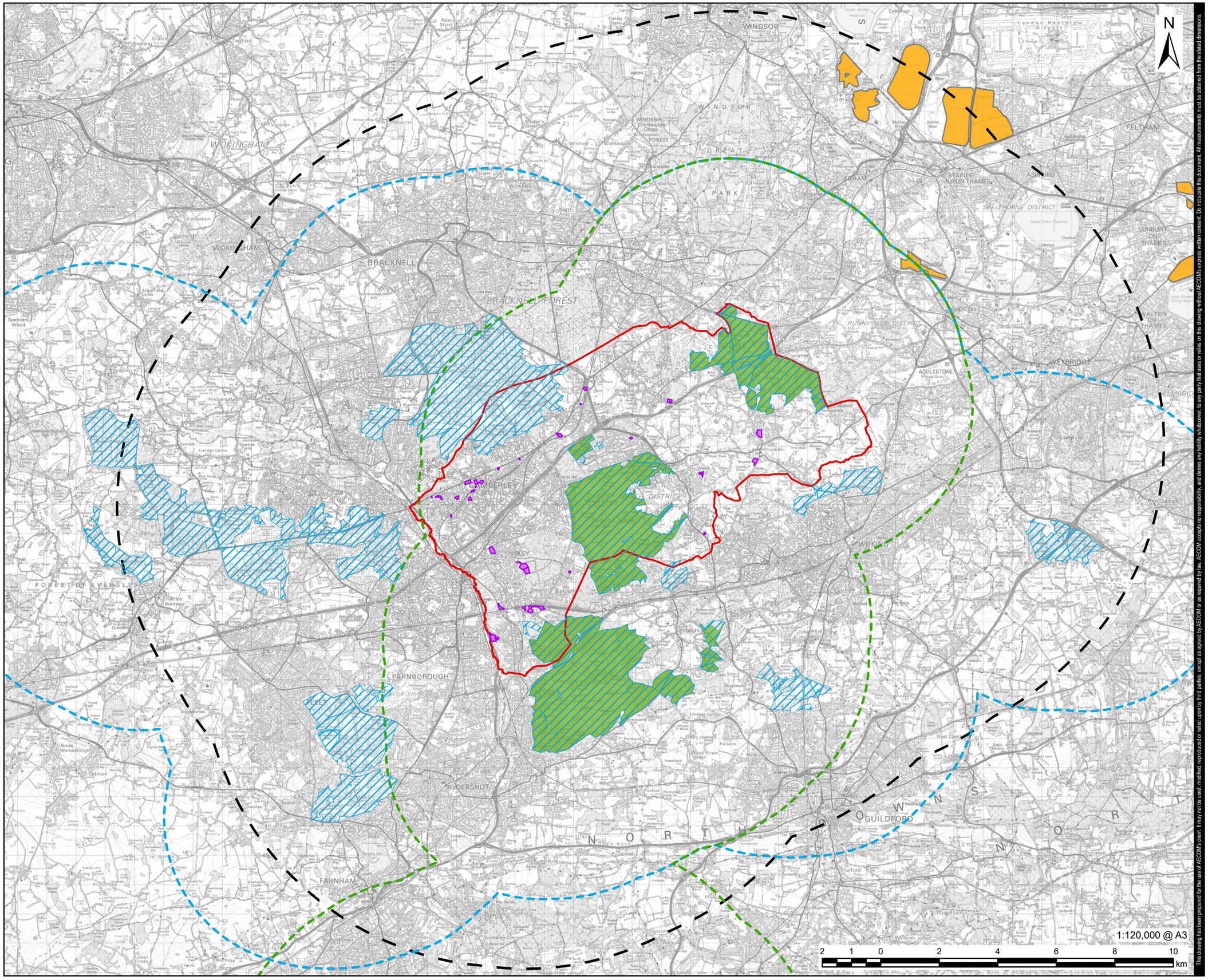

AECOM

PROJECT

Habitats Regulations Assessment of the Surrey Heath Local Plan – Preferred Options

CLIENT

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LEGEND

- Surrey Heath District Boundary
- 10km Study Area
- Allocated Sites
- South West London Waterbodies SPA / Ramsar
- Thames Basin Heath Special Protection Area 5km Mitigation Boundary
- Thames Basin Heaths Special Protection Area
- Thursley, Ash, Pirbright and Chobham Special Area of Conservation
- Thursley, Ash, Pirbright & Chobham Special Area of Conservation 5km Mitigation Boundary

NOTES

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60564795

FIGURE TITLE

Map showing site allocations and the European sites within 10km of Surrey Heath Borough

FIGURE NUMBER

Figure 1

Appendix B Policy Screening for Likely Significant Effects

Table 6: HRA screening assessment of policies contained within the draft Surrey Heath Local Plan. Where policies have been coloured green in the LSEs column, this highlights that they do not contain potential impact pathways linking to Habitats sites and have been screened out from Appropriate Assessment. Where policies have been coloured orange in the LSEs column, this indicates that they relate to potential impact pathways linking to Habitats sites and have been screened in for Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
Policy SS1 – Spatial Strategy	To deliver sustainable growth, the Council will permit development which is consistent with the following broad spatial framework for the scale and location of development: a) New development will be directed to the defined settlement areas in the west of the Borough, as shown on the policies map, and comprising the following areas: i. Camberley ii. Frimley iii. Frimley Green iv. Mytchett v. Deepcut, and vi. Bagshot village. b) Within this area, Camberley Town Centre will be a focus for significant new development, at high density, to support the regeneration of the town centre. c) The east of the Borough is heavily constrained by environmental designations and Green Belt and will have limited capacity to accommodate new development. Development opportunities in this area will be focused in: i. Lightwater village; ii. Bisley, Chobham, West End and Windlesham villages, which are inset within the Green Belt. **New Homes** Over the period 2019 – 2038, the Council will ensure that, subject to the availability of deliverable avoidance and mitigation measures in respect of the Thames Basin Heath Special Protection Area, provision is made for the delivery of at least 5,578 new homes in the Borough. This housing requirement will be delivered as follows: d) Approximately 4,848 (net) new homes focused in the settlement areas in the West of the Borough, including:	**Likely Significant Effects (LSEs) of Policy SS1 on Habitats sites cannot be excluded.** This policy represents the spatial strategy for Surrey Heath and identifies several important growth parameters. It stipulates that an overall quantum of 5,578 new homes will be delivered in the Borough during the Plan period between 2019 and 2038, of which 4,848 dwellings are allocated in the west of the district (e.g. Camberley, Frimley, Frimley Green, Mytchett, Deepcut and Bagshot). Employment sites across the district will be supported and expanded. The distribution and quantum of residential and employment development is the main factor that determines the magnitude of impact pathways linking to Habitats sites. For example, the number and proximity of homes to sensitive Habitats sites determines the extent of additional recreational pressure arising from new development. **Therefore, Policy SS1 is screened in for Appropriate Assessment.**

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome

i. In Camberley, approximately 2,178 (net) new homes, including approximately 1,548 net new homes in Camberley Town Centre, focused on two large site allocation at London Road Block (approximately 524 net new homes) and Land East of Knoll Road (approximately 340 net new homes),
ii. A major site allocation at Mindenhurst in Deepcut (Princess Royal Barracks site) of about 1,200 homes and Suitable Alternative Natural Greenspace,
iii. In Frimley, approximately 454 (net) new homes,
iv. In Frimley Green, approximately 245 (net) new homes,
v. In Mytchett, approximately 286 (net) new homes, and
vi. In Bagshot Village, approximately 430 (net) new homes.

e) Approximately 727 homes in the east of the Borough.
f) Other sources of supply to meet the housing requirement will be windfalls and other SLAA sites below the site allocation threshold.

Employment

The Borough's defined Strategic and Locally Important Employment Sites will be protected and supported for employment uses, to ensure that the employment land needs of the Borough, can be met and recognising the wider the need to support the wider economic needs of the Functional Economic Area. These sites will contribute to meeting the forecast increase in the total number of Employment Use Class jobs (Use Class E(g) and Uses Classes B2 and B8).

Town Centre Uses

Surrey Heath's hierarchy of town centre, district centres, local centres and neighbourhood parades will be protected and enhanced by encouraging a range of uses consistent with the scale and function of the centre having regard to its place in the following hierarchy:

g) Camberley town centre,
h) Bagshot and Frimley district centres,
i) Local centres (as defined in policy ER8),
j) Neighbourhood parades (as defined in policy ER9).

Main Town centre uses including retail will be focused within Camberley town centre to support its vitality and viability in line with policy CTC1 and in other centres in accordance with their role and function and as set out in policies ER8 and ER9.

Development for main town centre uses will be assessed sequentially in accordance with national

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	policy and Policy ER7. Residential uses in centres will be supported on allocated sites and on upper floors, and in ground floor locations where this would support the vitality and viability of the town centre. **Green Belt and Countryside Beyond the Green Belt** In the Green Belt new development will be strictly limited and only permitted where it is in line with the NPPF and policy GB1. In the Countryside beyond the Green Belt new development will be limited in line with the NPPF and policy GB2.	
Policy SS2 – Presumption in Favour of Sustainable Development	1) In considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development set out in the National Planning Policy Framework (NPPF). 2) Planning proposals that accord with the policies in the Surrey Heath Local Plan and with any Neighbourhood Plan policies will be generally be approved unless material considerations indicate otherwise. The Council will work with applicants to secure development that improves the social, environmental and economic condition of the Borough. 3) Where there are no policies relevant to the application or the most relevant policies are out of date at the time of making the decision, the Council will grant permission unless material considerations indicate otherwise taking into account: a) The application of policies in the National Planning Policy Framework that protect areas or assets of particular importance provide a clear reason for refusing the development proposal; b) The availability and deliverability of avoidance and mitigation measures relating to the protection of the Thames Basin Heaths Special Protection Area; and c) Whether any adverse impacts of granting planning permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole.	LSEs of Policy SS2 on Habitats sites can be excluded. This is a development management policy that aligns the Surrey Heath Local Plan with the National Planning Policy Framework (NPPF), particularly with regard to sustainable development. There are no impact pathways that link this policy to Habitats sites. Therefore, Policy SS2 is screened out from Appropriate Assessment.
Policy SS3a – Climate Change Mitigation	1) To support a decarbonisation trajectory to net zero by 2050, the Council will seek to deliver significant reductions in carbon emissions for the Borough. This will be achieved by:	LSEs of Policy SS3a on Habitats sites can be excluded. This policy supports mitigation against climate change by outlining a decarbonisation trajectory to 2050. Among other targets, the policy promotes low /

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	a) Requiring major applications to deliver net zero carbon development, unless it can be clearly demonstrated with evidence that this is not feasible and/or viable. Where it is clearly demonstrated that it is not financially or technically viable to achieve net zero-carbon development on-site, any shortfall in carbon reductions should be addressed via off-site measures or through the provision of a carbon offset payment secured by legal agreement. b) ensuring that new development contributes to addressing climate change through low/zero carbon design and improves energy efficiency for all residential and non-residential buildings, as set out in Policy DH8; c) supporting renewable and low carbon energy and heating schemes for major development proposals in accordance with Policy E5; d) supporting the low carbon economy; e) directing development to locations in the defined settlement areas of the Borough that will minimise the need to travel and maximise the use of sustainable modes of transport, promoting a modal shift away from private car use; f) promoting sustainable modes of transport through Policy IN2, including provision and installation of electric vehicle charging points and supporting infrastructure; g) ensuring that trees are protected, in accordance with Policy DH5, and that there is no net loss in the carbon storage capacity provided by the Borough's trees ; h) increasing the potential for green infrastructure and habitats to sequester and store carbon, including through biodiversity net gain as set out in Policy E3, and supporting the planting of trees in the Borough; and i) requiring new development to manage construction waste effectively and responsibly to reduce the carbon emissions of construction activities, set out in policy DH8. 2) Development proposals will need to demonstrate how they are maximising reductions in carbon emissions and contributing to the decarbonisation trajectory for net zero by 2050. Development proposals are required to provide a Sustainability Statement setting out how the matters in this policy have been addressed.	zero carbon design, renewable and low carbon energy sources and promoting a modal shift away from private car usage. This is a positive policy for the environment but has no direct implications for Habitats sites. Therefore, Policy SS3a is screened out from Appropriate Assessment.
Policy SS3b – Climate Change Adaptation	1) New development will be permitted which helps build communities that are resilient to climate change and contribute to healthy living by: a) being designed so as to maximise the potential for climate change adaptation, as set out in Policy DH1, to ensure that new development minimises vulnerabilities and provides resilience to impacts arising from climate change; b) positively contributing to creating high quality, active, safe and accessible places;	LSEs of Policy SS3b on Habitats sites can be excluded. This is a development management policy that addresses climate change mitigation, primarily by designing new developments accordingly. For example, delivery of water efficiency measures and

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	c) maximising sustainable water use, in accordance with Policy DH4; d) addressing existing and future flood risk, in accordance with Policy E6 and E7; e) demonstrating adaptation for more frequent and severe rainfall events through measures including maximising the use of permeable surfaces across the development site. f) maximising the potential of green infrastructure in the design of new development to facilitate adaptation to climate change, in accordance with Policy IN5, E3 and E7; g) planting trees and other vegetation, where appropriate as part of the landscape scheme, to provide shading of amenity areas, buildings and streets; h) delivering urban greening, including incorporating green walls and green roofs into new development; i) delivering habitat connectivity via biodiversity net gain, in accordance with Policies E2 and E3; and j) minimising the potential for heat stress, particularly areas or types of development at greater risk of heat stress, through innovative and passive design measures; and k) Requiring development proposals in and around areas of high risk of wildfire to be designed and managed to prevent the ignition and spread of fire, taking into account the risk to health and potential damage to significant habitats. Development proposals will need to demonstrate how they are maximising their adaptive capacity and are required to set out in a Sustainability Statement how they have incorporated adaptations for a changing climate and changing weather patterns in order to avoid increased vulnerability and offer high levels of resilience to the full range of expected impacts. Measures that will help contribute to healthier communities and reduce health inequalities must be incorporated into new development where appropriate. Proposals for major development schemes should incorporate a Health Impact Assessment (HIA)..	green infrastructure will be maximised. This is a positive policy for the environment but has no direct implications for Habitats sites. Therefore, Policy SS3b is screened out from Appropriate Assessment.
Policy HA1 – Housing Allocations	1) The following sites are allocated for housing to contribute towards the delivery of new homes to meet Surrey Heath's housing requirement in Policy SS1. Development proposals for residential (C3) or extra-care (C2) use on these sites are required to clearly identify how the proposed development addresses the identified site-specific considerations or requirements. Where development proposals cannot clearly demonstrate that the identified site-specific considerations or requirements have been addressed the planning application will be refused.	**Likely Significant Effects (LSEs) of Policy HA1 on Habitats sites cannot be excluded.** This policy lists several smaller housing sites that are allocated to meet Surrey Heath's housing needs. Importantly, this specifies both a quantum and geographic location of new homes, which determine where in the

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	HA1/01 - Bagshot Depot and Archaeology Centre, London Road, Bagshot, GU19 5HN 1) Bagshot Depot and Archaeology Centre is allocated for 50 net units. 2) Development proposals are required to: a) demonstrate that the design of the scheme is genuinely conservation-led, having special regard to the retention and enhancement of the Archaeology Centre and the character of the Bagshot Park Conservation Area and its setting, in which the Grade II listed Bagshot Park forms the centre piece. b) be sympathetic to the surrounding context of the site with regard to scale, height, and massing. c) provide improved pedestrian and cycle access from the site to Bagshot District Centre. d) demonstrate that the design of the scheme that it will not lead to a deterioration of air quality and have any adverse impacts to human health e) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset. HA1/02 - Camberley Centre, France Hill Drive, Camberley, GU15 3QG 1) Camberley Centre is allocated for 35 net units. 2) Development proposals are required to: a) demonstrate retain and reuse the existing Adult Education Centre (AEC) building, a local heritage asset, including its landscape setting. b) implement a design-led development that is sympathetic to and integrates well with the scale, height, and character of the existing Adult Education Centre (AEC) building. c) retain as far as practicable the existing abundance of trees and landscaping, which contributes to the local distinctiveness of the site. d) retain the existing educational community use on-site, or re-provide the use at a suitable off-site location. e) provide improved pedestrian and cycle access to Camberley Town Centre from the site. f) provide suitable vehicular access to the site, and suitable highways access within the site. HA1/03 - Camberley Station, Station House, Pembroke Broadway, Camberley 1) Camberley Station is allocations for 150 net units.	borough impact pathways will arise (e.g. recreational pressure due to increased demand for greenspaces). The following major development sites are allocated in this policy: • Bagshot Depot and Archaeology Centre, London Road, Bagshot – 50 net units • Camberley Centre, France Hill Drive, Camberley, GU15 3QG – 35 net units • Camberley Station, Station House, Pembroke Broadway, Camberley – 150 net units • York Town Car Park, Sullivan Road, Camberley – 27 net units • Sir William Siemens Square, Chobham Road, Frimley – 170 net units • Chobham Rugby Club, Windsor Road, Chobham – 91 new dwellings • St James House, Knoll Road – 30 new dwellings • Land off Spencer Close, Frimley Green – 60 net units • Former Portesbury School, Portesbury Road, Camberley – 36 net units A further 16 sites are allocated (10 to 24 units) with a total of 230 net units. Sites allocated for care home development are: • Pinehurst, 141 Park Road, Camberley – 32 net units • Land at Loen, St Catherines Road, Deepcut – 60 net units • 61 – 63 London Road, Camberley – 32 net units

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	2) Development proposals are required to: a) deliver a high-quality, design-led, sustainable development suitable for the prominent gateway location to Camberley Town Centre. b) to provide a satisfactory relationship with the surrounding context of the site with regard to scale, height, and massing. c) Provide high-quality, usable communal amenity spaces. d) incorporate a new or improved train station, with associated transport interchange facilities, including car and cycle parking. e) incorporate high-quality, design-led, public realm and wayfinding improvements for pedestrians and cyclists, improving connectivity to Camberley Town Centre and to both Portesbery Road and Knoll Road. Public realm improvements should focus on improving connectivity, safety, and sense of place. f) improve interconnectivity between Camberley Train Station and the bus stops on Pembroke Broadway, through high-quality urban design, use of hard and soft landscaping, sightlines and signage. g) enhance visual connectivity between the site and Camberley Town Centre, through layout, arrangement of built form and public space, massing, design, materials and signage. h) be informed by the results of a full Noise Impact Assessment that considers the proximity to the railway line. i) incorporate vertical greenery and other urban greening techniques within the building design. <u>HA1/04 - York Town Car Park, Sullivan Road, Camberley</u> 3) York Town Car Park is allocated for 27 net units. 4) Development proposals are required to: a) deliver a high-quality, design-led development that is sympathetic to the existing character of the area, and has regard to the design, scale, height, and built-form of the adjacent approved development. b) incorporate high-quality landscaping, including tree-planting along Sullivan Road, increasing the overall amount of greenery and vegetation in the locality and softening the existing townscape. c) retain and/or re-provide the public car-parking currently on-site. d) incorporate public access from the site to Frimley Road and Victoria Avenue, to encourage permeability and create linkages <u>HA1/05 - Sir William Siemens Square, Chobham Road, Frimley</u>	The sites allocated in this housing policy imply that much of development will be forthcoming in the western part of Surrey Heath, with potential implications for arising impact pathways. **Overall, Policy HA1 is screened in for Appropriate Assessment.**

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	1) Sir William Siemens Square is allocated for 170 net units. 2) Development proposals are required to: a) deliver a high-quality, design-led re-development scheme that is sympathetic to the character of the area, providing a density, scale, height and massing appropriate for the local context whilst making the most effective use of the land. b) contribute to the urban greening of the area, providing integrated amenity roof terraces and/or atrium courtyards within the envelope of the development. c) retain the continuous verdant, sylvan and rural character of Chobham Road, including the retention of mature trees that contribute to the local distinctiveness. d) incorporate high-quality, integrated hard and soft landscaping, seeking to retain and enhance the geometric layout of the site and incorporate well designed communal areas. e) be sympathetic to and enhance the green, rural character of the neighbouring playing fields. f) be sympathetic to the amenity of neighbouring residential areas. g) incorporate improved pedestrian and cycle access to, and through, the site, with appropriate linkages to Frimley District Centre and the Station. h) provide the maximum number of Gypsy and Traveller pitches or Travelling Showpeople plots that can be reasonably accommodated on the site, having regard to the level of local need within Surrey Heath and the criteria set out within Policy H10. i) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset <u>HA1/06 - Chobham Rugby Club, Windsor Road, Chobham</u> 1) Chobham Rugby Club is allocations for 91 net units. 2) Development proposals are required to: a) deliver a high-quality, design-led, sustainable development that is suitable for the location of the site in Chobham village. b) secure a suitable alternative location for the re-provision of the existing community and recreational uses on-site, within the Borough, which would be secured through an S106 agreement with the Council. c) retain an appropriate provision of open green space on-site, to be accessible by local residents, which is well-integrated into a network of green infrastructure throughout the site d) provide on-site recreational play facilities in accordance with the Council's adopted standards.	

