

## Appendix 04: LVIA Methodology

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Landscape and Visual Assessment Methodology (DRaW UK Limited)

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## Introduction

Landscape and Visual Impact Assessment (LVIA) is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on peoples' views and visual amenity.

LVIA is either carried out formally as part of the Environmental Impact Assessment (EIA) process or informally as a contribution to a planning application to provide a general understanding of the environmental effects of a development. In both cases the general principles and approach remain the same, although the approach for a non EIA development may be simplified and classification of significance is not a requirement.

There is a clear distinction made between landscape and visual effects:

- Landscape effects are the result of a change to the fabric, character or quality of the landscape as a result of development. These could include direct impacts on features such as loss of woodland, or effects on landscape character, designation and protected landscapes.
- Visual effects result from a change in views or the visual amenity experienced by people.

## Guidance and Approach

This assessment methodology has been developed from:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and Institute of Environmental Assessment and Management, 2013);
- Technical Guidance Note 02/21 Assessing landscape value outside national designations (Landscape Institute, 2021)
- Technical Guidance Note 2/19 Residential Visual Amenity Assessment (RVAA) (Landscape Institute, March 2019); and,
- Technical Guidance Note 06/19 Visual Representation of Development Proposals (Landscape Institute September 2019).

It should be noted that the above guidance is not a prescriptive methodology, instead it encourages practitioners to develop transparent and logical methods, using standardised terminology, proportionate the type and size of development proposed.

GLVIA (Paragraph 2.23) recognises that; '*Professional judgement is a very important part of LVIA*'. Much of the assessment relies on qualitative judgements on the effects of development to views, visual amenity and change in the character of the landscape and whether those effects are positive or negative.

The following methodology sets out the general approach to the LVIA process adopted by DRaW (UK) Ltd.

# Assessing Landscape Effects

## Evaluating Landscape Sensitivity

The method used to categorise landscape sensitivity, is based on Paragraphs 5.39 – 5.47 of GLVIA3.

The sensitivity of a landscape, or its individual components, is defined by a product of its value and its susceptibility to change.

## Evaluating Landscape Value and Its Susceptibility to Change

**Landscape value** is defined as the ‘value attached to the landscape by society’ (Paragraph 5.19 of GLVIA3). It is based on a range of factors set out in TGN 02/21 ‘Assessing landscape value outside national designations’ which are summarised in Table A1 below.

**Landscape susceptibility** is defined as “*The ability of the landscape (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies*” (Paragraph 5.40 of GLVIA3).

**Table A1: Landscape Value and Susceptibility to Change**

	<b>Landscape Value</b>	<b>Susceptibility of the Landscape to Change</b>
<b>High</b>	<p><b>Natural Heritage:</b> Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest.</p> <p><b>Cultural Heritage:</b> Landscape with clear evidence of archaeological, historical or cultural interest.</p> <p><b>Landscape condition:</b> Landscape in a good physical state.</p> <p><b>Associations:</b> Landscape which is connected with notable people, events and the arts.</p> <p><b>Distinctiveness:</b> Landscape has a strong sense of identity.</p> <p><b>Recreational:</b> Landscape offering recreational opportunities and good access.</p> <p><b>Perceptual (Scenic):</b> Landscape that appeals to the senses, primarily visual sense.</p> <p><b>Perceptual (Wildness and tranquillity):</b> Landscape with a strong perceptual value notably wildness, tranquillity and/or dark skies.</p> <p><b>Functional:</b> Landscape performs a clearly identifiable and valuable function.</p>	<p><b>Pattern, complexity and physical susceptibility to change:</b> A strongly patterned/ textured or a simple but distinctive landscape and/or with high value features and essentially intact.</p> <p><b>Visual susceptibility to change:</b> An open or exposed landscape with extensive inter-visibility and no or very limited visual filtering or enclosure. Prominent visual landmarks may be present, and inter-visibility with designated landscapes may occur.</p> <p><b>Experiential susceptibility:</b> A very tranquil, wild or remote landscape with little or no sense of visual or aural intrusion. A landscape which contains very few light sources and provides dark skies.</p>
<b>Medium</b>	<p><b>Natural Heritage:</b> Landscape with limited evidence of ecological, geological, geomorphological or physiographic interest.</p> <p><b>Cultural Heritage:</b> Landscape with limited evidence of archaeological, historical or cultural interest.</p> <p><b>Landscape condition:</b> Landscape in a moderate physical state.</p> <p><b>Associations:</b> Landscape has limited connections with notable people, events and the arts.</p> <p><b>Distinctiveness:</b> Landscape has a moderate sense of identity.</p>	<p><b>Pattern, complexity and physical susceptibility to change:</b> A landscape with mostly intact pattern and/or with a degree of complexity and with features mostly in reasonable condition.</p> <p><b>Visual susceptibility to change:</b> A partially enclosed landscape with some visual containment and filtering, possible limited inter-visibility with visual landmarks and designated landscapes.</p> <p><b>Experiential susceptibility:</b> A partially tranquil landscape with limited visual and/or aural intrusion, some relationship with</p>

