PANATTONI

Former Akzo Nobel Site, Slough

Habitat Regulations Assessment:
Stage 1 Screening Report & Stage 2 Appropriate Assessment

December 2019

AKZO NOBEL, SLOUGH

HABITAT REGULATIONS ASSESSMENT: STAGE 1 SCREENING REPORT & STAGE 2 APPROPRIATE ASSESSMENT

A Report to: Panattoni

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	12/12/2019	Tom Docker CEcol MCIEEM (Associate Director: EIA) and Hannah Train GradCIEEM (Senior Ecological Consultant)	Dr Katy Read CEcol MCIEEM CEnv MCIWEM C.WEM DipSM (Executive Director)	Dr Philip Fermor CEnv MCIEEM (Managing Director)

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In November 2019 Panattoni commissioned Middlemarch Environmental Ltd to undertake a Habitat Regulations Assessment (Stage 1: Screening and Stage 2: Appropriate Assessment) associated with a proposed mixed-use development at the former Akzo Nobel Site, Slough.

Comments from the Principal Planning Officer at Slough Borough Council highlighted that a Habitat Regulations Assessment is required to accompany the planning application for the proposed development, due to its location in proximity to Burnham Beeches Special Area of Conservation (SAC). This site forms part of the Natura 2000 network of European statutory nature conservation sites.

This report comprises Stage 1 (Evidence Gathering and Screening) and Stage 2 (Appropriate Assessment) of a Habitat Regulations Assessment for the scheme. The need for projects with the potential to impact upon Natura 2000 sites to be assessed is stated in Article 6 of the European Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (hereafter 'the Habitats Directive'). Articles 6 (3) and 6 (4) of this Directive state that an Appropriate Assessment is required for any plan or project that is considered likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects. Natura 2000 sites are those sites designated under the Habitats Directive to ensure the protection of European important habitats, and include SACs, Special Protection Areas (SPAs), Offshore Marine Sites (OMS), and Ramsar Wetlands. The Habitats Directive is transposed into UK legislation through the Habitat Regulations. Regulation 61 of the Habitat Regulations incorporates the requirements of Articles 6 (3) and 6 (4) of the Habitats Directive.

The competent authority (Slough Borough Council) can only agree to the works after having ascertained that it will not adversely affect the integrity of any Natura 2000 sites. Where adverse impacts are anticipated, projects or plans may still be agreed provided that there are no alternative solutions and the plan is considered to be of overriding public interest. In such instances appropriate compensatory measures are required to ensure that the overall coherence of the Natura 2000 site network is protected.

1.2 CONSULTATION RESPONSES

The Principal Planning Officer at Slough Borough Council highlighted that a Habitat Regulations Assessment had been required for proposed nearby scheme associated with the redevelopment of the Horlicks Factory site (P/00094/039), due to its location within a 5.6 km 'buffer' around Burnham Beeches SAC. This 5.6 km buffer was proposed by Footprint Ecology (2019) in their report 'Impacts of urban development at Burnham Beeches SAC and options for mitigation: update of evidence and potential housing growth, 2019', which informed one of the policies within the Emerging Chiltern and South Bucks Local Plan 2036.

2. METHODOLOGY

The current assessment is based on the best practice for Habitat Regulations Assessment as outlined in The Habitat Regulations Handbook (DTA Publications, 2013 and subsequent updates). This document expands upon previous guidance published by the Impacts Assessment Unit at Oxford Brookes University (2001) and the Department for Communities and Local Government (2006).

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

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

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

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

- **Stage 4: Imperative Reasons of Overriding Public Interest and Compensation Measures**
  Where the potential for adverse impacts remains, and where it is deemed that a project or land-use plan should proceed for Imperative Reasons of Overriding Public Interest (IROPI), an investigation of appropriate compensatory measures is undertaken.

This report focuses on Stage 1 and Stage 2 of the Habitat Regulations Assessment process. Evidence gathering and screening is undertaken for those Natura 2000 Sites identified as being of relevance to the current project. Then an Appropriate Assessment of Significant Impacts is undertaken for those Natura 2000 Sites identified as being of relevance to the current project. The following Natura 2000 site is considered in this screening report: Burnham Beeches SAC.

Implicit in the Habitats Directive is the application of the **precautionary principle**, which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty whether there will be an impact or not (Oxford Brookes, 2001). The European Commission's Final Communication from the Commission on the Precautionary Principle (European Commission, 2000a) states that the use of the precautionary principle presupposes:

- Identification of potentially negative effects resulting from a phenomenon, product or procedure;
- A scientific evaluation of the risks which because of the insufficiency of the data, their inconclusive or imprecise nature, makes it impossible to determine with sufficient certainty the risk in question (CEC, 2000).

According to best practice guidance, this means that the emphasis for assessment should be on objectively demonstrating, with supporting evidence, that there will be no significant effects on a Natura 2000 site. The publication 'Managing Natura 2000 Sites: The Provision of Article 6 of the 'Habitats' Directive 92/43/EEC' (European Commission, 2000b) provides explanatory guidance regarding this point, which is paraphrased below.

It is clear from the context and from the purpose of the directive that the 'integrity of the site' relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the

integrity of a site only in a visual sense or only habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for the purposes of Article 6(3), provided that the coherence of the network is not affected.

