ECOLOGICAL EXPERTISE, EVOLVED

Southampton Airport, Navigator Quarter

Information for Habitats Regulations Assessment

Prepared on behalf of

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Final Report

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Executive Summary

An assessment of potential effects from the Proposed Development at Southampton Airport Navigator Quarter on Internationally designated nature conservation sites located within the zone of influence was undertaken. This report has been produced to provide Eastleigh Borough Council (EBC), as the Competent Authority with responsibility for undertaking a Habitats Regulations Assessment (HRA) of the proposals, with the necessary information to enable them to undertake the HRA process, and if required, to inform Appropriate Assessment in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended).

Consideration has been given to likely significant effects arising from air pollution, water pollution, noise and visual disturbance, light pollution, shading and habitat loss/fragmentation on the River Itchen Special Area of Conservation (SAC), Solent & Southampton Water Special Protection Area (SPA) and Ramsar site, and the Solent & Dorset Coast SPA.

Impact avoidance and mitigation measures are proposed where the potential for likely significant effects have been identified. These include delivery of a Construction Environmental Management Plan (CEMP) to control noise and the risk of polluted surface water runoff during construction, and delivery of a SuDS Strategy, ecological buffer zone at eastern site boundary, sensitive lighting strategy, and staff access management and monitoring measures during operation.

No significant residual effects are predicted to remain following the implementation of these measures: therefore, it is the conclusion of this report that EBC can find that, subject to the appropriate securement of such measures, there will be no adverse effect on the integrity of the International Sites concerned as a result of the Proposed Development, either alone or in combination with other plans and projects.

1. INTRODUCTION

Background

1.1 Ecological Planning & Research Ltd (EPR) was commissioned by Blockwork LLP to provide advice in relation to the need to ensure that the Proposed Development is able to comply with the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) in respect of the protection that they afford to Internationally designated sites for nature conservation. **Map 1** shows the Proposed Development, which is on land controlled by Southampton International Airport and National Rail.

1.2 This report is submitted in conjunction with the ecological information presented within Chapter 10: Ecology of the Environmental Statement (ES), which describes the baseline conditions prevailing on site, identifies the presence of important ecological features within the Zone of Influence, assesses the consequences of potential effects arising from the Proposed Development and sets out mitigation measures where required to ensure compliance with nature conservation legislation and planning policy.

1.3 The Proposed Development lies directly adjacent to the River Itchen Site of Special Scientific Interest (SSSI), which is also designated under the EC Habitats Directive (92/43/EEC) as a Special Area of Conservation (SAC). The River Itchen SAC is designated as a chalk river system dominated throughout by aquatic Ranunculus spp. and supporting an important population of Southern damselfly *Coenagrion mercuriale* and high densities of Bullhead *Cottus gobio*, as well as other Annex II species. **Map 1** shows the proximity of the Proposed Development to International designated sites ('International Sites') within 10km, which as well as the River Itchen include the Solent and Southampton Water Special Protection Area (SPA) and Ramsar site, the Solent Maritime SAC, and Emer Bog SAC.

1.4 Owing to the protection afforded to International Sites under the Conservation of Habitats and Species Regulations 2017 (as amended), Eastleigh Borough Council (EBC) as the Competent Authority is required to undertake a Habitats Regulations Assessment (HRA). The HRA will determine whether the Proposed Development is likely to result in a significant effect on the integrity of International Sites, either alone or in combination with other plans or projects. Should likely significant effects be identified, the Competent Authority must proceed to carry out an Appropriate Assessment (AA) to evaluate whether adverse effects on site integrity can be ruled out.

1.5 The purpose of this Information for Habitats Regulations Assessment (IfHRA) report is to provide the Competent Authority with the necessary information to enable them to undertake the HRA process, and if required, to inform an AA in accordance with the Habitats Regulations.

Relevant Legislation, Policy, Guidance and Case Law

1.6 To improve document flow, information relating to relevant legislation, policy, guidance and case law is included at **Appendix 1** or elsewhere within the report where relevant. This includes the

Conservation of Habitats and Species Regulations 2017 (as amended), relevant European case law (such as *People Over Wind and Sweetman v Coillte Teoranta*), Natural England's guidance on air quality assessment, and local planning policies relevant to the protection of International Sites in the vicinity of Southampton International Airport and the wider Solent region.

Preceding Plan-Level Sustainability Appraisal and Habitats Regulations Assessment

1.7 The Development falls within the administrative area of EBC and is covered by preceding plan-level HRA and Sustainability Appraisal (SA) processes. The Eastleigh Local Plan 2016–2036 was subject to HRA screening and AA, which identified a number of International Sites including the River Itchen SAC, Solent and Southampton Water SPA/Ramsar and Solent Maritime SAC, as sensitive to development pressures such as increased nitrogen deposition, recreational disturbance, and water quality degradation. The mitigation measures and policies embedded within the Local Plan have informed the approach to this site-specific HRA.

Conceptual Impact Assessment Model

1.8 In carrying out an assessment of the potential effects of a development proposal on an International Site, the 'source-pathway-receptor' concept provides a useful model for framing and objectively evaluating the mechanisms through which potential effects may occur and has been employed in this assessment. **Table 1.1** below sets out the various parts of the model and how they relate to each other.

Table 1.1: Conceptual Impact Assessment Model

Source	Pathway	Receptor
Elements of the development proposals that are likely to generate or contribute towards certain environmental effects.	Changes in environmental conditions caused by aspects of the development proposals that have the potential to affect an identified impact receptor.	The interest features / conservation objectives of the International Site concerned, and the environmental conditions required to support it.

1.9 During the assessment process, information has been gathered relating to each part of the conceptual assessment model in respect of each potential impact upon nearby International Sites. The consideration of this information will then allow EBC as the Competent Authority to determine whether or not a potentially viable impact pathway exists between the development proposals and International Sites within the Zone of Influence (ZoI) of the proposals.

Scope of the Habitats Regulations Assessment Report

1.10 In view of the above considerations, the scope of this IfHRA report is as follows:

- To gather information to establish whether or not the Proposed Development at Navigator Quarter is likely to contribute to a significant effect on any International Sites located within the ZoI, either alone or in combination with other plans and projects;
- To gather information to establish, if a significant impact is likely, whether or not it would adversely affect the integrity of any International Sites;
- To recommend impact avoidance and mitigation measures, if required, to address any potential impacts identified; and

- To make recommendations in relation to the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) in view of the information collected, if possible.

Consultation

1.11 Eastleigh Borough Council provided an EIA Scoping Opinion on 3 March 2025. This highlighted that the Proposed Development is adjacent to the River Itchen SSSI/SAC, as well as other local sites, and identified the need to assess the potential for significant effects to arise on ecological features from the following impact pathways:

- Air pollution (traffic emissions and dust generation);
- Hydrological change;
- Noise and vibration;
- Light pollution;
- Shading; and
- Habitat fragmentation.

2. CHARACTERISATION OF THE PROPOSED DEVELOPMENT

Introduction

2.1 Guidance from the European Commission indicates that the first stage of providing the information that is necessary for a Competent Authority to undertake the HRA process is for all those aspects of the subject project or plan, which either alone or in combination with other plans and projects have the potential for having a significant effect on an International Site, to be identified and characterised.

2.2 Undertaking such a systematic characterisation in respect of the Proposed Development will enable the various aspects of the project to then be related to the particular sensitivities of the International Sites, so that the potential ways in which the former may affect the latter can be examined.

Site Location and Context

2.3 The Proposed Development, referred to as Navigator Quarter, is located within the administrative boundaries of Southampton City Council. It spans land within Southampton International Airport and adjacent National Rail infrastructure. The Site lies immediately adjacent to the River Itchen, which is designated as a SAC and SSSI due to its internationally important freshwater, estuarine and wetland habitats and associated species. The surrounding landscape is urbanised, with transport infrastructure and associated industrial and commercial land uses dominating the wider context.

Proposed Development

2.4 The Proposed Development comprises the construction of a commercial and/or logistics-led employment scheme within the Navigator Quarter of Southampton International Airport. It includes new buildings, associated hardstanding and access infrastructure, and landscaping enhancements. The scheme is designed to improve regional connectivity and support economic growth, with layout and drainage measures incorporated to minimise environmental impacts.

2.5 Key components of the development include:

- Commercial/industrial floorspace and associated employment uses;
- Internal access roads and parking;
- Sustainable Drainage Systems (SuDS) for surface water management;
- Buffer zones and green infrastructure enhancements, particularly adjacent to the River Itchen;
- Lighting, servicing and security infrastructure; and
- Landscape planting and habitat enhancement where feasible.

Likely Biophysical Changes and Zone of Influence

2.6 The activities associated with the Proposed Development which are likely to lead to biophysical changes – and could accordingly give rise to ecological effects on sensitive designated site

features in the absence of mitigation – are set out in **Table 2.1** below, which is drawn from Box 9 of the EcIA Guidelines (CIEEM, 2018).

2.7 The ZoI of a proposed development is defined by the EcIA Guidelines as:

> *"… the area over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities"*.

2.8 In this case, the ZoI of the Proposed Development will encompass different areas, and thus potentially impact upon different ecological receptors, depending upon the spatial extent of the relevant biophysical change (e.g. light, noise, habitat loss, recreational disturbance). The ZoI(s) relevant to this assessment are summarised in **Table 2.1** below.

Table 2.1: Activities, potential impacts, and associated ZoIs

Activity	Potential Impact	Zone of Influence
Site Clearance and Construction Phase		
Access and travel on / off site	Noise / visual / lighting disturbance of vulnerable species	Within and adjacent to site boundary
Assembly and storage areas for machines and materials; construction compounds	Loss and fragmentation of habitats Noise / visual / lighting disturbance to vulnerable species Water-borne pollution (e.g. accidental chemical/fuel liberation) causing damage to vulnerable habitats or harm to species	Within and adjacent to site boundary Connected hydrological catchment
Vegetation clearance, ground excavation and structural works	Loss of terrestrial habitat Direct harm to protected species Sedimentation risk Changes to groundwater/surface water quality	Up to 50m from works area for direct effects and connected hydrological catchment
Dust generation	Airborne pollution affecting habitats and vegetation	Within 50m of the site and/or the construction vehicle route up to 250m from the site entrance
Operational Phase		
Commercial operations Access and travel on / off site	Noise / visual / lighting disturbance to vulnerable species Air pollution from traffic emissions	Within 250m of site access routes and internal circulation corridors Within 200m of affected roads
Hydrological change	Changes to ground and surface water flows and quality, with effects on habitats and associated species	Connected hydrological catchment

3. CHARACTERISATION OF INTERNATIONAL SITES

Introduction

3.1 This section of the IfHRA report describes and characterises International Sites within the potential ZoI of the Proposed Development, including their qualifying features and conservation objectives, in order to enable an assessment to be made of the potential for significant impacts arising in the absence of impact avoidance and mitigation measures.

International Sites Considered to be Within the Potential Zone of Influence of the Proposed Development

3.2 **Map 1** shows the locations of International Sites within around 5 km of the Site, which includes:

- River Itchen SAC;
- Solent and Southampton Water SPA;
- Solent and Southampton Water Ramsar Site; and
- Solent and Dorset Coast SPA.

3.3 These sites fall within the potential ZoI for direct and indirect effects including air and water pollution, recreational pressure, and disturbance from construction and operational activities from noise and light.

3.4 The citation, data sheet and conservation objectives for these sites can be found online https://designatedsites.naturalengland.org.uk/ and are summarised below.

