

TECHNICAL APPENDIX 8.1: LANDSCAPE AND VISUAL IMPACT ASSESSMENT METHODOLOGY

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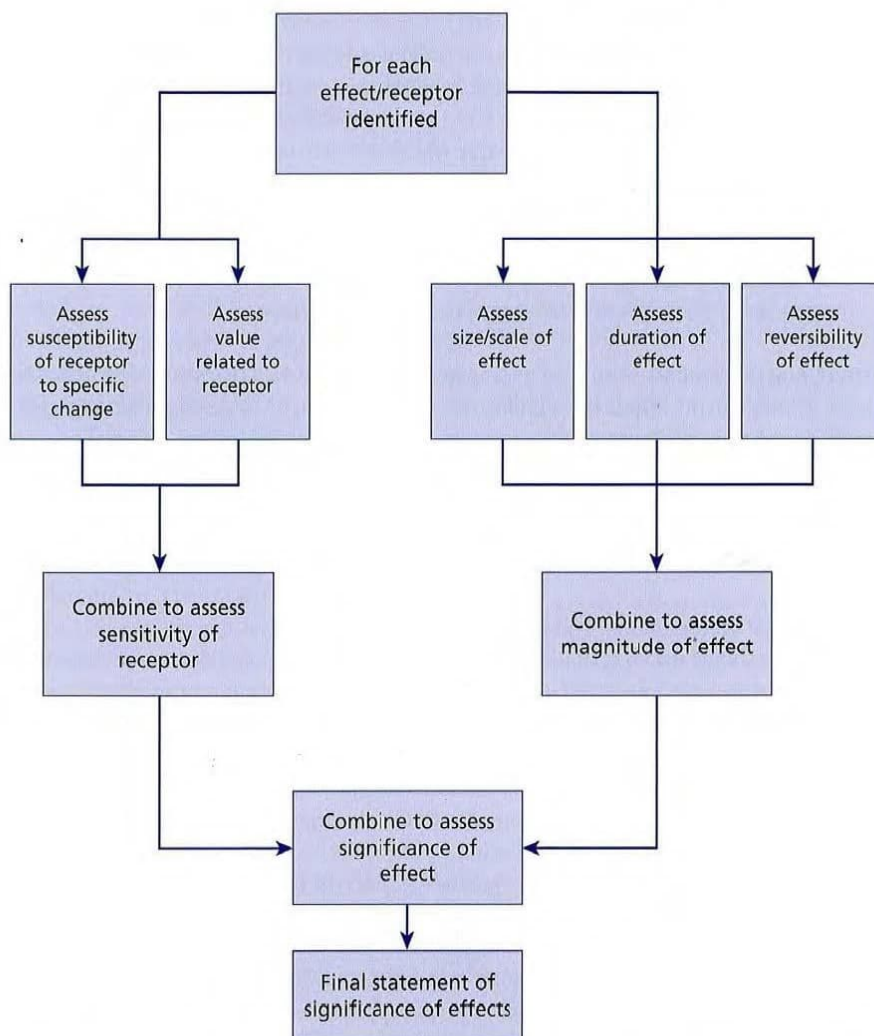
TECHNICAL APPENDIX 8.1: LANDSCAPE AND VISUAL IMPACT ASSESSMENT METHODOLOGY

1.1 Introduction

- 1.1.1 The Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with best practice and following the Landscape Institute and Institute for Environmental Management and assessment (IEMA) guidelines (GLVIA3). The assessment approach and process is summarised in the flow diagram below from GLVIA3. The report also refers to the Naturescot Landscape Sensitivity Assessment Guidance¹.
- 1.1.2 In the text below there are tables setting out the decision-making framework for assessing sensitivity and magnitude and how these are considered together to reach an assessment of significance. In all cases these tables are guidelines, not hard and fast rules.
- 1.1.3 Conclusions about the sensitivity of receptors, the magnitude of impacts and the significance of effects are always based on professional judgement.

Figure 1 Assessing the Significance of Effects

3 Principles and overview of processes



¹ NatureScot, (April 2022). Landscape Sensitivity Assessment Guidance.

1.2 Assigning Sensitivity

Landscape Receptors

1.2.1 Landscape effects can be defined as the changes in the character and quality of the landscape as a result of a development, through:

- the impact on the landscape fabric (changes the development may cause to specific features and elements that make up the landscape);
- the impact on the overall patterns of elements and on the perceptual and aesthetic aspects that give rise to landscape character and regional and local distinctiveness; and
- the impact on valued landscapes such as public open space, designated landscapes or otherwise valued landscapes including wild land.