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	e) deliver a strong sense of place that reinforces local distinctiveness and provides an attractive and functional living environment, established through a sensitive design that responds to the local context; including the topography and landscape of the area given the open space on and neighbouring the site. f) retain and enhance the local character of the area; incorporating high-quality landscaping that integrates well with the open, treed character of the surrounding area. g) retain and enhance the existing trees that form part of the boundary to the site as far as reasonably practicable. h) deliver a site layout that delivers permeability throughout the site and incorporates suitable pedestrian and cycle access from the site to nearby community facilities; in particular, to provide linkages to the south toward Chobham high street. i) be sympathetic to the amenity of neighbouring residential areas and to enhance the green, open character of the neighbouring open space to the East. j) incorporate suitable vehicular access to the site from Windsor Road. k) deliver a network of high quality, attractive streets and spaces that are convenient and safe to use. l) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset. <u>HA1/07 - St James House, Knoll Road, Camberley</u> 1) St James House is allocations for 30 net units. 2) Development proposals are required to: a) deliver a distinctive, flatted development of high-quality design, comprising 4 to 5.5 storeys, at a density which reflects the town centre location. b) incorporate vertical greenery and other urban greening techniques within the building design. c) provide high quality soft and hard landscaping, ensuring that boundary treatment is attractive and durable, avoiding any visual barrier effects in the streetscape. d) incorporate bin stores and cycle stores within the main structure of the site. e) respect, frame, and reinforce, the sightlines between the town centre and the Grade II listed Obelisk in Camberley Park. <u>HA1/08 - Land off Spencer Close, Frimley Green</u>	

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	1) Land off Spencer Close is allocated for 60 net units. 2) Development proposals are required to: a) deliver a high-quality, design-led development that is sympathetic to the existing character of the area. b) incorporate high-quality landscaping, enhancing and retaining the existing treed character of the site, which contributes to local distinctiveness. c) demonstrate that the detailed site layout has been informed by the proximity to the railway flanking the southern boundary of the site regarding safety, noise, and visual barrier effects. d) retain and strengthen the existing tree planting and landscape buffering between the site and the railway line on the southern boundary of the site, to reduce noise and visual impacts from the railway. e) be informed by the results of a full Noise Impact Assessment that considers the proximity to the railway line. f) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset. <u>HA1/09 - Former Portesbury School, Portesbury Road, Camberley</u> 1) Former Portesbury School is allocated for 36 net units. 2) Development proposals are required to: a) deliver a high-quality, design-led development that is sympathetic to the existing character of the area. b) incorporate high-quality landscaping, enhancing and retaining the existing treed character of the site, which contributes to local distinctiveness. c) protect and enhance of the setting of the Grade II Listed Obelisk within a wooded part of Camberley Park d) respect, frame, and reinforce, the sightlines between the town centre and the Grade II listed Obelisk in Camberley Park. e) incorporate improved pedestrian and cycle access to and from the site, with appropriate linkages to Camberley Town Centre **Site Allocations for sites projected to deliver between 10 – 24 net new homes:** • HA1/10 - Land rear of 192-210 London Road, Bagshot, allocated for 20 net units. • HA1/11 - The Deans, Bridge Road, Bagshot, allocated for 20 net units	

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	• HA1/12 - 317 to 319 Guildford Road, Bisley, allocated for 17 net units • HA1/13 - 280 Gordon Avenue, Camberley, allocated for 15 net units • HA1/14 - Burwood House Hotel, 15 London Road, Camberley, allocated for 10 net units • HA1/15 - 439 - 445 London Road, Camberley, allocated for 15 net units • HA1/16 - Land Rear of 1 - 47 Sullivan Road, Camberley, allocated for 14 net units • HA1/17 - Broadford, Castle Grove Road, Chobham, allocated for 15 net units • HA1/18 - Land North of Guildford Road, Deepcut, allocated for 21 net units • HA1/19 - Former Premier Site, Newfoundland Road, Deepcut, allocated for 13 net units • HA1/20 - The Grange, St Catherines Road, Deepcut, allocated for 17 net units • HA1/21 - 103 - 109 Guildford Road, Lightwater, allocated for 21 net units • HA1/22 - Land adjacent to Sherrard Way, Mytchett, allocated for 16 net units • HA1/23 - St Margarets Cottage and The Ferns, Woodlands Lane, Windlesham, allocated for 16 net units • HA1/24 - Land East of Benner Lane, West End, allocated for 16 net units • HA1/25 - Land at Chamness, Woodlands Lane, Windlesham, allocated for 20 net units **Sites Allocated or Extra Care or Residential Care Uses** <u>HA1/26 - Pinehurst, 141 Park Road, Camberley</u> 1) Pinehurst, 141 Park Road is allocated for an extra-care development (C2), comprising 32 net homes (C3 equivalent) and supporting facilities. 2) Development proposals are required to: a) be sympathetic to and integrate with the design of surrounding development. b) provide high-quality, usable communal amenity spaces. c) incorporate high-quality landscaping, retaining and enhancing the existing treed character of the site's boundaries, which contributes to local distinctiveness. d) provide suitable vehicular access to the site and suitable highways access within the site. e) provide suitable pedestrian and cycle access from the site to create linkages to Camberley Town Centre. f) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset.	

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	HA1/27 - Land at Loen, St Catherines Road, Deepcut 1) Land at Loen, St Catherines Road is allocated for an extra care development (C2) comprising 60 net homes and supporting facilities. 2) Development proposals are required to: g) demonstrate that the proposal utilises high-quality, contemporary materials to create a unique character to the site which responds sensitively to the woodland character. h) demonstrate that the relationship of the built environment to the landscape has been taken into account and the transition from rural to urban character is reflected in the design of development proposals. i) retain and enhance the existing trees within the site as far as reasonably practicable. j) deliver a high-quality, design-led re-development scheme that is sympathetic to the green, rural character of the area. k) biodiversity should be considered at an early stage in the planning process and incorporated into site masterplanning from the outset. HA1/28 – 61 – 63 London Road, Camberley 1) 61 – 63 London Road is allocated for a care home development (C2), comprising 32 net homes (C3 equivalent) and supporting facilities. 2) Development proposals are required to: l) be sympathetic to and integrate with the design of surrounding development. m) retain and enhance the existing trees within the site as far as reasonably practicable. n) provide high-quality, usable communal amenity spaces. o) incorporate high-quality landscaping, retaining and enhancing the existing treed character of the site's boundaries, which contributes to local distinctiveness.	
Policy HA2 – London Road Block, Camberley Town Centre (Site Area 1.9ha)	1. The London Road Block site is allocated for a new, residential-led urban quarter within Camberley Town Centre containing a mix of uses with a contemporary, sustainable and distinctive building design, whilst reinforcing and complementing the established surrounding town centre areas. 2. Development proposals are required to accord with a masterplan for the site that is agreed by the Council.	**Likely Significant Effects (LSEs) of Policy HA2 on Habitats sites cannot be excluded.** This policy allocates a residential-led mixed-use redevelopment at London Road Block in Camberley Town Centre for 550 new dwellings, a mix of town centre uses and supporting infrastructure. As such, this allocation will be

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	3. Development proposals are required to provide: **Mix of Uses** a) approximately 550 new homes (gross) with a minimum of 20% affordable housing and otherwise in accordance with Policy H7; b) an appropriate mix of homes having regard to the need to provide predominantly flatted development; c) an appropriate mix of commercial, retail, leisure, cultural, civic and community uses appropriate for the town centre location, with active frontages at ground floor level as appropriate, to support the viability and vitality of Camberley Town Centre; **Design** d) a high quality public realm that is coherent, inclusive, safe and attractive, reinforcing local distinctiveness, improving permeability, and creating a positive sense of place; e) new public open space for everyone to enjoy providing a variety of scale and character, designed with high-quality, durable materials; f) integrated green infrastructure throughout the site, including significant landscaping, which incorporates high-quality tree-planting and vegetated areas, and both private garden and public amenity space and recreational play provision in accordance with the Council's adopted standards; g) incorporate measures to provide a green urban environment, including wildlife habitat creation and enhancements in appropriate locations within the development; h) an enhanced gateway into Camberley Town Centre from London Road; i) a development of high quality architectural standards, of appropriate scale, height and massing with a range of building height of 4 – 7 storeys, incorporating up to two landmark buildings with a maximum building height of 15 storeys, taking into account external views from the flatted development; j) buildings on the High Street frontage, which complement the historic Edwardian and Victorian character of this part of the town centre; k) appropriate rainwater management, integrated with landscape design to visually and environmentally enhance the public and private realm; l) net zero carbon design, including on-site renewable energy and/or decentralised energy generation. **Transport Infrastructure**	associated with a range of impact pathways including recreational pressure and atmospheric pollution. **Overall, Policy HA2 is screened in for Appropriate Assessment.**

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	m) a better experience for all transport modes in the town centre, in particular for walking and cycling to include improved pedestrian accessibility between the High Street, Park Street, London Road and The Square shopping centre; n) improved transport infrastructure at the London Road gateway including provision of a new bus stop, improved pedestrian and cycle links along the London Road and potential provision of a taxi rank and/or short-stay drop-off/pick-up point in addition to on-street disabled parking; o) improvements to the London Road junctions with the High Street and Park Street and the creation of pedestrian friendly areas adjacent to Obelisk Way and the High Street; p) appropriate accesses for service vehicles that are convenient for use but designed discreetly to ensure they do not detract from the attractiveness of the new development; q) suitable, well integrated parking provision having regard to Surrey County Council's adopted parking standards.	
Policy HA3 – Land East of Knoll Road, Camberley Town Centre (Site Area: 1.3ha)	1) The site is allocated for comprehensive, residential development to create a vibrant new residential quarter within Camberley Town Centre creating a strong sense of place with a distinctive and attractive living environment. 2) Development proposals are required to accord with a masterplan for the site that is agreed by the Council. 3) Development proposals are required to provide: **Housing** a) approximately 340 new homes (gross) with a minimum of 25% affordable housing and otherwise in accordance with Policy H7; b) an appropriate mix of new homes, having regard to the evidence in the most up-to-date housing need assessment, whilst recognising the town-centre location; **Design** c) flatted development across the site comprising 4 – 7 storeys, reflecting the urban character of the area; d) high-quality public realm throughout the site, which provides improved permeability from Camberley Park to the town centre, including traffic calming measures through design and surfacing changes to provide a pedestrian and cyclist friendly environment;	**Likely Significant Effects (LSEs) of Policy HA3 on Habitats sites cannot be excluded.** This policy allocates a residential-led redevelopment on Land East of Knoll Road in Camberley Town Centre for 475 new dwellings, supporting infrastructure and enhanced public realm. As such, this allocation will be associated with a range of impact pathways including recreational pressure and atmospheric pollution. **Overall, Policy HA3 is screened in for Appropriate Assessment.**

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	e) an attractive new streetscape throughout the site, which utilises hard landscaping to differentiate pedestrian, cyclist, and vehicular zones, and soft landscaping incorporating mature tree planting and vegetated areas; f) the protection and enhancement of the setting of the Grade II Listed Obelisk within a wooded part of Camberley Park; g) a net zero carbon design including on-site renewable energy and/or decentralised energy generation; h) appropriate rainwater management measures integrated with landscape design to enhance the site visually and environmentally. i) vehicular accesses to the site from Knoll Road to the west and Hillside to the southeast; j) improved pedestrian and cyclist links between the site and Camberley High Street, and Camberley Station, with suitable crossing points implemented at Knoll Road; k) the retention of existing bus stops at Knoll Road and support for accessible and well-connected bus services to Knoll Road; well-integrated car and cycle parking provision in accordance with Surrey County Council's parking standards and reflecting the town centre location; **Green Infrastructure** l) integrated green infrastructure throughout the site, including significant landscaping, which incorporates high-quality tree-planting and vegetated areas, and both public and private garden amenity space and recreational play provision in accordance with the Council's adopted standards; m) incorporate measures to provide a green urban environment, including wildlife habitat creation and enhancements in appropriate locations within the development n) a green corridor linking Camberley Park and The Obelisk, to Knoll Road supported by a strong green landscaping buffer along Knoll Road including mature tree planting; o) the retention and expansion of the play facilities at Camberley Park including woodland trails, an equipped play area and open space. r)	
Policy HA4 – Mindenhurst, Deepcut	1) The former Princess Royal Barracks as defined on the Policies Map is allocated for 1,200 new dwellings, a care home and associated infrastructure. 2) The continued development of the site will be supported where development meets the following criteria:	**Likely Significant Effects (LSEs) of Policy HA4 on Habitats sites cannot be excluded.** This policy allocates a residential development in Mindenhurst, Deepcut for 1,200 new dwellings, a care home

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	a) Delivery of a safe and high quality environment reflecting the rural nature of Deepcut's setting and the parameters of the hybrid permission 12/0546 (or as amended) and the approved design codes and the adopted Deepcut SPD; b) 15% of housing to be provided as affordable housing on those parcels where affordable housing is to be delivered as agreed under application reference 21/0004/DTC subject to the review mechanisms set out in that permission; c) A housing mix to reflect the approved density plans and having regard to the identified need in accordance with Policy H5 (Range and Mix of Housing); d) The provision of retail and associated town centre uses in accordance with hybrid permission 12/0546 (or as amended) to create sustainable shopping patterns, complementing or extending the existing Neighbourhood Centre at Deepcut; e) Phased delivery, or where otherwise agreed, funding for social, physical and community infrastructure, including health, education, library and formal and informal sports facilities; f) Physical infrastructure that is climate change resilient, in particular, addressing the issue of ground and surface water flood risk and making provision for electric vehicle charging or other suitable technologies that arise through the plan period; g) Agreed measures for on-going maintenance for surface water drainage systems within the development including provision of financial contributions where appropriate; h) New non-residential development shall achieve efficient use of resources, and reach a 'Very Good' BREEAM status as a minimum; i) Measures to reduce the impact of traffic upon and arising from Deepcut which will include reducing demand for travel, improved public transport provision, a safe integrated footpath/cycle route network linking to neighbouring settlements and key services and improvements to the surrounding highway network and other measures as set out in the Transport Assessment accompanying the approved application and improvements and contributions set out in the Section 106 agreement and subsequent amendments; j) Measures to avoid new development having an impact upon designated European Sites comprising on site SANG and a contribution towards Strategic Access and Management Monitoring Measures; k) Measures to avoid new development having an impact upon the features and sites of local importance for biodiversity and delivery of a net gain in biodiversity in line with Policy E3; l) Maintain the countryside gaps between Deepcut and Heatherside, Deepcut and Pirbright and Deepcut and Frimley Green; m) Delivery of a green infrastructure network to support improved connectivity and to include formal public open space, allotments and informal open space, including Suitable Alternative Natural Green Space (SANGs);	and associated infrastructure. As such, this allocation will be associated with a range of impact pathways including recreational pressure and atmospheric pollution. Importantly, the policy requires the developer to deliver a green infrastructure network and SANG, as well as making contributions to Strategic Access Management and Monitoring (SAMM) measures, which will mitigate any impacts that will be arising on the Thames Basin Heaths SPA with regard to recreational pressure. **Overall, Policy HA4 is screened in for Appropriate Assessment.**

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	n) Enhancement of the setting of and improved linkages to the Basingstoke Canal from the development and the wider area; o) Preserves or enhances the character and setting of heritage assets including the Basingstoke Canal Conservation Area and St Barbara's Church.	
Policy HA5 – Range and Mix of Housing	1) Residential development will be permitted which contributes to a mix of tenure, type and sizes of dwellings to meet local needs, where the following criteria are met: **General Housing Mix** 2) The dwelling mix of tenure, type and size takes account of the housing needs set out in the Housing Need Assessment 2023 or any subsequent update. 3) The dwelling mix reflects the size, characteristics and location of the site; **Accessible and Adaptable Homes** 4) All dwellings will be required to be built to appropriate accessible and adaptable standards to meet Building Regulations Part M4(2) ,unless it can be robustly demonstrated it would not be possible to do so due to site-specific circumstances. 5) On sites of 20 or more net new dwellings, at least 5% of new homes and 10% of affordable homes will be required to meet Building Regulations Part M4(3)(2)(a) for wheelchair adaptable housing, unless it can be robustly demonstrated it would not be possible to do so due to site-specific circumstances. Where evidence from the Council's Housing Register identifies a current local need, affordable housing will be expected to meet Part M(4)(3)(2)(b) wheelchair accessible housing. **Self-Build and Custom Housebuilding** 6) Development proposals for 20 or more net new dwellings will be expected to make available 5%[95] of the total homes for sale as serviced plots for self-build and custom housebuilding, whilst there is an identified need[96] for this type of housing in the Borough, unless it would not be possible due to site-specific circumstances. 7) The development is for standalone self-build or custom build homes in appropriate locations	LSEs of Policy HA5 on Habitats sites can be excluded. This is a development management policy that identifies the range and mix of housing to be provided across Surrey Heath, including accessible / adaptable homes, self / custom-build homes and Build to Rent homes. However, these targets have no bearing on Habitats sites. Therefore, Policy HA5 is screened out from Appropriate Assessment.

[95] Rounded to the nearest whole unit.

[96] The need for self-build and custom housebuilding serviced plots is identified on the Surrey Heath Self-Build and Custom Housebuilding Register.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	within settlement areas. **Build to Rent Homes** 8) Development for build to rent will be permitted where the following criteria are met: a) are suitably located; b) meet an identified local demand; c) include provision of a minimum 20% affordable private rented accommodation; and, d) provide tenancy agreements for renters for a minimum of three years with a break clause which allows the tenant to end the tenancy with a month's notice any time after the first six months and which include defined in-tenancy rent reviews that are clearly set out. 9) The affordable private rented dwellings must meet the requirements set out in the government's planning guidance for build to rent homes, including a minimum discount of 20% below market values for the same or equivalent property [97]. The affordable private rented housing must be provided in perpetuity[98]; 10) **All build to rent schemes should be secured in single ownership providing solely for the rental market for a minimum 20 year term with provision for clawback of affordable housing contributions should the covenant not be met.**	
Policy H6 – Specialist Housing	1) Proposals for the development of specialist housing including suitable supported or extra care housing and registered bed spaces in residential care homes will be permitted, provided they: a) meet the identified needs of older people and households with specific needs that are evident at the time of the proposal; b) are supported by the appropriate authorities responsible for primary health care and social care provision [99], taking account of the increased demands associated with the proposal's occupiers; c) will be suitable for the intended occupiers having regard to the quality and type of facilities, the level of independence and the provision of support and/or care; d) will be accessible to local shops, services, public transport and community facilities, where appropriate to the needs of the intended occupiers;	LSEs of Policy H6 on Habitats sites can be excluded. This is a development management policy that stipulates the council's support for specialist housing, including older people and those with extra care needs. However, such provision has no bearing on Habitats sites. Therefore, Policy H6 is screened out from Appropriate Assessment.

97 Available online at: https://www.gov.uk/guidance/build-to-rent.

98 In perpetuity is at least 125 years, in accordance with the Perpetuities and Accumulations Act 2009: http://www.legislation.gov.uk/ukpga/2009/18/pdfs/ukpga_20090018_en.pdf.

99 Currently, Surrey County Council as the Adult and Social Care Commissioner, and the NHS Frimley and NHS Surrey Heartlands Integrated Care Boards as the local commissioners and providers of health and care services.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	e) will not result in the over-concentration of specialist housing in a particular locality, leading to a material change in character; and, f) will not have a detrimental impact on the vitality or viability of Camberley Town Centre, where the proposal is located in or adjacent to the Town Centre. 2) The mix of tenures negotiated by the Council will have regard to advice from the appropriate authorities responsible for primary health care and social care provision, as necessary. 3) Where viable sites of 10 or more self-contained specialist homes should deliver an appropriate proportion of affordable homes as evidenced by an independent viability assessment. 4) Proposals that would involve a net loss of specialist housing units or bed spaces, will only be permitted where appropriate replacement specialist accommodation will be provided that satisfies the criteria (1) of this policy, or it is demonstrated, using local evidence[100], that there is no local need for the existing type specialist housing to be retained. 5) Where permission is granted for specialist accommodation, the Council reserves the right to use a legal agreement to ensure that proposals are retained for their permitted use.	
Policy H7 – Affordable Housing	1) The delivery of affordable housing will be supported by granting planning permission for development which meets the following requirements: a) On sites of 10 or more dwellings (gross) or a site area of 0.5ha or more delivery of 40% of total dwellings as affordable housing. Or the percentage of affordable housing as set out in: (i) a site-specific allocation; or in the absence of a site-specific allocation where the site is located within Camberley Town Centre and is for fully flatted development the affordable housing requirement will be reduced to 20-30%; or (ii) Policy H6 "Specialist Housing"; or (iii) Policy H5 "Range and Mix of Housing" for Build to Rent homes; b) 25% of affordable housing to be provided as First Homes; c) Having accounted for First Homes, the mix of tenures for the remaining affordable housing must, to the Council's satisfaction, reflect local needs identified in the Local	LSEs of Policy H7 on Habitats sites can be excluded. This is a development management policy that stipulates the council's support for affordable housing, requiring a certain proportion of affordable homes to be delivered on sites over 10 dwellings or 0.5ha in size. However, such provision has no bearing on Habitats sites. Therefore, Policy H7 is screened out from Appropriate Assessment.

100 Surrey Heath Housing Need Assessment 2020 or any subsequent update to the housing need evidence base: www.surreyheath.gov.uk/sites/default/files/Surrey%20Heath%20Housing%20Needs%20Assessment%202020.pdf.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	Housing Need Assessment (2023)[101] or any subsequent update, and must be affordable having regard to local incomes and house rents and/or prices; d) In cases where the percentage calculation provides a part dwelling, a financial contribution will be sought equivalent to that part of the residential dwelling; e) The mix of dwelling sizes must reflect the Council's Local Housing Need Assessment (2023)[102] or any subsequent update, and have regard to the size, characteristics and location of the site; f) On-site affordable housing must be well integrated within the proposed development and should be indistinguishable in appearance from market housing on site. 2) Where land has been subdivided into smaller development parcels that cumulatively meet the thresholds in criterion 1 of this policy, the Council will assess the site as a whole and will require the policy compliant percentage of dwellings to be provided as affordable housing on each parcel. 3) Viability will only be considered a constraint to the delivery of a policy compliant level of affordable housing in exceptional circumstances and where there are significant additional site development costs. In order to demonstrate viability constraints to the Council's satisfaction proposals must be supported by an independent viability assessment on terms agreed by the Council and funded by the developer/applicant. If less than a policy compliant level of affordable housing is justified to the Council's satisfaction, the Council will include a viability review mechanism in a S106 agreement. 4) Affordable housing must be provided on site unless exceptional circumstances are demonstrated to the Council's satisfaction and delivery of affordable housing secured either off site or through a commuted sum of equivalent value.	
Policy H8 – Loss of Housing	1) Proposals for the redevelopment, conversion or change of use of land or buildings involving the net loss of residential units will not be permitted unless one of the following circumstances apply:	LSEs of Policy H8 on Habitats sites can be excluded. This is a development management policy that prevents the loss of housing in Surrey Heath, unless certain conditions are met. However, this approach has no bearing on Habitats sites.

101 At the time of this Plan's publication, the Council's most recent evidence base for housing need is set out in the Surrey Heath Housing Need Assessment 2023: Local Housing Needs Assessment.

102 At the time of this Plan's publication, the Council's most recent evidence base for housing need is set out in the Surrey Heath Housing Need Assessment 2023, available here https://www.surreyheath.gov.uk/local-plan-evidence-base/housing

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	a) The proposal would enable units of sub-standard size to be enlarged or replaced with alternative residential provision within the same use class, in order to meet residential space standards; or, b) The proposal would enable existing affordable homes to be adapted to address an identified shortfall in larger affordable dwelling sizes; or, c) The proposal would ensure that a building of historic importance can be retained or renovated; or, d) The proposal would provide a non-commercial social, community or cultural service or facility where both of the following criteria apply: i. The applicant can demonstrate a local need; and, ii. It has been demonstrated that the service or facility cannot be provided elsewhere. 2) Development proposals that would result in the loss of part of an existing unit of residential accommodation will only be permitted where any retained residential accommodation would be of a satisfactory standard in terms of amenity and internal space. 3) Where evidenced by local needs the Council will support the retention of housing designed to meet the needs of the Borough's older population and people with disabilities, such as single storey homes.	Therefore, Policy H8 is screened out from Appropriate Assessment.
Policy H9 – Rural Exception Sites	1) Small scale developments of affordable housing which are outside defined rural settlement boundaries will only be permitted where they meet all of the following criteria: a) the number, size and tenure of homes has been demonstrated to meet, or contribute to meeting, the evidenced affordable housing needs of the local area; b) it has been demonstrated that the need cannot be met within a settlement boundary; c) the site adjoins a rural settlement; and can be demonstrated to be in a sustainable location; d) the affordable homes are secured in perpetuity; e) that the housing or pitches will be for those with a local connection in the first instance and this will be ensured through legal agreement; and f) the development is in keeping with the character and size of the settlement. 2) The minimum number of market dwellings within a rural exception site will only be permitted in exceptional circumstances where the following is evidenced: g) the scheme would be demonstrated to be unviable without the inclusion of market housing;	LSEs of Policy H9 on Habitats sites can be excluded. This development management policy specifies the conditions under which affordable housing is permitted outside defined rural settlement boundaries (rural exception sites). However, rural exception sites have no bearing on Habitats sites. Therefore, Policy H9 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	h) it would not inflate the threshold land value[103]; and i) the development physically integrates open market and affordable housing.	
Policy H10 – First Homes Exception Sites	1) Proposals for First Homes which are outside defined settlement boundaries and lie within the Countryside beyond the Green Belt will be permitted where they meet all of the following criteria: a) the site adjoins a defined settlement boundary and can be demonstrated to be in a sustainable location; b) the First Homes are secured in perpetuity; c) the need for First Homes is not being met within the Borough; d) the development is small scale and proportionate to the character and size of the settlement; and e) the development will not lead to visual or physical coalescence of settlements. 2) Market dwellings within a First Homes exception site will only be permitted in exceptional circumstances where the following is evidenced: a) the requirements set out in a - e are satisfactorily met; b) the scheme would be unviable without the inclusion of market housing; c) it would not inflate the threshold land value[104]; and d) The amount of market housing is only that required for viability purposes; and e) the development physically integrates open market and affordable housing. 3) The provision of other forms of affordable housing as part of the affordable housing mix will be permitted where local evidence demonstrates a significant local need.	LSEs of Policy H10 on Habitats sites can be excluded. This development management policy specifies the conditions under which first homes are permitted outside defined settlement boundaries (first homes exception sites). However, such sites have no bearing on Habitats sites. Therefore, Policy H10 is screened out from Appropriate Assessment.
Policy H11 – Gypsies, Travellers and Travelling Showpeople	**Safeguarding Existing Supply** 1) Existing sites permitted for Gypsy and Travellers or Travelling Showpeople will be safeguarded in perpetuity. Proposals which fail to protect existing Gypsy and Traveller or Travelling Showpeople sites, or involve a loss of pitches or plots will not be permitted unless it can be evidenced that they are no longer required. **Planning Applications**	LSEs of Policy H11 on Habitats sites can be excluded. This development management policy relates to the provision of gypsy and traveller pitches across Surrey Heath (effectively residential development). However, the policy's primary aim is to safeguard existing sites.