Site Background, Qualifying Features & Component SSSIs

3.5 **Table 3.1** below provides a summary of the relevant background, qualifying features, component SSSIs and SSSI condition for each of the International Sites located within the potential ZoI of the Proposed Development.

Table 3.1: Summary information for International Sites within the potential ZoI

Site Name	Type	Area (ha)	Qualifying Features	Closest Component SSSI (and distance from Site)	SSSI Condition
River Itchen SAC	River SAC	745.2	Annex I habitats: • Water courses with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (H3260) Annex II species: • Southern damselfly[1] *Coenagrion mercuriale* • Bullhead[1] *Cottus gobio* • Atlantic salmon *Salmo salar* • Brook lamprey *Lampetra planeri* • Otter *Lutra lutra* • White-clawed crayfish *Austropotamobius pallipes*	River Itchen SSSI (adjacent)	6.89% Favourable; 59.21% Unfavourable – Recovering; 27.99% Unfavourable – No Change; 5.51% Declining
Solent & Southampton Water SPA	Coastal SPA	~5,496	Annex II species (breeding): • Sandwich tern *Sterna sandvicensis* • Little tern *Sternula albifrons* • Common tern *Sterna hirundo* Annex II species (non-breeding migratory): • Dark-bellied Brent Goose *Branta bernicla bernicla* • Black-tailed Godwit *Limosa limosa islandica* • Teal *Anas crecca* • Redshank *Tringa totanus* • Gadwall *Mareca strepera*	Lee-on-the Solent to Itchen Estuary SSSI (4.6km)	73% - Favourable; 27% - Unfavourable, no change
Solent & Southampton Water Ramsar	Ramsar Wetland	~5,192	Ramsar criteria 5: supports over 70,000 waterfowl in winter Ramsar criteria 6: species/populations occurring at levels of international importance, including: • Dunlin *Calidris alpina alpina* • Redshank • Gadwall • Teal	Lee-on-the Solent to Itchen Estuary SSSI (4.6km)	73% - Favourable; 27% - Unfavourable, no change

Site Name	Type	Area (ha)	Qualifying Features	Closest Component SSSI (and distance from Site)	SSSI Condition
			• Black-tailed Godwit • Brent Goose… etc		
Solent & Dorset Coast SPA	Marine SPA	88980.55	Annex II species (breeding): • Sandwich tern *Sterna sandvicensis* • Little tern *Sternula albifrons* • Common tern *Sterna hirundo*	No marine SSSI (2.5km)	

[1] Annex 1 habitats and Annex II species that are the primary reason for site selection

Conservation Objectives

SAC Sites

3.6 The Natural England conservation objectives for the SAC sites listed in **Table 3.**1 are to ensure that the integrity of the site is maintained or restored as appropriate, and to ensure that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

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

SPA Sites

3.7 The Natural England conservation objectives for the SPA sites listed in **Table 3.1** To ensure that the site is maintained or restored as appropriate and contributes to achieving the aims of the Birds Directive, by maintaining or restoring:

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

Ramsar Sites

3.8 Although Natural England do not set out conservation objectives for Ramsar Sites owing to the differing legislative origin in comparison to SACs and SPAs, Ramsar Sites are nevertheless afforded the same level of protection as SACs and SPAs as a matter of National Planning Policy (NPPF, 2024). As Ramsar designations usually coincide with SPA/SAC designations, the conservation objectives for an SPA/SAC may be considered in assessment terms as extending to apply to coinciding Ramsar designations.

Natural England Supplementary Advice

3.9 Natural England has also published ‘Supplementary Advice on Conserving and Restoring Site Features’ for the SAC and SPA sites described above. Natural England’s supplementary advice includes site-specific targets intended to support the achievement of the conservation objectives, and these have been considered throughout this assessment.

3.10 The relevant publication dates for the Supplementary Advice for each designated site is listed in **Table 3.2** below along with a summary of the site-specific targets of most relevance to the HRA of the Proposed Development.

Table 3.2: Summary of Natural England Supplementary Advice for SAC and SPA sites within the ZoI

Site Name	Publication Date	Site-specific Targets	Feature(s) Target Applies to
River Itchen SAC	March 2018	Maintain water quality, flow levels, channel morphology, and breeding habitat	H3260, *Salmo salar, Lampetra planeri, Cottus gobio*, etc.
Solent & Southampton Water SPA	November 2018	Maintain safe undisturbed roosting and feeding areas; manage recreational use	Waterbird assemblage, *Sterna spp., Branta bernicla*, etc.
Solent & Dorset Coast SPA	October 2023	Maintain supporting habitat by restricting disturbance and maintaining air and water quality	Tern species

Site Improvement Plans

3.11 Site Improvement Plans (SIPs) produced by Natural England set out measures to address prioritised issues affecting site condition. **Table 3.3** below provides a summary of the prioritised issues for the International Sites considered above.

Table 3.3: Summary of SIPs for International Sites within the potential ZoI

Site Name	Date of SIP	Prioritised Issues
River Itchen SAC	2014	Water pollution (diffuse and point sources), flow modification, channel alterations, sedimentation
Solent & Southampton Water SPA Solent & Dorset Coast SPA	2014 [Solent SIP]	Public disturbance (e.g., walkers, dogs, watercraft), air and water pollution, habitat fragmentation

4. ASSESSMENT OF POTENTIAL IMPACT PATHWAYS

Introduction

4.1 The Source-Pathway-Receptor model described in **Section 1** has been used to consider whether the International Site qualifying features listed in **Section 3** might be adversely affected by the biophysical changes predicted to arise as a result of the Proposed Development in **Section 2** in the absence of impact avoidance and mitigation measures. Relevant impact pathways scoped in for further assessment are then considered in greater detail in the proceeding sections.

4.2 The source of potential effects in each case derives from the construction and operation of the Proposed Development, and the receptor is the qualifying features of the International Sites.

Potential Impact Pathways and Vulnerability of Receptors

4.3 **Table 4.1** below summarises the vulnerability of designated site receptors listed in **Section 3** to a number of potential impact pathways, and records whether each designated site is considered to fall within the predicted ZoI for each impact type generated by the Proposed Development (as described in **Section 2**). The relevant sections of this report where further assessment is set out are also listed.

Table 4.1: Scoping of potential impact pathways

Impact Pathway	Vulnerability	Scoped In/Out		Report Section
		River Itchen SAC	Solent & Southampton Water SPA/Ramsar; Solent & Dorset Coast SPA	
Air Pollution	Sensitive terrestrial and aquatic habitats (e.g. woodland, wet meadows, chalk streams) are vulnerable to impacts from dust liberation during construction and traffic emissions (NOx and NH_3) during operation which deposit to the ground resulting in eutrophication and acidification, potentially altering species composition and reducing biodiversity.	Scoped In	Scoped In	5
Water Pollution	Riverine and coastal habitats and their species (e.g. salmon, otter, waterfowl) have the potential to be affected by increased nutrient load, sedimentation, or anthropogenic pollution to surface or ground waters during construction or operation.	Scoped In	Scoped In	6
Noise and Visual Disturbance	Mobile species (e.g. otter, fish, overwintering birds) may be disturbed by construction or operational noise and visual stimuli, potentially altering foraging, breeding, or migratory behaviours.	Scoped In – Otter and migratory fish	Scoped Out – Distance from Proposed Development	7
Light Pollution	Nocturnal or crepuscular species (e.g. otter) may avoid artificially lit areas, potentially disrupting movement or foraging patterns.	Scoped In – Otter corridor adjacent to site	Scoped Out – Distance from Proposed Development	8
Recreational Pressure	Increased access can disturb sensitive species, lead to habitat trampling, nutrient enrichment, dog disturbance, and erosion.	Scoped Out – No promoted access or direct linkages	Scoped Out – No promoted access or direct linkages	N/A
Shading	Significant shading of light-dependent habitats has the potential to alter habitat composition and affect supported species.	Scoped Out – Distance from built development	Scoped Out – Distance from Proposed Development	N/A
Habitat Loss/ Fragmentation	Direct loss or severance of corridors could affect species movement or site integrity, although all designated sites lie outside the site boundary.	Scoped Out – No direct habitat loss or severance	Scoped Out – Distance from Proposed Development	N/A

5. AIR POLLUTION

Introduction

5.1 This section considers the potential effects of air pollution generated by the Proposed Development during construction (including dust and particulate matter generated during construction works and emissions from construction vehicles), and from development-related traffic (exhaust emissions) during operation, on International Sites. This assessment has considered the sensitivity of site qualifying features (habitats and species) to air pollution, and data provided by Kairus Ltd. (and reported separately in ES Chapter 7: Air Quality) regarding the current and potential future pollutant levels that could arise as a result of the Proposed Development either alone or in combination with other plans and projects.

5.2 Potential impacts on other designated sites not subject to HRA (SSSIs, Sites of Importance for Nature Conservation (SINC) and Ancient Woodland, collectively referred to as 'Local Sites') are considered separately in ES Technical Appendix 10.11 'Local Sites Air Quality Assessment'.

5.3 Where the potential for likely significant effects (LSE) is identified, this section also considers the potential for impact avoidance or mitigation to be implemented, in line with the requirements of an AA.

Relevant Background Information

National Air Quality Strategy & Trends

5.4 Under the requirements of the Environment Act 1995, the UK government published an Air Quality Strategy (AQS). The AQS sets out the UK's national standards and objectives for ambient air quality, and measures to help achieve the objectives. The overall aim of the AQS is to achieve steady improvement in air quality into the long term. The objectives are transcribed into regulations in the Air Quality (England) Regulations 2000, as amended.

5.5 In 2019, the Government published their Clean Air Strategy. The Strategy sets out the measures that the Government intends to take to achieve the legally binding international targets to reduce emissions of key pollutants. Whilst there are no local or regional standards for pollutant emissions (as opposed to the thresholds for the concentration of pollutants in air), some of the sectors targeted in the Clean Air Strategy are relevant to the Proposed WNS i.e. Transportation and Homes.

5.6 The deposition of both oxidised nitrogen (NOx, primarily NO_2) and reduced nitrogen (primarily from ammonia – NH_3 and ammonium ions – NH_4^+) contribute to total nitrogen deposition (N deposition), via dry and wet deposition. National emissions of NO_X have decreased substantially over recent decades and are expected to decline further in the future. Emissions of NH_3, which are dominated by the agricultural sector, have however, only marginally decreased in recent years and even increased in some areas of the UK.

5.7 Under the National Emissions Ceilings Regulations, the UK is legally required to implement measures to reduce emissions of key pollutants, including NH_3 and NO_X, by 8% and 55% respectively by 2029 over 2005 base emissions, and by 16% and 73% respectively post 2030. The UK's National Air Pollution Control Programme (NAPCP), including the Clean Air Strategy in England, is expected to exceed these emission reduction targets such that a 17% decrease

in total N deposition onto protected priority sensitive habitats is expected, with a predicted 18.9% decrease from the 2016 base year.

5.8 Whilst the decrease will not be uniform over all sites, it is reasonable to conclude that background NH_3 concentrations and N deposition rates will decrease in the future.

Critical Levels and Loads

European CAFE Directive (2008/50/EC) and Air Quality Standards Regulations 2010

5.9 The Directive details air quality limit values, target values, and Critical Levels for a number of air pollutants established by the European Parliament and Council for the protection of human health, vegetation and ecosystems. These have been transposed into UK legislation by the 2010 Regulations.

United Nations Economic Commission for Europe Critical Loads

5.10 The United Nations Economic Commission for Europe (UNECE) has set Critical Loads for N-Deposition for specific sensitive ecosystems. These were most recently revised in 2022 (Bobbink et al. 2022).

