

## 2.0 EIA METHODOLOGY

### Introduction

- 2.1 This chapter sets out the methodology used to prepare each chapter of the ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant effects of the Development on the environment.
- 2.2 The ES has been prepared in accordance with the Town & Country Planning (Environmental Impact Assessment (EIA)) Regulations 2011, as amended (the "EIA Regulations"), which implement European Council Directive No. 85/337/EEC as amended by Council Directive No. 97/11/EC.

### Scoping

- 2.3 The Development has been the subject of a scoping exercise to identify the likely significant effects on the environment that may arise from the construction and operational phases of the Development<sup>1</sup>. A Scoping Report (Appendix 2.1) was submitted to LBH on 11<sup>th</sup> March 2016. A Scoping Opinion was received from LBH on 13<sup>th</sup> May 2016 and is included within Appendix 2.2.
- 2.4 The results of the scoping exercise have identified in agreement with LBH that the following subject areas should be included in the ES:
- Transport and Access;
  - Air Quality; and
  - Land Contamination
- 2.5 In addition, following receipt of the Scoping Opinion and further details of the design of the Development emerging, it was considered the potential for likely significant effects on built heritage could occur. On this basis built heritage has also been scoped into the ES.
- 2.6 The scoping exercise also identified that the Development was considered to generate non-significant effects on the following subject areas:

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<sup>1</sup> It should be noted that at the time the Development was scoped, it was proposed that separate planning applications would be submitted by the Applicants. The decision to submit a joint planning application does not change the scope of the ES.

### Socio-Economics

- 2.7 The Development will provide housing and employment opportunities. No significant socio-economic effects are anticipated and on this basis an assessment of Socio-Economic effects has been scoped out of the ES. A Health Impact Assessment and Equalities Impact Assessment have been prepared and will be submitted as part of the planning application.

### Noise and Vibration

- 2.8 A desk study exercise and assessment of potential issues during construction identified the potential for temporary but insignificant noise and vibration effects from the proposed construction works.
- 2.9 The impact of noise during the operational phase of the Development will be minimised through the design of the site generally and individual buildings within it. For example, those commercial buildings closest to sensitive premises around the site perimeter (in particular residential locations) will be orientated so that loading bays are facing away from sensitive properties, thus maximising the self-screening effect of the buildings themselves. To avoid break out of noise from operations within the commercial buildings, the facades will feature an enhanced specification of acoustic insulation where such mitigation is necessary. Noise from the railway line to the north will be screened by the proposed buildings situated closest to the railway, this will ensure that noise levels in external amenity areas will be within the target noise range.
- 2.10 Building services plant will be located away from sensitive locations and will be specified to comply with the requirements of BS4142:2014 in respect of noise levels at adjacent premises, to protect the occupants of those premises from excessive noise levels. An Industrial Planning Noise Report, a Noise and Vibration Planning Strategy Report and a Residential Planning and Vibration Noise Report have been submitted with the planning application which contain further details.

### Agriculture

- 2.11 The Site is currently developed and there will be no loss of agricultural land. This topic has therefore been scoped out of the ES.

### Townscape and Visual

- 2.12 The Site is not covered by any national, regional, or local landscape/townscape designations; the nearest Registered Park and Garden is over 3km to the south-east and the Site is not crossed by any Public Rights of Way. The Site is not located within a sensitive or protected viewing corridor identified in the London Plan London View Management Framework in respect of strategical views; nor is the Site identified within the Hillingdon Townscape Character Study (2013).
- 2.13 In conclusion, it is considered unlikely that any significant effects will result to the surrounding townscape and visual amenity and that this topic can be scoped out of the ES. A Townscape and Visual Impact Assessment has been prepared and will be submitted as part of the planning application.

### Ecology and Nature Conservation

- 2.14 A Preliminary Ecology Appraisal confirmed that the Site has a low ecological value, with 75% of the site comprising buildings and hard standing. It does not form part of any statutory or non-statutory designated nature conservation site.
- 2.15 Any habitat lost due to the Development will be recreated as part of the landscaping proposals (see Chapter 3 for further details). On this basis significant effects on ecology and nature conservation are not considered likely. An Ecological report, containing the results of necessary protected species surveys, has been prepared and will be submitted with the planning application.

### Water Resources and Flood Risk

- 2.16 According to the Environment Agency website, the Site is located in Flood Zone 1 and is at a low risk of flooding from rivers and seas. The nearest area of Flood Zones 2 and 3 are located to the east of the Site, and contain areas of medium to high risk of flooding associated with the River Crane. No likely significant effects have been identified as a result of the Development and on this basis an assessment has been scoped out of the ES. A Flood Risk Assessment and Utilities Assessment have been prepared and submitted with the planning application.

