

Annex C - LVA Methodology

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Landscape Effects

The starting point for the assessment of landscape effects was a desk-based review of published landscape assessments.

The sensitivity of the landscape to change resulting from a Proposed Development is not absolute and varies according to the existing landscape, the nature of the Proposed Development and the type of change being proposed. Good practice guidance differentiates between baseline sensitivity of the landscape and the sensitivity of a landscape to a specific development proposal. Accordingly, the concept of 'sensitivity to change' to new development, as described within the baseline published landscape character assessments, is distinct from the consideration of landscape sensitivity to the specific development proposal.

The baseline for consideration of landscape effects is the established landscape character. The landscape effects of a Proposed Development are considered against the key characteristics of the receiving landscape. The degree to which the Proposed Development may change 'the distinct and recognisable pattern that makes one landscape different from another, rather than better or worse' (Countryside Agency and NatureScot, 2002), enables a judgement to be made as to the significance of the effect in landscape character terms. This involves consideration of where the Proposed Development may give rise to a different landscape character type or sub-type.

In general terms, a distinctive landscape of acknowledged value (e.g. covered by a designation) and in good condition is likely to be more sensitive to change than a landscape in poor condition and with no designations or acknowledged value. General guidance on the evaluation of sensitivity is provided below; however, the actual sensitivity would depend on the attributes of the landscape receiving the proposals and the nature of those proposals.

In order to reach an understanding of the effects of development upon the landscape it is necessary to consider different aspects of the landscape as follows:

- Landscape Fabric / Elements: The individual features of the landscape, such as hills, valleys, woods, hedges, tree cover, vegetation, buildings and roads for example which can usually be described and quantified;
- Landscape Quality: The state of repair or condition of elements of a particular landscape, its integrity and intactness and the extent to which its distinctive character is apparent;
- Landscape Value: The importance attached to a landscape, often used as a basis for designation or recognition which expresses national or regional consensus, because of its special qualities/attributes including aesthetic or perceptual aspects such as scenic beauty, tranquillity or wildness, cultural associations or nature conservation interest; and
- Landscape Key Characteristics: The particularly notable elements or combinations of elements which makes a particular contribution to defining or describing the character of an area, which may include experiential characteristics such as wildness and tranquillity.

The sensitivity of the landscape to a particular development considers the susceptibility of the landscape and its value. The overall sensitivity is described as high, medium, low, or negligible. This is assessed by taking into account the existing landscape quality, landscape value, and landscape capacity or susceptibility to change, which often vary depending on the type of development proposed and the particular site location, such that sensitivity needs to be considered on a case by case basis. This should not be confused with 'inherent sensitivity' where areas of the landscape may be referred to as inherently of 'high' or 'low sensitivity'.

For example, a National Park may be described as inherently of high sensitivity on account of its designation, but it may prove to be less sensitive to particular development and/or the design of that development.

Alternatively, an undesignated landscape may be of high sensitivity to a particular development and/or the design of that development regardless of the lack of local or national designation. The main factors to consider are discussed as follows:

Landscape susceptibility according to GLVIA3 means “the ability of the landscape to accommodate the Proposed Development without undue consequences for maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies”. Judgements on landscape susceptibility include references to both the physical and aesthetic characteristics and the potential scope for mitigation that would be in character with the landscape.

The judgements regarding susceptibility and value of the landscape character are identified within the sensitivity table included within Annex D. These relationships can be complex and value alone does not automatically or by definition have high susceptibility to all types of change. Examples and on the evaluation of landscape sensitivity are provided below:

Table C.1 Landscape Sensitivity Criteria

Sensitivity	Description
High	Landscape character, characteristics and elements which would generally be of lower landscape capacity or scope for landscape change, and of notable landscape value and quality. These are landscapes that may be considered to be of particular importance to conserve and which may be particularly sensitive to change if inappropriately dealt with.
Medium	Landscape character, characteristics and elements where there would be a moderate landscape capacity or some scope for landscape change. Often include landscapes of moderate landscape value and quality which may be locally designated.
Low	Landscape Character, characteristics and elements where there would be higher landscape capacity or scope for landscape change to accommodate the proposed type of development. Usually applies to landscapes with of lesser landscape susceptibility or higher landscape capacity for the Proposed Development.
Negligible	Landscapes that are seriously degraded / of poor condition, lacking any features of value, and as such are of very low susceptibility to change.

The level of landscape effects is not absolute and can only be defined in relation to each development and its location. It is for each assessment to determine the assessment criteria and thresholds using well informed and reasoned judgements.

The magnitude of landscape change arising from the Proposed Development at any particular location is described as high, medium, low or negligible based on the interpretation of a combination of largely quantifiable parameters, as follows:

- degree of loss or alteration to key landscape features/elements or characteristics;
- distance from the development;
- duration of effect;
- landscape backdrop to the development; and
- landscape context of other built development, particularly vertical elements.

