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SHADOW HABITAT REGULATIONS ASSESSMENT

LAND NORTH OF LONG COPSE LANE, EMSWORTH

ON BEHALF OF LAND AND PARTNERS

TOWN & COUNTRY PLANNING ACT 1990 (AS AMENDED)
PLANNING AND COMPULSORY PURCHASE ACT 2004

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CONTENTS:

Page No:

1.0 INTRODUCTION 1
2.0 SITE CONTEXT AND DESCRIPTION 5
3.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT 9
4.0 METHODOLOGY 12
5.0 STATUTORY DESIGNATED SITES 18
6.0 ASSESSMENT OF POTENTIAL SIGNIFICANT EFFECTS 25
7.0 CONCLUSIONS 38

Appendix 1: Site Location Plan
Appendix 2: Revised Illustrative Masterplan, Rev S
Appendix 3: Stansted Estate Mitigation Plan
Appendix 4: Revised Nutrient Balancing Assessment and accompanying Hydrogeological Appraisal
Appendix 5: Biodiversity Management Enhancement Plan
Appendix 6: Lighting Technical Note to supplement the submitted Lighting Strategy
Appendix 7: Construction Environmental Management Plan

1.0 INTRODUCTION

1.1 This shadow Habitats Regulations Assessment (HRA) has been produced to consider the effects a Proposed Development for a residential development and supporting infrastructure on International / European designated sites in the vicinity of the Proposed Development Site, which is located to the north of Long Copse Lane, Emsworth.

1.2 The findings of this assessment work are set out within this 'Shadow Habitats Regulations Assessment' document ('Shadow HRA'), such that the Competent Authority (in this case Havant Borough Council) has all the necessary information before it in order to carry out its duties in line with relevant planning policy and legislation, including specifically The Conservation of Habitats and Species Regulations 2017, as amended (hereafter referred to as the Habitats Regulations). As such, the information contained within this document is intended to provide the Competent Authority with all the information that they may reasonably require to inform their formal assessment pursuant to the Habitats Regulations.

Purpose of this Report

1.3 The need for projects with the potential to impact upon Natura 2000 sites to be assessed is stated in Article 6 of the European Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (hereafter 'the Habitats Directive'). Articles 6(3) and 6(4) of this Directive states that an Appropriate Assessment is required for any plan or project that is considered likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects.

1.4 Natura 2000 sites are those sites designated under the Habitats Directive to ensure the protection of European important habitats, plants or animals, and include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Ramsar sites are treated, for planning purposes, as Natura 2000 sites. The Habitats Directive is transposed into UK legislation through the

Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations 2017). Regulations 61, 62 and 66 of the Habitat Regulations incorporate the requirements of Articles 6(3) and 6(4) of the Habitats Directive.

1.5 Under the Habitat Regulations, the Competent Authority (Havant Borough Council) may only agree to a project or plan (which is likely to have a significant effect on a Natura 2000 site) after having ascertained that it will not adversely affect the integrity of any Natura 2000 site alone or in combination with other plans and projects. Where adverse impacts are anticipated, plans or projects may only be consented where there are no alternative solutions and the project or plan is considered to be of overriding public interest. In such instances appropriate compensatory measures are required to ensure that the overall coherence of a Natura 2000 site network is protected.

1.6 This Shadow HRA considers the potential for the Proposed Development to impact on the following statutory International / European designated sites;

- Singleton & Cocking Tunnels Special Area of Conservation (SAC).
- Chichester and Langstone Harbours Special Protection Area (SPA) and Ramsar site
- Solent Maritime SAC
- Kingley Vale SAC
- Solent & Isle of Wight Lagoons SAC

1.7 A description of the Proposed Development Site is set out in Section 2 of this report and a description of these statutory designated sites in presented in Section 5 of this report. The location of the identified statutory International / European designations in relation to the Proposed Development Site is also described in Section 5 of this report.

Application Summary

1.8 An outline planning application was submitted to Havant Borough Council on 23rd August 2021 and validated on 7th September 2021. The description of development is as follows:

"*Outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved*"

1.9 A description of the proposals is provided within Section 3 of this report.

1.10 Since the submission of the application, consultation responses from Natural England, Hampshire County Council and the Havant Borough Council's Nutrient Team have requested that the Applicant should submit a Shadow Habitat Regulations Assessment to inform the HRA that Havant Borough Council will be undertaking prior to determination of the application. The responses clarify the expected scope of this work, which includes consideration of likely significant effects from recreational disturbance, nutrients, construction related impacts and habitat loss (protected species).

1.11 In their response, Hampshire County Council requested that Singleton & Cocking Tunnels SAC is included within the scope of the Shadow HRA;

"*The Bechstein's Bat population in Havant Borough is assumed to be functionally linked to larger populations in West Sussex and therefore to the Singleton & Cocking Tunnels Special Area of Conservation (SAC). The SAC is designated due to winter populations of Bechstein's and Barbastelle bats. Evidence from bat tracking studies has shown that another bat species from the SAC has travelled to Havant borough and therefore a functional link between the SAC and the Bechstein's Bat populations in this part of the borough is highly likely. Given this assumed linkage, it will be necessary for a Habitats Regulations Assessment (HRA) to include details of any likely*

significant effect on the Singleton & Cocking Tunnels SAC[1]*"*.

1.12 This Shadow HRA considers the potential for the Proposed Development to impact on identified statutory International / European designated sites in response to the comments received and to ensure that the Competent Authority has all the necessary information before it in order to carry out its duties in line with relevant planning policy and legislation, including specifically The Conservation of Habitats and Species Regulations 2017, as amended (hereafter referred to as the Habitats Regulations).

[1] County Ecologist comments dated 27th October 2021

2.0 SITE CONTEXT AND DESCRIPTION

Planning Context to the Site

2.1 The production of the new Havant Borough Local Plan 2036 has been underway since 2016. The Council published the Draft Havant Borough Local Plan 2036 which was subject to public consultation between 8th January and 16th February 2018. This version of the plan included an allocation under Policy H6 for the provision of around 260 dwellings which includes the Proposed Development Site.

2.2 The Pre-submission version of the plan maintained an allocation for the Proposed Development Site under Policy H8. Further changes to the Pre-Submission version were subject to public consultation between 3 November and 17 December 2020 and included some amendments to the proposed wording and requirements of Policy H8. Nevertheless, the proposed allocation of Land North of Long Copse Lane was maintained in the emerging Local Plan.

2.3 The Submission version of the Local Plan which was submitted to the Secretary of State for examination on 12th February 2021.

2.4 Subsequent to submission of the Local Plan for examination, detailed discussions between the Council and stakeholder groups have resulted in proposed changes to the wording of Policy H8 to ensure appropriate consideration is given to ecology, trees, the South Downs National Park and multi-user links to existing rights of way in the locality. The proposed number of dwellings remains unchanged.

2.5 The Council published the Inspector's interim findings for the Submission version of the Local Plan in November 2021. Policy H8 was an individual policy covered during the Stage 1 hearings and no soundness and/or legal compliance issues in relation to Policy H8 are reported in the interim findings.

2.6 Havant Borough Council has undertaken an HRA[2] of the emerging Local Plan in accordance with the Habitats Regulations. This HRA provides an analysis of the policies and proposals within the Local Plan and seeks to establish whether or not these will result in any '*likely significant effect*' on the ecological integrity of International / European designated nature conservation sites in and around Havant Borough. This HRA considers the potential for likely significant effects of the Proposed Development (at the plan level) on 18 International sites which are presented in Table 2.1 below.

Special Area of Conservation (SAC)	**Special Protection Area (SPA)**	**Ramsar site**
Solent Maritime	Chichester & Langstone Harbours	Chichester & Langstone Harbours
Solent & Isle of Wight Lagoons	Portsmouth Harbour	Portsmouth Harbour
South Wight Maritime	Solent & Dorset Coast	
Butser Hill	Pagham Harbour	Pagham Harbour
Kingley Vale	The New Forest	The New Forest
The New Forest	Solent & Southampton Water	Solent & Southampton Water
Singleton and Cocking Tunnels		

Table 2.1: Identified Sites for Havant Borough

[2] Havant Borough Council Habitat Regulations Assessment, May 2021

2.7 The Local Plan HRA identifies that Policy H8 could result in a potential impact on a number of designated sites and identifies potential impact pathways. These impact pathways are discussed in detail within Section 5 and 6 of this report alongside consideration of the conservation objectives of the designated sites identified for assessment.

Site Location & Characteristics

2.8 The Proposed Development Site lies at the northern edge of the town of Emsworth and is 14.6ha in size. It has an irregular shape and is located to the north of Long Copse Lane, as well as to the north of Long Copse Cottage and Hollybank Cottage which are not included within the Site.

2.9 The Site's location is shown on the Image 1 below and a Site Location Plan is included within **Appendix 1**.

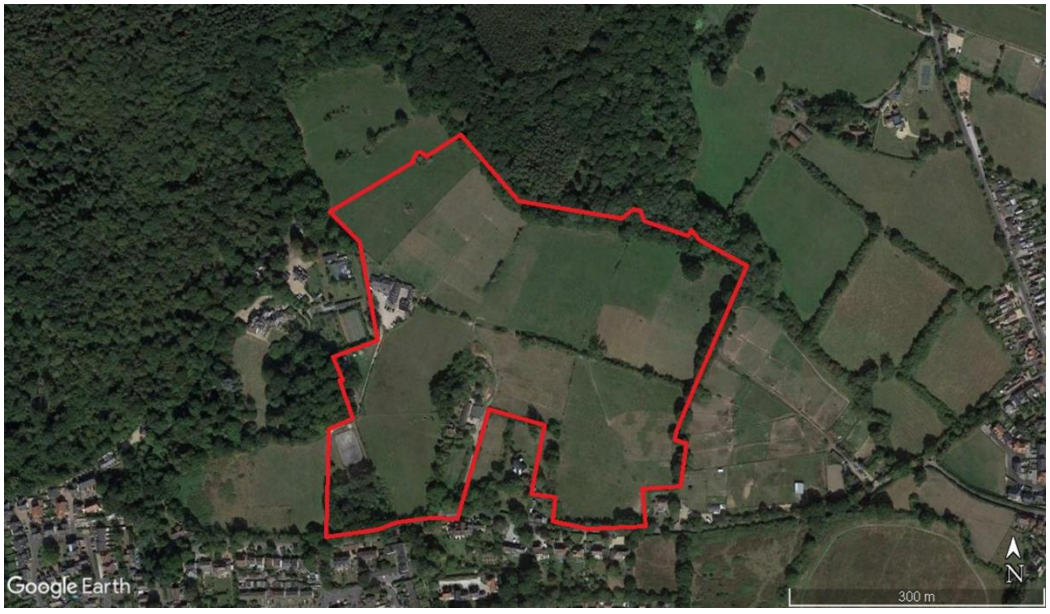


Image 1: Site Location

2.10 The Site largely comprises greenfield land and consists predominantly of grazed horse paddocks separated by hedgerows and fencing with training

paddocks and small woodland copses. Built form at the Site comprises of Hollybank Farm, a dwelling with a complex of stables and outbuildings in the centre of the Site and Old Dairy Farm, which is a dwelling, holiday cottage, stables and associated ménage in the north-west of the Site. Beyond the west and northern edges of the Site are an existing woodland which connects to Southleigh Forest to the north. The land within the Site rises up gently from Long Copse Lane then falls away towards the woodland which is to the north of the Site.

2.11 The landscaped grounds of Hollybank House and a small pasture field to the east of White Lodge within the H8 allocation lie to the west of the Site. Hollybank Woods (which is 61ha in size and part of the larger 158ha Southleigh Forest) and pasture land outside the H8 allocation lies to the north of the Site. Hollybank Woods and Southleigh Forest comprise ancient woodland and so provides a permanent natural edge to the Site.

3.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 The description of the Proposed Development at Land North of Long Copse Lane is;

"Outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved".

3.2 The illustrative masterplan (170116/SL/SK1) for the Proposed Development (refer to **Appendix 2**) illustrates the Proposed Development layout which also includes extensive areas of public open space incorporating substantial landscaping buffers situated throughout the Proposed Development Site, managing the transition between built form and areas of landscaping within the Site boundaries. Of relevance, the design has evolved to take account of the Site's ecological opportunities and constraints. As such, the layout includes the retention all significant areas of broadleaved woodland, the retention of approximately 40% of existing on-site hedgerows, and the retention of woodland buffers. Although all matters are reserved it is proposed that the primary landscape/ecology buffers are fixed in the S106 Agreement to provide certainty in relation to the mitigation of impacts on Protected Species.

3.3 There are two main ecological corridors proposed; one running up the eastern boundary of the Site and one running north from the small copse next to Long Copse Lane (where there was previously a Bechstein's bat maternity roost) to the wooded grounds of Hollybank House. It is proposed that both of these will provide a 30 metre wide bat movement route for Bechstein's bats from Long Copse Lane to the extensive woodlands in the wider area. It is proposed that these ecological corridors will be able to integrate SuDS features in 'glades' but their primary function is woodland habitat. In addition, a watercourse helps to form a natural barrier to north and there is formal access into the woods nearby which comprises a network of managed paths with appropriate wayfinding.

3.4 The adjacent forest habitats of Southleigh Forest and Hollybank Wood, along with the eastern and southern boundaries, will be protected by a buffer from the main development area of a minimum of 30m. A series of secondary ecological corridors that link the ecological corridors and provide additional commuting routes for bats. The main function of these areas is to protect existing trees within and around the Site as part of permanent landscaped features. The secondary corridors are expected to typically be 10m wide.

3.5 Lighting design has been factored into the illustrative masterplan to ensure that the buffers proposed remain dark and meet the requirements of nocturnal species, to reflect best practice approaches. In this manner, the lighting strategy has been developed to provide a transition from the built-up area to the countryside and bat corridors/foraging areas.

3.6 The Proposed Development will also result in the creation of new, off-site habitat. The Applicant has secured agreement to provide both nitrate offset and bat habitat creation on land to the north of the Site on land owned by Stansted Park Foundation. The Mitigation Land, which measures 9.6ha in total, is subject to an agreement for the Mitigation Land to be used for nitrate offset/mitigation and bat habitat creation between the developer (the Applicant) and the landowner Stansted Park Foundation.

3.7 The landowner (Stansted Park Foundation) agrees to create and protect woodland bat habitat on the Mitigation Land in accordance with a planting scheme to be agreed. The landowner will not use the Mitigation Land for agriculture or deposit or permit the deposit of any fertiliser on the Mitigation Land. The planting and management of trees on the Mitigation Land will be in accordance with an agreed woodland planting scheme. The restriction on the Mitigation Land will be in place prior to occupation of the first home on the Site and will be in place for the lifetime of the development or such other period of the Council requires. The Mitigation Land will be monitored by the mitigation land authority (which is the planning authority within which the Mitigation Land is situated in this case the South Downs National Park Authority (SDNPA)) and the mitigation land authority will carry out inspections from time to time and report to the Borough Council at agreed intervals (initially annually then every

5 years after 20 years following occupation of the first homes on the Site).

3.8 A plan showing the Mitigation Land is presented in **Appendix 3**.

4.0 METHODOLOGY

4.1 This Shadow HRA is prepared in accordance with best practice guidance for Habitat Regulations Assessment as outlined in the Habitat Regulations Assessments: Protecting a European Site Guidance (2021). This document expands upon previous guidance published by the Impacts Assessment Unit at Oxford Brookes University (2001) and the Department for Communities and Local Government (2006).

4.2 Best practice guidance identifies that the Habitat Regulations Assessment process is broadly divisible into four stages, with the need to complete each stage determined by the results of the previous stage. In summary, these stages are:

- **Stage 1: Evidence Gathering and Screening**: this stage is associated with collecting evidence regarding those parts of the Natura 2000 network that have the potential to be impacted by the strategic land-use plan, either alone or in combination with other projects or plans. Where no likely significant effects are perceived, sites may be screened out of the need for further assessment during Stage 2.

- **Stage 2: Appropriate Assessment of Likely Significant Impacts**: where it is considered a Natura 2000 site may experience significant effects from a project or strategic land-use plan, either alone or in combination, a detailed assessment of likelihood and severity of the perceived impact on the integrity of the Natura 2000 network is undertaken. This assessment is based on a detailed review of the project or plan (both alone and in combination with other plans or projects) in conjunction with the structure, function and conservation objectives of the Natura 2000 site. This stage may also include a preliminary assessment regarding the potential for the identified effects to be mitigated.

- **Stage 3: Assessment of Alternative Solutions**: where adverse effects on the integrity of a Natura 2000 site are perceived, this stage examines alternative ways of achieving the objectives of the project or strategic land-use plan in order to avoid these significant effects.

- **Stage 4: Imperative Reasons of Overriding Public Interest and Compensation Measures**: where the potential for adverse effects on a Natura 2000 site remains, where there is an absence of alternative solutions, and where it is deemed that a project or land-use plan should proceed for Imperative Reasons of Overriding Public Interest (IROPI), an investigation of appropriate compensatory measures is undertaken.

4.3 This report focuses on Stage 2 of the Habitat Regulations Assessment process.

Assessment Approach

4.4 In order to identify the International statutory designated sites that may experience significant effects as a result of the Proposed Development, a search has been made to identify sites within a 10km radius of the Proposed Development Site. This 'zone of influence' (ZoI) covers an area over which the identified sites may be subject to significant effects as a result of the Proposed Development and associated activities. It is noted that Hampshire County Council has requested that consideration is given to the Singleton Cocking Tunnels SAC which is located outside of the 10km zone of influence. This is discussed further within section 5 of this report, however for the avoidance of doubt, this statutory designated site has been scoped-in to the assessment.

4.5 The assessment of significant effects (either alone or in combination) takes into account the reported conditions of the identified statutory designated sites with regard to their conservation objectives and current conservation status to assess how these conditions may change as a result of the Proposed Development and associated activities.

4.6 Best practice guidance states that the emphasis for an assessment should be

on objectively demonstrating, with supporting evidence, that there will be no adverse effect on the integrity of a Natura 2000 site. The publication '*Managing Natura 2000 Sites: The Provision of Article 6 of the 'Habitats'* Directive 92/43/EEC' (European Commission, 2000b) states;

"*It is clear from the context and from the purpose of the directive that the 'integrity of the site' relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the integrity of a site only in a visual sense or only habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for the purposes of Article 6(3), provided that the coherence of the network is not affected.*

The expression 'integrity of the site' shows that focus is here on the specific site. Thus, it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will anyway remain favourable within the European territory of the Member State.

As regards the connotation or meaning of 'integrity', this can be considered as a quality or condition of being whole or complete. In a dynamic ecological context, it can also be considered as having the sense of resilience and ability to evolve in ways that are favourable to conservation. The 'integrity of the site' has been usefully defined as 'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or levels of populations of the species for which it was classified' (IEEM, 2006).

The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."

4.7 Habitat Regulations Assessments: Protecting a European Site Guidance (published 24th February 2021) states that 'the integrity of the site' will be adversely affected if a proposal could, for example;

- "*destroy, damage or significantly change all or part of a designated habitat*

- *significantly disturb the population of a designated species, for example, its breeding birds or hibernating bats*

- *harm the site's ecological connectivity with the wider landscape, for example, harm a woodland that helps to support the designated species from a nearby European site*

- *harm the site's ecological function, or its ability to survive damage, and reduce its ability to support a designated species*

- *change the site's physical environment, for example, by changing the chemical makeup of its soil, increasing the risk of pollution or changing the site's hydrology*

- *restrict access to resources outside the site that are important to a designated species, for example, food sources or breeding grounds*

- *prevent or disrupt restoration work, or the potential for future restoration, if it undermines the site's conservation objectives"*[3]

4.8 It goes on to state that "*A proposal will pass the integrity test if your appropriate assessment can show that there is no reasonable scientific doubt that the proposal will not have an adverse effect on the integrity of the site*".

4.9 In terms of assessing the integrity of a site, the Guidance states that the assessment should consider:

1) **Conservation Objectives:** the ecological requirements, conservation

[3] Habitats regulations assessments: protecting a European site - GOV.UK (www.gov.uk)

objectives and the current conservation status (if known) of a site's designated features that might be affected by the proposal. In terms of determining the 'Conservation Objectives' of an identified site, reference in this assessment has been made to the data available from Natural England's website.

2) **Potential Effects:** determine each potential effect on an identified site, including the risk of combined effects with other proposals, and how they might impact on the site's conservation objectives.

3) **Characteristic of the Effect**: determine the scale, extent, timing, duration, reversibility and likelihood of the potential effects.

4) **Certainty of the Effect**: determine the certainty of the effect occurring.

5) **Identification of Mitigation**: determine whether mitigation measures are required to avoid or limit the effects and determine the effectiveness of proposed mitigation measures.

4.10 The decision-making process under the Habitats Directive is underpinned by the precautionary principle, whereby the Local Planning Authority (LPA), as the Competent Authority, acts to avoid potential harm in the face of scientific uncertainty. If it is not possible in a *'likely significant effect'* test, to rule out a significant effect on an International site on the basis of available evidence, then it should be assumed the significant effect identified is likely to occur as a result of the plan or project. This precautionary approach has been adopted within this assessment.

4.11 In accordance with the legal requirement in the Habitats Regulations and best practice methodology, the potential for a project or plan to impact upon a Natura 2000 site must be considered '*either alone, or in combination with other projects or plans'*. An assessment of combination effects of other plans has been undertaken as part of the Havant Borough Council's HRA of the emerging local plan which concludes that through the application of plan-led strategic

and proposal-specific mitigation measures, the Local Plan would not result in likely significant effects on the International sites within the Plan's zone of influence and that International site integrity would not be impacted as a result of the Plan. As such, this assessment focuses on committed development projects that may result in combination effects. The following committed developments have been scoped-in to this assessment given that they are located in close proximity to the Proposed Development site;

- South of Bartons Road, Havant – 175 Dwellings (planning application ref: 15/01435) (under construction).

- Camp Field (land to the west of Havant Crematorium), Bartons Road (planning application ref: 19/00007)

- Southleigh Park House, Eastleigh Road, Havant – hybrid application (planning application ref: 17/00863)

- Former site of Colt International Ltd, New Lane, Havant – reserved matters following outline planning permission (planning application reference 19/01166)

- Land to the rear of, 15-27 Horndean Road, Emsworth – erection of 16 new dwellings (planning application reference 19/00768)

4.12 It is noted that these developments are subject to their own mitigation requirements and measures to ensure that either alone or in combination with other developments within the area, development proposals will not result in significant effects on the integrity of designated sites. Therefore, the potential for in-combination effects with these committed developments projects is unlikely. However, consideration has been given to these identified committed schemes within the assessment.

5.0 STATUTORY DESIGNATED SITES

5.1 The Proposed Development Site is not located within, adjacent to or in close proximity to any SAC, SPA or Ramsar site and the development will not directly effect the interest features of such sites for which they are notified. However, there are four European protected sites located within a 10km radius of the Site.

5.2 The Singleton Cocking Tunnels SAC is located outside of the 10km radius and their tunnels support hibernating bats which includes Bechstein's *Myotis bechsteinii* bats. Through discussions with the Hampshire County Council, it is understood that the Bechstein's Bat population in Havant Borough is likely to be functionally linked to larger populations in West Sussex and therefore to the Singleton & Cocking Tunnels SAC. The Singleton & Cocking Tunnels SAC has therefore been included within this assessment.

5.3 The statutory designated sites identified and included within the assessment of likely significant effects are identified within **Table 3.1** below.

5.4 The Conservation Objectives of each of the identified sites is presented in **Table 3.2** below. The Natura 2000 Standard Data Form for each identified site (JNCC, 2016) includes information regarding known threats, pressures and activities which could impact upon the qualifying criteria for the site, and which could prevent the conservation objectives from being met. Published vulnerabilities for each identified site are summarised in **Table 3.3**.

Table 3.1: Identified Statutory Designated Sites

Name	Description	Qualifier	Importance	Distance (km) / Direction from the Site
Chichester and Langstone Harbours SPA and Ramsar site	Large sheltered estuarine basins supporting mud-flats that are rich in invertebrates and support extensive beds of algae. The Site is of particular significance for water birds, especially in migration periods and in winter. It also supports important colonies of breeding terns.	Internationally recognised wildlife site, protected to the highest level in the UK and EU.	European	2.5km south / 3.7km south east
Solent Maritime SAC	Estuary with inlets that are unique in Britain and Europe and supports cord-grass species and Atlantic salt meadows which are notable as being representative of the ungrazed type and support a different range of communities.	Internationally recognised wildlife site, protected to the highest level in the UK and EU.	European	5.7km south east
Kingley Vale SAC	A site representing yew *Taxus baccata woods* on chalk, the central southern part of its UK range. Largest area of yew woodland in Britain. Semi-natural dry grassland and scrubland on calcareous substrates and dry grasslands and scrublands on chalk/limestone.	Internationally recognised wildlife site, protected to the highest level in the UK and EU.	European	6.2km north east

Solent & Isle of Wight Lagoons SAC	The Solent on the south coast of England encompasses a series of Coastal lagoons, including percolation, isolated and sluiced lagoons. The site includes a number of lagoons in the marshes. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species. Species diversity in these lagoons is high and the fauna includes very high densities of *N. vectensis*.	Internationally recognised wildlife site, protected to the highest level in the UK and EU.	European	5.1km south west
Singleton Cocking Tunnels SAC	Singleton and Cocking Tunnels constitute the most important sites for hibernating bats in south-east England, in particular barbastelle *Barbastella barbastellus* and Bechstein's *Myotis bechsteinii* bats. These two disused brick railway tunnels, located in rural Sussex, once formed part of the Chichester to Midhurst railway line. They now support, during the winter months, large numbers of hibernating bats. In addition to barbastelle and Bechstein's bats those also best represented include Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentoni*, brown long-eared *Plecotus auritus* and Brandt's *Myotis brandti/* whiskered *Myotis mystacinus* and this is the only known location in Britain for	Internationally recognised wildlife site, protected to the highest level in the UK and EU.	European	13.9km north east

	the mouse-eared bat *Myotis*.			

Table 3.2: Conservation Objectives

Name	Conservation Objectives
Chichester and Langstone Harbours SPA and Ramsar site (Site Code: UK9011011)[4]	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 • The distribution of the qualifying features within the site
Solent Maritime SAC (Site Code: UK0030059)[5]	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 • The distribution of qualifying species within the site
Kingley Vale SAC (Site Code: UK0012767)[6]	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 • The supporting processes on which qualifying natural habitats rely

[4] Available here: UK9011011-Chichester-and-Langstone-Harbours-SPA-V2019 (1).pdf
[5] Available here: UK0030059 SolentMaritime SACV2018 (1).pdf
[6] Available here: UK0012767 KingleyVale SACv2018.pdf

Solent & Isle of Wight Lagoons SAC (Site Code: UK0077073)[7]	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 • The supporting processes on which qualifying natural habitats rely
Singleton Cocking Tunnels SAC (Site Code: UK0030337)[8]	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 the habitats of qualifying species • The structure and function of the habitats of qualifying species • The supporting processes on which the habitats of qualifying species rely • The populations of qualifying species • The distribution of qualifying species within the site

Table 3.3: Identified Threats and Pressures

Name	Threats and Pressures	Rank[1]	Inside/Outside[2]
Chichester and Langstone Harbours SPA and Ramsar site	M02: Changes in biotic conditions H02: Pollution to groundwater (point sources and diffuse sources) M01: Changes in abiotic conditions F02: Fishing and harvesting aquatic resources G01: Outdoor sports and leisure activities, recreational activities	High High High High High	Both Both Both Inside Inside
Solent Maritime SAC	H02: Pollution to groundwater (point sources and diffuse sources) G01: Outdoor sports and leisure activities, recreational activities M02: Changes in biotic conditions F02: Fishing and harvesting aquatic resources M01: Changes in abiotic conditions	High High High High High	Both Inside Both Inside Both

[7] Available here: UK0017073 SolentandIsleofWightLagoons SACV2018 (2).pdf
[8] Available here: European Site Conservation Objectives for Singleton and Cocking Tunnels SAC - UK0030337 (naturalengland.org.uk)

Kingley Vale SAC	A11: Agriculture activities A04: Grazing I02: Problematic native species H04: Air pollution, air-borne pollutants	High High High High	Both Inside Both Both
Solent & Isle of Wight Lagoons SAC	J02: Human induced changes in hydraulic conditions M01: Changes in abiotic conditions K04: Interspecific floral relations I01: Invasive non-native specie H04: Air pollution, air-borne pollutants	High High High High High	Both Both Inside Both Both
Singleton Cocking Tunnels SAC (Site Code: UK0030337)[9]	A02: Modification of cultivation practices M02: Changes in biotic conditions J03: Other ecosystem modifications G01: Outdoor sports and leisure activities, recreational activities	High High High High	Inside Both Both Inside
1 Rank – high, medium or low. High rank indicates that the threat / pressure has a great direct or immediate influence and/or is acting over large areas. 2 The threat, pressure or activity occurs/acts inside or outside the site or both as well.			

[9] Available here: UK0030337.pdf (jncc.gov.uk)

Identified Impact Pathways

5.6 **Table 3.3** identifies a series of different 'vulnerabilities' associated with each site, and these have been used to further assess the likelihood of significant effects arising from the Proposed Development in relation to each of the potential impact pathways. The Proposed Development will not result in direct habitat loss within the boundaries of any of the sites identified, therefore the specified 'inside' pathway described in **Table 3.3** is scoped-out of the assessment. Only those pathways that could lead to a significant indirect effects have therefore been considered and have been screened based on the Conservation Objective of each site. As such, those pathways taken forward for assessment include;

- Pollution to groundwater & water resources
- Atmospheric Pollution
- Recreational Pressure
- Ecosystem modifications (loss degradation of supporting habitats)

5.7 These pathways and an assessment of potential likely significant effects is discussed in the following section of this report.

6.0 ASSESSMENT OF POTENTIAL SIGNIFICANT EFFECTS

6.1 Section 5 of this report identified a series of different 'vulnerabilities' associated with the identified sites, and these have been used to further assess the likelihood of significant effects arising from the Proposed Development in relation to each of the potential impact pathways (alone and in combination). These pathways are discussed in the following sections and have been ordered in the same way as they are presented in paragraph 5.6 in Section 5 of this report.

Pollution to Groundwater & Water Resources

6.2 The European Environment Agency (2017) define point sources (of pollution) as "*stationary locations or fixed facilities from which pollutants are discharged*". Examples include discharges from the treatment of urban wastewater, industry and fish farms. Diffuse pollution arises as a result of polluting substances leaching into surface waters and groundwater via rainfall, soil infiltration and surface runoff. The European Environment Agency (2018) state that "*Diffuse pollution can be caused by a variety of activities that have no specific point of discharge. Agriculture is a key source of diffuse pollution, but urban land, forestry, atmospheric deposition and rural dwellings can also be important sources*."

6.3 In terms of water quality, the Integrated Water Management Study for South Hampshire, published by the Partnership for Urban South Hampshire (PUSH, 2018)[10] provides evidence that there is high levels of nitrogen and phosphorus in the local water environment with evidence of eutrophication at some designated sites. It is acknowledged that water quality can be significantly effected by increased levels of new residential and commercial development as increases in both can place stress on existing drainage infrastructure. Natural

[10] PUSH, (2018), Integrated Water Management Study. Available at https://www.push.gov.uk/wp-content/uploads/2018/07/IWMS-Appendix-1.pdf

England have subsequently published guidance for residential projects in the vicinity of the Solent which states that all residential developments should achieve nitrogen neutrality[11] as the in-combination effects of increased nutrients have the potential to impact the Chichester & Langstone Harbours SPA/Ramsar given the catchment area. The assessment therefore considers the effect of the Proposed Development and potential impacts on nutrient loads to the surrounding surface water network as a potential pathway to this identified designated site that have sensitive qualifying features.

Assessment of Indirect Effects

6.4 A preliminary land contamination assessment of the Proposed Development Site has been undertaken[12] which confirms that the Site underlain by the bedrock of the London Clay Formation. Given the history of the Site and the presence of the impermeable London Clay the risk of lateral migration of contaminants via groundwater is assessed as being very low. The effect on the qualifying features of the identified sites will therefore not be significant and the integrity of these sites will not be adversely effected from this pathway.

6.5 The Proposed Development's surface water strategy is designed to reduce surface water run-off to agreed greenfield run-off rates and secondly to treat water quality. The proposed SuDS drainage network for the Site is designed to remove nitrogen and filter pollutants from surface water runoff from the Site. This is achieved by the use of petrol and oil interceptors which will aid natural filtration. Proposed enhancements to be basins will be designed to deliver suitable wetland vegetation for nitrogen and pollutant removal in the form of reedbeds and mixed marginal vegetation. This strategy acknowledges the sensitive nature of the Solent region and potential impacts on identified downstream designated receptors. In summary, the SuDs strategy is designed to prevent pollutants and access sediments from migrating downstream from

[11] Natural England, (2020), Advice on Achieving Nutrient Neutrality for New Development in the Solent Region for Local Planning Authorities

[12] Land North of Long Copse Land, Emsworth Preliminary Contaminated Land Risk Assessment (WSP, December 2018)

the Site and to prevent changes in hydrology.

6.6 Further to the above and consideration has been given to the indirect effect of nutrient loads on downstream receptors from the Site. This pathway concerns the increase in nitrogen outputs to the Chichester & Langstone Harbours SPA/Ramsar via wastewater (Thornham WwTW) and surface water (conveyed via surface water drains and the River Ems). In the absence of mitigation this represents a likely significant effect on the integrity of the Chichester & Langstone Harbours SPA/Ramsar due to elevated nutrient concentrations within the system as a result of the Proposed Development. As such, mitigation measures are proposed to ensure that the Proposed Development achieves nutrient neutrality. To achieve this, extensive areas of open space are proposed on the Site which accommodate an extensive SuDS drainage network (as discussed above). In addition, it is proposed to convert an area of cereal crop to woodland planting within the Stansted Estate (covering an area of 8ha), to the north of the Site with the aim to further offset total nitrogen from the Site. The proposed off-setting site is located within the surface water catchment for the River Lavant, the mouth of which is located to the south east of Langstone, where Chichester and Langstone Harbours meet. Chichester and Langstone Harbours are included within the same Chichester Harbour Fluvial Catchment. The receiving WwTW at Thornham also discharges to Chichester Harbour. Therefore, all sources of nitrogen and proposed mitigation are within the same catchment and there is a clear scientific link between effect and proposed mitigation.

6.7 A nutrient balancing assessment has been undertaken and is included within **Appendix 4** which demonstrates that there will be a net reduction in total nitrogen post-development. This work has been supplemented by a Hydrogeological Appraisal which specifically considers the potential to use land as mitigation against nutrient loading in the receiving waters of Langstone Harbour. The net decrease evidenced through this work supports the conservation objectives of Chichester & Langstone Harbours SPA/Ramsar and avoids any potential for an adverse effect on the integrity of the Site.

6.8 It is considered, therefore, that operational activities associated with the

Proposed Development which have the potential to result in pollution impacts on the identified designated sites that are vulnerable to this impact pathway, can be avoided through embedded design mitigation measures and further mitigation measures in the form of off-site planting. Provided that these measures are implemented, no pollution to surface water sources will occur during the operational phase of the Proposed Development and no significant adverse effects on the integrity of the identified site is anticipated either alone or in combination.

Atmospheric Pollution

6.9 The effects of air quality (primarily the deposition of nitrogenous materials) is most obvious on sensitive vegetation communities e.g. calcareous grasslands or heathland. The characteristic calcareous grassland habitats are considered to be particularly sensitive to nitrogen deposition, acid deposition and ground level ozone all of which could result in changes to soil chemistry and vegetation cover. In terms of a potential impact pathway therefore, the focus is on those sites which support these habitats, and which are in close proximity to main roads which could experience an increase in traffic movements as a result of the Proposed Development. Given the identified potential pathways, this impact is likely associated with Solent Maritime SAC, Chichester & Langstone Harbours SPA/Ramsar and the Portsmouth Harbour SPA/Ramsar.

Assessment of Indirect Effects

6.10 None of the identified sites are located in close proximity to the Site. It is noted that the A27 Strategic Road Network (SRN) is the main east-west route through the Borough and that this passes within close proximity to parts of the Solent Maritime SAC, Chichester & Langstone Harbours SPA/Ramsar and the Portsmouth Harbour SPA/Ramsar and which support habitats which are sensitive to the effects of increased nitrogen deposition, acid deposition and ground-level ozone. In terms of traffic generation distribution from the Proposed Development, a Transport Assessment[13] has been prepared to

[13] Long Copse Lane, Emsworth Transport Assessment (i-transport, August 2021)

support the application. This has undertaken an assessment of the Proposed Development on the A259 / A27 dumbbell roundabout, i.e. the nearest part of the SRN located approximately 3km west of the Site. This confirms that the Proposed Development will not impact on this junction and therefore the SRN. On this basis, the Proposed Development will not increase levels of atmospheric pollution for it to result in a likely significant effect on the qualifying features within the designated sites identified.

6.11 Furthermore, an air quality assessment forms part of the Havant Borough HRA[14] which states that for the Chichester & Langstone Harbours SPA/Ramsar and the Portsmouth Harbour SPA/Ramsar there will be no adverse effects from atmospheric pollution alone or in combination. This is on the basis of the spatial distribution of qualifying features within the designated sites, the existing background pollutants levels (nitrogen deposition, NH3) and forecast pollutant levels (NOx). For the Solent Maritime SAC there are no adverse effects alone or in-combination for acid deposition, NOx and NH3. This is on the basis of the spatial distribution of qualifying features within the designated sites (all pollutants), the existing background pollutants levels (nitrogen deposition, NH3) and forecast pollutant levels (NOx). For nitrogen deposition, there are no adverse effects alone or in combination on the basis that a Nitrogen Action Plan will be implemented by Havant and neighbouring local authorities.

6.12 Given the fact that the Proposed Development will not increase traffic movements of the SRN network and subsequently the road network in close proximity to the designated sites, the Proposed Development will not result in a significant effect on the integrity of the identified sites. This is also confirmed by the findings of the Air Quality Assessment which forms part of Havant Borough Council's HRA which concludes that the proposed policies (including the Proposed Development Site's allocation) will not result in adverse effects alone or in combination.

[14] Havant Borough Council Habitat Regulations Assessment, May 2021

Recreational Pressure

6.13 Development can increase the recreational use of the coast, which has the potential to cause detrimental effects on important bird assemblages as well as damage and disturbance to habitats. With respect to birds, this is essentially analogous to impacts from habitat loss as recreation can cause important habitat to be unavailable for use by birds (the habitat is effectively lost, either permanently or for a defined period, such that negative effects are caused). Birds can be disturbed by human recreational activities and use valuable resources in finding suitable areas in which to rest and feed undisturbed. The impacts of recreational disturbance can be such that they affect the status and distribution of key bird species and therefore act against the stated conservation objectives. Given the identified potential pathways, this effect is likely associated with the intertidal mudflats and associated estuarine habitats of Chichester & Langstone Harbours and Portsmouth Harbour.

Assessment of Indirect Effects

6.14 The Solent Recreation Mitigation Strategy (Bird Aware Solent, 2017) identifies a buffer of 5.6km where it is considered that recreational users will travel for recreational purposes. In line with the requirements for mitigation of impacts on designated sites set out within the Solent Recreation Mitigation Strategy, a contribution will be made to the Strategy to mitigate for potential alone and in combination recreational effects on the Portsmouth Harbour SPA and Chichester and Langstone Harbour SPA. This strategy is also assessed as providing mitigation for the effects on the Portsmouth Harbour Ramsar and Chichester & Langstone Harbours SPA/Ramsar due to the nature of the qualifying features.

6.15 Furthermore, the illustrative masterplan comprises approximately 6ha of private and public amenity space, not including garden spaces. This level of open space provision results in significant excess provision of open space. This also allows for non-accessible wildlife and landscape buffers at the site edge to provide further protection to bats and to ensure dark skies requirements are met. Additional play is proposed to be provided informally throughout the

external areas with natural play areas/elements. As such, significant amounts of amenity and recreational space is proposed on-site.

6.16 Given the proposed developer contribution to the Solent Recreation Mitigation Strategy and the level of open space to be provided on site, the Proposed Development will not result in significant adverse effects on the integrity of the identified sites either alone or in combination.

Ecosystem modifications (loss degradation of supporting habitats)

6.17 It is possible for impacts to designated sites to occur through impacts to land outside their boundaries, or to result in functional loss of supporting habitats either through direct habitat loss or through other impacts resulting in the functional loss of habitat. This potential impact pathway has been considered in terms of the Singleton and Cocking Tunnels SAC at the request of Hampshire County Council.