The Air Pollution Information System (APIS)

5.11 The Air Pollution Information System (APIS) is the UK's principal source of information on pollutant levels, including at designated nature conservation sites (SAC/SPA/SSSI), and on the sensitivity of their component habitats as well as habitats and species in general providing a continually updated web-based data resource.

5.12 APIS sets out the relevant environmental standards for pollutant types (as defined by the 2010 Regulations and UNECE), which vary by habitat type where N deposition is concerned. 'Critical Levels' define the environmental standard for airborne gaseous pollutants (NOx and NH_3) and 'Critical Loads' define the environmental standard for deposited pollutants (N deposition).

5.13 Critical Levels and Loads (referred to collectively as the 'CL') are defined as:

> *Critical Level (ug/m^3): "concentrations of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur according to present knowledge".*
>
> *Critical Load (kg N/ha/yr): "a quantitative estimate of exposure to one or more pollutants, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge."*

5.14 For NOx, a standard Critical Level of 30µg/m^3 applies to all habitat types. For NH_3, a Critical Level of 1µg/m^3 applies to lower plants (lichens and bryophytes), and a Critical Level of 3µg/m^3 applies to all other types of vegetation. For N deposition, the Critical Load is habitat specific, with lower and upper CLs cited for application in different circumstances (for example differing hydrological or management regimes); in practice there is rarely sufficient information to justify use of anything but the lower CL, and lower CLs are used throughout this assessment.

5.15 When pollutant loads (or concentrations) exceed the CL, it is considered that there is a risk of harmful effects. A value in excess of the CL is termed the 'exceedance'. A larger exceedance is often considered to represent a greater risk of damage, although other factors also influence this.

Natural England's Approach to Air Quality Assessment

5.16 Natural England's guidance to Local Authorities regarding air quality assessment and HRA (Natural England, 2018) takes account of case law of relevance to air quality assessment (the 'Wealden Judgment', described in **Section 1**) and describes the screening threshold for appropriate assessment as follows:

> *"widely accepted Environmental Benchmarks for imperceptible impacts are set at 1% of the critical load or level" [our emphasis].*

5.17 Natural England's (2018) guidance therefore advocates the following stepwise approach to assessing the potential for likely significant effects from air pollution:

1) Apply the threshold alone - consider the contributions of the project alone and whether they could exceed 1% of the CL or a change of more than 1,000 Average Annual Daily Trips (AADT) (or 200 Heavy Duty Vehicles, HDV);

2) Apply the threshold in-combination with emissions from other plans and projects - consider the contributions of the project in addition to other live plans and projects (but see further below) and whether collectively they could exceed 1% of the CL or a change of more than 1,000 AADT (or 200 HDV);

3) If steps 1 and 2 do not result in exceedance of the screening threshold, then the potential for likely significant effects either alone or in combination can be screened out, and further investigation as part of an appropriate assessment is not required;

4) If steps 1 and/or 2 result in exceedance of the screening threshold, then the need for appropriate assessment is triggered. This is because the development either alone or in combination is predicted to contribute pollutants to a site at a level above which harm could occur, irrespective of whether background levels already exceed the CLs. The guidance provides further advice on the information that should be considered as part of an appropriate assessment, which includes, amongst a plethora of factors, the potential for areas subject to air quality exceedance to coincide with sensitive qualifying features, and the specific conservation objectives for the sites concerned and how these relate to existing, and future predictions of, background levels of pollutants.

5.18 Natural England's 2018 guidance comments on the scope of in-combination assessment:

> *"4.44 It is generally well-established that the scope of an in-combination assessment is restricted to plans and projects which are 'live' at the same time as the assessment being undertaken. These can potentially include:*
>
> - *The incomplete or non-implemented parts of plans or projects that have already commenced;*
> - *Plans or projects given consent or given effect but not yet started;*

- *Plans or projects currently subject to an application for consent or proposed to be given effect;*
- *Projects that are the subject of an outstanding appeal;*
- *Ongoing plans or projects that are the subject of regular review and renewal;*
- *Any draft plans being prepared by any public body;*
- *Any proposed plans or projects that are reasonably foreseeable and/or published for consultation prior to application; and*
- *As stated above, when considering this scope, competent authorities can be mindful of the assessment, reasoning and conclusions included in any previous HRAs for these plans or projects." [our emphasis]*

5.19 Their guidance also states:

> *"4.47 In general terms, it is important for a competent authority to remember that the subject plan or project remains the focus of any in-combination assessment. Therefore, it is Natural England's view that care should be taken to avoid unnecessarily combining the insignificant effects of the subject plan or project with the effects of other plans or projects which can be considered significant in their own right. The latter should always be dealt with by its own individual HRA alone. In other words, it is only the appreciable effects of those other plans and projects that are not themselves significant alone which are added into an in-combination assessment with the subject proposal (i.e. 'don't combine individual biscuits (=insignificant) with full packs (=significant)')." [our emphasis]*

Assessment Methodology

Construction Phase

5.20 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within IAQM 'Guidance on the Assessment of Dust from Demolition and Construction'.

5.21 The potential for harm to ecological receptors to arise from dust liberation during demolition, earthworks, construction and trackout was considered. The first stage of the assessment considered the potential for ecological receptors to be present within 50m of the site and/or the construction vehicle route up to 250m from the site entrance. Where ecological receptors were present, the second stage of the assessment considered the risk of dust impacts, with a risk category assigned on the basis of the combination of two factors: the sensitivity of the area to dust impacts (low, medium or high sensitivity); and the scale and nature of the works resulting in the magnitude of fugitive dust emissions (low, medium or high magnitude). These factors are considered in the absence of mitigation. Further details are provided in ES Chapter 7.

5.22 Sites scoped into the construction phase dust assessment are shown on **Map 2** and include:

- River Itchen SAC.

5.23 The volume of construction traffic is currently unknown, therefore separate assessment of the potential for air quality impacts from construction phase traffic emissions has not been undertaken. However, it is reasonable to assume that traffic volumes will be significantly lower than operational traffic generation, and that any impacts associated with construction traffic generation will be temporary in nature and lower than predicted within the operational assessment.

Operational Phase

Overview

5.24 The methodology used to assess the potential for significant effects from air quality changes impacting upon on ecological sites during the operational phase is based on Natural England's guidance regarding air quality assessment of International sites, described above (Natural England, 2018).

5.25 International Sites within 200m of an "affected road", a road where a change (increase or decrease) of more than 1,000 AADT (or 200 HDV) is predicted (by relevant traffic models), can be affected by airborne NOx and ammonia emissions arising from traffic, and subsequent deposition of nitrogen from air to the ground (N deposition). N deposition can both acidify and enrich a site with nutrients, but it is difficult to separate effects due to eutrophication and acidification. In this study the areas of designated sites identified as experiencing potentially significant impacts from N deposition is used to define the area that could be impacted by N deposition, be that via acidification or eutrophication, or a combination of either.

5.26 The aforementioned change in traffic flow is the means of defining the ZoI for detailed air quality assessment, which in geographical terms is defined by the number and distribution of trips on a road network and cannot be defined by a standardised linear distance catchment from a proposed development site. 200m is set as the ZoI for air pollution impacts on designated sites, because traffic-generated pollutant levels drop off significantly within the first 50m from the roadside and concentrations approach background levels by 200m (Laxen & Marner, 2008; Ricardo-AEA, 2016).

5.27 The core scenarios for the air quality assessment are:

- 2023 – base scenario for model verification;
- 2028 – future base scenario (using 2025 base traffic with 2028 emission factors);
- 2028 – Do-minimum (DM) scenario (including base traffic flows and Committed Development trips); and
- 2028 – Do-something (DS) (including trips associated with the Proposed Development).

5.28 The ADMS Roads dispersion model was used to predict annual mean traffic emissions of NOx and NH_3 at the identified ecology receptors (Process Contribution (PC)). Background concentrations of each pollutant were added to the model outputs to provide total concentrations of each pollutant (Predicted Environmental Concentration (PEC)). The predicted NOx and NH_3 concentrations were converted to N-Deposition using relevant conversion factors.

Screening for Likely Significant Effects

5.29 In line with Natural England's 2018 guidance outlined above, a screening stage assessment was carried out to define the 'affected road network' (ARN) and Zone of Influence within which

likely significant effects from air pollution could arise. Traffic increases, or impacts, from the Proposed Development alone and in-combination with other Committed Development were analysed to determine the affected road links experiencing a change of more than 1,000 AADT (or 200 HDV). A 200m buffer zone was then cast from the ARN, with International Sites located in this zone requiring further detailed air quality assessment as part of an Appropriate Assessment.

Detailed Air Quality Modelling for Appropriate Assessment

5.30 The air quality consultant (Kairus Ltd) modelled traffic-generated air pollutant concentrations (NO_x and NH_3) and deposition rates (N deposition) at specific receptors located on affected roads and International Sites screened into the detailed assessment. Pollutant concentrations and deposition rates were modelled at 10m intervals along 200m long transects starting at the roadside.

5.31 Total pollutant concentrations and deposition rates (the PEC) at increasing distances from the ARN were calculated, based on the modelling scenarios outlined above. The change in comparison to the future base scenario, or 'impact', generated by the Proposed Development and the Proposed Development acting in-combination with other Committed Development (the PC) was then calculated and expressed as a percentage of the relevant CL.

Assessment of Likely Significant Effects

Construction Phase

5.32 The results of the dust impact risk assessment, in the absence of mitigation, are described in detail in ES Chapter 7 and summarised in **Table 5.1** below.

5.33 The dust risk assessment determined that dust liberation arising during all construction works stages of the Proposed Development could impact upon the River Itchen SAC located within the ZoI (as shown on **Map 2** and listed above). Effects would be temporary and reversible. Nevertheless, in the absence of mitigation measures likely significant effects cannot be excluded. Construction phase mitigation is therefore proposed.

Table 5.1: Results of Construction Phase dust impact risk assessment, summarised from ES Chapter 7

Stage	Works	Dust Emission Magnitude	Receptor Sensitivity	Risk of Impacts from Dust Soiling
Demolition	No demolition activities required	n/a	n/a	n/a
Earthworks	Excavating material, haulage, tipping and stockpiling, site levelling and landscaping	Large	High	High
Construction	Total building volume will be greater than 75,000m^3	Large	High	High
Track-Out	20-50 HGV movements per day, there is also the potential for an unpaved road length of greater than 100m during certain stages of construction	Medium	Low	Low

Operational Phase

5.34 As per the methodology outlined above, the screening stage assessment identified the road links predicted to experience an increase in traffic flows of more than 1,000 AADT (or 200 HDV) as a result of the Proposed Development alone and in combination with other Committed Development. International Sites located within 200m of these 'affected roads' were then identified as having the potential to be significantly affected by air pollution, with the River Itchen SAC being the only International Site requiring further detailed air quality modelling and assessment as part of an Appropriate Assessment (discussed below). Four transects were located in suitable places at the interface between the ARN and designated site, as shown on **Map 3** – Transects E8-E11.

Information for Appropriate Assessment

Construction Phase

Impact Avoidance and Mitigation

5.35 In the absence of impact avoidance and mitigation, the construction phase assessment has concluded that the potential for significant negative effects from dust liberation cannot be ruled out.

5.36 Table 7.25 of ES Chapter 7 sets out the mitigation measures that will be included within a Construction Environmental Management Plan (CEMP) to control fugitive dust emissions during construction. These are based on the advice provided within the IAQM guidance and are considered suitable for the site. The scope of measures cover: site management, preparing and maintaining the site, operating vehicle/machinery and sustainable travel, operations, waste management, earthworks, construction and trackout.

