

Appendix B.3 LVIA Methodology

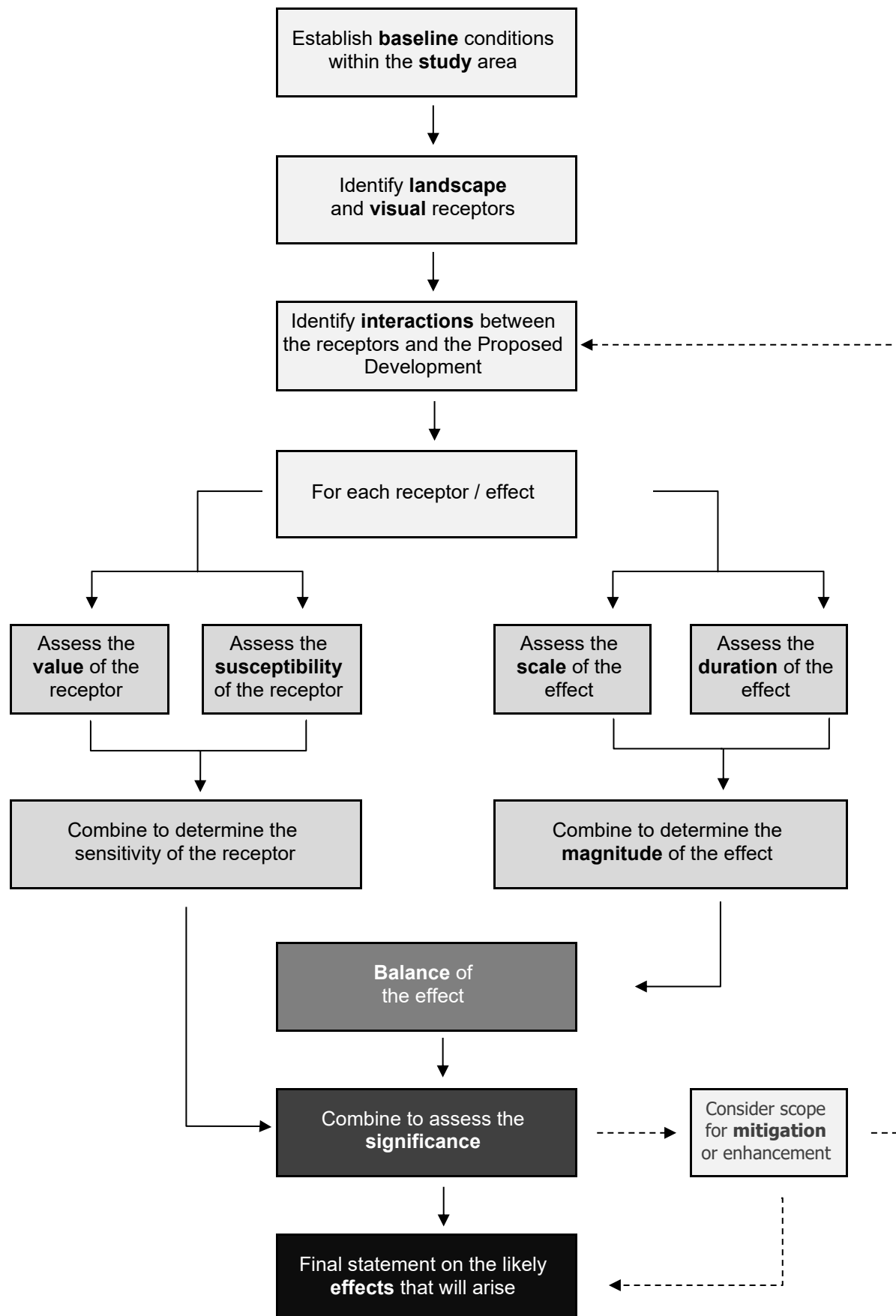


Introduction

- 7.3.1 The methodology employed in carrying out the Landscape and Visual Impact Assessment (LVIA) of the Proposed Development is in accordance with the Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013) devised by the Landscape Institute and the Institute of Environmental Management and Assessment. The methodology is further informed by the Landscape Institute GLVIA3 Statements of Clarification 01-13 and the Technical Information Note (TIN) 01-21.
- 7.3.2 The purpose of an LVIA is to identify the likely effects of change resulting from the Proposed Development, which can be used as a tool to optimise the design of a scheme to minimise the potential for adverse changes to arise and to maximize the benefit of positive changes. Landscape and visual assessments are separate processes, with a distinction made between:
- Landscape - landscape character and the elements and features that contribute to the sense of place (landscape receptors); and
 - Visual - people who experience views within the landscape (visual receptors).
- 7.3.3 Accordingly, landscape effects occur as a result of changes in the physical landscape elements that may give rise to changes in its character and how this is experienced, while visual effects occur as a result of changes to the composition of available views and people's response to such changes.
- 7.3.4 Subject to the nature of the Proposed Development and the landscape and visual context, there are typically three key stages to the LVIA process, with a further two optional stages carried out as required:
- Baseline Appraisal;
 - Iterative Design;
 - Assessment of Landscape and Visual Effects;
 - Cumulative Assessment (optional); and
 - Night-Time Assessment (optional).
- 7.3.5 An overview of the assessment process is set out in **Diagram 1** overleaf. The assessment of landscape and visual effects relies on identifying the interactions between the Proposed Development and the identified receptors, linking judgements between the sensitivity of receptors and the magnitude of effect experienced. The sensitivity of a receptor is determined by combining judgements on the value attached to the receptor alongside its susceptibility, while the magnitude of an effect is determined by combining judgements on scale and duration.



Diagram 1: Overview of the LVIA Process



Baseline Appraisal

- 7.3.6 The purpose of the baseline appraisal stage is to record the existing landscape features, characteristics and ascertain the area from which the existing Site and Proposed Development may be visible to analyse the way in which the landscape is experienced. The following aspects typically comprise the baseline appraisal stage:
- Definition and refinement of an appropriate study area based on professional judgement of factors including likely extent of visibility or character influence of the Site or Proposed Development and fieldwork;
 - Zone of Theoretical Visibility (ZTV) modelling where appropriate;
 - Identification of the patterns and scale of landform, vegetation, land use and built development, alongside relevant planning policy (including landscape designations) and published landscape characterisations; and
 - Identification of representative viewpoints within the study area.
- 7.3.7 Where pertinent, a localised character assessment will be undertaken to supplement the published characterisation material, with consideration of 'natural', 'cultural and social' and 'perceptual and aesthetic' factors. These may include (non-exhaustive list):
- Landform and hydrology;
 - Land use and settlement;
 - Pattern/texture/line;
 - Scale and enclosure;
 - Historical development/time-depth;
 - Activities and cultural associations;
 - Spatial structure and built form;
 - Infrastructure;
 - Movement, connectivity and accessibility;
 - Tranquillity and remoteness; and
 - Aesthetic visual quality.
- 7.3.8 In order to assess the effects on visual receptors, a selection of publicly accessible viewpoints is made. This typically includes representative viewpoints (e.g. representing sequential views from users of a particular footpath) and specific viewpoints (e.g. a key view from a specific visitor attraction).
- 7.3.9 Views may be categorised as either near distance, medium distance or long distance with the relevant distances' dependent on the size and nature of the development, based on professional judgement.
- 7.3.10 The type of view is typically described as transient/sequential (i.e. experienced when moving) or fixed (i.e. from a static location). It is also described in terms of the degree of screening or openness (e.g. open or uninterrupted; partial - including where partially screened or filtered by vegetation or other structures; or curtailed/screened by intervening land form, built form or vegetation) and the angle of view (e.g. frontal or oblique).



- 7.3.11 Photographs of representative viewpoints are taken at eye level, using a digital SLR camera, and presented in line with the Landscape Institute Technical Guidance Note (TGN) 06-19.
- 7.3.12 Where relevant, the future baseline of the landscape context may also be considered, in order to account for ongoing change in the landscape where the landscape context will likely be altered by the time the Proposed Development will commence, such as through forestry or quarrying activities, or the construction of new developments that will not overlap with the construction phase of the Proposed Development.
- 7.3.13 For the avoidance of doubt, the future baseline context should not be confused with cumulative effects, which are addressed differently and assessed separately.