[103] This is the minimum land value likely to trigger an owner to sell the land.

[104] This is the minimum land value likely to trigger an owner to sell the land.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	2) Planning permission for the expansion of existing sites or for new sites to accommodate Gypsy and Traveller and Travelling showpeople accommodation, will be permitted outside of allocated sites where the following criteria are met: **Location** a) The site is well-related to an existing defined settlement in terms of size and location. The site should not dominate the nearest settled community when considered alone or in combination with other nearby traveller sites. b) The site is, or will be made accessible to local services and facilities. c) Demand placed on local infrastructure arising from the site can be accommodated within existing or planned provision. d) The site is compatible with surrounding land uses and will provide an acceptable living environment for future occupiers. **Physical characteristics** e) The site will have suitable pedestrian and vehicular access to the highways network and provides adequate space for vehicle parking, turning and servicing of large vehicles, taking into account the types of vehicles that could reasonably be expected to use or access the site; f) The site is capable of being provided with essential utilities, including mains water, electricity, sewerage, drainage and waste disposal. g) The site is not subject to physical constraints or other environmental issues that cannot be mitigated or remediated to an acceptable level, or that would impact upon the health, safety or general wellbeing of residents of the site; **Character and amenity** h) The site is or will be well integrated into the surrounding area in a manner in keeping with the local character and uses boundary treatments and screening materials which are sympathetic to the existing urban/rural form; i) The site is able to accommodate residential use and where relevant the range of economic activities and vehicles associated with residents' mobile lifestyles without unacceptable impact on amenities enjoyed by neighbouring occupants. **Green Belt** 3) Sites within the Green Belt will need to demonstrate very special circumstances which clearly outweigh the harm to the Green Belt.	Furthermore, Policy H11 specifies that gypsy and traveller accommodation will be delivered on development sites comprising 100 dwellings or more. As such, it is considered that these sites will be automatically assessed as part of the overall housing quantum and individual housing allocations. Overall, therefore, Policy H11 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	Travelling Showpeople Yards 4) The following criterion applies additionally to Travelling Showpeople Accommodation: a) The site should be suitable for the storage, maintenance and testing of show equipment and associated vehicles, where required, without creating unacceptable nuisance, or presenting a risk to the health and safety of those living on or near the site. Where appropriate, conditions and/or Section 106 obligations may be used to limit the hours within which equipment can be tested. 5) Any planning permission granted for a Gypsy and Traveller site or Travelling Showpeople yard will be subject to a condition limiting occupation to Gypsies and Travellers or Travelling Showpeople, as appropriate. **Meeting future needs within larger development sites** 6) To meet the needs of Gypsy and Traveller and Travelling Showpeople households whether they meet the planning definition or not, accommodation is expected to be provided on development sites of 100 homes or more whilst there remains an identified need within Surrey Heath. Allocated sites within Camberley Town Centre which deliver regeneration will not be expected to provide provision. 7) The number of pitches and plots required will reflect the level of local need within Surrey Heath. However, sites will have at least 3 pitches/plots, and should contain the maximum number of pitches/plots that can be reasonably accommodated on the site. 8) If a development site is required to make on-site provision for traveller accommodation and has robustly demonstrated that it is unable to do so, offsite provision will be considered. 9) Offsite accommodation will only be considered appropriate where all of the following criteria are met: a) The exceptional circumstances demonstrating on-site provision is not feasible have been proven; b) The alternative site provides for at least the same quantity of provision; c) The alternative site is considered as sustainable in regards to access to services, location and size as allocation on site; d) The site can be developed within the timeframe of the housing development.	
Policy H12 – Site Allocations for Gypsy and Travelling	HA12/01 – Swift Lane Extension, Swift Lane, Bagshot, GU19 5NN 1) Swift Lane Extension is allocated for 5 net Gypsy and Traveller Pitches.	**Likely Significant Effects (LSEs) of Policy H12 on Habitats sites cannot be excluded.**

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
Showpeople Accommodation	2) Development proposals are required to: a) Provide high quality landscaping and appropriate and usable private and communal amenity space. b) Incorporate additional pitches as part of a wider redevelopment of the existing site to provide an improved layout conducive to community and individual well being through good design. c) Provide clear and defensible site boundaries sensitive to the countryside setting. d) Provide compensatory improvements to the surrounding Green Belt, which could include the delivery of improvements to existing green infrastructure, wider biodiversity improvements, and new and enhanced walking and cycling routes.	This policy allocates five gypsy and traveller pitches at Swift Lane Extension, Bagshot, which will increase the local population. As such, this policy will be associated with a range of impact pathways including recreational pressure and atmospheric pollution. **Overall, Policy H12 is screened in for Appropriate Assessment.**
Section 4: Town Centres, Retail and Economy		
Policy CTC1 – Camberley Town Centre	1) Development will be permitted within the defined town centre boundary that maintains or enhances the vitality and viability of Camberley town centre and which, as appropriate to the scale and type of development: a) Contributes to the delivery of a healthy and vibrant, experience based town centre by ensuring it is the focus for the development of Main town centre uses[105] and provides for all sectors of the community; b) Protects a robust retail core in the Primary Shopping Area by supporting a concentration of retail uses in line with Policy CTC2; c) Is consistent with the delivery of the priority regeneration sites including London Road Block as set out in Policies HA1: Housing Allocations; HA2; London Road Block and HA3: Land East of Knoll Road; d) Retains and enhances existing markets and supports opportunities for the creation of new markets; e) Delivers a safe, healthy and accessible environment, supporting the 20 Minute Neighbourhood principles; f) Delivers a mix of high quality homes, including affordable homes meeting local needs, on suitable sites within the town centre, including above ground floor level and as set out in Policies HA1, HA2 and HA3. g) Delivers flexible employment uses appropriate in the town centre;	**Likely Significant Effects (LSEs) of Policy CTC1 on Habitats sites cannot be excluded.** This policy permits development within the defined boundary of Camberley Town Centre, including high-quality homes, flexible employment uses and public realm improvements. While it defines a location of development, it does not provide a quantum of growth (although note that it refers to housing allocations and priority regeneration sites). It provides a geographic location for growth and proximity to relevant Habitats sites, including recreational pressure and atmospheric pollution. **Overall, Policy CTC1 is screened in for Appropriate Assessment.**

[105] Main Town Centre Uses: As defined in the NPPF - The uses that should normally be found within defined town centres, including uses within Class E, Class F1, F2 and certain sui generis uses i.e. retail development, leisure, entertainment and more intensive sport and recreation uses (including cinemas, restaurants, drive-through restaurants, bars and pubs, nightclubs, casinos, health and fitness centres, indoor bowling centres and bingo halls); offices and employment uses appropriate to a town centre location; schools and, colleges; places of worship; and arts, culture and tourism development (including theatres, museums, galleries and concert halls, hotels and conference facilities).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	h) Delivers high quality public realm improvements, maximizing opportunities to "Green" the town centre environment, including Camberley Park and providing attractive places to dwell and space to accommodate outdoor events; i) supports delivery of the Surrey Local Transport Plan 4 and any successors, and proposals in the Surrey Heath Local Cycling and Walking Infrastructure Plan; j) delivers improved accessibility and permeability for all, both within the town centre and between the town centre and the wider settlement with a focus on improved east/west connectivity and in line with Policy CTC3. k) delivers good quality design, in line with existing and future national and local Design Guidance and Design Codes and published master planning; l) conserves and enhances the Victorian/Edwardian historic character and setting of the High Street, including key views; m) relocates civic uses, the library and/or Camberley Theatre to more central locations should opportunities arise; n) includes provision of the most up to date digital technology; o) supports actions that deliver a low carbon town centre and provide appropriate adaptation and mitigation measures in relation to climate change in accordance with Policies SS3a and b including: i. Provision of electric charging points; ii. Urban greening and shading; iii. Delivery of low carbon heating.	
Policy CTC2 – Camberley Town Centre Primary Shopping Area	1) Within the defined Primary Shopping Area in Camberley town centre, development will be permitted which satisfies the following criteria: p) It supports or enhances the centre's vitality and viability; q) It is for a Class E Use which maintains an active ground floor frontage, generates footfall and supports the retail function of the primary shopping area; r) A change of use from retail (Class Ea) will not result in the over concentration of non retail uses to the detriment of the retail function and attractiveness of the primary shopping area.	**Likely Significant Effects (LSEs) of Policy CTC2 on Habitats sites cannot be excluded.** This policy permits development in Camberley Town Centre that enhances the centre's vitality and contributes to Class E uses. As such, this policy will increase employment opportunities in Camberley, which are primarily associated with air quality impacts. **Overall, Policy CTC2 is screened in for Appropriate Assessment.**

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
Policy CTC3 – Movement and Accessibility	1) The Council will work with partners including Surrey County Council, Network Rail and the rail and bus operators to improve the accessibility of the town centre with priority given to providing a safe and connected environment for pedestrians and cyclists and for improved access by public transport. 2) As appropriate to its nature, scale and location, new development within the town centre will be required to provide or make a financial contribution towards: a) improved pedestrian and cyclist infrastructure, including improvements identified in the Surrey Heath Local Cycling and Walking Infrastructure Plan, and connectivity to and through the town centre including improved east-west connections; b) Improved accessibility by bus; c) Enabling of better integration of transport modes in particular bus, train and taxi to include an improved transport interchange and rail station facilities at Pembroke Broadway; d) Enabling of effective circulation of traffic around and to the town centre, including use of signage to minimise congestion; e) Provision of on and off street parking facilities, including for taxis, the disabled and motorcycle and cycle in accordance with adopted standards; f) Works to accommodate any other impacts upon the highway network arising from the development; and g) Improved legibility;	LSEs of Policy CTC3 on Habitats sites can be excluded. This development management policy enhances movement and accessibility in Camberley Town Centre. This includes improvements to public transport (bus and rail), as well as enhancing pedestrian and cycle connectivity. Overall, this is a positive policy because it encourages residents to use sustainable travel modes, potentially contributing to reductions in atmospheric pollution (such as is relevant to the Thames Basin Heaths SPA). Therefore, Policy CTC3 is screened out from Appropriate Assessment.
Policy CTC4 – Land East of Park Street, North of Princess Way	1) Development proposals are required to deliver a design-led mixed use redevelopment scheme that: a) Incorporates active town centre uses at ground floor level; b) Provides a mix of town centre uses such as office, civic, cultural and leisure uses above; c) Utilises high-quality architectural design to improve engagement with the street-scene, providing distinctive and accessible public realm within this prominent central location; d) Provides an enhanced gateway into Camberley Town Centre from Park Street incorporating an attractive promenade that leads to The Square Shopping Centre and an attractive link to Princess Square; e) As appropriate, supports active travel improvements and demonstrates sufficient car and cycle provision is available for the proposed uses, having regard to its town centre location and adopted standards.	LSEs of Policy CTC4 on Habitats sites can be excluded. This development management policy relates to the future regeneration of Camberley Town Centre. This includes improvements architectural design, engagement with the street-scene and providing accessible public realm, as well as incorporating an attractive promenade and shopping centre. Overall, this is a positive policy because it encourages residents to shop and travel locally potentially contributing to reductions in atmospheric pollution (such as is relevant to the Thames Basin Heaths SPA).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
		Therefore, Policy CTC3 is screened out from Appropriate Assessment.
Section 4: Economy		
Policy ER1 – Economic Growth and Investment	1) The sustainable growth and retention of existing businesses and inward investment into Surrey Heath will be supported by: a) supporting the development and intensification of Employment Uses[106] in Strategic and locally important Employment sites; b) protecting the net loss of existing floorspace in Employment Use in Strategic and Locally Important Employment Sites; c) supporting proposals for intensification of, or new employment uses elsewhere in the Borough where it does not have an unacceptable adverse impact on local amenity including through transport movements, emissions, hours of operation and lighting and is compliant with other development plan policies; d) encouraging the growth of small and micro businesses by protecting employment units capable for use by a small business or industry and supporting the siting of small to medium size employment units in Strategic and Locally Important Employment sites or other appropriate locations; and, e) encouraging development of the rural economy in accordance with Policy ER5 (Rural Economy). 2) Development proposals on land within Strategic or Locally Important Employment Sites will be supported where the proposed use is an 'Employment Use' and would be compatible with the existing businesses on the site. 3) Employment uses in Class E(g) on Strategic and Locally Important Employment Sites will be controlled by condition and/or legal agreement where up to date evidence demonstrates that there is a need to protect these uses in perpetuity. 4) Large scale developments[107] should deliver local skills and training initiatives, unless it can be demonstrated that this is not feasible.	**Likely Significant Effects (LSEs) of Policy ER1 on Habitats sites cannot be excluded.** This policy supports the growth and retention of existing businesses across Surrey Heath, including the regeneration / redevelopment of Strategic and Locally Important Employment Sites. An increase in employment opportunities in the borough is linked to impact pathways, primarily atmospheric pollution in relation to the Thames Basin Heaths SPA. **Overall, Policy ER1 is screened in for Appropriate Assessment.**
Policy ER2 – Strategic Employment Sites	1) To contribute towards meeting the future economic growth needs of the Borough and	**Likely Significant Effects (LSEs) of Policy ER2 on Habitats sites cannot be excluded.**

[106] As defined in the Glossary and comprising uses within Classes B2, B8 and E (g).

[107] This will be determined on a case by case basis unless the Council prepares any Supplementary Planning Guidance on this issue but as an indication will include developments over 50 dwellings (net)or new commercial floorspace over 1,000m2 (net).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	the wider Functional Economic Area, the following sites are designated as Strategic Employment Sites as defined on the Policies Map, to be afforded the highest protection and safeguarding for Employment Uses[108]. a) Admiralty Park, Camberley b) Albany Park, Frimley c) Erl Wood, Windlesham d) Fairoaks Airport and Chobham Business Centre, Chobham e) Longcross Studios, near Chobham f) Highams Park, Windlesham g) Frimley Business Park, Frimley h) Lyon Way, Frimley i) Watchmoor Business Park, Camberley j) Yorktown Business Park, Camberley. 2) The redevelopment and regeneration of these sites will be supported to provide floorspace for Employment Uses[109] that meets the needs of the market. 3) Small-scale proposals for changes of use or redevelopment to non Employment Uses will be supported where they would provide complementary use(s) that are not detrimental to the function and operation of the Strategic Employment Site.	This policy safeguards Strategic Employment Sites in Camberley, Frimley, Windlesham, Chobham and Mychett. It also endorses the redevelopment of these sites to provide additional floorspace for employment uses. An increase in employment opportunities in the district is linked to impact pathways, primarily atmospheric pollution in relation to the Thames Basin Heaths SPA. This is because additional employment development is likely to increase the number of commuter journeys within 200m of air-quality sensitive habitats. **Overall, Policy ER2 is screened in for Appropriate Assessment.**
Policy ER3 – Locally Important Employment Sites	1) To contribute towards meeting the future economic growth needs of the Borough, the following sites are designated as Locally Important Employment Sites as defined on the Policies Map, and will be given protection against loss to non Employment uses. a) Bridge Road Trade and Industrial Park, Camberley b) Linsford Business Centre Mytchett c) Fairoaks Airport Employment Land d) SC Johnson, Frimley Green e) St Georges Industrial Estate and Helix Business Park, Camberley f) Tanners Yard, Bagshot 2) The redevelopment and regeneration of these sites will be supported to provide	**Likely Significant Effects (LSEs) of Policy ER3 on Habitats sites cannot be excluded.** This policy safeguards Locally Important Employment Sites in Camberley, Frimley Green, Bagshot and Mychett. It also endorses the redevelopment of these sites to provide additional floorspace for employment uses. An increase in employment opportunities in the district is linked to impact pathways, primarily atmospheric pollution in relation to the Thames Basin Heaths SPA. This is because additional employment development is likely to increase the number of

[108] As defined in the Glossary and comprising uses within Classes B2, B8 and E (g).
[109] As defined in the Glossary and comprising uses within Classes B2, B8 and E (g).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	floorspace for Employment Uses[110] that meet the needs of the market. 3) The change of use or redevelopment of land and buildings in Employment Use to non Employment Uses within the defined Locally Important Employment Sites will only be permitted where it can be demonstrated that: a) There are no strong economic reasons to retain the Employment Use; b) Market signals indicate that the premises / site are unlikely to come back into an Employment Use; c) The proposal would generate a level of employment that is at least equivalent to the existing use; and d) The proposal would not be detrimental to the function and operation of the wider site; or e) The site is not appropriate for the continuation of its present use or any Employment Use due to a significant detriment to the environment or amenity of the area.	commuter journeys within 200m of air-quality sensitive habitats. **Overall, Policy ER3 is screened in for Appropriate Assessment.**
Policy ER4 – Yorktown Business Park	1) The role of Yorktown Business Park as the Borough's largest employment site and most extensive cluster of industrial uses is recognised. Proposals for redevelopment or enhancement for Employment Uses[111], including the refurbishment of existing stock, and subdivision of larger units to provide multiple units will be supported. 2) Proposals including provision of a net increase in the overall amount of Employment Use floorspace will be supported. 3) The redevelopment of derelict or underutilised land for Employment Uses or Sui Generis uses with a strong employment element will also be supported, provided proposals would not result in a net reduction to the overall amount of Employment floorspace at the site. 4) Proposals will be required to support the delivery of a structured landscape setting incorporating green boundary treatments, high quality materials and good design, in line with the Yorktown Landscape Strategy Supplementary Planning Document.	**Likely Significant Effects (LSEs) of Policy ER4 on Habitats sites cannot be excluded.** **This policy recognises the importance of Yorktown Business Park as the Borough's most important employment site. Importantly, this policy also enables the redevelopment of the site and provides for a potential increase in employment floorspace.** **An increase in employment opportunities in the district is linked to impact pathways, primarily atmospheric pollution in relation to the Thames Basin Heaths SPA. This is because additional employment development is likely to increase the number of commuter journeys within 200m of air-quality sensitive habitats.**

[110] As defined in the Glossary and comprising uses within Classes B2, B8 and E (g).

[111] As defined in the Glossary and comprising uses within Classes B2, B8 and E (g).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
		Overall, Policy ER4 is screened in for Appropriate Assessment.
Policy ER5 – The Rural Economy	1) Within the countryside, including the Green Belt, development proposals for economic uses located outside of Strategic or Locally Important Employment Sites will be supported which: a) Enable the continuing sustainability or expansion of an existing business or enterprise; b) Are compatible with any existing agricultural or farm operation; c) Are consistent with Policies GBC1, GBC2 and GBC4, as relevant, and provide for a scale and use which does not conflict with wider countryside and Green Belt objectives; d) Do not have an unacceptable adverse impact on local amenity; e) Accommodate incidental uses such as car parking and storage such that the visual impact is minimised; f) Are to be accommodated within a building which is of permanent construction, structurally sound and capable of conversion without major alterations, adaptations or reconstruction for the use proposed. 2) Where it is demonstrated that the proposed use cannot be accommodated within an existing building, proposals for replacement or new buildings for farm diversification or economic purposes will be supported where they meet above criteria a) to e) and: a) The proposal is justified by a business case providing evidence of need for the scale of the development proposed and demonstrating that the business is viable; b) Any building to be replaced is of a permanent construction; c) Priority is given to siting the replacement building on previously developed land. 3) Within settlements in the rural areas[112] development for economic uses will be supported which are of a use and character appropriate to the proposed site and to the scale of the settlement and which do not have an unacceptable adverse impact on local communities particularly in terms of traffic, noise, lighting and visual impact.	**Likely Significant Effects (LSEs) of Policy ER5 on Habitats sites cannot be excluded.** This policy supports general economic development proposals in the countryside, providing that several conditions are met. This includes the potential delivery of replacement or new dwellings to enable economic uses. An increase in employment opportunities in the district is linked to impact pathways, primarily atmospheric pollution in relation to the Thames Basin Heaths SPA. This is because additional employment development is likely to increase the number of commuter journeys within 200m of air-quality sensitive habitats. **Overall, Policy ER5 is screened in for Appropriate Assessment.**
Policy ER6 – Frimley Park Hospital	1) Development proposals for the retention and improvement of healthcare facilities at Frimley Park Hospital will be supported provided that: a) The proposals form part of a comprehensive development strategy or business plan that ensures that the continued development of the hospital is properly coordinated; b) Where appropriate it is accompanied by a transport strategy to include:	LSEs of Policy ER6 on Habitats sites can be excluded. This policy supports the retention and improvement of healthcare facilities at Frimley Park Hospital, including a potential transport strategy. Furthermore,

[112] As defined in the Surrey Heath Local Area Profiles section of this Plan.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	i. a parking strategy; ii. provision for an increase in the proportion of staff, patients and visitors who can access the hospital by public transport, cycling and walking; and iii. the mitigation of any adverse impacts of traffic and car parking on the highway network and surrounding community; c) There will be no significant detrimental impact on residential properties within the site or surrounding residential properties; d) There is no detrimental impact to protected trees; e) The proposal incorporates climate change mitigation measures, including on-site renewable energy generation, consideration for low carbon heating and making best use of existing combined heat and power (CHP) networks; f) The proposal incorporates climate change adaptation measures, including reducing the risk of seasonal overheating through appropriate design having regard to site-specific constraints. 2) The provision of heath care facilities will be supported within Camberley town centre and elsewhere in the borough where they can be demonstrated to meet future needs.	the policy protects trees. However, enhancements to healthcare facilities have no bearing on Habitats sites. Therefore, Policy ER6 is screened out from Appropriate Assessment.
Policy ER7 – Edge of Centre and Out of Centre Proposals	**Sequential Test** 1) Main Town Centre Uses should be directed to Designated Centres in line with the sequential approach set out in the National Planning Policy Framework. Designated Centres include Camberley Town Centre and the Borough's District and Local Centres. Proposals for retail or other main town centre uses which are outside a Designated Centre and which are not on sites allocated for such uses will be subject to the sequential test. 2) If it can be demonstrated through the sequential test that there are no suitable sites available on edge of centre locations, sites will be given preference that are well connected to centres, are accessible by a range of sustainable transport options, including public transport, cycle, on foot and by people with disabilities. **Impact Assessment** 3) Proposals for retail and leisure development over 280 sqm (gross) which are not within a Designated Centre and which are not on sites that are allocated for such uses must be accompanied by an impact assessment and will only be permitted if it is demonstrated that it will not cause a significant adverse impact on existing centres.	LSEs of Policy ER7 on Habitats sites can be excluded. This policy stipulates that edge of centre and out of centre proposals will only be supported if sequential tests indicate a need and impact assessments have been completed. However, following this general procedure has no relevance for Habitats sites. Therefore, Policy ER7 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
Policy ER8 – District and Local Centres	1) The boundaries of the following designated District and Local Centres are shown on the Policies Map along with the Primary Shopping Areas. For Local Centres, the boundary of the Primary Shopping Area is the same as the boundary of the Local Centre. 2) The District Centres are: a) Bagshot b) Frimley 3) The Local Centres are: a) Chobham b) Frimley Green c) Lightwater d) Watchetts e) Windlesham. 4) Within District and Local Centres, proposals for retail uses (Class E(a) and F2(a)) will be permitted provided they are in proportion to the scale and function of the centre. 5) Proposals for other Main Town Centre uses (as defined in the Local Plan Glossary113) will be permitted provided they satisfy all of the following criteria: a) They are appropriate to the Centre in scale and function; b) They maintain or enhance the Centre's vitality and viability; c) They provide an active frontage, if at ground floor level, such as a shop front or window display, which is in keeping with the character of the Centre; d) They would not result in loss of amenity in terms of noise, fumes, vibrations, odour, or disturbance. e) Does not result in an over concentration of non-retail uses to the detriment of the retail function and attractiveness of the Primary Shopping Area 6) The loss of Main Town Centre uses at ground floor to other uses, including the loss of retail units within Class F2(a), will only be permitted where it can be demonstrated that the existing use is no longer viable. Such proposals must meet the above criteria and must also be supported by evidence that demonstrates active and appropriate	LSEs of Policy ER8 on Habitats sites can be excluded. This policy identifies Surrey Heath's District and Local Centres, and the uses that are considered appropriate in these areas. However, the actual development proposals that are supported in these areas, are adequately assessed in other economic policies. Therefore, Policy ER8 is screened out from Appropriate Assessment.