5.37 With the deployment of these well-established measures, adverse effects on the integrity of the River Itchen SAC, either alone or in combination, from dust liberation will not arise.

Operational Phase

Environmental Benchmarks

5.38 The relevant environmental benchmarks upon which to assess the potential effects of the Proposed Development on the River Itchen SAC taken forward for detailed air quality assessment – site relevant CLs - were established with reference to the APIS online GIS map tool.

5.39 A summary of the SAC qualifying features, associated broad habitats and CL classes, and relevant CLs is set out in **Table 5.2** below.

5.40 APIS does not assign a Nitrogen Critical Load for the SAC's water course habitat, nor for its aquatic fauna, and it also assigns a Lower Critical Load of 5kg/N/ha/yr for the Southern damselfly on the basis that the species is usually associated with wet heaths. However, the UK 'site accounts' for the Southern damselfly on the JNCC website https://sac.jncc.gov.uk/species/S1044/ states the following for the River Itchen:

> *"The site in central southern England represents one of the major population centres in the UK. It also represents a population in a managed chalk-river flood plain, an unusual habitat for this species in the UK, rather than on heathland."* [EPR's emphases]

5.41 Information pertaining to the underlying SSSI designation was therefore reviewed, as shown in the last row of **Table 5.2**, and these CLs were adopted as the most accurate site-specific CLs for the River Itchen's floodplain and riverine habitats and associated species. This is consistent with the list of supporting habitat types for the Southern damselfly listed by Natural England within the 'Supplementary Advice on Conserving and Restoring Site Features' guidance, where the target for the restoration of supporting habitat references wet woodland, lowland neutral grassland and fen meadow, and swamp, reed-beds and tall-herb fen.

Table 5.2: Critical Levels and Loads for the River Itchen qualifying features cited by APIS (website accessed May 2025)

SAC qualifying features	APIS N CL Class	APIS CL - NOx	APIS CL – NH_3	APIS LCL – N deposition
Water courses with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	No comparable habitat with CL available	30	3	Not assigned
Southern damselfly	Northern wet heath	30	Not assigned	5
Bullhead, atlantic salmon, brook lamprey, white-clawed crayfish, otter	No comparable habitat with CL available	Not sensitive	Not sensitive	
<u>SSSI habitats:</u> Broadleaved, mixed and yew woodland Fen, marsh and swamp Neutral grassland Rivers and streams	Broadleaved deciduous woodland Low and medium altitude hay meadows Rich fens	30	3	10

Detailed Modelling Results

5.42 The air quality modelling results for NOx, NH_3 and N deposition are summarised at **Tables 5.3-5** below.

5.43 With regards to NOx, the cumulative impact exceeds the screening threshold only at transect E9, though falls below 1% of the CL within 50m of the roadside. The impact of the Proposed Development alone only just exceeds 1% at E9, but makes no discernible difference to the extent of future CL exceedance, and the CL is exceeded in all modelled scenarios. The total concentration of NOx is not high enough to cause significant phytotoxic effects[1], therefore an

[1] The World Health Organisation's 'Air Quality Guidelines' (2000; Second Edition. Chapter 11, Figure 2) indicates that exposure to annual average concentrations below 100µg/m^3 is unlikely to cause direct biochemical or physiological effects based on available studies.

adverse effect from airborne NOx will not arise, though the contribution of NOx to N deposition must be considered separately.

5.44 For NH_3, the cumulative impact exceeds the screening threshold at transect E9 only, though falls below 1% of the CL within 20m of the roadside. The CL is exceeded in all modelled scenarios for transect E9 only, though total future NH_3 concentrations also fall below the CL within 20m of the roadside. The impact of the Proposed Development alone does not exceed 1% and so makes no discernible difference to the extent of future peripheral site CL exceedance.

5.45 For N deposition, the cumulative impact exceeds the screening threshold up to 110m from the roadside (100m at transect E10, 30m at E8), and the impact alone exceeds 1% of the CL up to 20m at transect E9. However, the CL is exceeded throughout the site under all modelled scenarios, therefore future development makes no discernible difference to the extent or magnitude of future CL exceedance.

Conclusion of Air Quality Assessment

5.46 Overall, adverse effects on site integrity from airborne NOx and NH_3 and their resultant contribution to N deposition can be excluded both from the Proposed Development considered alone and in combination with other development, on the basis of the following rationale.

5.47 For some modelled locations, the PC from the Proposed Development alone and in combination falls below the screening threshold (1% of the CL), meaning that likely significant effects can be ruled out in accordance with Natural England's methodology, with no further detailed consideration.

5.48 Elsewhere, contributions from the Proposed Development alone or in combination exceed the screening threshold for the modelled pollutants, however, in all such locations the relevant CL is already exceeded in all future modelling scenarios with or without development; therefore, development would make no discernible difference to the extent or magnitude of future CL exceedance.

5.49 The background trend is one of air quality improvement, described above under 'National Air Quality Strategy and Trends', therefore, the effect of the Proposed Development considered alone or in combination (where screening thresholds are exceeded) would be to slow the rate of air quality improvement (or restoration to site-relevant CLs), arising from the autonomous measures described by a very small margin and at increasingly imperceptible levels with increasing distance from the roadside.

5.50 Furthermore, only peripheral site areas would be affected by this retarded rate of air quality improvement – screening threshold exceedance is predicted to extend to 0.07% of the total area of the SAC designation alone, and only 0.4% in combination.

5.51 The physical site area receiving development-generated pollution is relevant to the assessment of impacts to site integrity, which is specifically required once AA is triggered, since site integrity is defined as:

> *"The coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated." (EC, 2018) [our emphasis]*

5.52 In terms of the implications of almost imperceptibly small delays to air quality improvement, Natural England's Supplementary Advice also recognises that achieving the target for maintaining or where necessary restoring concentrations and deposition rates to site-relevant CLs *"may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales."*

5.53 The supplementary advice therefore acknowledges that the air quality targets may not necessarily be capable of being met in the absence of technological innovations and strategic initiatives. Eastleigh Borough has an adopted an Air Quality Action Plan (2020), and Local Plan Policy DM8 establishes the requirement for ongoing review of air quality, for all developments to assess air quality effects and propose mitigation where necessary, including the provision of measures to reduce traffic congestion. Any delay, especially where almost imperceptible, to the rate of autonomous air quality improvement would therefore be overridden by targeted management measures and would not materially affect the overall trajectory for air quality recovery.

5.54 Furthermore, the following proposed sustainable transport measures will reduce the number of vehicle trips generated by the Proposed Development and/or reduce associated traffic emissions, and this has not been factored into the air quality modelling carried out meaning that the modelling results represent a 'worst-case' scenario:

- Provision of electric vehicle charging infrastructure across the site;
- Implementation of a site-wide travel plan to reduce single-occupancy vehicle use; and
- Promotion of active and low-carbon transport options (e.g. cycle parking, car club membership).

Table 5.3: Summary of maximum modelled annual mean NO_X concentrations with and without the Proposed Development and predicted impacts alone and in combination *Exceedances of the CL (30ug/m^3) are highlighted in orange / PC exceedance of the screening threshold (1% of the CL) are highlighted in yellow.*

		PEC – Total NOx at roadside, ug/m^3			Impact Alone			Cumulative Impact		
ID	**Site Name**	**2028 Base**	**2028 Base + Committed Development**	**2028 Base + Committed + Proposed Development**	**Max PCa**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**	**Max PCc**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**
E8	River Itchen SAC	29.0	29.3	29.4	0.13	0.4	-	0.37	1.2	-
E9	River Itchen SAC	57.5	58.2	58.6	0.36	1.2	10m	1.07	3.6	50m
E10	River Itchen SAC	24.3	24.5	24.6	0.08	0.3	-	0.24	0.8	-
E11	River Itchen SAC	19.5	19.6	19.6	0.05	0.2	-	0.13	0.4	-

Table 5.4: Summary of maximum modelled NH_3 concentrations and predicted impacts alone and in combination *Exceedances of the CL* (3 ug/m^3) *are highlighted in orange / PC exceedance of the screening threshold (1% of the CL) are highlighted in yellow.*

		PEC – Total NH_3 at roadside, ug/m^3			Impact Alone			Cumulative Impact		
ID	**Site Name**	**2028 Base**	**2028 Base + Committed Development**	**2028 Base + Committed + Proposed Development**	**Max PCa**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**	**Max PCc**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**
E8	River Itchen SAC	2.1	2.1	2.1	0.0091	0.3	-	0.0257	0.9	-
E9	River Itchen SAC	4.1	4.1	4.1	0.0255	0.9	-	0.0751	2.5	20m

		PEC – Total NH_3 at roadside, ug/m^3			Impact Alone			Cumulative Impact		
ID	**Site Name**	**2028 Base**	**2028 Base + Committed Development**	**2028 Base + Committed + Proposed Development**	**Max PCa**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**	**Max PCc**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**
E10	River Itchen SAC	1.7	1.7	1.7	0.0059	0.2	-	0.0168	0.6	-
E11	River Itchen SAC	1.4	1.4	1.4	0.0032	0.1	-	0.0088	0.3	-

Table 5.5: Summary of maximum modelled N deposition rates and predicted impacts alone and in combination Exceedances of the CL (10 kg/N/ha/yr) are highlighted in orange / PC exceedance of the screening threshold (1% of the CL) are highlighted in yellow.

		PEC – Total N deposition at roadside, kg/N/ha/yr			Impact Alone			Cumulative Impact		
ID	**Site Name**	**2028 Base**	**2028 Base + Committed Development**	**2028 Base + Committed + Proposed Development**	**Max PCa**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**	**Max PCc**	**Max PC as % of CL**	**Distance to 1%CL or PEC<CL**
E8	River Itchen SAC	20.55	20.67	20.74	0.07	0.7	-	0.19	1.9	30m
E9	River Itchen SAC	35.04	35.40	35.59	0.18	1.8	20m	0.54	5.4	110m
E10	River Itchen SAC	18.20	18.28	18.32	0.04	0.4	-	0.12	1.2	100m
E11	River Itchen SAC	15.76	15.80	15.82	0.02	0.2	-	0.06	0.6	-

Conclusion

5.55 Dust liberation during construction has the potential to result in significant effects on the River Itchen SAC, though impacts would be temporary and reversible, however, risk of any effect would be controlled through implementation of a CEMP, further details of which are provided in ES Chapter 7.

5.56 Detailed air quality modelling has considered the potential for the Proposed Development acting alone and in combination with other committed development to contribute to air pollution effects on the River Itchen SAC from traffic emissions generated by vehicle trips during operation. Overall, adverse effects on site integrity from airborne NOx and NH_3 and their resultant contribution to N deposition can be excluded both from the Proposed Development, considered alone and in combination with other development, on the basis that development would make no discernible difference to the extent or magnitude of future CL exceedance and would not materially affect the overall trajectory for air quality recovery.

6. WATER POLLUTION

Introduction

6.1 This section considers the potential for changes to water quality to affect International Sites during the construction and operational phases of the Proposed Development, in view of the above-described site sensitivities, either alone or in combination with other plans and projects.

6.2 Where the potential for likely significant effects is identified, the scope of any specific impact avoidance and mitigation measures is also considered as part of an Appropriate Assessment.

Relevant Background Information

Receptor Sensitivity

6.3 Riverine and coastal habitats and their associated species are sensitive to increased nutrient load, sedimentation, or anthropogenic pollution during construction and operational phases of development, with the potential for adverse ecological effects to occur in the absence of mitigation.