6.18 For the Singleton and Cocking Tunnels SAC, designated for its hibernating populations of rare bat species, the extent to which bats from the SAC occur within the area is unclear. It is noted that bat populations in south-east Hampshire and adjacent areas of West Sussex are potentially functionally linked. However, it is noted that within Natural England's 'Sussex Bat SAC – Planning and Landscape Scale Enhancement Protocol[15] guidance, two impact zones are outlined;

- 6.5km; key conservation area (all impacts assessed)
- 12km; wider conservation area (significant impacts or severance to flightlines to be considered)

6.19 It is noted that the Proposed Development Site is located outside of these

[15] Sussex Bat Special Area of Conservation Planning and Landscape Scale Enhancement Protocol Draft Guidance (Natural England and South Downs National Park Authority)

impact zones.

6.20 It is not considered that the Site provides habitat attributes for the Singleton and Cocking Tunnels SAC and there are no direct habitat linkages. In addition, the Natural England's 'Sussex Bat SAC – Planning and Landscape Scale Enhancement Protocol' guidance document states "*Barbastelle bats can forage 10-15 kilometres from the roosting sites and they prefer wet meadows and riparian habitats. Bechstein's tend to forage in and around the woodland where they roost with limited outward travel*".

6.21 Therefore, given the distance between the Site and the SAC, significant effects on the integrity of the SAC is considered highly unlikely as the Proposed Development will not result in the loss of supporting features and/or degradation of potential flightlines within the impact zones identified. However, adopting a precautionary approach, the assessment has considered the indirect effect on the population of this species within Havant Borough.

Assessment of Indirect Effects

6.22 The Bechstein's specific surveys including trapping and radio tracking have identified breeding population of this species using the Stansted Forest and River Ems area during the maternity season. Bechstein's bats similar to other bat species will occupy maternity roosts/sites and rely on the local habitat resources including tree roosts and foraging habitats to enable the birthing and rearing of young. For Bechstein's bats core sustenance zones for such sites are considered up to 3km and the Long Copse Lane Bat surveys have confirmed similar distances[16].

6.23 From August bats disperse to the wider landscape to mate and then hibernate often individually or in small groups at specific sites such as the Singleton and Cocking Tunnels SAC which play a role in supporting mating and hibernation.

[16] BCT (2020) Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London.

Bechstein's bats are a species known to undertake swarming behaviour[17] which is considered to play an important role in gene flow between populations[18]. Bechstein's bats in Europe have been found to travel up to 20km to engage in swarming activity from maternity areas[19]. A precautionary approach is therefore adopted in terms of the likely indirect effect on the population of this species within the Havant Borough.

6.24 The Proposed Development layout design and inherent mitigation at Long Copse Lane avoids the loss of the key foraging, roosting and commuting habitat and retains the key habitats north, east and west of the Site. The retained habitats are also buffered from direct and indirect affects that could affect the breeding Bechstein's populations in the Stansted Forest and River Ems area. Furthermore, the additional woodland planting within the Site and a further creation of 1.5ha of specific Bechstein's foraging and commuting habitat will increase available habitat for the locally occurring Bechstein's bats overall. In addition, large buffers between the development's-built footprint (average 35m) and adjacent forest habitats have been designed to provide dark corridors to limit disturbance to adjacent habitats. These buffer zones incorporate sustainable drainage systems and areas of open space thereby providing a greater level of foraging and commuting habitat for Bechstein's bats and other species. These areas will also be suitability managed in perpetuity. A Biodiversity Enhancement Plan (BEMP) has been prepared which demonstrates how these areas will be suitability managed to the benefit of nature conservation. The BEMP will be refined through consultation with the Local Authority and Natural England so it is agreed prior to the commencement of development on site.

6.25 The BEMP is contained in **Appendix 5**, which divides the Site into broad

[17] Parsons, KN., Jones, G., Davidson-Watts, I., & Greenaway, F. (2003). Visitation of underground sites by bats during late summer and autumn: implications for conservation. Biological Conservation, 111, 63 - 70

[18] Kerth, G. & Kiefer, Andreas & Trappmann, Carsten & Weishaar, Manfred. (2003). High gene diversity at swarming sites suggest hot spots for gene flow in the Endangered Bechstein's bat. Conservation Genetics. 4. 491-499.

[19] Dekeukeleire, Daan & Janssen, René & Haarsma, Anne-Jifke & Bosch, Thijs & van Schaik, Jaap. (2016). Swarming Behaviour, Catchment Area and Seasonal Movement Patterns of the Bechstein's Bats: Implications for Conservation. Acta Chiropterologica. 18. 349-358.

management zones to enable specific management measures to be tailored for each area. This includes the off-site mitigation area within the Stansted Park. Therefore, each management zone will have its own specific objectives and prescriptions or actions to contribute to the delivery of the BEMP and where appropriate any species licensing requirements.

6.26 In terms of the Bechstein's bat population, through survey work it is known that Bechstein's bats use the northern and eastern boundaries of the Site as commuting and foraging habitat. Therefore, the buffer zones in these areas have been designed primarily to provide dark vegetated flight corridors for Bechstein's bats to ensure their existing commuting and foraging habitat are not indirectly affected by the proposed developed e.g. lighting. The buffers provide for an average of 30-35m width and the management/control of artificial light levels to less than 1 lux at the development side of the buffer, reducing to 0.2 lux in the bat habitat corridors will ensure that there are no significant adverse effects on the bat corridors for community and foraging. Refer to the proposed Lighting Strategy contained in **Appendix 6**.

6.27 In addition to the above, the creation of bat specific mitigation off-site in the form of broadleaved woodland habitat will provide habitat for Bechstein's bat connectivity between Stansted and Southleigh Forests. Thereby linking two major forest areas supporting ecological connectivity for Bechstein bats and other bat species.

6.28 A Construction Environmental Management Plan (CEMP) will be adhered to during the construction phase of the Proposed Development. A CEMP has been prepared and which outlines the management protocols which will be adhered to in order to protect the biodiversity interests of the site during the construction phase. The CEMP is contained in **Appendix 7**. Measures to avoid impacts on protected and notable species are detailed within the CEMP, including recommendations related to:

- Storage of construction materials/ chemicals and equipment
- Dust suppression

- Chemical and/or fuel run-off from construction into nearby watercourses(s)
- Waste disposal
- Noise/visual/vibration impacts
- Timing of works

6.29 With the correct implementation of protection and management measures that are specified within the CEMP, the habitats and species present on the site will be protected from construction activities during the construction period.

6.30 In summary, the Proposed Development will not result in a direct effect on the SAC. Furthermore, the Site is located outside of the identified 'impact zones' set out within Natural England's 'Sussex Bat SAC – Planning and Landscape Scale Enhancement Protocol' guidance. However, through survey work it is known that Bechstein's bats use the northern and eastern boundaries of the Site for commuting and foraging habitat. Therefore, the assessment has considered an indirect effect on the population of this species within the Borough. It is concluded that the residual effect of the Proposed Development, taking into account the embedded and further mitigation proposed, is positive and significant for the locally breeding Bechstein population. Therefore, the Proposed Development will not result in a significant adverse effect on the integrity of the Singleton and Cocking Tunnels SAC.

Integrity Test Summary

6.31 Using a precautionary approach, this assessment concludes that there will be no adverse significant effects on the integrity of any of the qualifying interest features within any of the identified sites either alone or in combination with other development projects. This conclusion is based on the incorporation of mitigation measures which are summarised in **Table 6.1** below.

6.32 As such, the Component Authority can carry out its statutory duty and with the information before them, conclude that the Proposed Development will not result in significant adverse effects on the integrity of the designated sites identified.

Effect Pathway	Mitigation	Method by which Measure will be secured
Pollution to groundwater & water resources	Drainage Strategy to include suitable SuDs design Conversion of cereal crop land to woodland planting within the Stansted Estate Adherence to CEMP measures during construction	Condition S106 Agreement Condition
Atmospheric Pollution	N/A	N/A
Recreational Pressure	Provision of on-site Public Open Space Financial contribution to Solent Recreational Mitigation Strategy	Condition S106 Agreement
Ecosystem modifications (loss degradation of supporting habitats)	Provision of on-site landscape buffers and sensitive lighting design Provision of off-site woodland planting at the Stansted Estate Adherence to CEMP measures during	Condition and S106 Agreement S106 Agreement Condition

	construction	

Table 6.1: Identified Mitigation Measures

6.33 A high level of confidence in the proposal-specific mitigation is afforded. The measures proposed will ensure that the Proposed Development will not result in significant effects on the integrity of the identified designated sites. **Table 6.1** identifies how an appropriate mitigation strategy can be secured.

7.0 CONCLUSIONS

7.1 This shadow Habitats Regulations Assessment (HRA) has been produced to consider the effects a Proposed Development for a residential development and supporting infrastructure on International / European designated sites in the vicinity of the Proposed Development Site, which is located to the north of Long Copse Lane, Emsworth. Using a precautionary approach, this assessment has concluded that there will be no adverse effect on the integrity of any qualifying features within the identified designated sites considered in the assessment, either alone or in combination. This conclusion is based on the incorporation of the mitigation measures identified.

APPENDIX 1: SITE LOCATION PLAN



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Date: 2/10/17

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Revisions

Rev	Date	Drawn	Checked

Project:
LAND NORTH OF LONG COPSE LANE
EMSWORTH

Drawing Title:
LOCATION PLAN

LAND & PARTNERS
Promoting strategic housing land & building communities by creating special places for people to live, work & play

carlton design partnership
Selwyn House, 32a Castle Way, Southampton, SO14 2AW
023 8011 8866 www.carltondesignpartnership.com

Scale: 1:2500 @ A3

Drg No: 170116/SL/LP Rev: F

X:\CURRENT PROJECTS\LAND AND PARTNERS\LONG COPSE LANE EMSWORTH\SITE LAYOUT\LAYOUT 26

APPENDIX 2: REVISED ILLUSTRATIVE MASTERPLAN, REV.S

Ancient Woodland
Woodland
Ancient Woodland
Woodland
SuDS
Inaccessible Buffer
SuDS
Open Space
Bat Corridor
Field Access
Woodland Access
SuDS
SuDS
Open Space
Inaccessible Buffer
Bat Corridor
Bat Corridor
Open Space
Play
SuDS
Bat Corridor
SuDS
Open Space
Bat Corridor
Open Space
Play
Open Space
Bat Corridor
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Open Space
Bat Corridor
SuDS
SuDS
SuDS
Bat Corridor
ESS
SuDS
Bat Corridor
SuDS
Long Copse Lane

N

1:1000 0 10 20 40 70 100.M.

Drawn by : Checked by :

Date:

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Revisions

Rev	Date	Drawn	Checked

Project:
LAND NORTH OF LONG COPSE LANE
EMSWORTH

Drawing Title:
SKETCH MASTERPLAN

LAND & PARTNERS
Promoting strategic housing land & building communities by creating special places for people to live, work & play

carlton design partnership
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Scale: 1:1000 @ A1

Drg No: 170116/SL/SK1 Rev: S

X:\CURRENT PROJECTS\LAND AND PARTNERS\LONG COPSE LANE EMSWORTH\SITE LAYOUT\LAYOUT 33

APPENDIX 3: STANSTED ESTATE MITIGATION PLAN

Private & Confidential

Draft: 2701429/CXN01

Dated 2022

HAVANT BOROUGH COUNCIL (1)

SOUTH DOWNS NATIONAL PARK AUTHORITY (2)

JANICE MARY SOLOWAY AND PHILIP ROGER SMITH (3)

ADRIAN DAVID WILLIAMS AND DEBORAH ANN WILLIAMS (4)

COLMAN INVESTMENTS LIMITED (5)

ANDREW TURNER AND MICHAEL HACKMAN (6)

LAND & PARTNERS LIMITED (7)

AND

STANSTED PARK FOUNDATION (8)

AGREEMENT

pursuant to Section 106 of the Town and Country Planning Act 1990 and other powers relating to land to the north of Long Copse Lane, Emsworth, and land at Stansted Park, Rowlands Castle, Hampshire

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GOWLING WLG

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CONTENTS

Clause	Heading	Page
1	DEFINITIONS	3
2	INTERPRETATION	6
3	STATUTORY AUTHORITY AND COVENANTS	7
4	COMMENCEMENT	8
5	RELEASE AND LAPSE	8
6	GENERAL	8
7	NOTIFICATION OF OCCUPATION	9
8	IMPLEMENTATION NOTICE	9
9	NOTICES	10
10	CONSENT OF THE DEVELOPER	10
11	NOTIFICATION OF SUCCESSORS IN TITLE	10
12	COSTS	11
13	DISPUTE RESOLUTION	11
THE SCHEDULE	THE OWNER AND MITIGATION LAND OWNERS' COVENANTS	14
APPENDIX 1	PLANS	17
APPENDIX 2	IMPLEMENTATION NOTICE	18

THIS DEED is made on 2022

BETWEEN:

(1) **HAVANT BOROUGH COUNCIL** of Civic Centre, Civic Centre Road, Havant PO9 2AX (the "**Borough Council**");

(2) **SOUTH DOWNS NATIONAL PARK AUTHORITY** of South Downs Centre, North Street, Midhurst, West Sussex, GU29 9DH (the "**Mitigation Land Authority**");

(3) **JANICE MARY SOLOWAY** and **PHILIP ROGER SMITH** of Hollybank Farm, Long Copse Lane, Emsworth, PO10 7UL (the "**First Owner**");

(4) **ADRIAN DAVID WILLIAMS** and **DEBORAH ANN WILLIAMS** of The Old Dairy Farm, Long Copse Lane, Emsworth, PO10 7UL (the "**Second Owner**");

(5) **COLMAN INVESTMENTS LIMITED** 1 Vine Street, Harborne, Birmingham B17 9PU (the "**Third Owner**");

(6) **ANDREW TURNER** and **MICHAEL HACKMAN** care of Larcomes LLP, 168 London Road, Portsmouth PO2 9DN (the "**Fourth Owner**");

(7) **LAND & PARTNERS LIMITED** (Company Registration Number 06468597) whose registered office is at 8 High Bois Lane, Amersham, Buckinghamshire HP6 6DG (the "**Developer**"); and

(8) **STANSTED PARK FOUNDATION** incorporated (Company Registration Number 04907189) whose registered office is at Stansted House, Stansted Park, Rowlands Castle, Hampshire PO9 6DX (the "**Mitigation Land Owner**").

RECITALS

(A) The Borough Council is the local planning authority for the purposes of the Act for the area in which the Development Land is situated.

(B) The Mitigation Land Authority is the local planning authority for the purposes of the Act for the area in which the Mitigation Land is situated.

(C) The First Owner is the freehold owner of those parts of the Development Land registered with title absolute at HM Land Registry under Title Numbers HP253717.

(D) The Second Owner is the freehold owner of those parts of the Development Land registered with title absolute at HM Land Registry under Title Numbers SH17250 and HP276397.

(E) The Third Owner is the freehold owner of those parts of the Development Land registered with title absolute at HM Land Registry under Title Numbers SH36132.

(F) The Fourth Owner is the freehold owner of those parts of the Development Land registered with title absolute at HM Land Registry under Title Numbers HP260860.

(G) The Development Land is being promoted by the Developer.

(H) The Mitigation Land Owner is the freehold owner of the Mitigation Land forming part of the land registered with title absolute at HM Land Registry under Title Number WSX377812.

(I) The Mitigation Land is subject to an agreement for the Mitigation Land to be used for nitrate mitigation between the Developer and the Mitigation Land Owner dated 10 June 2021.

(J) The First Owners, the Second Owners, the Third Owners and the Fourth Owners and the Developer have agreed that the Development shall be carried out only in accordance with the rights and obligations set out in this Deed.

(K) The First Owners, the Second Owners, Third Owners and Fourth Owners and the Developer have agreed to be parties to this Deed and consent to this Deed being entered into and to the obligations becoming binding on the Development Land.

(L) The Mitigation Land Owner enters into this Deed so as to impose restrictions as to the Agricultural use of the Mitigation Land in order to address the need to mitigate the likely increase of nutrients in the European Designated Sites in consequence of the Occupation of the Development.

(M) The Developer has submitted the Application to the Borough Council and the parties have agreed to enter into this Deed in order to secure the planning obligations contained in this Deed.

(N) The Borough Council has resolved to grant the Permission subject to the prior completion of this Deed.

(O) The Borough Council has confirmed that all of the obligations and covenants included in this Deed are compliant with Regulation 122 of the Community Infrastructure Levy Regulations 2010 (as amended).

IT IS AGREED AS FOLLOWS:

1 DEFINITIONS

1.1 In this Deed the following expressions shall have the meanings indicated:

Act	The Town and Country Planning Act 1990 (as amended);
Agriculture	(a) use for horticulture, fruit growing, seed growing (including the growing of cereal crops); (b) use for dairy farming; (c) use for the breeding and keeping of livestock (any creature kept for the production of food, wool, skins or fur or for the purpose of its use in the farming of land); (d) use of the land as grazing land; and (e) use as market gardens or nursery grounds, and "**Agricultural**" shall be construed accordingly;
Application	Outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved registered on 7th September 2021 and allocated reference number APP/21/00893;
Commencement of Development	the carrying out of a material operation (as defined in section 56(4) of the Act in connection with the Development on the Development Land) save that for the purposes of this Deed

	and for no other purpose; earthworks and site forming, ecology works, tree works, site clearance, demolition work, archaeological investigations and digs, investigations for the purpose of assessing ground conditions, remedial work in respect of any contamination or other adverse ground conditions, diversion and laying of services and utilities, construction of temporary access(es), the placement of buildings/ structures required as part of the process of constructing the Development, erection of any temporary means of enclosure, the temporary display of site notices or advertisements shall not be included (and "**Commencement**" and "**Commenced**" shall be construed accordingly);
Development	the development of the Development Land in accordance with the Permission;
Development Land	the land known as land to the north of Long Copse Lane, Emsworth, shown for identification purposes only edged with a red line on Plan 1;
European Designated Sites	collectively the Solent and Southampton Water Special Protection Area (SPA) and Ramsar site, Portsmouth Harbour SPA and Ramsar site, Chichester and Langstone Harbours SPA and Ramsar site, the Solent Maritime Special Area of Conservation and the Solent and Dorset Coast SPA;
Enabling Powers	Section 111 of the Local Government Act 1972 (as amended) Section 1 of the Localism Act 2011, Section 22 of the Cities and Local Government Devolution Act 2016 and all other enabling powers which may be relevant for the purpose of giving validity to or facilitating the enforcement of the obligations created by this Deed;
Implementation Notice	a notice in the form [attached] which is signed by both the Owner and the Mitigation Land Owner;

Index	the All in Tender Price Index published by the Building Costs Information Service of the Royal Institution of Chartered Surveyors or any successor organisation or index;
Index Linked	the contribution expressed in this Agreement to be Index Linked shall be increased in relation to the relevant Index for that contribution;
Initial Verification Contribution	the sum of £[ ] ([ ] pounds) Index Linked to be used towards the verification of the obligations for the first 20 years (£[ ] per year) in respect of the Mitigation Land set out in the schedule of this Agreement;
Interest	interest at the rate of 4% above the base rate of the Bank of England from time to time;
Mitigation Land	the land shown for identification purposes only hatched brown and hatched green and identified on Plan 2;
Occupation	occupation for the purposes permitted by the Permission but not including occupation by personnel engaged in construction, fitting out or decoration or occupation for marketing or display or occupation in relation to security operations and "**Occupy**" and "**Occupied**" shall be construed accordingly;
Owner	the First Owner and the Second Owner (but for the avoidance of doubt not the Mitigation Land Owner);
Permission	the outline planning permission subject to conditions granted by the Borough Council pursuant to the Application;
Plan 1	the plan annexed hereto marked "Plan 1" showing the Development Land edged red;
Plan 2	the plan annexed hereto entitled "Stansted Park Estate – Nitrate and Bat Mitigation Scheme ";

Residential Units	individual units within the Development to be used for residential purposes;
Statutory Undertakers	organisations licensed by the government which include all utilities electricity, gas, water, telephone, cable telephone and television and other telecommunication companies;
Verification Contribution	The sum of £[ ] ([ ] pounds) Index Linked to be used towards the verification of the obligations for years 21-125 (£[ ] every five years and a visit in year 125) in respect of the Mitigation Land set out in the schedule of this Agreement;
Working Day	Monday to Friday inclusive, excluding any bank or public holidays.

2 INTERPRETATION

2.1 Where in this Deed reference is made to any clause, paragraph, schedule or recital such reference (unless the context otherwise requires) is a reference to a clause, paragraph, schedule or recital in this Deed.

2.2 Words of the masculine gender include the feminine and neuter genders and words denoting actual persons include companies, corporations and firms and all words shall be construed interchangeable in that manner.

2.3 Where there is more than one person named as a party and where more than one party undertakes an obligation all their obligations can be enforced against all of them jointly and severally unless there is an express provision otherwise.

2.4 Any reference to an act of Parliament shall include any modification, extension or re-enactment of that act for the time being in force and shall include all instruments, orders, plans, regulations, permissions and directions for the time being made, issued or given under that act or deriving validity from it.

2.5 References to any party to this Deed shall include the successors in title to that party and to any person deriving title through or under that party and in the case of the Borough Council the successors to their respective statutory functions.

2.6 References to "the parties" shall mean the parties to this Deed and reference to a "party" shall mean any one of the parties.

2.7 The headings and contents list are for reference only and shall not affect construction.

2.8 Words importing the singular meaning where the context so admits include the plural meaning and vice versa.

3 STATUTORY AUTHORITY AND COVENANTS

3.1 This Deed is made pursuant to Section 106 of the Act and the Enabling Powers.

3.2 The covenants, restrictions and requirements imposed upon the Owner and the Mitigation Land Owner under this Deed create planning obligations pursuant to Section 106 of the Act and are enforceable:

(a) by the Borough Council as local planning authority against the Owner and any person deriving title in the Development Land or any part of it from the Owner; and

(b) by the Mitigation Land Authority as local planning authority against the Mitigation Land Owner and any person deriving title in the Mitigation Land or any part of it from the Mitigation Land Owner.

3.3 The Owner covenants with the Borough Council that it will observe and perform the covenants set in paragraphs 3, 4, 5 and 6 of the schedule.

3.4 The Mitigation Land Owner covenants with the Mitigation Land Authority that it will observe and perform the covenants set out in paragraph 2 of the schedule.

3.5 The Mitigation Land Authority covenants with the Borough Council that it will observe and perform the covenants set out in paragraph 7 of the schedule.

3.6 The Mitigation Land Authority covenants with the Mitigation Land Owner that it will observe and perform the covenants and provisions set out in paragraph 8 of the schedule.

4 COMMENCEMENT

This Deed shall take effect upon the Commencement of Development other than this clause and clauses 8 and 12 which shall take effect from the date of this Deed.

5 RELEASE AND LAPSE

5.1 The Owner and the Mitigation Land Owner shall not be liable for a breach of any of its obligations under this Deed (save for antecedent breaches) after they shall have parted with all of their interests in the Development Land or the Mitigation Land or such parts thereof in respect of which the breach occurs.

5.2 It is further agreed that this Deed shall lapse and be of no further effect if:

(a) the Permission shall lapse without having been Commenced; or

(b) the Permission shall be varied or revoked other than with the consent of the Owner; or

(c) the Permission is quashed following a successful legal challenge.

5.3 Nothing in this Deed shall prohibit or limit the right to develop any part of the Development Land in accordance with a planning permission (other than the Permission) granted (whether or not on appeal) after the date of this Deed.

5.4 This Deed shall not be enforceable against the purchaser or occupier of an individual Residential Unit erected on the Development Land pursuant to the Permission or against any Statutory Undertakers who have an interest in or arising purely in connection with their apparatus on operational land situated with the Development.

6 GENERAL

6.1 This Deed shall be registered as a Local Land Charge by the Borough Council and the Mitigation Land Authority.

6.2 All parties to this Deed acknowledge that they are under a duty to act reasonably and (without prejudice to generality) if any deed, consent, approval or expression of satisfaction is due from one party to another under the terms of this Deed the same shall not be unreasonably withheld or delayed.

6.3 Nothing contained or implied in this Deed shall prejudice or affect the rights, discretions, powers, duties and obligations of the Borough Council or the Mitigation Land Authority under all statutes, by-laws, statutory instruments, orders and regulations in the exercise of their functions as a local authority.

6.4 No waiver (whether expressed or implied) by the Borough Council or the Mitigation Land Authority of any breach of default in performing or observing any of the covenants, terms or conditions of this Deed shall constitute a continuing waiver and no such waiver shall prevent the Borough Council or the Mitigation Land Authority from enforcing any of the relevant terms or conditions or from acting upon any subsequent breach or default.

6.5 It is agreed that if any part of this Deed shall be declared unlawful or invalid by a court of competent jurisdiction then (to the extent possible) the remainder of this Deed shall continue in full force and effect.

6.6 Notwithstanding the provisions of the Contracts (Rights of Third Parties) Act 1999 no part of this Deed shall be enforceable by a third party who is not a party to the Deed and for the avoidance of doubt the terms of this Deed may be varied by Deed between the parties and their successors in title without the consent of any such third party.

6.7 This Deed is governed by and interpreted in accordance with the law of England and the parties submit to the non-exclusive jurisdiction of the courts of England.

6.8 This Deed is for the purposes of the Regulatory Reform (Execution of Deeds and Documents) Order 2005 a deed and for the avoidance of doubt the Deed shall be deemed not delivered despite being executed by the parties until such time as it is dated.

7 NOTIFICATION OF OCCUPATION

The Owner and the Developer each covenant with the Borough Council and the Mitigation Land Authority and separately with the Mitigation Land Owner to give notice to the Borough Council and the Mitigation Land Authority and the Mitigation Land Owner in writing of the date of Occupation of the first Residential Unit to be Occupied within five Working Days of it occurring.

8 IMPLEMENTATION NOTICE

The Owner and the Developer covenant jointly and severally with the Borough Council and the Mitigation Land Authority and separately with the Mitigation Land Owner as from the date of this

Deed not to Commence Development unless an Implementation Notice (duly signed by both the Mitigation Land Owner and the Owner) has first been served on the Borough Council.

9 NOTICES

9.1 Any notices required to be served by one party on another under this Deed shall be served by first class prepaid post or by email in the following manner:

(a) on the Borough Council at the address shown above or by email to [ ] marked "for the attention of the Head of Development Management" and bearing the reference [ ];

(b) on the Mitigation Land Authority at the address shown above marked "for the attention of the Director of Planning" and bearing the reference "[ ]";

(c) on the Owner at the addresses as detailed above or as notified by the Owner in writing to the Borough Council;

(d) on the Mitigation Land Owner as detailed above or as notified by the Mitigation Land Owner to the other parties; and

(e) on the Developer at the address as detailed above or as notified by the Developer in writing to the Borough Council.

10 CONSENT OF THE DEVELOPER

The Developer hereby consents to this Deed being entered into and to the obligations becoming binding on the Development Land notwithstanding any registration by or on behalf of the Developer to protect its interest in the Development Land pursuant to any agreement that has been or may be entered into PROVIDED THAT the Developer shall not have any liability unless and until it takes possession of the Development Land.

11 NOTIFICATION OF SUCCESSORS IN TITLE

11.1 The Owner covenants with the Borough Council that they will give written notice to the Borough Council within five working days of any change of ownership of the Development Land (other than in respect of the sale of an individual Residential Unit) if at such time the obligations contained within this Deed have not fully been discharged such notice to give details of the

transferee's full name and registered office (if a company or usual address if not) together with the area of the Development Land or unit of occupation purchased by reference to a plan.

11.2 The Mitigation Land Owner covenants with the Borough Council and the Mitigation Land Authority that they will give immediate written notice to the Borough Council and the Mitigation Land Authority of any change of ownership of the Mitigation Land if at such time the obligations contained within this Deed have not fully been discharged such notice to give details of the transferee's full name and registered office (if a company or usual address if not) together with the area of the Mitigation Land or unit of occupation purchased by reference to a plan.

12 COSTS

The Developer covenants with the Borough Council and the Mitigation Land Authority to pay the Borough Council's and the Mitigation Land Authority's reasonably incurred legal costs in connection with the preparation and execution of this Deed.

13 DISPUTE RESOLUTION

13.1 Where it is provided in this Deed that a matter is to be approved (or another cognate expression is used) by the Borough Council or the Mitigation Land Authority (as the case may be) and such approval has been refused or given conditionally in accordance with the provisions of this Deed and the Owner wishes to dispute such refusal or conditions, then the Owner may notify the same Council that the matter is in dispute and:

(a) the parties to the dispute shall first attempt to resolve that dispute or difference amicably including holding a meeting attended by at least one senior representative from each party within ten Working Days of receipt of notice that a matter is in dispute;

(b) if after a further five Working Days the parties are unable to resolve the dispute amicably pursuant to clause 13.1(a), one party may serve notice on the other party or parties (as the case may be) to the dispute of their intention to refer the dispute in accordance with clause 13.2 specifying in such notice:

(i) the nature, basis and brief description of the dispute; and

(ii) the clause or paragraph of this Deed pursuant to which the dispute has arisen; and

(iii) a written request to concur as to the appropriateness of the professional qualifications of the person (or body) they propose to be appointed pursuant to clause 13.2.

13.2 Any such dispute or difference notified pursuant to clause 13.1(b) shall be referred to an independent and suitable person holding appropriate professional qualifications, in light of the subject matter in dispute and such person shall act as an expert whose decision shall be final and binding on the parties in the absence of manifest error and any costs shall be payable by the parties to the dispute in such proportion as the expert shall determine and failing such determination shall be borne by the parties in equal shares.

13.3 In the absence of agreement as to the appointment or suitability of the person to be appointed pursuant to clause 13.2 or as to the appropriateness of the professional body within ten Working Days after any party has given the other parties to the dispute or difference a written request to concur as to the appropriateness of the professional qualifications of the person (or body) to be appointed pursuant to clause 13.2 then such question may be referred by any party to the president for the time being of the Law Society for him to appoint a solicitor to determine the appropriate professional body or person to resolve the dispute such solicitor acting as an expert and his decision shall be final and binding on all parties in the absence of manifest error and his costs shall be payable by the parties to the dispute in such proportion as he shall determine and failing such determination shall be borne by the parties in equal shares.

13.4 Any expert howsoever appointed shall be subject to the express requirement that a decision is reached and communicated to the relevant parties within the minimum practical timescale allowing for the nature and complexity of the dispute and in any event not more than 20 Working Days after the conclusion of any hearing that takes place or 20 Working Days after he has received any final written representation pursuant to clause 13.5.

13.5 The expert shall be required to give notice to any of the said parties requiring them to submit to him within ten Working Days of notification of his appointment written submissions and supporting material and the other parties will be entitled to make a counter written submission within a further ten Working Days.

13.6 Nothing in this clause 13.6 shall be taken to fetter the ability of the Borough Council or Mitigation Land Authority to carry out its statutory functions as local planning authority with power to enforce any breach of the obligations entered into by the Owner or the Mitigation Land Authority in this Deed or any other planning breach in respect of the Development.

14 INTEREST

If the Verification Contribution is not paid to the Mitigation Land Authority on or before the due date the sum payable will be subject to Interest from the due date of payment until actual payment and any such payment and any such Interest shall be treated as part of the relevant contribution.

IN WITNESS WHEREOF this Deed has been executed and delivered as a Deed by the parties hereto on the date which appears at the head of this document.

THE SCHEDULE

The Owner and Mitigation Land Owners' Covenants

1 DEFINITIONS

In this schedule the following terms have the following meanings:

Access Provisions	the duties on the Mitigation Land Authority and other terms of paragraph 8 of this schedule;
End Date	the date [ ] years from the Operative Date;
Operative Date	the date of Occupation of the first Residential Unit on the Development Land;
20 Year Date	the date 20 years from the Operative Date;
Woodland Planting Scheme	a scheme for the planting of trees on the Mitigation Land, to include details of number and species of trees and timing of planting, and measures for maintaining and encouraging the successful growth of the trees for a minimum of ten years after planting, and which shall be designed so as to ensure that there will be a minimum of 20% canopy cover across the Mitigation Land at maturity.

2 The Mitigation Land Owner undertakes to the Mitigation Land Authority as follows:

2.1 From the Operative Date and for the lifetime of the Development not to use the Mitigation Land for Agriculture or deposit or permit the deposit of any fertiliser on the Mitigation Land, but so that without limitation any or all of the following shall still be permitted:

(a) The harvesting and removal of any existing crop in the ground at the date of Operative Date provided no additional fertiliser inputs are applied;

(b) the planting and management of trees in accordance with the Woodland Planting Scheme;

(c) leaving the Mitigation Land naturally to regenerate;

(d) planting and maintaining greensward;

(e) creating and maintaining open space;

(f) creating and maintaining forestry rides;

(g) the carrying out and maintenance of any planting scheme that is first approved by Natural England, the Forestry Commission, or any other authority for the time being with relevant responsibility for land such as the Mitigation Land,

provided no further fertiliser inputs are applied.

2.2 The Mitigation Land Owner undertakes to the Mitigation Land Authority and the Borough Council that prior to the Operative Date to submit to the Borough Council for its written approval the Woodland Planting Scheme, such approval to be given only after consultation with the Mitigation Land Authority.

2.3 Following approval of the Woodland Planting Scheme, and from the Operative Date, the Mitigation Land Owner undertakes to the Mitigation Land Authority to implement and thereafter comply with the approved Woodland Planting Scheme.

3 The Owner undertakes to the Borough Council not to Occupy or permit Occupation of any Residential Unit on the Development Land unless the Mitigation Land has been taken out of Agricultural use.

4 The Owner undertakes to the Borough Council not to Occupy or permit Occupation of any Residential Unit on the Development Land unless the Woodland Planting Scheme has been submitted to and approved by the Borough Council.

5 The Owner undertakes to the Mitigation Land Authority to pay the Initial Verification Contribution and the Verification Contribution to the Mitigation Land Authority on or before the Operative Date.

6 The Owner undertakes to the Borough Council not to Occupy or permit Occupation of any Residential Unit on the Development Land unless the Initial Verification Contribution and the Verification Contribution have been paid to the Mitigation Land Authority.

7 The Mitigation Land Authority undertakes to the Borough Council to monitor the obligations insofar as they relate to the Mitigation Land by way of a physical visit to the Mitigation Land (such access hereby permitted by the Mitigation Land Owner subject to the Access Provisions) by a qualified chartered forester to inspect the Mitigation Land and provide as soon as practicable afterwards a written report to the Borough Council of the findings of their visit, at the following intervals:

7.1 Annually from the Operative Date until the 20 Year Date;

7.2 Every five years thereafter until the End Date; and

7.3 One visit in the final year ending on the End Date.

8 In connection with the Mitigation Land Authority's accessing the Mitigation Land the following provisions apply:

8.1 all access onto the Mitigation Land and any adjoining land belonging to the Mitigation Land Owner shall be entirely at the risk of the Mitigation Land Authority;

8.2 without prejudice to paragraph 8.1, the Mitigation Land Authority will give the Mitigation Land Owner no fewer than seven days' written notice of any inspection (which will set out the expected duration of the inspection and include a list of the equipment that the Mitigation Land Authority will use for the monitoring and verification inspection) and will also give the Mitigation Land Owner or his representative the opportunity to accompany the Mitigation Land Authority's representative on any monitoring or verifying inspection to assist with on site safety;

8.3 in gaining access to the Mitigation Land the Mitigation Land Authority will cause no damage or disturbance to the Mitigation Land nor to any adjoining land of the Mitigation Land Owner nor to any operations carried out thereon by or on behalf of the Mitigation Land Owner.

APPENDIX 1

Plans



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Drawn by : CDC Checked by :

Date: 2/10/17

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Revisions

Rev	Date	Drawn	Checked

Project:
LAND NORTH OF LONG COPSE LANE
EMSWORTH

Drawing Title:
LOCATION PLAN

LAND & PARTNERS
Promoting strategic housing land & building communities by creating special places for people to live, work & play

carlton design partnership
Selwyn House, 32a Castle Way, Southampton, SO14 2AW
023 8011 8866 www.carltondesignpartnership.com

Scale: 1:2500 @ A3

Drg No: 170116/SL/LP Rev: F

X:\CURRENT PROJECTS\LAND AND PARTNERS\LONG COPSE LANE EMSWORTH\SITE LAYOUT\LAYOUT 26

STANSTED FOREST

SOUTHLEIGH FOREST

NEW OAK TREES AT 10m CENTRES

The hatching on either side of the track depicting the area of oak planting represents strips 1.5m wide

KEY

- 16 HA - NITRATE MITIGATION AREA
- 1.6 HA - BAT HABITAT AREA
- HEDGEROW OAK TREES
- ESTATE BOUNDARY

Stansted Estate

Rowlands Castle, Hampshire, PO9 6DX
Tel: 02392 412265

PLAN 2

SCALE : 1 : 5000

DATE : 13/01/2021

N

MAP FILENAME : 2016 MasterMap v2 Stansted.mpd

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APPENDIX 2

Implementation Notice

Implementation Notice

NOTICE TO HAVANT BOROUGH COUNCIL OF COMMENCEMENT OF DEVELOPMENT

Planning Application Number [ ]

Development Site: LONG COPSE LANE, EMSWORTH

Description of Development: Outline application for the proposed erection of dwellings with associated infrastructure, landscaping, open space and access, (all matters reserved).

Date of S106 Agreement: …….

Notice is hereby given to Havant Borough Council that works to implement the above planning permission will commence on ……

Signed…… Print Name: …….

for and on behalf of …… (the "**Owner**")

Contact details in case of query …….....

……

Date ……..

Signed…… Print Name ……..…

for and on behalf of…… (the "**Mitigation Land Owner**")

Contact details in case of query: …….....

……

Date ……..…

Please forward to:

Head of Development Management
Havant Borough Council
Civic Centre
Civic Centre Road
Havant
PO9 2AX

THE COMMON SEAL OF

HAVANT BOROUGH COUNCIL

was affixed in the presence of:

Authorised Signatory:

EXECUTED as a **DEED** by

affixing the common seal of

SOUTH DOWNS NATIONAL PARK AUTHORITY

in the presence of:

Authorised signatory

EXECUTED as a **DEED** by

[ ]

In the presence of:

Witness Signature:

Witness Name:

Witness Address:

Witness Occupation:

EXECUTED as a **DEED** by
STANSTED PARK FOUNDATION
by a Sole Director signing
in the presence of:

……

……
Name in Block Capitals

Witness Signature:

Witness Name:

Witness Address

APPENDIX 4: REVISED NUTRIENT BALANCING ASSESSMENT AND ACCOMPANYING HYDROGEOLOGICAL APPRAISAL

Site:	Land at Long Copse Lane, Emsworth, Havant
Client:	Land and Partners Ltd.
Job Number:	A115290
Report Type(s):	Nutrient Balancing Assessment
File Location:	\\LDS-DC-VM-002\Group Ecology\Projects\Projects A115000 on\A115290 Land at Longcopse Lane Emsworth\REPORTS

INTRODUCTION

WYG were appointed by Land and Partners Ltd. in October 2019 to calculate the change in nutrient outputs from existing to future use associated with the proposed development at Long Copse Lane, Emsworth, Havant in Hampshire (National Grid Ref. SU 74998 08115).

At present assessments are being undertaken to support an outline planning application for development comprising the masterplan as shown in Appendix B. This includes:

- 210 residential dwellings;
- The new urban area would comprise 8.1 hectares; and
- The provision of 6.5 hectares of Open Space (comprising 0.065 ha open urban; 5.755 ha greenspace, 0.55 ha retained woodland and 0.10ha community food growing).

The calculations are required in response to recent consultation with Natural England on residential projects in the vicinity of the Solent following the findings of the Integrated Water Management Study for South Hampshire, published by the Partnership for Urban South Hampshire (PUSH, 2018)[1].

Due to the uncertainty over whether new development can be accommodated by existing wastewater treatment infrastructure without causing harm to coastal European sites, Natural England advise that all residential development should achieve nitrogen neutrality (Natural England, 2020)[2].

Following the original issue of this assessment, updated advice has been issued by Natural England which has been taken into account for this updated assessment (Natural England 2022a[3]; 2022b[4]). The Natural England advice sets out the full background to the effect pathway and rationale. Reference is made to the 2020 Natural England guidance only where relevant information has not been updated or superseded in 2022 (e.g. woodland planting specification requirements).

METHODOLOGY

To make the assessment, the following advice was used:

- Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites (Natural England, 16th March 2022);

[1] PUSH, (2018), *Integrated Water Management Study*.
[2] Natural England, (2020), *Advice on Achieving Nutrient Neutrality for New Development in the Solent Region*.
[3] Natural England, (2022a), *Nutrient Pollution: reducing the impact on protected sites – Policy Paper.*
[4] Natural England, (2022b), *Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitats sites.*

- Nutrient Neutrality Generic Methodology Issue 1 (Natural England and Ricardo Energy and Environment, February 2022);
- Nutrient Budget Calculator Guidance Document (Natural England and Ricardo Energy and Environment, March 2022);
- Nutrient Neutrality Budget Calculator Solent (Natural England and Ricardo Energy and Environment, April 2022); and
- Havant Occupancy Calculator (Havant Borough Council).

