

## 2. EIA METHODOLOGY

### INTRODUCTION

- 2.1 This chapter sets out the methodology for undertaking the Environmental Impact Assessment (EIA). In particular, the chapter details the process of identifying the environmental issues to be included in the EIA and the method of assessing the significance of resulting effects for each of the four Development Scenarios.
- 2.2 It will be appreciated from Chapter 1: Introduction that there are four possible Development Scenarios which are being contemplated and consequently which are assessed in this Environmental Statement (ES). For more details reference should be made to Chapter 1: Introduction and Chapter 5: The Proposed Development Scenarios.

### GENERAL APPROACH

- 2.3 This ES has been prepared to comply with the EIA Regulations (Ref. 2.1) which implement Council Directive No. 85/337/EEC (Ref. 2.2) as amended by Council Directive No. 97/11/EC (Ref. 2.3). Reference has also been made to currently available EIA good practice guidance, including:
- Environmental Impact Assessment – A Guide to Procedures, Department of the Environment, Transport and Regions (DETR), 2001 (Ref. 2.4);
  - Preparation of Environmental Statements for Planning Projects that require Environmental Assessment – A Good Practice Guide, Department of the Environment (DoE), 1995 (Ref. 2.5);
  - Circular 02/99– Environmental Impact Assessment, Department of Environment, Transport and the Regions (DETR) (Ref. 2.6);
  - Guidelines for Environmental Impact Assessment, IEMA, 2004 (Ref. 2.7); and
  - Issue specific guidance, detailed where appropriate in the relevant technical chapters.
- 2.4 The EIA has considered the likely environmental effects of the each of the four possible Development Scenarios, utilising current knowledge of the sites of the three applications and their surrounding environments. Based on the findings of the various studies undertaken as part of the EIA, methods of avoiding, reducing or off-setting any potential significant adverse effects (collectively known as 'mitigation measures') have been identified. Such mitigation measures are set out in each relevant chapter of the ES.
- 2.5 In line with best practice guidance, a Scoping Study was undertaken at the start of the EIA process to identify the environmental issues to be addressed in the ES. Further details of this study are provided later in this chapter.
- 2.6 Detailed technical studies have been ongoing throughout the design process, providing information about environmental issues and constraints affecting the sites of all four Development Scenarios. The EIA has considered both beneficial and adverse effects during both the demolition and construction works for all four Development Scenarios and during the completed and operational phase of all four Development Scenarios. In line with the legislative and best practice requirements, direct, indirect, secondary and cumulative short-term, medium-term and long-term, permanent and temporary, beneficial and adverse effects have been addressed where applicable. The approach taken in the assessment of cumulative effects is summarised later in this chapter. Further details are provided in Chapter 18: Cumulative Effects.
- 2.7 The EIA Regulations (Part 1 of Schedule 4) state that certain information must be included in an ES. Table 2.1 sets out these information requirements and notes the location(s) within the ES where this information is presented.