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

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

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

Conservation objectives for the Natura 2000 site considered in this assessment are presented in Chapter 4.

3. RELEVANT NATURA 2000 SITES

This report presents evidence to allow potential impacts on relevant Natura 2000 sites to be assessed and the need for a full Habitat Regulations Assessment to be screened and then an appropriate assessment to be made. The report focuses on the following site highlighted in consultation with the Principal Planning Officer at Slough Borough Council: Burnham Beeches SAC.

The qualifying criteria and relative distances of the sites from the application site boundary are summarised in Table 3.1.

NATURA 2000 SITE	QUALIFYING FEATURES	DISTANCE FROM APPLICATION SITE
Burnham Beeches SAC	The site supports the following Annex 1 habitat: • Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)	5 km north-west

Table 3.1: Summary of Natura 2000 Qualifying Criteria and Distance from Application Site Boundary

The location of Burnham Beeches SAC in relation to the application site is shown on Drawing C151371-01 in Appendix 1. The designation criteria, conservation objectives and vulnerability for this Natura 2000 site are detailed in Chapter 4.

South West London Waterbodies RAMSAR/SPA is located c. 4.8 km to the south-east of the proposed development site and comprises a series of embanked water supply reservoirs and former gravel pits that support a range of man-made and semi-natural open-water habitats. The waterbodies support internationally important numbers of gadwall *Anas strepera* and shoveler *Anas clypeata*. Due to the large distance, lack of connectivity and built-up nature of intervening habitats between the proposed development site and this RAMSAR/SPA, no construction phase impacts are anticipated. The largest waterbodies – Wraysbury Reservoir, King George VI Reservoir and Staines Reservoirs – are fenced off with no access to the public. The smaller waterbodies comprise Wrayesbury fishing lakes, for which a small number of private sailing and fishing clubs and events venues have access. As such, the proposed development is not anticipated to result in any significant increase in recreational pressure within the RAMSAR/SAC. No adverse impacts on the favourable conservation status of South West London Waterbodies RAMSAR/SPA are anticipated as a result of the proposed development, and this site is therefore not considered further within this assessment.

No impacts are predicted on any other Natura 2000 sites.

4. BURNHAM BEECHES SAC

4.1 QUALIFYING CRITERIA

The following information is taken from the JNCC Website and the Natura 2000 data sheet, which are available at: https://sac.jncc.gov.uk/site/UK0030034.

Country: England
Unitary Authority: Berkshire, Buckinghamshire and Oxfordshire
Latitude: 51.56
Longitude: -0.630833333
Site Code: UK0030034
Status: Designated Special Area of Conservation (SAC)
Area (ha): 383.71

Burnham Beeches is an example of **Atlantic acidophilous beech forests** in central southern England. It is an extensive area of former beech wood-pasture with many old pollards and associated beech *Fagus sylvatica* and oak *Quercus* spp. high forest. Surveys have shown that it is one of the richest sites for saproxylic invertebrates in the UK, including 14 Red Data Book species. It also retains nationally important epiphytic communities, including the moss *Zygodon forsteri*.

4.1.1 Qualifying Habitats and Species

The following Annex I habitats are primary reasons for the selection of this site:

- 9120 Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*).

4.2 CONSERVATION OBJECTIVES

Conservation objectives for the Burnham Beeches SAC are available in the Natural England document, entitled "European Site Conservation Objectives for Burnham Beeches Special Area of Conservation Site Code: UK0030034", which is available at http://publications.naturalengland.org.uk/publication/6014456282742784. According to this document, the conservation objectives for the SAC are as follows:

> *"With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;*
>
> *Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;*
>
> - *The extent and distribution of qualifying natural habitats*
> - *The structure and function (including typical species) of qualifying natural habitats, and*
> - *The supporting processes on which qualifying natural habitats rely"*

4.3 VULNERABILITY OF THE SAC

The issues to which the SAC is vulnerable are highlighted in Table 4.1. This information has been extracted from the Site Improvement Plan for the site.

ISSUE	DETAIL	SOURCE OF DATA
Air Pollution: impact of atmospheric nitrogen deposition	Epiphytic lichen communities are sensitive to nutrient deposition, promoting the growth of nutrient-tolerant species and reducing overall lichen diversity. Improvements have been achieved in terms of SO2 and particulate deposition in the area but NO2 and ammonia deposition levels remain high. Nitrogen deposition may also be affecting tree health, resulting in changes in tree canopy structure and other effects.	Site Improvement Plan
Public Access / Disturbance	Veteran trees are vulnerable to damage as a result of soil compaction due to trampling or vehicle movements in their root zone.	Site Improvement Plan

Table 4.1: Summary of Vulnerability of Burnham Beeches SAC (continues)

ISSUE	DETAIL	SOURCE OF DATA
Habitat fragmentation	There is high pressure for new housing development in the vicinity of Burnham Beeches which risks isolating the site from the surrounding countryside.	Site Improvement Plan
Deer	Deer are numerous in the northern parts of the site and causing adverse impacts on tree regeneration and ground flora composition.	Site Improvement Plan
Species decline	The number of veteran trees at the site is declining and there is a significant age gap between these and the next generation of future veterans. This could have significant impacts on habitat availability for specialised saproxylic invertebrates.	Site Improvement Plan
Invasive species	Oak processionary moth is now well-established in sites close to Burnham Beeches. If it reaches Burnham Beeches control measures could pose a threat to native invertebrate populations. And as current control methods are very expensive it could result in reduced funding for habitat management. Work has been undertaken to reduce the presence of Rhododendron across the site but it is abundant in many adjacent properties and work will be required to prevent recolonisation. It is of particular concern as it acts as host for the pathogen causing sudden oak death (which also affects beech).	Site Improvement Plan