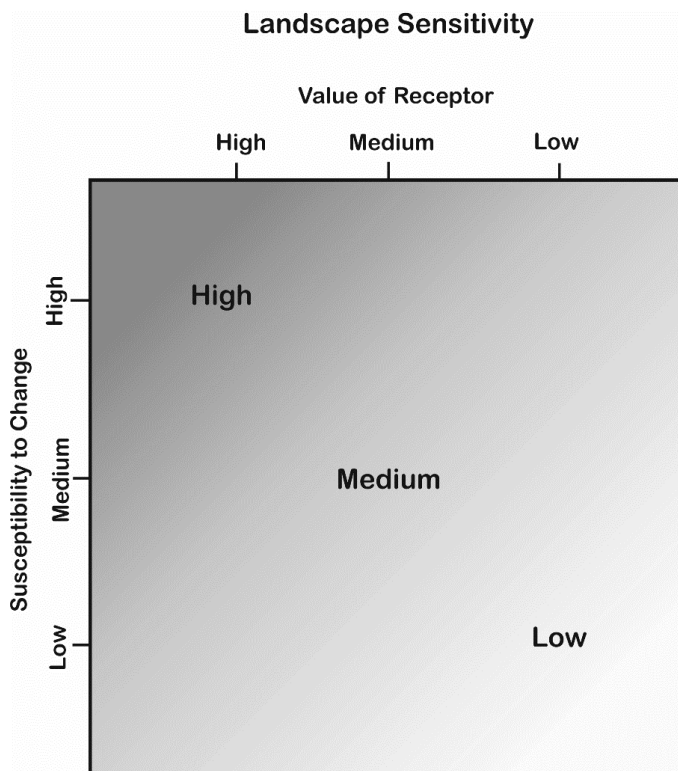
	<p><b>Recreational:</b> Landscape offering limited recreational opportunities or limited access</p> <p><b>Perceptual (Scenic):</b> Landscape has limited appeal to the senses.</p> <p><b>Perceptual (Wildness and tranquillity):</b> Landscape of limited perceptual value in terms of wildness, tranquillity and/or dark skies.</p> <p><b>Functional:</b> Landscape has limited function.</p>	<p>built development/ infrastructure may be present.</p> <p>A landscape which contains some light sources.</p>
<b>Low</b>	<p><b>Natural Heritage:</b> Landscape with no evidence of ecological, geological, geomorphological or physiographic interest.</p> <p><b>Cultural Heritage:</b> Landscape with no evidence of archaeological, historical or cultural interest.</p> <p><b>Landscape condition:</b> Landscape in a poor physical state.</p> <p><b>Associations:</b> Landscape has no connections with notable people, events and the arts.</p> <p><b>Distinctiveness:</b> Landscape has a no sense of identity.</p> <p><b>Recreational:</b> Landscape offering no recreational opportunities or with no access</p> <p><b>Perceptual (Scenic):</b> Landscape has no appeal to the senses.</p> <p><b>Perceptual (Wildness and tranquillity):</b> Landscape of no perceptual value in terms of wildness, tranquillity and/or dark skies.</p> <p><b>Functional:</b> Landscape has apparent function.</p>	<p><b>Pattern, complexity and physical susceptibility to change:</b> A simple, monotonous and/or degraded landscape with common/ indistinct features and minimal variation in landscape pattern.</p> <p><b>Visual susceptibility to change:</b> A very enclosed landscape which contains or strongly filters views, with an absence of visual landmarks and a lack of inter-visibility with designated landscapes.</p> <p><b>Experiential susceptibility:</b> A landscape with prominent visual and/or aural intrusion and close relationship with large scale built development/ infrastructure. A landscape which contains many light sources and essentially suffers from light pollution.</p>

## Evaluating Landscape sensitivity

Criterion used to categorise landscape sensitivity, in relation to Paragraphs 5.39 – 5.47 of GLVIA3, are described in Table A2- Landscape Sensitivity.