In order to differentiate between different levels of magnitude the following definitions are provided:

Table C.2 Landscape Magnitude of Change Definitions

Magnitude	Description
High	Total loss or extensive alteration to key landscape elements/features/ characteristics of the baseline, or introduction of uncharacteristic elements which would give rise to a fresh characterising effect.
Medium	Partial loss or alteration to one or more key landscape elements/features/ characteristics of the baseline and/or introduction of elements that may be prominent, but not necessarily substantially uncharacteristic with the attributes of the receiving landscape (which could co-characterise parts of the landscape).
Low	Minor loss or alteration to one or more key landscape elements/features/ characteristics of the baseline and/or introduction of elements that may not be uncharacteristic with the surrounding landscape or may not lead to a characterising or co-characterising effect.
Negligible	Very minor loss or alteration to one or more key landscape elements/features/ characteristics of the baseline and/or the introduction of elements that are not uncharacteristic of the surrounding landscape. Change would be barely distinguishable approximating to no change.

Having established where the observation of varying levels of change to the landscape baseline may occur, the geographical extent of the change can be identified and a judgement made as to the level of effect in landscape character terms at varying scales.

The importance of the effect on the landscape resource may be determined by correlating the magnitude of the landscape change (high, medium, low or negligible) with the sensitivity of the landscape resource (high, medium, low or negligible). The following table sets out the main correlations between magnitude of change and receptor sensitivity.

Table C.3 Landscape Effects Matrix

Landscape sensitivity	Magnitude of Change				
		High	Medium	Low	Negligible
High		Major	Major/Moderate	Moderate	Minor
Medium		Major/Moderate	Moderate	Moderate/Minor	Minor/Negligible
Low		Moderate	Moderate/Minor	Minor	Negligible
Negligible		Negligible	Negligible	Negligible	Negligible

Visual Effects

The sensitivity of potential visual receptors will vary depending on the location and context of the viewpoint, the activity of the receptor and importance of the view. Visual receptor sensitivity is defined as high, medium, low or negligible in accordance with the criteria in Table C.4.

Table C.4 Visual Sensitivity Criteria

Sensitivity	Description
High	Residents within the curtilage of their homes; users of outdoor recreational facilities including footpaths, cycle ways and recreational road users; people experiencing views from important landscape features of physical, cultural or historic interest, beauty spots and picnic areas.
Medium	Road users and travellers on trains experiencing views from transport routes. People engaged in outdoor sport other than appreciation of the landscape, e.g. nature conservation, golf and water based recreation.

Low	Workers, users of facilities and commercial buildings (indoors) experiencing views from buildings.
Negligible	People with very low susceptibility to visual change due to the very low quality / value of existing views.

The magnitude of change arising from the Proposed Development at any particular location is described as high, medium, low or negligible based on the interpretation of a combination of largely quantifiable parameters, as follows:

- distance of the viewpoint/receptor from the development;
- duration of effect;
- extent of the development in the view;
- angle of view in relation to main receptor activity;
- proportion of the field of view occupied by the development;
- background to the development; and
- extent of other built development visible, particularly vertical elements.

It is assumed that the change would be seen in clear visibility and the assessment is carried out on that basis.

Where appropriate, comment may be made on lighting and weather conditions. In order to differentiate between levels of magnitude the following definitions are provided in Table C.5:

Table C.5 Visual Magnitude of Change Definitions

Magnitude	Description
High	Where the proposals would have a defining influence on the view. Change very prominent leading to substantial obstruction or complete change in character and composition of the baseline existing view.
Medium	Where the proposals would be clearly noticeable and an important new element in the view. It may involve partial obstruction of existing view or partial change in character and composition of the baseline existing view.
Low	The proposals would be partially visible or visible at sufficient distance to be perceptible and result in limited or minor changes to the view. The character and composition, although altered will be similar to the baseline existing situation.
Negligible	Change would be barely perceptible. The composition and character of the view would be substantially unaltered, approximating to little or no change.

The threshold for different levels of visual effects relies to a great extent on professional judgement. Criteria and local circumstances require close study and careful judgement.

Beneficial effects upon receptors may result from a change to a view by the removal of eyesores or through the addition of well-designed elements which add to the sense of place in a beneficial manner.

The following Table C.6 sets out the main correlations between magnitude and sensitivity.

Table C.6 Visual Effects Matrix

Visual sensitivity	Magnitude of Change				
		High	Medium	Low	Negligible
High		Major	Major/Moderate	Moderate	Minor

	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor/Negligible
	Low	Moderate	Moderate/Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Level of Effect

As per the matrices in Table C.3 and Table C.6; the level of any identified landscape or visual effect has been assessed in terms of major, moderate, minor, and negligible. These categories are based on the juxtaposition of viewer or landscape sensitivity with the predicted magnitude of change. This matrix should not be used as a prescriptive tool but must allow for the exercise of professional judgement.