6.4 Natural England's Site Improvement Plans (SIPs) for the River Itchen SAC and Solent SPAs identify water pollution as threat requiring action (see **Table 3.3** in **Section 3**), with the Solent SIP referring to a 'Diffuse Water Pollution Plan' being delivered by the Environment Agency, Natural England, and relevant conservation NGOs and water companies, and the River Itchen SIP also mentioning 'DWP plans' as well as review of consents and waste water treatment.

Southern Damselfly

6.5 The Southern Damselfly is a qualifying feature of the Itchen SAC. It has very specialised habitat requirements: shallow, well oxygenated, base-rich water; a constant (perennial) slow to moderate flow of water; channel substrate consisting primarily of silt and detritus; presence of a broad fringe of herbaceous emergent dicotyledon plants along margins; presence of some areas of open water; largely (but not necessarily completely) unshaded by bankside shrubs and trees. Changes in water quality resulting in increases in nutrients, siltation or a decrease in oxygen will affect the habits supporting the Southern Damselfly, potentially reducing its viability. The specific micro-habitat used by the Southern Damselfly for egg laying is described as a fringe of herbaceous emergent dicotyledon plants. This is likely to be the most vulnerable element of this habitat to nutrient enrichment.

Assessment Methodology

6.6 The assessment of water pollution draws on details in the submitted report entitled *Navigator Quarter, Land Adjacent to Southampton Airport: Flood Risk Assessment and Drainage Strategy* (Burrows Graham Ltd, 17 April 2025) for the Proposed Development.

6.7 Reference is also made to an Indicative Drainage Layout drawing (30228-BGL-XX-XX-SK-C-00012) by Burrows Graham Ltd, revision P03 dated 6 May 2025.

Assessment of Likely Significant Effects

6.8 The River Itchen SAC supports low-nutrient chalk river systems and associated riparian vegetation and associated species, and is particularly sensitive to nutrient loading, pollution and altered flow.

6.9 The River Itchen SAC reaches its southern limit at Woodmill Lane, but flows south where the river and riparian corridor form part of the Solent & Dorset Coast SPA. Further south again at Bitterne, the Solent & Dorset Coast SPA overlaps part of the Solent & Southampton Water SPA & Ramsar. These designations protect important populations of overwintering waterfowl and breeding terns.

6.10 Construction activities including groundworks, material storage and machinery operation could affect the quality of surface water runoff through increased sedimentation and/or contamination from pollutants released through poor pollution control measures or environmental incidents. During operation, water quality in the downstream environment could also be detrimentally affected due to increased concentrations of silts, metals, nutrients and hydrocarbons associated with runoff from built development areas.

6.11 In the absence of mitigation, reduced surface water quality has the potential to affect the sensitive qualifying features of the River Itchen SAC. Impacts on the downstream features of the aforementioned SPAs would be less likely given their distance from point source, however effects from liberated contaminants could still arise especially when considered in combination with other potential sources.

6.12 Where runoff is discharged to ground, there is potential for pollutants to permeate to groundwater, which may eventually emerge in the watercourses downstream of the Site. Such pollutants will, however, be subject to attenuation within vegetation, soil, and subsoil – in view of which, and the relatively low degree of soil permeability, it is unlikely that a significant change in water quality would arise from this pathway.

6.13 Overall, LSE cannot be ruled out in the absence of mitigation, and this is considered further below.

Information for Appropriate Assessment

Impact Avoidance and Mitigation

Construction Phase

6.14 A Framework Construction Environmental Management Plan (CEMP) is being submitted with the planning application, which includes the following pollution prevention and surface water management measures:

- Exclusion zone established along the eastern site boundary to provide a buffer between the River Itchen SAC and adjacent construction activities (minimum 20m offset from built development, as shown on **Map 4**);
- Pollution control measures (e.g. the use of bunding, spill kits, oil traps); and
- A comprehensive surface water management strategy with drainage attenuation features and silt fencing.

6.15 These measures are expected to prevent the release of sediment, fuel, oils or other contaminants into hydrologically connected habitats.

6.16 Ongoing site monitoring and compliance checks during construction (e.g. daily inspections, incident logs, and adaptive drainage) will ensure the effective application of the above control measures.

6.17 A fully detailed CEMP can be secured by planning condition or obligation.

Operational Phase

6.18 Sustainable Drainage Systems (SuDS) will be utilised in line with the SuDS Manual (C753) guidance in order to minimise impacts from the Proposed Development on surface water runoff quantity and quality. Surface water runoff is proposed to be discharged to an existing feeder channel and conveyed east to the River Itchen at greenfield runoff rates, mimicking the existing situation.

6.19 The surface water drainage strategy will maintain water quality through the following measures:

- All drainage from car park areas, which are considered low risk, will pass through either a Class 1 by-pass separator or a swale prior to discharging to the attenuation ponds, which will provide a second stage of treatment for all runoff from these areas.
- All drainage from service yards, which are considered high risk, will pass through a Class 1 full retention separator prior to discharging to the main attenuation pond, which will provide a second stage of treatment for all runoff from these areas.
- All drainage from the site road and other hard surfaces will pass through the main attenuation pond, which will provide treatment for runoff from these areas.
- Silt will be prevented from entering the system by the use of channels with silt traps and catch pits where required.

6.20 The surface water drainage strategy is further detailed in the FRA and Drainage Strategy report (Burrows Graham, 2025), the controls within which can be secured by planning condition or obligation.

Conclusion

6.21 Provided the mitigation measures described above can be secured by planning condition or obligation and be implemented effectively, no significant changes in water quality are anticipated in the River Itchen SAC, Solent & Dorset Coast SPA or Solent & Southampton Water SPA/Ramsar, with no adverse effect on site integrity either alone or in-combination with other plans or projects.

7. NOISE AND VISUAL DISTURBANCE

Introduction

7.1 This section considers the potential effects of noise and visual disturbance generated during the construction and operational phases of the Proposed Development on the River Itchen SAC, in view of the site's above-described sensitivities and available information about the noise levels and activities by people and vehicles that could occur as a result of the proposals either alone or in combination with other plans and projects.

7.2 Where the potential for likely significant effects is identified, the scope of any specific impact avoidance and mitigation measures is also considered as part of an Appropriate Assessment.

Relevant Background Information

7.3 Mobile species (e.g. otter, migratory fish) may be disturbed by construction or operational noise and visual stimuli, potentially altering foraging, breeding, or migratory behaviours.

7.4 The Navigator Quarter site lies adjacent to the River Itchen SAC, and as such, is scoped in for further assessment in terms assessing likely significant effects on otter and migratory fish.

7.5 The Solent & Dorset Coast SPA and Solent & Southampton Water SPA/Ramsar are located 2.5km and 4.5km (respectively) from the Proposed Development, and have therefore been scoped out of further assessment due to their distance and physical separation from the site.

Assessment Methodology

7.6 The assessment of noise draws on details in the submitted report entitled *Navigator Quarter, Land Adjacent to Southampton Airport, Eastleigh: Noise Impact Assessment* (Hoare Lea, 24 March 2025) for the Proposed Development.

Assessment of Likely Significant Effects

7.7 The site boundary is adjacent to the River Itchen riparian corridor on its eastern and south-eastern side for approximately 1 km, all of which is designated as SSSI and most of which is also designated as SAC.

7.8 The river channel itself is approximately 150-250m from the site boundary. However, there is a complex of riparian habitats between the main channel and the site boundary that could provide otter and migratory fish with suitable habitat.

7.9 Otter may be vulnerable to disturbance due to construction noise and visual disturbance from construction personnel and plant and vehicle movements. Migratory fish may be vulnerable to disturbance due to noise and vibration from construction activities. In both cases this is likely to be of limited duration and magnitude and in localised areas.

7.10 Otter may be more frequently disturbed by activity during the operational phase of the Proposed Development, though migratory fish are unlikely to be disturbed by the level of noise and activities during the operational phase.

7.11 Overall, there is unlikely to be a LSE from noise and visual disturbance during construction or operation, however, mitigation is proposed on a precautionary basis, and this is considered under the Appropriate Assessment stage of the HRA further below.

Information for Appropriate Assessment

Impact Avoidance and Mitigation

Construction Phase

7.12 Mitigation to reduce the effects of noise during construction are detailed in the Noise Impact Assessment (Hoare Lea, 2025) being submitted with the planning application. However, in summary mechanisms include:

- Use of modern, well-maintained and quieter plant where feasible;
- Turning off plant and vehicles when not in use;
- Avoiding unnecessary engine revving or loud alarms near sensitive habitats; and
- Reminders during daily briefings that certain areas are of ecological sensitivity.

7.13 Noise management measures can be fully detailed as part of a CEMP, to be secured by planning condition or obligation.

Operational Phase

7.14 In line with the principles of Local Plan Policy DM11 and as agreed with EBC (pre-application consultation meeting of 8 April 2025, attended by Paul Howe (Planning) and Sarah Boyd (Ecology)), a minimum 20 metre development free buffer will be maintained between the development's infrastructure and the site boundary boundary to mitigate urban effects, including disturbance from noise and human activity. This offset is shown on **Map 4**. This offset is secured by the submitted parameter plans, which detailed development will be required to accord with.

Conclusion

7.15 Provided the mitigation measures described above are secured and implemented effectively, impacts from noise and visual disturbance would be highly localised, short in duration and temporary. Adverse effects on the integrity of the River Itchen SAC would therefore not arise, either alone or in combination with other plans and projects.

8. LIGHT POLLUTION

Introduction

8.1 This section considers the potential effects of artificial lighting generated during the operational phase of the Proposed Development on the River Itchen SAC, in view of the sensitivity of its qualifying features to light disturbance. The assessment draws upon available information regarding site layout, anticipated operational lighting, relevant ecological literature, and the submitted Obtrusive Lighting Strategy (Hoare Lea, 2025). Potential effects are considered alone and in combination with other plans or projects.

8.2 Where the potential for likely significant effects is identified, this section also considers the scope of any specific impact avoidance and mitigation measures, with a view to informing an AA.

Relevant Background Information

8.3 The Proposed Development lies approximately 15 metres from the edge of the River Itchen SAC. However, the main river channel - which supports core habitat for otter foraging and fish passage - lies approximately 150 metres to the east. This provides a degree of spatial buffering, however, indirect effects from light spill, sky glow, and corridor fragmentation could still arise.

8.4 Species such as otter, a qualifying feature of the SAC, are known to exhibit strong avoidance behaviour in response to artificial lighting, especially at or near dusk and dawn. These crepuscular species rely on low-light conditions for foraging and commuting. Even moderate increases in ambient light can deter use of otherwise suitable habitat, interrupt natural movement patterns, and lead to functional habitat loss, even where physical habitat remains unchanged.

8.5 Although the wider site context includes airport infrastructure and urban lighting, the riparian corridor adjacent to the site currently remains functionally dark. Satellite mapping from CPRE (2015) and the Hoare Lea lighting baseline assessment confirm the presence of a dark buffer to the east of the development, which coincides with the River Itchen and associated habitats, therefore this constitutes the baseline for assessing the risk of post-development lighting impacts.

8.6 The Lighting Strategy confirms the necessity of external lighting for operational safety, access, parking, and security. Given the proximity to a designated SAC and the potential sensitivity of its qualifying features, best practice lighting design has been adopted as a core principle, informed by guidance from ILP GN08/23 (Bats and Artificial Lighting at Night) and GN01/21 (Reduction of Obtrusive Light).