The sensitivity of the landscape as a whole, (or components of it), is determined using Table A2 to correlate 'landscape value' and 'susceptibility to change'.

**Table A2: Landscape Sensitivity**



## Evaluating the magnitude of landscape effects

The 'magnitude' of landscape effects resulting from the construction and/or the operation of a particular development is categorised as high, medium, low or negligible. In accordance with the approach advocated in Paragraphs 5.48 – 5.52 of GLVIA3 the magnitude of landscape effect considers the size and scale of the change, the geographical extent over which each landscape effects would be felt and their duration and reversibility.

Criterion used to categorise landscape effect are listed in Table A3 -Magnitude of Landscape Effect.

**Table A3: Magnitude of Landscape Effect**

Magnitude of landscape effects	Key Determining Criteria
<b>High</b>	<p><b>Size and/or scale:</b> the extent and relative proportion of the existing landscape element(s) to be changed would be large and/or the landscape element(s) lost or created make a key contribution to landscape character and/or value. Introduction of new landscape elements that would be likely to be perceived as a dominant landscape characteristic. Large scale alteration to the aesthetic and perceptual characteristics of the landscape.</p> <p><b>Geographical extent:</b> effects would be discernible across a large majority or the entirety of the landscape designation or character area.</p> <p><b>Duration and reversibility of effects:</b> A change would last over 15 years, and/or would not be reversible (i.e. permanent)</p>
<b>Medium</b>	<p><b>Size and/or scale:</b> the extent and relative proportion of the existing landscape element(s) to be changed would be moderate and/or any landscape elements lost or created make a moderate contribution to landscape character and/or value. Introduction of new landscape elements that would be perceived as a prominent landscape characteristic. Moderate scale alteration to the aesthetic and perceptual characteristics of the landscape.</p> <p><b>Geographical extent:</b> effects would be discernible across a moderate proportion of the landscape designation or character area.</p> <p><b>Duration and reversibility:</b> effects of the introduction of new landscape features would be medium-term i.e. will last for between 5 and 15 years. Loss or creation of landscape elements that can be fully replaced within the same time period.</p>
<b>Low</b>	<p><b>Size and/or scale:</b> the extent and relative proportion of the existing landscape element(s) to be changed would be minor and/or any landscape element(s) lost or created make only a minor contribution to landscape character and/or value. Introduction of new landscape elements that would be likely to be perceived as a small-scale landscape characteristic. Small scale alteration to the aesthetic and perceptual characteristics of the landscape.</p> <p><b>Geographical extent:</b> effects would be discernible across a small proportion of the landscape designation or character area and/or restricted to the close vicinity of the development site.</p> <p><b>Duration and reversibility of effects:</b> A change that would last between 2 and 5 years and/or would be fully/ partially reversible.</p>
<b>Negligible</b>	<p><b>Size and/or scale:</b> the extent and relative proportion of the existing landscape element(s) to be changed would be barely perceptible and/or any landscape element(s) lost or created make a minimal or no contribution to landscape character and/or value. Introduction of new landscape elements that will be likely to be imperceptible. Minimal alteration to the aesthetic and perceptual characteristics of the landscape.</p> <p><b>Geographical extent:</b> effects would only be discernible within the development site or its immediate surrounds.</p> <p><b>Duration and reversibility of effects:</b> Short-term change that would last less than 2 years and/or would be fully reversible.</p>
<b>None</b>	<p><b>Size and/or scale:</b> the extent and relative proportion of the existing landscape element(s) to be changed would be barely perceptible and/or any landscape element(s) lost or created make a minimal or no contribution to landscape character and/or value. Introduction of new landscape elements that will be imperceptible. Minimal alteration to the aesthetic and perceptual characteristics of the landscape.</p> <p><b>Geographical extent:</b> effects would only be discernible within the development site or immediately alongside it.</p> <p><b>Duration and reversibility:</b> effects of the introduction of new landscape elements would last for less than 2 years. Any loss of landscape elements can be fully replaced in the short term.</p>

Where magnitude of change is considered to fall between high, medium and low categories, intermediate categories of low medium and medium high will be introduced.

## Beneficial or Adverse Change

Magnitude is also assessed as being either a beneficial or adverse change where:

- For beneficial change the proposed development, or part of it, would appear in keeping with existing landscape character and would make a positive visual and/or physical contribution to key characteristics. Removal of uncharacteristic features would also be a beneficial change; or
- For adverse change the proposed development, or part of it, would be perceived as an alien or intrusive component in the context of existing landscape character and would have a negative visual and/ or physical effect on key characteristics.