Table 4.1 (continued): Summary of Vulnerability of Burnham Beeches SAC

5. SITE DESCRIPTION AND PROPOSED WORKS

5.1 CURRENT LAND USE

The site comprises former factory buildings associated with a paint factory, with surrounding hardstanding, tanks/silos and sub-terranean piping. The factory is not active. Scattered trees and ornamental shrub beds are present within the site interior, notably around the former office and welfare units. A small copse of coniferous trees is present along the western boundary. A strip of overgrown semi-improved grassland and shrubs lies to the north of the access road.

Two hedgerows delineate the northern portion of the western boundary, with chain-link/metal security fencing delineating remaining boundaries. Industrial units and the Grand Union Canal lie beyond the northern boundary. A narrow band of semi-natural broadleaved woodland is located adjacent to the eastern boundary with the A412 beyond. Uxbridge Road Gasworks lie to the east, characterised by similar habitats to those noted on site. A vegetated railway line is situated beyond the southern site boundary, in addition to the active component of the Akzo Nobel paint factory.

Photographs taken on the 3rd July 2019, which show the habitats within the site, are provided below.

Plate 5.1: Buildings, hardstanding and scattered scrub (including butterfly bush)

Plate 5.2: Piping structures and hardstanding in eastern section of the site

Plate 5.3: Hedgerow and Leyland cypress along western site boundary

Plate 5.4: Introduced shrub around buildings

5.2 SCOPE OF THE PROPOSED WORKS

The proposals for the site are as follows:

"Outline planning application (all matters reserved except for principal points of access), to be implemented in phases, for mixed use development comprising:

a) Demolition of existing buildings and structures and preparatory works (including remediation) and access from Wexham Road;
b) up to 1,000 residential dwellings; along with flexible commercial uses including all or some of the following use classes A1, A2, A3, D1 and D2; car parking; new public spaces and landscaping; and vehicular and pedestrian access; and
c) the provision of commercial floorspace including all or some of the following use classes B2, B8 and sui generis data centre (including ancillary B1a office space and associated plant and infrastructure provision); car parking, landscaping and vehicular and pedestrian access."

6. POTENTIAL SIGNIFICANT EFFECTS ON BURNHAM BEECHES SAC

This chapter provides a discussion of the potential for significant effects on the Burnham Beeches SAC to occur as a result of the implementation of the proposed works. In accordance with best practice, this discussion is focused on the potential of the project to impact upon the conservation objectives of the SAC. Each of the areas of vulnerability highlighted in Section 4.3 are discussed below.

6.1 AIR POLLUTION: IMPACT OF ATMOSPHERIC NITROGEN DEPOSITION

The Emerging Chiltern and South Bucks Local Plan 2036 states the following with regards to air pollution within Burnham Beeches SAC:

> *Air quality modelling work has also identified that there is likely to be an exceedance of certain pollutants within the SAC as a result of increasing vehicle movements within the surrounding road network. The Council has worked with Natural England and the City of London Corporation to develop an Air Quality Mitigation Scheme to avoid significant impacts on the SAC due to decreases in air quality. The effectiveness of this scheme will be monitored and the scheme reviewed if necessary.*

Policy DM NP3 of the Emerging Local Plan states the following in relation to Burnham Beeches SAC and air quality:

> *Air Quality*
> *Development must contribute towards the Burnham Beeches Air Quality Mitigation Scheme, or any subsequently agreed scheme, unless it can be demonstrated that the development would not result in any adverse impact on air quality at Burnham Beeches either alone or in combination with other development.*

The Preliminary Ecological Assessment (Report RT-MME-131028-01 Rev D) issued by Middlemarch Environmental Ltd in November 2019 provided the following information:

> *Burnham Beeches SAC is located just over 5 km to the north-west of the application site. Although no direct impacts on this site are predicted, it is known to* [be] *vulnerable to increase*[s] *in air pollution, particularly NOx deposition. As a precaution, the potential for the proposed development to impact upon this receptor as a result of increases in NOx from traffic was considered in the Air Quality Assessment produced by WYG for the scheme (October 2019). This assessment was informed by traffic data for the roads in proximity to the SAC provided by i-Transport, and presents a review of potential air pollution impacts from the propose[d] development for a variety of potential scenarios and traffic mixes.*

The Air Quality Assessment completed by WYG (2019), included an operational phase assessment with an assumed operational year of 2026, assessing the following scenarios:

Scenario 1

- *2018 Baseline = Existing baseline conditions;*
- *2026 "Do Minimum" = The lawful use of the site – this scenario includes background traffic growth (from 2019), committed developments and 8,070sq.m Research and Development and 52,293sq m of B2 use on the site;*
- *2026 "Do Something" 1 = This scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings, 8,361sq.m B2 use and 28,428sq.m B8 use.*
- *2026 "Do Something" 2 = This scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings and 36,789sq.m B8 use.*

'Do Minimum' figures were provided as 2026 Baseline 1b; the lawful use of the site – this scenario includes background traffic growth (from 2019), committed developments and 8,070sq.m Research and Development and 52,293sq m of B2 use on the site. While both 'Do something' scenarios were provided as 2026 + Committed Development Scenario 1b, and 2026 + Committed Development Scenario 2b.