Assessment Methodology

8.7 The assessment draws upon a range of data sources and professional guidance, including the Obtrusive Lighting Strategy prepared by Hoare Lea (2025), the illustrative masterplan for the Proposed Development, and CPRE (2015) night sky baseline mapping. In addition, it references industry best practice documents such as ILP Guidance Notes GN01/21 (Reduction of Obtrusive Light) and GN08/23 (Bats and Artificial Lighting at Night), which provide quantifiable thresholds and mitigation guidance for the provision of artificial lighting near sensitive ecological receptors.

This information is supplemented by published literature and ecological expert judgment regarding the light sensitivity of qualifying features such as otter.

8.8 Given the development's proximity to the River Itchen SAC and its adjacency to vegetated river corridors, the surrounding area has been classified using the ILP's environmental zoning system. Based on land-use context and sky-glow baseline conditions, the area is considered to be at the interface of Environmental Zones E2 (rural) and E3 (suburban). In line with ILP GN01/21 guidance, lighting impact thresholds applicable to the more stringent E2 zone have been applied to ensure the protection of the SAC and its associated features.

Assessment of Likely Significant Effects

8.9 The development will introduce a range of external lighting features, including building-mounted luminaires, column lighting in car parks and roads, and lighting associated with security, loading areas, and vehicle access. These lighting installations are necessary for operational safety and site functionality; however, without mitigation, they may give rise to horizontal and vertical light spill toward the adjacent riparian corridor.

8.10 While the main channel of the River Itchen lies approximately 150 metres east of the development boundary, qualifying features such as otter may still be affected through indirect effects. Otter use broad riparian corridors extending well beyond the main riverbanks for movement, resting, and foraging.

8.11 The timing and spectral quality of light are key factors for crepuscular species. Illumination during twilight hours may cause otters to avoid habitat patches or change foraging behaviour, potentially increasing energetic costs and affecting overall fitness. Light spill from poorly directed luminaires or high-mounted columns near the site's eastern edge would be particularly problematic without control measures.

8.12 These risks are considered most acute along the eastern boundary of the site, where development interfaces most closely with the River Itchen SAC. However, the lighting design has incorporated mitigation at the earliest design stages to address these risks, including directional fittings, warm colour temperatures, and setback distances. These are discussed further below.

Information for Appropriate Assessment

Impact Avoidance and Mitigation

8.13 In line with the principles of Local Plan Policy DM11 and as agreed with EBC (pre-application consultation meeting of 8 April 2025, attended by Paul Howe (Planning) and Sarah Boyd (Ecology)), a minimum 20 metre development free buffer will be maintained between the development's infrastructure and the site boundary to mitigate urban effects, including light pollution. This offset is shown on **Map 4** and will be secured by the submitted parameter plans, which detailed development will be required to accord with. The buffer zone will be reinforced with vegetated screening comprising native shrubs and trees to intercept any residual light and preserve the functional darkness of the river corridor.

8.14 A suite of best-practice lighting mitigation measures have also been incorporated into the development proposal to ensure that significant effects on the River Itchen SAC are avoided.

8.15 The lighting scheme will utilise warm-white LED luminaires with a correlated colour temperature of 3000 Kelvin or lower, which emit a reduced proportion of ecologically disruptive blue light, in accordance with ILP GN08/23 guidance. All external lighting will employ directional, full cut-off fittings to ensure that illumination is focused downward and away from the adjacent riparian corridor, thereby minimising both upward sky glow and horizontal light spill.

8.16 To further limit potential impacts, lighting columns will be installed at the lowest practicable height in ecologically sensitive areas, particularly along the eastern site boundary, with careful attention given to aiming angles and shielding to reduce over-illumination of unintended areas. Motion sensors and dimming systems will be installed on task-specific lighting, such as at loading bays, cycle storage areas, and security access points, to ensure lighting is only activated when required and at appropriate intensities.

8.17 Adherence with the submitted Obtrusive Lighting Strategy (Hoare Lea, 2025) and wider industry standards, including ILP GN01/21 and GN08/23, can be secured by planning condition or obligation. Collectively, these measures will ensure that operational lighting does not give rise to a significant increase in ambient light levels within the ecological zone of influence, thereby safeguarding the integrity of the River Itchen SAC.

Conclusion

8.18 The operational phase of the Proposed Development will not result in an adverse effect on the integrity of the River Itchen SAC, either alone or in combination with other plans or projects, as a result of light pollution.

9. SUMMARY AND CONCLUSIONS

Summary

9.1 **Table 10.1** below provides a summary of the impact pathways considered in this Information for HRA report, the conclusion of the screening stage assessment carried out in respect of each, and a summary of the impact avoidance and mitigation strategy (IAMS) that is proposed to address the potential for likely significant effects.

9.2 The IAMS summarised below, delivered in advance of first occupation/operation and secured in perpetuity, will ensure that adverse effects on the integrity of the International Sites considered in this assessment will not arise as a result of the Proposed Development, either alone or in combination with other plans and projects.

Table 10.1: Summary of information for HRA

Report Section	Impact Pathway	Scoping		Screening Stage Conclusion	Impact Avoidance and Mitigation Measures Proposed to Ensure No Adverse Effect on Site Integrity
		River Itchen SAC	Solent & Southampton Water SPA/Ramsar; Solent & Dorset Coast SPA		
5	Air pollution	IN	IN	LSE	CEMP to control dust liberation during construction
6	Water pollution	IN	IN	LSE	CEMP to control surface water pollution during construction SuDS strategy during operation
7	Noise and visual disturbance	IN	OUT	LSE	Noise mitigation in CEMP Ecological buffer zone
8	Light pollution	IN	OUT	LSE	Ecological buffer zone Sensitive Lighting Strategy

Conclusions in Respect of the Habitats Regulations

9.3 In accordance with the Conservation of Habitats and Species Regulations 2017 (as amended), and taking into account the most recent relevant case law, it is considered that EBC can safely conclude that the proposals **will not have an adverse effect on the integrity** of the International Sites considered in this assessment, either alone or in combination with other plans or projects.

9.4 Consequently, an Appropriate Assessment of the proposals under Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 (as amended) can be passed.

10. REFERENCES

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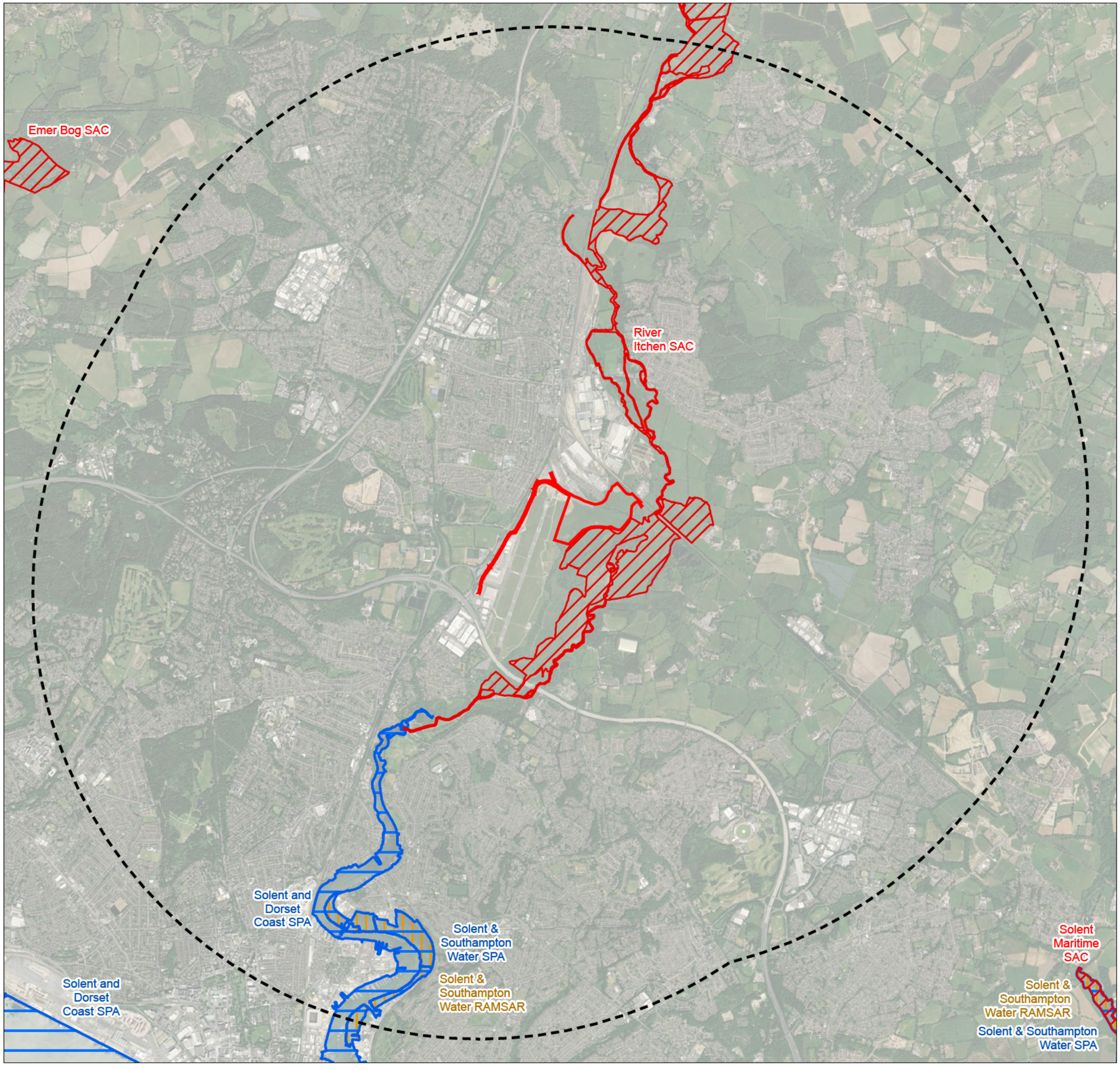
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Maps

Map 1 Site Location & International Sites
Map 2 Construction Phase Zone of Influence
Map 3 AQ Receptors and Modelled Transects
Map 4 Offset from Development



MAP 1 Site Location & International Sites

KEY

- Site boundary
- 5km linear distance from site boundary
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Ramsar