## Assessing Visual Effects

*“An assessment of visual effects deals with the effects on views available to people and their visual amenity... assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements” (Paragraph 6.1, GLVIA3).*

## Evaluating Visual Sensitivity

The visual sensitivity is calculated by combining the value attributed to a view with the susceptibility of the viewer. The method used to categorise the sensitivity of visual receptors, is based on Paragraphs 6.30– 6.37 of GLVIA3.

## Evaluating Value of a View and Susceptibility of the Viewer to Change

The **Value** attributed to a view is defined by the criteria listed in in Table A4.

**Susceptibility** of the viewer is defined by the occupation or activity of the people experiencing the views at particular locations and by the extent to which their attention or interest may be focused on the views as defined by the criteria listed in in Table A4.

Criterion used to categorise visual sensitivity (combination of value and susceptibility), are listed in Table A4 -Visual Sensitivity.

**Table A4: Value of a View and Susceptibility of the Viewer**

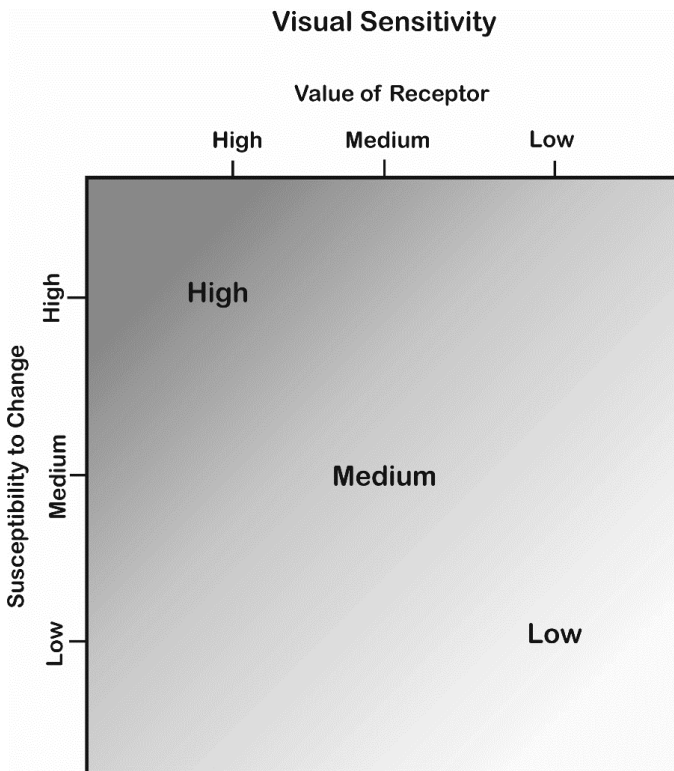
	<b>Value (Importance of the View)</b>	<b>Susceptibility (Type/Activity of the Receptor)</b>
<b>High</b>	The view is valued at a national or regional level. The view is of high scenic quality, often protected by planning designations. It is a visitor destination, or heritage asset, where views of the surrounding are an important contributor to the experience. There are references to the view in literature or art, or the view appears in guidebooks or on tourist maps. It is a strategic location or viewpoint which attracts large number of viewers.	Communities or residents at home, where views contribute to the setting or visual amenity of the house or settlement. Travellers on recreational or scenic routes, (including public rights of way) where awareness of views is likely to be high. People who are engaged in outdoor recreation, whose attention or interest is likely to be focussed on the landscape, or on particular views.
<b>Medium</b>	The view is valued at a local level. It is mostly frequented by local people. The view is not publicised or waymarked.	Travellers on road, rail, or local paths (including public rights of way) for which views are not the

	It is unremarkable but reasonable pleasant. There are some detracting features in the views.	primary focus, although they do contribute to the setting of the route.
<b>Low</b>	The view is of limited local value. The view is of low aesthetic quality and may detract from the surroundings.  It is not a publically accessible location.	People engaged in activity which does not involve or depend upon appreciation of views of the surrounding landscape. People at their place of work, whose attention may be focussed on their work or activity, not on their surroundings, and where the setting is not important to the quality of life.

### Evaluating Viewer Sensitivity

The sensitivity of a visual receptor is calculated using Table A5 to correlate the ‘value of the viewer’ with their ‘susceptibility to change’.