### Wind Microclimate

- 2.17 Throughout the demolition and construction phase, the removal of the existing buildings, installation of cranes and the erection of new buildings may affect the local wind microclimate. However, these effects are considered to be temporary and not anticipated to be significant. Likely significant wind effects are not anticipated and this topic has been scoped out of the ES. A Wind Assessment has been prepared and will be submitted with the planning application.

### Daylight, Sunlight and Overshadowing

- 2.18 Significant effects are not anticipated and daylight, sunlight and overshadowing has been scoped out of the ES. A daylight and sunlight assessment has been undertaken to inform the design of the Development and will be submitted in support of the planning application.

### Lighting

- 2.19 The Development is not anticipated to produce a significant lighting impact in the context of the surrounding development. This topic has therefore been scoped out of the ES. A Lighting Assessment will be submitted with the planning application.

### Waste

- 2.20 The Development will generate waste from the demolition of the existing buildings. The effect of waste generation during the demolition, construction, and operational phases is not considered to be significant. Existing buildings on Site would be removed with much of the materials recycled for use on site or off site. A Site Waste Management Plan has been prepared and submitted in support of the planning application. This outlines the waste strategy for the Development, describing the strategy for each land use and an assessment of waste generation, storage, handling and collection requirements.

### Public Consultation

- 2.21 The planning application is the culmination of an extensive design process which has involved consultation with LBH, statutory consultees, the local community and other stakeholders.

- 2.22 Public exhibitions were held at an early stage when the design was evolving. Events were held at Hayes and Harlington Community Centre on Tuesday 29<sup>th</sup> December and Wednesday 30<sup>th</sup> November 2016. A Community Open Day was also held on the Site on Saturday 18<sup>th</sup> June 2016. Invitation flyers were posted to addresses in the local area advertising the events. A project website and community hotline have also been used to gather feedback and keep the public informed. An additional public exhibition will take place on the 16<sup>th</sup> May 2017 at the Hayes and Harlington Community Centre to coincide with the submission of the planning application.
- 2.23 Freestanding information boards were on display to explain the background to, and aim of, the Development and show the emerging design and feedback forms were used to gather comments from the public. Chapter 4 summarises how the views of the local community have been taken into account in the design evolution of the Development. Full analysis of the comments received is contained in the Statement of Community Involvement submitted in support of the application.
- 2.24 Three focused workshops were also held with members of the community which addressed the canal and public realm (1st September 2016), skills and employment (19th September 2016) and the draft construction management plan (21st February 2017).
- 2.25 In addition to consultation with LBH and the public exhibition, consultation has also been undertaken with the following consultees:
- Historic England;
  - Greater London Authority (GLA);
  - Natural England;
  - Environment Agency; and
  - Highways England.

### **Approach to Technical Studies**

- 2.26 The EIA studies commenced at an early stage in the development process. The findings of these baseline environmental studies have played an important role in the design of the Development by defining the environmental sensitivities, constraints and opportunities associated with the Site.

- 2.27 The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment chapters. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, site inspections and surveys, impact prediction and mitigation.
- 2.28 The assessment and conclusions of the ES are based on the description of the Development provided in Chapter 3 and accompanying figures.

### Structure of Technical Chapters

- 2.29 Each technical chapter of the ES (Chapters 6-9) has been set out broadly in line with Table 2.1 below. Chapter 5 provides information to allow the construction phase of the Development assessed by the disciplines set out in chapters 6-9. It should be noted that the Site has only recently been vacated and there is reasonable potential, based on employment demand within the area, for parts of the Site to be reoccupied in line with its current industrial use if the Development did not progress. Consideration has been given to this in the ES Chapters where necessary.

**Table 2.1: Structure of the Technical Chapters**

Heading	Content
Introduction	Each of the technical chapters begins with an introduction providing context to the EIA completed.
Policy Context	This section includes a summary of policies of relevance to the environmental discipline and explains its purpose in the context of the Development and the ES.
Assessment Methodology	This section describes the method and approach employed in the assessment of likely significant effects, the criteria against which the significance has been evaluated, the sources of information used and any technical difficulties encountered. Relevant legislation is also identified.
Baseline Conditions	This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains undeveloped. It should be noted that the Site has only recently been vacated and there is reasonable potential based on employment demand within the area for parts of the Site to be reoccupied in line with its current industrial use if the Development did not progress. Consideration has been given to this in the ES Chapters where necessary.
Likely Significant Effects	This section identifies the likely significant effects on the environment resulting from the Development during construction and operational phases. A description of the likely significant effects of the Development and an assessment of their predicted significance is provided.
Mitigation Measures	This section describes the measures which would be implemented to mitigate against potential adverse impacts. Where possible, enhancement measures have also been proposed.
Residual Effects	The residual effects, i.e. the remaining effects of the Development assuming implementation of the proposed mitigation measures, have been estimated and presented.
Cumulative Effects	This section considers the cumulative effects of the Development with committed developments identified within the vicinity of the Site. Any likely significant effects on the environment arising in this respect are set out in this section.