1.2.2 The sensitivity of the landscape receptors has been arrived at by considering the landscape receptor value and the susceptibility of the landscape receptor to the change proposed, generally in accordance with **Table 1** and **Table 2**. Reference is made to the relevant Landscape Character Assessments.

Table 1: Landscape Receptor Value

Value	Recognition	Features	Quality / Condition
High	Typically, a landscape or feature of international or national recognition: National Scenic Areas National Parks, Wild Lands, Dark Sky Areas, World Heritage Sites (where designated for landscape reasons), designed landscapes on the Historic Environment Scotland (HES) Register. Ecology and Cultural heritage designations present.	Typically, a strong sense of place with landscape / features worthy of conservation; no or few detracting features. National or regional scenic trails and long-distance recreation routes may be present.	A very high quality landscape / feature; attractive landscape / feature; exceptional / distinctive.
Medium	Regional recognition or undesignated, but locally valued landscape / features: Local Landscape Areas, Regional Scenic Areas, locally listed designated landscapes and Regional Parks.	Typically, contains distinguishing features worthy of conservation; evidence of some degradation and / or some detracting elements. Presence of Core Paths may suggest a high value for recreation.	Ordinary to good quality landscape / feature with some potential for substitution; a reasonably attractive landscape / feature; typical and commonplace.
Low	Typically, an undesignated landscape/feature.	Few landscape features worthy of conservation, evidence of degradation with many detracting features.	Ordinary landscape / feature with high potential for substitution; quality that is typically commonplace and unremarkable; limited variety or distinctiveness.
Negligible	Typically, an undesignated landscape/feature.	No landscape features worthy of conservation; evidence of degradation with many detracting features.	Low quality landscape / feature with very high potential for substitution; limited variety or distinctiveness; commonplace.

Table 2: Susceptibility of the Landscape Receptor to Change

Susceptibility to proposed change	
High	Low ability to accommodate the specific proposed change; undue consequences for the maintenance of the baseline situation (receptor value) and / or achievement of relevant planning policies / strategies.
Medium	Moderate ability to accommodate the specific proposed change; some undue consequences for the maintenance of the baseline situation (receptor value) and / or achievement of relevant planning policies / strategies.
Low	High ability to accommodate the specific proposed change; little or no undue consequences for the maintenance of the baseline situation (receptor value) and / or achievement of relevant planning policies / strategies.
Negligible	Very high ability to accommodate the specific proposed change; no undue consequences for the maintenance of the baseline situation (receptor value) and/or achievement of relevant planning policies / strategies.

Landscape Sensitivity

- 1.2.3 Susceptibility and value can be combined in different ways although it is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity, whereas a low susceptibility and low value is likely to result in the lowest level of sensitivity. As noted in GLVIA3 there can be complex relationships between the value attributed to a landscape and its susceptibility to change, which can be particularly important when considering change in or close to designated landscapes.
- 1.2.4 Landscapes considered highly susceptible to the proposed change are normally considered to be of high sensitivity unless there are particularly strong reasons associated with the landscape value that lead to a reduction in sensitivity.
- 1.2.5 Similarly, receptors considered of low or medium susceptibility are usually in the same category of sensitivity, unless there are reasons associated with the landscape value that lead to an increase in sensitivity.
- 1.2.6 **Table 3** summarises typical characteristics of the different levels of sensitivity. It should be noted that the levels are indicative, and the levels shown are arbitrary divisions of a continuum. Professional judgement is always used to determine the overall level.

Table 3: Landscape Sensitivity

Level of sensitivity	Typical characteristics
High: Key characteristics and qualities of the landscape are highly sensitive to change from the development type. Development would significantly conflict with several of the assessment criteria with severe adverse impacts likely to arise.	<ul style="list-style-type: none"> • Areas of landscape character that are highly valued for their scenic quality (including most statutorily designated landscapes). • Elements/features that could be described as unique or are nationally scarce. • Mature vegetation with provenance such as ancient woodland or mature parkland trees. • Mature landscape features which are characteristic of and contribute to a sense of place and illustrates time-depth in a landscape and if replaceable, could not be replaced other than in the long term. • No or limited scope for substitution or positive enhancement.