Additional supporting information is available in:

- Position Statement and Mitigation Plan for Nutrient Neutral Development (Havant Borough Council, May 2022);
- Process for new applications which cannot achieve nutrient neutrality (NN) on site;
- Process for applications stalled by nutrient neutrality (NN);
- Nutrient Neutrality Solent Map;
- Nutrient Neutrality: A Summary Guide;
- Nutrient neutrality principles and use of Diffuse Water Pollution Plans (DWPPs) and Nutrient Management Plans (NMPs) (Natural England, February 2022);
- Review of the Need for Nutrient Neutral Development in the Budds Farm Wastewater Treatment Works catchment (Ricardo Energy and Environment, 2020);
- Review of the Warblington Farm Mitigation Option for Nutrient Neutral Development in the Havant Borough (Ricardo Energy and Environment, 2020); and
- Addendum to 'Review of the Warblington Farm Mitigation Option for Nutrient Neutral Development in the Havant Borough' (Ricardo Energy and Environment, 2022);

ASSUMPTIONS

The assumptions relevant to this this project in addition to those included in the Natural England methodology are provided in Table 1.

The inputs and assumptions for the nutrient neutrality calculation in Natural England's guidance are based on the best available scientific evidence currently available. For example, Appendix 2 of the Natural England Generic Methodology sets out the scientific basis by which nitrogen and phosphorous leachate rates are derived. The 20% precautionary buffer built into the calculation takes account of the inevitable uncertainty, as recommended by Natural England.

Table 1: Project Assumptions

Number of proposed units:	210
Average occupancy rate:	2.40 (2.23 was calculated using Havant Borough Council occupancy rates calculator, see Appendix H, but the higher value is used as a precaution)
The total site area:	14.57 ha
The current land uses are:	12.94 ha lowland grazing; 0.72 ha greenspace; 0.55 ha woodland; 0.36 ha residential urban[1].
The future land uses will be:	8.1 ha urban residential; 0.065 ha open urban; 5.755 ha greenspace; 0.55 ha woodland; 0.1 ha community food growing[2].

The waste water from the site will be treated at this wastewater treatment works (WwTW):	Thornham
The consent limit for the WwWT is:	10 mg/l (note the attached Natural England calculator displays 8 mg/l because the deductible loading is applied).
Surface water catchment:	Arun and Western Streams
Standard annual average rainfall:	750.1 – 800 mm
Soilscape category:	Impeded drainage (Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils)
Nitrate Vulnerable Zone:	Yes

[1]Evidence for existing land uses is provided in Appendix E. The majority of the site has been used for Lowland Grazing for the past 10 years. In accordance with Natural England guidance, where 2/3 of a site is used for one farm output type, that use should be used for the total area. In order to apply a precautionary approach, although in overall lowland grazing use, 0.72 ha of the site is classified as having an existing land use category of greenspace (either not cultivated and therefore do not have associated nitrogen inputs, or used for glamping); 0.55 ha as woodland (existing areas of woodland to be retained) and 0.36 ha residential urban (two farmhouses and gardens which are used for residential premises).

[2]Areas taken from indicative post-development plan shown in Appendix B.

RESULTS

The results using the method for determining the TN budget for the proposals are provided in Table 2. The full workings are provided in the attached Nutrient Budget Calculator.

Table 2: Summary of the results

Calculating Total Load From Development Wastewater	Calculating Load From Current Land Use	Calculating Load From Future Land Uses	Calculating Net Change in From the Development	Apply 20% Buffer
159.05 Kg/TN/yr	77.72 Kg/TN/yr	138.03 Kg/TN/yr	219.36 Kg/TN/yr	263.23 Kg/TN/yr

The calculations show that taking into account the existing accommodation on site, the development would result in a net increase in TN of 263.23 Kg/TN/yr.

The Solent Catchment Area (Figure 1 p7 of Natural England, 2020) shows the site falls within the Chichester Harbour fluvial catchment. Figures 2 – 7 of the same guidance show the catchment area at a larger scale. The Chichester Harbour fluvial catchment drains to the Chichester and Langstone Harbours SPA, as does Thornham WwTW. Therefore, the site, and the receiving WwTW both lie within the same fluvial catchment and, in the absence of mitigation, there is the potential for the development proposals to result in an adverse effect on the integrity of the Chichester and Langstone Harbours SPA through an increase in total nitrogen.

MITIGATION

Mitigation measures should be designed to address the specific effect. For the proposed development, the effect pathway is clear. There is an increase in nitrogen outputs to Chichester and Langstone Harbours SPA via wastewater (Thornham WwTW) and surface water (conveyed via surface water drains and the River Ems). In the absence of mitigation this represents and adverse effect on the integrity of the SPA by hindering the site from meeting its conservation objectives (due to elevated nutrient concentrations).

To address the effect of the increased nitrogen load, it is intended that the development achieves nutrient neutrality such that the result is a net decrease in nitrogen output (thus supporting the conservation objectives).

It is proposed that the required offsetting is achieved through the conversion of cereal crop land to woodland planting within the Stansted Estate, to the north of the site. The agreement for this offset land is included in Appendix D, covering an area of 16.0 ha.

This is in accordance with the Natural England (2020) guidance which states:

Another option is to acquire, or support others in acquiring, agricultural land elsewhere within an appropriate river catchment area. By changing the land use in perpetuity (e.g. to woodland, heathland, saltmarsh, wetland or conservation grassland), this reduces the nitrogen loss from this source.

Although the land is located some way to the north of the site, it lies within the surface water catchments for the River Ems (the same as Thornham WwTW) and the River Lavant (as defined on the Environment Agency Catchment Data Explorer and boundaries shown in Appendix D), the mouth of which is located to the south-east of Langstone, where Chichester and Langstone Harbours meet. As set out by Natural England (2020) and Ricardo Energy and Environment (2021) there is a known transfer of water between the two harbours, with them considered to act as a single hydrographic unit. The proposed mitigation will therefore impact the same European site as both foul and surface water flows. This is confirmed within the Natural England guidance whereby Chichester and Langstone Harbours are included within the same Chichester Harbour Fluvial Catchment.

According to Natural England (2020):

It is Natural England's view that mitigation land within the same catchment as the development location is appropriate.

Therefore, the location of the mitigation site within the Chichester Harbour Fluvial Catchment is appropriate.

Although the mitigation site is not in close proximity to the harbours, the local geography is suitable for providing mitigation, with a clear hydrological link. According to Natural England (2020):

It is our preference that mitigation sites are prioritised within the lower fluvial catchment and in close proximity to water courses that drain into the Solent estuaries and harbours. Sites that are located on tertiary geology or clay are preferred or sites that are located on the break of slope onto chalk bedrock. These sites reduce the time lag between the nutrient benefits of changes to land use within the catchment and the benefits to the designated sites.

Although the site is not located within the lower fluvial catchment, it is in close proximity to water courses that drain to the harbours (100m south and 115m west of the areas shown in Appendix D) and on steeply sloping land. These routes for surface water flows are illustrated in Appendix G. From a review of online information from Soilscape, the proposed mitigation site comprises a combination of Soilscape 18 (Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils

which have impeded drainage and drain to stream network) and Soilscape 6 (Freely draining slightly acidic loamy soils which drain to local groundwater and rivers). It does not contain (for example) Soilscape 3 (Shallow lime-rich soils over chalk or limestone which drain to chalk or limestone groundwater). There is therefore no potential risk of a significant temporal lag between mitigation and the effects of development.

Additional nutrient balancing calculations have been undertaken in accordance with the Natural England guidance to determine the capacity of the mitigation site. The mitigation area covers a mix of soil drainage types and catchments as set out in Table 3 below (see evidence in Appendix D and F), with the associated leachate rates. The existing land use at Stansted Park is cereal cropping (see evidence in Appendix F).

Table 3: Mitigation Area Calculations

Land Use	Catchment	Soil Drainage Type	Leachate Rate (kg/TN/ha/yr)	Leachate Rate for Mitigation (kg/TN/ha/yr)	Area (ha)	Total Mitigation (kg/TN/yr)
Cereal crops	East Hampshire Rivers	Freely draining	27.90	3.0	3.61	89.89
Cereal crops	East Hampshire Rivers	Impeded drainage	20.12	3.0	3.35	57.35
Cereal crops	Arun and Western Streams	Freely draining	27.77	3.0	0.55	13.62
Cereal crops	Arun and Western Streams	Impeded drainage	19.57	3.0	8.49	140.68

As set out in Table 3, the mitigation area secured at Stansted Park provides a total capacity of 301.54 kg/TN/yr which significantly exceeds the nitrogen budget for the development (263.23 Kg/TN/yr) providing a buffer against any potential changes at the detailed application stage (when the Appropriate Assessment will require updating).

In addition to the above mitigation package, a further area of c.1.6 ha of cereal crop land at Stansted Park will be planted with woodland by way of mitigation for Bechstein's bats (0.6 ha in East Hampshire Rivers catchment and 1.0 ha in Arun and Western Streams catchment). As a result of this a further nitrogen reduction of 26.84 kg/TN/yr (currently cereal crop land) will be achieved and although this additional sum is not counted in the overall balancing it ensures the overall mitigation package is robust.

This mitigation results in a net decrease in nitrogen. This net decrease supports the conservation objectives of Chichester and Langstone Harbours SPA and avoids any potential for an adverse effect on the integrity of the SPA.

The proposed offset at Stansted Park will be secured in perpetuity by a planning obligation which will include a requirement to submit and have approved a planting specification for the proposed woodland planting. The use of woodland planting as habitat creation and security is in line with Natural England (2020) which states:

Woodland planting on agricultural land is a means of securing permanent land use change without necessitating land purchase. It can be evidenced easily by aerial photography and site visits. The level of woodland planting required to achieve nutrient neutrality is 20% canopy cover at maturity. In very broad terms, this equates to 100 trees per hectare, although this is dependent on the type of trees planted and there are also options that this can be achieved by natural regeneration, especially if adjacent to existing native woodland. It is our preference that native broadleaf species are selected where possible, to secure wider biodiversity gains. A nitrogen leaching rate from woodland planting is likely to equate to 5 kg/ha/yr.

It should also be noted that the proposed mitigation has been devised in extensive consultation with Natural England through their Discretionary Advice Service and who have agreed that the proposed location is acceptable.

Mitigation Summary

Both the application site, and proposed offsetting land at Stansted Park lie within the Chichester Harbour Fluvial Catchment as defined by Natural England. The receiving WwTW at Thornham also discharges to Chichester Harbour. Therefore, all sources of nitrogen and proposed mitigation are within the same catchment and there is a clear scientific link between effect and mitigation.

With mitigation, the development will achieve a net reduction in total nitrogen and avoid an adverse effect on the integrity of Chichester and Langstone Harbours SPA.

Document Control			
Version:	**11**	**Status:**	**Final**
Date:	30th September 2022		
Prepared by: Emma Taylor		**Checked and Approved by** David West CEnv MCIEEM	

APPENDIX A: REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of [Land and Partners] ("the Client") for the proposed uses stated in the report by [Tetra Tech Environment Planning Transport Limited] ("Tetra Tech"). Tetra Tech exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

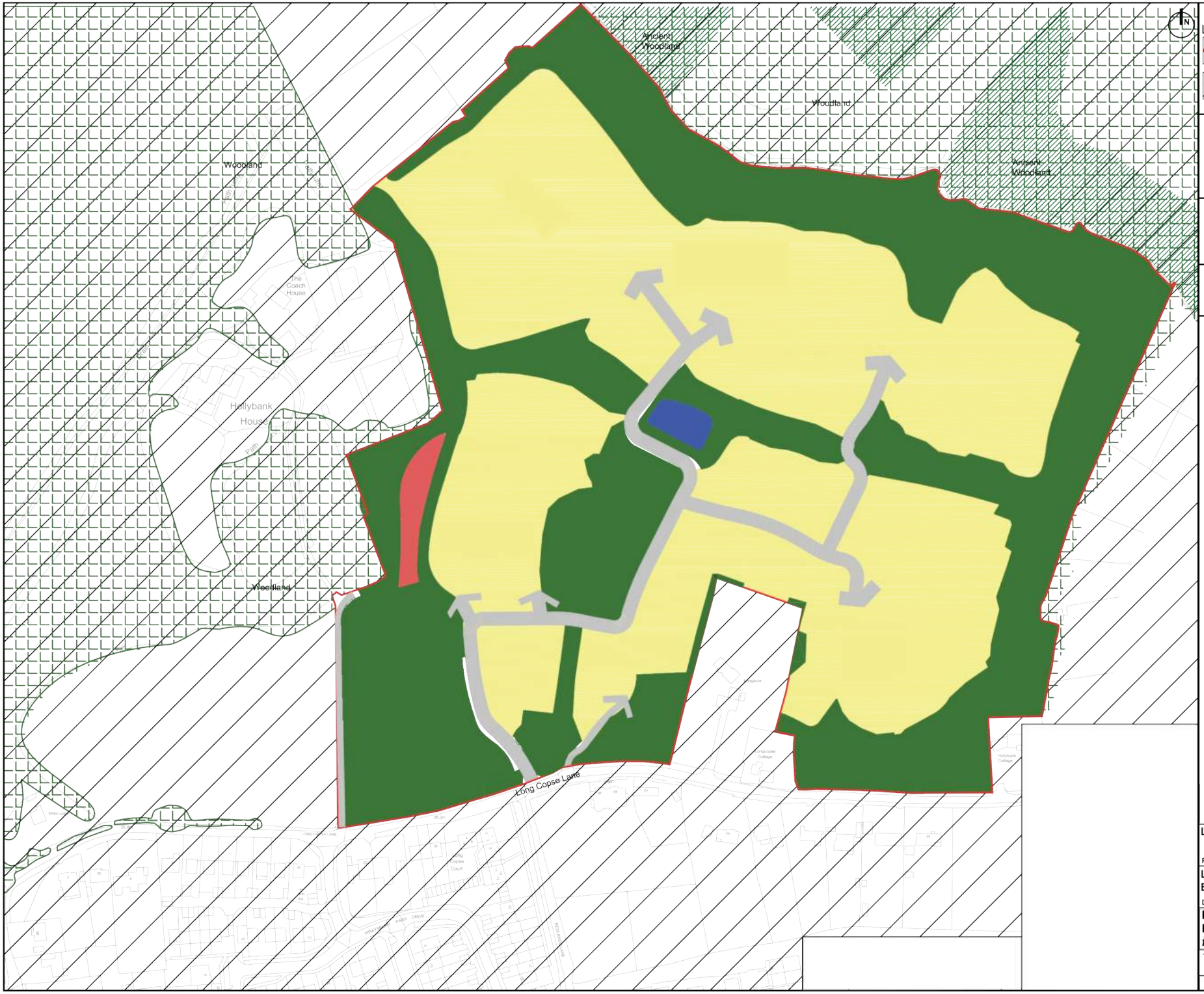
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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B: INDICATIVE POST-DEVELOPMENT PLAN



LEGEND

Application boundary
14.57 ha

Area outside the application boundary

Residential Urban Land:
8.1 ha
Areas of houses and associated infrastructure. Inclusive of roads, driveways, grass verges and gardens

Community Food Growing:
0.1 ha
Areas that are used for local food production

Open Urban Land:
0.065 ha
Formal Play Area

Greenspace (including Woodland) comprising:

Natural and semi-natural outdoor spaces provided for recreational use where fertilisers will not be applied and dog waste managed.

***Within which 0.55 ha is classified as Woodland** - see Pre-Development Plan 1 on page 2 of Appendix E (Existing Land Use Evidence).*

Total Greenspace and Woodland: 6.305 ha

For the purposes of nutrient calculations:

Greenspace category: 5.755 ha

Woodland category: 0.55 ha

Land and Partners Ltd

Project

Land North of Long Copse Lane, Emsworth

Drawing Title

Indicative Post-Development Land Use Plan 1
for nutrient budget calculations

1:2000@A3



Drawn by : Checked by :

Date:

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Revisions

Rev	Date	Drawn	Checked

Project:
LAND NORTH OF LONG COPSE LANE
EMSWORTH

Drawing Title:
SKETCH MASTERPLAN

LAND & PARTNERS
Promoting strategic land & building communities by creating special places for people to live, work & play

carlton design partnership
Selwyn House, 32a Castle Way, Southampton, SO14 2AW
023 8011 8866 www.carltondesignpartnership.com

Scale: 1:1000 @ A1

Drg No: 170116/SL/SK1 Rev: S

X:\CURRENT PROJECTS\LAND AND PARTNERS\LONG COPSE LANE EMSWORTH\SITE LAYOUT\LAYOUT 53

APPENDIX C: NUTRIENT BALANCING CALCULATIONS

See attached calculator.

APPENDIX D: STANSTED ESTATE MITIGATION

STANSTED PARK

Rowlands Castle, Hampshire, PO9 6DX

Telephone: 023 9241 2265 Email: enquiry@stanstedpark.co.uk Website: stanstedpark.co.uk

13th May 2022

To whom it may concern

APP/21/00893 - Supplementary letter of support for development at Long Copse Lane Emsworth - Land & Partners - Nitrogen Neutrality and Beckstein Bat Habitat - revised mitigation land requirements

On behalf of the Stansted Park Foundation, we re-iterate our support for the proposal by Land & Partners to fund and deliver nitrogen neutrality and provide new bat habitat within our Estate, relating to their development north of Long Copse Lane in Emsworth.

We have an agreement with Land & Partners to deliver both nutrient mitigation and also new habitat and wider biodiversity gains. We understand that following revised calculations issued by Natural England, additional mitigation land will be required and in consultation with Land & Partners the area of study within the Estate has been enlarged to include additional suitable land which would be more than sufficient to accommodate the required credits.

As a charity with deep links within the community, we rely on revenue generated from activities on the estate as well as private donations and gifts. We receive no public subsidy or outside funding. One of our key goals is to carry out extensive tree planting and restore habitats. The funding generated from the Long Copse Lane development will provide a significant uplift to achieving this ambition.

Our Charitable Objects mandate the Foundation to preserve the buildings and their grounds and surrounding parkland, farmland and forest for the benefit of the public.

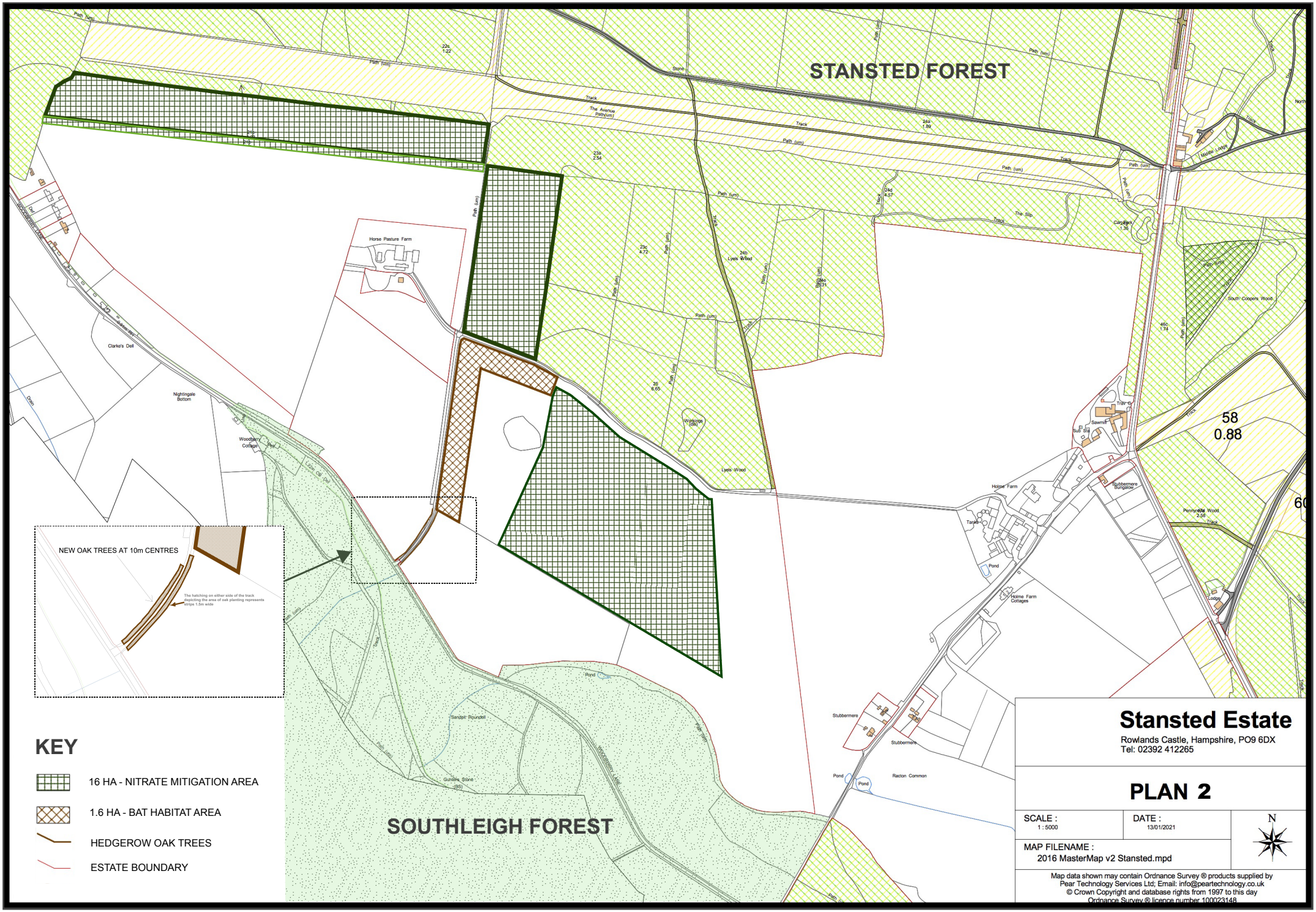
The funding that this programme will generate will allow the Foundation to improve the recreational and educational facilities for the general public as well as assist in the necessary preservation of the fabric of an historic Estate.

[redacted]

Director of the Foundation

STANSTED PARK FOUNDATION
Trustee: The Earl of Bessborough (Chairman); Mr M Davies; Viscount Duncannon;
Mr C D Nickolds; Mr Y Petsopoulos; Mrs C Villiers; Mr R Wates;
Director of the Foundation: Mr David Bennett

Registered Charity No. 1101251 Company No. 4907189 VAT No. 397 5954 78



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Stansted Park Estate

Mitigation areas by river catchment and soil type



AREAS:

Arun and Western Streams Catchment	
	0.55 hectares Freely draining soil
	8.49 hectares Slowly draining soil
	1.0 hectares Slowly draining soil

East Hampshire River Catchment	
	3.61 hectares Freely draining soil
	3.35 hectares Slowly draining soil
	0.6 hectares Slowly draining soil

KEY:

- Arun and Western Streams Catchment
- East Hampshire River Catchment
- Freely Draining Soil
- Slowly Draining Soil
- Bat Habitat Area

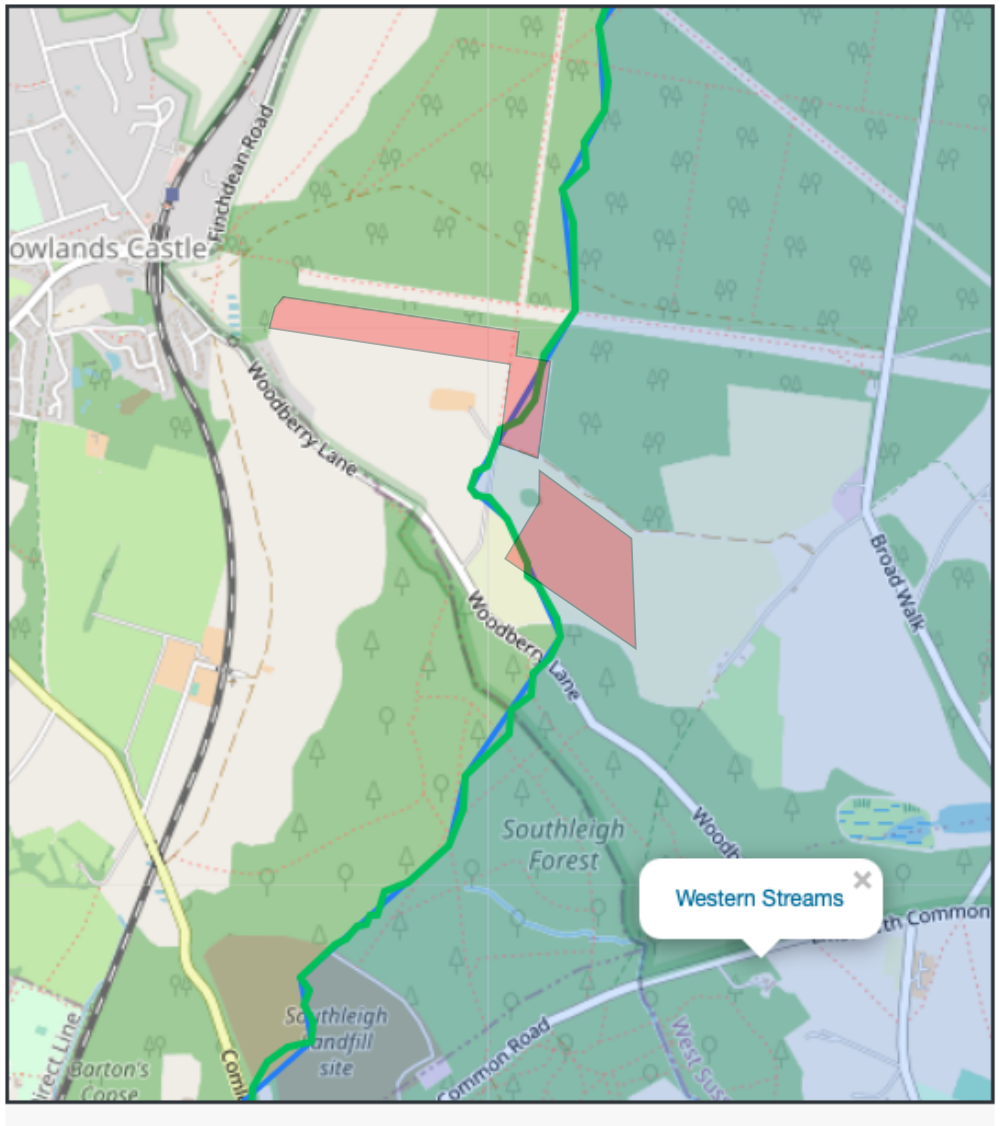
Arun and Western Streams Management Catchment

Viewing latest data (Updated on 20 May 2022). Switch to draft river basin management plan data

Operational catchments

There are 4 operational catchments in this management catchment.

- Arun Lower
- Arun Upper
- Rother Western
- Western Streams



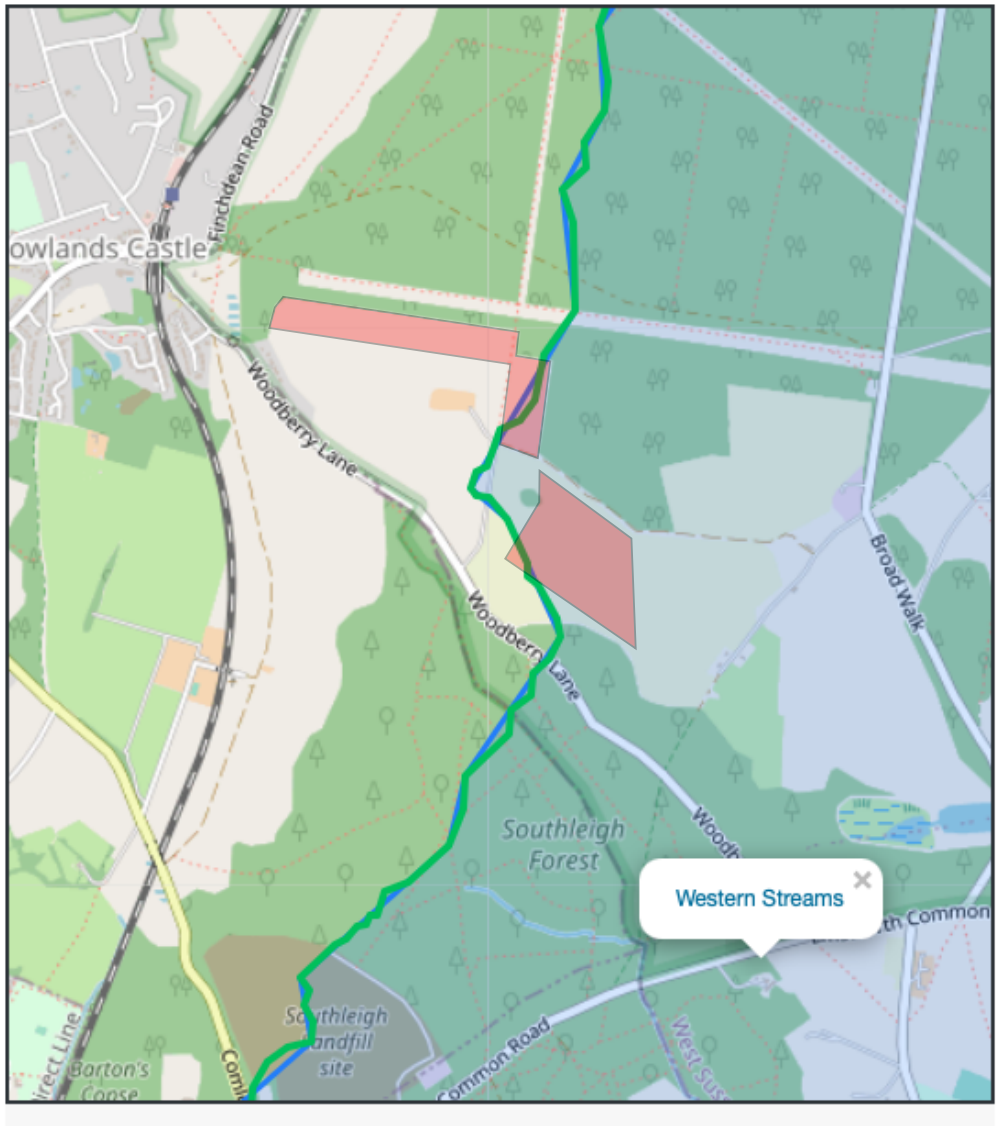
Arun and Western Streams Management Catchment

Viewing latest data (Updated on 20 May 2022). Switch to draft river basin management plan data

Operational catchments

There are 4 operational catchments in this management catchment.

- Arun Lower
- Arun Upper
- Rother Western
- Western Streams



APPENDIX H: HAVANT BOROUGH COUNCIL OCCUPANCY CALCULATOR

See attached calculator.

APPENDIX E: EXISTING LAND USE EVIDENCE

LAND NORTH OF LONG COPSE LANE, EMSWORTH, HAVANT

PRE-DEVELOPMENT LAND USE SUMMARY

SUPPORTING EVIDENCE

September 2022

LAND & PARTNERS

SUMMARY

This supporting note presents evidence of the sites land use over the last ten years, though aerial images, on-site photographs, grazing licences and signed statements from the landowners.

Plan 1 depicts the pre-development land uses for the application site and is consistent with Table 1 in Natural England's Nutrient budget calculator guidance document V1 (March 2022, p.13)[1].

The pre-development land uses are:

1. 12.94 ha Lowland Grazing

   This area of the site has been used as pasture and managed through horse grazing. The relevant grazing licences are shown on page 11. This land use accounts for well over two thirds of the holdings Standard Output (SO).

2. 0.36 ha Residential Urban Land

   Two residential properties are present on the site. Both the Hollybank Farm Cottage and the Old Diary Farm bungalow are used as primary residential premises and are unrelated to the lowland grazing area which is leased out to tenant farmers. Note these areas exclude the equestrian stables adjacent to both properties which are correctly included within the lowland grazing catergory.

3. 0.55 ha Woodland

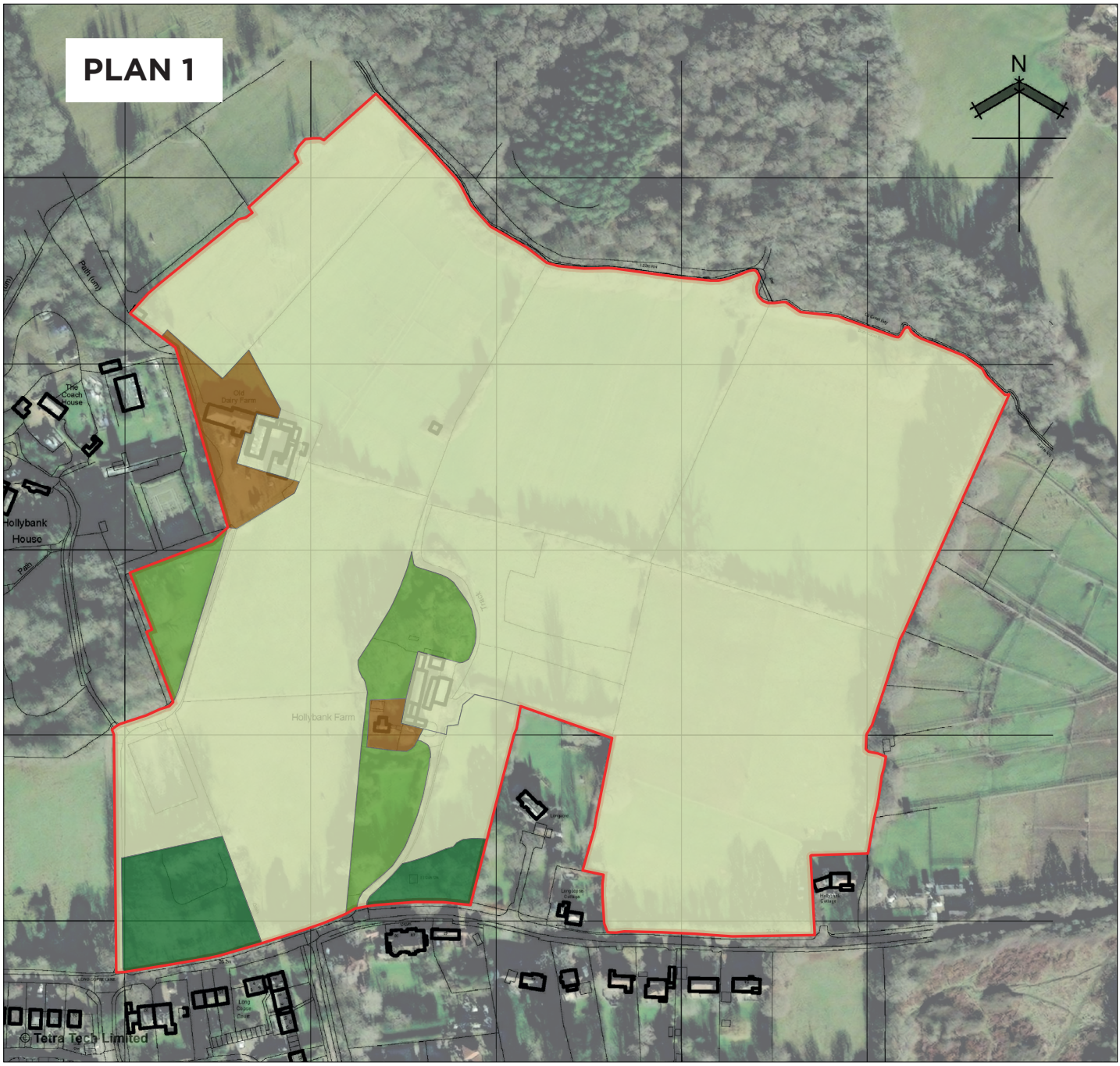
   Directly north of Long Copse Lane, there are two natural outdoor wooded areas on site. No fertiliser has been applied to these wooded areas over the last ten years.

4. 0.72 ha Greenspace

   Natural England's greenspace land use catergory is used to describe the amount of non-cultivated natural and semi-natural areas within the site. This includes the glamping area to the south of the Old Dairy Farm bungalow. Further information on the glamping area is provided on page 10 but for clarity, no fertiliser or associated nitrogen inputs have been applied to this area and dog waste has been managed appropriately. By including the glamping area within the greenspace catergory (which has the lowest baseline leachate rate at 3 kg/ha/yr), the report adopts the most precautionary approach.

In summary, over the last 10 years the majority of the application site has been used as pasture and managed through horse grazing. This land use accounts for well over two thirds of the holdings Standard Output (SO).

1) https://cdn.havant.gov.uk/public/documents/Nutrient%20Budget%20Calculator%20Guidance.pdf



Pre-Development Plan

Long Copse Lane, Emsworth

Land and Partners Ltd

Legend

- Site boundary - 14.57 ha
- Greenspace - 0.72 ha
- Lowland Grazing - 12.94 ha
- Residential Urban Land - 0.36 ha
- Woodland - 0.55 ha

Notes:

Drawn by: CHRIS.DAWE	Figure No. 1
Checked by: DW	Revision No. B
Office: Southampton	01 September 2022

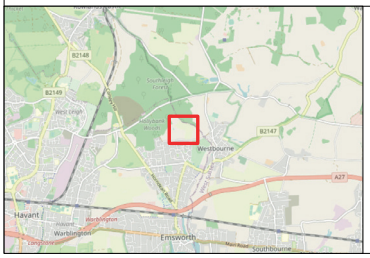
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British National Grid

NGR: 475035E 108109N

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TETRA TECH

The Pavilion, 1st Floor
Botleigh Grange
Office Campus
Hedge End
Southampton
Hampshire, SO30 2AF

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Google Earth Aerial Images: 2011 - 2021

Images confirm sub-divided paddocks for use as pasture



2011



2015



2019



2021

Site Photographs: 2011 - 2021

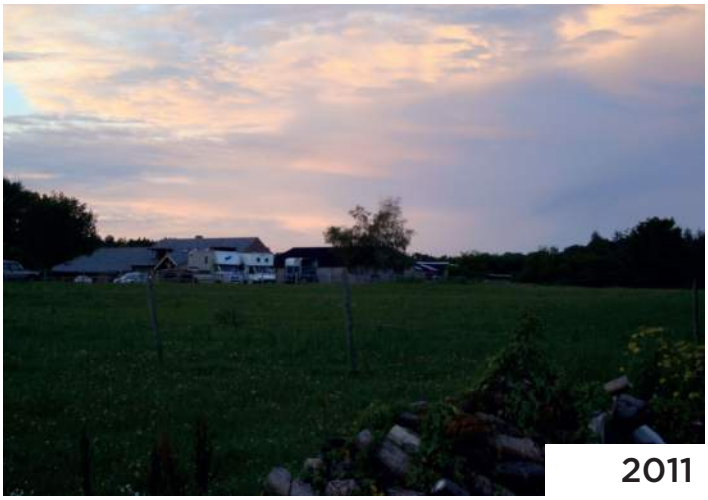
Images confirm the land use as pasture for grazing horses



2011



2011



2011



2014



2016



2016


2016


2019


2019


2019


2021


2021

Signed Statements

Signed statement below from the landowner confirming the historic land use of the application site within their control from 2011 to 2021.

1st December 2021

Adrian Ellis
Planning & Development
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant
PO9 2AX

Dear Mr Ellis,

Re: Land north of Long Copse Lane, Emsworth (APP/21/00893) – Historic Land Use Evidence – Landowner's Statement of Truth

I am one of the owners of the land north of Long Copse Lane, Emsworth which is the subject of an outline planning application (APP/21/00893) for the demolition of existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved.

I am writing to confirm the historic land use of the site between 2011 and 2021.

My family has rented, then owned and managed the land since the late 1940s, selling on part of it to the other landowners in the mid 1980s.

The site is predominantly open fields in use as pasture with various hedgerows dividing the site. Over the last ten years, and for many years before that, the land has been used as pasture for grazing horses.

We have had customers using the land to graze their horses for more than 30 years.

Hopefully this statement, along with the other information provided (including recent and historic photographs of the site) is sufficient evidence to show that the land should be categorised as "lowland grazing".

Yours sincerely,

[redacted]

Mrs J.M Soloway
Joint Landowner, Hollybank Farm

125 Old Broad Street
London EC2N 1AR
Tel +44 (0)20 3296 3000
Fax +44 (0)20 3296 3100
cushmanwakefield.co.uk

Adrian Ellis
Planning & Development
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant
PO9 2AX

Email Paul.wickenden@cushwake.com
Direct 020 3296 4035
Mobile 07702 759 031

Your Ref

01/12/2021

Dear Mr Ellis

Re: Land north of Long Copse Lane, Emsworth (APP/21/00893) – Historic Land Use Evidence – Landowner's Statement of Truth

I write on behalf of my clients, Mr and Mrs Williams, as one of owners of the land north of Long Copse Lane, Emsworth. The land is the subject of an outline planning application (APP/21/00893) for the demolition of existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved.