SCALE: 1:42,000 at A3

0 500 1,000 1,500 2,000 Metres

N

EPR

CLIENT: Bloc Works

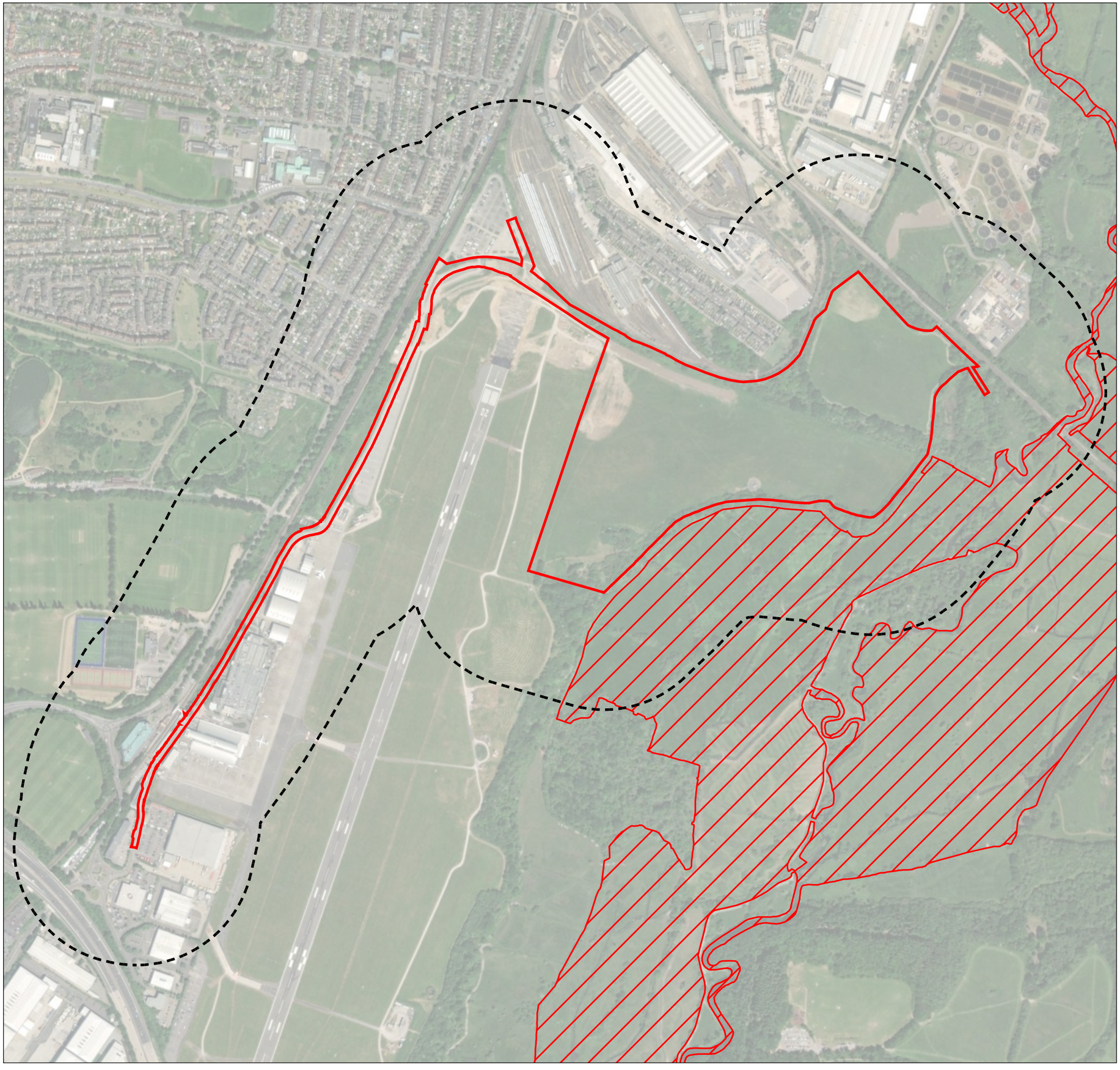
PROJECT: Southampton Airport - Navigator Quarter

DATE: 23 May 2025

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P31/36

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MAP 2 Site Location and ZoI for Construction Phase Assessment

KEY

- Site boundary
- 250m linear distance from site boundary
- River Itchen Special Area of Conservation (SAC)

SCALE: 1:8,000 at A3

0 100 200 300 400 500 Metres

N

EPR

CLIENT: Bloc Works

PROJECT: Southampton Airport - Navigator Quarter

DATE: 23 May 2025

Y:\Southampton International Airport\GIS\Navigator Quarter\ES\Info for HRA\Map2_ConstructionPhaseAssessmentZOI_P3136_230525.aprx

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MAP 3 AQ Receptors and Modelled Transects

KEY

- Site boundary
- River Itchen SSSI AQ transect receptors
- River Itchen Special Area of Conservation (SAC)

SCALE: 1:10,000 at A3

0 100 200 300 400 500 Metres

N

EPR

CLIENT: Bloc Works

PROJECT: Southampton Airport - Navigator Quarter

DATE: 23 May 2025

Y:\Southampton International Airport\GIS\Navigator Quarter\ES\Info for HRA\Map3_AQReceptorsModelledTransects_P3136_3803_230525.aprx

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MAP 4 Offset from Development

KEY

- Site boundary
- 20m offset from boundary
- River Itchen Special Area of Conservation (SAC)
- River Itchen Site of Special Scientific Interest (SSSI)

SCALE: 1:4,000 at A3

0 50 100 150 200 Metres

N

EPR

CLIENT: Bloc Works

PROJECT: Southampton Airport - Navigator Quarter

DATE: 30 May 2025

Y:\Southampton International Airport\GIS\Navigator Quarter\ESI\Info for HRA\Map4_OffsetFromDevelopment_P3136_300525.aprx

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Basemap: Illustrative Masterplan Landscape Proposals, Stephenson Halliday, 0940-05-04-1000, Rev 03, 29/05/2025

Appendix 1
Relevant Legislation, Policy, Guidance and Case Law

Legislation

The Conservation of Habitats and Species Regulations 2017 (as amended) (known as the "Habitats Regulations") were originally drawn up to transpose the European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") into UK legislation. Following the UK's exit from the European Union, the Habitats Regulations – as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – remain in force until such a time as they are superseded by new or updated domestic legislation.

The key sections of relevance to projects appear from Regulation 63 onwards. Regulation 63 states that:

> *"(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—*
>
> *(a) is **likely to have a significant effect** on a European site or a European offshore marine site (either **alone or in combination with other plans or projects**), and*
>
> *(b) is not directly connected with or necessary to the management of that site,*
>
> *must make an **appropriate assessment** of the implications of the plan or project for that site in view of that site's conservation objectives.*
>
> *(2) A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable it to determine whether an appropriate assessment is required."* **[our emphasis]**

The above legislation thus requires that a sequential approach be adopted when addressing potential impacts upon International Sites. Guidance for doing this in practice has been published by the European Commission and others, and is discussed below.

The requirement for HRA under the Habitats Regulations applies to Special Areas of Conservation (SACs) designated under for certain Internationally important habitat types and animal populations under the aforementioned Habitats Directive, and Special Protection Areas (SPAs) classified under the earlier Birds Directive (now codified under Directive 2009/147/EC).

SACs and SPAs are collectively referred to as either European Sites or Natura 2000 sites in Europe, and are now part of the UK's "National Sites Network". However, as the National Planning Policy Framework (2019) also applies the protection afforded to these sites to Ramsar Sites (which are wetlands of International Importance designated under the separate Ramsar Convention in Iran in 1979) as a matter of National Planning Policy, these three types of site are collectively referred to as 'International Sites' for expediency.

Policy

National Planning Policy Framework 2024 (NPPF)

Section 15 ('Conserving and enhancing the natural environment') of the NPPF sets out expectations and principles regarding the protection of designated sites of importance for biodiversity, including international or 'habitats' sites. Paragraph 195 states:

> *"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."* [our emphasis]

Local Planning Policy

Eastleigh Borough Local Plan 2016-2036 (the adopted Local Plan)

Policies of relevance to the HRA of the Proposed Development include:

DM6 (Sustainable surface water management and watercourse management) – sites of 1ha or more, or within 100m of the River Itchen SAC or Solent Maritime SAC, SuDS schemes should include at least three forms of naturalised filtration, unless hydrological studies and project-level Habitats Regulations Assessment demonstrate this to be unnecessary to protect the integrity of the SAC and its qualifying features

DM8 (Pollution) – development will not be permitted if it is likely to cause unacceptable environmental impacts through air pollution, pollution of surface/ground water or watercourses, noise or vibration, or light intrusion, unless effects can be adequately mitigated.

DM11 (Nature Conservation) – to protect, conserve and enhance International sites, with 'project level' HRA required where there are likely significant effects or uncertainty. Part 3b requires the water quality and flows to the Itchen to be preserved, and 3c requires the River Itchen SAC to be protected, with habitats and qualifying species to be maintained or restored to favourable conservation status. Part 7 specifically requires buffers free from development adjacent to designated sites to avoid/mitigate impacts from recreation and lighting.

Guidance

The Habitats Regulations Assessment Process

Although the UK has now left the European Union, as the HRA process originates from the European Habitats Directive and must still (at time of writing) be interpreted in accordance with rulings from the CJEU, reference has been made to European Commission guidance on Habitats Regulations Assessment (EC, 2000, 2001, 2018). This guidance provides advice on meeting the correct stepwise approach required by Article 6 of the Habitats Directive. The whole process is usually referred to in the UK as "Habitats Regulations Assessment" (HRA) and is split into the following stages that are undertaken in sequence:

Screening the need for an Appropriate Assessment;

The "Appropriate Assessment" (AA);

The Assessment of Alternative Solutions; and

Assessment where no alternative solutions exist and where adverse impacts remain (also known as the test for ''Imperative Reasons of Overriding Public Interest'' or IROPI).

Each of the stages determines the requirement for the next one in the sequence to be carried out. For example, if it is concluded at the Screening stage that the plan or project is unlikely to generate significant adverse effects upon the International site in question, there is no need to proceed to the Appropriate Assessment stage, and so on.

Undertaking the Habitats Regulations Assessment process is the responsibility of the decision maker as the Competent Authority for the purposes of the Habitats Regulations (in this case EBC as the Local Planning Authority); although it is the responsibility of the proponent of a plan or project to provide the Competent Authority with the information that they require for this purpose.

In the first instance, this report is intended to provide the Competent Authority under the Habitats Regulations with the information that is required in order to determine whether or not the proposals are likely to have a significant effect on an International Site either alone or in combination with other plans and projects, and consequently whether or not an Appropriate Assessment is required. Should it be considered that an Appropriate Assessment is required, then this report also aims to supply the information that will be necessary in determining whether or not there will be an adverse effect on the integrity of the International Site(s) concerned.

Other HRA guidance that has been taken into account during the preparation of this document includes:

- The European Commission's 'Managing Natura 2000 Sites' document (2018) that provides guidance on some of the key concepts enshrined in Article 6 of the Habitats Directive);
- The European Commission's 'Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites' (Revised Version, 2021) that outlines the key steps and principles of the HRA process;
- The 'Communication from the Commission on the Precautionary Principle' (2000) which provides guidance on the correct application of the precautionary principle, stating that it should be applied with proportionality and should not aim at zero risk;
- Circular 06/05 'Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System'; and
- 'Planning for the Protection of European Sites' (DCLG, 2006); and
- PINS NOTE 05/2018 'Consideration of avoidance and reduction measures in Habitats Regulations Assessment: People over Wind, Peter Sweetman v Coillte Teoranta' (Planning Inspectorate 9 May 2018).

The National Planning Policy Framework (NPPF) (2024) also contains sections of relevance to HRA and International Sites, and this has been taken into account.

The Chartered Institute of Ecology and Environmental Assessment's Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018)

Whilst the key guidance documents for the HRA process are those produced by the European Commission (EC, 2000, 2001, 2018), the approach taken in this document has also been carried out in

accordance with the broad process advocated in Version 1.3 of the Chartered Institute of Ecology and Environmental Management's 'Guidelines for Ecological Impact Assessment' (the "EcIA Guidelines").

These guidelines are endorsed by the main stakeholders in the UK planning system that have a specific responsibility for wildlife and nature conservation, including Natural England, the Environment Agency and the Wildlife Trusts.