**Table 2.1: Location within the ES of Information Required by Part I of the EIA Regulations**

	<b>Specified Information</b>	<b>Location within ES</b>
1	Description of the development, including in particular: <ul style="list-style-type: none"> <li data-bbox="399 369 917 504">a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases.</li> <li data-bbox="399 515 917 627">b) a description of the main characteristics of the production processes, for instance, nature and quantity of materials used.</li> <li data-bbox="399 638 917 817">c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.</li> </ul>	Chapter 3: Existing Land Uses and Activities; Chapter 5: The Proposed Development Scenarios; Chapter 6: Demolition and Construction; and Volume 3: Townscape, Conservation and Visual Assessment). Chapter 5: The Proposed Development Scenarios; Chapter 6: Demolition and Construction; and Chapter 7: Waste Management. Chapter 7: Waste Management, Chapter 9: Transportation and Access; Chapter 10: Air Quality; Chapter 11: Noise and Vibration; Chapter 13: Ground Conditions and Contamination; Chapter 14: Surface Water Drainage and Flood Risk; Chapter 18: Cumulative Effects.
2	An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.	Chapter 4: Alternatives.
3	A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets (including telecommunication interference), including the architectural and archaeological heritage, landscape and inter-relationship between the above factors.	Chapter 3: Existing Land Uses and Activities; Chapter 6: Demolition and Construction; all Technical Chapters (7 to 17); and Chapter 18: Cumulative Effects.
4	A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from: <ul style="list-style-type: none"> <li data-bbox="399 1433 917 1512">a) the existence of the development;</li> <li data-bbox="399 1523 917 1579">b) the use of natural resources;</li> <li data-bbox="399 1590 917 1646">c) the emission of pollutants, the creation of nuisances and the elimination of waste.</li> </ul>	All Technical Chapters (7 to 17); Chapter 18: Cumulative Effects; and Chapter 19: Summary of Residual Effects. Chapter 6: Demolition and Construction; and Chapter 7: Waste Management. Chapter 6: Demolition and Construction; Chapter 7: Waste Management; Chapter 9: Transportation and Access; Chapter 10: Air Quality; Chapter 11: Noise and Vibration; Chapter 13: Ground Conditions and Contamination; Chapter 14: Surface Water, Drainage and Flood Risk; Chapter 15: Wind; Chapter 16: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare; Chapter 17: Telecommunications; Chapter 18: Cumulative Effects; and Chapter 19: Summary of Residual Effects.

	Specified Information	Location within ES
5	A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.	All Technical Chapters (7 to 18).
6	A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.	Non-Technical Summary (NTS) (separate document).
7	An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.	Chapter 2: EIA Methodology; and where appropriate Technical Chapters (7 to 18).

### SCOPING OF THE EIA

- 2.8 'Scoping' is an important component of the EIA process, and involves focusing the study (and hence the ES) on those issues of greatest potential significance. It is also important in identifying all of the potential effects of the four Development Scenarios at the design, construction and operational phases to ensure that appropriate mitigation options are considered.
- 2.9 A Scoping Study was completed in April 2008. This involved the preparation of a Scoping Report which set out the overall approach to the EIA and identified the key potential environmental effects that may arise from each of the four Development Scenarios. The Scoping Report also included the proposed content of the ES and was submitted to WCC on 9 May 2008 with a request for a formal Scoping Opinion on the issues to be included in the ES. The Scoping Report is included as Technical Appendix 2a.
- 2.10 The following statutory and non-statutory organisations were consulted by WCC during the Scoping process:
- Statutory Consultees:
    - Westminster City Council (WCC);
    - Greater London Authority (GLA);
    - Natural England (NE); and
    - Environment Agency (EA).
  - Non-Statutory Consultee:
    - Transport for London (TfL).
- 2.11 Following consultation with the relevant consultees, a Scoping Opinion was received from WCC dated 10 July 2008. The Scoping Opinion confirmed the key environmental issues that should be addressed as part of the EIA. The full Scoping Opinion is presented in Technical Appendix 2b. A summary of the responses and comments received during the Scoping process is presented in Table 2.2.