Our clients have owned and managed their property since 15 July 2004 and I am writing to confirm that the historic land use of the fields, between that time and now, has been as pasture for grazing horses and/or as fields for camping/glamping.

Kind Regards

[redacted]

Paul Wickenden
Associate

Signed statement above from the landowner's agent (writing for an on behalf of the landowner) confirming the historic land use of the application site from 2011 to 2021.

Old Diary Farm bungalow

The Old Dairy Farm bungalow is defined as residential urban land as it is occupied as a primary residential premises and is unrelated to the lowland grazing area which is leased out to tenant farmers. The area includes the house and its associated infrastrucuture.





Hollybank Farm Cottage

The Hollybank Farm Cottage is defined as residential urban land as it is occupied as a primary residential premises and is unrelated to the lowland grazing area which is leased out to tenant farmers. The area includes the house and its associated infrastrucuture.





The Old Diary Farm Glamping field

As confirmed in the letter from Mr Wickenden of Cushman & Wakefield dated 1st December 2021, the field highlighted blue on the below plan has been used for camping/ glamping for the last 10 years. There are four nomadic yurts present on site. A link to the Old Diary Farm Glamping website/ booking system can be accessed here: https://www.theolddairyfarmemsworth.co.uk

The glamping area receives no fertiliser and dog waste is managed appropriately. By including the glamping area within the greenspace catergory (which has the lowest baseline leachate rate at 5 kg/ha/yr), the report adopts the most precautionary approach.











Grazing Licence

This licence is dated June 2021 and relates to two of the southern parcels within the application site as shown on Page 13. Replicate annual licences are available if required dating back to 2011.

A LICENCE allowed by Colman Investment Ltd the owner of I Vine Street, High Street, Harborne, Brimingham, B17 9PU (hereinafter called the "Licensor") for Mr P R Smith of Forestside Farm, Rowlands Castle, Hampshire, PO9 6EE (hereinafter called the Licensee") to have access only for the purposes of grazing or mowing and removing grass and for no other purpose to the Land at Long Copse Lane, Emsworth for identification purposes only edged green on the attached plan (hereinafter called "the Land") and agreed this the ..... 18 June 2021

WHEREBY it is agreed as follows:-

1. a) The Licensor gives the Licensee the personal right of access to the Land for grazing and the mowing and removal of grass from the Land and for no other purpose for the Licence Period in consideration of a Licence fee of £400 (Four hundred pounds) payable upon signing this agreement.

b) The "Licence Period" means the period from and including the date of this Agreement until the first of the following occurs:

(i) 28th February 2022; or

(ii) the Licensor gives the Licensee 14 days' written notice to terminate this licence pursuant to clause 3 c); or

(iii) the Licensor gives the Licensee 2 months' written notice to terminate this licence for any reason (pursuant to the provisions of the First Schedule).

c) The Licensee will pay interest on any Licence fee arrears or other money due under this Agreement at the prescribed rate (that is the Barclays Bank plc Base Rate for the time being plus 4 per cent) from the date when any instalment of the payment should have been made until the date when that instalment of the payment is actually made.

2. **THE LICENSEE** agrees –

a) TO pay the Licence fee hereby reserved on the date agreed together with such VAT as may be due in respect of the fee

b) NOT to assign the benefit of this Licence to any other natural or legal person

c) As to the use of the access given to the Land by the Licensor to the Licensee:

i) THAT the Licensee is and will remain the keeper of the livestock grazing on the Land with daily responsibility for the livestock and the Licensor has no such obligations to the Licensee's livestock.

ii) TO carry out no other activities on the Land than grazing or mowing and removing the grass and those required of the Licensee being the keeper of the animals he has brought onto the Land

iii) NOT to apply any fertilisers or manure to the Land nor to apply any lime pesticides herbicides or other chemical treatment

iv) NOT to plough or re-seed any part of the Land

v) NOT to erect or alter any building nor make any other alteration to the Land

vi) THAT in all respects he will comply with the requirements of the Health and Safety at Work Act 1974 (as amended)

d) As to the livestock allowed to be brought onto the Land:

i) TO keep an appropriate number of his own cattle and/or sheep and/or ponies and no other stock on the Land

ii) NOT to bring onto the Land any stock other than his own

iii) TO manage his animals on the Land in accordance with the Welfare of Farmed Animals (England) Regulations 2007 (as amended) as appropriate and in accordance with Statutory Management Requirement 13 (animal welfare) under the Cross Compliance rules

iv) NOT to introduce any dangerous unfit or diseased stock onto the Land or any disease affecting the Land

v) TO use all reasonable efforts to prevent the stock from straying from the Land and to notify the Licensor of any damage or defect to boundaries or enclosures by which stock can stray from the Land

e) As to the regulations governing livestock identification and movements and animal welfare

i) TO be solely responsible as keeper of the animals for all compliance with the law on animal identification animal passports and movement recording and reporting for the animals and animal welfare and adhere to the requirements of Statutory Management Requirement 6 (Pig identification and registration) Statutory Management Requirement 7 (Cattle identification and registration) and Statutory Management Requirement 8 (Sheep and goats identification) and to promptly provide the Licensor with any livestock identification and movement records whenever required and adhere to the requirements of Statutory Management Requirement 13 (Animal welfare)

ii) THAT as the keeper of the animals he will record all relevant movements of animals onto and off the Land in his appropriate register and as necessary report those movements to the British Cattle Movement Service with accompanying documents to be given or returned as required

iii) THAT as the keeper of the animals he will comply with all necessary bovine TB pre-movement and post-movement testing requirements

iv) THAT should he cease to be the keeper of the animals he has brought onto the Land he will provide all such documentation and other assistance as the Licensor may require to comply with such regulations

f) As to payment schemes under the Common Agricultural Policy

i) NOT to claim the Basic Payment Scheme or any Rural Development Regulation Scheme on the basis of the Land

ii) NOT to breach any Cross Compliance requirements on the Land in relation to the Basic Payment Scheme or any Rural Development Scheme

iii) TO indemnify the Licensor against any reductions or penalties applied to any payment claimed by the Licensor under the Basic Payment Scheme or under any Rural Development Regulation scheme arising from any action or omission by the Licensee including any breach of the Cross Compliance requirements in relation to the Basic Payment Scheme or any Rural Development Regulation scheme including the Statutory Management Requirements and Good Agricultural and Environmental Condition requirements

g) And generally in regard to this Licence the Licensee shall:

i) TAKE out and maintain appropriate public liability insurance for his business and any damage arising from the animals he may bring onto the Land

ii) NOT cause a nuisance to the Licensor or any other person

iii) NOT obstruct any public or private right of way on the Land or any access by any other party to any other Land belonging to the Licensor

iv) NOT damage any items of fixed equipment on the Land belonging to the Licensor to include inter alia gate posts gates back fencing hedges ditches culverts bridges deadstock fruit or other trees and will not damage the surface of the Land

v) NOTIFY the Licensor on becoming aware of any trespass on the Land

vi) INDEMNIFY the Licensor in respect of any damage on the Land and all liabilities and costs including legal costs and expenses incurred by or as a result of the actions or negligence of the Licensee or arising from his animals

3. **BOTH PARTIES** agree

a) THAT this Licence does not create any right of exclusive occupation of the Land by the Licensee nor any interest in the Land

b) THAT for the avoidance of any doubt the Licensor has at all times the Land at his disposal for the purposes of the Basic Payment Scheme and has management control of the Land for the purposes of any Rural Development Programme scheme agreement

c) THAT the Licensor is entitled to determine this Agreement on fourteen days written notice in the event of the grant of any planning permission in respect of the Land or any part thereof or upon the death of the Licensee or upon any breach by the Licensee of any of his obligations under this Agreement whereupon the Licensor shall refund the Licensee a proportionate part of the Licence fee paid for the period from that early termination date to the expiry date having deducted any costs arising from such breach

d) THAT where any dispute arises under this Agreement either party may in writing ask the President of the Central Association of Agricultural Valuers to appoint an independent expert to determine the dispute in which his decision shall be final and binding save where a dispute is referable to arbitration under statute and where the arbitrator is to be appointed by that President at the request of either party and the fees

and expenses of that appointed expert or arbitrator are to be paid as he shall direct in his decision

e) THAT any reference to:

i. any directive regulation statute or statutory instrument in this agreement includes a reference to that provision as amended or replaced from time to time and to any subordinate legislation or bylaw made under it
ii. any natural person includes any legal person and vice versa
iii. the masculine gender is also to the female gender and vice versa
iv. the singular includes the plural and vice versa

f) THAT the Special Conditions contained in the First Schedule form an integral part of this Agreement

FIRST SCHEDULE

The Licensor may terminate this agreement giving the Licensee 2 months' written notice to vacate the property. The Licensor will refund the proportion of the licence fee of the outstanding term.

On termination of this agreement the licensee will remove all buildings and structures which they have erected on the land.

Signed by or on behalf of the Licensor acting by: [redacted] .....
A Director

[redacted]

[redacted]
Hollybank Cottage
LONG COPPICE LANE
REDLANDS LANE
LAURENCES GREEN
HOLLYBANK LANE
White Lodge
SCALE: 1:2500
Ian Judd Partnership
Chartered Surveyors & Land Agents
4 High Street
Bishops Waltham
Southampton SO32 1AB
Tel. 01489 896422
Fax. 01489 896669
OBTAINED FROM THE OFFICIAL COPY OF THE REGISTERED PLAN
ORDNANCE SURVEY Licence No ES100016457

LAND & PARTNERS

APPENDIX F: STANSTED PARK LAND USE EVIDENCE

LAND NORTH OF LONG COPSE LANE, EMSWORTH, HAVANT

OFF-SITE NITRATE MITIGATION AT STANSTED PARK ESTATE

LAND USE SUMMARY

SUPPORTING EVIDENCE

SEPTEMBER 2022

LAND & PARTNERS

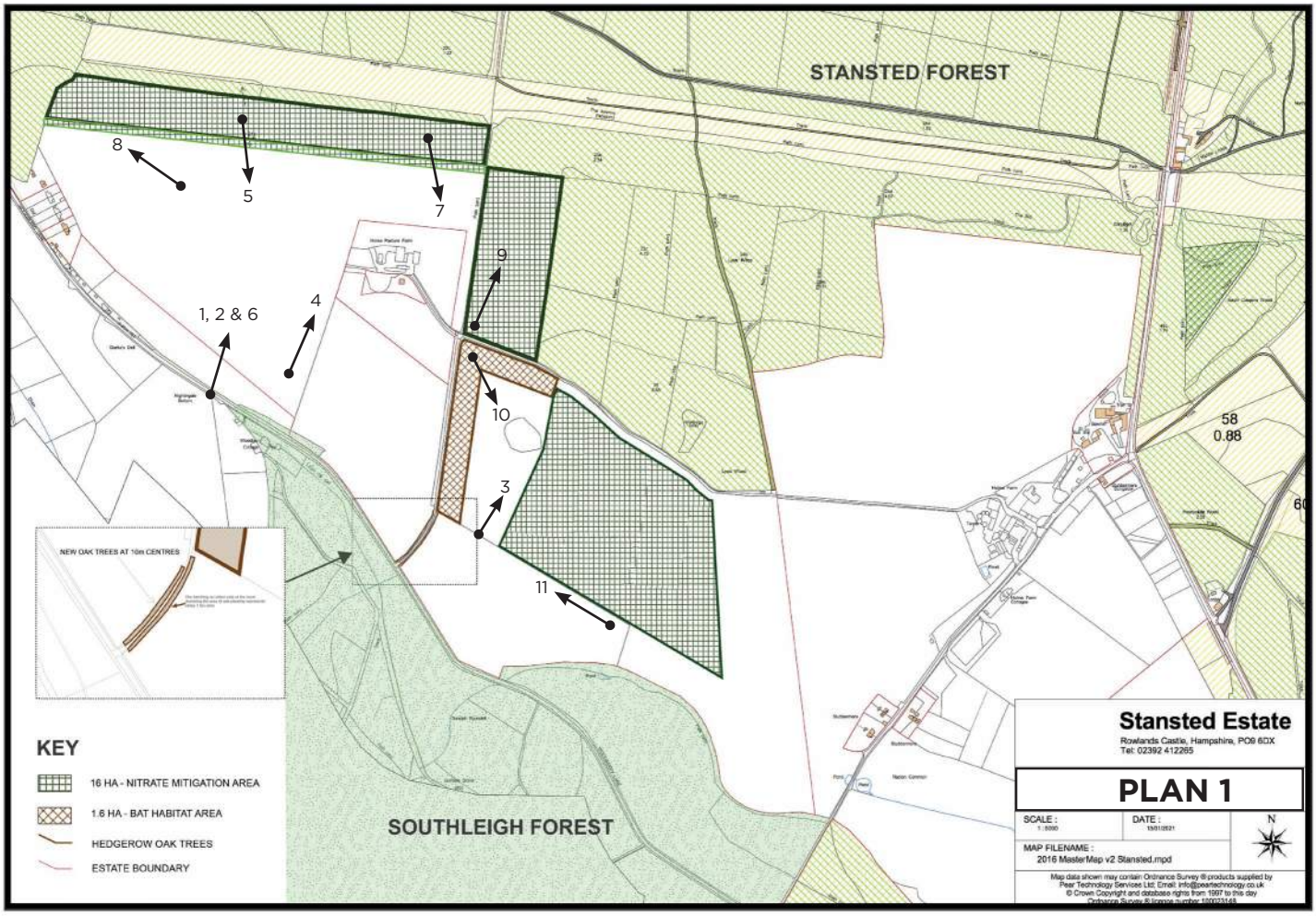
SUMMARY

The land edged and hatched dark green on Plan 1 below shows the 16 ha of available cereal crop land at the Stansted Park Estate for use as nitrates mitigation.

Between 2011 and 2021, the mitigation site has been used for cereal production for a series of different crops:

2021 - Wheat
2020 - Barley/ Wheat
2019 - Wheat/ Winter Beans
2018 - Rape/ Wheat
2017 - Barley/ Wheat
2016 - Rape/ Wheat
2015 - Barley
2014 – Rape
2013 – Barley
2012 – Wheat
2011 – Wheat

This land use accounts for 100% of the holdings Standard Output (SO). This supporting note presents evidence of the mitigation sites land use over the last ten (plus) years, though aerial images, on-site photographs and nitrates applications supplied by the tenant farmer. These have been verified by the Head Forester at Stansted Estate. Overall, the evidence provided justifies the 'Cereals' land use classification for the mitigation site.



ON-SITE PHOTOGRAPHIC EVIDENCE

Photo 1 is dated 2009 and shows Castle Field in the distance under a rape crop.

Photo 2 is dated 2011 and shows Castle Field in the distance under a wheat crop.

Photo 3 is dated 2015 and show Chalk Pit Field under a grain crop.

Photos 4 and 5 are dated 2016 and show Castle Field post-harvest with stubble remaining in the field from its last wheat crop.

Photo 6 is dated 2017 and shows Castle Field in the distance under a Barley crop.

Photos 7 and 8 are dated 2021 and show Castle Field against wood all under winter wheat.

Photo 9 is dated 2022 and shows Leyls Wood under a grain crop.

Photos 10 and 11 are dated 2017 and shows Chalk Pit field under a grain crop.








4


5


6


7

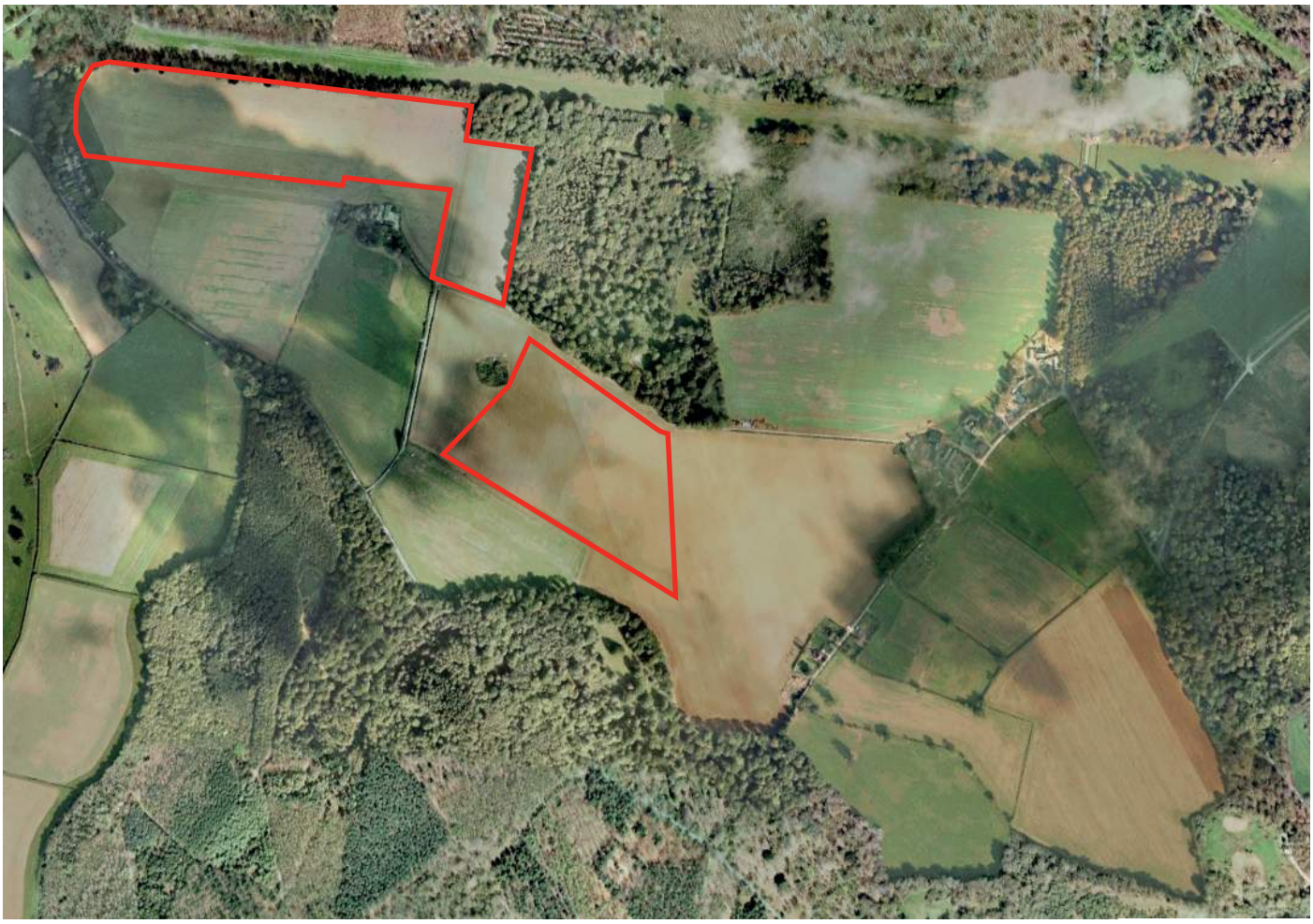

8


9


10


11

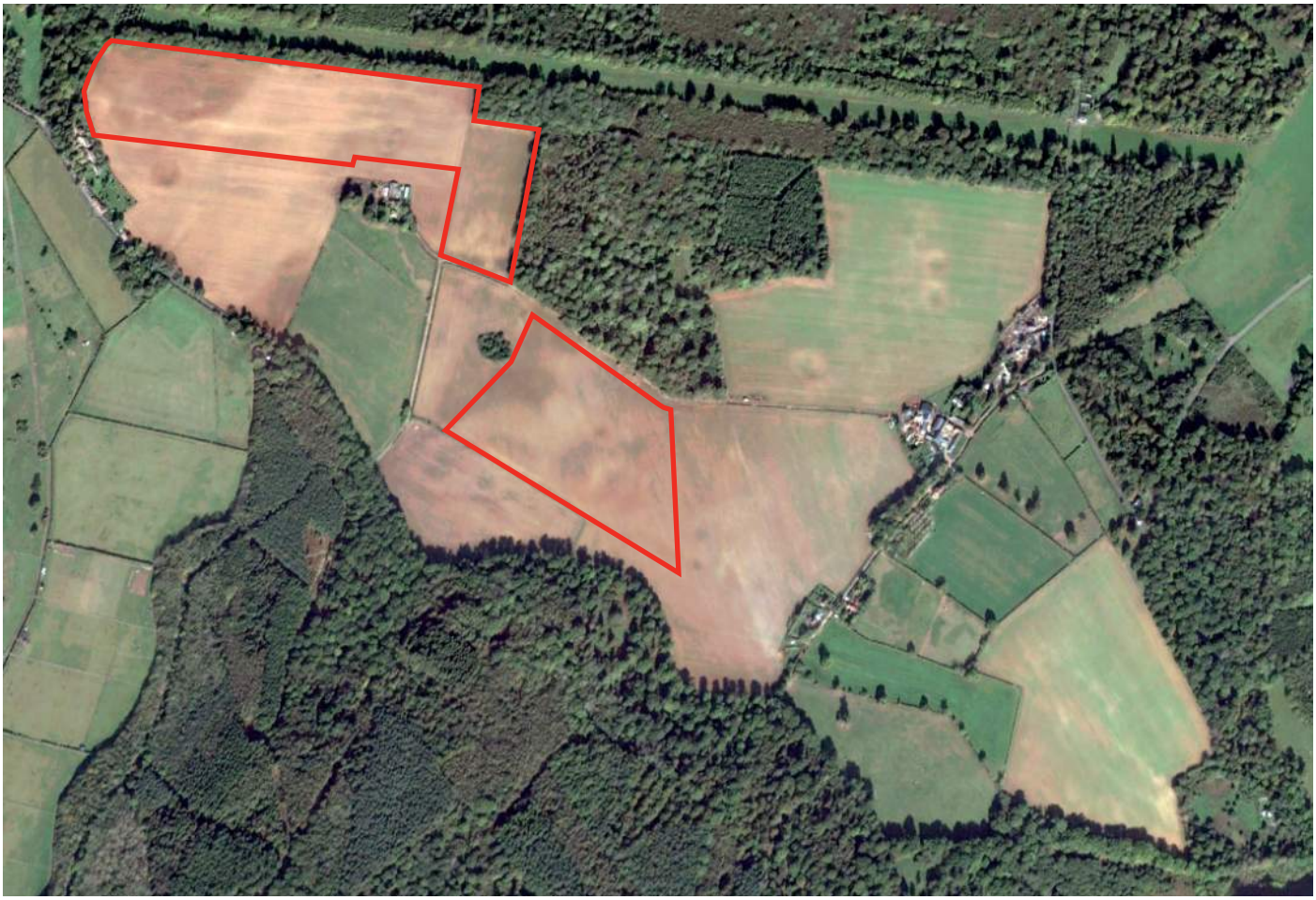
Aerial Images confirming cereal crop production.



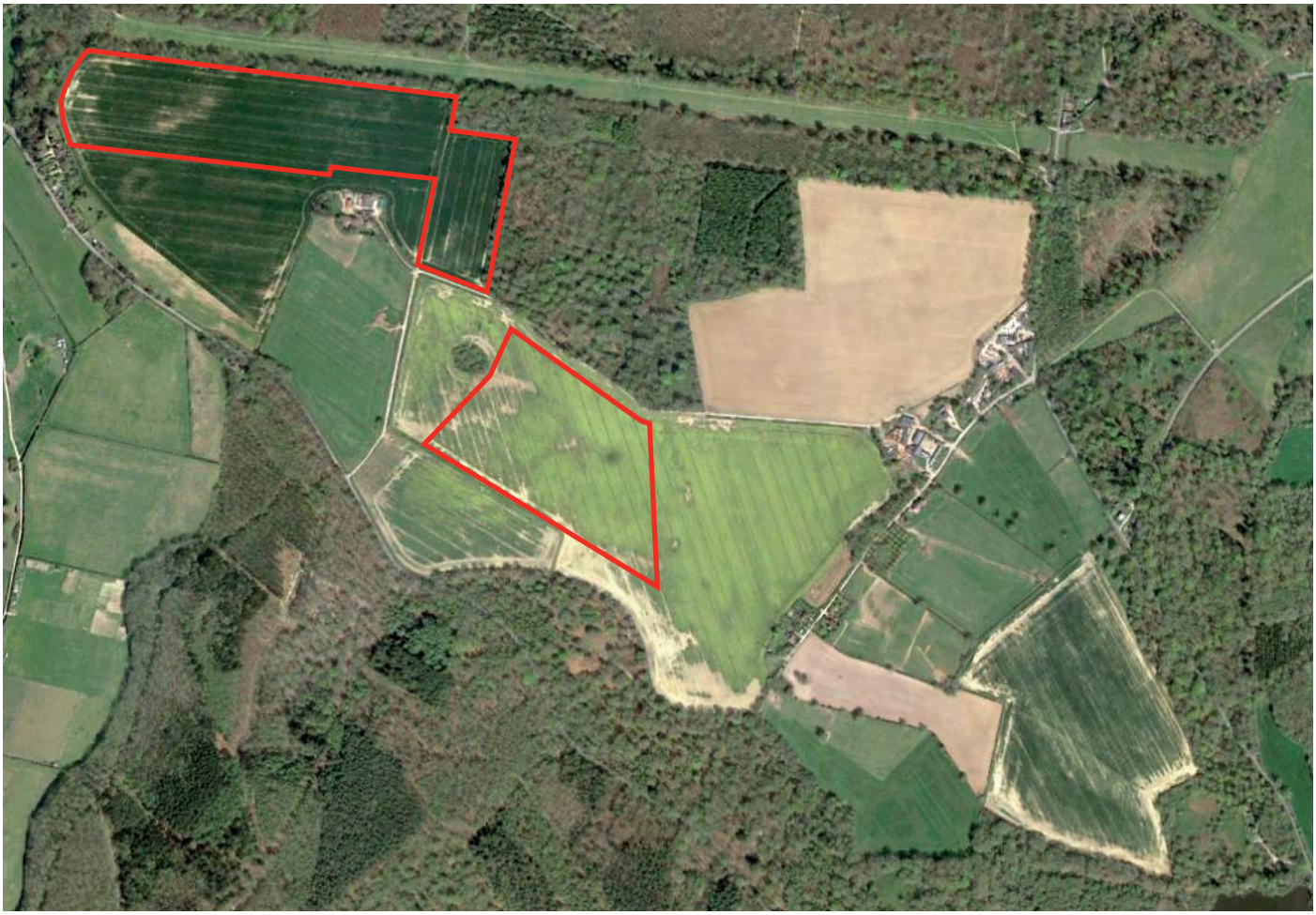
2005



2007



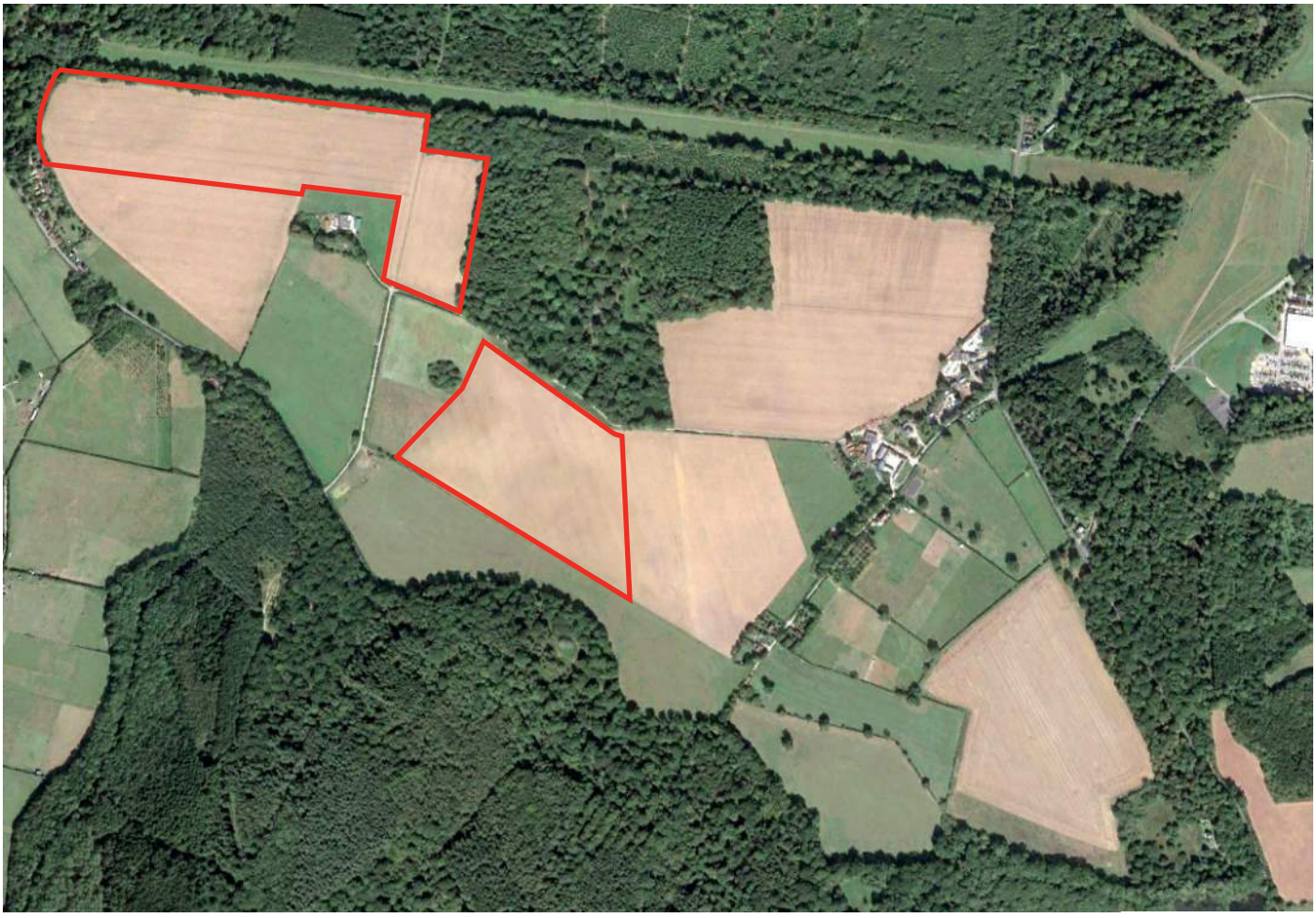
2011



2015



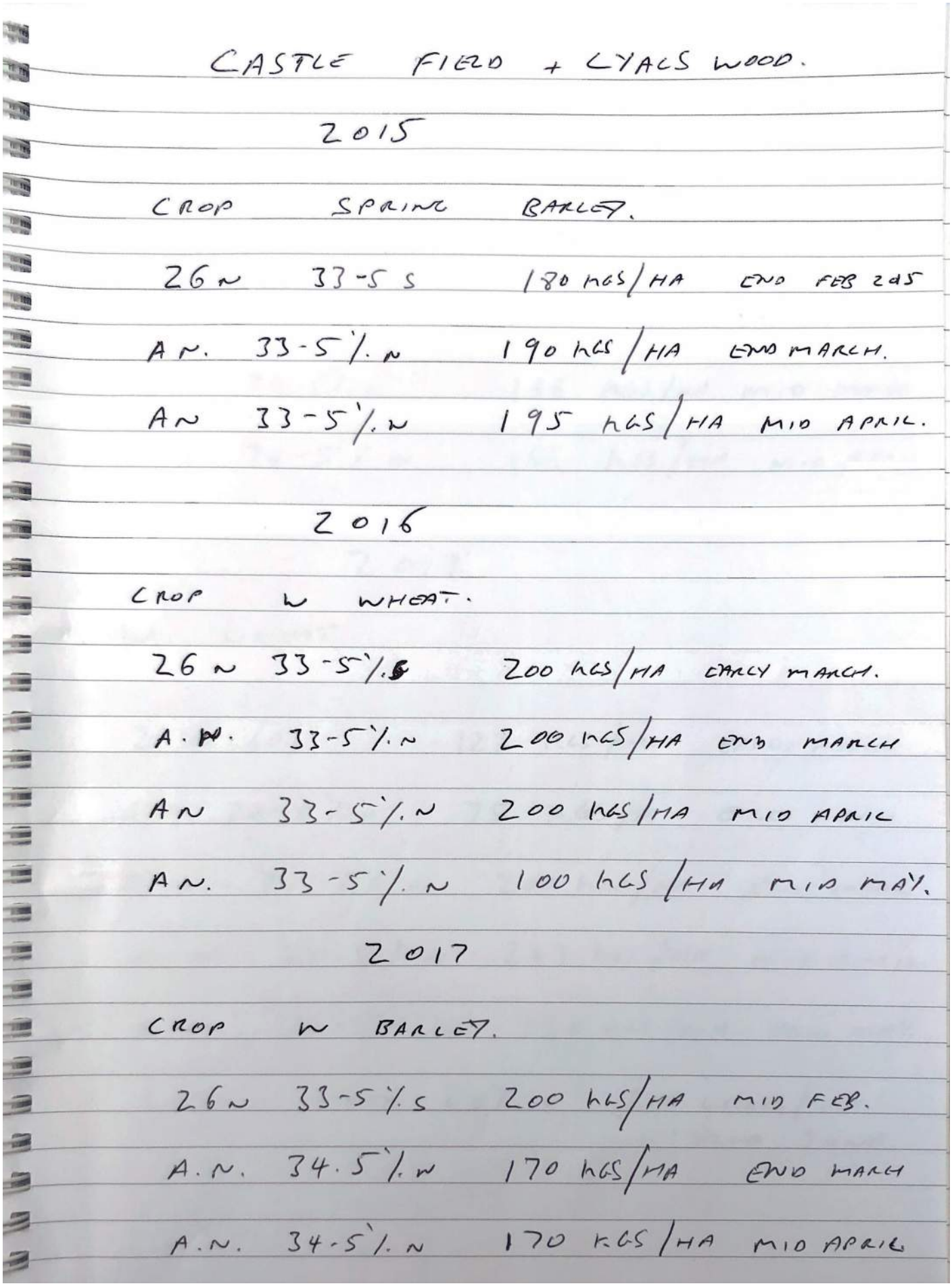
2019



2022

NITRATE APPLICATIONS

See below nitrate applications on the mitigation site between 2015 and 2020. Records prior to 2015 are unavailable.



CASTLE FIELD + CYACS WOOD.

2015

CROP SPRING BARLEY.

26 N 33-5 S 180 KGS/HA END FEB 245

A.N. 33-5 %. N 190 KGS/HA END MARCH.

AN 33-5 %. N 195 KGS/HA MID APRIL.

2016

CROP W WHEAT.

26 N 33-5 %. S 200 KGS/HA EARLY MARCH.

A.N. 33-5 %. N 200 KGS/HA END MARCH

AN 33-5 %. N 200 KGS/HA MID APRIL

AN. 33-5 %. N 100 KGS/HA MID MAY.

2017

CROP W BARLEY.

26 N 33-5 %. S 200 KGS/HA MID FEB.

A.N. 34.5 %. N 170 KGS/HA END MARCH

A.N. 34-5 %. N 170 KGS/HA MID APRIL

2018

WINTER RAPE.

A.N.	34·5%.N	140 KGS/HA	SEP 2017
26 N	37 S	220 KGS/HA	MID FEB.
AN.	34-5%.N	166 KGS/HA	MID MARCH
A.N.	34-5%.N	166 KGS/HA	MID APRIL.

2019

W WHEAT

21 N	60 S	123 KGS/HA	EARLY MARCH.
A.N.	34·5%.N	75 KGS/HA	EARLY MARCH.
A.N.	34-5%.N	200 KGS/HA	END MARCH.
A.N.	34·5%.N	243 KGS/HA	MID APRIL
A.N.	34-5%.N	130 KGS/HA	MID MAY.
LIQUID	UREA	20%.N	200 LITRES/HA MID JUNE.

CASTLE FIELD T LYALS WOOD.

2020 - CROP. - BARLEY.

21N 60S 123 KGS/HA IMTO SEED BED

END OF FEB 20

34-5%. N 75 KGS/HA PRE EMERGENCE

EARLY MARCH 20.

34-5%. N ~~180~~ 180 KGS/HA

END OF MARCH 20.

34.5%. N 180 KGS/HA

EARLY APRIL 20.

CHALK PITS.

2020 CROP.

BARLEY - WINTER.

34-5% N 116 KGS/HA
LATE FEB 20.

21 N GOS 123 KGS/HA
EARLY MARCH 20.

34-5% N 223 KGS/HA END MARCH 20.

34-5% N 223 KGS/HA MID APRIL 20.

CHALK PITS.

2021 CROP OATS.

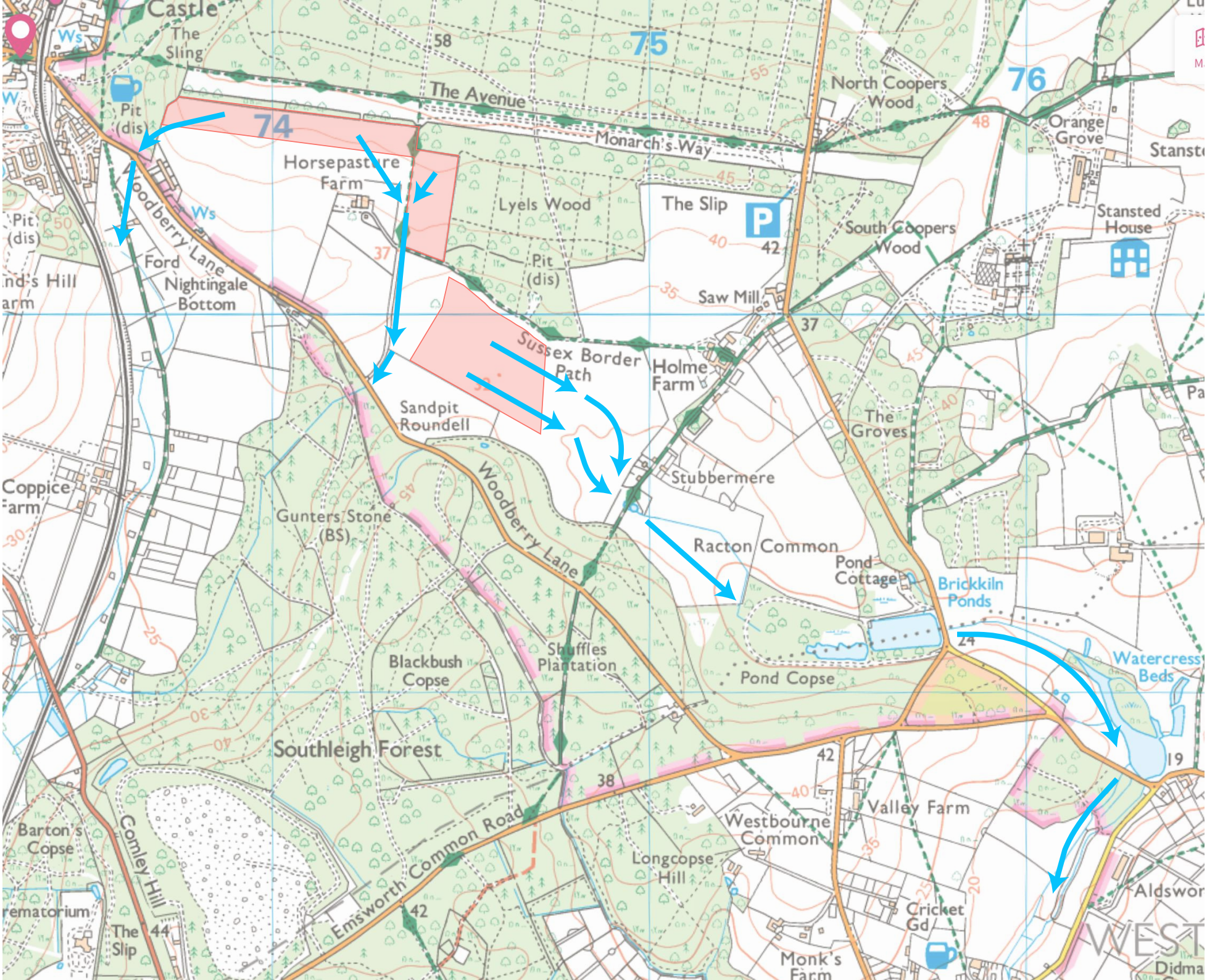
26 N 33 S 154 KGS / HA.
EARLY MARCH. 21.