Assessing the Value of the Receptor

Landscape Value

- 7.3.14 The assessment of landscape value is based on a combination of the importance of landscape-related planning designations and the following attributes (drawn from the Landscape Institute TGN 02-21 and Box 5.1 of the Guidelines for Landscape and Visual Impact Assessment):
- Natural Heritage;
 - Cultural Heritage;
 - Condition;
 - Associations;
 - Distinctiveness;
 - Rarity and Representativeness;
 - Recreational;
 - Perceptual and Scenic Quality; and
 - Functional.
- 7.3.15 As a matter of principle, all landscapes are considered to be of value, as enshrined within the European Landscape Convention (ELC) 2004. The overall value of each landscape receptor is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.1**, reflecting the UK hierarchy of 'valued landscapes'.



Table 7.3.1: Landscape Value Criteria

Value	Criteria
Very Low	Landscape area or feature that is undesignated and in a poor condition and state of disrepair that detracts from the landscape quality.
Low	Landscape area or feature of inconsequential components and characteristics, undesignated and with little or no wider recognition of value, although potentially of importance to the local community.
Medium	Landscape area of common components and characteristics that may be designated at local or borough level for its landscape and visual qualities. A landscape feature that makes a recognisable positive contribution to landscape character.
High	Landscape area of rare or distinctive components and characteristics that may also be nationally designated for scenic beauty. A landscape feature that makes a strong and multifaceted positive contribution to landscape character.
Very High	Landscape area of rare or distinctive components and characteristics that may also be internationally acknowledged. A landscape feature that makes a unique positive contribution to landscape character.

Visual Value

- 7.3.16 The assessment of visual value is based on a combination of any cultural/historical associations the view may have, along with any designation or policy protection.
- 7.3.17 The overall value for each visual receptor is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.2**.

Table 7.3.2: Visual Value Criteria

Value	Criteria
Very Low	View from a location that is not designated and with no notable cultural associations attached to the view.
Low	View from a location that is not designated and with limited cultural associations attached to the view.
Medium	View from a location that is within a designated landscape or with notable cultural associations attached to the view.
High	View from a location that is within a designated and with notable cultural associations attached to the view, or a view from an expressly recognised viewpoint location (i.e. identified within tourism guides or the Local Plan).
Very High	View from a celebrated location that is likely to be of international importance, either designated or with exceptional international cultural associations.

Iterative Design

- 7.3.18 LVIA's are undertaken by professionals who are typically involved in the design of the landscape, site design, and/or the preparation of subsequent management proposals. The design and assessment stages are iterative, with the stages overlapping in part.



- 7.3.19 Mitigation measures embedded within the design of the Proposed Development are termed 'Primary Mitigation' and typically include aspects such as building layout, massing and height, and the arrangement of open spaces and new structural planting. These aspects are included within the initial assessment of effects.
- 7.3.20 Additional mitigation measures, termed 'Secondary Mitigation' are those aspects that are not necessarily embedded within the design of the Proposed Development; or the benefit of the mitigation is not immediately realised, such as the growth of planting proposals over time or the illustrative design of built form and landscape as accompanying an outline application. These aspects are typically factored into an assessment of residual effects (i.e. an assessment of effects that will remain following the implementation of additional mitigation measures).
- 7.3.21 For the assessment of residual effects, the growth of planting is assumed to follow an approximate rate of 1m every 3 years (albeit noting that this may be subject to variations according to a range of factors).

Assessment of Effects

- 7.3.22 As set out previously, the assessment of landscape and visual effects relies on linking judgements between the sensitivity of receptors and the magnitude of effect experienced.

Landscape Effects

- 7.3.23 Landscape effects occur as a result of changes to the physical fabric of the landscape that may give rise to alterations to its overriding character and how this character is experienced.

Landscape Sensitivity - Value

- 7.3.24 The value of a landscape receptor is established during the baseline stage and is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.1**.

Landscape Sensitivity - Susceptibility

- 7.3.25 The susceptibility of the landscape is a measure of its vulnerability to the type of development proposed, without undue consequences for the maintenance of the baseline situation. The following criteria are taken into consideration in the assessment of landscape susceptibility, although not all criteria are equally applicable or important for each landscape receptor:
- Landform;
 - Pattern/Complexity;
 - Composition;
 - Landcover;
 - Relationship of a given landscape area or feature to the surrounding context; and
 - Potential for appropriate mitigation within the context of existing character and guidelines.
- 7.3.26 The overall susceptibility for each landscape receptor is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.3**.