[113] Main Town Centre Uses: The uses that should normally be found within defined town centres, including uses within Class E, Class F1, F2 and certain sui generis uses i.e. retail development, leisure, entertainment and more intensive sport and recreation uses (including cinemas, restaurants, drive-through restaurants, bars and pubs, nightclubs, casinos, health and fitness centres, indoor bowling centres and bingo halls); offices and employment uses appropriate to a town centre location; schools and, colleges; places of worship; and arts, culture and tourism development (including theatres, museums, galleries and concert halls, hotels and conference facilities).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	marketing for a period of at least 12 months. 7) Residential development and B2 and B8 uses at ground floor level will not be permitted in District and Local Centres. 8) Residential development in a C3 or C4 use class at first floor level or above will be supported within District and Local Centres. Uses above ground floor level should have a safe and convenient access and must not inhibit the functioning of the ground floor use.	
Policy ER9 – Neighbourhood Parades	1) The boundaries of the following designated Neighbourhood Parades are shown on the Policies Map: a) Beaumaris Parade, Frimley Green b) Bisley (Guildford Road) c) Chertsey Road Parade, Chobham d) Deepcut e) Farm Road Parade, Frimley f) Frimley Road and London Road Parades, Camberley g) Heather Ridge Arcade, Heatherside h) Mytchett (Mytchett Road) i) Dean Parade, Old Dean[114] j) The Parade, Gosden Road, West End. 2) Within Neighbourhood Parades, development proposals will be permitted provided they satisfy all of the following criteria: a) They are appropriate to the Neighbourhood Parade in scale and function; b) They maintain or enhance the Neighbourhood Parade's vitality and viability; c) They would not undermine the retail and service function of the Neighbourhood Parade; d) They would not result in loss of amenity in terms of noise, fumes, vibrations, odour, or disturbance; e) They would provide an active frontage, if at ground floor level, such as a shop front or window display, which is in keeping with the character of the Neighbourhood Parade;	LSEs of Policy ER9 on Habitats sites can be excluded. This is a development management policy that designates Neighbourhood Parades in various settlements across Surrey Heath. Furthermore, it specifies the types of uses that are considered appropriate in these locations. However, the actual development proposals that are supported in these areas, are adequately assessed in other economic policies. Therefore, Policy ER9 is screened out from Appropriate Assessment.

[114] Dean Parade, Old Dean, Camberley will also be subject to the requirements of Policy ER10 – Old Dean.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	f) They would contribute to the provision of a range of retail, service and community uses, if at ground floor level, which provide for the day-to-day needs of local people. 3) Residential development and B2 and B8 uses at ground floor level will not be permitted in Neighbourhood Parades. 4) Residential development in a C3 or C4 use class at first floor level or above will be supported within Neighbourhood Parades. Uses above ground floor level should have a safe and convenient access and must not inhibit the functioning of the ground floor use.	
Policy ER10 – Old Dean	1) A partnership approach will be taken towards continued neighbourhood improvement in Old Dean. 2) Development proposals will be supported which: a) Are consistent with Policy E1 Thames Basin Heaths SPA; b) Support the vitality and viability of the local centre; c) Provide for a regenerated local centre; d) Provide improvements to housing choice and quality; e) Increase accessibility and opportunities for walking and cycling; f) Provide enhanced community, healthcare and education facilities including through partnership working with providers and the delivery of appropriate infrastructure from new development; g) Deliver environmental improvements to improve public realm and provides opportunities for greening the environment; h) Contribute to community safety.	LSEs of Policy ER10 on Habitats sites can be excluded. This is a development management policy that supports continued neighbourhood improvement in Old Dean. However, it only specifies relatively vague proposals, such as improvements in housing choice and quality. In any case, the policy requires any proposals to be consistent with Policy E1 (Thames Basin Heaths SPA). Therefore, Policy ER10 is screened out from Appropriate Assessment.
Section 5: Infrastructure		
Policy IN1 – Infrastructure Delivery	1) Development will be permitted if it can be demonstrated that there is, or will be, sufficient infrastructure capacity to support and meet the requirements arising from new development. 2) Where additional infrastructure capacity is required this will be secured either through direct provision or financial contributions (Community Infrastructure Levy (CIL) and/or S106). 3) Development will be permitted provided that: a) Reasonable on-site provision, off-site contribution or financial contributions to ensure sufficient capacity is provided towards infrastructure including, but not limited to: i. site specific infrastructure requirements including those set out in Allocations	LSEs of Policy IN1 on Habitats sites can be excluded. This is a positive infrastructure management policy because it ensures that sufficient infrastructure capacity will be provided to serve new developments. For example, the policy stipulates that development proposals which deliver the agreed mitigation measures in relation to the Thames Basin Heaths SPA will be permitted. The policy would also cover sufficient potable water provision and capacity at

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	policies in this Plan; ii. community infrastructure including, but not limited to education, healthcare, libraries, community facilities; iii. access to the development, pedestrian, cycling and highway safety improvements necessary to mitigate any impacts on the wider highway network; iv. flood risk measures; v. the delivery and ongoing maintenance of formal and informal open space; vi. the delivery of agreed mitigation measures with regards to the Thames Basin Heaths Special Protection Area, vii. adequate wastewater capacity and surface water drainage both on and off the site o serve the development and evidence engagement with Thames Water. b) Infrastructure phasing is agreed with the Council in partnership with relevant partners and ensures that infrastructure is operational prior to, or alongside the development it will serve; and c) Infrastructure is designed and located to be accessible to all; and d) It can be demonstrated that all opportunities for dual use have been explored and maximised; and e) Engagement with utilities and service providers including Surrey County Council have taken place, as appropriate to the development; and f) There is no loss or reduction in capacity of existing infrastructure unless: i. The loss of a Community Facility is compliant with Policy IN3; or ii. For other infrastructure, replacement services or facilities are provided on-site or within the vicinity which meet the needs of the local population; or iii. Necessary services can be delivered from other facilities without leading to, or increasing any shortfall in local provision; or iv. It has been clearly demonstrated that there is no need for the facility. 4) Viability will only be considered a constraint in exceptional circumstances. 5) A financial contribution will be sought towards the Council's administrative costs of monitoring the implementation of planning obligations.	Wastewater Treatment Works (WwTWs). The adequate provision of such utilities ensures that there can be no adverse impacts on Habitats sites in relation to the impact pathways water quantity, level and flow and water quality. There are no linking impact pathways to Habitats sites. Therefore, Policy IN1 is screened out from Appropriate Assessment.
Policy IN2 – Transportation	1) New development will be supported which: a) is located where travel can be minimised and the use of sustainable transport modes is maximised;	LSEs of Policy IN2 on Habitats sites can be excluded. This is a positive infrastructure management policy that relates to the provision of adequate transport

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	b) seeks to improve transport capacity and opportunities for travel by rail or bus transport; c) provides safe, convenient access both within the development and to adjoining areas for all potential users including those with disabilities, giving priority to walking and cycling routes over vehicular traffic and maximising catchment areas for bus or other public transport services; d) provides appropriate vehicular and cycle parking in accordance with the Councils most recently adopted standards unless the provision of a car club, low car or car free development is agreed; e) as appropriate to the scale, nature and location of the development, supports delivery of improvements identified in the Surrey Heath Local Cycling and Walking Infrastructure Plan; f) incorporates the flexibility for embracing technological advances in transport, such as intelligent vehicle charging, wayfinding for parking spaces, car sharing schemes, and car park management. 2) New development will be required to provide and/or fund the provision of suitable access and transport infrastructure and services that are necessary to make it acceptable, including the mitigation of otherwise unacceptable impacts on highway safety and/or any severe residual cumulative impacts on the road network. This mitigation will: 3) maintain the safe operation and the performance of the Local Road Networks and the Strategic Road Network to the satisfaction of the relevant highway authorities; and 4) address otherwise adverse material impacts on communities and the environment including impacts on amenity and health, noise pollution and air pollution. 5) New development that generates significant amounts of movement will: g) provide sufficient information such that the transport impact can be assessed through a Transport Statement or Transport Assessment in accordance with the thresholds set out in the Local Planning Authority's Local Validation List, and advice from Surrey County Council; h) require a Travel Plan which will be proportionate to the size of the new development.	infrastructure, including improvements to sustainable transport modes, the provision of electric vehicle charging points and Transport Assessments. Overall, this is a positive approach for Habitats sites, particularly because it reduces reliance on fossil-fuelled vehicles and thereby may help reduce atmospheric pollution in the Thames Basin Heaths SPA. Therefore, Policy IN2 is screened out from Appropriate Assessment.
Policy IN3 – Digital Infrastructure and Telecommunications	**Proposals for Residential/Commercial Development** 1) Development proposals which deliver improvements to digital infrastructure will be supported. Applicants will be required to demonstrate that they have considered gigabit-capable broadband and mobile connectivity within their proposals for new residential, employment and retail developments and as a minimum meet the government's relevant building regulations, or any subsequent national standard relating to the provision of digital infrastructure.	LSEs of Policy IN3 on Habitats sites can be excluded. This is an infrastructure management policy that ensures the adequate provision of digital infrastructure and telecommunications equipment, especially in larger development sites. While the policy enables new mast and base stations, the Habitats sites most relevant to Surrey Heath are not

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	Telecommunications Infrastructure 2) Proposals for telecommunications infrastructure development are required to submit a 'Code of Practice Statement', as part of the planning application, which sets out in detail how the proposal has been developed in accordance with the Government's 'Code of practice for wireless network development in England'[115] (March 2022). In particular, how the siting, design, and pre-application consultation, have been developed in accordance with the relevant principles in the guidance. 3) Proposals for new telecommunications infrastructure development are required to demonstrate that: a) the proposed development would not cause significant and irremediable interference with other electrical equipment of significance, air traffic services, or instrumentation that is operated in the national interest; b) there is no reasonable possibility of sharing existing facilities in the locality (either in terms of antennae, buildings, or sites), or erecting aerials on an existing building, site, or mast, or other structure; and c) where a new mast or base-station is proposed, it would not exceed exposure guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) when operational, or d) **where an addition to an existing mast or base-station is proposed, that the cumulative exposure, when operational, will not exceed guidelines set by the International Commission on Non-Ionizing Radiation Protection ICNIRP.**	designated for animal species that are associated with the use of functionally linked habitats. Therefore, Policy IN3 is screened out from Appropriate Assessment.
Policy IN4 – Community Facilities	1) Development proposals for the provision of new or improved community facilities will be supported. Proposals should demonstrate that they have explored opportunities for the new facility to be multifunctional. 2) Development proposals resulting in the loss of existing community facilities will not be permitted unless: a) Evidenced adequate alternative provision already exists in the locality, or the loss would be replaced by an equivalent or better facility in a suitable and accessible location; or b) A robust assessment has been carried out that demonstrates that: i. There is no need for the facility or demand for another community use on site; and	LSEs of Policy IN4 on Habitats sites can be excluded. This is an infrastructure management policy that supports the delivery of and protects existing community facilities across Surrey Heath. However, the provision of such facilities has no bearing on Habitats sites. . Therefore, Policy IN4 is screened out from Appropriate Assessment.

[115] Available online at: https://www.gov.uk/government/publications/code-of-practice-for-wireless-network-development-in-england/code-of-practice-for-wireless-network-development-in-england.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	ii. It would no longer be economically viable, feasible or practicable to retain the building or site for its existing use; and iii. All reasonable efforts have been made to retain the facility, including evidence to confirm that the property or site has been actively and positively marketed for a meaningful period with reasonable commercial terms and that there is no realistic interest in its retention as a community use. 3) If a community facility is listed as an Asset of Community Value this will be a material planning consideration.	
Policy IN5 – Green Infrastructure	4) The Council, in partnership with other organisations, will plan for a network of accessible and integrated green infrastructure, including Suitable Alternative Natural Greenspace, across the Borough and linked to neighbouring areas. The Council will seek to strengthen the role of the green infrastructure network. 5) Development proposals are required to demonstrate that they will: a) reinforce, link, buffer and create new green infrastructure; and b) promote, manage and enhance public enjoyment of green infrastructure. 6) Development proposals will not be permitted where they will result in the loss or fragmentation of existing green infrastructure assets/components or compromise the integrity of the green infrastructure network as set out in the Green Infrastructure Strategy, unless replacement provision or suitable alternative provision that is equivalent or better value in terms of quantity, quality and accessibility can be made. 7) Any adverse impacts on the green infrastructure network should in the first instance be fully mitigated through the provision or improvement of green infrastructure on-site or where this is not possible, through appropriate off-site compensatory measures. 8) Where new green infrastructure is provided, suitable arrangements must be put in place for its future management and maintenance.	LSEs of Policy IN5 on Habitats sites can be excluded. This is a positive infrastructure management policy that provides for a network of accessible and integrated green infrastructure across the borough. It prevents any adverse impacts on the connectivity of green infrastructure and specifies that a Green Infrastructure Strategy will be implemented. The provision of green infrastructure is a key element of mitigation against recreational pressure impacts in sensitive Habitats sites, such as the Thames Basin Heaths SPA. Well connected and attractive greenspaces are more likely to help absorb recreational pressure locally. Therefore, Policy IN5 is screened out from Appropriate Assessment.
Policy IN6 – Green Space	1) Green spaces, as shown on the Policies Map are allocated for their visual amenity and/or recreational value. 2) Development will not be supported on areas designated as green spaces, unless: a) For sites designated for their recreational value: i. an evidenced assessment has been undertaken that clearly and robustly demonstrates re-provision can be made elsewhere of equivalent or better community benefit in terms of quality, quantity and accessibility; or	LSEs of Policy IN6 on Habitats sites can be excluded. This positive policy designates green spaces across Surrey Heath that will be protected from loss through development. The provision and preservation of green spaces is a key element of mitigation against recreational

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	ii. The development is for sports and recreation provision the need for which clearly outweighs the loss of green space; or iii. An assessment has been undertaken, which has clearly shown the open space to be surplus to requirements in meeting need in Surrey Heath over the plan period. b) For sites designated for their visual amenity, it can be clearly demonstrated that the loss will not have a negative impact upon residential amenity and local character, and an element of open space will be incorporated into the development proposal. 3) Development proposals that include existing areas of ancillary green open space that are not designated[116], but none the less contribute to an areas character, should be assessed in accordance with Green Infrastructure Policy IN5 of this Plan. 4) Development proposals that would result in a net increase in number of residential units are required to provide open space in accordance with the most up to date standards based on the expected occupancy of the new development. Where required onsite open space provision is unable to meet the quantity standards, an equivalent financial contribution based on the amount and type of open space omitted will be sought.	pressure impacts in sensitive Habitats sites, such as the Thames Basin Heaths SPA. This is because the availability of green spaces locally is likely to help absorb recreational pressure. Therefore, Policy IN6 is screened out from Appropriate Assessment.
Policy IN7 – Indoor and Built Sports and Recreational Facilities	1) Indoor and built sports and recreational facilities will be promoted by safeguarding existing facilities and supporting proposals for new and improved, refurbished, replacement or extended indoor and built sport and recreational facilities in sustainable locations. 2) The loss of existing indoor and built sport and recreational facilities will be resisted unless replacement facilities of an equivalent or increased quantity and standard are proposed in a location that is accessible to the current catchment, unless it can be demonstrated that: a) The existing use is unviable; and b) There is no longer a need for the existing facilities or an alternative indoor and built sport and recreational use.	LSEs of Policy IN7 on Habitats sites can be excluded. This positive policy safeguards existing indoor sports / recreational facilities, as well as promoting expansions of existing and new complexes. The provision and expansion of sports / recreational facilities is a key element of mitigation against recreational pressure impacts in sensitive Habitats sites, such as the Thames Basin Heaths SPA. This is because the availability of sports facilities locally is likely to help absorb recreational pressure. Therefore, Policy IN7 is screened out from Appropriate Assessment.

4) Section 6: Environment

[116] For example, due to their size.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
Policy E1 – Thames Basin Heaths Special Protection Area	1) The Council will only permit development where it is satisfied that this will not give rise to likely significant adverse effect on the integrity of the Thames Basin Heaths Special Protection Area (SPA), which includes Thursley, Ash, Pirbright & Chobham Common Special Area of Conservation (SAC), whether alone or in combination with other development. 2) Net new residential development will not be permitted within the 'exclusion zone' set at 400m linear distance from the SPA boundary. Non-residential development proposals within 400m of the SPA will need to demonstrate that they will not harm the integrity of the SPA through an Appropriate Assessment. 3) All new residential (net) development within 5km of the Thames Basin Heaths Special Protection Area is considered to give rise to the possibility of likely significant effect. Where one or more adverse effects on the integrity of the SPA will arise, measures to avoid and mitigate these effects must be delivered and secured in perpetuity and be subject to an Appropriate Assessment. These measures are unlikely to be acceptable unless agreed with Natural England. 4) Such measures will include: a) All net new residential development will provide or contribute toward the provision of Suitable Alternative Natural Greenspace (SANGs). b) SANGs will be provided at a standard of at least 8ha per 1,000 new occupants. c) Developments of 10 or more net new dwellings will only be permitted within the identified catchment areas of SANGs. d) All net new residential development will contribute toward Strategic Access Management and Monitoring (SAMM) measures. 5) Where further evidence robustly demonstrates that the integrity of the SPA can be protected using amended or alternative measures, the Council will agree these in consultation with Natural England.	LSEs of Policy E1 on Habitats sites can be excluded. This is an important policy from an HRA perspective as it aligns the Surrey Heath Local Plan with the mitigation framework that is in place for the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright & Chobham SAC (which largely overlaps the SPA). It comprises the following key elements: • A 400m exclusion zone surrounding these sites where no new residential development is permitted • A 5km mitigation zone in which all new residential developments are required to contribute to Suitable Alternative Natural Greenspace (SANG) and Strategic Access Management and Monitoring (SAMM) As such, this policy ensures that there will be no adverse effects of the Local Plan on these Habitats sites in relation to recreational pressure. Therefore, Policy E1 is screened out from Appropriate Assessment.
Policy E2 – Biodiversity and Geodiversity	1) Development proposal will be permitted where they protect and enhance biodiversity and/or geodiversity. Development proposals are required to positively contribute towards the priorities and measures of the Local Nature Recovery Strategy (LNRS), or towards the objectives of the Biodiversity Opportunity Area Policy Statements prior to publication of the LNRS. Sites outside of these strategic priority areas should contribute to improving habitat connectivity in the immediate vicinity of the site. 2) Where harm or loss of biodiversity and/or geodiversity cannot be avoided, mitigation will be required such that it can be robustly demonstrate that:	LSEs of Policy E2 on Habitats sites can be excluded. This positive policy protects Surrey Heath's biodiversity and geodiversity assets. Importantly, it prevents adverse effects on the integrity of internationally designated sites, which automatically implies that the Plan should not result in HRA-relevant impacts.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	a) There will be no adverse effect on the integrity of international, national and local designated sites; b) there will be no adverse impact on protected species or local populations of priority species; c) there will be no loss or deterioration of a priority habitat type, and/or irreplaceable habitat; d) there will be no adverse effect on the integrity of linkages between designated sites and priority habitats. 3) The weight attributed to the protection of nature conservation interests will be commensurate to their status and significance, and any other designation applying to the site, habitat or species concerned. For proposals that affect nationally protected sites, exceptional circumstances would be required to robustly demonstrate that the benefits of the development proposal clearly outweigh the loss or harm and that appropriate compensation will be delivered. 4) Effective avoidance, mitigation and compensation will be secured through the imposition of planning conditions or planning obligations as appropriate, including monitoring for the effectiveness of these measures. 5) Development proposals, where appropriate, will need to take full account of the impact on soils. Development will be expected to avoid the best and most versatile agricultural land. Areas of lower quality agricultural land should be used for development in preference to the best and most versatile agricultural land.	Therefore, Policy E2 is screened out from Appropriate Assessment.
Policy E3 – Biodiversity Net Gain	1) Qualifying development proposals will be permitted provided that they can demonstrate the provision of biodiversity net gains of at least 20 per cent, or the advised national minimum target, whichever is greater, measured using the statutory Biodiversity metric. Any off-site habitat creation or enhancement measures must be in line with the hierarchy in this policy, within Surrey Heath Borough, unless demonstrably unfeasible. 2) Significant areas of habitat creation and/or enhancement should align with and support delivery of the Local Nature Recovery Strategy for Surrey where applicable, and must be secured and maintained for at least 30 years, or a period of time set out in national policy, whichever is greater. 3) Proposals for the creation of biodiversity gain sites will be supported where these are suitably located, designed and appropriately managed in order to align with local and national strategies, in particular the Local Nature Recovery Strategy for Surrey. 4) Development and Biodiversity Gain site proposals must provide suitable ecological survey information and assessment to inform Biodiversity Net Gain plans and to ensure that design	LSEs of Policy E3 on Habitats sites can be excluded. This is a policy that ensures the delivery of biodiversity net gain targets (of a minimum of 20% increase in biodiversity units) in development proposals. The policy also secures the provision of environmental net gain. The policy does not propose a quantum or location of residential / employment development. Therefore, Policy E3 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	for biodiversity gains take full account of all relevant ecological considerations. 5) Development proposals should seek to deliver environmental net gain, in accordance with national guidance.	
Policy E4 – Pollution and Contamination	**Pollution** 1) Development will be permitted provided that: a) It does not give rise to, or would be subject to, unacceptable levels of pollution[117]; and b) It is satisfactorily demonstrated through an assessment that any adverse impacts of pollution[118] will be adequately mitigated or otherwise minimised to an acceptable level[119]. 2) Where development is proposed on or near a site that may be impacted by, or may give rise to, pollution, such a proposal must be supported by an assessment that investigates the risks associated with the site and the possible impacts on the development, its future users and the natural and built environment. The assessment should propose adequate mitigation or remediation when required to achieve a safe and acceptable development. This assessment should be written in line with best practice guidance. 3) Development will only be permitted in an Air Quality Management Area[120] (AQMA) where it can be demonstrated that it will not have any adverse impacts to human health or lead to a deterioration of air quality within the AQMA. 4) Where required, planning obligations will be used to secure contributions to tackle poor air quality and/or for air quality monitoring. 5) Where there will be significant adverse impacts that cannot be effectively mitigated, the planning application will be refused. **Land contamination** 6) Development proposals on land which is suspected of being affected by historic or current land contamination will be required to investigate the nature and risk of the contamination both on the development proposal and the wider environment. Where	LSEs of Policy E4 on Habitats sites can be excluded. This is a policy that protects against potential adverse impacts of pollution and contamination arising from development proposals. For example, development in Air Quality Management Areas will only be permitted where it will not lead to a deterioration in air quality. The policy does not propose a quantum or location of residential / employment development. Therefore, Policy E4 is screened out from Appropriate Assessment.