Type of Effect

Landscape and visual effects are described with reference to type (direct, indirect, secondary or cumulative), timeframe (short, medium, long term, permanent, and temporary) and whether they are beneficial or adverse (beneficial or adverse). The various types of effect are described as follows:

Temporary / Residual Effects

If a proposal would result in an alteration to an environment whose attributes can be quickly recovered, then judgements concerning the significance of effects should be tempered in that light. Commercial development applications typically include permanent, long term elements as well as minor alternations to landform resulting in residual landscape and visual effects.

Direct / Indirect

Direct and indirect landscape and visual effects are defined in Guidelines for Landscape and Visual Impact Assessment (GLVIA3). Direct effects may be defined “result directly from the development itself” (para 3.22). An indirect (or secondary) effect is one that results “from consequential change resulting from the development” (para 3.22) and is often produced away from the site of the Proposed Development or as a result of a complex pathway or secondary association. The direct or physical landscape effects of the Proposed Development would generally be limited to an area around the development itself. Any indirect landscape effects are concerned with the view of the changes from outside the local landscape.

Beneficial / Adverse

Landscape and visual effects can be beneficial or adverse and in some instances may be considered neutral. Beneficial effects upon landscape receptors may result from changes to the landscape involving beneficial enhancement measures or through the addition of well-designed elements, which add to the landscape experience or sense of place in a complementary manner.

The landscape impacts of the Proposed Development have been considered against the landscape baseline, taking account of the landscape characteristics. Taking a precautionary approach, changes to rural landscapes involving construction of man-made objects of a large scale are generally considered to be adverse, as they are not usually actively promoted as part of a district wide landscape strategy and therefore in the assessment of landscape effects they are assumed to be adverse, unless specified otherwise in the text.

It is important to recognise that for the same development, some may consider the visual effects for a development of this nature as adverse or beneficial. This depends to some extent on the viewer’s predisposition towards landscape change but also the principle of commercial building features in the landscape. Taking a precautionary approach in making an assessment of the ‘worst case scenario’, the assessment considers that all effects on views which would result from the construction and operation of the Proposed Development to be adverse, unless specified otherwise in the text. It is noted, however, that not all people would consider the effects to be adverse.

Visualisation Methodology

Zone of Theoretical Visibility Maps

Computer generated Zone of Theoretical Visibility (ZTV) Maps have been prepared to assist in viewpoint selection and to indicate the potential influence of the Proposed Development and Associated Development in the wider landscape.

The Visibility Map has been prepared at 1:30,000 scale to indicate the extent of potential visibility on the basis of bare ground, and does not include the screening effects of intervening established tree cover. The Visibility Map indicates areas from which it might be possible to secure views of part, or parts, of the Proposed Development (22 m max height) and Associated Development (57.3 m max height). However, use of the Visibility Maps needs to be qualified on the following basis:

- There are a number of areas within the Visibility Maps from which there is potential to view parts of the Project, but which comprise open moorland, or other land where the general public do not appear to exercise regular access;
- The large scale Visibility Map does not account for the screening effects and filtering of views as a result of intervening features, such as trees and forestry;
- The Visibility Maps do not account for the likely orientation of a viewer – for example when travelling in a vehicle.

In addition, the accuracy of the Visibility Maps has to be considered. In particular, the Visibility Map will be generated from Ordnance Survey (OS) Landform Panorama digital data based on a gridded terrain model with 5 m cell sizes. The resolution of this model cannot accurately represent small-scale terrain features, which can therefore give rise to inaccuracy in the predicted visibility. This can lead to underestimation of visibility – e.g. a raised area of ground permitting views over an intervening obstruction, or can lead to overestimation of visibility – such as where a roadside embankment obscures a view.

Site-Specific Assumptions

The following site-specific assumptions have been made in respect to the LVA:

- For the purposes of the LVA, the Proposed Development and Associated Development are regarded as being permanent. The construction stage would be temporary, approximately 24 months in duration.
- The landscape proposals, including new planting and areas of habitat creation, form an integral component of the Project.
- Viewpoint locations included in the assessment are from publicly accessible locations.
- Visual effects are assessed on the basis of good visibility. Visual effects can be expected to vary e.g. poor visibility at times of low cloud, rainfall and dusk. At these times a reduction in visual clarity, colour and contrast would be experienced. Reduced visibility would limit the extent of view, particularly from mid to long distance views. Consequently, the assessment of effects is based on the worst-case scenario, where the Project would be most visible.