Table 2.2: Issues Raised During the EIA Scoping Process

Consultee	Issue Raised	Chapter Where Addressed
WCC.	The EIA should address potential effects relating to ground contamination.	Chapter 13: Ground Conditions and Contamination.
	The EIA should address potential effects to the protected bird species, the Black Redstart ( <i>Phoenicurus ochrurus</i> ).	Refer to 'Non-Significant Issues' section of this chapter (Chapter 2: EIA Methodology).
	The Scoping Report does not set out a clear target for the reduction of carbon emissions through the use of renewable energy technologies.	It should be noted that separate stand alone Energy Strategies have been prepared for each of the four Development Scenarios. These have been submitted in support of the planning applications and form an inherent component of the four Development Scenarios. Renewable energy technologies have therefore been assessed within the EIA as part of the inherent design of each of the four Development Scenarios.
	The ES should include mitigation measures within the consideration of development phasing and programme.	Chapter 6: Demolition and Construction.
EA	A flood risk assessment will be required to address the risk of tidal flooding as well as surface water flooding.	Chapter 14: Surface Water, Drainage and Flood Risk.
	The assessment of the Development Scenarios must be in accordance with Contaminated Land Report 11: Model Procedures for the Management of Land Contamination, and with PPS 23: Planning and Pollution Control.	Chapter 13: Ground Conditions and Contamination.
	The use of green/brown roofs and green walls is strongly recommended. This will provide important habitats and support invertebrates, flora and foraging birds including Black Redstarts, and will help to improve the landscape character of the area. Nesting sites should be provided for redstarts, sparrows ( <i>Passer domesticus</i> ) and swifts ( <i>Apus apus</i> ).	Refer to 'Non-Significant Issues' section of this chapter (Chapter 2: EIA Methodology) and Chapter 5: The Proposed Development Scenarios.
	The Development Scenarios should not compromise the importance for wildlife of St James Park, Green Park and Buckingham Palace Gardens.	Refer to 'Non-Significant Issues' section of this chapter (Chapter 2: EIA Methodology).
	The ES should consider water usage and the effect of the Development Scenarios on water resources in the area. Water efficiency and rainwater harvesting measures should be incorporated.	Chapter 5: The Proposed Development Scenarios; and Chapter 14: Surface Water, Drainage and Flood Risk.
	Sufficient space should be allowed within the Development Scenarios to provide recycling facilities and waste storage.	Chapter 5: The Proposed Development Scenarios; and Chapter 7: Waste Management.
	The ES should refer to the Waste Strategy for England 2007.	Chapter 7: Waste Management

### Potentially Significant Issues

- 2.12 The Scoping Opinion received from WCC (refer to Technical Appendix 2b), established that the following environmental issues associated with the four Development Scenarios should be addressed in detail within the EIA:
- Waste Management;
  - Townscape, Conservation and Visual Effects;
  - Socio-Economics;
  - Transportation and Access;
  - Air Quality;
  - Noise and Vibration;
  - Archaeology;
  - Ground Conditions and Contamination;
  - Surface Water Drainage and Flood Risk;
  - Wind;
  - Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
  - Telecommunications; and
  - Cumulative Effects.

### Non Significant Issues

- 2.13 Potential effects associated with ecology were not considered to require a full assessment as part of the EIA due to the highly developed, urban nature of the application sites. Furthermore, the application sites were subject to ecological surveys in 2007 as part of the EIA for the Applicant's previous proposals at the application sites and beyond (the VTI proposals; refer to Chapter 4: Alternatives). The Ecology Chapter of the 2007 ES concluded that:
- "The Site is not covered by any statutory or non-statutory nature conservation designations and is situated within an area containing few valued ecological receptors. The ecological survey showed that the Site is of very limited interest for its intrinsic ecological interest and its potential to support a diverse range of species or protected or otherwise notable species. There would be no significant effects on local biodiversity either on Site or in its vicinity during the construction phase."*
- 2.14 In particular, it was determined that the Applicant's previous proposals (of a much more comprehensive nature) would not compromise the importance for wildlife of St James Park, Green Park and Buckingham Palace Gardens. For absolute clarity, the 2007 Ecology ES Chapter is presented in Technical Appendix 2c.
- 2.15 Notwithstanding the findings of the 2007 ecological surveys, the Applicant is committed to the principles of sustainable development (refer to Chapter 5: The Proposed Development Scenarios). Accordingly, the Applicant has included a number of ecological enhancements within the proposals for each of the four Development Scenarios. In addition to public realm spaces which would incorporate tree planting, and green and brown roofs, bird boxes would be built into the fabric of the various buildings to encourage nesting, particularly for the protected black redstart, sparrow and swift. Development Scenarios 1 and 3 would provide green walls as part of Building 6a (refer to Chapter 5: The Proposed Development Scenarios).