Table 7.3.3: Landscape Susceptibility Criteria

Susceptibility	Criteria
Very Low	The receptor may exhibit no overriding structure with no relationship to the surrounding context and key characteristics of the area, with the type of development proposed very unlikely to alter the overall integrity of the receptor. It is very likely that published guidelines for development can be readily applied given the nature of the receptor and the type of development proposed.
Low	The receptor may exhibit an incoherent structure with minimal relationship to the surrounding context and key characteristics of the area, with the type of development proposed unlikely to alter the overall integrity of the receptor. It is likely that published guidelines for development can be readily applied given the nature of the receptor and the type of development proposed.
Medium	The receptor may exhibit a varied structure with a tangible relationship to the surrounding context and key characteristics of the area, while the type of development proposed may potentially alter the overall integrity of the receptor. There is a reasonable potential that the published guidelines for development can be applied given the nature of the receptor and the type of development proposed.
High	The receptor may exhibit an establish structure with a direct relationship to the surrounding context and key characteristics of the area, with the type of development proposed likely to alter the overall integrity of the receptor. It is unlikely that published guidelines for development can be readily applied given the nature of the receptor and the type of development proposed.
Very High	The receptor may exhibit a clearly defined structure with a symbiotic relationship to the surrounding context and key characteristics of the area, with the type of development proposed very likely to alter the overall integrity of the receptor. It is very unlikely that published guidelines for development can be applied given the nature of the receptor and the type of development proposed.

Landscape Magnitude of Effect (Change) - Scale

7.3.27 Factors contributing to the scale of landscape change, as defined in **Table 7.3.4**, include:

- The extent/proportion of the physical landscape elements that will be altered with reference to their wider contribution to the landscape;
- The degree to which aesthetic and/or perceptual aspects will be altered; and
- The geographical area that will be directly and indirectly altered.



Table 7.3.4: Landscape Scale Criteria

Scale	Criteria
None	No change to the landscape receptor.
Compact	There will likely be change to a limited proportion of the landscape receptor, which will likely not be discernible or have no effect on the integrity of the landscape or the key characteristics of a very localised geographic area.
Modest	There will likely be change to a moderate proportion of the landscape receptor, which will likely result in a perceptible change in the integrity of the landscape or the key characteristics of a discrete geographic area.
Ample	There will likely be change to a high proportion of the landscape receptor, which will likely result in a noticeable change in the integrity of the landscape or the key characteristics of an extended geographic area.
Extensive	There will likely be a wholesale change to the landscape receptor, which will likely result in a fundamental change to the integrity of the landscape or key characteristics of a very wide geographic area.

Landscape Magnitude of Effect (Change) – Duration and Reversibility

7.3.28 Factors contributing to the duration the change is experienced in the landscape (including consideration of management plans as appropriate), as defined in **Table 7.3.5**, include:

- Whether the change is wholly reversible or permanent; and
- Whether the change is temporary (and if so, for what period of time).

Table 7.3.5: Landscape Duration and Reversibility Criteria

Duration	Criteria
None	No change.
Very Short	Likely to be temporary (up to 5 years) and readily reinstated / reversible.
Short	Likely to be temporary but for a longer term (up to 10 years), which can be reinstated / reversible.
Medium	Likely to be of permanence or for an extended temporary period over a generation (i.e. up to 40 years), and/or less readily reinstated / reversible.
Long	Likely to be of permanence with limited prospect of being reinstated / reversed.

Visual Effects

7.3.29 Visual effects occur as a result of changes to the composition of available views and people's response to such changes.

Visual Sensitivity - Value

7.3.30 The value of a visual receptor is established during the baseline stage and is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.2**.



Visual Sensitivity - Susceptibility

7.3.31 The susceptibility of each visual receptor is a measure of their vulnerability to the type of development proposed, without undue consequences for the maintenance of the baseline situation. The following criteria are taken into consideration in the assessment of visual susceptibility:

- The extent to which the viewers' attention is focussed on the landscape;
- The extent to which the view contributes to the viewers' amenity experience; and
- The nature of the activity the viewer is involved in (or otherwise).