**Table A5: Viewer Sensitivity**



### Evaluating the magnitude of visual effect

The magnitude of visual effect is defined by the size/ scale of change, the geographical extent of the view affected and the duration and reversibility of the change caused by the development/ operation proposed. (Paragraph 5.48 GLVIA3)

The magnitude of visual effect is assessed in relation to the following:



- **Size and Scale:** The scale of change in the view is determined by the loss or addition of features in the view, changes in the composition of view and the proportion of view affected.
- **Geographical Extent:** Is assessed in relation to the Zone of Theoretical Visibility, taking into account the angle of view, the distance from the viewpoint, the extent, or number of receptors affected.
- **Duration and Reversibility:** The duration of the visual change, whether temporary or long term; intermittent or continuous; as well as the role of seasonal changes due to management such as hedgerow trimming and seasonal variations in deciduous leaf cover.

Criterion used to categorise the magnitude visual effect, are listed in Table A6, below.

**Table A6: Magnitude of Visual Effect**

<b>Magnitude of visual effect</b>	<b>Key determining criteria</b>
<b>High</b>	<p><b>Size and Scale</b> A complete or very substantial change or obstruction of the view.</p> <p><b>Geographical Extent</b> Large numbers of receptors affected. Close proximity to the viewer and/or unrestricted direct line-of-sight.</p> <p><b>Duration and Reversibility</b> A change would last over 10 years, and/or would not be reversible (i.e. permanent)</p>
<b>Medium</b>	<p><b>Size and Scale</b> An obvious, immediately apparent change or obstruction of the view.</p> <p><b>Geographical Extent</b> Multiple receptors affected. Medium distance view and/or partially restricted line-of-sight.</p> <p><b>Duration and Reversibility</b> A change that would last between 5 and 10 years and would be theoretically reversible.</p>
<b>Low</b>	<p><b>Size and Scale</b> A perceptible change or obstruction of the view.</p> <p><b>Geographical Extent</b> Small number of receptors affected. Distant view and/or restricted, oblique line-of-sight.</p> <p><b>Duration and Reversibility</b> A change that would last between 2 and 5 years and/or would be fully/ partially reversible.</p>
<b>Negligible</b>	<p><b>Size and Scale</b> A barely perceptible or intermittent change or obstruction of the view.</p> <p><b>Geographical Extent</b> Occasional or Isolated receptor affected. Far distance view and/or largely restricted line-of-sight.</p> <p><b>Duration and Reversibility</b> Short-term change that would last less than two years and/or would be fully reversible.</p>
<b>None</b>	The proposals would not change the view or visual amenity of the receptor.

Where magnitude of change is considered to fall between high, medium and low categories, intermediate categories of low medium and medium high will be introduced.

### **Beneficial or Adverse Change**

Magnitude is assessed as being either a beneficial or adverse change where:

- For beneficial change the proposed development, or part of it, would be perceived as a positive addition in the context of existing view character; or
- For adverse change the proposed development, or part of it, would be perceived as an alien or intrusive component in the context of existing view character.

# Assessing the significance of landscape and visual effects

The significance of a landscape or visual effect is determined by correlating the sensitivity of the receptor (high, medium to low) with the magnitude of effect (high to negligible). The evaluation is based on professional judgement using the indicative matrix shown in Table A7 as a guide.

**Table A7: Significance of landscape and visual effects.**

Magnitude of change	Sensitivity of receptor		
	Low	Medium	High
High	Moderate effect	Moderate major effect	Major effect
Medium high	Minor moderate effect	Moderate effect	Moderate major effect
Medium	Minor effect	Minor moderate effect	Moderate effect
Low medium	Minor negligible effect	Minor effect	Minor moderate effect
Low	Negligible effect	Minor negligible effect	Minor effect
Negligible	Negligible effect	Negligible effect	Minor negligible effect

Professional judgement and experience is used to identify levels of significance of effect for each receptor with the outcome being reported on a seven point scale:

- Major
- Moderate major
- Moderate
- Minor moderate
- Minor
- Minor negligible
- Negligible

The intermediary categories of *minor negligible*, *minor moderate* and *moderate major* will be used where the significance of effect is considered to fall between the broad definitions outlined below; the intermediate category of 'Moderate major' indicates the assessment is considered to be less than a major effect but greater than a moderate effect.

For the purposes of the LVIA, *major*, *moderate major* and *moderate* significance of effects may be considered as significant effects in terms of EIA Regulations.

The identified significance of an effect carries forward the beneficial or adverse nature of the effect identified in the assessment of magnitude of impact.