[117] Pollution refers to anything that affects the quality of land, air, water or soils which might lead to an adverse impact on human health, quality of life, the natural environment or general amenity. It includes noise, vibration, light, air quality, radiation, dust, fumes or gases, odours or other effluvia, harmful substances, or degradation of soil and water resources.

[118] Including those from the proposed development, including demolition and construction phases, which impact sensitive development or the environment.

[119] In accordance with recognised national and international standards, guidance and methodologies, or any local authority adopted supplementary guidance.

[120] The current AQMA in the Borough is the strip of land from Frimley Road Camberley to Ravenswood Roundabout Camberley which embraces the M3 Motorway and the houses on both sides of the motorway which border the highway.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	contamination is revealed, the applicant will be required to submit and implement a scheme of remediation that is appropriate to the proposed use and which demonstrates the development site no longer meets the statutory definition of contaminated land. **Demolition and Construction** 7) Major developments and all developments near sensitive receptors are required to provide a Demolition and/or Construction Management Plan.	
Policy E5 – Renewable and Low Carbon Energy and Heating Schemes	1) Proposals for stand-alone and community led renewable, low carbon and decentralised sources of energy and heating schemes will be supported provided that there is no significant harm to local amenity or to the built, historic and natural environments, in accordance with other policies in this Plan. 2) Major development proposals will be required to incorporate measures to supply a minimum of 25% of the development's regulated operational energy needs from on-site renewable and/or low carbon technologies, in accordance with national technical standards, unless it can be clearly demonstrated with evidence that this is not feasible and/or viable for this form of energy provision.	LSEs of Policy E5 on Habitats sites can be excluded. This policy supports low carbon, decentralised energy and heating schemes, provided they represent no significant harm to the natural environment. It also sets renewable energy targets for larger development proposals. While this is a positive policy for the environment, it has no direct HRA relevance. The policy does not propose a quantum or location of residential / employment development. Overall, Policy E5 is screened out from Appropriate Assessment.
Policy E6 – Flood Risk and Sustainable Drainage	1) Flood zones in Surrey Heath Borough are defined based on the definitions contained within national Planning Practice Guidance (PPG)[121] and the Council's Strategic Flood Risk Assessment (Level 1)[122]. 2) To ensure that development is safe from flooding from all sources for its lifetime, does not increase the risk of flooding elsewhere and seeks opportunities to reduce the causes and impact of flooding, the Council will: a) Steer development to the areas with a lower risk of flooding;	LSEs of Policy E6 on Habitats sites can be excluded. This policy addresses flood risk in Surrey Heath Borough through the application of the Council's Strategic Flood Risk Assessment, Sequential Test and Exception Test. It considers all sources of flooding, including fluvial, surface water, groundwater and sewers. This approach is important because it

[121] Flood risk and coastal change section of the PPG, available here: https://www.gov.uk/guidance/flood-risk-and-coastal-change

[122] Surrey Heath Strategic Flood Risk Assessment 2020 (or as updated).

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	b) Apply the Sequential Test and Exception Test to site selection informed by existing evidence, where applicable; in accordance with the Surrey Heath Strategic Flood Risk Assessment; c) Consider all sources of flooding from fluvial, surface water, groundwater, sewers, reservoirs and ordinary watercourses; d) Apply the sequential approach to site layout by locating the most vulnerable uses in parts of the site at the lowest risk of flooding; e) Assess the cumulative impacts of development on flood risk; f) Account for the impacts of future climate change; and g) Safeguard the 'undeveloped' flood zone for flood management purposes, with the exception of the provision of essential infrastructure. h) Support and encourage development that seeks to restore areas of functional floodplain, especially where this would provide opportunities for recreation, habitat restoration/enhancement and green infrastructure opportunities. 3) Development in areas at high or medium risk of flooding[123], as identified in the latest Surrey Heath Strategic Flood Risk Assessment and Environment Agency flood risk maps will be permitted provided it is demonstrated that: a) A site-specific flood risk assessment demonstrates that the development, including access and egress, will be safe for its lifetime. This should take account of climate change, not lead to increased flood risk elsewhere and, where possible, reduce flood risk overall; b) The vulnerability of the proposed use is appropriate for the level of flood risk on the site; c) Where required, the proposal passes the exemption test as outlined in the NPPF and national guidance; d) Site drainage systems are designed to contain the flood risk of a 1 in 100 year storm event, applying the appropriate allowance for the type of development and; e) The scheme incorporates flood protection, flood resilience and resistance measures appropriate to the site, giving due consideration to any neighbouring land or property. f) For development proposals in the developed flood zone 3b, the footprint of the proposed building(s) is no greater than that of the existing building(s) and there will be no increase in vulnerability. 4) All development proposals are required to demonstrate that drainage provisions will be adequate and will not result in an increase of surface water run-off. Development should promote SuDS (Sustainable Drainage Systems) to manage surface water drainage, within the curtilage of the development. Where SuDS are provided, fully	helps protect water quality and level in ecosystems, including Habitats sites. The policy does not propose a quantum or location of residential / employment development. Overall, Policy E6 is screened out from Appropriate Assessment.

[123] As defined by the Surrey Heath Strategic Flood Risk Assessment 2021 (or as updated) for each source of flood risk.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	detailed documentation must be provided with the locations of any assets, maintenance regime and ownership (costs liability) clearly stated. Arrangements must also be put in place for the ongoing management and/or repair of any SuDS systems over their full lifetime. SuDS should: a) Ensure that surface water containment with any associated flood risk is managed as close to the source as possible and does not increase flood risk elsewhere; b) Accord with all relevant building regulations, current at the time of development; c) Where appropriate, discharge of surface water to watercourse or sewer system is not to exceed pre-development (greenfield) runoff rates; d) Ideally be designed as multi-functional, incorporating storage (attenuation) into landscaping and public realm to improve amenity and biodiversity; e) Be designed with due consideration for ease of future maintenance of installed assets and retention of suitable flow routes for urban flood exceedance events; f) Include allowances for future climate change and urban creep. 5) Development within Groundwater Source Protection Zones and Principal Aquifers will only be permitted provided if it can be demonstrated, through technical detail, that there will be no adverse impact on the quality of groundwater resource and it does not put any risk of the ability to maintain public water supplies. 6) Development proposals are required to identify opportunities for Natural Flood Management, creating wetland features and reconnecting rivers with their floodplains in order to restore natural processes, enhance biodiversity and help manage flood risk. 7) New basement development connected to the sewerage network shall be fitted with a suitable non-return flow control system, or utilise a pumped device. The installation of such a device will be secured where necessary by planning conditions.	
Policy E7 - Watercourses and water quality	1) In order to protect and enhance main rivers, the Council will; a) Require development proposals to explore opportunities to improve and/or restore the flow and functioning of a watercourse. b) Require development proposals to within a minimum buffer zone of 10 metres of a main river, measured from the top of the bank on both sides of a main river, to retain or reinstate an undeveloped buffer zones c) Require work within this buffer zone to be supported by a working methods statement detailing how the buffer zone will be protected during construction, and a Management Plan detailing how it will be enhanced in the long term.	LSEs of Policy E7 on Habitats sites can be excluded. This development management policy protects Surrey Heath's watercourses and water quality. This approach is important because it helps protect water quality and level in ecosystems, including Habitats sites. The policy does not propose a quantum or location of residential / employment development.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	d) Not permit development proposals within this buffer zone that include hard bank revetment or prevents future opportunities for the naturalisation of riverbanks will not be permitted. e) Not permit development proposals that include the culverting of watercourses or which prevent opportunities for of de-culverting will not be permitted, subject to minimal access requirements with appropriate remedial works. f) Expect an appropriate buffer for ordinary watercourses that is sufficient to protect and enhance the biodiversity and amenity value of the watercourse. g) Expect development proposals to return banks back to their natural state or to install suitable natural reinforcement where ground conditions are considered unstable. 2) To improve the flow and water quality of water bodies, the Council will: a) Not permit development that that would result in a deterioration in the chemical and/or ecological status/potential of a waterbody, or prevent improvements to the chemical and/or ecological status/potential b) Require development proposals that contain or are within the vicinity of a waterbody are required to demonstrate that they have explored all opportunities to improve its chemical and ecological status/potential. c) Require development proposals covered by the Water Environment Regulations to align with the objectives of the Thames River basin district River Basin Management Plan[124].	Overall, Policy E8 is screened out from Appropriate Assessment.
Policy E8 – Landscape Character	1) Development proposals will be permitted which respond to and wherever possible enhance the special character, key positive landscape attributes, value and landscape setting of settlements. 2) Development proposals should demonstrate that: a) they can integrate with, and positively contribute to the landscape character of the area; b) they are sited and designed so as to avoid any adverse impact on key positive landscape attributes identified in the Surrey Landscape Character Assessments and the Surrey Heath Landscape Sensitivity Assessment; c) they are sited and designed to minimise landscape and visual impacts, in line with the analysis, guidance and strategies provided in relevant Landscape Character Assessments and Landscape Sensitivity Assessment; d) they consider cumulative impacts with other existing and proposed development; e) there is no adverse impact on historic landscapes and registered parks and gardens; and	LSEs of Policy E8 on Habitats sites can be excluded. This development management policy protects Surrey Heath's landscape character. While positive, preservation of the landscape character has no bearing on Habitats sites. The policy does not propose a quantum or location of residential / employment development. Overall, Policy E8 is screened out from Appropriate Assessment.

[124] Available online at https://www.gov.uk/government/publications/thames-river-basin-district-river-basin-management-plan

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	f) they respect the role the landscape plays in the setting of settlements as set out in relevant landscape sensitivity or other study. 3) Where development proposals will have an impact on the landscape, a comprehensive landscaping proposal to show how the development would successfully integrate with the landscape and surroundings will be required.	
Section 7: Green Belt and Countryside		
Policy GBC1 – Development of New Buildings within the Green Belt	1) The development of new buildings within the Green Belt will be permitted where they are consistent with the exceptions listed in national planning policy and the requirements of this policy. 2) Where new buildings are proposed to replace buildings that are not lawful or are temporary in nature, the loss of these will not be taken into account in assessing the proposal. 3) Inappropriate development will not be permitted unless very special circumstances can be demonstrated. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness and any other harm is clearly outweighed by other considerations. **Proposals relating to Replacement Buildings** 4) In assessing whether proposals for replacement buildings are materially larger than those they are to replace, regard will be had to the impact upon the Green Belt of the visual and spatial characteristics of the development, including: a) the bulk, mass, volume, height and distribution of the proposed building, together with any other structures and hardstanding compared against that it is to replace; b) the siting or the position of the proposed building, which should substantially overlap that of the original building, unless it can be clearly demonstrated that an alternative position would not increase the overall impact upon the openness of the Green Belt. 5) The replacement of an existing building with a building in an alternative use will only be considered where very special circumstances can be demonstrated that outweigh harm to the Green Belt in line with criterion (8). **Proposals affecting Previously Developed Land** 6) In assessing proposals for the partial or complete redevelopment of previously developed land, regard will be had to the resultant impact upon the openness of the Green Belt arising from the changes between existing and proposed development,	LSEs of Policy GBC1 on Habitats sites can be excluded. This positive development management policy protects Surrey Heath's Green Belt from new buildings, unless very special circumstances can be demonstrated. Replacement buildings or proposals affecting previously developed land will be permitted in line with national policy. The policy does not propose a quantum or location of residential / employment development. Overall, Policy GBC1 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	taking account of: a) the existing and proposed bulk, mass and volume of the development; b) the general height and storeys of existing and proposed buildings, structures and hardstanding and their disposition around and within the site. **Limited Infilling** 7) Limited infilling will only be acceptable within the Green Belt outside of defined settlement areas as designated on the Policies Map where it can be demonstrated that the site is considered to be within the village. **Other development** 8) Certain other forms of development are also considered not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it, and these are listed in the NPPF.	
Policy GBC2 – Development of Existing Buildings within the Green Belt	**Extensions or alterations to an existing building** 1) The extension or other alteration of a building will be permitted where it does not result in disproportionate additions over and above the size of the original building. In considering whether an extension or other alteration to an existing building is disproportionate, consideration will be given to the spatial and visual characteristics of the development, including: a) the volume and height of the proposed development together with any previous extensions or enlargements, including works carried out under permitted development; b) the location of the proposed development in relation to the existing building; c) any changes to built form, including roof form; and, d) alterations to footprint which may increase the spread and site coverage or materially increase the prominence of the building. 2) Where extensions are proposed to replace buildings that are not lawful or are temporary in nature, the loss of these will not be taken into account in assessing the proposal. **Re-use of buildings** 3) The re-use of buildings will be permitted where proposals preserve the openness of the Green Belt. In assessing proposals for replacement buildings, regard will be had to: a) The condition of the building, which must be structurally sound and capable of conversion without major alterations, adaptations or reconstruction;	LSEs of Policy GBC2 on Habitats sites can be excluded. This development management policy provides further guidance on the (re)development of existing buildings in the Green Belt. For example, alterations to buildings should not result in additions to the size of existing buildings. The policy does not propose a quantum or location of residential / employment development. Overall, Policy GBC2 is screened out from Appropriate Assessment.

Policy	Policy Text		Likely Significant Effects (LSEs) Screening Outcome
	b)	The extent of ancillary works or features required to support the re-use of the building, such as external storage, hardstanding, car parking, boundary walling or fencing and the impact that this would have upon the openness and character of the Green Belt;	
	c)	Whether the proposal would restore/retain a building of architectural or historic interest.	
Policy GBC3 – Equestrian Facilities	1)	Equestrian related development within the Green Belt and Countryside beyond the Green Belt will be permitted where the following criteria are met:	LSEs of Policy GBC3 on Habitats sites can be excluded. This development management policy supports equestrian facilities, provided that several criteria are met. For example, such facilities should not have a detrimental impact on the nature conservation value of land and must be sustainably located in relation to the existing bridleway network. The policy does not propose a quantum or location of residential / employment development. Overall, Policy GBC3 is screened out from Appropriate Assessment.
	a)	The amount of development proposed is demonstrated to be reasonably related to its intended use and the amount of pasture land available;	
	b)	The re-use of existing buildings is prioritised;	
	c)	Any new development required to accommodate the use has been demonstrated to be necessary and are suitable in respect of their siting, design, scale, layout, external materials and appearance;	
	d)	The proposal would not adversely impact upon the character of the landscape, the nature conservation value of the land and the quality of the pasture, by reason of overgrazing or otherwise;	
	e)	The development would not have a detrimental effect on the amenity of neighbouring properties and the wider local area by reason of noise, smell, overlooking, light pollution or other general disturbance in accordance with Policy E4; and	
	f)	The development is sustainably located in terms of general accessibility and in relation to the existing bridleway network, and/or common land where the Right to Air and Exercise (on foot and on horseback) exists (Sec. 193 of the Law of Property Act 1925 now Section 15 of CROW 2000" of horses.	
	2)	In addition to the criteria above, proposals for equestrian facilities within the Green Belt will be expected to preserve the openness of the Green Belt and not conflict with the Green Belt purposes and be consistent with Policies GBC1 and GBC2.	
Policy GBC4 – Development within the Countryside	1)	The Council will protect areas of countryside for their intrinsic character and beauty. Development within the countryside beyond the Green Belt will only be permitted where it meets one or more of the following:	LSEs of Policy GBC4 on Habitats sites can be excluded. This development management policy protects the borough's countryside for its intrinsic character and beauty. Development will only be permitted if certain criteria are met, such as the proven essential need for rural workers.
	a)	It consists of the re-use of a permanent and lawful building for alternative uses;	
	b)	It comprises an extension or the replacement of an existing building;	
	c)	It relates to a site allocated within Policy HA1;	
	d)	It would meet proven essential need of a rural worker to live permanently at or near their place of work;	

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	e) It supports the development or diversification of agricultural and other land-based enterprises; f) It would provide for the growth and expansion of businesses in rural areas in accordance with Policy ER5; g) It consists of operational development directly linked to institutional and other facilities and the need is proven; h) It would provide a site for Gypsy and Traveller pitches or Travelling show people plots that meet the identified need within the Borough; i) It provides an exception site suitable for first time buyers in line with Policy H10 – First Homes Exception Sites; j) It relates to the partial or complete redevelopment of previously developed land; k) Provides small scale, informal recreation facilities required in association with a new or existing outdoor recreation use; and, l) Other minor forms of development ancillary to the development/uses set out above. 2) Development within the countryside must: a) Not lead to harmful physical or visual coalescence between settlements; b) Be sustainable for the proposed use and of a high quality of design; c) Not cause unacceptable harm and where possible, enhance the open character and integrity of the countryside. d) Be proportionate to the nature and scale of the site and its setting 3) The Council will encourage schemes that result in environmental and landscape improvement, enhance biodiversity and nature conservation, and support better accessibility by sustainable means.	The policy does not propose a quantum or location of residential / employment development. Overall, Policy GBC4 is screened out from Appropriate Assessment.
Policy GBC5 – Gordons School	1) Proposals for redevelopment or infilling on the site as shown on the Policies Map should not have a greater impact on the openness of the Green Belt than the existing development in line with Policies GBC1 and GBC2. 2) In addition, development proposals should: a) Form part of a comprehensive masterplan for the site; and b) Not affect the significance or setting of the Grade II listed buildings within the site in line with Policy DH7; and c) Not exceed the general height of the existing buildings; and	LSEs of Policy GBC5 on Habitats sites can be excluded. This development management policy establishes redevelopment criteria for the Gordons School site. For example, proposals should not exceed the general height of existing buildings. The policy does not propose a quantum or location of residential / employment development.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	d) Demonstrate that there are no alternative locations for the proposed development on site that will have a more minimal impact on the openness of the Green Belt or on heritage assets; and e) Incorporate sympathetic boundary treatment to mitigate the visual impact of the School site on the surrounding countryside.	Overall, Policy GBC5 is screened out from Appropriate Assessment.
Section 8: Design and Heritage		
Policy DH1 – Design Principles	1) All development must achieve a high standard of design that positively contributes to placemaking. Development proposals should be design-led and will be of a high quality and inclusive design that respects local distinctiveness and utilises opportunities to improve the character and quality of the area. 2) Development will be permitted where it is demonstrated that it: **Local character** a) Respects the distinct local character of the area and responds to and reinforces locally distinct patterns of development and their rural, village or urban setting paying particular regard to height, scale, materials, massing and bulk. b) Incorporates a level of architectural detail and use of materials that responds to the distinct local character of the area. c) Protects trees and other vegetation worthy of retention and includes high quality hard and soft landscaping that respects the distinct local character. d) Would not have a detrimental impact upon heritage assets or their setting, in line with their significance. **Residential amenity** e) Provides a high standard of residential amenity, including privacy and amenity space for future occupants appropriate to the proposed use. f) Would not adversely affect the amenities enjoyed by the occupants of neighbouring properties, having regard to loss of daylight and sunlight, loss of privacy, overbearing impact and pollution. **Climate Change** g) Contributes positively towards climate change mitigation and adaptation by incorporating measures to reduce environmental impact and build resilience in accordance with Policy SS3b. **A Healthy Place**	LSEs of Policy DH1 on Habitats sites can be excluded. This policy establishes the design principles that are to be applied in new developments across the borough. These principles relate to local character, residential amenity, climate change, accessibility and crime prevention. For example, developments should maximise pedestrian and cycle permeability. Providing for good connectivity with sustainable transport modes is a key approach to mitigating for atmospheric pollution. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH1 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	h) Enables and supports healthy lifestyles, in accordance with Policy SS3, taking into account the design of buildings and neighbourhoods. **Safe, connected and efficient places** i) Maximises permeability to enable good pedestrian and cycle movement through the development to support healthy living and the creation of a high quality public realm. j) Connects appropriately to existing street patterns, taking into account connectivity with the surrounding area, local services and, where relevant, the relationship and connectivity between the development and other sites allocated under Policy HA1 – HA4. k) Successfully integrates functional needs such as refuse, recycling, bicycle and car parking. l) Takes account of the needs and practicalities of services and long term management of public and shared private spaces and facilities. m) Maximises the opportunity for linkages to green spaces and other public places. n) Takes a comprehensive and co-ordinated approach to development including respecting constraints arising from the presence of utilities situated within sites. **Crime prevention and security measures** o) Would reduce opportunities for crime and antisocial behaviour through the layout, specification and positioning of buildings, spaces and uses in line with national Secured by Design standards. p) Provides a safe and legible structure for public realm and private spaces. **Access and inclusion** q) Meets the needs of all users, taking into account the setting of the building in the wider environment, the location of buildings within the site, the gradient of the plot, transport infrastructure and public realm. r) Is flexible towards future adaptation in response to changing life needs. **Infrastructure to create smart places** s) Includes provision of up to date digital communications infrastructure in accordance with Policy IN3. 3) In developing proposals, regard should be had to local design and character guidance contained within Conservation Area Appraisals, Neighbourhood Plans and Supplementary Planning Documents (SPDs), including design codes. **Back Garden Land** 4) Proposals for the development of back garden land will be permitted where it is	

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	demonstrated that: a) The size of the plot is sufficient to accommodate development without detriment to the surrounding pattern of existing development. b) Access has been well-integrated into the host street scene and provides safe pedestrian and cycling access, in addition to suitable access for emergency and refuse vehicles. c) The privacy of existing and proposed residential properties is respected by the proposed layout and access arrangements would not give rise to unacceptable impacts in terms of noise or light on the existing dwellings. 5) The development of back garden land will not be permitted where the site, either individually or as part of a larger street block makes an important contribution to the character and appearance of the surrounding area.	
Policy DH2 – Making Effective Use of Land	1) Residential development will be permitted where it makes efficient use of land, in a manner compatible with the site itself and the local character of the area. 2) Site allocations will be expected to deliver the minimum density specified within Policies HA1 – HA5 of the Local Plan. Proposals for all other major[125] residential developments are expected to achieve the following minimum net densities, based on their location in the Borough:	LSEs of Policy DH2 on Habitats sites can be excluded. This policy secures effective land use across the borough, which is positive as it minimises the loss of greenfield land. The policy stipulates the minimum density of dwellings to be delivered in different settlements of Surrey Heath. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH2 is screened out from Appropriate Assessment.

Location	Minimum Net Density (dwellings per hectare)
Camberley Town Centre	100dph
Sites within 800m walking distance of railway stations at: • Bagshot; • Frimley; • Blackwater; • Camberley (outside of Camberley Town Centre).	60dph
The Western Urban Area, comprising: • Bagshot;	40dph

[125] In line with The Town and Country Planning (Development Management Procedure) (England) Order 2010, major development means the number of dwellings to be provided is 10 or more, the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more or development is to be carried out on a site having an area of 1ha or more.