Heading	Content
Summary	Each technical chapter concludes with a brief summary outlining the potential residual effects for the construction phase (short/medium) and operation (medium/long-term) phase of the Development.

### Likely Significant Effects

- 2.30 The assessment of impact significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical chapters presented.

### Magnitude

- 2.31 The methodology for determining the scale, or magnitude, of effect is set out in Table 2.2 below.

**Table 2.2: Methodology for Assessing Magnitude**

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

### Sensitivity

- 2.32 The sensitivity of a receptor is based on the relative importance of the receptor using the scale in Table 2.3 below.

**Table 2.3: Methodology for Assessing Sensitivity**

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

## Significance

- 2.33 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be beneficial or adverse. Table 2.4 below shows how magnitude and sensitivity interact to derive effect significance.

**Table 2.4: Methodology for Assessing Significance**

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse / Beneficial- Negligible
Negligible	Negligible	Negligible	Negligible

- 2.34 The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given chapter under the heading of Assessment Methodology.

## Mitigation

- 2.35 Any adverse environmental effects have been considered for mitigation at the design stage and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:
- Avoidance;
  - Reduction;
  - Compensation;
  - Remediation; and
  - Enhancement.
- 2.36 Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.



- 2.37 Mitigation recommended during the demolition and construction phase would be set out in the Construction Environmental Management Plan (CEMP) to be agreed with LBH prior to the commencement of work and implemented throughout the duration of the works. Mitigation measures to be included in a future CEMP are set out in Chapter 5 Construction Methodology and Phasing.
- 2.38 Mitigation to be implemented during the operational phase would be secured through planning conditions and obligations.

### Cumulative Effects

- 2.39 A requirement of the EIA Regulations is to assess cumulative effects. Cumulative effects are generally considered to arise from the combination of effects from the Development and from other committed schemes in the vicinity, acting together to generate elevated levels of effects. Planning Practice Guidance<sup>i</sup> (PPG) identifies that:

*'...There are occasions where other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development...'*

- 2.40 Guidance in the PPG states that "existing and approved" developments should be considered. A number of nearby schemes with planning approval were identified in the EIA Scoping Report which have the potential to lead to likely significant effects on the environment. As part of scoping discussions with LBH<sup>2</sup>, a number of additional schemes were also agreed for inclusion in the assessment. It should be noted that not all schemes included in the assessment are "committed" in terms of planning approval, but have been included as "reasonably foreseeable development". A number of assumptions to inform the assessment have been made regarding the wider Nestle site allocation as planning applications have not yet been submitted for these sites, further details are provided in Table 2.5 below. The cumulative effects assessment therefore goes beyond the requirements of the EIA Regulations and the PPG.
- 2.41 The location of the schemes identified for inclusion in the cumulative effects assessment is shown on Figure 2.1.

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<sup>2</sup> The original list of schemes was agreed with LBH in May 2016, the final list of schemes was updated and agreed with LBH in January 2017.