7.3.32 The overall susceptibility for each visual receptor is categorised as Very Low, Low, Medium, High or Very High as set out in **Table 7.3.6**.

Table 7.3.6: Visual Susceptibility Criteria

Susceptibility	Criteria
Very Low	People engaged in an activity and/or at a location where their visual setting is of minimal importance and little or no attention is focussed on the landscape.
Low	People engaged in an activity and/or at a location where their visual setting is unlikely to be important and limited attention is focussed on the landscape.
Medium	People engaged in an activity and/or at a location where their visual setting is incidental to their enjoyment and attention is partly focussed on the landscape.
High	People engaged in an activity and/or at a location where their visual setting is important and the landscape is likely an important focus of their attention.
Very High	People engaged in an activity and/or at a location where their visual setting is of utmost importance and the landscape is the main focus of their attention.

Visual Magnitude of Effect (Change) - Scale

7.3.33 Factors contributing to the scale of visual change, as defined in **Table 7.3.7**, include:

- The angle of view in relation to the main activity of the receptor;
- The distance of the viewer from the Proposed Development;
- The extent of the area over which the changes will be visible; and
- The degree of visual intrusion of the Proposed Development in the view.



Table 7.3.7: Visual Scale Criteria

Scale	Criteria
None	No change discernible in the composition of the view.
Compact	There will likely be a barely perceptible change in the composition of the view, which is likely to be at considerable distance from the viewer and only glimpsed and/or occupying a limited extent of the view.
Modest	There will likely be a perceptible change in the composition of the view, which may be at some distance from the viewer, or nearby but only glimpsed and/or occupying a discrete extent of the view.
Ample	There will likely be noticeable change in the composition of the view, which may be close to the viewer and/or occupying a sizeable extent of the view.
Extensive	There will likely be a pronounced change in the composition of the view, close to the viewer and occupying a wide extent of the view.

Visual Magnitude of Effect (Change) - Duration and Reversibility

7.3.34 Factors contributing to the duration the change is experienced visually (including consideration of management plans as appropriate), as defined in **Table 7.3.8**, include:

- Whether or not the view is experienced in fixed or transient views and, in the latter, whether it is intermittent/glimpsed or continuous; and
- Whether the change is temporary (and for what period of time) or permanent.

Table 7.3.8: Visual Duration and Reversibility Criteria

Duration	Criteria
None	Not visible.
Very Short	Likely to be temporary and only intermittently visible.
Short	Likely to be temporary but visible for a continuous period.
Medium	Likely to be of permanence or for an extended temporary period, and/or likely to be only intermittently visible.
Long	Likely to be of permanence and/or visible for a continuous period.

Combination of Judgements

Sensitivity Judgements

7.3.35 The matrix set out in **Table 7.3.9** is applied, utilising professional judgement, to assess the sensitivity of a receptor, which is defined as Very Low, Low, Medium, High or Very High. Detailed criteria on how value and susceptibility are determined in relation to landscape and visual receptors is set out in each relevant section of this methodology.



Table 7.3.9: Sensitivity Matrix

		Susceptibility				
		Very Low	Low	Medium	High	Very High
Value	Very Low	Very Low	Low	Low	Medium	Medium
	Low	Low	Low	Medium	Medium	High
	Medium	Low	Medium	Medium	High	High
	High	Medium	Medium	High	High	Very High
	Very High	Medium	High	High	Very High	Very High

Magnitude of Effect (Change) Judgements

- 7.3.36 The matrix set out in **Table 7.3.10** is applied to assess the magnitude of an effect, which is defined as None, Very Small, Small, Medium or Large. Detailed criteria on how scale and duration are determined in relation to landscape and visual receptors is set out in each relevant section of this methodology. Where it is considered that there is potential for both adverse and beneficial changes to occur, there are described comprehensively.

Table 7.3.10: Magnitude Matrix

		Duration				
		None	Very Short	Short	Medium	Long
Scale	None	None	None	None	None	None
	Compact	None	Very Small	Very Small	Very Small	Very Small
	Modest	None	Very Small	Small	Small	Small
	Ample	None	Very Small	Small	Medium	Medium
	Extensive	None	Very Small	Small	Medium	Large

Balance of Effects

- 7.3.37 Effects are defined as beneficial, adverse, or neutral, as defined in **Table 7.3.11**. This consideration is termed the 'balance of effects', factoring in both the potentially beneficial and adverse aspects associated with a given change and its resultant effect.