Policy	Policy Text		Likely Significant Effects (LSEs) Screening Outcome
	• Deepcut; • Frimley; • Frimley Green; • Mytchett.		
	Defined Settlement Areas of: • Bisley; • Chobham; • Lightwater; • West End; and, • Windlesham (including Snows Ride).	30dph	
	3) Proposals that do not meet these density standards will only be permitted where it has been demonstrated that development at the identified density would be inappropriate. 4) Proposals for minor residential development are expected to demonstrate how they have achieved an efficient use of land.		
Policy DH3 – Residential Space Standards	1) Where planning permission is required, proposals for new residential development (Use Class C3) must ensure that the internal layout and size meet up-to-date nationally described technical housing standards for minimum internal space requirements.		LSEs of Policy DH3 on Habitats sites can be excluded. This policy establishes that proposals for new residential development will need to meet national housing standards with regard to internal layout and size. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH3 is screened out from Appropriate Assessment.
Policy DH4 – Sustainable Water Use	1) All new homes are required to meet the water efficiency standard of 110 litres per person per day, to be achieved through compliance with the Building Regulations. 2) New non-residential development of 1,000 sq. m. gross external area (GEA) or more will provide evidence on completion, through the submission of a post-construction BREEAM certificate, of achievement of the BREEAM 'excellent' standard for water		LSEs of Policy DH4 on Habitats sites can be excluded. This positive policy sets a water efficiency standard of 110 litres per person per day, to be achieved

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	consumption (or any national equivalent). 3) The storage and use of rainwater in new developments (greywater recycling) for non-potable uses is encouraged in order to further reduce the need to draw upon limited resources.	through Building Regulations. Furthermore, the storage and use of rainwater in new developments (greywater recycling) is encouraged to relieve pressure on water resources. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH4 is screened out from Appropriate Assessment.
Policy DH5 – Trees and Landscaping	1) Development proposals will be permitted where: a) it can be demonstrated that trees, hedgerows and woodland of amenity or other value can be retained as an integral part of the design of development unless the requirements of 2) have been met; and b) sufficient space is provided for trees and other vegetation to mature; and c) provision is made for the care and protection of existing trees and hedgerows to be retained prior to, during and after the construction process, including measures for the long term management and maintenance of existing and new trees and landscaping. 2) Trees will be protected for their significance, amenity or other value. This means that: a) Development that results in the loss or deterioration of ancient woodland or ancient or veteran trees will only be permitted where there are wholly exceptional reasons in line with the NPPF and a suitable compensation strategy has been agreed; b) Development that involves the felling or significant pruning of trees not covered by (a) that are identified for their amenity or other value will only be permitted where it has been demonstrated that all options to avoid unnecessary tree loss have been explored and where it has been clearly evidenced that the public benefits of the loss of the trees offset the wider value of the trees. 3) Where tree loss has been agreed, sustainable replacement planting will be provided within the development site on a greater than 1:1 basis to support levels of canopy cover and contribute to biodiversity net gain. In exceptional circumstances, an off-site contribution may be agreed with the Council. 4) Where practical and appropriate, additional tree planting is encouraged to improve the quality of the local environment and species appropriate canopy cover.	LSEs of Policy DH5 on Habitats sites can be excluded. This positive policy protects trees across Surrey Heath Borough. For example, trees, hedgerows and woodland are to be retained in new developments. Furthermore, the felling of and significant surgery to trees of significant value is not permitted. While positive for the environment, this policy has no direct relevance to Habitats sites. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH5 is screened out from Appropriate Assessment.

Policy	Policy Text		Likely Significant Effects (LSEs) Screening Outcome
	5)	Landscaping is an integral element in layout design. Trees and landscaping schemes for new residential development and commercial floorspace will be expected to:	
	a)	provide new trees appropriate to the landscape profile of the area;	
	b)	provide non-invasive native species or species attuned to climate change adaptation;	
	c)	ensure that, by nature of their location and species choice, they are designed so as to facilitate adaptation to climate change by providing shade, shelter and cooling; and,	
	d)	provide sufficient space/soil volume within the development and between development and the highway in a defined highways verge to enable new streets to be tree lined and for trees to survive into maturity.	
Policy DH6 – Shopfronts, Signage and Advertisements	1)	Development proposals for new, or changes to, existing shop fronts will be permitted where they:	LSEs of Policy DH6 on Habitats sites can be excluded. This development management policy relates to the provision of shopfronts, signage and advertisements across Surrey Heath. However, these features have no bearing on Habitats sites. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH6 is screened out from Appropriate Assessment.
	a)	Relate well to the building in which they are situated, having regard to scale, proportions, vertical alignment, architectural style and materials;	
	b)	Present an open and active frontage to the street;	
	c)	Retain and restore where possible existing historic shopfronts and features of architectural interest;	
	d)	Take account of good architectural features of neighbouring shop fronts so that the development will fit in well with the street scene particularly if located within a conservation area or on a heritage asset.	
	2)	Advertisement consent will be granted where:	
	a)	The location, scale, proportions, form of illumination, design and materials of the advert respects the character and appearance of the host building (including any historic significance), site and area;	
	b)	The number of adverts is kept to a minimum to ensure that there is no harmful cumulative impact on the host building and/or the amenity of the area; and	
	c)	There is no harmful impact to public safety or residential amenity.	
Policy DH7 – Heritage Assets	1)	Proposals for development that affects heritage assets (designated and non-designated) will be supported where they conserve and enhance the significance, special interest and character and appearance of the heritage asset and its setting.	LSEs of Policy DH7 on Habitats sites can be excluded. This development management policy protects the borough's designated heritage assets and conservation areas, including listed buildings, scheduled monuments and historic parks and
	2)	Proposals that would affect a designated or non- designated heritage asset must be supported by a heritage impact statement proportionate to the importance of the heritage asset and the potential impact of the proposal.	

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	3) Proposals which put heritage assets to viable uses consistent with their conservation will be supported, provided that the proposals are consistent with criterion 1) and 2). **Designated Heritage Assets** 4) Development proposals affecting designated heritage assets (Listed Buildings, Scheduled Monuments, and Historic Parks and Gardens) or their setting will be supported where they preserve and/or enhance the special character, appearance and distinctiveness of Surrey Heath's historic environment in a manner appropriate to their historic significance. 5) Great weight and importance will be attributed to preserving the significance of a designated heritage asset, irrespective of the potential level of harm. 6) Proposals which would result in substantial harm to, or the complete loss of the significance of a designated heritage asset, or its setting, will not be approved unless: a) The nature of the heritage asset prevents all reasonable uses of the site; b) No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; c) Conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and, d) The harm or loss is outweighed by the substantial public benefit of bringing the site back into use. 7) Where the development proposal would result in less than substantial harm to the significance of the designated heritage asset or its setting, this harm must be weighed against the public benefit of the proposal including, where appropriate, securing its optimum viable use. Clear and extensive justification for the harm should be set out in full in the Heritage Impact Statement. 8) Where there is a clear and convincing justification for the loss or partial loss of a heritage asset the Council will seek public benefits by requiring developers to investigate and record the features affected and provide publicly accessible interpretation which is appropriate to the scale and level of interest of the heritage asset. 9) Development proposals that affect Historic Parks and Gardens will be assessed by reference to the scale of harm, both direct and indirect, or loss to and the significance of the park or garden. **Conservation Areas**	gardens. However, heritage assets have no bearing on Habitats sites. The policy does not propose a quantum or location of residential / employment development. Overall, Policy DH7 is screened out from Appropriate Assessment.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	10) In accordance with legislation[126], the Council has a duty to pay special attention to the desirability of preserving or enhancing the character or appearance of conservation areas in the Borough. 11) When considering development proposals within or adjoining a conservation area, including the alteration, extension or change of use of a building, the Council will support proposals which preserve or enhance: a) existing architectural and historic character and associations by having regard to the positioning and grouping, form, scale, massing, detailing of development and the use of materials in its construction; and b) areas of townscape quality; and c) existing hard and soft landscaping features including areas of open space, trees, hedges, walls, fences, watercourses and surfacing and the special character created by them; and d) the setting of the conservation area 12) Proposals that would have a detrimental effect on such features will not be permitted. Built development will not be permitted on public and private open spaces within or adjacent to conservation areas where those spaces make a positive contribution to its character or setting, as identified in the conservation area appraisal, unless it can be demonstrated that the public benefit demonstrably outweighs the harm. **Archaeological Sites** 13) The Council will support development proposals which do not adversely affect nationally significant features of archaeological or historic importance or their setting. 14) Where a development has the potential to affect heritage assets with archaeological interest, the applicant will be required to submit an appropriate desk-based assessment and where necessary a field evaluation. 15) For scheduled monuments and non-designated heritage assets of archaeological interest that are demonstrably of equal significance to scheduled monuments, loss or substantial harm (through the removal of remains) should be wholly exceptional. 16) Within Areas of High Archaeological Potential or County Sites of Archaeological importance, as identified on the Policies Map, or outside of these areas on any major development site of 0.4ha or greater, applicants will be required to undertake prior assessment of the possible archaeological significance of the site and the implications of their proposals, and will be required to submit, as a minimum, a desk-based assessment to accompany any application. Where desk-based assessment suggests	

[126] The Planning (Listed Building and Conservation Areas) Act 1990.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome
	the likelihood of archaeological remains, the Planning Authority will require the results of an archaeological evaluation in order to inform the determination of the application. Prospective developers should also refer to the Historic Environment Record to establish whether there is known or potential archaeological interest and the need for investigation and evaluation at an early stage. **Non-designated heritage assets** 17) Planning permission will only be granted for development affecting a local heritage asset or its setting if it is demonstrated that due regard has been given to the impact on the assets significance and its setting and that it is demonstrated that the significance of the asset and its conservation has informed the design of the proposed development. In determining whether planning permission should be granted for a development proposal, which affects a local heritage asset, consideration will be given to the significance of the asset, the extent of impact on its significance, as well as the scale of any harm or loss to the asset as balanced against the public benefits that may result from the development proposals. 18) The re-use of vacant or underused locally listed buildings will be supported where they contribute positively to their conservation either individually or as part of wider strategies for regeneration. **Buildings at Risk** 19) The Council will take a proactive stance to any heritage assets that may be at risk. This will include working with property owners to find a use that will enable the building at risk to be put back in to use.	
Policy DH8 – Building Emission Standards	1) Planning permission will be granted for development which positively contributes to addressing climate change through low/zero carbon design that improves the energy efficiency of both new and existing buildings and provides low or zero carbon energy. Development proposals for residential buildings will be supported where they adopt the fabric first[127] approach to contribute significantly towards achieving carbon emission reductions in accordance with Policy SS3a. 2) Development proposals for non-residential buildings will be required to achieve final certification standards against the Building Research Establishment's Environmental Assessment Method (BREEAM) and/or CEEQUAL (or equivalents) as indicated in the table below. Development proposals which exceed these ratings will be supported and encouraged.	LSEs of Policy DH8 on Habitats sites can be excluded. This development management policy promotes low / zero carbon design in new developments. Furthermore, it stipulates that non-residential buildings will require assessment against BREEAM standards. While positive for the environment, this policy has no direct bearing on Habitats sites.

[127] See supporting text.

Policy	Policy Text	Likely Significant Effects (LSEs) Screening Outcome

Development Type	Scale	2021-2029	2020-2037
New and Refurbished Non-Residential	500-5,000m^2	BREEAM Very Good	BREEAM Excellent
	>5,000m^2	BREEAM Excellent	
Public realm	Major works	CEEQUAL Very Good	CEEQUAL Excellent

3) Major development proposals will be required to submit a Site Waste Management Plan (SWMP) which demonstrates how recycling and reuse will be maximised and carbon emissions minimised.

4) Applications for development, including refurbishment, conversion and extensions to existing buildings are required to set out in a Sustainability Statement how sustainable construction practices will be incorporated that demonstrates how recycling and reuse will be maximised and embodied carbon emissions minimised, including (where applicable):

e) the efficient use of mineral resources and the incorporation of a proportion of recycled and/or secondary aggregates

f) waste minimisation and reusing material derived from excavation and demolition

g) sourcing materials locally where possible

h) taking into account the embodied carbon emissions of materials based on information provided in a respected materials rating database

The policy does not propose a quantum or location of residential / employment development.

Overall, Policy DH8 is screened out from Appropriate Assessment.

Appendix C Air Quality Modelling Assessment Report

Surrey Heath SSSI - Air Quality Modelling Appendix

Surrey Heath Local Plan

Surrey Heath Borough Council

Project number: 60564795

March 2023

Delivering a better world

Quality information

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Revision History

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Appendix A - Air Quality Modelling Assessment

A.1 Introduction

1.1 Surrey Heath Borough Council (SHBC) is undertaking its Local Plan 2038. The Council has commissioned AECOM Limited to conduct an air quality assessment to inform the Habitats Regulations Assessment (HRA) of the Regulation 18 Local Plan 2038.

1.2 The work presented in this report is to be used to inform the Appropriate Assessment of the HRA. It focuses on the impact of traffic related emissions due to planned development in the Local Plan on sensitive ecosystems within the following Sites of Special Scientific Interest (SSSI); Castle Bottom to Yateley, Hawley, Colony Bog and Bagshot Heath, and Chobham Common.

1.3 This assessment therefore considers the following four key pollutants shown to affect sensitive ecosystems: ammonia (NH_3), oxides of nitrogen (NO_X), total nitrogen deposition and total acid deposition. All pollutants are considered at receptor points, within transects, up to 200m of the roadside, within the SSSI.

1.4 The main aims of this study are to:

- Identify potentially sensitive ecological receptor locations within the SSSI within 200m of roads that are expected to be affected by the Local Plan;
- Predict annual mean NO_x and NH_3 concentrations and nitrogen and acid deposition rates for the following scenarios at selected ecological receptors;
    - Baseline year (2019): represents air quality in a past year (2019);
    - Future Baseline (2038): uses the traffic data from the ‘current baseline’ in 2019, but applies future assessment year vehicle emission factors and background pollutant concentrations to allow for the ‘in combination’ assessment required for the HRA;
    - 2038 ‘Do Minimum’: future assessment year which does not include the influence of planned development from the Surrey Heath Borough Council Local Plan but does allow for strategic planned development in neighbouring local authorities; and
    - 2038 ‘Do Something’: future assessment year which includes the influence of planned development from the Surrey Heath Borough Council Local Plan and from strategic planned development in neighbouring local authorities.
- Determine if there are any exceedances of NOx and NH_3 critical levels, and nitrogen and acid deposition critical loads within the Surrey Heath SSSIs.

A.2 Policy Context

Clean Air Strategy

1.5 In 2019, the UK government released its Clean Air Strategy 2019 (Defra, 2019) as part of its 25 Year Environment Plan (Defra, 2018). These documents include targets to reduce emissions of ammonia from farming activities, and nitrogen oxides from combustion processes, and thus reduce the deposition of nitrogen to sensitive ecosystems.

Environment Act

1.6 The Environment Act 2021 (HM Government, 2021) amends the Environment Act 1995 (HM Government, 1995). On 9th November 2021, the Act received Royal Assent after being first introduced to Parliament in January 2020 to address environmental protection and the delivery of the Government's 25 Year Environment Plan. It includes provisions to establish a post-Brexit set of statutory environmental principles to ensure environmental governance through an environmental watchdog, the Office for Environmental Protection (OEP).

1.7 The Environment Plan was updated in 2023 with the publication of the Environmental Improvement Plan 2023 (HM Government, 2023), which includes targets specifically for England. In order to reduce the key drivers of habitat and species decline, the government has a delivery plan which includes improving air quality, supported by local authorities, with the aim of:

- Reducing emissions in the home by managing domestic burning, the biggest source of emissions of fine particulate matter;
- Driving effective local action through local authorities – they have the greatest power to support the achievement of population exposure targets;
- Maintaining and improving the regulatory framework for industrial emissions;
- Supporting farmers to reduce the impact of ammonia emissions from agriculture on air quality, (responsible for 87% of the ammonia emissions in the UK);
- Reducing emissions from cars and other forms of transport which are a major source of NO_2 and $PM_{2.5}$ emissions.

Habitats Regulations Assessment

1.8 While the UK is no longer a member of the EU, a requirement for Habitats Regulations Assessment (HRA) will continue as set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

1.9 The HRA process applies the 'Precautionary Principle'[1] to European sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the European site(s) in question. To ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the Plan or project in question.

1.10 Following evidence gathering, the first stage of any Habitats Regulations Assessment is the screening for Likely Significant Effects (LSEs), a high-level assessment to decide whether the Appropriate Assessment is required. Where it is determined that a conclusion of 'no Likely Significant Effects' cannot be drawn, the analysis proceeds to the Appropriate Assessment.

1.11 The Borough Local Plan will significantly increase the population and employment opportunities within the Borough, which may result in more commuter journeys being undertaken within 200m of sensitive habitats. Therefore, LSEs cannot be excluded, and the aforementioned SSSIs are screened in for Appropriate Assessment regarding this impact pathway.

[1] The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: *"When human activities may lead to morally unacceptable harm* [to the environment] *that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis".*

1.12 As such, the air quality modelling methodology and analyses presented in this report have been undertaken to inform the HRA for the Castle Bottom to Yateley, Hawley, Colony Bog and Bagshot Heath, and Chobham Common SSSIs (constituting Thames Basin Heaths Special Protection Area (SPA) and Thursley, Ash, Pirbright & Chobham Special Area of Conservation (SAC)).

Critical Levels

1.13 Annual mean critical levels of NOx and NH_3 are summarised in Table A.1. These are concentrations above which adverse effects on ecosystems may occur based on present knowledge. The critical level for NOx is taken from the EU Ambient Air Quality Directive 2008/50/EU (EU Directives, 2008) which has also been set as the Air Quality Strategy objective for the protection of vegetation and ecosystems, and has been incorporated into English legislation.

1.14 The EU Directive (EU Directives, 2008) states that the sampling point to determine compliance should be sited more than 20 km away from agglomerations or more than 5 km away from other built-up areas, industrial installations or motorways or major roads with traffic counts of more than 50,000 vehicles per day, which means that a sampling point must be sited in such a way that is representative of an area of at least 1,000 km^2. Applying the critical level for NO_x to designated nature conservation sites that are located close to busy roads is therefore precautionary.

1.15 The critical levels for NH_3 have not been incorporated into legislation and are a recommendation made by the United Nations Economic Commission for Europe (UNECE) Executive Body for the Convention on Long-Range Transboundary Air Pollution (CLRTAP) (UNECE, 2013).

Table A.1: Annual Mean Critical Levels (NO_x and NH_3)

Pollutant	Critical Level
Oxides of nitrogen (NOx)	30 µg/m^3
Ammonia (NH_3)	3 µg/m^3 for higher plants 1 µg/m^3 for lichens and bryophytes

Regional Planning Policy

Surrey Heath Borough Council Core Strategy and Development Management Policies 2011 – 2028

1.16 The Surrey Heath Borough Council Core Strategy and Development Management Policies (Surrey Heath Borough Council, 2012) were adopted in 2012. The document sets out the strategy and policies to address the future development of the Borough.

1.17 Biodiversity is cited in the plan as a key issue for the Borough. Of the objectives stated within the plan, Objective number 5 is to:

> *"Protect and enhance biodiversity within the Borough including sites of local importance for biodiversity and aim to deliver Surrey Biodiversity Action Plan (BAP) targets"*

1.18 The Borough contains four extensive SSSIs as follows: Ash to Brookwood Heaths; Broadmoor to Bagshot Woods and Heaths; Chobham Common; and Colony Bog to Bagshot Heaths. The plan discusses the aim to explore new opportunities for habitat creation and protection and states that development that results in harm to or loss of features of interest for biodiversity will not be permitted.

Surrey Local Transport Plan (2022-2032)

1.19 The Surrey Local Transport Plan (Surrey County Council, 2022) sets out strategy to deliver net improvements to the natural and built environment and, where this isn't possible, to minimise environmental impacts. This includes improving air quality. The plan states Surrey's air quality is better than the national average, with an index of accessibility to air quality score of 26.1 compared to 26.8 nationally. However, air quality remains a challenge.

1.20 Four key challenges are identified in the plan:

- An urgent need for action to respond to the climate emergency and meet the county council's commitment to net zero carbon in 2050;

- An aspiration to achieve sustainable growth in line with population projections and local policy ambitions;
- A responsibility to address areas of inequality in social mobility and pockets of deprivation experienced across the county; and
- An ambition to further improve health, wellbeing, air quality and quality of life for residents.

1.21 Air Quality and Ecology are themes which are present within multiple policy areas of the plan:

- Policy area 3: Active Travel / Personal Mobility and Policy Area 4: Public/ Shared Transport outline the benefits of reducing car trips and replacing them with public transport services and active modes of transport.
- Policy Area 5: Demand Management for Cars discusses how the prioritisation of car use has had negative impacts in terms of carbon emissions and local air quality.
- Policy Area 6: Demand Management for Goods Vehicles – this section discusses the impact of HGVs and vans on local communities and local air quality, and states measures than can be used to minimise the impact of HGVs. The development of 20-minute neighbourhoods to minimise demand for travel and distances involved is also discussed here.
- Policy Area 8: Promoting Zero Emissions Vehicles notes that a rapid uptake in ZEV's in Surrey's fleet is required to help improve local air quality.

Other Guidance documents

1.22 Best practice and advice / guidance contained within documents from Natural England (Natural England, 2018), the Institute of Air Quality Management (IAQM) (IAQM, 2020), the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2021) and National Highways (Design Manual for Roads and Bridges DMRB LA105) (DMRB, 2019) have been used to determine the methodology applied, and in the accompanying ecological interpretation of the results.

A.3 Methodology

1.23 This section presents the methodology used to model air quality within the Surrey Heath SSSI. The following sources of information and data have been used to form the basis of the air quality assessment:

- Department for Environment, Food and Rural Affairs (Defra)'s Air Quality Background Concentration Maps based on a 2018 base year (Defra, 2020);
- Defra's Vehicle Emission Factors (Defra, 2021b);
- Emission rates as published in the Calculator for Road Emissions of Ammonia (CREAM) tool (Air Quality Consultants, 2020);
- Modelled nitrogen and acid deposition data and ammonia background concentrations from the Air Pollution Information System (APIS, 2022);
- Air quality monitoring data for 2019 undertaken by SHBC; and
- Traffic count and speed data provided by Surrey County Council for 2019 and 2038.

1.24 The modelling assessment was conducted following methodology within Defra's LAQM.TG(22) Technical Guidance (Defra, 2022), and guidance contained within documents from Natural England (Natural England, 2018), the Institute of Air Quality Management (IAQM) (IAQM, 2020) and the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2021).

Pollutants of Interest

1.25 The pollutants of interest with regard to sensitive ecosystems, for which critical levels and critical loads exist, and which are included in the air quality modelling and assessment of impacts on the Surrey Heath SSSIs, are NOx, NH_3, and nitrogen and acid deposition. Modelling of these pollutants is undertaken to assess the air quality impacts of planned development in the Local Plan on the Surrey Heath SSSI's, alone and 'in combination' with that that is in the jurisdiction of surrounding authorities.

1.26 Whilst emissions of NOx from road vehicles are regulated according to Euro standards, emissions of NH_3 are not. This means that emissions of NH_3 from individual vehicle types are highly uncertain, particularly as measurements are rarely made (as this is not required for regulatory purposes). The uncertainty associated with the predicted nitrogen deposition rates from NH_3 is also greater than for NO_2, with the NH_3 derived nitrogen deposition rates representing an upper estimate.