UREA LIMUS 46 % N
113 KGS / HA. EARLY APRIL 21

34-5 % N 140 KGS / HA
END OF APRIL 21

LAND & PARTNERS

APPENDIX G: PLANS SHOWING MITIGATION SURFACE WATER ROUTES


Castle
The Sling
Pit (dis)
74
75
76
The Avenue
Monarch's Way
North Coopers Wood
Orange Grove
Horsepasture Farm
Lyels Wood
The Slip
South Coopers Wood
Stansted House
Woodberry Lane
Ford
Nightingale Bottom
Saw Mill
Sussex Border Path
Holme Farm
Sandpit Roundell
The Groves
Stubbermere
Coppice Farm
Gunters Stone (BS)
Racton Common
Pond Cottage
Brickkiln Ponds
Watercress Beds
Blackbush Copse
Shuffles Plantation
Pond Copse
Southleigh Forest
Barton's Copse
Comley Hill
Emsworth Common Road
Westbourne Common
Valley Farm
Longcopse Hill
Cricket Gd
Monk's Farm
Aldsworth
WEST
Didma



Occupancy calculator

Date	30/09/2022
Site name	Land at Long Copse Lane, Emsworth
Site address	Land at Long Copse Lane, Emsworth

	Gross new homes proposed	Gross losses proposed	Net new homes proposed
1 bed	37		37
2 bed	78		78
3 bed	77		77
4 bed	9		9
5+ bed	9		9
Total	210	0	210

Average occupancy to include in Solent Nutrient Calculator:	**2.23**

HYDROGEOLOGICAL APPRAISAL OF LAND AT STANSTED PARK, ROWLANDS CASTLE, HAMPSHIRE, PO9 6DX FOR A NUTRIENT NEUTRALITY FEASIBILITY ASSESSMENT

Version: Final v1.2
Issued: 16 September 2022
Client: Land and Partners Ltd
Reference: 20220211P1

Prepared By:

H2Ogeo
Hydrogeology & Environmental Consultancy

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Email: info@h2ogeo.co.uk
www: www.h2ogeo.co.uk

Issue Log

Date	Version	Comment
02/03/2022	DRAFT v0.1	Issued
03/03/2022	FINAL v1.0	Issued
14/09/2022	FINAL v1.1	Issued

Contents

Issue Log 2
Contents 3
Executive Summary 5
1 Introduction 6
1.1 Background & Scope of Work 6
2 Mitigation Site Setting 7
2.1 Location 7
2.2 Topography 7
2.2.1 Regional Topography 7
2.2.2 Field Topography 7
3 Soil Types & Geology 8
3.1 Soil Types 8
3.2 Geology 8
3.3 Superficial Geology 8
3.3.1 Head Deposits 8
3.3.2 Clay with Flints 8
3.4 Bedrock Geology 9
3.5 Structural Geology 9
4 Hydrogeology 10
5 Hydrology 11
5.1 East Hampshire Management Catchment 11
5.1.1 River Lavant (Hants) 11
5.2 Arun and Western Streams Management Catchment 11
5.2.1 River Ems 11
6 Hydrogeological Conceptual Site Models 12
6.1 Surface Water Flows 12
6.2 Site Hydrogeological Conceptual Site Models 12
6.3 Travel Times 12
7 Summary 13
8 Statement of Limitations 14
9 Figures 15
Figure 1 Site Location 16
Figure 2 Regional Topography 17
Figure 3 Field Topography 18
Figure 4 Geology 19
Figure 5 Hydrogeological Map 20

Figure 6 Lavant (Hants) & River Ems Catchments 21
Figure 7 Hydrogeological Conceptual Site Model 22
10 Annexes 23
Annex A Client Drawings 24

List of Tables

Table 1 Site coordinates 7
Table 2 Summary of Field Topography 7
Table 3 Superficial and Bedrock Geology 8
Table 4 BGS Borehole Logs 9

Executive Summary

H2Ogeo was contacted by Land and Partners Ltd (The Client) and asked to provide a Hydrogeological Appraisal for three parcels of land proposed for nutrient neutrality offsetting in Hampshire near Rowlands Castle.

The work has been carried out in the context of understanding the suitability of the proposed land, in terms of its hydrogeology and hydrology, for use as nutrient mitigation land.

Nutrient burdens can be neutralised through permanent land use change by converting agricultural land with higher nitrogen loading to alternative uses with lower nitrogen loading. This report provides a hydrogeological assessment to understand the potential to use land as mitigation against nutrient loading in the receiving waters of Langstone Harbour.

The three areas of mitigation land are situated primarily on the Chalk Formation with some areas on the Lambeth Group. They are all in the Source Protection Zone One (SPZ1) for the Havant & Bedhampton Springs. The SPZ1 defines a 50 day travel time in the Chalk Aquifer and the shape of the SPZ suggests groundwater flows, on a regional scale, north to south, beneath the Chichester Syncline discharging at the Havant and Bedhampton Springs.

By changing the use of the mitigation land from agriculture to woodland, concentrations of Nitrates entering surface water runoff and groundwater would be reduced. It is anticipated this could be observed within one year.

It is concluded that the proposed areas, as Nitrate Mitigation Sites for the Langstone and Chichester Harbour, are suitable and have the potential to provide Nutrient mitigation that could be observed in the environment within one year.

1 Introduction

H2Ogeo was contacted by Land and Partners Ltd (The Client) and asked to provide a proposal for a Hydrogeological Appraisal of land proposed for nutrient neutrality offsetting in Hampshire near Rowlands Castle.

The proposal was approved on the 11 February 2022 with supplementary work approved in September 2022. The scope of work has been carried out in the context of understanding how suitable the three parcels of proposed land are, in terms of its hydrogeology and hydrology, for use as nutrient mitigation land.

A Statement of Limitations is presented at the end of this report.

1.1 Background & Scope of Work

Land & Partners are promoting a housing site for 210 homes on the edge of Emsworth, to the south of Stansted Park.

Assessments have been undertaken to support an outline planning application for the proposed development and the new urban area would comprise 8.1 hectares with the provision of 6.5 hectares of Public Open Space.

Calculations of the change in nutrient outputs from existing land to future use associated with the proposed development have been carried out by Tetra Tech (WYG, Ref: A115474).

Nutrient burdens can be neutralised through permanent land use change by converting agricultural land with higher nitrogen loading to alternative uses with lower nitrogen loading. This report provides a hydrogeological assessment to understand the potential to use three parcels of land as mitigation against nutrient loading in the receiving waters of Langstone Harbour.

The report provides a Hydrogeological Conceptual Site Model (HCSM) for the three parcels of land indicating the groundwater table (depth to groundwater), its interaction with nearby surface water courses and calculated travel times from surface, via groundwater, to the Chichester Harbour.

To develop the HCSMs publicly available data sourced from a range of providers including the Environment Agency and .gov has been used.

2 Mitigation Site Setting

2.1 Location

The three proposed areas of mitigation land are located east of Rowlands Castle, close to the West Sussex and Hampshire border, in West Sussex off The Avenue in Stoughton north of Horse Pasture Farmhouse.

The site is located in the South Downs national Park and presented in Figure 1. The site, Horse Pasture Farmhouse, is centred on National Grid Reference SU74250 10250 (Easting: 474250, Northing: 110250).

The land is currently in intensive agricultural use and has been selected to complement the existing adjacent woodland, additionally there is new planting proposed that will link the strategic forests to the north and south providing a 'flight corridor' for bats.

The mitigation land covers three main areas, named for the purpose of this report as Northern, Central and Eastern Area and the table below shows the central NGR for each plot and area based on the GIS boundaries presented in Figure 1.

Table 1 Site coordinates

Area Name	***National Grid Reference***	***Easting***	***Northing***	***Area (Hectares)***
Northern Area	SU74045 10505	474045	110505	5
Central Area	SU74426 10298	474426	110298	3
Eastern Area	SU74594 09895	474594	109895	8
			Total Area	16

2.2 Topography

2.2.1 Regional Topography

Regional topography is presented in Figure 2, it shows the surrounding area dominated by Chalk Downland of the South Downs National Park. The Chalk exhibits dry valley features with an overall landfall from the north to south down to the Coastal Plain approximately 4km south of the site.

The peak elevation, at the head of a valley, is an area at 190mAOD approximately 6km north-north-west of the site falling to between 40 and 50mAOD on site.

2.2.2 Field Topography

The topographic features of the proposed mitigation land, northern, central and eastern area, are detailed below and, Figure 3 presents the topography on site based on the 2020 2m LiDAR Digital Terrain Model:

Table 2 Summary of Field Topography

Field Name	***Predominant Fall***	***High Point (mAOD)***	***Low Point (mAOD)***	***Surface Gradient (m/m)***
Northern Area	North to South	48	44	0.05
Central Area	North to South	46	38	0.03
Eastern Area	North West to South East	34	29	0.02

3 Soil Types & Geology

3.1 Soil Types

The site is covered by freely draining slightly acidic loamy soils, with some slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils in the Central and Southern Areas[1].

Underlying the Soils are Superficial Deposits, where present and Bedrock, these are described below:

3.2 Geology

The table below summarises the geology anticipated on site based on the BGS 1:50,000 geological mapping, Figure 4 presents the Superficial and Bedrock geology described below:

Table 3 Superficial and Bedrock Geology

Area Name	***Superficial Geology***	***Bedrock Geology***	***Comments***
Northern Area	None	Tarrant Chalk Member	No Superficial deposits mapped on site.
Central Area	None	Tarrant Chalk Member Lambeth Group	The Lambeth group is overlying the southern portion of the central area and consists of Sands, Silts and Clays with the extremities consisting of mainly Sands.
Eastern Area	None	Tarrant Chalk Member and Lambeth Group	The Lambeth group is overlying the southern portion of the Eastern Area and consists of Sands, Silts and Clays with the extremities consisting of mainly Sands. The Lambeth Group on in the east is recorded as Sandy.

3.3 Superficial Geology

There are no Superficial Deposits mapped on site. There are Head Deposits that follow the valley bottoms east, west and south of the mitigation land and some Clay with Flints mapped 900m to the north east.

3.3.1 Head Deposits

Head is poorly sorted and poorly stratified, angular rock debris and/or clayey hillwash and soil creep, mantling a hillslope and deposited by solifluction and gelifluction processes.

Solifluction is the slow viscous downslope flow of waterlogged soil and other unsorted and unsaturated superficial deposits. The term gelifluction is restricted to the slow flow of fluidized superficial deposits during the thawing of seasonally frozen ground. The flow is initiated by meltwater from thawing ice lenses. Polymict deposit: comprises gravel, sand and clay depending on upslope source and distance from source. Locally the Head Deposits have lenses of silt, clay or peat and organic material[2].

3.3.2 Clay with Flints

The Clay with Flints is a residual deposit formed from the dissolution, decalcification and cryoturbation of bedrock strata of the Chalk Group and Palaeogene formations and, in the extreme west of the outcrop, the Upper Greensand Formation.

It is unbedded and heterogenous. The dominant lithology is orange-brown and red-brown sandy clay with abundant nodules and rounded pebbles of flint. Angular flints are derived from the Chalk, and rounded flints, sand and clay from Palaeogene formations. There is commonly a discontinuous basal layer up to 10 cm thick, with dark brown to black matrix, stiff, waxy and fissured, with relatively

[1] http://www.landis.org.uk/soilscapes/index.cfm

[2] https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=HEAD

fresh flint nodules stained black or dark green with manganese or glauconite. The deposit locally includes bodies of yellow fine- to medium- grained sand, reddish brown clayey silt, and sandy clay with beds of well-rounded flint pebbles, derived from Palaeogene formations[3].

3.4 Bedrock Geology

The Lambeth group consists of vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate. The Lambeth Group was deposited in fluvial, estuarine, lagoonal or proximal marine environments. Late Paleocene to Early Eocene (late Thanetian to early Ypresian)[4].

The Eastern Area, in the south and east, is underlain by a Sandy portion of the Lambeth Group.

The Tarrant Chalk Member is described as Soft white chalk with relatively widely spaced but large flint seams. It is part of the White Chalk Formation and the lower Member of the Culver Chalk Formation.

The following table shows the borehole logs in the vicinity of Horsepasture Farm and their locations are presented in Figure 4.

Table 4 BGS Borehole Logs

Reference	***Name***	***Length m***	***Easting***	***Northing***
SU71SW72	Horsepasture Farm Racton	>30.50	474250	110250
SU70NW270	Woodberry Cottage Rowlands Castle	24.38	474050	109990

3.5 Structural Geology

There is a small fault that runs south east to north west 600m south of the site and the Chichester Syncline 4km south.

[3] https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=CWF
[4] https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=LMBE

4 Hydrogeology

The Tarrant Chalk Member is classified as a Principal Aquifer, defined by the Environment Agency as:

Principal Aquifers are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer[5]*.*

The overlying Lambeth Group, in the south of the Central and Eastern Areas, are classified as a Secondary A Aquifer, defined as:

Secondary A aquifers comprise permeable layers that can support local water supplies, and may form an important source of base flow to rivers.

All three proposed mitigation sites are in the Source Protection Zone One (SPZ1) for the Havant & Bedhampton Springs. The Springs are one of the principal public water supplies for Portsmouth Water and the SPZ1 defines a 50 day travel time in the Chalk Aquifer. The shape of the SPZ suggests groundwater flows, on a regional scale, north to south, beneath the Chichester Syncline and discharges at the Havant and Bedhampton Springs.

Chalk Formations exhibit a dual porosity, meaning both fracture and matrix flow are active in the subsurface. The hydrogeology of the area is presented in an excerpt from the Hydrogeology Map of the South Downs and Adjacent Parts of the Weald, NERC, 1978 in Figure 5.

The map indicates Chalk groundwater elevations to be between 10 and 20mAOD at the site and flowing north to south as anticipated. It is important to note that the Chalk groundwater contours on this map were drawn based on data from 1978. As a result, it is possible that groundwater elevations are different from those reported on the map.

The nearby borehole logs provide some information on groundwater elevations with Horsepasture Farm recording a level of 23 metres below ground level (mbgl), 15.52mAOD in 1957 and Woodberry Cottage providing a reading of 20.73bgl (13.94mAOD) in 1968.

The closest groundwater elevation data comes from the Carpenters Finchdean Groundwater Observation Borehole, 2.3km north of the site. The groundwater monitoring record indicates groundwater fluctuating from around 41.5mAOD to 27.60mAOD.

The borehole location is shown in Figure 4.

[5] http://apps.environment-agency.gov.uk/wiyby/117020.aspx

5 Hydrology

The site straddles two surface water management catchments in the South East River Basin District, East Hampshire Management Catchment and the Arun and Western Streams Management Catchment.

5.1 East Hampshire Management Catchment

The East Hampshire catchment covers an area of 571km^2, with rolling chalk downland to the north and a flat, heavily urbanised coastal plain in the south.

The main rivers in the catchment are the Hamble, Meon, Wallington, Hermitage and Lavant. Their sources are in the upland chalk, from where they flow into Southampton Water or the harbours of Portsmouth and Langstone[6].

5.1.1 River Lavant (Hants)

The Northern Area and half the Central Area fall within the Lavant (Hants) Water Body presented in Figure 6. The Lavant is 6.535km long and has a catchment area of 57.378km^2, it discharges at Langstone Harbour.

5.2 Arun and Western Streams Management Catchment

The Arun and Western Streams catchment covers 1,490 square kilometres and mainly lies within the South Downs National Park. It is dominated by the chalk ridge of the South Downs and the sand and clay of the Weald.

The catchment includes the Rivers of the Western Rother, the Arun and several small coastal streams which include the chalk fed Ems and Lavant which feed into Pagham and Chichester Harbours. It is a predominantly rural catchment with its key towns being Worthing, Bognor Regis, Chichester, Arundel, Midhurst and Horsham[7].

5.2.1 River Ems

Half of the Central Area and all of the Eastern Area falls within the River Ems catchment, 60.125km^2 and 8.79km in length. The River Ems discharges into Chichester Harbour and is presented in Figure 6.

[6] https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3034

[7] https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3004

6 Hydrogeological Conceptual Site Models

The HCSM identifies the key hydrological and hydrogeological processes and assumptions that have been made when assessing the mitigation sites.

6.1 Surface Water Flows

Information on surface water flow routes was provided by the Client.

The Figure presented in Annex A indicates surface water in the west of the Northern Area flowing west, under a culvert and into the valley feature of the Lavant. Surface water from the east of the Central Area flows to the east into the boundary ditch and then south where it crosses Woodberry Lane and discharges into the headwaters of the Lavant.

The Eastern Area drains, with topography, to the south east from the north west, towards Racton Common and Brickkiln Ponds and into the River Ems.

6.2 Site Hydrogeological Conceptual Site Models

the Hydrogeological Conceptual Site Model for the mitigation land is presented in Figure 7.

Precipitation falls on the landscape and enters the Chalk aquifer, recharging the aquifer and causing overland flow along the flow paths identified in Annex A. Baseflow in the aquifer will be derived from up hydraulic gradient in the Chalk Formation to the north.

Rapid connections to surface water features i.e. the Lavant transmits surface water down-catchment.

Highly permeable and fractured Chalk (dual porosity) conveys groundwater down, under the Chichester Syncline to the Havant & Bedhampton Springs. Travel times for groundwater beneath the site to the H&B Springs are estimated to be 50 days and, most likely, faster. Some Chalk groundwater issues at the springs as surface water and the excess recharges the River Lavant, Brockhampton and Hermitage Streams as groundwater and surface water prior to discharging into Broad Lake and eventually the Langstone Channel.

6.3 Travel Times

The SPZ1 has been used to understand the potential travel times of groundwater beneath the site reaching south of the Chichester Syncline and recharging surface water, this equates to less than 50 days.

A conservative approach has been taken to allow for surface water runoff and groundwater recharge on the site leading to ground and surface water flow down the catchment in the Lavant and underlying Chalk Formation. Based on the HCSM it is anticipated that an observed change in Nutrient contributions could be seen within a year.

7 Summary

The Hydrogeological Conceptual Site Model, presented in this report and the estimated travel times, based on the SPZs, indicate that a reduction in nutrient contributions to the River Lavant and River Ems could be realised within one year.

By changing the use of the mitigation land from agriculture to woodland, concentrations of Nitrates entering surface water runoff and groundwater would be reduced.

It should be noted that change of land use would not mitigate the existing load/concentrations already present in groundwater entering Langstone/Chichester Harbour from other sources/parcels of agricultural land that pass under the Fields assessed.

The groundwater catchment extends at least nine kilometres north of the mitigation sites with the majority of groundwater flowing north to south.

The two areas, Northern Area and Central Area, proposed as Nitrate Mitigation Sites for Langstone Harbour are both suitable with the Eastern Area providing mitigation to Chichester Harbour. As set out by Ricardo Energy and Environment (2020) there is a known transfer of water between the two harbours, with them considered to act as a single hydrographic unit. This is confirmed within the Natural England guidance whereby Chichester and Langstone Harbours are included within the same Chichester Harbour Fluvial Catchment. Therefore, all three areas have the potential to provide Nitrate mitigation that could be observed in the environment within one year.

8 Statement of Limitations

This report was prepared in accordance with the scope of work outlined within this report and is subject to the applicable cost, time and other constraints.

H2Ogeo performed the services on behalf of the Client in a manner consistent with the normal level of care and expertise exercised by members of the environmental profession. No warranties, expressed or implied, are made.

Except as otherwise stated, H2Ogeo's assessment is limited strictly to the scope of work outlined in Section 1.1 and does not evaluate structural or geotechnical conditions of any part of the Site (including any buildings, equipment or infrastructure) or outside the Site boundary.

All conclusions and recommendations made in the report are the professional opinions of H2Ogeo personnel involved with the project and, while normal checking of the accuracy of data has been conducted, H2Ogeo assumes no responsibility or liability for errors in data obtained from external sources, regulatory agencies or any other external sources, nor from occurrences outside the scope of this project.

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Any use of this report by a third party is deemed to constitute acceptance of this limitation.

This report does not constitute legal advice.

9 Figures

Figure 1 Site Location
Figure 2 Regional Topography
Figure 3 Field Topography
Figure 4 Geology
Figure 5 Hydrogeological Map
Figure 6 Lavant (Hants) & River Ems Catchment
Figure 7 Hydrogeological Conceptual Site Model