Scenario 2

- *2018 Baseline = Existing baseline conditions;*
- *2026 "Do Minimum" = The existing, underutilised, use of the site – this scenario includes background traffic growth (from 2019), committed developments and 8,070sq.m Research and Development use on the site;*
- *2026 "Do Something" 1 = This scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings, 8,361sq.m B2 use and 28,428sq.m B8 use.*
- *2026 "Do Something" 2= This scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings and 36,789sq.m B8 use.*

'Do Minimum' figures were provided as 2026 Baseline 2b; the existing, underutilised, use of the site – this scenario includes background traffic growth (from 2019), committed developments and 8,070sq.m Research and Development use on the site. While both 'Do something' scenarios were provided as 2026 + Committed Development Scenario 1b, and 2026 + Committed Development Scenario 2b.

As part of this assessment, predicted NOx concentrations at specific ecological receptors, including Burnham Beeches, were calculated. Table 6.1 presents the predicted annual average NO_2 concentrations taken from the Air Quality Assessment for receptor location E8 (Burnham Beeches).

Receptor	NO_x (µg/m^3)			
	Baseline 2018	Do Minimum 2026	Do Something 2026	Development Contribution
Scenario 1 – Development Scenario 1b				
E8 – Burnham Beeches	22.50	22.27	22.27	<0.01
Scenario 1 – Development Scenario 2b				
E8 – Burnham Beeches	22.50	22.27	22.27	<0.01
Scenario 2 – Development Scenario 1b				
E8 – Burnham Beeches	22.50	22.27	22.27	<0.01
Scenario 2 – Development Scenario 2b				
E8 – Burnham Beeches	25.82	24.41	22.27	<0.01

Table 6.1: Predicted Annual Average Concentrations of NO_x at Receptor Location E8
(data from WYG Air Quality Assessment, 2019)

In addition, the Air Quality Assessment (WYG, 2019) included an operational phase assessment including data centre use, with an assumed operational year of 2026, assessing the following scenarios:

Scenario 1

- *2018 Baseline = Existing baseline conditions;*
- *2026 "Do Minimum" = Baseline conditions with Committed Development (2026 Baseline 1b); and,*
- *2026 "Do Something" = – this scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings and 71,535sq.m Data Centre use.*

'Do Minimum' figures were provided as 2026 Baseline 1b. While the 'Do something' scenario was provided as 2026 + Committed + Development Scenario 3b.

Scenario 2

- *2018 Baseline = Existing baseline conditions;*
- *2026 "Do Minimum" = Baseline conditions with Committed Development including Lawful Use of the Development Site (2026 Baseline 2b); and,*
- *2026 "Do Something" = This scenario includes background traffic growth (from 2019), committed developments and development on the site including 1,000 dwellings and 71,535sq.m Data Centre use.*

'Do Minimum' figures were provided as 2026 Baseline 2b. While the 'Do something' scenario was provided as 2026 + Committed + Development Scenario 3b.

As part of this assessment, predicted NOx concentrations at specific ecological receptors, including Burnham Beeches, were calculated. Table 6.2 presents the predicted annual average NO_2 concentrations taken from the Air Quality Assessment for receptor location E8 (Burnham Beeches).

Receptor	NO_x (µg/m^3)			
	Baseline 2018	**Do Minimum 2026**	**Do Something 2026**	**Development Contribution**
Scenario 1 – Development Scenario 3b				
E8 – Burnham Beeches	22.50	22.27	22.27	<0.01
Scenario 2 – Development Scenario 3b				
E8 – Burnham Beeches	25.82	22.27	22.27	<0.01

Table 6.2: Predicted Annual Average Concentrations of NO_x at Receptor Location E8
(data from WYG Air Quality Assessment, 2019)

The Preliminary Ecological Assessment (Report RT-MME-131028-01 Rev D) concluded:

> *The assessment, completed in accordance with A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites (IAQM, 2019), identified that for all modelled scenarios the contribution of the propose development to NOx deposition at Burnham Beeches SAC would be <0.01%. This is concluded to be imperceptible, therefore no likely significant effects on the SAC are predicted and no recommendations for further assessment are made.*

WYG (2019) also assessed the following four generator operation scenarios:

- *Scenario i – this is a generator testing scenario. The generators will be tested fortnightly, with a testing period of 30 minutes at 25% load for each engine. One generator will be tested at a time and the testing will be taking place only at day-time.*

  The total net generator running time will be 28 hours fortnightly and approximately 728 hours per year.

  For the short-term impact assessment, it is assumed that (1) the testing starts at 8 am and finishes at 5pm; (2) 12 generators will be tested per day and (2) it will take 5 days (Monday to Friday) to compete the testing of 54 generators.

- *Scenario ii – this is also a generator testing scenario. The generators will be tested twice a year with a testing period of 1.5 hour at 100% load for each engine/generator. One generator will be tested at a time and the testing will be taking place only at day-time.*

  The total net generator running time will be 81 hours for one round test and approximately 162 hours per year in total.