1.27 There is currently no tool publicly available for the assessment of road traffic emissions of NH_3 from National Highways, Defra, Natural England, or other nature conservation bodies. However, there is evidence that exclusion of NH_3 from assessments leads to an underestimate of deposited nitrogen (Air Quality Consultants, 2020).

1.28 The methodology used to model ammonia concentrations from road traffic, using ADMS Roads, and the subsequent contribution to nitrogen deposition within the SSSI (described below), is considered the most appropriate that is available at this time. The methodology has been applied by AECOM in several Appropriate Assessments to inform HRA including that for Cherwell District, Tunbridge Wells Borough, Mid Sussex and Epping Forest District Councils.

Nitrogen Oxides

1.29 Defra has published an Emissions Factors Toolkit (EFT) containing NO_x emissions rates for local authorities to use for Local Air Quality Management (LAQM) assessments. The EFT is also used for other purposes including Environmental Impact Assessments (EIAs) and HRAs. Version 11.0 of the EFT (Defra, 2021) was updated to extend the basic vehicle fleet mix for roads in England (excluding London) up to 2050. The basic vehicle fleet splits are based on data provided by DfT / Highways England (now National Highways). The composition of Euro emission standards and distribution of vehicle sizes/weights remain constant from 2030 until 2050.

1.30 The intended use of the extended dataset to 2050 is in support of climate assessments and appraisals only. However, Defra advises that "*Where emissions are to be used after 2030 to inform air quality assessments, the appropriate caveats around the limitations of the analysis must be included to accompany the assessment*". It is acknowledged that the composition of the vehicle fleet in 2040 is

subject to greater uncertainty, however to not take account of any projected changes in vehicle fleet beyond 2030 is unduly pessimistic, particularly in light of the higher rate of electric car uptake expected over the next 20 years.

1.31 Subject to these caveats, the 2038 vehicle fleet in v11.0 of the EFT has been used in the future year (2038) emissions calculations. However, as 2038 background concentration projections are not available from Defra, the latest year available (2030) are used. The use of 2030 background NOx concentrations ensures that the assessment remains precautionary.

1.32 Detailed dispersion modelling of road traffic emissions of NO_x has been undertaken using the latest version of ADMS Roads (currently v5), combined with the EFT v11.0 emission rates. The subsequent contribution of emitted NOx to nitrogen deposition within the SAC has also been assessed.

Ammonia

1.33 In February 2020, Air Quality Consultants developed and published the Calculator for Road Emissions of Ammonia (CREAM) tool, '*in order to allow tentative predictions regarding trends in traffic-related ammonia emissions over time*'. The tool is based upon remotely sensed pollutant measurements, published real-world fuel consumption data, and ambient measurements of ammonia recorded in Ashdown Forest (2014-2016).

1.34 The report that was published alongside the CREAM tool states that:

"*It should be recognised that these emissions factors remain uncertain. Using them to make future year predictions will clearly be an improvement on any assessment which omits ammonia. They are also considered to be more robust than the emissions factors contained in the EEA Guidebook, which risk significantly under-predicting ammonia emissions. The emissions factors contained in the CREAM model can be considered to provide the most robust estimate of traffic-related ammonia possible at the present time, but they may be updated in the future as more information becomes available*."

1.35 The CREAM tool currently uses vehicle fleet information from Defra's EFT v9 which has now been superseded. AECOM has therefore applied the ammonia emission factors, as derived by Air Quality Consultants and in the current version of CREAM, with the average vehicle fleet on rural roads from EFT v11.0 to estimate emissions in the SAC, consistent with the 2038 fleet used to calculate NOx emissions. The use background NH_3 concentrations with no projected change in the future assessment year remains a precautionary approach.

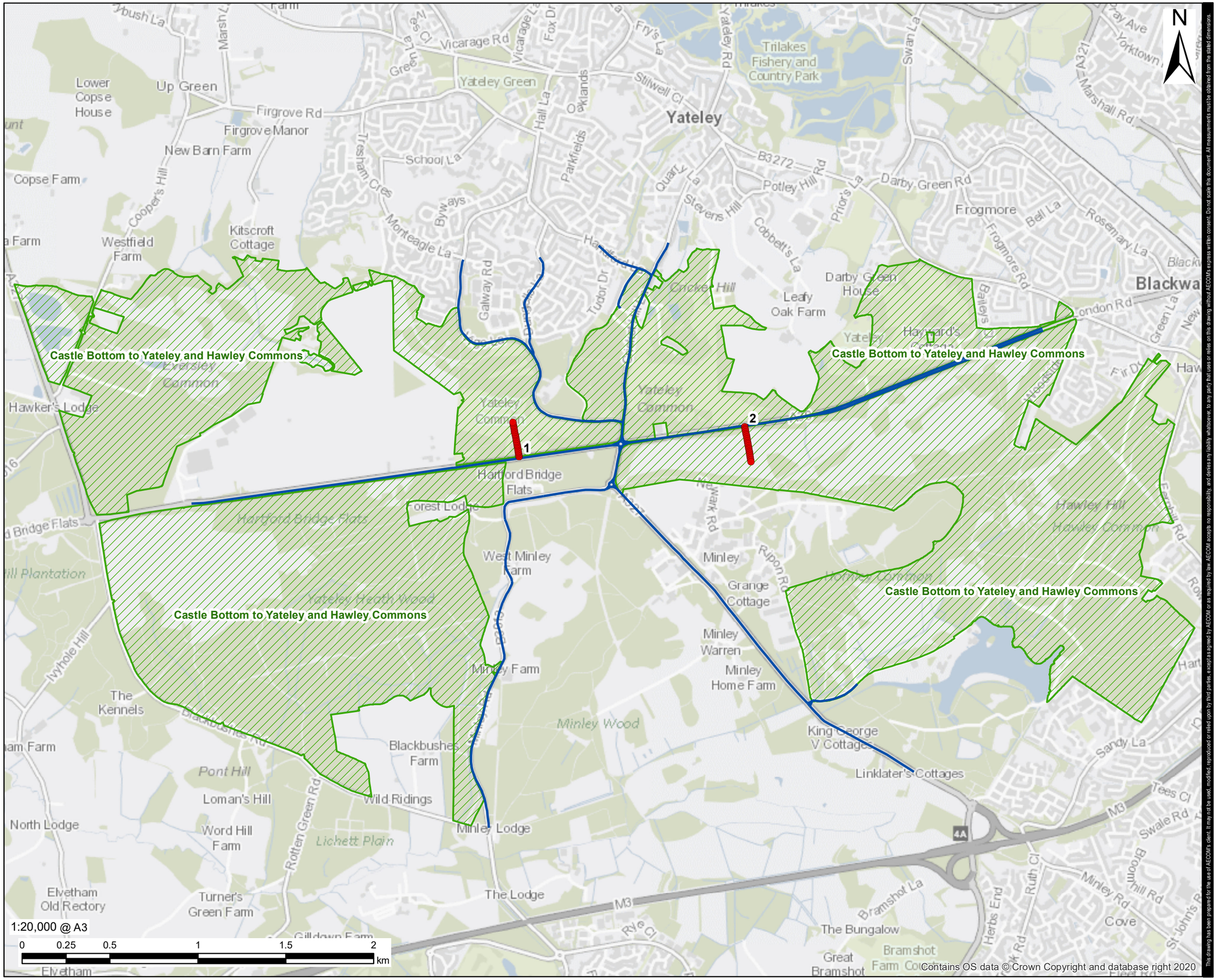
1.36 The latest version of ADMS Roads has been employed to model the dispersion of emissions of NH_3 from road traffic, consistent with the approach for modelling emissions of NOx. No change in background NH_3 concentrations are projected.

Traffic Data

1.37 Traffic data were provided by Surrey County Council for a series of road links chosen as they are located within 200m of sensitive habitats and are expected to experience changes in traffic flows over the Local Plan period to 2038. Modelled road links, SSSIs and monitoring data are shown in Figures A 1 and A2.

1.38 Traffic data were provided for each of the road links, in the form of 24-hour Annual Average Daily Traffic (AADT) flows, with percentage heavy duty vehicle (HDV) flows and average speed for three scenarios – 2019 baseline (also used for the future baseline), future year 'Do Minimum', and future year 'Do Something'. A summary of the traffic data used in the air quality assessment is given in Section A.5.

Figure A 1: Modelled Road Network and Ecological Receptor Transects 1 to 2



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Surrey Heath Local Plan
- Air Quality Modelling

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LEGEND
- Transects
- Modelled Road Links
- SSSIs

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FIGURE TITLE
Modelled Road Network and Ecological Receptor Transects 1 to 2

FIGURE NUMBER
Figure 1

Figure A 2: Modelled Road Network and Ecological Receptor Transects 3 to 6

Revision: 0 Drawn: CH Checked: HV Approved: PF Date: 2023-03-19

Filename: Y:\Surrey Heath Council\Local Plan HRA\Air Quality\GIS\Figures\Figure2.mxd

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LEGEND

- Diffusion Tubes
- Transects
- Modelled Road Links
- SSSIs

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60564795

FIGURE TITLE

Modelled Road Network and Ecological Receptor Transects 3 to 6

FIGURE NUMBER

Figure 2

Receptors

1.39 Pollutant concentrations and deposition rates have been predicted along defined transects within the SSSIs within 200m of affected roads, in accordance with National Highways guidance for ecological assessments (LA105) (DMRB, 2019) and Natural England guidance (Natural England, 2018). The greatest impacts from changes in road traffic emissions will be observed and modelled closest to the roadside. Consideration of the road network within 200m of the SSSIs is therefore considered robust as background concentrations utilised in the assessment will account for all other sources that are not defined explicitly in the model.

1.40 The transects are situated at key locations where the greatest impacts upon the SSSIs are likely to occur. The locations are presented in Figures A 1 and A2 and further details are presented in Section A.6. The receptors are situated at the closest point to the road within the SSSIs, and spaced every 10m within the transects, up to 200m from the roadside. All receptors are modelled at ground level.

Model Setup

1.41 As detailed above, road traffic emissions of NOx were derived using the latest version of Defra's EFT (v11.0), and associated guidance and tools (Defra, 2022). Road traffic emissions of NH_3 were derived using emission rates CREAM V1A (Air Quality Consultants, 2020) combined with the EFT v11.0 vehicle fleet for the relevant year.

1.42 Detailed dispersion modelling was undertaken using the current version of ADMS-Roads (v5.0) to model concentrations of NOx and NH_3 using the parameters in Table A.2 for the following scenarios:

- 2019 Baseline – 2019 AADT, 2019 emission factors and 2019 background concentrations;
- 2038 Future Baseline – 2019 AADT, 2038 emission factors and 2030 background concentrations (the latest projected year available from Defra);
- 2038 Do Minimum – 2038 AADT without Local Plan, 2038 emission factors and 2030 background concentrations; and
- 2038 Do Something – 2038 AADT with Local Plan, 2038 emission factors and 2030 background concentrations.

1.43 A baseline year, 2019, was modelled to provide a means of model verification. To support the assessment of the potential impact of the planned development in the Local Plan scenarios, a 'future baseline' and future year 'do minimum' scenario were modelled. The 'do minimum' scenario includes the influence of development in neighbouring local authorities, whereas the 'future baseline' does not.

1.44 The future baseline is a hypothetical scenario as it applies improvements in vehicle emissions standards to the baseline vehicle fleet without allowing for any traffic growth. However, such an approach enables the 'in combination' effect of development and traffic growth to be seen, unobscured by improvements in emissions technology / performance.

1.45 The difference between the 'do something' and the 'do minimum' scenarios provides the impact of the planned development within the Local Plan, alone. The difference between the 'do something' and the 'future baseline' scenarios provides a thorough and precautionary assessment of the impact of the planned development within the Local Plan 'in combination', as the 'future baseline' allows for no future growth.

1.46 2019 emission rates and background concentrations were used for the baseline year scenario, and 2038 emission rates were used for the future year scenarios. As Defra's associated tools provide data from 2018 to 2030, background concentrations for 2030 were used in the assessment.

Table A.2: General ADMS-Roads Model Conditions

Variables	ADMS-Roads Model Input
Surface roughness at source	0.5m
Surface roughness at Meteorological Site	0.5m
Minimum Monin-Obukhov length for stable conditions	10m
Terrain types	Flat
Receptor location	x, y coordinates determined by GIS, z = 0m for ecological receptors.
Emissions	NO_x – Defra's EFT v11.0 NH_3 – CREAM V1A
Meteorological data	1 year (2019) hourly sequential data from Farnborough meteorological station.
Receptors	Ecological transects
Model output	Long-term (annual) mean NO_x and NH_3 concentrations.

Plume Depletion

1.47 Plume depletion due to dry deposition onto vegetation was taken into account in the model. This was enabled by using the ADMS-Roads 'Dry Deposition' module, applying the 'grassland' deposition rates presented in the Air Quality Technical Advisory Group (AQTAG) deposition velocities that are cited in 2020 IAQM guidance (IAQM, 2020), as shown in Table A.3.

1.48 The deposition velocity for NO_2 was applied to raw modelled NO_x. This assumes that 100% of NO_x is emitted as NO_2, and therefore represents an optimistic depletion of NO_x from the atmosphere.

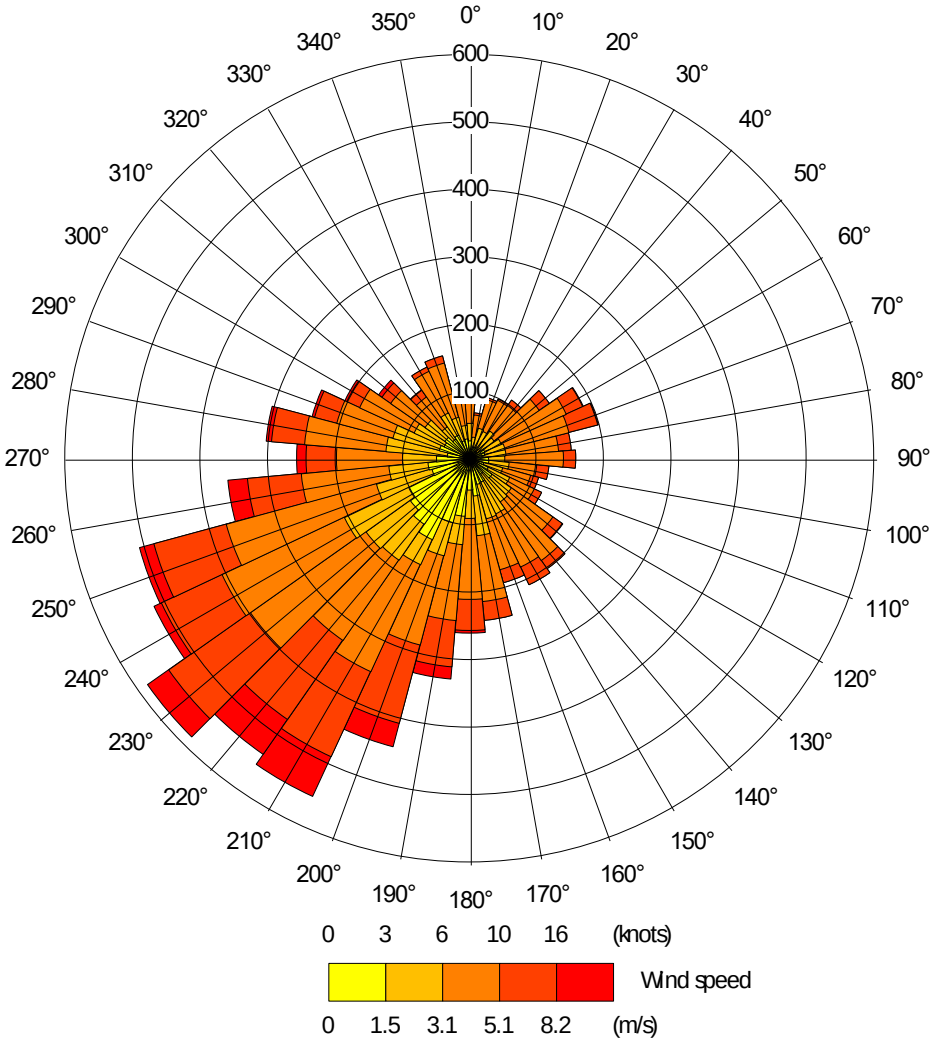
Table A.3: Nitrogen Deposition Velocities and Conversion Rates

Pollutant	Habitat	Nitrogen deposition conversion rates	Deposition velocity
NO_2	Grassland / short vegetation	1 µg/m^3 NO_2 = 0.14 kgN/ha/yr	0.0015 m/s
NH_3	Grassland / short vegetation	1 µg/m^3 NH_3 = 5.2 kgN/ha/yr	0.020 m/s

Meteorological Data

1.49 One year (2019) of hourly sequential observation data from Farnborough meteorological station was used in this assessment to correspond with the baseline traffic data and emission factors. The station is located 2 to 14km south of the SSSIs and experiences meteorological conditions that are representative of those experienced within the air quality study area. Figure A 3 shows that the dominant direction of wind was from the south-west, as is typical for the UK.

Figure A 3: Wind Rose, Farnborough Meteorological Data, 2019



Background Data

1.50 Background concentrations of nitrogen dioxide (NO_2) and NO_x for 2019 and 2030 were extracted from Defra's 2018-based 1x1km background maps (Defra, 2020). The data presented in Table A.4 show that the concentrations are predicted to decrease between 2019 and 2030. For the 2019 scenario, contributions from explicitly modelled source sectors were removed from the NO_2 and NO_x background concentrations, in accordance with Defra guidance (Defra, 2022).

1.51 For this assessment, 2019 emission rates and background concentrations were used for the baseline year scenario, 2030 background concentrations were used for the future year scenarios along with 2038 emission rates. Fleet data beyond 2030 are provided within the EFT, however 2030 is the latest year for which the accompanying tools are available e.g. mapped background concentrations and the NOx-to-NO_2 calculator.

Table A.4: Defra Mapped Background Pollutant Concentrations

Transect	Road Name	Grid Square (X, Y)	Annual Mean Concentrations (µg/m³)			
			2019 NO_2	2019 NO_x	2030 NO_2	2030 NO_x
T1	A30	481500, 158500	10.1	13.2	7.6	9.7
T2	A30	482500, 158500	10.4	13.8	7.7	9.9
T3	A322	493500, 161500	12.6	17.0	9.3	12.1
T4	Guildford Road (A322)	494500, 161500	11.7	15.5	8.8	11.5
T5	M3	496500, 164500	13.6	18.3	11.6	15.5
T6	M3	496500, 164500	13.6	18.3	11.6	15.5

Note: Only 2019 background concentrations have been sector removed. Sectors removed as emissions included in detailed dispersion modelling: Motorway (in of 1x1km grid square), Trunk A road (in of 1x1km grid square) and Primary A Road (in of 1x1km grid square)

Ecological Data

1.52 APIS provides 'a searchable database and information on pollutants and their impacts on habitats and species'. Data for the appropriate habitat – heathland – have been applied for each receptor in the study. This includes critical loads of nitrogen and the average nitrogen and acid deposition rates to the habitat, as presented in Table A.5.

1.53 Background concentrations of ammonia were also sourced from modelled maps available from APIS, thereby accounting for all sources that are not explicitly defined in the model.

1.54 In order to create a robust and scientifically agreed projection for background nitrogen deposition trends in the UK, even allowing for growth, the Joint Nature Conservation Committee (JNCC) commissioned the Nitrogen Futures project, which reported in 2020 (JNCC, 2020). The JNCC Nitrogen Futures project investigated whether a net improvement in nitrogen deposition (including expected development over the same period) was expected to occur to 2030 under a range of scenarios ranging from the most cautious scenario (Business As Usual, BAU, reflecting simply existing emission reduction commitments /measures already in place) to much more ambitious scenarios that would require varying amounts of additional, currently uncommitted, measures from the UK government and devolved administrations.

1.55 The report concluded that *'The scenario modelling predicts a substantial decrease in risk of impacts on sensitive vegetation by 2030, under the most likely future baseline [a scenario called '2030 NAPCP+DA (NECR NOx)']. This is estimated to achieve the UK Government's Clean Air Strategy (CAS) target for England, defined as a 17% decrease in total reactive N deposition onto protected priority sensitive habitats, with a predicted 18.9% decrease [for England] from a 2016 base year'*. The report predicted a fall in nitrogen deposition by 2030 under every modelled scenario, including the most cautious (2030 BAU). For the BAU scenario nitrogen deposition was forecast to decrease between 2017 and 2030 from 277.1 kt N to 239.5 kt N (i.e. a reduction of 37.6 kt N).

1.56 In Annex 5 of the report, background nitrogen deposition at the Ashdown Forest SAC was discussed as a case study. The report predicted a 1-2 kgN/ha/yr reduction in background nitrogen deposition to low growing vegetation (i.e. the heathland interest feature) at the SAC between 2016 and 2030, depending on scenario, and noted that *'The emission reductions predicted between the 2017 and 2030 baseline scenarios cover a range of sectors, including road transport, and so improvements are predicted to occur over the whole site, including the worst-affected roadside locations'*. This was the case under all modelled scenarios.

1.57 In summary, the Nitrogen Futures study forecast a minimum rate of improvement in background nitrogen of 0.07 kgN/ha/yr at Ashdown Forest, with other forecasts indicating a greater rate of reduction. In line with the forecast for Ashdown Forest, and therefore taking a precautionary approach, this study applies a projected decrease in background nitrogen of 0.07 kgN/ha/yr. The

corresponding decrease is also reflected in the total average acid deposition rate for nitrogen in the future scenarios (reduction of 0.065 keq/ha/yr N.).

1.58 Over the 19-year period, this equates to a reduction in the APIS background nitrogen deposition rate presented in Table A.5 (2019-2038) of 1.47 kg N/ha/yr for the 2038 model scenarios. This decrease is also reflected in the total average acid deposition rate for nitrogen in the 2038 scenarios (reduction of 0.105 keq/ha/yr N).

1.59 No other changes to the APIS data have been made from those presented (2018-2020) for any modelled scenario.

1.60 Not to make *any* allowance for improvements in emission factors or background concentrations would result in increased emissions and hence concentrations over the plan period as an increased number of vehicles is expected on the roads. This is not expected to occur as can be seen from previous long-term trends in the UK, which show slowing of improvements over extended periods, not worsening. Historical records (e.g. Defra monitoring trends) show that as increased vehicles enter the fleet that these increases are offset by the improvements in the emissions of the newer vehicles and the removal of older vehicles.

1.61 In 2018 the Court of Justice of the European Union (CJEU) ruled in cases C-293/17 and C-294/17 (often dubbed the Dutch Nitrogen cases). One aspect of that ruling concerned the extent to which autonomous measures (i.e. improvements in baseline nitrogen deposition that are not attributable to the Local Plan) can be taken into account in appropriate assessment, the CJEU ruled that it *was* legally compliant to take such autonomous measures into account provided the benefits were not 'uncertain' (paras. 130&132). Note that previous case law on the interpretation of the Habitats Directive has clarified that 'certain' does not mean absolute certainty but '*where no reasonable scientific doubt remains*'[2] [emphasis added].