Figure 1 Site Location

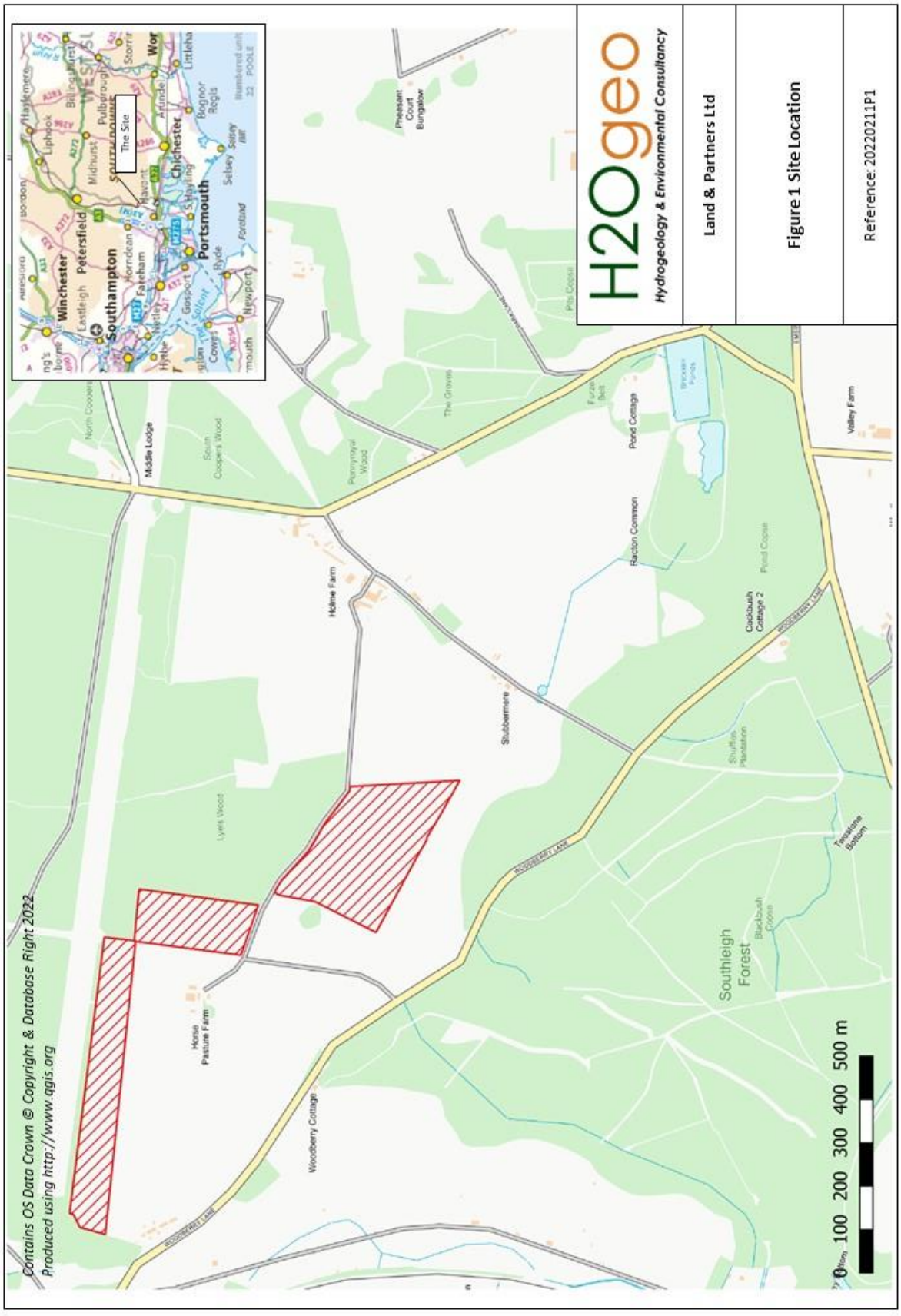


Figure 2 Regional Topography

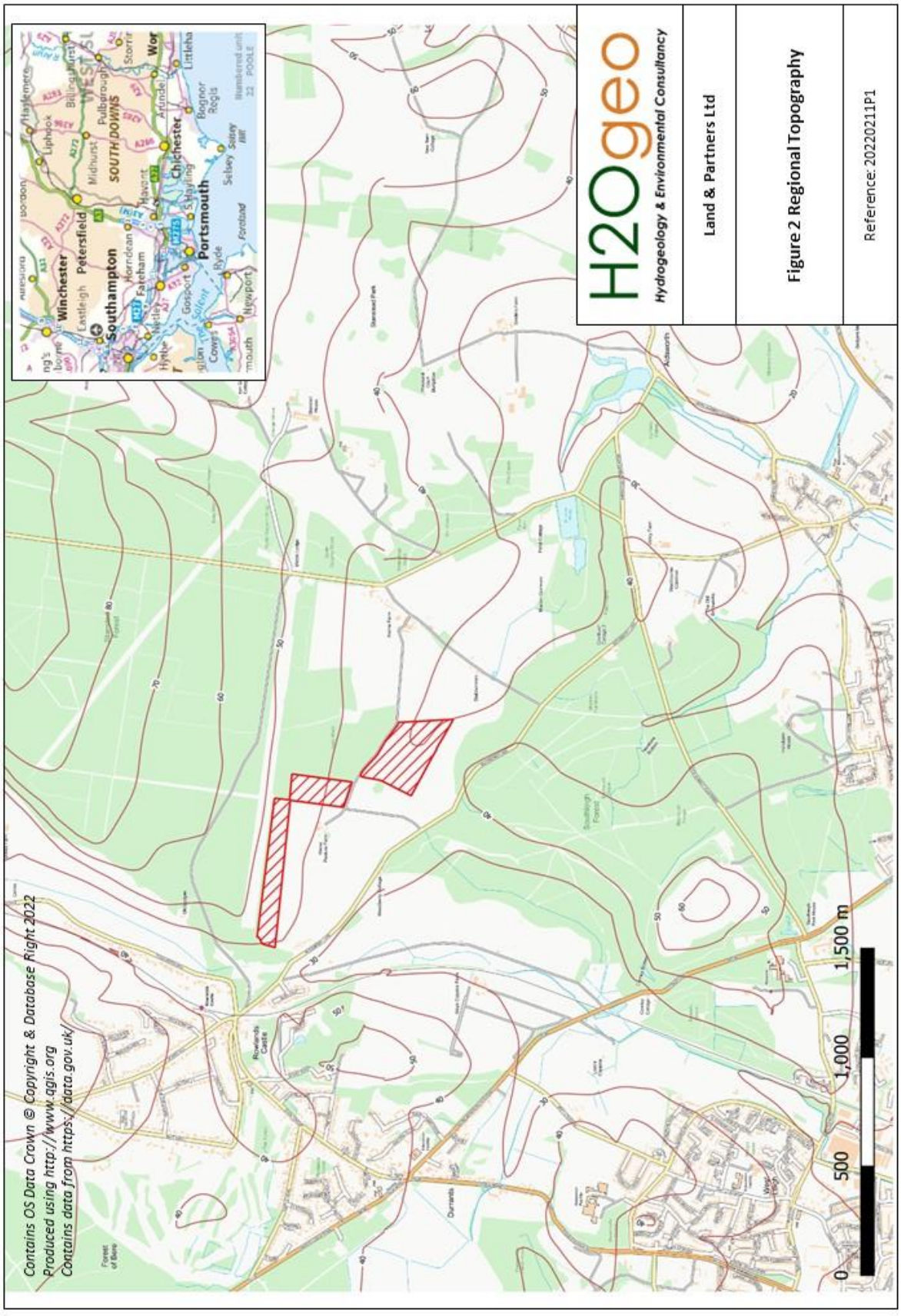


Figure 3 Field Topography

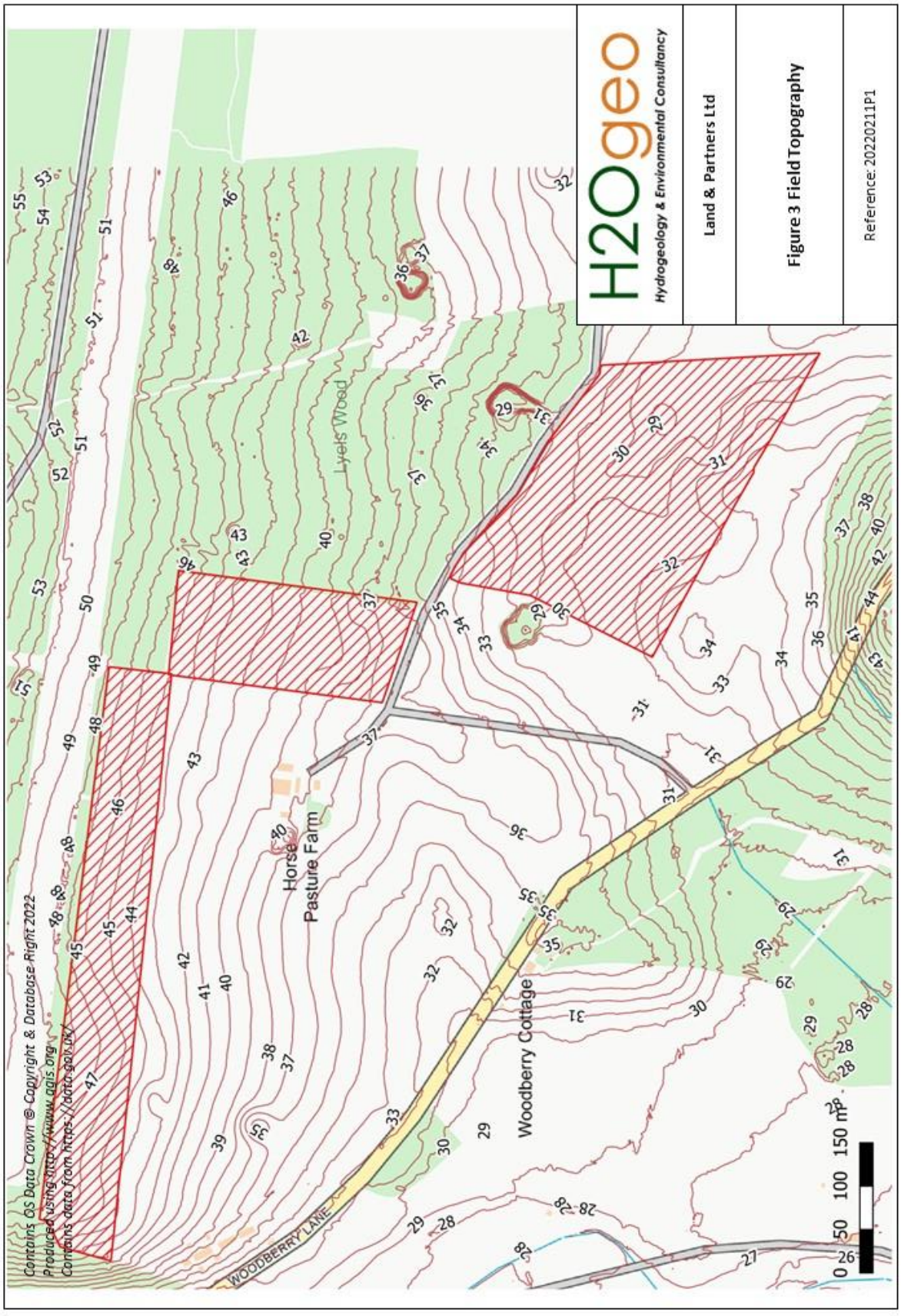


Figure 4 Geology

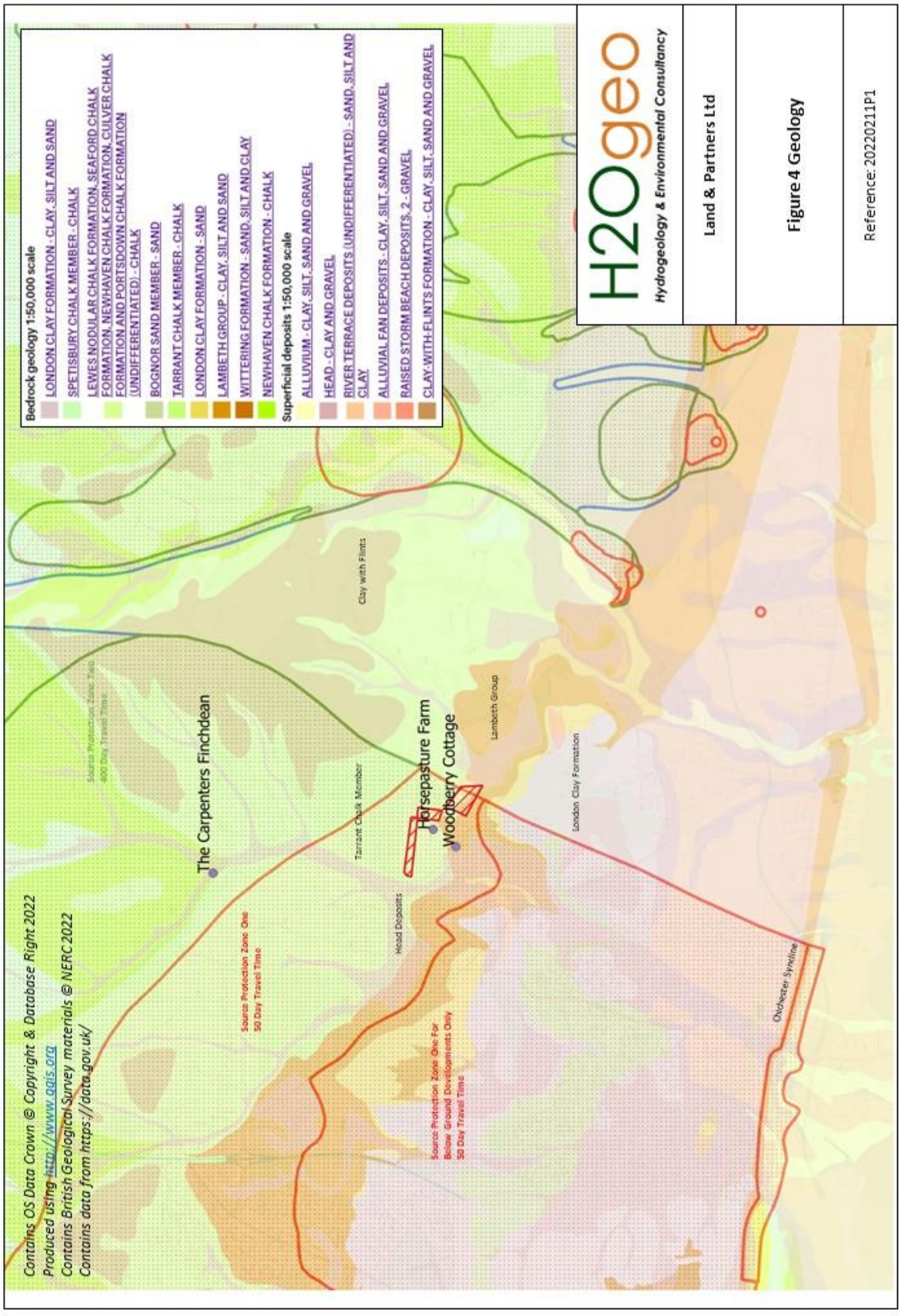


Figure 5 Hydrogeological Map

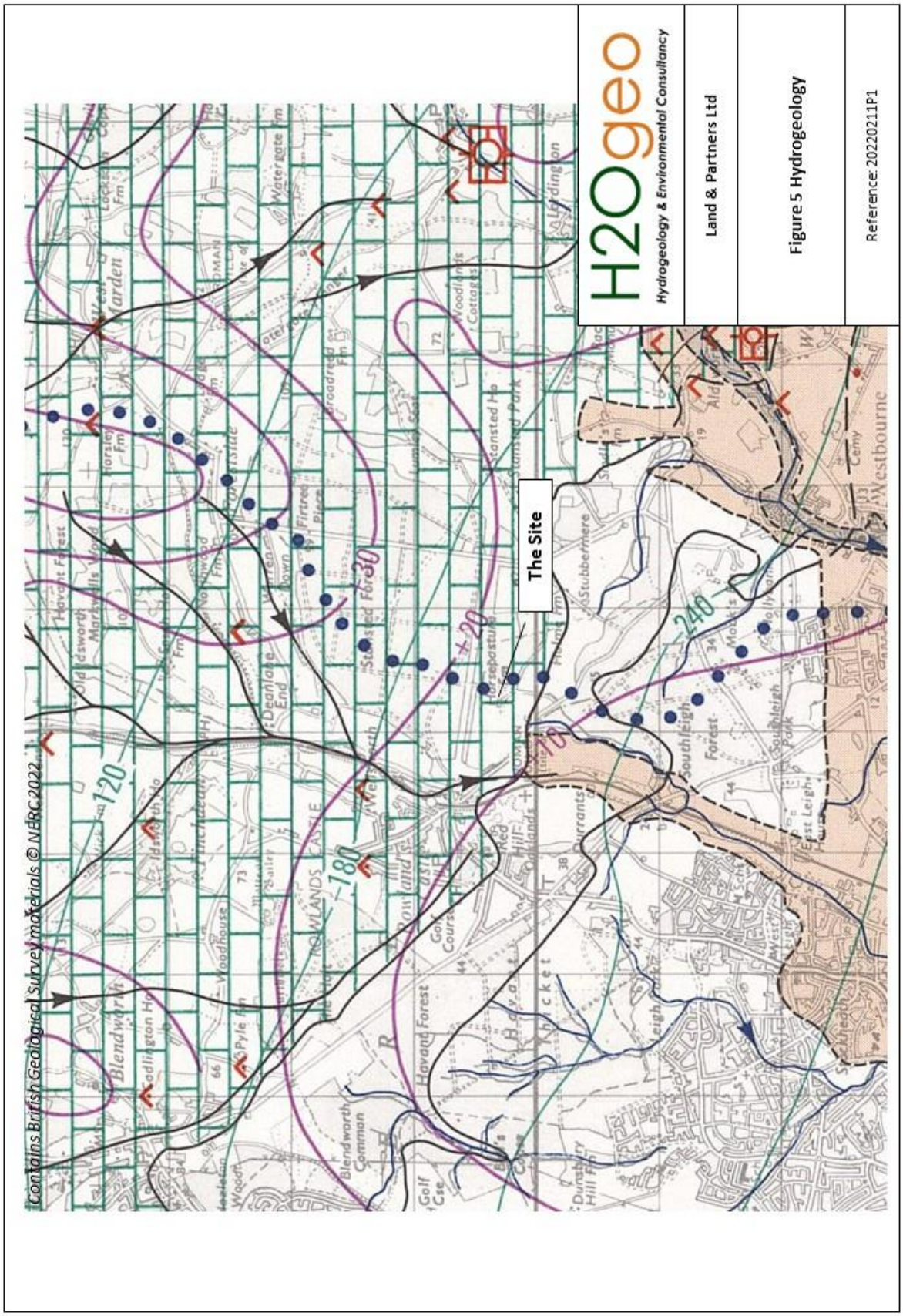


Figure 6 Lavant (Hants) & River Ems Catchments



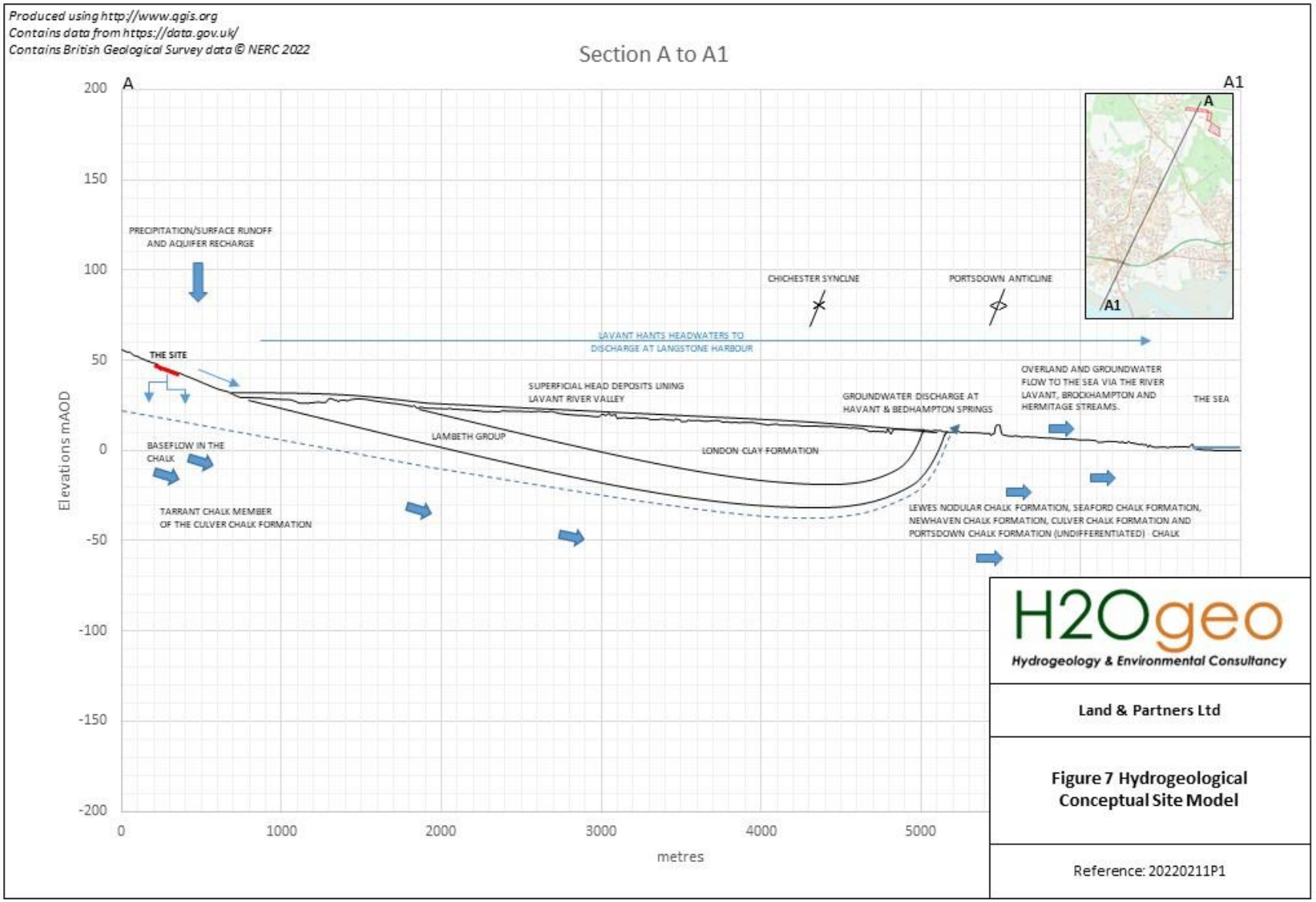
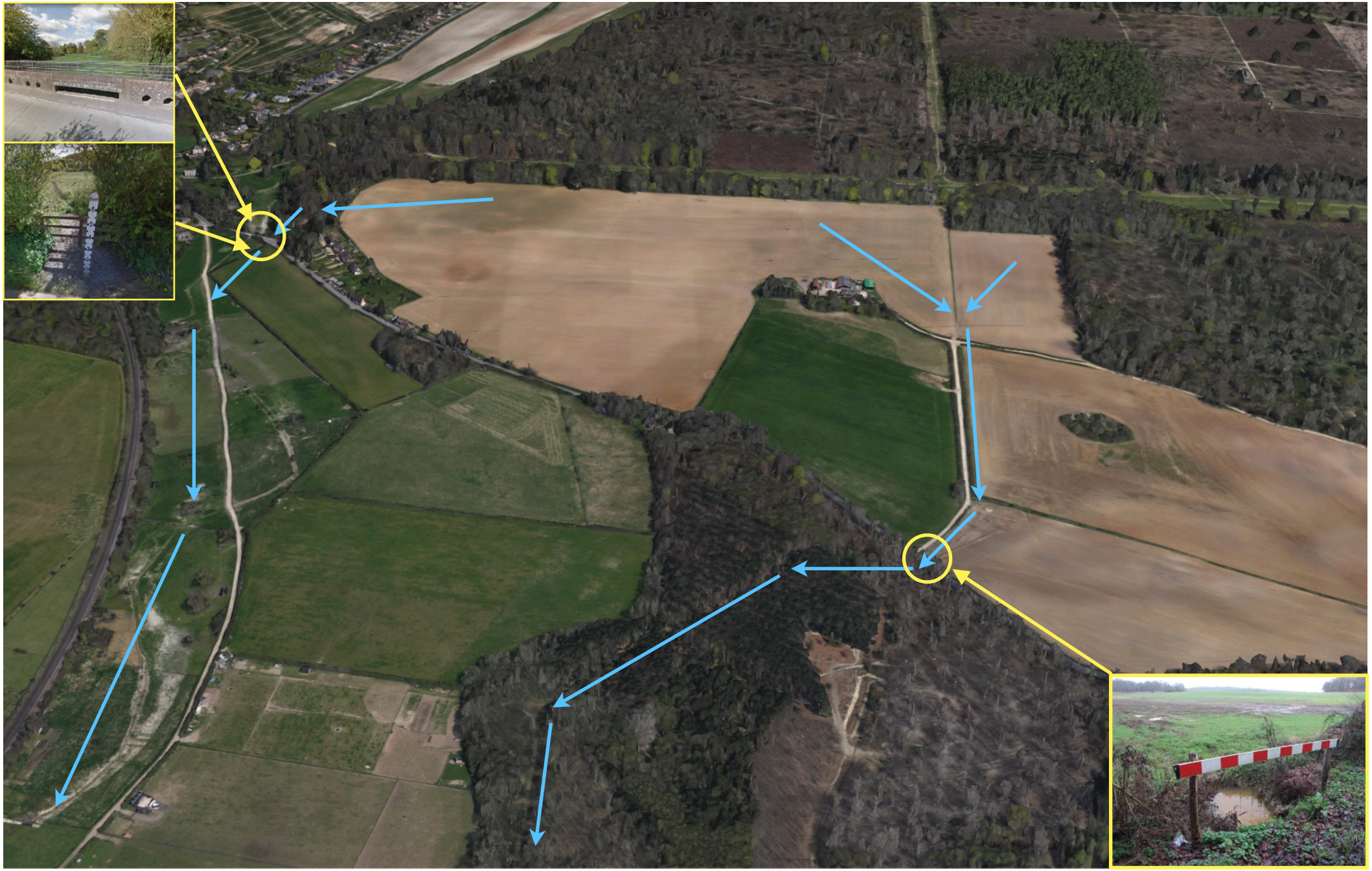
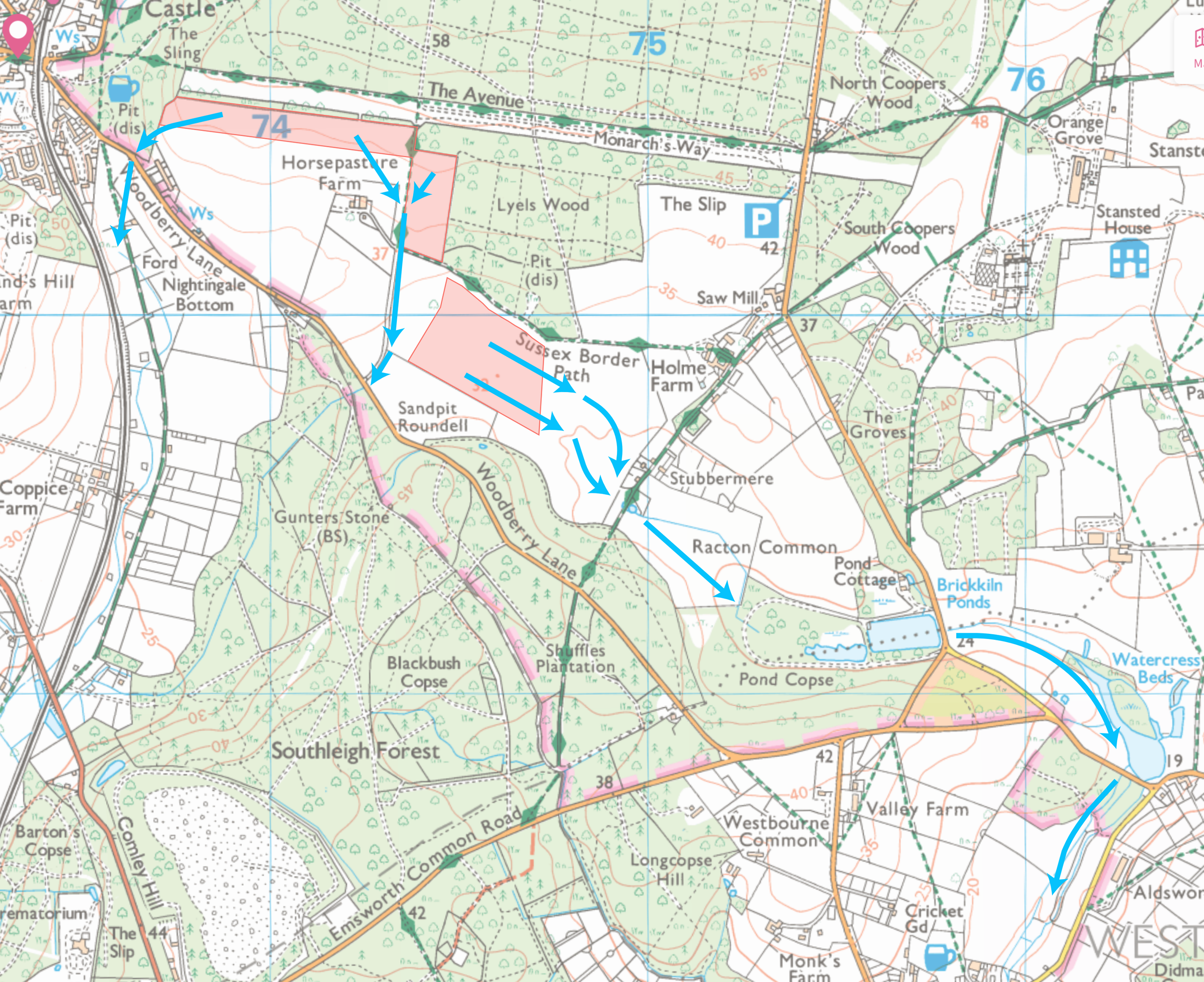


Figure 7 Hydrogeological Conceptual Site Model

10 Annexes

Annex A Client Drawings




Castle
The Sling
Ws
58
75
76
Pit (dis)
The Avenue
74
Monarch's Way
North Coopers Wood
Orange Grove
Horsepasture Farm
Lyels Wood
The Slip
P
42
South Coopers Wood
Stansted House
Woodberry Lane
Ford
Nightingale Bottom
Pit (dis)
Saw Mill
37
Sussex Border Path
Holme Farm
Sandpit Roundell
The Groves
Stubbermere
Coppice Farm
Gunters Stone (BS)
Racton Common
Pond Cottage
Brickkiln Ponds
Watercress Beds
Shuffles Plantation
Blackbush Copse
Pond Copse
Southleigh Forest
Barton's Copse
Comley Hill
Emsworth Common Road
Longcopse Hill
Westbourne Common
Valley Farm
Cricket Gd
Monk's Farm
The Slip
44
38
42
24
19

APPENDIX 5: BIODIVERSITY ENHANCEMENT MANAGEMENT PLAN



Long Copse Lane
Biodiversity Enhancement Management Plan (BEMP)
Land and Partners Ltd
01 March 2022

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CONTENTS

1	**Introduction**	**3**
2	**Legislation and Policy**	**4**
3	**Existing Biodiversity Features and Development Impact**	**6**
4	**Management Plan**	**9**
5	**Management, engancement and monitoring plan (January 2022)**	**13**
6	**References**	**26**
Figure 1	**BEMP Zones**	**27**
Figure 2	**Offsite habitat creation**	**28**

	Project information
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Prepared by	Dr Ian Davidson-Watts MCIEEM
Reviewed by	Diane Davidson-Watts MCIEEM
Approved by	Land and Partners Ltd

1 Introduction

1.1 BACKGROUND

1.1.1 This report presents a Biodiversity Enhancement Management Plan submitted as part of an outline planning application for residential development on 14.6ha of land north of Long Copse Lane, Emsworth, Hampshire (hereinafter referred to as the 'site'. The site is centred on Ordnance Survey grid reference SU 747 079. The drafting of the BEMP was undertaken by Davidson-Watts Ecology Ltd on behalf of Land and Partners Ltd.

1.1.2 The site consists predominantly of grazed horse paddocks separated by hedgerows and fencing with training paddocks, small woodland copses and two residential properties with associated buildings.

1.1.3 The site is located north of the town of Emsworth, directly adjacent to suburban areas. The north and west of the site is bordered by Southleigh Forest, which comprises of ancient semi-natural woodland, planted ancient woodland, secondary broadleaved woodland and plantation woodland. The land to the east of the site is pastural and similar in nature to the site. The wooded landscaped grounds of Hollybank House and a small pasture field lie to the west of the site. The Longacre house lies between the site and Long Copse Lane, wrapped on three sides by the application site'

1.1.4 The site forms the main land parcel of a housing allocation (Policy H8) in the Submission version of the emerging Havant Borough Local Plan. The site was also formerly identified as falling within a suitable housing site for early release in the Havant Borough Council Local Plan Housing Statement (Site UE76). A comprehensive masterplan for the whole allocation (16.9ha) has been prepared as required by Policy H8 and of the 260 dwellings anticipated within the masterplan area, around 210 are expected to come forward within the planning application site. The illustrative masterplan is shown in Figure 3.

1.2 PURPOSE OF THE BEMP

1.2.1 This Biodiversity Enhancement Management Plan (BEMP) has been produced in support of the outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved (Planning Reference APP/21/00893).

1.2.2 As this BEMP is in support of an outline planning application, further detail will be submitted and approved as part of the detailed design of the development prior to commencement.

1.2.3 The BEMP details the measures proposed to mitigate the effects of the Proposed Development on biodiversity receptors (i.e. habitats and species), and details the measures to be undertaken to enhance the biodiversity value of the Site.

1.2.4 The Proposed Development has been designed, as far as is practicable, to avoid or reduce effects on landscape and biodiversity features through development design and impact avoidance. These include measures to avoid impacts on protected species to ensure compliance with legislation.

1.3 AIMS OF THE BEMP

1.3.1 The BEMP report aims to:

a) Describe and evaluate the biodiversity features to be managed, including the location and details of biodiversity enhancements.

b) Outline the objectives of management for the site and associated management Zones.

c) Describe the management prescriptions or actions to meet those objectives

e) Set out those responsible for implementation of the plan

2 Legislation and Policy

2.1 OVERVIEW

2.1.1 Relevant legislation and planning policy applicable to the ecology features of the Proposed Development is listed in this section. Further details for the prevailing legislation can be found in the Ecological Impact Assessment (EcIA) (Davidson-Watts Ecology Ltd, 2021)

2.2 2.2 LEGISLATION

2.2.1 2.2.1 The following legislation has been considered in preparing this BEMP and will be considered in the preparation of the final BEMP:

- Conservation of Habitats and Species Regulations 2019 (as amended) (the Habitats Regulations);
- Wildlife and Countryside Act (WCA) 1981 (as amended);
- Countryside & Rights of Way Act 2000 (as amended);
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended); and
- Animal Welfare Act 2006.

2.3 PLANNING POLICY

2.3.1 The National Planning Policy Framework (NPPF) (2021) Chapter 15 outlines out how the planning system should contribute to and enhance the natural and local environment by protecting sites of biodiversity, recognising wide benefits from natural capital, minimising impacts on and providing net gains for biodiversity. If a proposed development would result in significant harm to the natural environment, Site of Special Scientific Interest or irreplaceable habitats which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused (Paragraph 180a and b). Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design,

especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate (Paragraph 180c).

2.3.2 E14 | The Local Ecological Network

2.3.3 All development in Havant Borough is expected to protect, conserve and enhance the Borough's Local

2.3.4 Ecological Network. Planning permission will only be granted where:

a. The development results in biodiversity net gain;

b. The development avoids the fragmentation of the Local Ecological Network including across administrative boundaries;

c. The applicant has identified and assessed the level of ecological value of the site through adequate and proportionate information and any matters arising have been addressed through an avoidance or mitigation plan; and

d. Any necessary mitigation plan includes provision for ongoing management and maintenance. In addition to the above, priority habitats in the Borough are afforded protection by specific nature conservation designations. Development proposals which could affect a designated site will need to consider the impact and respond appropriately.

2.3.5 Para 5.158 - In line with national policy, the Council expects development proposals to achieve a net gain in biodiversity on the site and where appropriate the surrounding area.

2.3.6 5.159 The Council encourages pre-application discussions to address any issues at an early stage and to determine potential mitigation measures.

2.3.7 5.160 Almost any development can achieve biodiversity net gain. Even small developments can include the use of design features to integrate biodiversity attributes into the building itself. At least every new dwelling, or commercial developments that involve the construction of a new building can include boxes or bricks for bats and birds, and other features can additionally be incorporated within larger developments. Further guidance on how to do this and the kinds of products that are available is in the Biodiversity Strategy.

2.3.8 5.161 DEFRA's Biodiversity Metric is one method of calculating net gain. The metric is reliant on up-to date ecological information and may require specialist ecological knowledge to complete. The Council encourages pre-application discussions to determine potential methods for calculating biodiversity net gain.

2.4 OTHER GUIDANCE

2.4.1 Other guidance that provides relevant context includes:

- UK Post - 2010 Biodiversity Framework;
- Biodiversity 2020 – A strategy for England's wildlife and ecosystem services; and
- Local Biodiversity Action Plan (LBAP) for Hampshire.

2.5 BIODIVERSITY OFFSETTING METRIC

2.5.1 Local and national guidance on biodiversity offsetting has been used to calculate the biodiversity losses and gains as a result of the Proposed Development as described in this Plan. Metric V2.0 has been used as the Ecological Impact Assessment was developed prior to the roll out of V3.0.

3 Existing Biodiversity Features and Development Impact

3.1 OVERVIEW

3.1.1 The following ecological features have been identified on site. This information is taken from the Ecological Impact Assessment (Davidson-Watts Ecology Ltd 2021) which was undertaken in support of the application for outline planning permission.

3.1.2 The majority of the site is dominated by species poor improved and semi-improved grassland, this habitat and buildings form the majority of the directly affected development area. These habitats also have the least biodiversity value.

3.1.3 The following habitats have been identified with high biodiversity value and will either be retained, or impacts minimised in line with the mitigation hierarchy. Their descriptions are provided below.

- five hedgerows,
- two ponds
- two small broadleaved woodland copse to the south of the site, as well as Hollybank Woods adjacent to the site boundary to the north.

Ponds

3.1.4 Two ponds have been confirmed within the site boundary. A small pond is located within Colman's Copse, which is shallow with no associated aquatic vegetation and is approximately 80% shaded. There is also a garden pond at the Old Dairy Farm which is a manmade pond with a butyl liner. This pond is surrounded by amenity grassland and located close to a boundary hedgerow. There are minimal marginal and emergent plants with 20% shade from the adjacent hedgerow.

Hedgerows

3.1.5 There are five sections of hedgerow across/on the site which are all intact and form the paddock boundaries. All are species poor (dominated by hawthorn *Crataeugus monogyna*) with tall ruderal vegetation at the base where access is not available for horses to graze. The central hedgerow features low numbers scattered trees including oak and features no signs indicative of management.

Broadleaved Woodland and Trees

3.1.6 Two small broadleaved woodland copses are present within the site boundary. The copse to the east of Hollybank access road is dominated by silver birch *Betula pendula* and oak *Quercus robur*.

3.1.7 The copse in the south-west corner, known as Colman's copse is approximately 60m by 70m and is dominated by mature oak and semi-mature white poplar *Populus alba* with occasional semi-mature hawthorn, blackthorn *Prunus spinosa*, ash *Fraxinus excelsior* and horse chestnut *Aesculus hippocastanum*. Larger trees within the copse feature low to moderate ivy cover and there are several fallen trees. Dense growth of bramble and holly bush surround the northern and eastern woodland copse edge

3.1.8 Hollybank Woods is offsite to the north and west of the site. Parts of the woods (although none immediately adjacent to the Site) are designated as a SINC. Parts of the woods (including an area of woodland immediately north of the Site) are semi-natural ancient woodland.

3.1.9 The southern boundary to Long Copse Lane is predominantly a scrub and tree line (oak, ash, sycamore *Acer pseudoplatanus*, goat willow *Salix capraea* and bramble *Rubus fruticosus*).

3.1.10 To the north of Hollybank Farm is a small cluster of semi-mature and mature trees located to the rear of the garden area, which includes mature oak and ash trees.

3.2 HABITATS ADJACENT TO THE DEVELOPMENT FOOTPRINT

3.2.1 The site is located adjacent to a large forest area consisting of planted ancient woodland, ancient semi-natural woodland and secondary broadleaved woodland to the north and west (Southleigh Forest and Hollybank Wood). Parts of these forest areas are designated as local wildlife sites.

3.2.2 A forest stream/drain out of Southleigh Forest that flows west to east occurs on the northern boundary of the site and continues away from the site at the site's northeast corner before flowing south-east to the River Ems. This drain/stream is well vegetated by trees and woodland and provides and important ecological link to the wider riverine habitats of the River Ems corridor.

3.3 SPECIES

3.3.1 The primary ecological importance of the site is the presence of a breeding population of Bechstein's bats, that predominantly use Southeligh Forest on the northern boundary of the site for roosting and foraging. A maternity roost was for this species was found in Coleman's Copse in 2009.

3.3.2 The northern and eastern boundary of the site provides an important connection to other roosting, foraging, and commuting habitats that this population uses to the east and south of the site.

3.3.3 The presence of another 10 bat species on the site is also important, this includes barbastelle and also likely to include Alcathoe bat, although the majority of species that dominate the site are relatively common and abundant in Hampshire and the UK (i.e. *Pipistrellus* spp).

3.3.4 Soprano pipistrelle bats were confirmed as day roosting in one of the buildings and has legal implications prior to site development.

3.3.5 The other species present that require consideration at the local level include dormice, that use the woodland boundaries of the site, and three red list bird species (starling, song thrush and house sparrow) and one amber list bird species (Dunnock) that are breeding on the site.

3.3.6 Reptile populations and other nesting birds generally are assessed to be important at the site level, although direct impacts on these taxa have legal implications prior to development under the Wildlife and Countryside Act 1981 (as amended).

3.4 DEVELOPMENT IMPACT

3.4.1 The proposed development masterplan has embedded mitigation within the design to avoid direct ecological impacts where possible and manage indirect effects. This includes the retention all significant areas of broadleaved woodland, the retention of approximately 40% of existing onsite hedgerows, and the retention of treelines on the boundaries.

3.4.2 The primary habitat impacts will be on the species poor grasslands that occur over the majority the site from the construction of the residential development.

3.4.3 The main residual impacts identified are direct impacts to bats, breeding birds, dormice and reptiles from construction, and potential indirect impacts to these species (in particular Bechstein's and other rare bat species), using the adjacent forest areas post construction.

3.4.4 The primary mechanism to ensure the protection and conservation status of Bechstein's and other bat species, dormice, reptile and bird species, are the provision of large buffers between the development (average 35m) and adjacent forest habitats have been designed to provide dark corridors, sustainable drainage systems and public space, as well as increasing wildlife habitat and the management of disturbance. Furthermore, additional off-site woodland creation is being undertaken within the home ranges of the local Bechstein's bat population as further enhancement.

4 Management Plan

4.1 STRUCTURE OF THE BEMP

4.1.1 The BEMP is the primary document that pulls together the combined mitigation obligations to deliver the biodiversity. This section is a standalone document that can be referred to onsite and updated as required.

4.1.2 The BEMP remains high level and details the primary mitigation and enhancement measures necessary to address the ecological impacts of the proposed development. The BEMP will be developed further to take account of any planning obligations, masterplan changes, consultee feedback arising from the planning application process. Further detailed plans, including landscape

4.2 MANAGEMENT ZONES

4.2.1 The site has been divided in to four broad management zones which are described in section 5 below, and are as follows (see Figure 1):

- Zone A – (3.537 ha) primary retained habitat, mitigation, and biodiversity enhancement zone.
- Zone B – (2.235 ha) secondary retained habitat, mitigation, and biodiversity enhancement zone
- Zone C – (8.653 ha) the primary development area
- Zone D – Off site biodiversity enhancement/habitat creation area

4.2.2 Each management zone will have its own specific objectives and prescriptions or actions to contribute to the delivery of the BEMP aims and related planning obligations and where appropriate any species licensing requirements.

4.3 ROLES AND RESPONSIBILITIES

Site operator (SO)

4.3.1 The site operator/owner will be responsible for implementing the measures described within this report, including appointment of suitably experienced ecologists and for reporting the results of management and monitoring measures to the Local Planning Authority.

Ecological Clerk of Works (ECOW)

4.3.2 An ecological clerk of works will be appointed by the site operator to oversee the mitigation and monitoring set out in this document.

Licence Supervision (LS)

4.3.3 Mitigation works undertaken as part of a European Protected Species Mitigation Licences will be supervised by the Named Ecologist on the licence or their accredited agents, this could be the ECOW where qualified.

4.4 HABITAT MITIGATION AND COMPENSATION OVERVIEW

4.4.1 The adjacent forest habitats of Southleigh Forest and Hollybank wood, along with the eastern and southern boundaries, will be protected by a buffer from the main development area of between 20 and 40m in Zone A. This will provide an important buffer to protect the forest habitats from dust, noise and lighting as a result of construction activities and provide approximately 3.3ha of multiuse (recreation, biodiversity etc) space during the operational phase, including specific biodiversity areas of 0.32 ha that will be non-accessible, primarily on the northern buffer. The buffer zones in Zone A will build on the woodland edge habitat that currently exists, providing for further predominantly woodland planting with a grassland/scrub mosaic (for public use) and siting of treelines and hedgerows to screen the buffers from artificial lighting from the main development area.

4.4.2 Also within Zone A and parts of Zone B will be the creation of seven wetland and pond habitats within the buffer zones and as part of the sustainable urban drainage system (SUDs).

4.4.3 The anticipated loss of 259m of hedgerow in the centre of the proposed development site will be compensated by the establishment of at least 275m of hedgerow within Zone A and Zone B using a species rich native tree/hedgerow mix (six tree species per 30m).

4.4.4 The 13 felled trees will be compensated with further trees and shrubs being established in Zones A to C with biodiversity focussed tree planting within Zone A and Zone B.

4.4.5 The establishment of these habitats will provide for a high biodiversity component in Zones A and B and will provide and overall on-site biodiversity net gain of 3.2 ha. The habitats will support the range of birds, reptiles, bats specifically (including the rare Bechstein's bat).

4.4.6 Further habitat gain will be achieved through the provision of 9.5 ha's of woodland planting agreed with the Stansted Estate for address nutrient off setting requirements and Bechstein's bat connectivity opportunities.

4.5 SPECIES MITIGATION AND COMPENSATION

Bats

4.5.1 A key biodiversity mitigation objective of proposed development is the protection and enhancement of habitat for Bechstein's bat. Bechstein's bats use the northern and eastern boundaries as commuting and foraging habitat. They have also been recorded roosting in Colman's copse. Therefore, the buffer zones in these areas have been designed primarily to provide dark vegetated flight corridors for Bechstein's bats to ensure their existing commuting and foraging habitat are not indirectly affected by the proposed developed e.g. lighting.

4.5.2 The principles of the Trowbridge Bat Mitigation Strategy (John's Associates 2020) which were developed specifically to address Bechstein's bat and other Annex 2 bats species, have been used a guide in the design of the buffers in Zone A on the northern, eastern and western boundaries of the site. The designed buffers provide for an average of 30-35m width and the management/control of artificial light levels to less than 1 lux at the development side of the buffer, reducing to 0.2 lux in the bat habitat corridors.

4.5.3 As well as Bechstein's bat which is one of the most sensitive species to indirect impacts, the proposed buffer and lighting management mitigation will provide for the remaining bat assemblage including barbastelle and alcathoe bat and dormouse populations which are also affected by these impacts.

4.5.4 The soprano pipistrelle bats that day roost in the Hollybank Farmhouse will require specific mitigation under a Natural England licence, prior to the demolition of this building. The loss of the roost will be mitigated through the erection of bat boxes within the nearby western buffer habitats on retained trees, and also bat access points in the roof of a new dwelling in a similar location to the current roost with direct access to Hollybank wood.

Dormice

4.5.5 The dormice distribution for from the surveys were found in areas of woodland bordering the site in Zone A. As part of the biodiversity management of the buffer habitats provided for within the masterplan, the establishment of further woodland and scrub/hedgerow habitats will increase the available habitat for this species in the areas they currently occur.

Birds

4.5.6 The habitats outlined in habitat mitigation section will aim to provide an increase in suitable foraging habitats and scrub for nesting habitat for many of the breeding bird species found on the site. Additionally, the gardens of the new dwellings will offer further habitat for nesting and foraging birds currently recorded on site.

4.5.7 Specific mitigation for starlings and house sparrows will also include species-specific nest boxes in the eaves of new buildings (i.e. garages/houses) close to existing territories and adjacent to buffer zones.

Reptiles

4.5.8 The majority of reptiles are located in the proposed buffer areas in Zone A, and these taxa will be provided for with the grassland, scrub and woodland habitats created in this area. The wetland habitats will be particularly beneficial for grass snakes.

4.5.9 However as protected species, reptile occurrence in the hedgerows, tall ruderal and log piles/dung heap habitats being removed for the development cannot be ruled out (i.e. around the built habitats of Zone B and Zone A). As part of the construction schedule of works, a habitat manipulation approach to reducing the available habitat for reptiles in the areas affected and increasing suitable habitat in the adjacent buffers will be adopted. Habitats will be retained where possible in these Zones and created in line with Figure 1.

4.5.10 Any vegetation removal works will be undertaken under ecological supervision and log piles and other suitable habitats dismantled. Where any animals are found they will be moved to the nearest suitable buffer habitat.

4.6 ENHANCEMENT

4.6.1 The following approaches have been used to support the development of BNG for this development proposal.

1. On site biodiversity net gain using Natural England's Biodiversity Metric 2.0

2. Off-site biodiversity net gain using Natural England's Biodiversity Metric 2.0

3. Onsite species-specific enhancements.

4.6.2 Onsite and offsite habitat enhancements are summarised provided in the tables below.

On-site	Baseline		Post development on site		Onsite Change		Overall Change	
Habitat group	Existing area	Existing value	Plot Area area	Proposed value	Area change	Onsite Unit change	Area change	Unit change
Cropland	0.0	0.0	0.0	0.0	0.0	0.0	-9.6	-19.2
Grassland	9.0	18.3	-6.4	-2.6	-15.5	-20.9	-15.5	-20.9
Heathland and shrub	0.5	4.2	0.1	1.2	-0.4	-3.0	-0.4	-3.0
Rivers and lakes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Urban	1.0	1.0	9.7	20.7	8.7	19.7	8.7	19.7
Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Woodland and forest	0.0	0.0	0.3	0.9	0.3	0.9	9.9	24.3

Off-site	Baseline		Post development Off-site		Off-site Change	
Habitat group	Existing area	Off-site Existing value	Plot Area Proposed area	Off site Proposed value	Area change	Offsite Unit change
Cropland	9.6	19.2	0.0	0.0	-9.6	-19.2
Grassland	0.0	0.0	0.0	0.0	0.0	0.0
Heathland and shrub	0.0	0.0	0.0	0.0	0.0	0.0
Rivers and lakes	0.0	0.0	0.0	0.0	0.0	0.0
Sparsely vegetated land	0.0	0.0	0.0	0.0	0.0	0.0
Urban	0.0	0.0	0.0	0.0	0.0	0.0
Wetland	0.0	0.0	0.0	0.0	0.0	0.0
Woodland and forest	0.0	0.0	9.6	23.4	9.6	23.4

4.6.3 The headline results for BNG are provided below:

On-site baseline	*Habitat units*	23.63
	Hedgerow units	2.32
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	43.65
	Hedgerow units	2.58
	River units	0.00
Off-site baseline	*Habitat units*	19.20
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	23.37
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	*Habitat units*	24.20
	Hedgerow units	0.26
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	*Habitat units*	102.41%
	Hedgerow units	11.27%
	River units	0.00%

5 Management, enhancement and monitoring plan (January 2022)

5.1 INTRODUCTION

5.1.1 This part of the BEMP is designed to be a detachable working document, that can be edited, revised and updated throughout the lifetime of the development activities and subsequent operational phase.

5.1.2 Its format is Zone based, outlining the specific ecological interest, management objectives, management prescription/actions to be undertaken, and by who, and the expected ecological outcome where relevant. To ensure a consistent review cycle, monitoring of each prescription to assess the effectiveness against the objective and expected ecological outcome is also included in the table.

5.1.3 The relevant Mitigation Zones are shown in Figure 1. As this BEMP has been developed as part of the outline planning application process and therefore will be subject to change where any planning obligations, consultee responses and further planning applications (e.g. reserved matters) are progressed. More detailed planting and landscaping plans will be developed to detail specific mitigation and enhancement. However, it this stage the BEMP should be read in conjunction with the following documents:

- Masterplan SK1 Rev S
- Landscape plan
- Lighting Technical Note (Jan 2022) - WSP
- CEMP

5.1.4 Overall responsibility for the implementation of the management plan rests with the Site Operator/Owner (SO). However, to ensure the appropriate skills and technical or legal requirements are met, for certain prescriptions, either an Ecological Clerk of Works (ECOW), or Licensed Supervisor (LS) have been named as having responsibility where appropriate.

5.2 ZONE A (3.537 HA)

Biodiversity Interest

5.2.1 Zone A currently consists of retained woodlands including Colemans copse, individual trees, tree lines on the eastern boundary, woodland edge on the northern boundary. The majority of the proposed buffer is dominated by species poor grassland habitats with patches of tall ruderal vegetation.

5.2.2 Species currently using Zone A include reptiles and dormice (in the woodland edge) and bats (specifically Bechstein's bats) which are using the northern and eastern boundaries of the site and Coleman's copse for foraging, roosting and commuting. Reptiles and a range of bird species are also utilising the existing habitats of woodland edge, scrub, tall ruderal and grassland habitats in Zone A.

Objectives

5.2.3 Retention and protection of Coleman's copse, individual trees, the adjacent ancient woodland edge habitats to the west and north, and retention of the intact/continuous tree line to the east of the site.

5.2.4 Creation of 3.2ha of mixed-use biodiverse habitats including broadleaved woodland, scrub, wildflower grasslands for dormice, bats, reptiles and birds and where appropriate recreation. Including 0.32 ha of wildlife reserve area.

5.2.5 Ensure the continued use and enhancement of commuting and foraging bats along the northern and eastern boundaries, especially for Bechstein's bat.

5.2.6 Ensure the protection and enhancement of Coleman's copse for roosting and commuting Bechstein's bats.

5.2.7 Contribute to the prevention of unmanaged of public access to ancient woodlands to the north and west of the site.

ZONE A Prescriptions

Relevant objective	**Action**	**Responsibility**	**Timing**	**Expected ecological outcome (EEO)**	**Performance indicator**
5.2.3 5.2.4 5.2.5 5.2.6	Creation and delineation of 20-40m wide buffer in Zone A between woodland edge and development area, including the delivery of the bat dark corridors as part of the management of artificial lighting effects on nocturnal wildlife (see Lighting technical note WSP 2022).	SO	Prior to construction. Establishment 5 years – grassland, scattered scrub 10 years – dense scrub 25 years – immature woodland	Buffers in Zone A will provide the primary biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Buffers in Zone A will ensure the artificial light levels within the buffer zone remain sufficiently dark to allow bats to continue to utilise the area	Establishment of biodiversity buffer areas in line with obligations and confirmed by ECOW following establishment. Lighting monitoring confirms the lux levels of 0.2 lux within the bat corridor and no more than 1 lux at the buffer boundary following construction. Biodiversity monitoring of buffer habitats.
5.2.4 5.2.5	Habitat creation and planting plans to be developed with detailed landscaping plan.	SO/ECOW	Prior to reserved	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.

5.2.6	Including maintenance requirements.		matters application		
5.2.4 5.2.5 5.2.6	Habitat creation to deliver native woodland species mix to reflect, complement and extend the adjacent semi-natural broadleaved woodland including: 1. Woodland areas – oak/ash hazel/hawthorn/holly 2. Scrub – hawthorn/holly and bramble 3. Grassland – Wild flower mix	SO/ECOW	Following reserved matters approval	Buffers in Zone A will provide the primary biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Providing habitat for , invertebrates, reptiles, birds, dormice and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species (Dormice, reptiles, birds and bats) showing presence/utilisation of habitats.
5.2.4 5.2.5	Establishment of four wetland areas as component of the SUDs plan. The SUDs will comprise of native wetland plants.	SO/ECOW	Following reserved matters approval	Delivery of biodiversity net gain for wetlands/ponds, amphibians, reptiles and invertebrate communities. Wetlands/ponds will provide drinking and	Habitat creation/SUDs delivered in line with approved planting and drainage plans. Biodiversity monitoring of habitats

				foraging habitats for bats and birds.	
5.2.7	Dense scrub (e.g. hawthorn, holly, bramble) to be established on the northern boundary as part of planting plans to deter unmanaged public access to Southleigh Forest.		Planting prior to construction. Effective 5-10 years	Prevention of indirect disturbance of biodiversity to Southleigh Forest from unmanaged public access.	Habitat and public access monitoring showing habitat barriers remain in place and no evidence of public access to Southleigh Forest from the northern boundary.

5.3 ZONE B (2.235 HA)

Ecological Interest

5.3.1 Zone B prior to development consists of the secondary biodiversity management area Broadleaved woodland, scattered trees and scrub, and species poor hedgerows border horse gazed paddocks.

Objectives

5.3.2 Retention and protection of existing woodland and trees and the retention and protection of approximately 40% of existing hedgerow through the construction phase.

5.3.3 Establishment of an east-west wildlife corridor and linking of retained woodland through additional habitat creation within the development area.

5.3.4 Management of Zone B for woodland, scrub, grassland habitats and connectivity for mobile species (bats, birds and hedgehogs).

5.3.5 Establishment of wildlife enhanced wetlands as part of SUDs plan.

ZONE B Prescriptions

Relevant objective	**Action**	**Responsibility**	**Timing**	**Expected ecological outcome (EEO)**	**Performance indicator**
5.3.2	Protection measures for retained hedgerows, woodland and trees during construction (see CEMP).	SO/ECOW	Prior to construction	Retention of habitats within the development area	Biodiversity monitoring prior to construction confirms protection measures in place.

5.3.3 5.3.4 5.3.5	Habitat creation and planting and maintenance plans to be developed with detailed landscaping plan. Including maintenance requirements.	SO/ECOW	Prior to reserved matters application	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.
5.3.3	Habitat creation to deliver native woodland species mix to semi-natural broadleaved woodland including: 4. Woodland areas – oak/ash hazel/hawthorn/holly 5. Scrub – hawthorn/holly and bramble Grassland – Wild flower mix	SO/ECOW	Following reserved matters approval	Provision of the biodiverse habitats to meet the key mitigation objectives of Zone A. Sem-natural grasslands Scrub/tall ruderal Woodland Providing habitat for, invertebrates, birds, hedgehog and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species showing presence/utilisation of habitats.
5.3.5	Establishment of three wetland areas as component of the SUDs plan. The SUDs will comprise of native wetland plants.	SO/ECOW	Following reserved matters approval	Delivery of biodiversity net gain for wetlands/ponds, amphibians, reptiles and invertebrate communities. Wetlands/ponds will provide drinking and foraging habitats for bats and birds.	Habitat creation/SUDs delivered in line with approved planting and drainage plans. Biodiversity monitoring of habitats

5.4 ZONE C (8.653 HA)

Biodiversity Interest

5.4.1 Dominated by species poor improved and semi-improved grassland and buildings containing known bat roosts. Areas of hedgerow and tall ruderal vegetation occur.

Biodiversity Objectives

5.4.2 Prevention of killing/injury and unnecessary disturbance of day roosting soprano pipistrelle bats using existing buildings.

5.4.3 Prevention of killing and injury to reptiles and disturbance to nesting birds through timing, habitat manipulation and translocation in areas of affected suitable habitat.

5.4.4 Biodiversity enhancement of public open space.

5.4.5 Provision of bird nesting and bat roosting opportunities in the built environment.

ZONE C Prescriptions

Objective	Action	Responsibility	Timing	Expected ecological outcome	
5.4.3	Site protection measures and barriers to identify retained habitats and trees (along with Zone B)	SO/ECOW	Prior to construction	Protection and retention of existing hedgerows and trees during construction activities	ECOW to confirm effective protection measures in place prior to works. Retained trees and hedge monitored monthly to ensure protection measures

					are effective throughout construction phase
5.4.3	Pre-development protected species surveys and where appropriate reptile translocation	ECOW	Prior to construction as part of CEMP. Timed for autumn.	Avoidance of direct harm to protected reptiles and nesting birds. Meet statutory requirements.	
5.4.2	Bat licence application and associated pre licence surveys for pipistrelle roost in existing building	ECOW	Surveys in most recent bat survey season. Licence application to be submitted 3 months prior to works, and generally timed for Autumn	Avoidance of harm to roosting bats and meeting favourable conservation status of pipistrelle bats. Meet statutory requirements.	
5.4.4 5.4.5	Habitat creation and planting plans to be developed with detailed landscaping plan.	SO/ECOW	Prior to reserved	Confirmation of areas and specifications of habitat creation.	Planting plans approved by LPA at reserved matters.