  For the short-term impact assessment, it is assumed that (1) the testing starts at 8 am and finishes at 5pm; (2) 4 generators will be tested per day and (2) it will take approximately 14 days to compete one round of the testing of 54 generators. Testing will only take place on weekdays, for example, Monday to Friday.

- *Scenario iii– this is emergency scenario. The all 54 generators will be in operation, among them 50 generators (including 2 generators for office building) at 100% load and all 4 Catchers generators at 25% load.*

  All generators will be operating continuously for 6 hours for the emergency scenario.

- *Scenario iv – Combined Scenario*

  The scenario considers the combined operations of scenario i fortnight testing, scenario ii twice-a-year testing and the emergency scenario iii operations. This is a theoretical worst-case scenario as the scenario i and scenario ii could not take place simultaneously.

Table 6.3 summarises the combined long-term and short-term concentrations from the three Data Centre Generator Scenarios and the traffic air quality assessment for receptor location E8 (Burnham Beeches).

Receptor	Process Contribution (PC)					BC	PEC[a] (PC + Background)
	Generator Scenario i	Generator Scenario ii	Generator Scenario iii	Traffic Contribution	Sum		
Predicted Maximum Annual Mean Concentration (µg/m3)							
E8 – Burnham Beeches	0.001	0.001	0.004	<0.01	0.014	22.5	22.51
AQO / Critical Level (CL)	30[b]						
Predicted 24-hour Mean Concentration (µg/m3)							
E8 – Burnham Beeches	0.023	0.023	0.003	0.009	0.06	26.55	26.61
AQO / Critical Level (CL)	75[c]						

Note:
[a] The Inclusive of Background concentrations. The Background concentration was derived from http://www.apis.ac.uk/.
[b] The AQO of 30 µg/m3 is the annual standard for the protection of vegetation and ecosystems; and,
[c] The AQO of 75 µg/m3 is the daily standard for the protection of vegetation and ecosystems.

Table 6.3: Predicted Annual and 24-hour Mean Concentrations of NO_x (as NO_2) at Receptor Location E8
(data from WYG Air Quality Assessment, 2019)

Table 6.4 summarises the combined long-term (annual mean) concentrations of NO_x (as NO_2) and significance of effects at receptor location E8 (Burnham Beeches).

Receptor	Predicted Combined Annual Mean Concentration (µg/m3) and NO_2 Significance Impacts at Ecological Receptors						
	Combined Process Contribution (PC)	PC as % of AQO	BC	PEC (PC + Background)	PEC as % of AQO	PEC as % of AQO	Significance
E8 – Burnham Beeches	0.014	0.046	22.5	22.51	75.0	≤75% of AQAL	Negligible

Table 6.4: Combined Long-Term (Annual Mean) Concentrations of No_x (as NO_2) and Significance of Effects at Receptor Location E8
(data from WYG Air Quality Assessment, 2019)

WYG (2019) conclude:

> *The percentage change in long-term process concentrations relative to the AQAL as a result of the proposed development at all ecological receptor locations, with respect to NO_x (as NO_2) exposure, are determined to be 0.664% or less. The significance is to be 'negligible' for all ecological receptor locations...*
>
> *As the percentage change in long-term process concentrations relative to the AQAL is below 1% of the relevant critical level for the protection of vegetation and Ecosystems, the long-term process contributions have been screened out against the relevant standard/critical level. The nitrogen deposition assessment has not been undertaken.*

Based on the information provided by WYG and reported in the Preliminary Ecological Assessment, it is concluded that the proposed development would not result in any adverse impacts on air quality at Burnham Beeches SAC and no significant effects with regards to this issue are predicted.

6.2 PUBLIC ACCESS / DISTURBANCE

The Emerging Chiltern and South Bucks Local Plan 2036 states the following in relation to recreational impacts on Burnham Beeches SAC:

> *Recreation within Burnham Beeches has resulted in an adverse impact on the health of the site. Impacts include trampling and soil compaction, climbing damage to trees, dog fouling, the spread of disease and an import of non-native species. Visitor surveys have shown that the majority of visitors to Burnham Beeches live within the surrounding settlements, but that the site also draws visitors from further afield. It is understood that any additional development within 5.6 kilometres of the site is likely to result in a level of additional recreational visits which, without mitigation, would adversely affect the SAC and that recreational pressures from residential development within 400m of the SAC are likely to result in adverse effects which cannot be mitigated. The policy below seeks to avoid these impacts by restricting development within 400 metres of Burnham Beeches.*
>
> *Development sites outside this area, but within 5.6 kilometres of the SAC, are still likely to result in additional recreational visits. An Access Management and Mitigation Scheme has been agreed with Natural England, the Highway Authority and the City of London Corporation in order to provide on-site mitigation for these additional visits. The effectiveness of this scheme will be monitored and the scheme reviewed if necessary. Development within this wider zone of influence will need to make financial contributions towards this or any subsequently agreed mitigation scheme.*

Subsequently, Policy DM NP3 of the Emerging Local Plan states the following:

> ***Natural – Burnham Beeches Special Area of Conservation***
> *Planning permission will not be granted for development which results in net additional homes within 400 metres from the Burnham Beeches Special Area of Conservation (SAC).*
>
> *Beyond 400 metres a precautionary approach will be taken for the protection and conservation of the SAC. Planning permission will only be granted provided that the Council is satisfied that this will not give rise to significant adverse effects upon the integrity of the SAC in view of its conservation objectives. A full Habitats Regulations Assessment of the potential impacts of development and, if appropriate, proposed mitigation measures must be submitted prior to the determination of the planning application(s) and suitable mitigation measures, as approved by the Council, will be implemented prior to the completion / occupation of development as appropriate.*
>
> *Open Space Requirements and Mitigation for Recreational Impacts*
> *Major residential developments that would result in a net increase in homes located between 400 metres and 5.6 kilometres from the Burnham Beeches SAC will be required to:*
> 1. *make financial contributions towards the Burnham Beeches Access Management Scheme, or any subsequent scheme which replaces this; and*
> 2. *demonstrate that no adverse impacts on the SAC will arise as a result of additional visitors to the SAC from the development. This might require the provision of bespoke mitigation, such as Suitable Alternative Natural Greenspace, as part of the development in order to offset visitor pressure to the SAC. Such mitigation will need to be determined in agreement with Natural England.*

As detailed in Section 1.2, the figure of 5.6 km is proposed by Footprint Ecology (2019) in their report 'Impacts of urban development at Burnham Beeches SAC and options for mitigation: update of evidence and potential housing growth, 2019':

> *We use the postcode data (over 900 visitor postcodes from visitor interviews) to derive a zone of influence within which future increases in housing would be expected to result in increased recreation pressure to Burnham Beeches SAC. Based on the 75th percentile (i.e. the distance within which 75% of visitors originated), we recommend a 5.6km zone around the SAC boundary. This zone represents the core area around the SAC where increases in the number of residential properties will require Habitats Regulations Assessment and mitigation measures will be necessary to rule out adverse effects on the integrity of the SAC from the cumulative impacts of development.*

The proposed development site is located approximately 5 km from the SAC as the crow flies and therefore falls within this 5.6 km 'buffer zone' around Burnham Beeches SAC. However, the shortest route for those walking between the proposed development site and the SAC would be 6.8 km. Due to this distance, it is considered unlikely that the SAC would be used for everyday recreational activities generated by the proposed development (e.g. walking and dog walking), especially given that there are several areas of common land, city parks, green corridors, and local green spaces within proximity to the site (see Drawing C151371-01). For example, the Grand Union Canal Slough Arm towpath is located less than 400 m north of the proposed development site if accessed from Wexham Road, and a walk of less than 1 km east along the towpath leads to Bloom Park. Lascelles Park and Upton Court Park are located approximately 1.5 km and 1.6 km (walking) south of the proposed development site, respectively. Nevertheless, weekend visits from the proposed development site to the SAC are more likely, given that a journey by car to one of the three car parks would require travelling only 7-8 km, taking between 10 and 20 minutes depending on the route taken. Using one of the two bus services which run between Slough train station and The Broadway / Farnham Common, the SAC could be reached in around 45 minutes from the proposed development site. Footprint Ecology (2019) estimate that the potential change in recreation use as a result of new housing across the Chiltern District, South Bucks District, Slough Borough, Windsor and Maidenhead Borough and Wycombe Borough will be 11 %, with 5% attributable to new housing within the Slough Borough, based on the provision of 15,652 dwellings post-2018. The proposed development of up to 1,000 residential units comprises 6.4 % the post-2018 provision in the Slough Borough. As such, the number of additional visitors accessing Burnham Beeches SAC from the proposed development as a percentage of all visitors from other developments within the 5.6 km buffer zone is anticipated to be low. This small increase in recreational pressure as a result of the proposed development in isolation is considered unlikely to result in a measurable change to the integrity of the SAC, and no likely significant effects are predicted. However, it is acknowledged that, in the absence of mitigation, when the proposed development is considered in combination with future developments brought forward within the 5.6 km buffer zone, there may be a significant effect on Burnham Beeches SAC as a result of increased recreational pressure. This is considered further in Chapter 7. Outline mitigation measures are proposed in Chapter 8.

6.3 HABITAT FRAGMENTATION

According to the Site Improvement Plan, Natural England are leading input into forward development planning, providing clear advice to local planning authorities, to ensure new housing development in proximity to Burnham Beeches SAC does not result in habitat fragmentation and the isolation of this site from the surrounding countryside.

The proposed development site is located 5 km from the SAC, in an urban area within Slough. As such, the proposed development will not contribute to habitat fragmentation in proximity to the SAC, and no significant effects with regards to this issue are predicted.

6.4 DEER

Implementation of a deer management strategy and the provision of advice to landowners will reduce the adverse impacts of deer presence.

As the proposed development does not alter deer management within the SAC, no significant effects with regards to this issue are predicted.

6.5 SPECIES DECLINE

Natural England, in partnership with the City of London Corporation and the Forestry Commission, are implementing specific management measures to promote future veteran trees.

As the proposed development does not alter veteran tree management within the SAC, no significant effects with regards to this issue are predicted.

Specific damage to trees caused by visitors to the SAC is discussed in relation to public access / disturbance in Section 6.2.