## STRUCTURE OF TECHNICAL CHAPTERS

- 2.16 Each key environmental issue has been assigned a separate technical chapter in the ES (Chapters 7-17), and within each of these chapters the assessment has been structured in the following way:

### Introduction

- 2.17 The introduction provides a brief summary of what is considered in the chapter.

### Planning Policy Context

- 2.18 This section includes a review of any relevant legislation, national, regional and local planning policy, published standards, guidelines and best practice. It is important to note that a full appraisal of the Development Scenarios against planning policies is provided in the Planning Statement supporting the planning applications.

### Assessment Methodology and Significance Criteria

- 2.19 The methods used in undertaking the technical study are outlined in this section with references to published standards, guidelines and best practice. The significance criteria used in the assessment are explained.

### Baseline Conditions

- 2.20 In order to assess the effects of the four Development Scenarios, it is necessary to determine the environmental conditions that currently exist on and around the sites of the four Development Scenarios, in the absence of any re-development. These are known as baseline conditions. For most issues, the EIA baseline has been taken as the current conditions at the time of assessment. Where a different baseline has been used, this is explained in the relevant chapter.

### Potential Effects

- 2.21 This section identifies the potential significant effects resulting from the four Development Scenarios and considers effects during demolition, construction and once each of the four Development Scenarios are completed.
- 2.22 Potential effects are considered for each of the four Development Scenarios in turn. Where potential effects are predicted to be identical for a number of different Development Scenarios, this is stated.

### Mitigation

- 2.23 One of the main aims of the EIA is to develop mitigation measures to remove, offset or reduce the significant adverse effects of a project. These measures can relate to any of the three key phases of the project; design, construction or once the scheme is completed. Examples include:
- **Design:** Consideration of the positions and orientations of buildings has been incorporated into the overall design as it has evolved, where feasible, and are outlined in Chapter 4: Alternatives;
  - **Construction:** Commitment to undertake the demolition and construction works in a specific way, for example the use of particular plant, phasing of the works, regular monitoring and management of the works; and
  - **Completed Development:** Inclusion of specific features such as landscaped areas or low emission plant.
- 2.24 Where significant adverse environmental effects have been identified, a commitment is made by the Applicant to implement mitigation measures where possible, either during detailed design of

the relevant Development Scenario, during the demolition and construction works, or once the relevant Development Scenario is complete.

- 2.25 Where the appropriateness of particular mitigation measures vary between the four Development Scenarios, this is noted.

### Residual Effects

- 2.26 This section identifies the remaining effects of the four Development Scenarios, known as residual effects, assuming implementation of the proposed mitigation measures, and includes an assessment of the significance of those effects.
- 2.27 The assessments of the significance of residual effects are provided for each Development Scenario in turn. Where the predicted residual effects are identical for different Development Scenarios, this is noted.

### Conclusions

- 2.28 The main findings of the chapter are summarised.

### EVALUATION OF SIGNIFICANCE

- 2.29 The EIA process aims to focus attention on the topics which are likely to give rise to significant effects on the environment. The purpose of the EIA is to identify and mitigate the 'likely significant effects' of a project.
- 2.30 Environmental effects have been predicted with reference to definitive standards and legislation where available. Where it has not been possible to precisely quantify effects, qualitative assessments have been carried out, based on available knowledge and professional judgement. Where uncertainty exists, this has been noted in the relevant technical chapter.
- 2.31 The significance of predicted effects has been determined by reference to assessment criteria for each environmental topic considered and these are set out in the respective technical chapters. These criteria apply a common EIA approach of classifying effects according to whether they are substantial, moderate or minor effects considered to be adverse, negligible or beneficial.
- 2.32 Specific criteria for each issue have been developed, giving due regard to the following:
- Extent, magnitude and reversibility of the effect;
  - Duration of the effect (whether short, medium or long term);
  - Nature of the effect (whether direct or indirect, reversible or irreversible);
  - Whether the effect occurs in isolation, is cumulative or interactive;
  - Performance against environmental quality standards or other relevant pollution control thresholds;
  - Sensitivity of the receptor; and
  - Compatibility with environmental policies.
- 2.33 For issues where definitive quality standards do not exist, significance has been based on the:
- Local, district, regional or national scale of value of the resource affected;
  - Number of receptors affected;
  - Sensitivity of those receptors; and
  - Duration of the effect.
- 2.34 In order to provide a consistent approach to expressing the outcomes of the various studies undertaken as part of the EIA, the following terminology has been used throughout the ES:
- **Significant beneficial:** A significant advantageous or beneficial effect to an environmental resource or receptor;
  - **Significant adverse:** A significant detrimental or adverse effect to an environmental resource or receptor; and