	Including maintenance requirements.		matters application		
5.4.4 5.4.5	Habitat creation to deliver native tree species, shrubs and semi-natural grassland for open spaces.	SO/ECOW	Following reserved matters approval	Provision of the biodiverse habitats to meet the key mitigation objectives of Zone C Semi-natural grasslands Native trees Providing habitat for, invertebrates, birds, hedgehog and bat foraging and commuting.	Habitat creation delivered in line with approved planting and landscape plans. Biodiversity monitoring of habitats and species showing presence/utilisation of habitats.
5.4.5	Installation of built environment mitigation to include 25 residences with bird (swallow cups, house sparrow boxes) nesting features and 20 residences with integral bat boxes/tubes or ridge access points. Location to be nearest biodiversity buffer habitats.	SO/ECOW	During house building phase	Provision of roosting and nesting enhancement and compensation	25 bird nesting and 25 bat roost features incorporated into residences. Confirmed through monitoring programme.
5.4.4 5.4.5	Installation of hedgehog access (hedgehog highways) in garden fences 13cm x 13cm	SO/ECOW	During house building phase	Hedgehog permeability through the development	ECOW sign off access point prior to house sale.

5.5 COMPARTMENT (AREA) D

Ecological Interest

5.5.1 Area D currently consists of arable/agricultural land adjacent to ancient woodland (see Figure x)

Objectives

5.5.2 Creation of offsite 1.6 bat specific mitigation broadleaved woodland habitat for Bechstein's bat connectivity between Stansted and Southleigh Forests.

5.5.3 Creation of 8 ha off site nutrient mitigation consistent of broadleaved woodland habitat.

ZONE D Prescriptions

Objective	Action	Responsibility	Timing	Expected ecological outcome	Monitoring
5.5.2	Creation and delineation of 1.5ha of woodland in line with concept (Figure 2)	SO/Landowner	Following outline planning permission Establishment 5 years – 10 years – dense scrub 25 years – immature woodland	Linkage of two major forest areas supporting ecological connectively of Bechstein's bat and other bat species. Net gain in broadleaved woodland and associated botanical, invertebrate, and vertebrate species.	Establishment in with obligations and confirmed by ECOW following planting Biodiversity monitoring of created habitats.

5.5.3	Creation and delineation of 8 ha of woodland in line with concept (Figure 2) for nutrient off setting	SO/Landowner	Establishment 5 years – 10 years – dense scrub 25 years – immature woodland	Delivery of the nutrient offsetting requirements to support conservation of coastal European sites. Net gain of broadleaved woodland habitat and associated botanical, invertebrate, and vertebrate species, including increasing overall foraging and long term roosting habitat for Bechstein's bat within colony home ranges.	Monitoring

5.6 MONITORING

5.6.1 The BEMP provides for a biodiversity monitoring programme with the following key objectives:

- Biodiversity monitoring the performance of habitat creation on site and within the buffers in line with BEMP objectives.
- Monitoring the performance of the construction programme in protecting retained habitats.
- Monitoring the use of species-specific mitigation such as the presence of breeding red list bird species, reptiles, dormice and bat species (specifically) Bechstein's bat.
- Monitoring of artificial light within the ecological buffers on the northern, eastern and south west boundaries.
- Monitoring the performance of offsite created habitats for Bechstein's bat and nutrient off setting.
- The monitoring programme to be undertaken over a period of approximately 20 years to ensure woodland creation is likely to be successful. However, many species/habitats specific monitoring will be between 1-10 years.
- Data obtained during monitoring will be used to adjust/modify mitigation where required to meet BEMP objectives.
- Pre-construction baselining for certain species will be required to build on existing datasets to ensure comparable analysis can be undertaken. From which it will be possible to draw objective conclusions as to the effectiveness of the biodiversity mitigation, compensation.

6 References

CIEEM (2019) Biodiversity Net Gain – Principles and Guidance for UK construction and developments.

HMSO The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

HMSO The Countryside and Rights of Way Act 2000.

HMSO Wildlife and Countryside Act 1981.

Lawton, J (2010). Making Space for Nature: A review of England's Wildlife Sites and Ecological Network. Report submitted to the Secretary of State, the Department for Environment, Food and Rural Affairs. London.

Figure 1 BEMP Zones

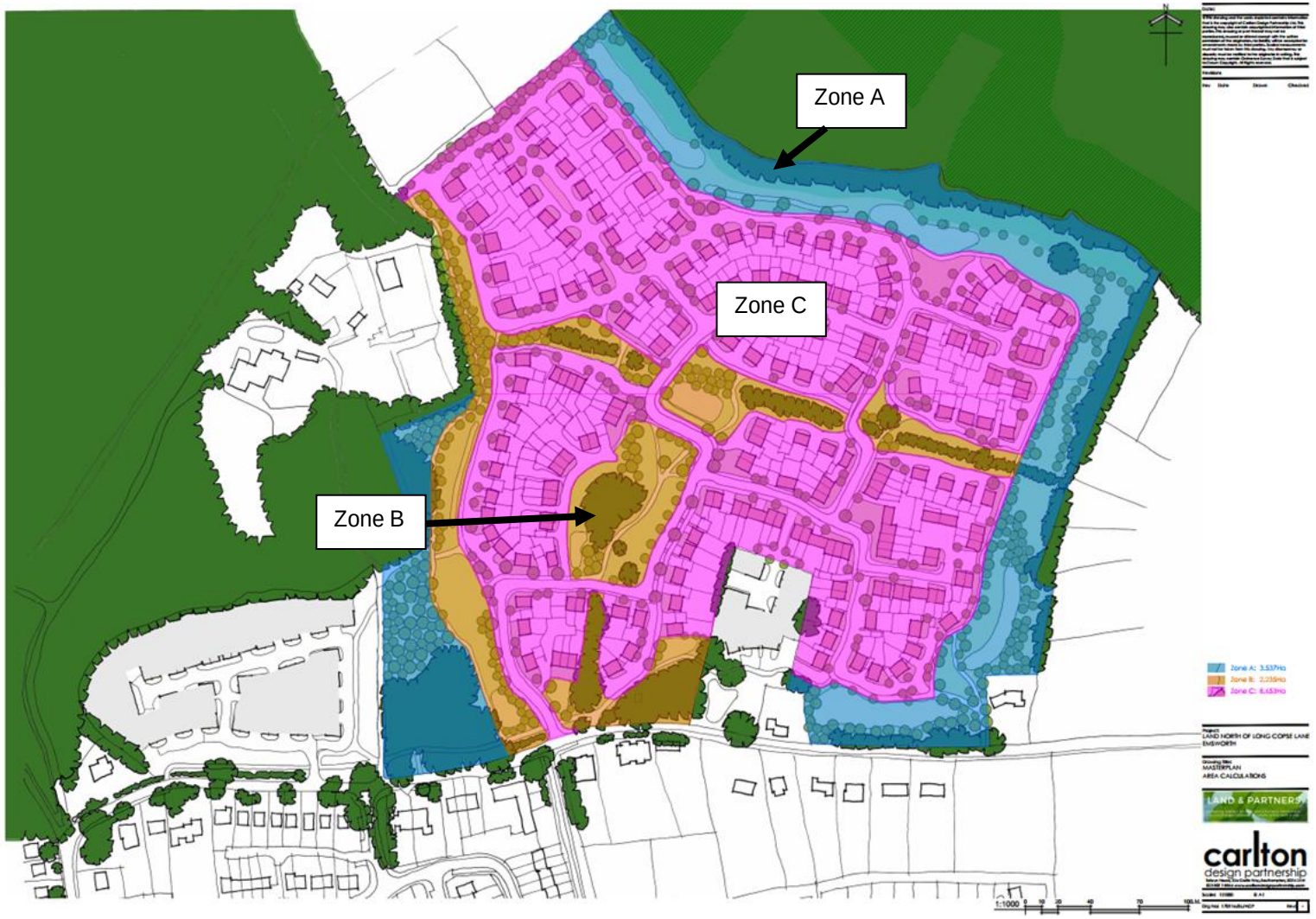
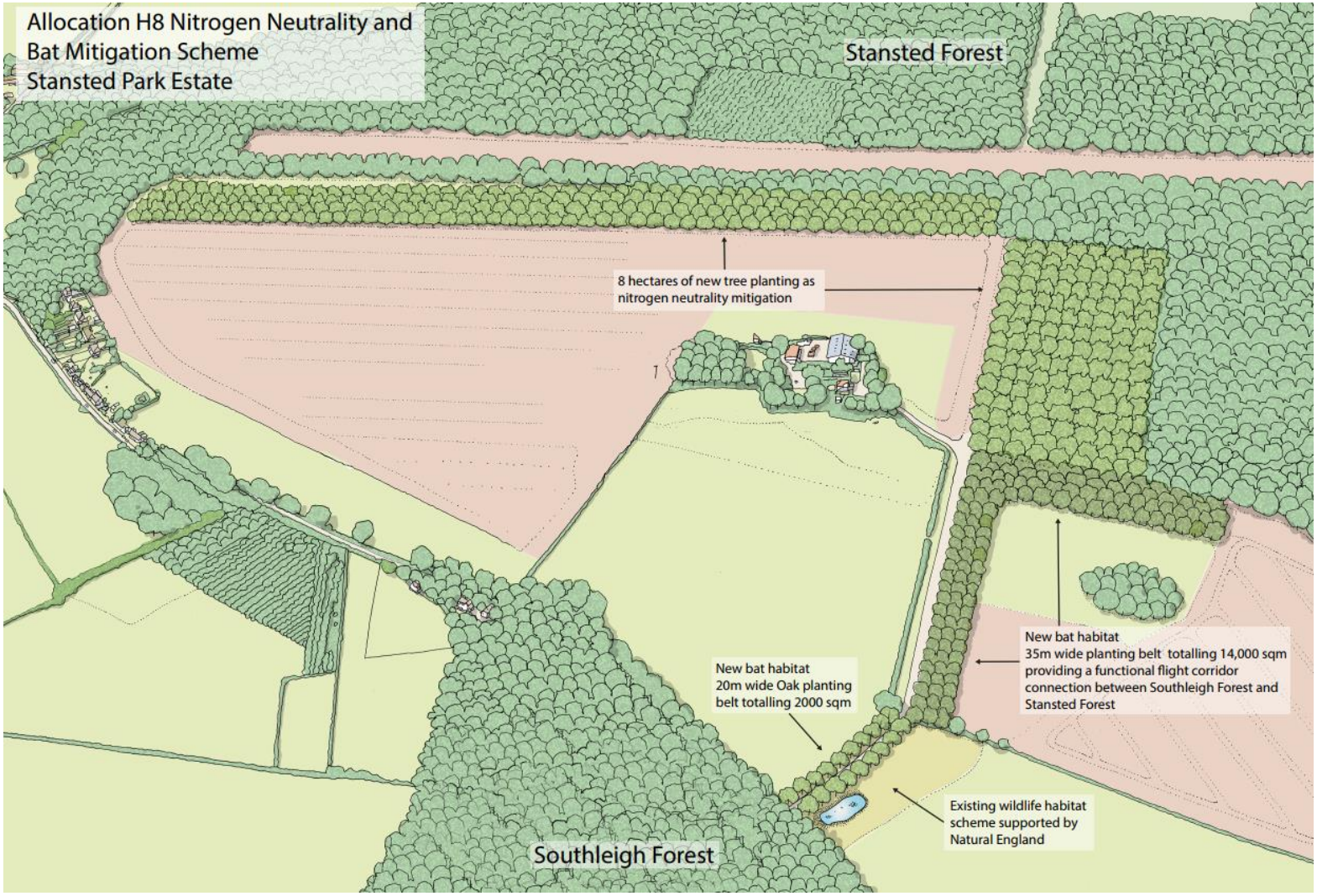


Figure 2 Offsite habitat creation for Bechstein's Bat and nutrient off setting



APPENDIX 6: LIGHTING TECHNICAL NOTE TO SUPPLEMENT THE SUBMITTED LIGHTING STRATEGY

TECHNICAL NOTE 1

DATE:	19 January 2022	**CONFIDENTIALITY:**	Public
SUBJECT:	Long Copse Lane - Lighting Response to SDNP, HBC and NE		
PROJECT:	Long Copse Lane	**AUTHOR:**	P. Batchelor
CHECKED:	N. Griffin	**APPROVED:**	A. Howard

This short technical note has been produced in response to comments received from both Hampshire County Council (HCC) Ecology (27th October 2021), South Downs National Park (SDNP) (9th November 2021) and Natural England (6th December 2021) in relation to Outline Planning Application APP/21/00893 Land North of Long Copse Lane.

The aim of the is note is to answer raised comments from all parties, provide a further technical response and outline a proof of concept in relation to mitigation measures included in the submitted WSP Lighting Strategy document 70052250-WSP-GSC-XX-RP-LI-0001.

HAMPSHIRE COUNTY COUNCIL (HCC) ECOLOGY CONSULTATION QUERY

Comments extracted from email dated 27th October 2021

'Proposed mitigation, compensation and enhancement entails the establishment of unlit, wide buffers to the site boundaries. This includes a dedicated 'bat buffer' along the entire western and northern boundaries, extending to c.35m at its maximum. The principle of these boundary buffers is welcome……..

The potential impact of lighting on these buffers is also of concern. The submitted Lighting Assessment includes outline details of proposed lighting, but the level of detail required to assess the impacts of lighting on the proposed buffer and adjacent habitats is not provided. It is hoped to provide unlit areas adjacent to the buffers but this is not guaranteed……

With respect to lighting, the submitted assessment provides some very welcome text on the proposed lighting strategy and its adherence to industry best-practice guidance on bats and lighting. I consider that further information is required to provide reassurance that these aspirations are deliverable and that proposals achieve the desired outcome of ensuring that key bat habitat is protected and enhanced. A lighting plan with contours and critically, vertical spillage, is necessary to fully understand how the site will interact with the adjacent woodland, proposed woodland buffer and retained boundary habitats. The protection of adjacent woodland habitat is essential in determining the acceptability of the proposal.'

NATURAL ENGLAND (NE) CONSULTATION QUERY

Comments extracted from letter dated 6th December 2021

'In line with the 'avoid, mitigate, compensate' hierarchy, Natural England recommends that potential impacts are avoided in the first instance, for example through the design of the scheme, such as location of built development, access restrictions, sensitive lighting strategy……..

A detailed lighting strategy should also be submitted to and approved by the HCC ecologist which outlines how light spill will be prevented in the unlit bat buffers.

WSP RESPONSE

The light source being widely used in many lighting applications is LED. LED light sources can be manufactured with a multitude of directional optics allowing the designer a good level of choice and

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opportunity to be able to direct the light to the task area with minimal light being cast outside the area of interest or what is more commonly known as spill light.

WSP has produced two calculations that are representative of and proof of concept as to how lighting can be provided for the purposes of resident's safety whilst minimising spill light to levels identified that are required for Bechstein's and other light sensitive species within the proposed ecological buffer zones at Long Copse Lane. The presented calculations cannot and do not cater for additional mitigation such as baffles or screening provided by existing or proposed trees; as such the calculations very much represent a worst-case scenario.

The representative areas are as indicated in Figure 1 below.

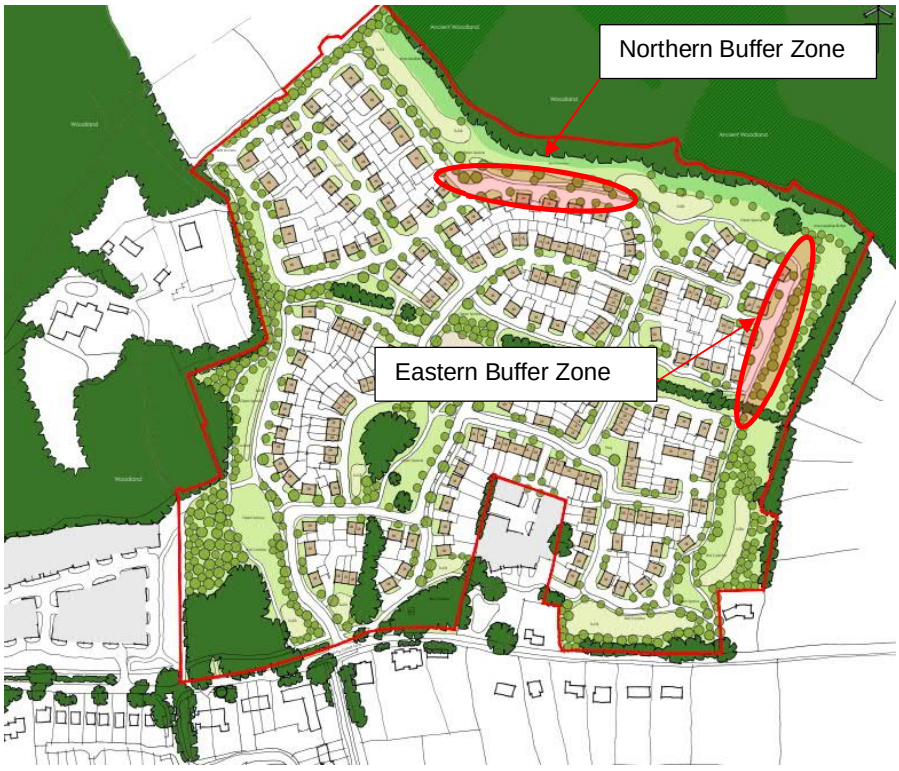


Figure 1 – Proposed development Masterplan

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Calculations have been based on the following Parameters:

- Target level of illumination BS5489-1:2020 & BS EN13201-2:2015 Class P6 (lowest defined level in BS5489) for areas of the development that abut the ecological buffer zones.
- Luminaire – Urbis Schreder Axia 2 complete with 8 3000k LEDs at 1.57klm output with internal rear louvres (embedded into LED optics) [1]
- Mounting height of 6m (maximum height for this type of development and in accordance with HCC specification)
- Maintenance factor of 1.0 to represent day 1 switch on output and worst case scenario i.e. no lumen depreciation.
- Vertical grids placed at a distance of 20m and 30m from the development ,with a height of 6.0m (grid spacing of 1.0m x 1.0m).
- Horizontal grid and isolux contours indicate spread of light at ground level. Refer to drawing number 70052250-WSP-SK-LI-001-P02

[1] Axia 3, current HHC specification luminaire data was not available at the time of calculations, but assumption is that new data will be the same or improvement on that which has been utilised.



Figure 2 – Urbis Schreder Axia 2 Luminaire

Discussions with scheme ecologist have resulted in the following criteria to which the scheme developer is committed to ensure the development provides the required conditions for bats:

- Minimum of 20 metres from site boundary below 0.2 lux on vertical and horizontal (indicated as the purple grid in the calculation screen shots)
- Minimum of 30 metres from site boundary below 1 lux on vertical and horizontal (indicated as the blue grid in the calculation screen shots)

The following outline concept design is based on internal baffles embedded at the back of the LED optics. This is presented as the worst-case scenario, which can be further mitigated at detailed design with the inclusion of external baffles should it be deemed necessary.

It is proposed that target levels of illumination for areas that abut ecology buffer zones are reduced from the P4 outlined in the Lighting Strategy to a P6. Target levels are shown in Table 1. A departure from standard may be required from HCC, for areas that have potential to be ecologically sensitive. This reduction in levels being the most logical for such instances.

TECHNICAL NOTE 1

DATE:	19 January 2022	**CONFIDENTIALITY:**	Public
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Table 1 – P Class Lighting Levels extracted from BS EN13201-2:2015.

Class	Horizontal illuminance		Additional requirement if facial recognition is necessary	
	E in lx (minimum maintained)	Emin in lx (maintained)	EV, min in lx (maintained)	Esc, min in lx (maintained)
P1	15 (22.5)	3	5.0	5.0
P2	10 (15)	2	3.0	2.0
P3	7.5 (11.25)	1.5	2.5	1.5
P4	5 (7.5)	1	1.5	1.0
P5	3 (4.5)	0.6	1.0	0.6
P6	2 (3)	0.4	0.6	0.2
P7	Performance not determined	Performance not determined		
To provide for uniformity, the actual value of the maintained average illuminance may not exceed 1.5 times the minimum E value indicated for the class (figure shown in brackets).				

Note: ILP GN08-18 'Bats and artificial lighting' states:

It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light averse behaviour (Stone, 2012).'

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This note and associated outline design demonstrates what can be achieved with readily available lighting products. As well as the positioning of the street lighting sufficient distance from the ecological buffers, additional mitigation will be achieved by tree and shrub planting in and around the buffers to further reduce penetration of light. Therefore, the lux levels shown in this report are a maximum which in practice will be lower due to the effects of landscaping (and the external baffles previously referenced).

The following pages are a summary of calculations undertaken as proof of lighting concept. Key results from the calculations have been summarised in Table 2.

TECHNICAL NOTE 1

DATE:	19 January 2022	**CONFIDENTIALITY:**	Public
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NORTHERN BUFFER ZONE RESULTS

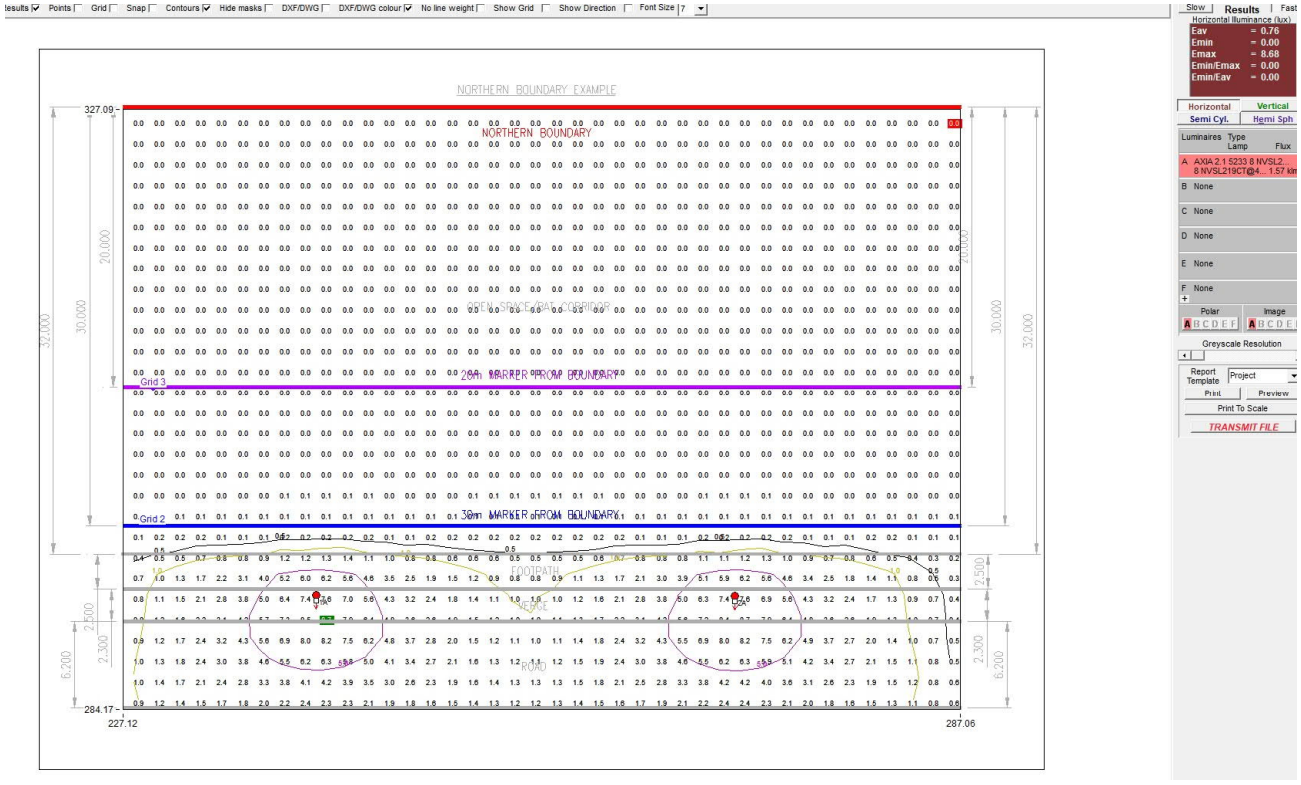


Figure 3 – Northern Buffer Zone Grid 1 (horizontal grid)

TECHNICAL NOTE 1

DATE:	19 January 2022	**CONFIDENTIALITY:**	Public
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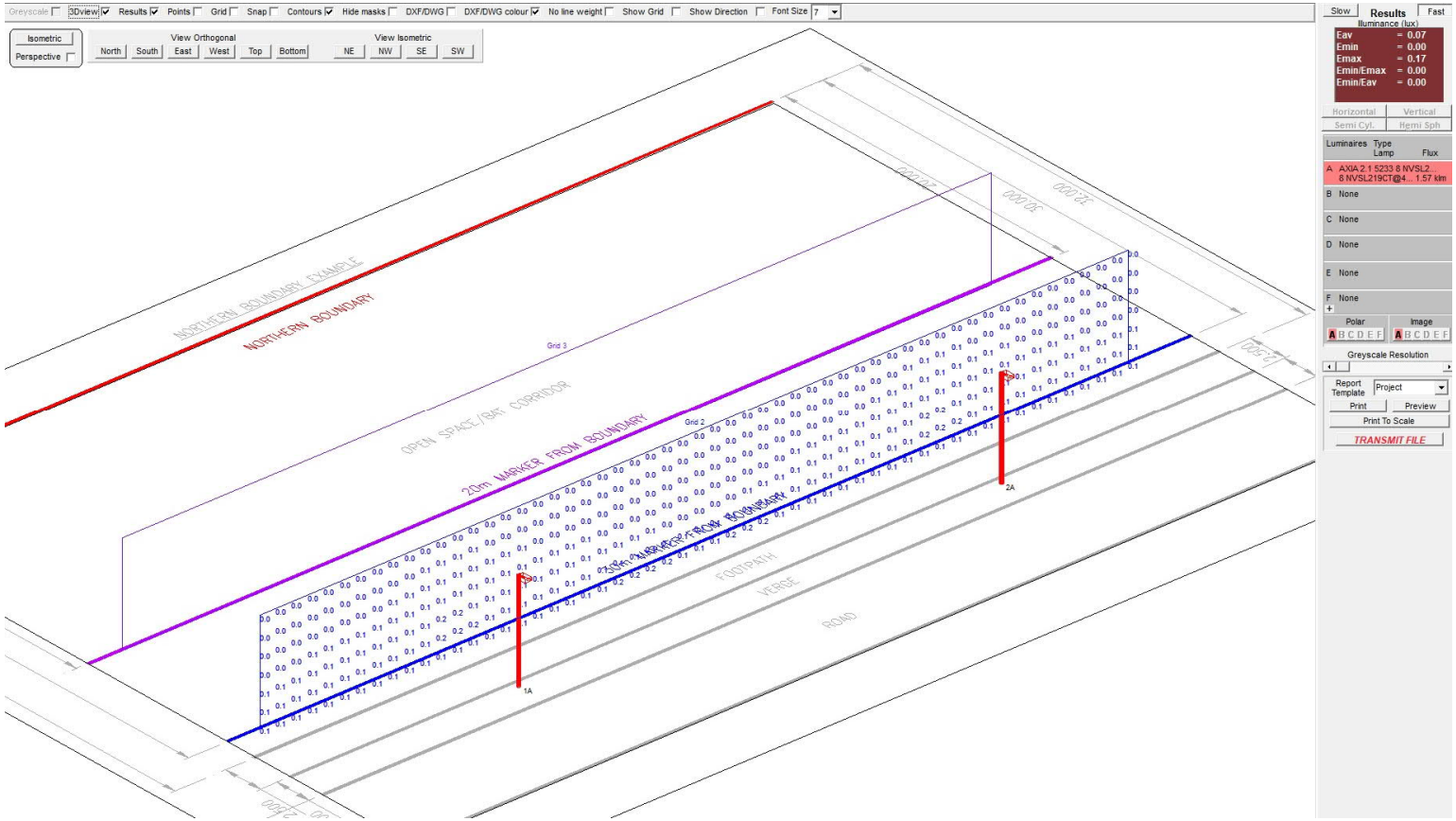


Figure 4 – Northern Buffer Zone Grid 2 (30m from boundary vertical grid)

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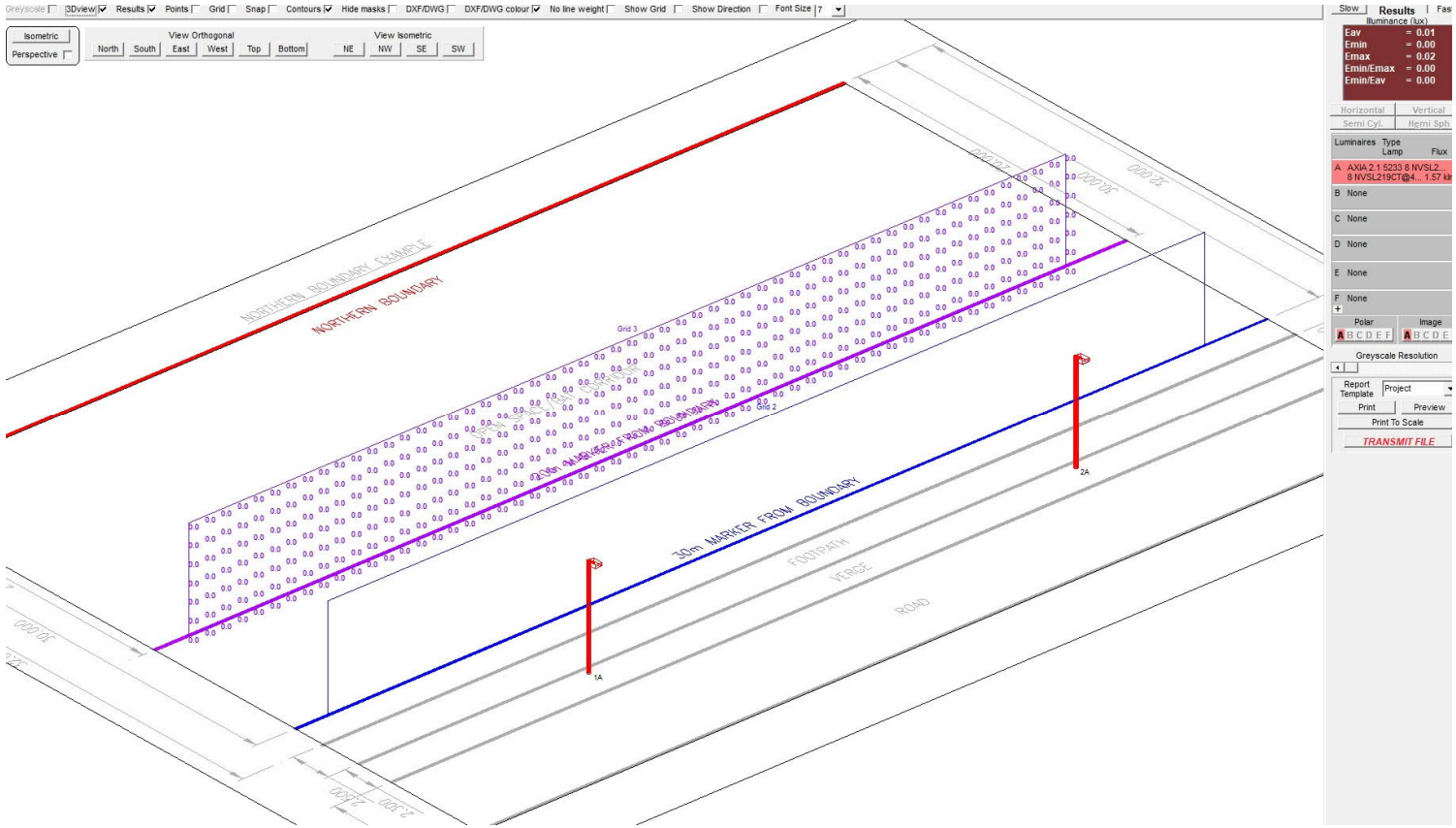


Figure 5 – Northern Buffer Zone Grid 3 (30m from boundary vertical grid)

TECHNICAL NOTE 1

DATE:	19 January 2022	**CONFIDENTIALITY:**	Public
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PROJECT:	Long Copse Lane	**AUTHOR:**	P. Batchelor
CHECKED:	N. Griffin	**APPROVED:**	A. Howard

EASTERN BUFFER ZONE RESULTS

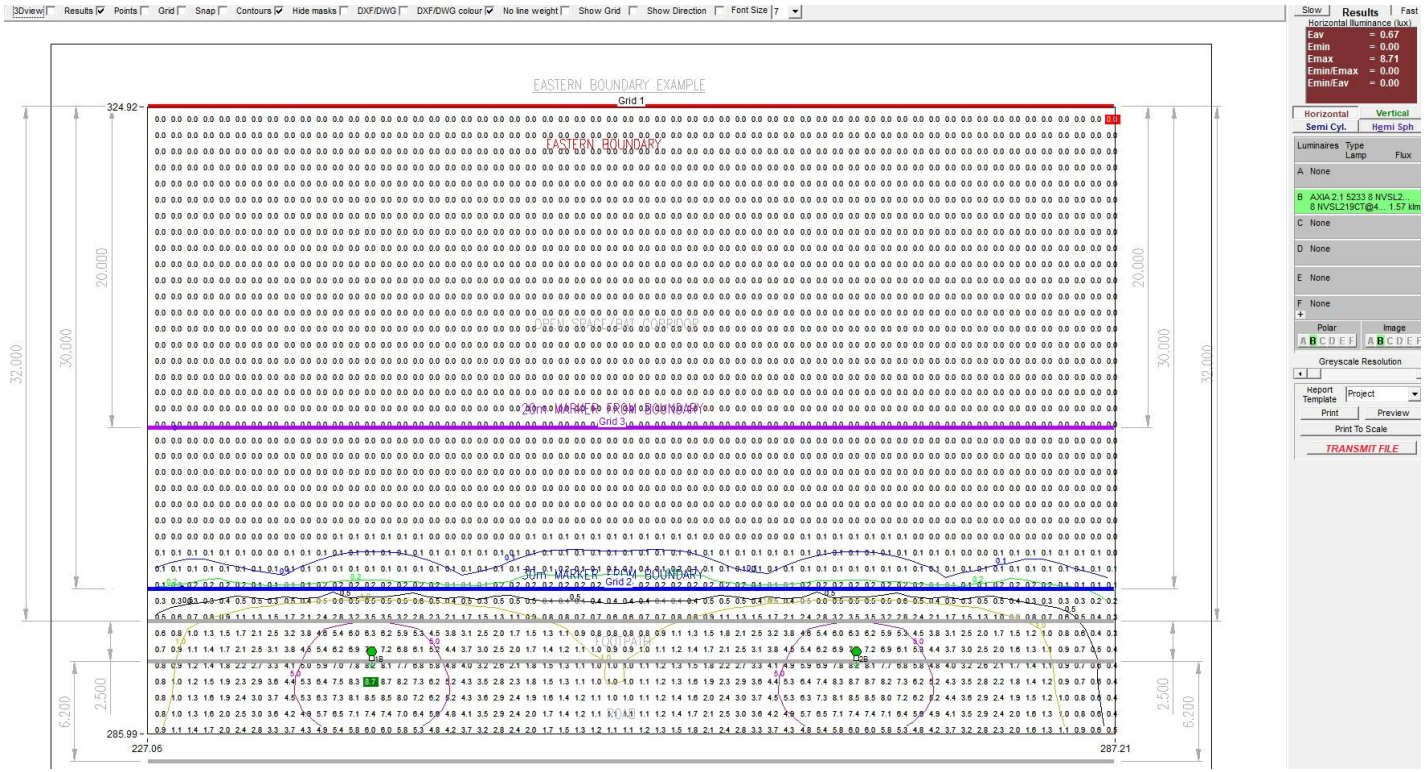


Figure 6 – Eastern Buffer Zone Grid 1 (horizontal grid)

TECHNICAL NOTE 1

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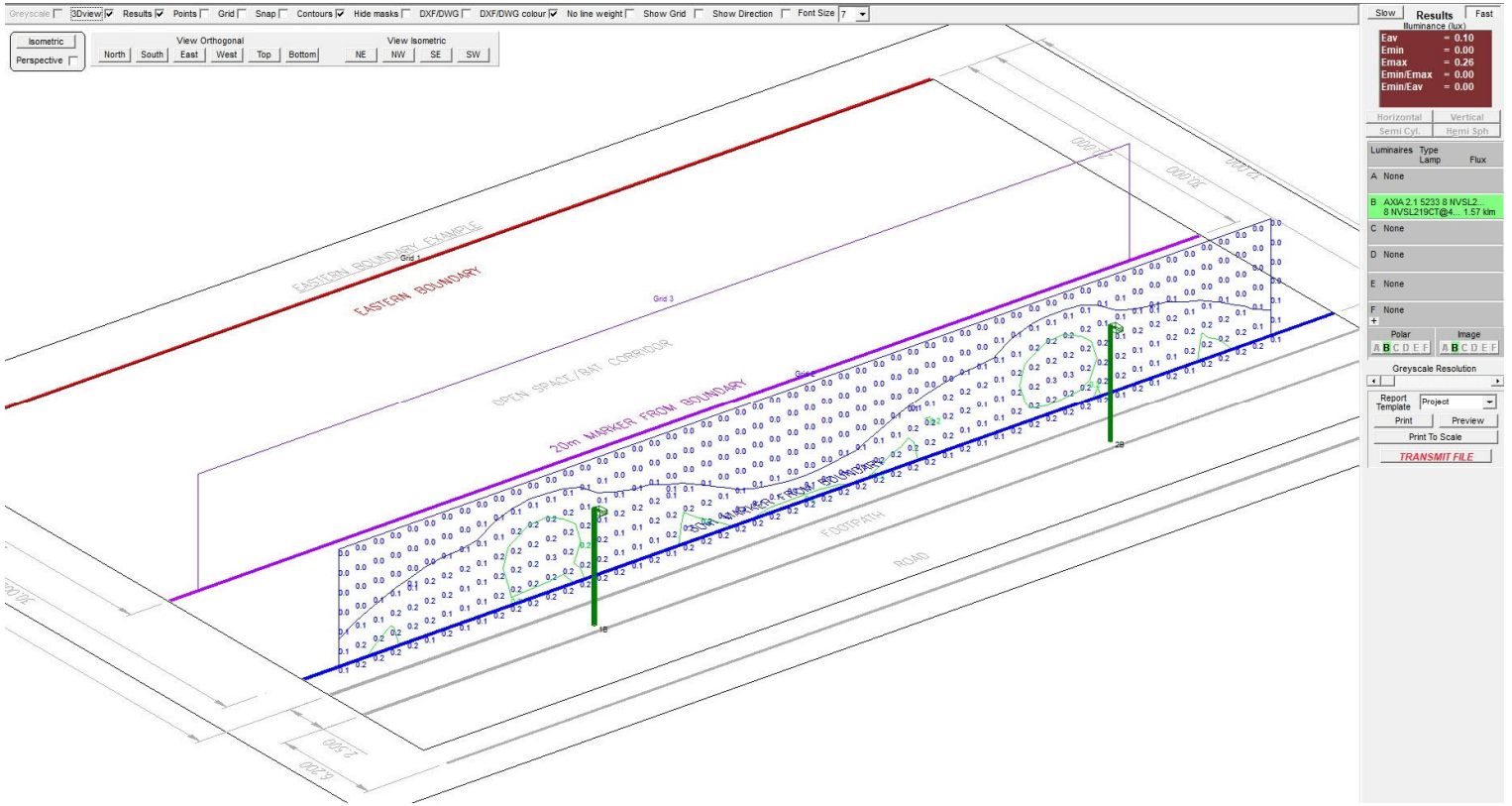


Figure 7 – Eastern Buffer Zone Grid 2 (30m from boundary vertical grid)

TECHNICAL NOTE 1

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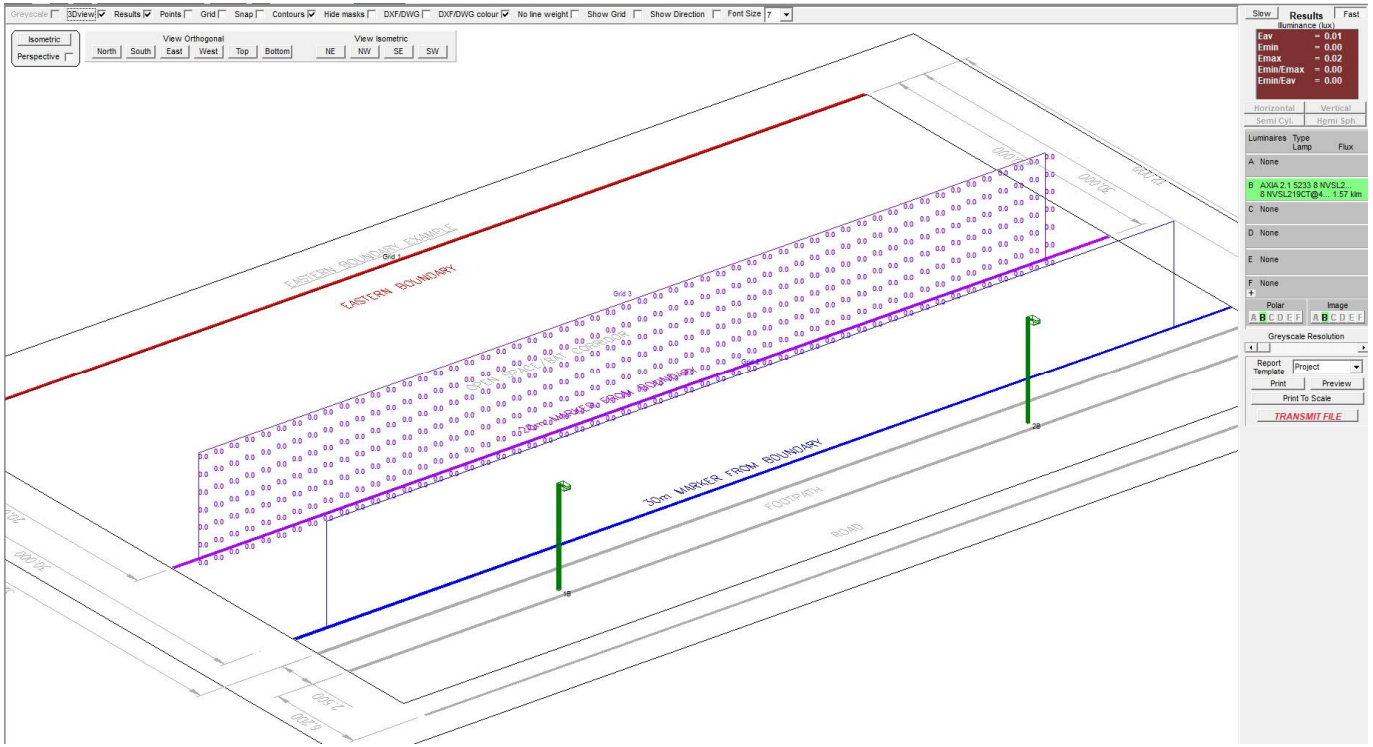


Figure 8 – Eastern Buffer Zone Grid 3 (20m from boundary vertical grid)

TECHNICAL NOTE 1

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PROJECT:	Long Copse Lane	**AUTHOR:**	P. Batchelor
CHECKED:	N. Griffin	**APPROVED:**	A. Howard

CALCULATION SUMMARY

Table 2 – Calculation Grid Summary

Buffer Zone	Grid Number	Emax (Lux)	Comment
Northern	1 (Horizontal grid @ 30m line)	0.20	Within the agreed standards across the whole grid.
Northern	2 (Vertical grid @ 30m line)	0.17	Within the agreed standards across the whole grid.
Northern	3 (Vertical grid @ 20m line	0.02	Within the agreed standards across the whole grid.
Eastern	1 (Horizontal @ 30m line)	0.50	Within the agreed standards across the whole grid.
Eastern	2 (Vertical grid @ 30m line)	0.26	Within the agreed standards across the whole grid.
Eastern	3 (Vertical grid @ 20m line	0.02	Within the agreed standards across the whole grid.