6.6 INVASIVE SPECIES, PROBLEMATIC NATIVE SPECIES

Invasive species which threaten the integrity of Burnham Beeches SAC are oak processionary moth and rhododendron. According to the Site Improvement Plan, there will be implementation of monitoring and control of invasive species. Rhododendron is continuing to be eradicated from the site, although work will be required to ensure that it does not recolonise from adjacent properties.

No invasive species were noted within the proposed development site during the Phase 1 Habitat Survey completed by Middlemarch Environmental Ltd in July 2019 and even if invasive species were present, due to the lack of connectivity and intervening distance between the proposed development site and the SAC, it is considered that the proposed development will not result in the spread of invasive species within the SAC. Therefore, no significant effects with regards to this issue are predicted.

A precautionary measure regarding avoiding the use of invasive species within soft landscaping is detailed in Chapter 8.

7. BURNHAM BEECHES SAC: SCREENING MATRIX AND IN-COMBINATION ASSESSMENT

7.1 SCREENING MATRIX

Based on the information presented in Sections 6.1 to 6.6, a screening matrix is presented in Table 7.1 below summarising the findings of the screening exercise for the Burnham Beeches SAC.

SITE	FACTOR AFFECTING SITE INTEGRITY	POTENTIAL EFFECTS ARISING FROM DEVELOPMENT PROPOSALS	SIGNIFICANCE OF RESIDUAL EFFECTS
Burnham Beeches SAC	Air pollution	Air quality modelling has confirmed that the contribution of the proposed development to NOx deposition at the SAC, both alone and in-combination with other projects and plans, would be negligible and no significant adverse effects are anticipated.	**NLSE**
	Public access / disturbance	Visits to Burnham Beeches as a result from the proposed development *in isolation* are anticipated to be low as a percentage of visits to the SAC from all future developments within the 5.6 km buffer zone around the SAC, and are considered unlikely to result in any significant changes to the integrity of the SAC. Section 7.2 discusses in-combination effects.	**NLSE**
	Habitat fragmentation	The proposed development is located within an urban area and will not contribute to habitat fragmentation / isolation of the SAC from surrounding countryside. No significant effects with regards to this issue are predicted.	**NLSE**
	Deer	As the proposed development does not alter deer management within the SAC, no significant effects with regards to this issue are predicted.	**NLSE**
	Species decline	As the proposed development does not alter veteran tree management within the SAC, no significant effects with regards to this issue are predicted. Specific damage to trees due to visitors to the SAC is considered in the context of 'public access / disturbance'.	**NLSE**
	Invasive species, problematic native species	Due to the lack of connectivity and intervening distance between the proposed development site and the SAC, it is considered that the proposed development will not result in the spread of invasive species within the SAC. Therefore, no significant effects with regards to this issue are predicted.	**NLSE**
Key:	NLSE – No Likely Significant Effect		

Table 8.1: Assessment of Effects of Proposed Project on Natura 2000 Site

7.2 IN-COMBINATION EFFECTS

In accordance with the legal requirement in the Habitats Regulations and best practice methodology, the potential for a project or plan to impact upon a Natura 2000 site must be considered '*either alone, or in combination with other projects or plans*'. As such it is necessary to consider the potential for the proposed development to impact upon the Burnham Beeches SAC both alone and in combination with other plans and projects.

Section 6.1 clearly shows that 'in-combination' effects from potential air pollution impacts have been considered as part of the air quality modelling works that have been completed.

It has already been identified in Chapter 6 that, in the absence of mitigation, increased public access / disturbance as a result of the proposed development *in combination with other projects and plans* could potentially impact on the integrity of the Burnham Beeches SAC. Footprint Ecology (2019) acknowledge that the 5.6 km buffer zone '*represents the core area around the SAC where increases in the number of residential properties will require Habitats Regulations Assessment and mitigation measures will be necessary to rule out adverse effects on the integrity of the SAC from the cumulative impacts of development.'* It is the *combined* recreational pressure from all potential residential developments within the 5.6 km buffer zone that could result in a Likely Significant Effect, rather than the potential recreational pressure arising as a result of any one scheme. Outline mitigation measures to address these in-combination effects are provided in Chapter 8.

For the reasons given in Chapter 6, it has been concluded that the proposed development would have no influence on the other issues to which the SAC is vulnerable.

8. MITIGATION

8.1 INTRODUCTION

Chapters 6 and 7 have identified the potential for recreational impacts on Burnham Beeches SAC as a result of increased public access / disturbance from the proposed development in combination with other plans and projects. As such, this section of the report presents the mitigation to be delivered to ensure that any adverse effect on the integrity of the Burnham Beeches SAC can be controlled to an acceptable level to allow the proposed development to proceed.

For the reasons given in Chapter 6, it has been concluded that the other potential direct or indirect effects on the Burnham Beeches SAC from the proposed works would not result in any adverse impact on the integrity of Natura 2000 sites and as such no mitigation is needed.

8.2 OUTLINE MITIGATION PROPOSALS

8.2.1 Financial Contribution to Address Public Access / Disturbance Impacts

As detailed in Section 6.2, in accordance with the Policy DM NP3 of the Emerging Chiltern and South Bucks Local Plan 2036, major residential developments within 5.6 km of the Burnham Beeches SAC will be required to make financial contributions towards the 'Burnham Beeches Access Management Scheme' (or any replacement scheme) and potentially provide bespoke mitigation (i.e. Suitable Alternative Natural Greenspace) as part of the development to offset visitor pressure on the SAC, in order to mitigate for the in-combination effects of recreational pressure on the Burnham Beeches SAC.