**Table 2.5: Cumulative Schemes**

No.	Scheme	Description	Planning Status
1	The Old Vinyl Factory, Blyth Road, Hayes (ref: 59872/APP/2012/1838)	Demolition of up to 12,643sqm of buildings and construction of up to 112,953sqm of new floorspace. The development is expected to comprise up to 510 residential units, up to 7,886sqm of new business floorspace, up to 4,000sqm of A class uses, 4,700sqm of D1 and D2 uses, an energy centre, car parking and landscaping.	Approved (April 2013)
2	20 Blyth Road, Hayes (ref: 1425/APP/2011/3040)	The development comprises a part 11, part 9, part 5 and part 4 storey building comprising 120 residential units, office floorspace, 97 car parking spaces and hard and soft landscaping.	Approved (December 2011)
3	Southall Gasworks (ref: PP/2015/4682)	The development comprises remediation of the existing contamination and comprehensive redevelopment of the site to provide a mix of commercial, community and residential uses (3,750 units) along with areas of public realm and public open space and an internal network of roads within the site.	Approved (February 2016)
4	Western International Park (ref. P/2012/4185)	Erection of warehouse club (13,006 sqm) to include provision for tyre installation, sales and other associated facilities as well as associated landscaping and car parking provision.	Approved (October 2012)
5	Upgrade to the existing Hayes and Harlington rail station for Crossrail Planning ref. 31592/APP/2015/186)	Upgrade to the existing Hayes and Harlington rail station for Crossrail through the construction of a new footbridge with stairs and lift shafts, a new station extension, covered walkway and footbridge, new entrance canopy, extensions to platforms 2/3 and 4/5, new station lighting and associated minor works.	Approved (April 2015)
6	Silverdale Road, Hayes (ref 71374/APP/2016/4027)	Demolition of existing buildings and redevelopment of the site to provide a podium at ground level and buildings ranging from ground plus three storeys to eight storeys, comprising 124 residential units (Use Class C3) and 227 sqm of flexible commercial space (Use Classes A1, A3, B1, D1 or D2), together with associated car parking, vehicular access, landscaping, infrastructure works and the extension of Shackles Dock)	Undecided (application submitted November 2016)
7	Land South of Hayes and Harlington ('Bucleuch Site') <sup>3</sup>	The Land South of Hayes and Harlington development is owned by Network Rail (0.4ha) and Bucleuch Property (1.6ha) and will be retail and residential. Development is likely to comprise of the demolition of existing buildings and redevelopment of the site to create a mixed use development comprising between 25-32,500m2 residential	Planning application has not yet been submitted.

<sup>3</sup> Information provided by Waterman Infrastructure and Environment Ltd in January 2017 based on draft scheme proposals.

No.	Scheme	Description	Planning Status
		units (C3), ~151m <sup>2</sup> retail uses (A1) and ~957m <sup>2</sup> office (B1) together with access road, associated car and cycle parking spaces, external amenity space and plant. Likely to be a number of blocks between 4-10 storeys.	
8	No.1 Nestle Avenue ('Precis Site') <sup>4</sup>	Detailed planning permission for the demolition of existing building and redevelopment of the Site to create a mixed use development of A3 (café) on the second floor, B1 (office) on the ground and first floor, B8 (self-storage) in the basement level 3 & 2, ground and first floor, 164 C3 (residential) units above up to a 11 storey height limit, auxiliary car parking at basement level 1 and ground, and residential amenity and plant. All development will be arranged over three basement levels, ground/first level podium and part four, seven, eight, ten and eleven upper floors, with access road, associated car and cycle parking spaces, external amenity space and plant. The scheme will require the excavation of a new 12-15m deep three-level basement, which would occupy the entire building footprint of the site.	Planning application has not yet been submitted.
9	Squirrel Trading Estate	The Squirrel Trading Estate is located between the Buccleuch site and the Site. There are seven units housing 13 businesses within the estate. No details are available on the proposals, the assessments in the ES have assessed the potential for up to 400 residential dwellings with B1 and B2 floor space.	Planning application has not yet been submitted.

2.42 Each technical chapter (Chapters 6-9) has assessed the potential for likely significant effects on the environment as a result of the above committed and reasonably foreseeable developments.

### Residual Effects

2.43 The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been identified within each chapter.

### Assumptions and Limitations

2.44 The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical chapter. General assumptions include the

<sup>4</sup> Information provided by Waterman Infrastructure and Environment Ltd in January 2017 based on draft scheme proposals.

following:

- Assessments assume the baseline conditions at the time of ES preparation (2016/2017) unless otherwise stated in the technical chapter, as noted above the Site has only recently been vacated and could potentially be partially re-occupied. Consideration has been given to this in the ES Chapter where relevant;
- It is assumed that current surrounding land uses do not change, with the exception of the committed and reasonably foreseeable developments identified;
- Assessments are based on published sources of information and primary data collection. Sources are provided as necessary;
- Assessments are based on the description of development set out in Chapter 3 and the anticipated construction methodology and programme described in Chapter 5; and
- Assessments conclude the “worst case” effects that would arise the Development as defined by the drawings for approval described in Chapter 3.

### Objectivity

- 2.45 The technical studies undertaken within the ES have been progressed in a transparent, impartial and unbiased way with equal weight attached, as appropriate, to beneficial and adverse effects. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgments and expert interpretations.
- 2.46 The assessment has been explicit in recognising areas of limitation within the ES and any difficulties that have been encountered, including assumptions upon which the assessments are based. Where appropriate, the assessment of significance has been given confidence levels.

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<sup>i</sup> DCLG, 2015, online access: <http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/>