As can be seen from the calculation's grids and summary Table 2, a conventional method of lighting can be utilised to provide levels of illumination suitable for the safety and security needs of pedestrians/residents and sensitive ecological receptors that will occupy/use the buffer zones.

Further isolux contour plots have been provided on sketch number 70052250-WSP-SK-LI-001 to provide context of lighting in situ to surroundings of the proposed development for the norther and eastern ecological buffer zones. Note that the contours are overlaid on a hand drawn Masterplan, therefore not suitable for scaling.

It is proposed that this concept of lighting be used throughout the proposed development at the detailed design stage when near buffer zones.

Where footpaths are remote from the minor access roads/private roads, such as Colman's Copse (south west corner of site), it is suggested that a means of wayfinding only lighting be employed. This does not necessarily mean the use of bollard lighting, but an alternative in the form of LED solar studs, as produced by Solareye 80 (https://www.solar-eye.com/).

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Figure 9 – SolarEye 80

This product is an inground solar stud which can be used as an alternative wayfinding product. This does not offer a level of illumination across the surface but installed to provide a guide. The inclusion of a bat hat (product indicated in top right image) reduces upward light to 2%, but of a level which does not disturb/disrupt light sensitive bat species.

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SOUTH DOWNS NATIONAL PARK (SDNP) CONSULTATION QUERY

Comments extracted from letter dated 9th November 2021 (Ref: SDNP/21/04629/ADJAUT

'With the intended luminaire, it is likely that the upward light ratio will be close - if not, will be – to zero. Although the development is within an E2 zone, we would prefer to see the luminaires installed at the E1 requirements with zero upward light. We request this is given further consideration.'

WSP RESPONSE

As highlighted in the HCC response, calculations have been carried out utilising an Urbis Schreder Axia 2 LED luminaire. When installed at an inclination of zero degrees to the finished surface, the luminaire is compliant with G4 class of BS EN13201-2:2015, having a ULR of 0 i.e. no light above the horizontal (90°), ensuring compliance with the GN01 E1 ULR requirement of 0.

Table 2 - ILP GN01 Obtrusive light limitations for exterior lighting installations (compressed version of tables contained in GN01).

Environmental Zone	Sky Glow ULR [Max %]	Light Intrusion (into windows) Ev [lux]		Luminaire Intensity I [cd]		Building Luminance Pre-curfew
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average L [cd/m2]
E0	0	0	0	0	0	0
E1	0	2	0(1*)	2,500	0	0
E2	2.5	5	1	7,500	500	5
E3	5	10	2	10,000	1,000	10
E4	15	25	5	25,000	2,500	25

TECHNICAL NOTE 1

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Polar diagram of Axia 2 file reference AXIA 2.1 5233 8 NVSL219CT 480mA WW830 13W 7x5 II-Short 400952 Integrated lenses Back louvers 230V EF. Compliant figures circled in red.

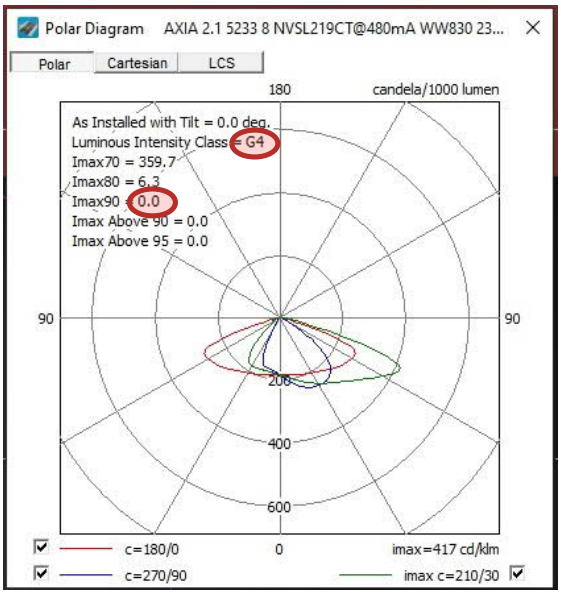
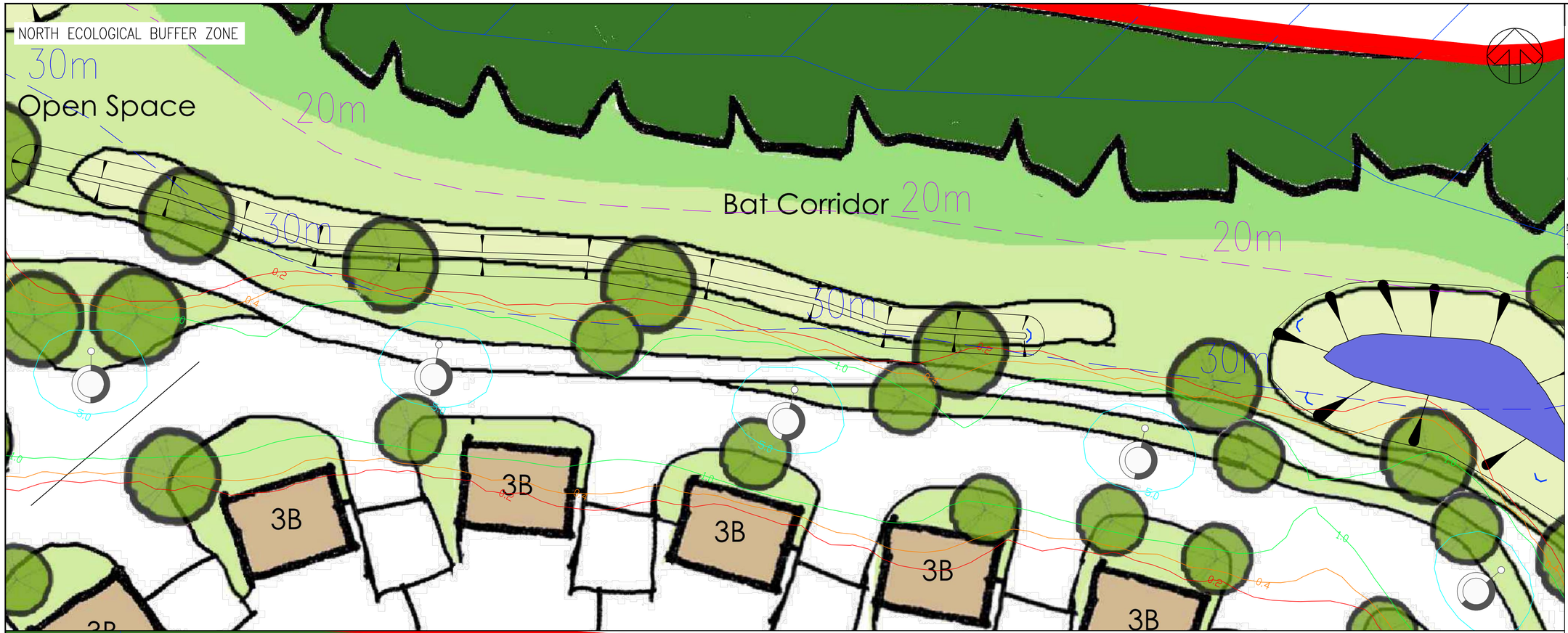
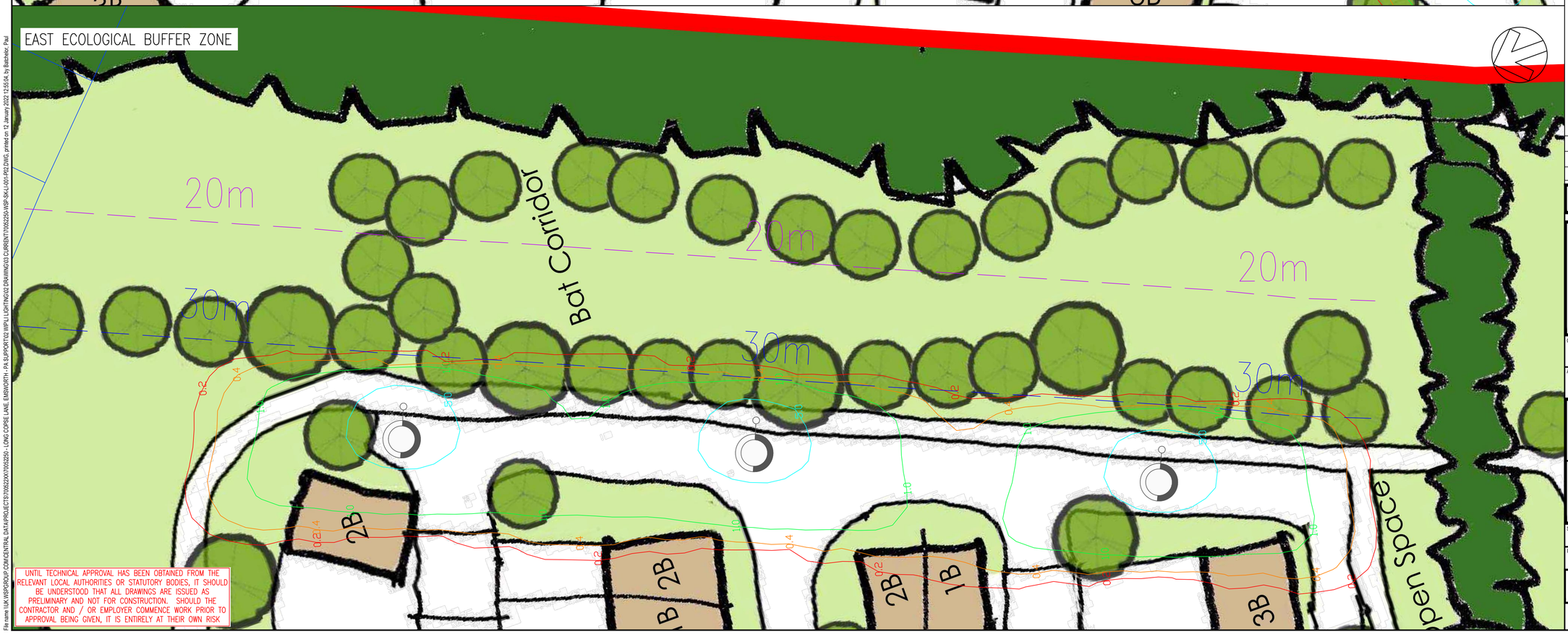


Figure 10 – Axia 2 Polar Diagram

Given the sensitive surroundings of the proposed development, the detailed design and implementation phases are crucial in ensuring that the perceived wider impacts associated with artificial lighting are effectively mitigated throughout all the development stages.





UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK

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DO NOT SCALE

KEY:

- SITE BOUNDARY
- 30m BUFFER ZONE LINE
- 20m BUFFER ZONE LINE
- 0.2 LUX ISOLUX CONTOUR LINE
- 0.4 LUX ISOLUX CONTOUR LINE
- 1.0 LUX ISOLUX CONTOUR LINE
- 5.0 LUX ISOLUX CONTOUR LINE
- INDICATIVE LIGHTING COLUMN LOCATION

NOTES:

1. TO BE READ IN CONJUNCTION WITH 'PLANNING RESPONSE – LIGHTING TECHNICAL NOTE – P02'
2. THIS DRAWING IS FOR INFORMATION ONLY AND SHOULD NOT BE REFERRED TO FOR DETAILED DESIGN OR CONSTRUCTION INFORMATION.

REV	DATE	BY	DESCRIPTION	CHK	APP
P02	12/01/22	PB	SECOND ISSUE FOR INFORMATION ONLY	NG	AH
P01	17/12/21	PB	ISSUE FOR INFORMATION ONLY	NG	AH

DRAWING STATUS: S2 - FOR INFORMATION

wsp

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CLIENT: LAND AND PARTNERS LTD

ARCHITECT: PEGASUS

SITE/PROJECT: LONG COPSE LANE, EMSWORTH

TITLE: OUTLINE LIGHTING STRATEGY ECOLOGY BUFFER ZONES

SCALE @ A1:	CHECKED:		APPROVED:
NTS	NG		AH
PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70052250	PB	PB	January 22

DRAWING No: 70052250-WSP-SK-LI-001-P02 REV: P02

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APPENDIX 7: CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Construction & Environmental Management Plan

Land north of Long Copse Lane, Emsworth

February 2022

Produced for: Land & Partners Ltd

Issue: **V4**

EXECUTIVE SUMMARY

This Construction Environmental Management Plan (CEMP) has been produced in support of the outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved (Planning Reference APP/21/00893).

As this CEMP is in support of an outline planning application it will require further details to be agreed with the Local Planning Authority. It is usual for the Planning Authority to impose a condition outline consent for a detailed CEMP to be agreed before work can start on site, which is then prepared by the housebuilder undertaking the construction.

This CEMP outlines how to minimise any potential impacts on the biodiversity interests of the site due to the proposed construction. Measures to avoid impacts on protected and notable species are detailed, including recommendations related to:

- Storage of construction materials/ chemicals and equipment
- Dust suppression
- Chemical and/or fuel run-off from construction into nearby watercourses(s)
- Waste disposal
- Noise/visual/vibration impacts
- Timing of works

If all recommendations within this CEMP are followed, the habitats and species present on the site will be protected from construction activities during the construction period.

Table of Contents

1. Introduction 4
2. Aims and objectives 5
3. Site location 6
4. Development proposals 7
5. Baseline Ecological Conditions 8
6. Construction Mitigation Measures 9
7. Mitigation measures 10
   7.2. Parking and turning provision 10
   7.3. Loading and Unloading 10
   7.4. Provision for addressing any abnormal wear and tear to the highway 10
   7.5. Storage of Materials 10
   7.6. Security hoarding and Displays 11
   7.7. Measures to prevent mud from being deposited on the highway 11
   7.8. Dust suppression, mitigation and avoidance measures 11
   7.9. Measures for minimising construction waste and provision to re-use and recycling of materials 12
   7.10. Hours of work on site 12
   7.11. Arrangements for deliveries associated with all construction works 13
   7.12. Protection of pedestrian routes during construction 13
   7.13. Measures to be undertaken to minimise the impacts of noise and vibration 13
   7.15. Protection of Ancient Woodland 15
   7.16. Protection of Water and Drainage Systems 15
   7.17. Reporting of unexpected ground contamination 16
   7.18. Sympathetic working practices 16
   7.19. Procedures for maintaining good public relations including complaint management, public consultation and liaison 16
8. Biodiversity Protection 17
9. Working Method Statement for Protected Species 18
   9.1. Bat Method Statement 18
   9.2. Breeding Birds Method Statement 18
10. Timing of sensitive works to avoid harm to ecological features 19
11. Responsible persons and lines of communication 20

1. Introduction

1.1. This Construction Environment Management Plan (CEMP) has been produced for the development of Land north of Long Copse Lane, Emsworth and supports the outline planning application for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure, all other matters reserved (Planning Reference APP/21/00893).

1.2. This document contains details of measures to be implemented during construction in order to avoid and minimise impacts on protected and notable species present on the development site to comply with legislation. The CEMP is intended to cover the construction phase only and mitigation measures related directly to construction activities.

1.3. Implementation of all recommendations within the CEMP will be the responsibility of the developer, with the support of a Suitably Qualified Ecologist (SQE) as and when required. This report also provides further details regarding the responsible persons during the construction phase.

2. Aims and objectives

2.1. The key aim of the CEMP is to ensure that the ecological interest and sensitive habitats on site are protected during the construction works. The objectives of the CEMP are as follows:

- Set out details of construction activities which have the potential to impact the biodiversity interest of the site;
- Set out measures to avoid and mitigate impacts on protected species from construction works;
- Provide details of the locations and timing of works to avoid impacts on protected and notable species; and
- Provide details of the roles and responsibilities of the on-site SQE, including the activities which will require SQE supervision to mitigate impactson protected species.

3. Site location

3.1. The site is located to the north side of Long Copse Lane, Emsworth. The site is bordered by residential dwellings to the west and south and ancient woodland and agricultural land with a system of interconnecting hedgerows to the north and east. The wider environment is dominated by woodland, agricultural fields and rural residential development. See figure 1 below for the site location.



Figure 1: Site location at 1:2500 scale.

4. Development proposals

4.1. The development proposals (figure 2) comprise plans for demolition of the existing buildings and the erection of a new residential scheme (C3 use of approximately 210 dwellings to include affordable housing) and associated landscaping, access and supporting infrastructure. An attenuation basin and LEAP are also proposed located towards the western boundary of the development.

4.2. The proposed development masterplan has embedded mitigation within the design to avoid direct ecological impacts where possible and manage indirect effects. This includes the retention of all significant areas of broadleaved woodland, the retention of approximately 40% of existing onsite hedgerows, and the retention of treelines on the boundaries. The protection of these trees and hedgerows will be secured through an appropriately worded planning condition.



Figure 2: Indicative Masterplan

5. Baseline Ecological Conditions

5.1. The site has been subject to ecological surveys and reporting in 2017, with an updated assessment undertaken in 2019. Full ecological survey results can be found within the report: Ecological Impact Assessment by Davidson-Watts Ecology Ltd dated 11th August 2021.



Figure 3: Phase 1 Habitat Survey Map

6. Construction Mitigation Measures

6.1. Risk Assessment and Mitigation Measures – a summary of the key environmental risks and mitigation measures have been provided within table 1 below.

Table 1: Key environmental risks and mitigation measures

Ecological Feature	Risk Assessment of Potential Impacts	Mitigation
Retained hedgerows and trees	Damage to roots from construction activities such as vehicles driving over roots or machinery/equipment being stored on roots	Before construction: Root protection zones identified within the arboriculture report and marked out in line with the approved plan with tree protection fencing. The fencing will have signs with "tree protection fencing" and contractors will be made aware of its presence. During construction: Any damage to tree protection fencing will be reported and the site manager will organise repairs to fencing as appropriate.
Breeding birds	Accidental damage/ disturbance/ damage to nests within boundaryfeatures during construction phases	During construction / site clearance: • Clearance of suitable nesting habitat outside of the breeding bird season (March to September inclusive). • Any vegetation clearance or building demolition to be undertaken during the breeding bird season will be subject to a pre-works check by a suitably qualified ecologist (SQE). Any active nests will be protected by a minimum 5 metre buffer zone until the chicks have fledged and an SQE has confirmed that works can proceed.
Bats	Destruction/disturbance of bat roosts within onsite building. Disturbance to foraging and commuting bats from construction lighting.	Before construction: • Receipt of bat mitigation licence from Natural England and implementation of mitigation discussed within licence application. • Update surveys if required During construction: • Demolition of buildings in line with an approved method statement in bat licence. To include a pre-works check for bats in buildings by licensed ecologist. • Soft demolition of suitable bat features on buildings. • See Paragraph 7.14 for details regarding construction lighting

7. Mitigation measures

7.1. The following section details mitigation measures which will be adopted during the entire construction process. It will be the responsibility of the site manager to ensure that all staff are inducted and made aware of these mitigation measures.

7.2. **Parking and turning provision**

7.2.1. Parking and turning provision is to be made on site for construction vehicles and site workers in a location to be agreed with the Local Planning Authority. No parking or unloading of construction and workers vehicles shall take place excepting in the approved areas. The approved parking provision shall be kept available and used only as such.

7.2.2. Any visitors will be directed to a dedicated on-site parking area to park their vehicles. All contractor parking shall take place internal to the site to avoid parking on the neighbouring residential estates.

7.2.3. Larger vehicles will be supervised when reversing via a banksman in line with the Health & Safety requirements.

7.2.4. Any construction traffic to the site will be directed via an agreed construction traffic route to be agreed with the Local Planning Authority.

7.3. **Loading and Unloading**

7.3.1. All Contractors will be issued instruction to ensure that the route for construction vehicle access to the site is in accordance with a construction traffic route which is to be agreed with the Local Planning Authority.

7.4. **Provision for addressing any abnormal wear and tear to the highway**

7.4.1. Within one month of site completion Hampshire County Council (HCC) will be invited to inspect the roads in respect to any wear and tear issues.

7.5. **Storage of Materials**

7.5.1. Provision is to be made within the site for a material storage compound during site clearance and the construction of the development. The approved storage compound shall be kept available and used only as such.

7.5.2. The location of any temporary site buildings and plant storage will be agreed with the Local Planning Authority at the appropriate stage.

7.5.3. Any fuels or chemical containers will be double bunded and a secondary blockwork bund built around to prevent spillage. All chemicals and hazardous materials and waste will be stored in line with best practice guidelines, ensuring they are secure and cannot be accessed by roaming animals.

7.5.4. All filling points, vents, gauges and sight glasses will be located within the bund. The drainage system of the bund will be sealed with no discharge to any watercourse, land or underground strata. Associated pipework will be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets will be detailed to discharge downwards into the bund.

7.5.5. Any fuel tanks and hoses will be locked secure when not in use and the site will possess a spill control kit. A clearly defined drip control area will be introduced around the tank. Tanks and surrounds will be regularly inspected for damage, spills or leaks as part of weekly inspection.

7.6. **Security hoarding and Displays**

7.6.1. The site will be secured with fencing (Heras or similar security) with information display boards close to the site entrance. This will be visible from the roadside so that passing traffic is aware of the development.

7.6.2. Fencing adjacent to the site entrance will be set back at least 3m in order to protect the visibility splays of emerging vehicles and not impede the ability of vehicles to pull clear of the highway if required to enter the site.

7.7. **Measures to prevent mud from being deposited on the highway**

7.7.1. A jet/wheel wash facility will be provided at the site access to minimise dirt on the surrounding highway. The provision of a road sweeper is to be made available daily to ensure any mud / debris is cleared from the roads.

7.7.2. Ongoing monitoring will take place between the housebuilder and HCC to ensure that additional measures are put in place should they be required e.g. increased rate of road sweepers.

7.8. **Dust suppression, mitigation and avoidance measures**

7.8.1. Particular care would be required to maintain dust emissions at a practicable minimum when working in the vicinity of residential properties and environmentally sensitive areas. Best practice mitigation would be required during dry conditions, in accordance with the guidance as laid out in the BRE Report 456 - Control of Dust from Construction and Demolition activities.

7.8.2. Dust reduction measures would include:

- careful management of earth stockpiles
- sheeting of vehicles transporting materials to and from the site
- limiting the speed of general vehicles within the site to 10mph
- surfacing of the haul roads as soon as possible in the programme
- haul roads and any areas where tracked excavators, dozers are working, are to be kept damp at all times
- visual monitoring would be carried out at sensitive locations on a daily basis
- jet wash to be provided located on the main entrance.

7.8.3. By using effective dust mitigation techniques, including good site planning, the potential for dust emissions to arise at a construction site and impact surrounding receptors can be minimised.

7.8.4. The potential for dust to arise during the ground breaking, earth moving and excavation stage of the construction is highly weather dependent. If carried out in dry weather, increased water spraying may be required to ensure the surface material remains damp. In wet weather greater attention would be paid to vehicle cleaning to ensure significant quantities of mud are not trafficked onto local roads, which once dry can become a significant source of dust.

7.8.5. Throughout the construction period, care would be taken to ensure the adequate control of dust from vehicles delivering and removing materials to and from the site. Drop heights, when loading and unloading materials, would be minimised. All dusty loads would be sheeted appropriately. Dried mud and dust carried onto roads by Lorries and other machinery can be a significant source of dust. The Site Manager would ensure that the hard surfacing of heavily used areas and adjacent public roadways are regularly cleaned.

7.8.6. Once the actual building of the development commences there is less potential for significant emissions of dust from the site, although emissions may still arise from the storage of dusty materials. Generally, storage compounds would be screened, both for security and to prevent wind whipping. In addition, there are certain construction activities that are inherently dusty, and would require additional controls e.g. stone or brick cutting. Such activities may require local screening or the activities may be limited to certain areas or time periods in order to limit impacts.

7.8.7. Specific measures to prevent dust would include the following practices:

- the provision of easily cleaned hard standings for vehicles (to include the areas close to the site access)
- the regular cleaning by brushing and water spraying of heavily used hard surfaced area
- dusty materials stockpiles and dusty activities such as stone cutting and grinding to be sited away from the site boundary and/or effectively screened where practicable

7.9. **Measures for minimising construction waste and provision to re-use and recycling of materials**

7.9.1. A Site Waste Management Plan and a Materials Management Plan will be put in place at the start of the site (prior to construction commencing) this will indicate in more detail the process and placing of disposal units.

7.9.2. A bailer will be provided on site to ensure that, as much site waste is recycled as possible. All waste management will be reportable via online management to ensure site recycling is efficient as possible. Any non-contaminated soil that is extracted for foundations will be reused on the development.

7.9.3. There will be no burning of materials on site and this is reiterated to all trades during tool box talks; any trades caught will be immediately removed from site.

7.9.4. When storing topsoil in stockpiles the main priority is to maintain soil quality and minimise damage to the soils condition.

7.10. **Hours of work on site**

7.10.1. No works or ancillary operations associated with any excavation, clearance and construction works at the development, which are audible at the site boundary, will take place on any Sunday or Bank / Public Holiday, nor on any other day except between the following times: Monday to Friday: 8am – 6pm and Saturday: 8am – 1pm.

7.10.2. Should the need arise to amend the above hours of operations for reasons beyond our control, the housebuilder will agree with the Local Planning Authority in writing an extension of working hours beyond the agreed hours as above. Should this be agreed,

then a full consultation and notification of all residents in the vicinity be made by the housebuilder in writing 4 weeks prior to the works commencing to the revised approved working hours. At no time shall any development take place on Sundays or Public holidays.

7.11. **Arrangements for deliveries associated with all construction works**

7.11.1. Deliveries will be restricted between the hours of 8am and 5pm Mon-Fri and 9am and 1pm Saturday. Delivery timings will be managed to spread out over the course of the day/week to prevent multiple deliveries at the same time.

7.11.2. The Site staff and full time workforce will arrive on site between 7am and 8am. The management will monitor to ensure that they turn off their engines on arrival. Any early deliveries will be brought into the site compound and similarly instructed to turn off their engines and wait until they can be off loaded at 8am.

7.12. **Protection of pedestrian routes during construction**

7.12.1. Temporary pedestrian routes will be in place to segregate the work force from Plant movements and will consist of red and white "crowd barriers" which can be moved though the site as work progresses. The exact pedestrian routes are to be agreed with the Local Planning Authority at the appropriate stage.

7.12.2. It will be part of the site managers routine site audit to check pedestrian routes and rectify issues when encountered.

7.13. **Measures to be undertaken to minimise the impacts of noise and vibration**

7.13.1. The measures to be employed to control the emission of noise & vibration during the excavation and construction phases will follow the guidance as provided in BS5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise, and Part 2: Vibration (BSI, 2014v).

7.14. **Details of any floodlighting, including location, height, type and direction of light sources and intensity of illumination**

7.14.1. All construction related luminaires will be positioned as not to cause a light nuisance to ecological buffer zones, highways or neighbouring properties. The following measures shall be taken to protect bats, Dark Night Skies and surrounding residents:

7.14.1.1. In line with the Ecological Impact Assessment (EcIA), no lighting will affect the proposed ecological buffers. A maximum 1 lux illumination limit will be enforced at the development boundary of the 30-35m ecological buffer (where Zone C borders Zone A in Figure 3). Ongoing monitoring will be undertaken to ensure this remains the case and if breached for any reason, construction lighting will be relocated immediately.

7.14.1.2. Site boundaries will be protected from artificial lighting with no external lights positioned to face outwards or towards the Colman's Copse

7.14.1.3. The site compound will be located within Zone C. The perimeter of the site compound will be provided with security lighting which will be directed inwards, with minimal light being cast outside the compound area

7.14.1.4. Lighting will be directed at task working areas to reduce potential glare and

directed away from surrounding properties

7.14.1.5. There will be no ‘upward pointing’ or bare bulb external lights installed anywhere on the site

7.14.1.6. Column heights of external lights will be as low as reasonably possibly to limit light spill. Shields will be installed to focus light towards task areas only

7.14.1.7. During winter periods, construction work will be programmed to minimise the need for artificial lighting. Temporary lighting will be restricted to the site compound, and access roads leading to the site compound, footpaths, and task working areas

7.14.1.8. Any works within Zone A cannot take place in the winter hours beyond sunlight hours

7.14.1.9. Where temporary lighting is necessary, lights fittings will be directional, hooded or equivalent to direct light to where it is required and to minimise light spill towards sensitive residential or ecological receptors or upwards into the night sky.

7.14.2. A site-specific specification (including location, height, type, direction and intensity) for all construction related luminaires will be agreed with the Local Planning Authority. A departure from standard may be required from HCC, for areas that have potential to be ecologically sensitive.



Figure 4: BEMP Zones

7.15. **Protection of Ancient Woodland**

7.15.1. An 18m temporary protective buffer zone is proposed on the site's northern boundary with the Ancient Woodland. As the developer will be undertaking works directly south of this buffer to construct SUDS, plant trees and create other biodiversity habitats, prior to commencement of any works, the developer will establish a temporary protective buffer zone. The temporary protective buffer zone will prevent workers or construction materials from encroaching on the Ancient Woodland and will ensure the protection of the ancient woodland and only habitat/drainage works will be undertaken within the broader biodiversity buffers.

7.15.2. The buffer zone will be set back 18m from the Ancient Woodland, and will be secured with double-clipped heras fencing (specification will be agreed with an Ecologist / Arboriculturist) and will have signage placed on the fencing to clearly indicate the fencing serves as a protective buffer and will not be moved without authorisation.

7.15.3. To prevent silt/ surface water run-off from the site, a high quality geotextile silt fence will be established around the entirety of the sites northern boundary to physically trap and prevent silt-contaminated water leaving the site boundary. Hay bales will also be positioned on the outer side of the silt fence as an additional control measure to trap any residual silt. The silt fences and hay bales will be established during the initial enabling/set-up works, to ensure they are effective when excavations for the SUDS drainage and other groundworks commence.

7.15.4. To ensure the silt fence and additional hay bales remains robust, the condition of them will be visually checked by a member of the site management team on a daily basis. Additional checks will be made during periods of heavy rainfall. Should there be any build of mud/silt against the silt fence, this will be removed and deposited at a designated area within the site boundary. If any parts of the silt fence or additional hay bales appear to be damaged or becoming worn, these will be replaced on the day of inspection.

7.16. **Protection of Water and Drainage Systems**

7.16.1. The protection and integrity of all water courses and drainage systems and associated flora and fauna by preventing any surface water run-off or potential sources of contamination from reaching watercourses / drainage systems, as well as particular consideration given to the protection of the ancient woodland.

7.16.2. All surface water drainage from impermeable areas and roads will pass through trapped gullies prior to being discharged into any watercourse. There will be no discharge of foul or contaminated drainage from the site into either groundwater or any surface waters, whether direct or via soakaways. No pumped water shall be discharged into the live drainage system without having been filtered through a silt interceptor.

7.16.3. All road gullies will be fitted with gully bags or terram to prevent silt run off into existing drainage systems. On a weekly basis, all gullies will be visually checked by a member of the Site Management Team and will also be checked during Health, Safety & Environmental Inspections. If the condition of any gully bag or terram has deteriorated by becoming worn, or if the gully bag has filled with mud/silt it will be replaced (or cleared) on the day of inspection.

7.17. **Reporting of unexpected ground contamination**

7.17.1. All operatives will be instructed on the agreed procedures for dealing with any material encountered during ground works that is either contaminated or suspected to be contaminated

7.17.2. Should there be any evidence of unrecorded contamination discovered on-site, Havant Borough Council will be contacted immediately, with site activities in the affected area being temporarily suspended until a method and procedure for addressing the contamination is agreed upon in writing with Havant Borough Council and/or other regulating bodies

7.17.3. An investigation and risk assessment and, where necessary, a remediation strategy and verification plan will be prepared in order to outline how this unsuspected contamination will be dealt with.

7.18. **Sympathetic working practices**

7.18.1. Refuges for animals will be avoided. Animals will use stacked materials such as wood, stone, boards or metal sheets as refugia. The site will be kept tidy and materials stored off the ground, for example on pallets where possible;

7.18.2. Materials will be stored away from areas of retained vegetation which offer ecological value (e.g. hedgerows);

7.18.3. Should it be necessary to store materials such as topsoil on site then the stockpile will be smoothed to prevent access by faunal species into potential cavities;

7.18.4. Staff will be taught awareness when working and moving materials. Should an animal be found it should be gently moved, for example in a clean bucket, to a suitable location within habitat well away from the working area.

7.19. **Procedures for maintaining good public relations including complaint management, public consultation and liaison**

7.19.1. The site will be managed from start to finish by an appointed management team. The site manager will run a ‘Meet the Builder’ evening prior to commencement on the site and residents will be offered an open invitation to attend. The evening will provide the residents with an opportunity to clarify any concerns they have regarding the proposals. Contact details for a dedicated community liaison officer will be circulated at the event.

8. Biodiversity Protection

8.1. Retained trees and hedgerows at the boundaries and elsewhere on the site will be protected from damage by implementation of a Tree Protection Plan (TPP) which identifies the root protection zones required. A TPP is detailed within the arboriculture method statement for the site and will be subject to a condition to agree the details with the Local Planning Authority before work starts on site.

8.2. A 18m protective no works buffer will be established along any boundary that meets Ancient Woodland for SUDs and habitat creation work. No house building work will be undertaken within the biodiversity buffers as per the masterplan.

8.3. Until receipt of the bat license to allow demolition of the onsite residential building which is used as a bat roost, the building and immediately adjacent vegetation will be identified as a biodiversity protection zone. The biodiversity protection zone of the building will ensure that bats are not disturbed unlawfully. The biodiversity protection zone for the residential house onsite can be removed as soon as the Natural England mitigation license is approved, pending method statement of the license.

8.4. Reptile habitat will be surveyed according to guidelines and animals relocated to pre-prepared biodiversity buffer areas immediately prior to earthworks.

8.5. Bird nest surveys will be undertaken where works cannot avoid the bird nesting season.

9. Working Method Statement for Protected Species

9.1. **Bat Method Statement**

9.1.1. A mitigation strategy for bats will be detailed within the method statement document submitted as part of the European Protected Species (EPS) mitigation licence application and is summarised below:

- Before demolition works to the residential building onsite commence, the named ecologist on the mitigation licence (or accredited agents) will brief any site contractors on the presence of bat species, the legal implications of their presence and the appropriate procedures and control measures to be put in place.
- Any mitigation features required as part of the licence will be installed as detailed before the demolition can commence.
- A pre-commencement bat survey will be undertaken by the Named Ecologist (or accredited agents) prior to demolition works commencing. The ecologist will inspect the buildings and plug any gaps in timbers or other features which have been recorded clear of bats. The gaps will be plugged using clean rolls of newspaper, which will remain in place during the soft stripping operations.
- Areas of the buildings considered suitable for bats (e.g. tiles, soffits) will be destructive searched by soft demolition under supervision of the Named Ecologist (or accredited agents) in suitable weather conditions.
- Any bats found during the soft stripping works will be captured and held in accordance with the Bat Workers Manual and released along the western boundary of the site in the evening in suitable weather conditions. If conditions are not suitable, bats will be relocated to the replacement bat boxes on site. This will be undertaken by the Named Ecologist (or accredited agents).
- Once all suitable roost features have been removed from the buildings and the buildings have been declared free of bats by the Named Ecologist, they will be mechanically demolished.

9.2. **Breeding Birds Method Statement**

9.2.1. A method statement for breeding birds will be detailed at an appropriate stage and must be based on the methodology of suitable timing of works which is summarised below:

- The breeding bird season is considered to be all dates between 1st March till end of August on every given year.
- Vegetation clearance suitable for breeding birds will be timed to avoid the nesting bird season in the first instance.
- Should vegetation clearance be required within the breeding bird season, clearance works will only be undertaken following a check by the SQE of areas to be impacted. The SQE will then advise on the presence or absence of any active nests.
- Should any active nests be found within the vegetation area to be cleared, or within potential impact zones, the vegetation works will be postponed and a plan for monitoring of the nests will be created and followed with works not restarting until the nest is no longer in use and birds have fledged.
- Should nests be found nearby within potential impact zones of the works, the SQE will assess the potential impacts of disturbance to nesting birds and create a buffer zone around nests is appropriate.

10. Timing of sensitive works to avoid harm to ecological features

10.1. **Construction Programme**

10.1.1. The construction period is anticipated to start in Q4 of 2023/ Q1 of 2024 and span until 2028/29. Should the timings change significantly for the construction process, this CEMP should be reviewed by a suitably qualified ecologist and any necessary amendments implemented by the developer.

11. Responsible persons and lines of communication

11.1. **Suitably Qualified Ecologist (SQE)**

11.1.1. An SQE will be appointed to oversee matters concerning protected species during the site clearance works and the construction period (as necessary). The SQE will also give on-going support as and when required. The contact details of the supervising ecologist will be left on site.

11.2. **Ecological Toolbox Talk**

11.2.1. The Site Manager, and other supervisors as deemed appropriate, will be given a toolbox talk by the appointed SQE. This will comprise:

- The legal protection afforded to protected species;
- The precautionary methods of working (outlined in this document);
- Photographs will be shown to make contractors/sub-contractors familiar with the characteristics of different faunal species;
- Contractors will be made aware of the sensitive habitats on site; and
- The procedures to follow in the event that any protected species are discovered during the works.

11.2.2. It will be the responsibility of the Site Manager to ensure that ALL site operatives, including sub-contractors are informed of the CEMP, the SQE contact details, and will receive a briefing on the CEMP as and when appropriate. Site inductions will contain details on the ecologically sensitive areas present on site.

11.2.3. Works that require the presence of an SQE will be preceded by a toolbox talk relevant to that activity, which will be given by the SQE to all operatives directly involved with that activity.