Given the urban location of the site, it would not be feasible to provide a Suitable Alternative Natural Greenspace as part of the development, and no additional information is provided in the Emerging Local Plan regarding how any financial contributions should be calculated.

In the absence of this information, the financial contribution required will need to be agreed through discussions with Natural England, Chiltern and South Bucks District Council and Slough Borough Council. Provided that this financial contribution is secured through a legal agreement, any in-combination effects of recreational pressure on the Burnham Beeches SAC as a result of the proposed development in combination with other projects and plans can be mitigated for, and no likely significant effects are anticipated.

8.2.2 Precautionary Landscaping Proposals

The soft landscaping proposals for the proposed development should use native or wildlife friendly species only. No use of any invasive species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) will be permitted.

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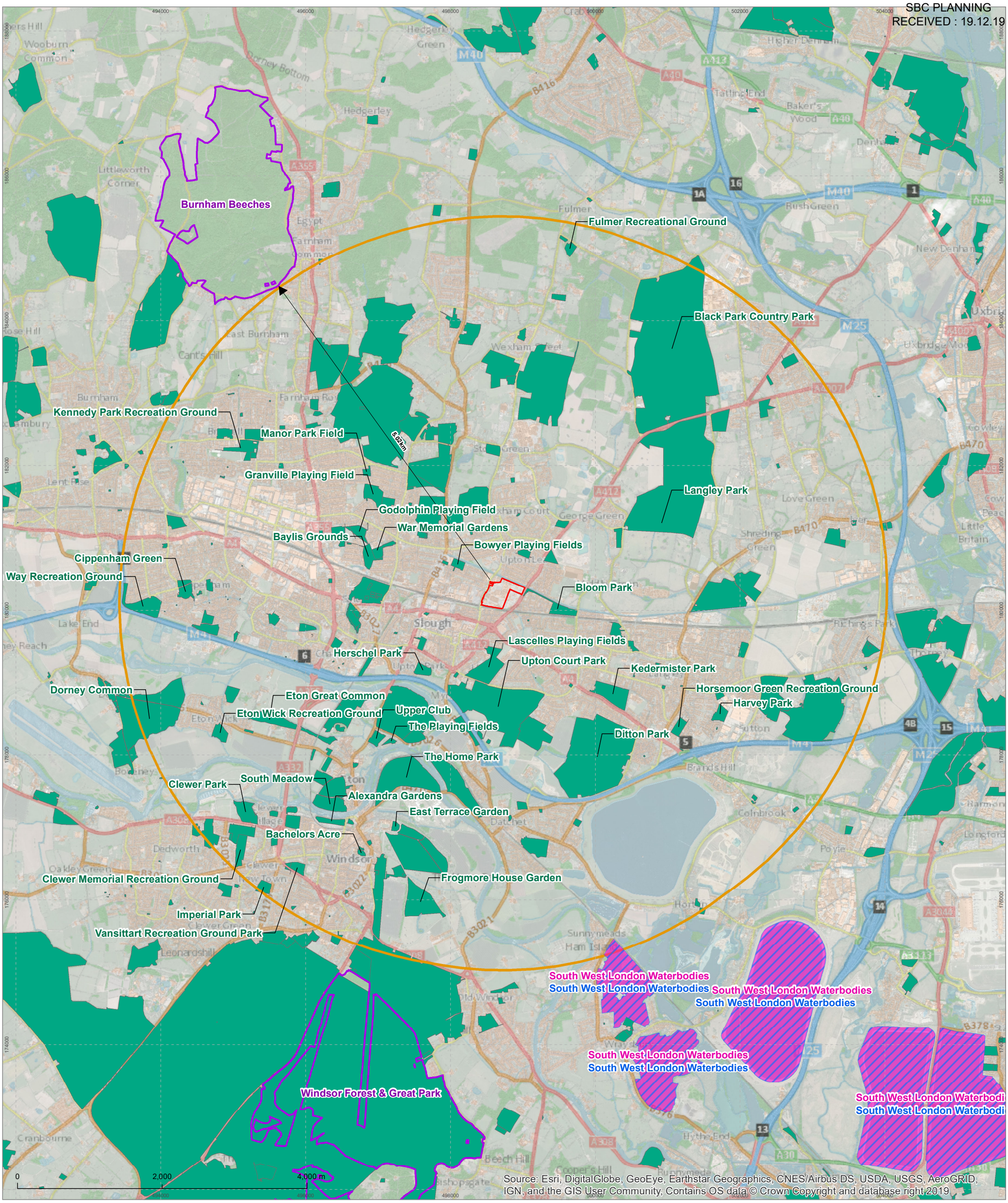
APPENDICES

APPENDIX 1: Location of Natura 2000 Sites in Relation to Application Site
Middlemarch Environmental Ltd Drawing C151371-01



Legend

- Site boundary
- 5km from site boundary
- Ramsar
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Green Space

Project	Akzo Nobel, Slough
Drawing	Location of Natura 2000 Sites
Client	Panattoni
Drawing Number	C151371-01
Revision	00
Scale @ A3	1:50,000
Date	December 2019
Approved By	HT
Drawn By	VO

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