Level of sensitivity	Typical characteristics
<p>Medium:</p> <p>Some of the key landscape characteristics or qualities of the landscape are sensitive to change from the development type. There is some ability to accommodate development in some situations without widespread or severe changes to the landscape; the development type relates to some aspects of landscape character.</p>	<ul style="list-style-type: none"> • Areas that have a positive landscape character but include some areas of alteration/degradation/or erosion of features. • Perceptual/aesthetic aspects has some vulnerability to unsympathetic development; and/or features/elements that are locally commonplace; unusual locally but in moderate/poor condition; or mature vegetation that is in moderate/poor condition or readily replicated. • Some scope for substitution or positive enhancement.
<p>Low:</p> <p>Key characteristics and qualities of the landscape are unlikely to be adversely affected by the introduction of the development type. The development type relates well to the assessment criteria and change may be accommodated without widespread significant adverse impacts on the landscape.</p>	<ul style="list-style-type: none"> • Damaged or substantially modified landscapes with few characteristic features of value. • Capable of absorbing major change. • Landscape elements/features that might be considered to detract from landscape character such as obtrusive man-made artefacts (e.g. power lines, large scale developments, etc.). • Scope for substitution or positive enhancement.
<p>Negligible:</p> <p>Key characteristics and qualities of the landscape would not be adversely affected by the introduction of the development type.</p>	<ul style="list-style-type: none"> • Areas that are relatively bland or neutral in character with few/no notable features. • A landscape that includes areas of alteration/degradation or erosion of features. • Landscape elements/features that are common place or make little contribution to local distinctiveness. • Opportunities for the restoration of landscape through mitigation measures associated with the proposal.

Visual Receptors

1.2.7 Visual effects relate to changes in available views of the landscape and the effect of those changes on people, including:

- the immediate impact of the Proposed Development on the content and character of views (e.g. through intrusion or obstruction and / or the change or loss of existing elements in a specific view); and
- the broader impact considering the overall change in visual amenity enjoyed by receptors in the area.

1.2.8 The sensitivity of a visual receptor reflects their susceptibility to change and any values which may be associated with the specific view. It varies depending on several factors such as the activity of the viewer, their reasons for being there and their expectations and the duration of view.

1.2.9 Certain views are highly valued for either their cultural or historical associations, which can increase the sensitivity of the viewer. However, whilst a valued view may serve to increase the overall visual receptor sensitivity, a low value would not necessarily reduce sensitivity.

1.2.10 GLVIA3 advises that it is helpful to consider (but not restricted to) the following:

- nature of the view (full, partial or glimpsed);
- proportion of the Proposed Development visible (full, most, part or none);
- distance of the viewpoint from the Proposed Development and whether it would be the focus of the view or only a small element;
- whether the view is stationary, transient or sequential; and
- the nature of the changes to the view.

- 1.2.11 Additionally, the seasonal effects of vegetation are considered, the varying degree of screening and filtering of views.
- 1.2.12 The sensitivity of the visual receptors is derived by professional judgement based on the susceptibility of the visual receptor to the change proposed (guided by **Table 4**) and any values associated with the view (guided by **Table 5**).

Table 4: Susceptibility of the Visual Receptor to Change

Rating	Type of visual receptor
High	<ul style="list-style-type: none"> Residents at home; walkers on long distance trails and mountain access routes, users of footpaths where the attractive nature of the countryside is a significant factor in the enjoyment of the walk, cyclists on national and local cycle routes; road users on recognised tourist routes; and visitors to landscape and heritage resources and other attractions where views of the surroundings are an important contributor to appreciation, experience and/or enjoyment.
Medium	<ul style="list-style-type: none"> General road users; passengers on rail lines where the trains run at low or moderate speeds; users of public open space and footpaths where the nature of the surroundings is not a significant factor in the enjoyment of the activity; and visitors to landscape and heritage resources and other attractions where views of the surroundings are a minor contributor to appreciation, experience and/or enjoyment.
Low	<ul style="list-style-type: none"> People at their place of work or shopping; users of high-speed roads (dual carriageway and motorways) and passengers in trains running at high speed; people engaged in recreational activities where the view of the surroundings is secondary to the enjoyment of the activity (such as playing or spectating at outdoor sports facilities); and users of public open space and footpaths where the nature of the surroundings is irrelevant to the enjoyment of the activity.
Negligible	<ul style="list-style-type: none"> Users of indoor facilities where the view is irrelevant to their activity.