- **Negligible:** No significant effects to an environmental resource or receptor.
- 2.35 Although there is no recognised definition of what constitutes a ‘significant’ effect, it is good practice to identify the degree of significance or importance. In this ES, where significant beneficial or adverse effects have been identified, these have typically been assessed as being of either:
- **Minor significance:** Slight, very short or highly localised effects;
  - **Moderate significance:** Limited effects (by extent, duration or magnitude) which may be considered significant; and
  - **Substantial significance:** Considerable effects (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.
- 2.36 Each of the technical chapters provides the criteria, including sources and justifications, for quantifying the different levels of effect and this is described in the Assessment Methodology and Significance Criteria section of each technical chapter. Where possible, this has been based upon quantitative and accepted criteria (for example, the air quality standards contained in National Air Quality Strategy (NAQS) or noise assessment guidelines set out by Planning Policy Guidance Note 24: Planning and Noise (PPG 24) and World Health Organisation (WHO) guidelines), together with the use of value judgements and expert interpretations to establish to what extent an effect is environmentally significant.
- 2.37 In the context of the four Development Scenarios, ‘short’ to ‘medium-term’ effects are considered to be those associated with the demolition and construction works, and ‘long-term’ effects are those associated with the completed Development Scenarios. ‘Local’ effects are those affecting neighbouring receptors, whilst effects upon receptors within the wider City of Westminster are considered to be at a ‘District’ level. ‘Sub-Regional’ effects are those affecting nearby Boroughs, whilst effects upon London and the Southeast are considered to be at a ‘Regional’ level. Effects upon different parts of the country, or England as a whole, would be considered to be at a ‘National’ level. Finally, effects across national boundaries would be considered at an international level. No national or international effects have been identified within the ES.

### CUMULATIVE EFFECTS

- 2.38 In line with the EIA Regulations, an EIA must consider any cumulative effects or effect interactions in relation to a proposed development. Such cumulative effects may be relevant during the demolition, construction and/or operational phases of a development.
- 2.39 Cumulative effects are categorised into two types:
- **Type 1 Effects:** The amalgamation of individual effects resultant from the development upon a set of defined sensitive receptors, e.g. noise, dust and visual effects.
  - **Type 2 Effects:** The combined effects arising from other development sites, which individually might be insignificant but, when considered together, could create a significant cumulative effect.
- 2.40 The ES provides qualitative assessments of both Type 1 and Type 2 effects for each of the four Development Scenarios. Reference to the EIA Regulations and the associated Circular 02/1999, and consultation with WCC planning officers, has established that the nearby developments relevant to Type 2 effects are:
- Consented schemes
    - Abford House: Abford House and 333 Vauxhall Bridge Road;
    - Wilton Plaza: 18-26 Gillingham Street, 1-6 Gillingham Mews and 119-128 Wilton Road;
    - 9 Howick Place and;
    - Pimlico School: Lupus Street;
  - Currently unconsented schemes:

- Victoria Station Upgrade (VSU);
- Chelsea Barracks; and
- Victoria Palace Theatre: 126 Victoria Street.
- Other unconsented but reasonably foreseeable schemes proposed by the Applicant:
  - Selborne House; and
  - Wellington House.
- Potential schemes arising from relevant Planning Briefs:
  - Victoria Street, Buckingham Gate and Palace Street Site Planning Brief (Ref. 2.8).