Table 7.3.11: Balance of Effects Criteria

Nature	Definition
Beneficial	An effect that will on balance result in an improvement to the condition, integrity or key characteristics/composition of the landscape receptor or viewing experience.
Adverse	An effect that will on balance result in damage to the condition, integrity or key characteristics/composition of the landscape receptor or viewing experience.
No Effect	An effect that will on balance maintain the condition, integrity or key characteristics/composition of the landscape receptor or viewing experience and may incorporate a combination of positive and negative aspects.

Significance of Effects

- 7.3.38 To draw conclusions on the significance of landscape and visual effects, the sensitivity of the receptor and the magnitude of effect experienced is considered alongside one another in line with the matrix set out in **Table 7.3.12**. Depending on the nature of the Proposed Development, the significance of effects may be considered at different stages of the project lifecycle (e.g. during construction; at Year 1 of operation; at Year 15 of operation; and/or on decommission).

Table 7.3.12: Significance Matrix

		Magnitude				
		None	Very Small	Small	Medium	Large
Sensitivity	Very Low	No Effect	Negligible	Negligible	Negligible	Minor
	Low	No Effect	Negligible	Negligible	Minor	Moderate
	Medium	No Effect	Negligible	Minor	Moderate	Moderate
	High	No Effect	Minor	Moderate	Moderate	Major
	Very High	No Effect	Minor	Moderate	Major	Substantial

- 7.3.39 The assessment of significance is subject to professional judgement and is rated on a scale of No Effect to Substantial, as defined in **Table 7.3.13**. Intermediate ratings may be identified, where the effect is considered to vary across the range, using professional judgement. In essence, the reported significance indicates how important the effect is likely to be from a landscape and visual perspective.
- 7.3.40 For schemes subject to Environmental Impact Assessment, effects of Substantial, Major or Moderate significance are deemed 'significant'.



Table 7.3.13: Significance Criteria

	Significance
Substantial	These effects are assigned this level of significance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a borough scale site or feature may also enter this category.
Major	These effects are likely to be important considerations at a local scale and may become key factors in the decision-making process.
Moderate	These effects, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
Negligible or No Effect	Either no effect or effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

Cumulative Assessment

- 7.3.41 The assessment of cumulative landscape and visual effects considers the effects that will arise as a result of additional changes to the landscape resource or visual amenity caused by the Proposed Development in combination with other emerging schemes.
- 7.3.42 The Guidelines for Landscape and Visual Impact Assessment emphasise that cumulative impact assessment should be reasonable and proportionate to the nature of the Proposed Development and local environment, focussing on likely significant effects rather than providing a comprehensive catalogue of every conceivable cumulative effect that may occur.
- 7.3.43 The cumulative assessment takes into consideration:
- The extent the emerging schemes and the Proposed Development extend or intensify the landscape and/or visual effects of each scheme;
 - The extent the landscape resource is altered due to the modifications in land use and pattern;
 - The interrelations between the different types of built forms;
 - The incremental changes as a result of successive developments being introduced;
 - The temporal effects arising due to simultaneous or successive construction activities over an extended period of time; and
 - The indirect effects arising from the enabling works of each emerging scheme and/or the consequences of the removal of elements of the landscape.
- 7.3.44 Cumulative landscape effects relate to the loss and/or addition of features as a result of the Proposed Development and other emerging schemes that alter the physical fabric and character of a landscape.



7.3.45 Cumulative visual effects may arise as a result of combined visibility and/or sequential effects and are principally concerned with the change in the composition of available views and the visual amenity experience. Cumulative visual effects are categorised as follows:

- Combined: the influence of more than one scheme is experienced in a single view by a visual receptor;
- Successive: where two or more schemes are visible from the same location but not within the same view. i.e. an observer at a given location would need to look in distinctly different directions to view more than one scheme; and
- Sequential: occurs when an observer moves through a landscape, e.g. where the presence of the emerging schemes and the Proposed Development are visible from different locations along a recognised route of travel. The schemes do not need to be intervisible for sequential effects to arise.