Broadly, the EcIA Guidelines prescribe an approach that can be summarised as the following sequential process:

- Establishing the spatial extent of the Zone of Influence (ZoI) within which the proposed development is likely to exert biophysical changes upon the environment during either the site clearance, construction or operational phase;
- The identification, description and valuation (where possible) of ecological features and resources of value within that ZoI (note that in this case the ecological features of relevance will be those for which the relevant International Sites were designated, and consequently of International nature conservation value);
- The assessment of the likely magnitude and significance of potential impacts and effects that might be exerted upon those features and resources in the absence of any impact avoidance or mitigation measures;
- The development of impact avoidance and/or mitigation measures to avoid and/or minimise potentially significant effects;
- The assessment of any residual effects (positive or negative) that would remain following the application of any impact avoidance and/or mitigation measures, and the development of appropriate compensation measures where significant residual negative effects remain;
- The development of ecological enhancement measures to be incorporated into the project proposals to deliver net gains; and
- Advice on the consequent potential implications of relevant nature conservation related legislation or planning policy.

Other subject-specific guidance is referred to in the relevant assessment sections in this document.

Relevant Case Law

There is a wide body of case law pertaining to the HRA process that provides insight into the correct interpretation of the Habitats Regulations, from both domestic UK Courts and the Court of Justice of the European Union (CJEU). Details of the most relevant articles of case law are given below (organised according to points of relevance for ease of reading, rather than chronology, and with some relevant interpretation from Planning Inquiry decisions presented), and include the following:

- CJEU Case C-127/02 (2002) – The 'Waddenzee' Case;
- The Supreme Court ruling of R. (Champion) v North Norfolk DC [2015] 1 WLR 3710;
- UK Court of Appeal judgement in R (on the application of Boggis) v Natural England (2009) EWCA Civ 1061;
- The UK High Court, in the judgement of J Sullivan in Hart DC v Secretary of State for Communities and Local Government (referred to as 'Dilly Lane') (2008);

- CJEU Case C-323/17 in 2018 (referred to as 'People over Wind');
- Eco Advocacy CLG and An Bord Pleanála (Case C-721/21) (June 2023);
- Administrative Court ruling on R (on the application of Christopher Prideaux) v Buckinghamshire County Council [2013] EWHC 1054 (Admin)

Case C-127/02 of the European Court of Justice (ECJ) – The 'Waddenzee' Case

The ECJ Waddenzee Case clarified a number of important points in relation to the correct interpretation of Article 6(3) of the Habitats Directive in particular. This clarification has been helpfully set out in Government Circular 06/05 *'Biodiversity and Geological Conservation'*.

In particular, one of the key messages from the ECJ was that, where a plan or project has the potential to affect a Natura 2000 site, an 'Appropriate Assessment' is necessary:

> *"….if it cannot be excluded, on the basis of **objective information**, that it will have a significant effect on that site, either alone or in combination with other plans and projects"* [our emphasis]
>
> [Paragraph 13 of Circular 06/05 or paragraph 44 of the Waddenzee Judgment]

The ECJ expanded upon this by saying that:

> *''…where such a plan or project has an effect on that site but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned.''*
>
> [Paragraph 47 of the Waddenzee Judgement]

Further to the above the ECJ clarified that, once an Appropriate Assessment has been triggered, except in the circumstances outlined in Article 6(4) of the Directive, a plan or project can only be authorised where it will not have an adverse effect on the integrity of the Natura 2000 site, and that:

> *''That is the case where no reasonable scientific doubt remains as to the absence of such effects''.*
>
> [Paragraph 21 of Circular 06/05, or paragraph 59 of the Waddenzee Judgement]

Champion in the Supreme Court

The Supreme Court ruling of R. (Champion) v North Norfolk DC [2015] 1 WLR 3710 considers the "Screening" stage in HRA and clarifies the level of certainty required in an Appropriate Assessment, further building on the Waddenzee Judgment.

This case related to an earlier Court of Appeal decision which upheld the consenting of a proposed development by North Norfolk District Council for the Crisp Malting Group to erect two silos and construct a lorry park near the river Newsum, an SAC, without the need for an EIA, or an Appropriate Assessment under the Habitats Regulations. After the developer produced a report that recommended pollution prevention strategies and mitigation measures and bodies such as Natural England and the Environment Agency withdrew their objections, NNDC approved the development with planning conditions attached.

The Supreme Court said that first stage of Article 6(3) was to consider whether there "may" be a significant effect, until Champion it was common to call this first stage a "Screening" stage, and much of the guidance and case-law pre-dating (and indeed post-dating) this case uses this language. Lord Carnwath said:

> *"the Habitats Directive and Regulations contain no equivalent to "screening" under the EIA Regulations. Mr Buxton relies on the opinion of Advocate General Sharpston in the Sweetman case [2014] PTSR 1092 itself. She was principally concerned to dispel confusion created by different terminology used in some of the cases to describe the test under article 6(3) . In her view all that was needed at what she called "the first stage" of article 6(3) was to show that there "may" be a significant effect …*
>
> *However, there is nothing in the language of the Habitats Directive to support a separate stage of "screening" in any formal sense. Nor is it reflected in the reasoning of the CJEU [Court of Justice of the European Union] itself. In Sweetman the first stage was the appropriate assessment, the second the decision whether in the light of its conclusions the project could be permitted. "Triggering" was simply the word the CJEU used to set the threshold for the first stage. The same approach is also found in the European Commission's guidance Managing Natura 2000 Sites …*
>
> *… At least in this country the use of the term "screening" in relation to the Habitats Directive is potentially confusing, because of the technical meaning it has under the EIA Regulations. The formal procedures prescribed for EIA purposes, including "screening", preparation of an environmental statement, and mandatory public consultation, have no counterpart in the Habitats legislation" [our addition]*

Champion therefore clarified that there is no prescribed filtering process at the Screening Stage of the Directive, but that does not mean that a Competent Authority must ignore information in front of them when deciding whether or not to carry out an Appropriate Assessment. This is supported by the Dilly Lane Case (discussed further below).

The process for, and certainty required in an Appropriate Assessment is also considered:

> *"All that is required is that, in a case where the authority has found there to be a risk of significant adverse effects to a protected site, there should be an appropriate assessment. Appropriate is not a technical term. It indicates no more than that the assessment should be appropriate to the task in hand: that task being to satisfy the responsible authority that the project will not adversely affect the integrity of the site concerned taking account of the matters set in the article. As the court itself indicated in Waddenzee the context implies a high standard of investigation. However, as Advocate General Kokott said in Waddenzee [2005] All ER (EC) 353, para 107:*
>
> *"the necessary certainty cannot be construed as meaning absolute certainty since that is almost impossible to attain. Instead, it is clear from the second sentence of article 6(3) of the Habitats Directive that the competent authorities must take a decision having assessed all the relevant information which is set out in particular in the appropriate assessment. The conclusion of this assessment is, of necessity, subjective in nature. Therefore, the competent authorities can, from their point of view, be certain that there will be no adverse effects even though, from an objective point of view, there is no absolute certainty."*

In short, no special procedure is prescribed, and, while a high standard of investigation is demanded, the issue ultimately rests on the judgment of the authority."

R (on the application of Boggis) v Natural England

The Court of Appeal (Civil Division) ruling on R (on the application of Boggis) v Natural England [2009] EWCA Civ 1061, concerned a dispute over the extension of a SSSI on the Suffolk Coast to include an area subject to cliff erosion, as this could prevent affected residents from creating sea defences to protect their properties.

The case is of interest as it reiterates the earlier ruling in Waddenzee 2004 that the requirement for an appropriate assessment is conditional on there being "a probability or a risk that the [plan or project] will have significant effects on the site concerned."

The Appeal Court found that "a claimant who alleges that there was a risk which should have been considered by the authorising authority so that it could decide whether that risk could be "excluded on the basis of objective information", must produce credible evidence that there was a **real, rather than a hypothetical, risk** which should have been considered." (para 37). [Our emphasis].

The 'Dilly Lane' and 'People over Wind' Judgments

The High Court, in the judgment of J Sullivan in Hart DC v Secretary of State for Communities and Local Government (2008), has for some time formed the basis of established HRA Practice pertaining to the Thames Basin Heaths SPA, insofar as it has determined the approach to the Screening and Appropriate Assessment stages of the HRA process.

Up until recently the established approach derived from the Dilly Lane Case meant that where impact avoidance and mitigation measures (such as SANG) were put forward as integral parts of a plan or project, and where the Competent Authority was also satisfied that those measures would both be effective, deliverable and could be secured, then there was no need for an Appropriate Assessment to be carried out.

This was because in such circumstances it was considered that the information pertaining to the efficacy of those impact avoidance and mitigation measures represented the 'objective information' referred to by the European Court of Justice (ECJ) in the Waddenzee case (above)

More recently however, in case C-323/17 of the ECJ (referred to as 'People over Wind'), the ECJ concluded that it was not appropriate to take account of *"…measures intended to avoid or reduce the harmful effects of the plan or project…"* at the Screening stage of the HRA process. Although there appear to be some inconsistences between this judgment and previous ECJ case law, until such time as the ECJ may provide further clarification, it will be necessary to consider the efficacy of impact avoidance and mitigation measures such as SANG and SAMM through the medium of an Appropriate Assessment in order to ensure compliance with the findings of the judgment.

A further more recent ECJ case, known as the *Grace and Sweetman* case (July 2018)(Case C-164/17) appears to have reiterated the approach taken in *'People over Wind'* with respect to measures intended to avoid or reduce the harmful effects of a plan or project, as well as outlining that compensatory measures should only be taken into consideration in the circumstances laid out by Article 6(4) of the Habitats Directive (i.e. where there are imperative reasons of overriding public interest).

Eco Advocacy CLG and An Bord Pleanála (Case C-721/21) (June 2023)

This case from June 2023 followed on from the People over Wind' (POW) ruling in 2018 (C-323/17) outlined above, which ruled that "…it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that [The European designated] site…"

The Eco Advocacy CLG case clarified that the CJEU considers features to be 'measures intended to avoid or reduce the harmful effects of the plan or project' if they have been deliberately introduced into the project for that purpose alone, and otherwise the project could proceed without it. If however projects of that type are always required to incorporate those features regardless of the potential of the project to affect a European site, then such features can be considered as 'standard features, inherent in such a plan or project' and can be taken into account at the Screening stage of HRA, regardless of whether or not the feature has the effect of reducing harm to a European protected site.

R (on the Application of Prideaux) v Buckinghamshire CC

The Administrative Court ruling on R (on the application of Christopher Prideaux) v Buckinghamshire County Council [2013] EWHC 1054 (Admin) is notable in that it discusses the weight that should be given to Natural England's expert opinion in planning decisions.

In this case, the claimant (Prideaux) challenged a planning permission granted by the defendant (Buckinghamshire CC) for an energy from waste facility, on nature conservation related grounds. Natural England had initially objected to the proposals due to likely negative impacts on the interest features of nearby SSSIs. Following continued consultation with the applicant, and the provision of the further information by the applicant's ecologist regarding the mitigation and compensation proposed, Natural England withdrew their objection.

Mr Justice Lindblom considers the weight that should be given to Natural England's opinion at paragraph 116:

> *"(…) It is clear that the committee gave considerable weight to the conclusions reached by Natural England. This is hardly surprising. It is exactly what one would expect. Natural England is the "appropriate nature conservation body" under the regulations. Its views on issues relating to nature conservation deserve great weight. An authority may sensibly rely on those views. It is not bound to agree with them, but it would need cogent reasons for departing from them."*

At paragraph 133 he goes on to underline the importance of making a decision based on the sum of information provided, including any extra material submitted following the initial application:

> *"It is important, I think, to view the relevant ecological material as a whole, as it was after a process of consultation, the submission of further information, the refinement of FCC's proposals, the evolution of the intended measures for avoiding harmful impacts on the species potentially affected by the development, SLR's correspondence [SLR were the developer's ecological consultants] and dialogue with Natural England, and the withdrawal of Natural England's objection." [our addition]*