1.62 The forecasts for improvements in NOx emission factors, background concentrations and background deposition rates used in this report are considered to be realistic and have the requisite level of certainty. This is because a) data are used and to a large extent they build upon established historic trends in NOx and oxidised nitrogen deposition and b) for total nitrogen deposition they are based on a cautious use of evidenced central government forecasts associated with uptake of technology that has either already been introduced or is widely expected within the professional community to be introduced and effective before 2030, as illustrated in the Nitrogen Futures project:

- When it comes to forecasting the NOx emissions of additional traffic, it would overestimate those emissions to assume that by 2038 the emission factors will be no different to those in 2019; to make such an assumption would be to fail to take account of the expected continued uptake of Euro 6 compliant vehicles between 2019 and 2038 and would assume (putting it simply) that no motorists would replace their cars during the entire plan period. For example, the latest (Euro 6/VI) emissions standard only became mandatory in 2014 (for heavy duty vehicles) and 2015 (for cars) and the effects will not therefore be visible in the data available from APIS because relatively few people will have been driving vehicles compliant with that standard as early as 2019. Far more drivers can be expected to be using Euro 6 compliant vehicles by the end of the Local Plan period (2038).
- Some of the air quality modelling tools available only go to 2030, although fleet data (and hence emission factors) are predicted up to 2050. However, the emission factors and air quality modelling do not allow for the recent Government announcement that the ban on sales of new petrol and diesel cars and vans will be brought forward from 2035 to 2030. Indeed, the ban is not accounted for in the modelling at all since robust forecasts for the effects of the ban do not yet exist.

[2] Case C-239/04 Commission v Portugal [2006] ECR 10183, para. 24; Holohan et al vs. An Bord Pleanála (C-461/17), para. 33

Table A.5: APIS Data for Ecological Transects for 2018-2020

Transect	Average N Dep kgN/ha/yr[$]	Critical Load N Dep kgN/ha/yr	Total Av. Acid Dep keq/ha/yr N[$]	Critical Load N Acid Dep keq/ha/yr MinCLMaxN	Background NH_3 ($\mu g/m^3$)
T1	16.38	10 - 20	1.29	0.882	1.65
T2	16.38	10 - 20	1.29	0.882	1.65
T3	15.26	10 - 20	1.19	0.533	1.58
T4	15.26	10 - 20	1.19	0.533	1.58
T5	15.54	10 - 20	1.20	0.882	1.79
T6	15.54	10 - 20	1.20	0.882	1.79

Note: [$] Average nitrogen deposition rate (kgN/ha/yr) projected to decrease by 1.33 kgN/ha/yr from base year to future year (i.e. 0.07 x 19 years = 1.33 kgN/ha/yr). This results in a corresponding decrease in acid deposition of 0.105 keq/ha/yr N.

Verification

1.63 Model verification is the process by which the performance of the model is assessed to identify any discrepancies between modelled and measured concentrations at air quality monitoring sites within the study area.

1.64 Long-term roadside monitoring of NO_2 has been undertaken at several locations near the modelled road network by Surrey Heath Borough Council in order to meet the Council's LAQM obligations. Maps of the monitoring locations are presented in Figure A 3:. No roadside monitoring exists for ammonia (NH_3) in the vicinity of the modelled road network. Therefore, the verification factor for NH_3 (1.0) has been used based upon professional judgement and experience of similar projects, from previous verification and validation of the EFT and CREAM tools.

1.65 Following detailed analysis of the available monitoring locations in the study area for 2019, three roadside or near-road monitoring sites were taken forward in the model verification process. Modelled predictions were made for annual mean NO_2 concentrations at monitoring locations in order to compare monitored and modelled pollutant concentrations, as presented in Table A.6. The comparison of model outputs was made against 2019 monitoring data so as to correspond with the baseline year of assessment.

Table A.6: Local Authority NO_2 Monitoring Sites used in Model Verification

Site ID	2019 monitored NO_2 ($\mu g/m^3$)	Total modelled NO_2 before adjustment ($\mu g/m^3$)	Total modelled NO_2 after adjustment ($\mu g/m^3$)
SH7	39.5	38.7	40.4
SH21	21.8	15.7	16.0
SH29	30.8	29.8	30.8

1.66 Model performance was analysed at these monitoring sites. Without adjustment the root mean square error (RMSE) was 3.6 $\mu g/m^3$. Whilst this result suggests model performance against monitored concentrations is sufficiently good (within 10% of the annual mean NO_2 objective of 40 $\mu g/m^3$), an adjustment factor was calculated (1.09) and applied to the model results. After adjustment the RMSE was reduced to 3.4 $\mu g/m^3$ as shown in Table A.7.

Table A.7: NO_2 Model Verification details

Number of Sites	Number of Monitoring Sites within ±10% of the Monitored Concentration Pre-Adjustment	RMSE pre-adjustment (µg/m^3)	Model Adjustment Factor Applied	Number of Sites within ±10% of the Monitored Concentration Post Adjustment	RMSE post adjustment (µg/m^3)	Fractional Bias (post adjustment)
3	2	3.6	1.09	2	3.4	0.1

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Appendix D Air Quality Modelling Results

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T1_0m	29.16	13.80	15.01	15.01	2.35	2.36	2.59	2.59	21.22	19.07	20.33	20.34
Surrey Heath T1_10m	23.35	12.31	13.09	13.09	2.04	2.05	2.18	2.18	19.18	17.32	18.05	18.05
Surrey Heath T1_20m	20.90	11.68	12.28	12.28	1.92	1.93	2.02	2.02	18.37	16.64	17.15	17.15
Surrey Heath T1_30m	19.52	11.33	11.83	11.83	1.86	1.86	1.93	1.93	17.94	16.27	16.67	16.67
Surrey Heath T1_40m	18.63	11.10	11.53	11.53	1.82	1.82	1.88	1.88	17.67	16.05	16.38	16.38
Surrey Heath T1_50m	17.98	10.94	11.31	11.32	1.79	1.79	1.84	1.84	17.48	15.89	16.17	16.17
Surrey Heath T1_60m	17.49	10.81	11.15	11.15	1.77	1.77	1.82	1.82	17.34	15.78	16.02	16.02
Surrey Heath T1_70m	17.11	10.71	11.02	11.02	1.76	1.76	1.80	1.80	17.23	15.69	15.90	15.90
Surrey Heath T1_80m	16.79	10.63	10.91	10.91	1.75	1.75	1.78	1.78	17.15	15.62	15.81	15.81
Surrey Heath T1_90m	16.52	10.56	10.82	10.82	1.74	1.74	1.77	1.77	17.08	15.57	15.74	15.74
Surrey Heath T1_100m	16.29	10.50	10.74	10.74	1.73	1.73	1.75	1.76	17.02	15.52	15.67	15.67
Surrey Heath T1_110m	16.09	10.45	10.68	10.68	1.72	1.72	1.75	1.75	16.97	15.48	15.62	15.62
Surrey Heath T1_120m	15.92	10.41	10.62	10.62	1.72	1.72	1.74	1.74	16.93	15.45	15.58	15.58
Surrey Heath T1_130m	15.76	10.37	10.56	10.56	1.71	1.71	1.73	1.73	16.89	15.42	15.54	15.54
Surrey Heath T1_140m	15.63	10.33	10.52	10.52	1.71	1.71	1.73	1.73	16.86	15.40	15.50	15.50
Surrey Heath T1_150m	15.51	10.30	10.47	10.48	1.70	1.70	1.72	1.72	16.83	15.37	15.47	15.47
Surrey Heath T1_160m	15.40	10.27	10.44	10.44	1.70	1.70	1.72	1.72	16.80	15.35	15.45	15.45
Surrey Heath T1_170m	15.30	10.25	10.40	10.40	1.70	1.70	1.71	1.71	16.78	15.34	15.42	15.42
Surrey Heath T1_180m	15.21	10.23	10.37	10.37	1.69	1.70	1.71	1.71	16.76	15.32	15.40	15.40
Surrey Heath T1_190m	15.13	10.21	10.34	10.34	1.69	1.69	1.71	1.71	16.74	15.31	15.39	15.39
Surrey Heath T1_200m	15.05	10.19	10.32	10.32	1.69	1.69	1.70	1.70	16.72	15.30	15.37	15.37
Surrey Heath T2_0m	26.86	13.25	13.37	13.36	2.22	2.22	2.27	2.27	20.31	18.29	18.55	18.55

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T2_10m	20.47	11.60	11.68	11.67	1.90	1.90	1.92	1.92	18.18	16.49	16.61	16.61
Surrey Heath T2_20m	18.50	11.09	11.15	11.15	1.81	1.81	1.82	1.82	17.57	15.98	16.06	16.06
Surrey Heath T2_30m	17.52	10.84	10.90	10.89	1.77	1.77	1.78	1.78	17.27	15.74	15.80	15.80
Surrey Heath T2_40m	16.93	10.69	10.74	10.74	1.74	1.74	1.75	1.75	17.11	15.60	15.65	15.65
Surrey Heath T2_50m	16.54	10.59	10.63	10.63	1.73	1.73	1.74	1.74	17.00	15.51	15.56	15.56
Surrey Heath T2_60m	16.25	10.51	10.56	10.56	1.72	1.72	1.72	1.72	16.92	15.45	15.49	15.49
Surrey Heath T2_70m	16.03	10.46	10.50	10.50	1.71	1.71	1.72	1.72	16.86	15.41	15.44	15.44
Surrey Heath T2_80m	15.87	10.41	10.45	10.45	1.70	1.70	1.71	1.71	16.82	15.37	15.40	15.40
Surrey Heath T2_90m	15.73	10.38	10.42	10.42	1.70	1.70	1.70	1.70	16.79	15.35	15.38	15.38
Surrey Heath T2_100m	15.62	10.35	10.39	10.39	1.70	1.70	1.70	1.70	16.76	15.32	15.35	15.35
Surrey Heath T2_110m	15.53	10.33	10.36	10.36	1.69	1.69	1.70	1.70	16.73	15.31	15.33	15.33
Surrey Heath T2_120m	15.45	10.31	10.34	10.34	1.69	1.69	1.69	1.69	16.72	15.29	15.32	15.32
Surrey Heath T2_130m	15.38	10.29	10.32	10.32	1.69	1.69	1.69	1.69	16.70	15.28	15.30	15.30
Surrey Heath T2_140m	15.32	10.28	10.31	10.31	1.69	1.69	1.69	1.69	16.69	15.27	15.29	15.29
Surrey Heath T2_150m	15.27	10.26	10.30	10.30	1.68	1.68	1.69	1.69	16.67	15.26	15.28	15.28
Surrey Heath T2_160m	15.23	10.25	10.29	10.29	1.68	1.68	1.69	1.69	16.66	15.25	15.27	15.27
Surrey Heath T2_170m	15.19	10.24	10.28	10.28	1.68	1.68	1.69	1.69	16.66	15.25	15.27	15.27
Surrey Heath T2_180m	15.16	10.23	10.27	10.27	1.68	1.68	1.68	1.68	16.65	15.24	15.26	15.26
Surrey Heath T2_190m	15.13	10.23	10.26	10.26	1.68	1.68	1.68	1.68	16.64	15.23	15.25	15.25
Surrey Heath T2_200m	15.10	10.22	10.25	10.25	1.68	1.68	1.68	1.68	16.64	15.23	15.25	15.25
Surrey Heath T3_3m	32.72	16.29	16.96	17.03	0.78	0.79	0.98	0.99	20.50	18.37	19.37	19.44
Surrey Heath T3_10m	27.23	14.84	15.27	15.31	0.45	0.46	0.56	0.57	18.38	16.52	17.10	17.14
Surrey Heath T3_20m	24.09	14.00	14.31	14.34	0.28	0.28	0.35	0.35	17.25	15.54	15.90	15.93
Surrey Heath T3_30m	22.59	13.61	13.85	13.87	0.20	0.20	0.25	0.25	16.74	15.11	15.37	15.39
Surrey Heath T3_40m	21.71	13.37	13.58	13.60	0.16	0.16	0.20	0.20	16.45	14.86	15.07	15.08

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T3_50m	21.13	13.22	13.40	13.42	0.13	0.13	0.16	0.17	16.26	14.71	14.88	14.89
Surrey Heath T3_60m	20.72	13.11	13.27	13.29	0.11	0.12	0.14	0.14	16.14	14.60	14.75	14.76
Surrey Heath T3_70m	20.42	13.03	13.18	13.19	0.10	0.10	0.12	0.13	16.05	14.53	14.66	14.67
Surrey Heath T3_80m	20.18	12.97	13.11	13.12	0.09	0.09	0.11	0.11	15.98	14.47	14.59	14.59
Surrey Heath T3_90m	20.00	12.92	13.05	13.06	0.08	0.08	0.10	0.10	15.92	14.43	14.53	14.54
Surrey Heath T3_100m	19.85	12.88	13.00	13.01	0.08	0.08	0.09	0.10	15.88	14.39	14.49	14.49
Surrey Heath T3_110m	19.73	12.85	12.96	12.97	0.07	0.07	0.09	0.09	15.85	14.37	14.45	14.46
Surrey Heath T3_120m	19.63	12.82	12.93	12.94	0.07	0.07	0.08	0.08	15.82	14.34	14.42	14.43
Surrey Heath T3_130m	19.55	12.80	12.90	12.91	0.06	0.07	0.08	0.08	15.80	14.32	14.40	14.40
Surrey Heath T3_140m	19.48	12.78	12.88	12.89	0.06	0.06	0.08	0.08	15.78	14.31	14.38	14.38
Surrey Heath T3_150m	19.42	12.76	12.86	12.87	0.06	0.06	0.07	0.07	15.76	14.30	14.36	14.37
Surrey Heath T3_160m	19.38	12.75	12.84	12.85	0.06	0.06	0.07	0.07	15.75	14.29	14.35	14.35
Surrey Heath T3_170m	19.35	12.74	12.83	12.84	0.06	0.06	0.07	0.07	15.74	14.28	14.34	14.34
Surrey Heath T3_180m	19.32	12.74	12.82	12.83	0.06	0.06	0.07	0.07	15.74	14.28	14.33	14.34
Surrey Heath T3_190m	19.30	12.73	12.81	12.82	0.06	0.06	0.07	0.07	15.73	14.28	14.33	14.33
Surrey Heath T3_200m	19.30	12.73	12.81	12.81	0.06	0.06	0.07	0.07	15.73	14.27	14.32	14.33
Surrey Heath T4_0m	32.84	16.01	15.31	15.31	2.55	2.58	2.43	2.43	21.60	19.46	18.61	18.61
Surrey Heath T4_10m	23.59	13.59	13.31	13.31	1.96	1.97	1.91	1.91	17.83	16.10	15.79	15.79
Surrey Heath T4_20m	21.21	12.97	12.79	12.79	1.82	1.82	1.79	1.79	16.92	15.30	15.12	15.12
Surrey Heath T4_30m	20.07	12.67	12.54	12.54	1.75	1.76	1.74	1.74	16.51	14.94	14.82	14.82
Surrey Heath T4_40m	19.39	12.50	12.39	12.40	1.72	1.72	1.70	1.70	16.27	14.74	14.65	14.65
Surrey Heath T4_50m	18.93	12.38	12.29	12.30	1.69	1.70	1.68	1.68	16.12	14.61	14.54	14.54
Surrey Heath T4_60m	18.59	12.29	12.22	12.22	1.68	1.68	1.67	1.67	16.01	14.52	14.46	14.46
Surrey Heath T4_70m	18.33	12.22	12.16	12.16	1.67	1.67	1.66	1.66	15.93	14.45	14.40	14.40
Surrey Heath T4_80m	18.13	12.17	12.12	12.12	1.66	1.66	1.65	1.65	15.87	14.40	14.36	14.36

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T4_90m	17.96	12.12	12.08	12.08	1.65	1.65	1.65	1.65	15.82	14.36	14.32	14.32
Surrey Heath T4_100m	17.81	12.08	12.05	12.05	1.65	1.65	1.64	1.64	15.78	14.32	14.29	14.29
Surrey Heath T4_110m	17.69	12.05	12.02	12.02	1.64	1.64	1.64	1.64	15.74	14.30	14.27	14.27
Surrey Heath T4_120m	17.59	12.03	12.00	12.00	1.64	1.64	1.63	1.63	15.71	14.27	14.25	14.25
Surrey Heath T4_130m	17.50	12.00	11.98	11.98	1.63	1.63	1.63	1.63	15.69	14.25	14.23	14.23
Surrey Heath T4_140m	17.41	11.98	11.96	11.96	1.63	1.63	1.63	1.63	15.67	14.24	14.22	14.22
Surrey Heath T4_150m	17.34	11.96	11.94	11.94	1.63	1.63	1.63	1.63	15.65	14.22	14.21	14.21
Surrey Heath T4_160m	17.27	11.94	11.93	11.93	1.63	1.63	1.62	1.62	15.63	14.21	14.19	14.19
Surrey Heath T4_170m	17.21	11.93	11.91	11.92	1.62	1.62	1.62	1.62	15.62	14.19	14.18	14.18
Surrey Heath T4_180m	17.16	11.91	11.90	11.90	1.62	1.62	1.62	1.62	15.60	14.18	14.17	14.17
Surrey Heath T4_190m	17.11	11.90	11.89	11.89	1.62	1.62	1.62	1.62	15.59	14.17	14.16	14.16
Surrey Heath T4_200m	17.06	11.89	11.88	11.88	1.62	1.62	1.62	1.62	15.58	14.17	14.16	14.16
Surrey Heath T5_0m	145.51	46.67	53.88	53.91	7.46	7.63	8.89	8.89	52.68	46.76	53.75	53.77
Surrey Heath T5_10m	91.25	33.45	37.82	37.84	4.67	4.75	5.41	5.41	35.31	30.91	34.65	34.67
Surrey Heath T5_20m	73.08	29.00	32.42	32.44	3.78	3.83	4.31	4.31	29.61	25.83	28.54	28.55
Surrey Heath T5_30m	63.47	26.64	29.54	29.56	3.33	3.37	3.75	3.75	26.68	23.25	25.42	25.43
Surrey Heath T5_40m	57.36	25.13	27.70	27.72	3.05	3.09	3.40	3.40	24.85	21.67	23.49	23.50
Surrey Heath T5_50m	53.07	24.08	26.40	26.42	2.86	2.89	3.17	3.17	23.59	20.58	22.17	22.18
Surrey Heath T5_60m	49.83	23.28	25.41	25.43	2.73	2.75	2.99	2.99	22.66	19.79	21.20	21.21
Surrey Heath T5_70m	47.30	22.65	24.64	24.65	2.62	2.64	2.86	2.86	21.95	19.18	20.46	20.47
Surrey Heath T5_80m	45.25	22.14	24.01	24.02	2.54	2.56	2.76	2.76	21.38	18.70	19.87	19.88
Surrey Heath T5_90m	43.52	21.72	23.48	23.49	2.47	2.49	2.67	2.67	20.91	18.31	19.39	19.39
Surrey Heath T5_100m	42.06	21.36	23.02	23.04	2.41	2.43	2.60	2.60	20.52	17.99	18.99	18.99
Surrey Heath T5_110m	40.79	21.04	22.63	22.64	2.37	2.38	2.54	2.54	20.19	17.72	18.65	18.66
Surrey Heath T5_120m	39.69	20.77	22.29	22.30	2.33	2.34	2.49	2.49	19.91	17.48	18.37	18.37

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T5_130m	38.73	20.53	21.99	22.00	2.29	2.31	2.45	2.45	19.66	17.29	18.12	18.13
Surrey Heath T5_140m	37.87	20.32	21.72	21.73	2.27	2.28	2.41	2.41	19.45	17.12	17.91	17.91
Surrey Heath T5_150m	37.12	20.14	21.49	21.50	2.24	2.25	2.38	2.38	19.27	16.97	17.73	17.73
Surrey Heath T5_160m	36.45	19.97	21.28	21.29	2.22	2.23	2.35	2.35	19.11	16.84	17.58	17.58
Surrey Heath T5_170m	35.87	19.83	21.11	21.12	2.20	2.21	2.33	2.33	18.98	16.74	17.45	17.45
Surrey Heath T5_180m	35.38	19.71	20.96	20.96	2.19	2.20	2.31	2.31	18.87	16.65	17.35	17.35
Surrey Heath T5_190m	34.97	19.61	20.83	20.84	2.18	2.19	2.30	2.30	18.79	16.59	17.28	17.28
Surrey Heath T5_200m	34.67	19.54	20.75	20.76	2.17	2.18	2.30	2.30	18.73	16.55	17.24	17.24
Surrey Heath T6_0m	105.06	37.37	43.62	43.66	6.09	6.20	7.27	7.27	43.44	38.73	44.68	44.72
Surrey Heath T6_10m	70.13	28.46	32.10	32.12	3.95	4.01	4.55	4.55	30.34	26.71	29.78	29.80
Surrey Heath T6_20m	57.43	25.25	28.01	28.03	3.27	3.31	3.70	3.70	26.01	22.86	25.04	25.06
Surrey Heath T6_30m	50.31	23.46	25.74	25.76	2.93	2.96	3.26	3.26	23.74	20.88	22.60	22.61
Surrey Heath T6_40m	45.60	22.27	24.24	24.25	2.71	2.74	2.98	2.98	22.31	19.64	21.07	21.07
Surrey Heath T6_50m	42.17	21.41	23.14	23.15	2.56	2.59	2.80	2.80	21.30	18.79	20.01	20.01
Surrey Heath T6_60m	39.56	20.76	22.31	22.32	2.46	2.47	2.66	2.66	20.56	18.17	19.23	19.23
Surrey Heath T6_70m	37.48	20.24	21.64	21.65	2.37	2.39	2.55	2.55	19.99	17.69	18.63	18.63
Surrey Heath T6_80m	35.77	19.81	21.10	21.11	2.31	2.32	2.47	2.47	19.53	17.31	18.15	18.16
Surrey Heath T6_90m	34.34	19.45	20.64	20.65	2.26	2.27	2.40	2.40	19.15	17.00	17.76	17.77
Surrey Heath T6_100m	33.13	19.15	20.25	20.26	2.21	2.22	2.34	2.34	18.84	16.74	17.44	17.45
Surrey Heath T6_110m	32.09	18.89	19.91	19.92	2.18	2.19	2.30	2.30	18.57	16.53	17.17	17.17
Surrey Heath T6_120m	31.18	18.66	19.62	19.63	2.14	2.15	2.25	2.25	18.34	16.34	16.94	16.94
Surrey Heath T6_130m	30.37	18.46	19.36	19.37	2.12	2.13	2.22	2.22	18.14	16.18	16.73	16.74
Surrey Heath T6_140m	29.67	18.29	19.13	19.14	2.09	2.10	2.19	2.19	17.97	16.04	16.56	16.56
Surrey Heath T6_150m	29.03	18.13	18.93	18.94	2.07	2.08	2.16	2.16	17.81	15.92	16.40	16.41
Surrey Heath T6_160m	28.46	17.99	18.75	18.75	2.05	2.06	2.14	2.14	17.68	15.81	16.27	16.27

	Total Annual Mean NO_X (µg/m^3)				Total Annual Mean NH_3 (µg/m^3)				Total Annual Mean Nitrogen (kgN/ha/yr)			
Road Link	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**	**2019**	**2038 Future Base**	**2038 DM**	**2038 DS**
Surrey Heath T6_170m	27.95	17.86	18.58	18.59	2.04	2.05	2.12	2.12	17.56	15.72	16.15	16.15
Surrey Heath T6_180m	27.48	17.74	18.43	18.44	2.02	2.03	2.10	2.10	17.45	15.63	16.04	16.04
Surrey Heath T6_190m	27.06	17.64	18.29	18.30	2.01	2.02	2.08	2.08	17.35	15.56	15.94	15.94
Surrey Heath T6_200m	26.67	17.54	18.17	18.18	2.00	2.01	2.07	2.07	17.26	15.49	15.85	15.85

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