2.41 The level of detail of cumulative effect assessment within the ES is dependent on the information available for each of these schemes, which is set out within Chapter 18: Cumulative Effects. Chapter 18 includes an assessment of the cumulative effects of the four Development Scenarios with these schemes. Where no cumulative effects are predicted, this is stated.

### ASSUMPTIONS AND LIMITATIONS

2.42 The principal assumptions that have been made, and any limitations that have been identified in undertaking the EIA, are set out below. Assumptions specifically relevant to each topic have been noted in each technical chapter.

- Due to an envisaged set of suitable planning conditions linking the three separate planning applications together in a specific way, it is assumed that the Development Scenarios 1, 2, 3 and 4 are the only possible scenarios that could be implemented;
- The assessments contained within each of the technical chapters are based upon the planning application drawings and area schedules submitted as part of the detailed planning applications;
- Baseline conditions have been established from a variety of sources, including site surveys and historical data, but due to the dynamic nature of certain aspects of the environmental, conditions may change during the construction and operation of any of the four Development Scenarios;
- The design, construction and completed Development Scenarios would satisfy environmental standards consistent with contemporary legislation, practice and knowledge as a minimum, but would also strive to achieve best practice at the time of the works;
- All of the principal existing land uses adjoining the site would remain substantially unaltered, other than those considered within the cumulative effects assessment in Chapter 18: Cumulative Effects;
- Abford House, located approximately 50m south of the site of all four Development Scenarios, is currently being redeveloped to provide a retail and office scheme of 10 storeys above ground level. At the time of undertaking this EIA, the scheme was largely constructed. It has therefore been included within the baseline conditions of surrounding land uses within all Development Scenarios for those technical assessments for which building massing is a key issue, ie:
  - Townscape, Conservation and Visual Impacts;
  - Wind;
  - Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare; and
  - Radio and Television Reception.

Abford House has not been included within the baseline conditions of surrounding land uses for technical assessments where its operation, rather than physical presence, would be the key consideration (e.g. Socio-Economics, Waste Management, Transportation and Access, etc.). In these cases, Abford House is considered within Chapter 18: Cumulative Effects.

- A site specific Environmental Management Plan (EMP) to control construction activities in line with the WCC's Code of Construction Practice (Ref. 2.9) would be discussed and agreed with WCC after the planning applications are determined. This EMP would be enforced and monitored during all key stages of the works; and developed for on-site works. This would be

subject to a standard planning condition and the EMP would require approval prior to commencement of site works;

- The Applicant intends to deliver the overall public realm and highway improvements for the comprehensive VT12 proposals (i.e. Development Scenario 1) including those under Building 6a (in Development Scenarios 1 and 3 i.e. where this building exists) (refer to Chapter 5: The Proposed Development Scenarios). Therefore, for Development Scenarios 2, 3 and 4 it is anticipated that the public realm and highways improvements that would be inherent to Development Scenario 1, (including those under Building 6a in Development Scenarios 1 and 3 i.e. where this building exists), would be delivered through appropriate section 278 highway works agreements on land that is adopted highway or within the Applicant's ownership at the relevant time. These section 278 works are considered under mitigation for the purposes of this ES;
- London Underground Limited (LUL) are currently promoting a draft Transport and Works Act 1992 Order (the public inquiry for which commenced on 28 October 2008) for its Victoria Station Upgrade (VSU) scheme. The Applicant does not object to the principle of the capacity improvements VSU is seeking to deliver. However, the Applicant does object to its promoted form. As part of the Applicant's objection, the Applicant proposes VSU in a modified form. This would enable demolition and construction works for all four Development Scenarios to commence in 2010. For this reason, this ES has made the assumption that VSU would be implemented in the form as modified by the Applicant. As such, this ES assumes that the demolition and construction works for all four Development Scenarios would commence in 2010. It is considered that this is a reasonable assumption having regard to the case being made to support the Applications objection.