Table 5: Values Associated with Views (which may raise the receptor sensitivity)

Rating	Recognition	Indicators of value
High	Recognised views from nationally or internationally important landscape or heritage resources, Scheduled Monuments; may be identified in planning policies or statutory documents.	High value/celebrated view; referred to in national or international guide books, maps, tourist guides etc.; literary and art references; presence of interpretive facilities (e.g. visitor centre).
Medium	Recognised views from local or regionally important landscape or heritage resource, such as Local Landscape Areas or Conservation Areas; may be identified in local planning policies or supplementary planning documents.	Moderately valued view; referred to in local or regional guide books, tourist maps etc.; local literary and art references; presence of some interpretive facilities (e.g. parking places or sign boards).
Low	An unrecognised view, commonplace.	Low value view, unrecognised.

Visual Sensitivity

- 1.2.13 As with landscape, susceptibility and value can be combined in different ways to form a judgement about the sensitivity of a given receptor. It is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity, whereas a low susceptibility and a low value is likely to result in the lowest level of sensitivity.
- 1.2.14 However, whilst a valued view may serve to increase the overall sensitivity of the visual receptor, a low value would not necessarily reduce sensitivity. Visual receptors considered highly susceptible to the proposed change are normally considered to be of high sensitivity unless there are particularly strong reasons associated with the value of the view that lead to a reduction in sensitivity.
- 1.2.15 Similarly, receptors considered of low or medium susceptibility are usually in the same category of sensitivity, unless there are reasons associated with the value of the view that lead to an increase in sensitivity.
- 1.2.16 **Table 6** summarises typical characteristics of the different levels of sensitivity. It should be noted that the levels are indicative, and the levels shown are arbitrary divisions of a continuum.

Table 6: Visual sensitivity criteria

Level of sensitivity	Typical characteristics
High	<ul style="list-style-type: none"> • A view or overall visual amenity which is an important reason for receptors being there (and therefore most views or overall visual amenity for highly susceptible receptors). • A well balanced view containing attractive features and notable for its scenic quality. • A view which is experienced by many people and/ or recognised for its scenic qualities.
Medium	<ul style="list-style-type: none"> • A view or overall visual amenity which plays a relatively small part in the reason why a receptor would be there (and therefore most views or overall visual amenity for receptors of medium susceptibility). • An otherwise attractive view that includes noticeable discordant features or overall visual amenity where there are noticeable visual detractors.
Low	<ul style="list-style-type: none"> • A view or overall visual amenity which is unlikely to be part of the receptor's experience or reasons for being there (and therefore most views or overall visual amenity for receptors of low susceptibility). • An unattractive view or overall visual amenity where there are many visual detractors.
Negligible	<ul style="list-style-type: none"> • A view or overall visual amenity which is irrelevant to the receptor's experience or reasons for being there.

1.3 Assessing Magnitude of Change

- 1.3.1 The magnitude of landscape and visual change depends upon a combination of factors including the size, scale and nature of change in relation to the context; the geographical extent of the area influenced; and its duration and reversibility. Typical criteria are given in **Table 7**.

Table 7: Magnitude of Change

Level of Magnitude	Size, Scale and Nature	Geographical Extent	Duration and Reversibility
High	<ul style="list-style-type: none"> Obstructs a significant portion of the view. Forms a large or very noticeable or discordant element in the view. Considerable change to key features or many existing elements of the landscape. Introduces elements considered totally uncharacteristic to the existing landscape. A very noticeable change to the character of the landscape. 	Ranging from notable change over extensive area to intensive change over a more limited area.	Long term; permanent / non-reversible or partially reversible.
Medium	<ul style="list-style-type: none"> Occupies a noticeable portion of the view. Forms a large or very noticeable or discordant element in the view. Some considerable change to existing landscape elements and /or landscape character; discernibly changes the surroundings of a receptor, such that its baseline is partly altered. Readily noticeable. 	Moderate changes in a localised area.	Medium term; semi-permanent or partially reversible.
Low	<ul style="list-style-type: none"> Occupies a small portion of the view; small change to existing landscape elements and / or landscape character; slight, but detectable impacts that do not alter the baseline of the receptor materially. Not readily noticeable. 	Minor changes in a localised area.	Short term / temporary; partially reversible or reversible.
Negligible	<ul style="list-style-type: none"> Occupies little or no portion of the view; Hardly noticeable. Limited or no change in existing landscape elements and / or landscape character; Barely distinguishable change from baseline conditions. 	No change discernible.	Short term / temporary reversible.

1.4 Level of Effect and Significance

- 1.4.1 Professional judgement is used to combine sensitivity and magnitude to gauge the level of effect and determine whether it is significant or not.
- 1.4.2 **Table 5-1 in Volume 2, Chapter 5: EIA Process and Methodology** provides guidance in how sensitivity and magnitude are combined. However, this matrix is used as a framework, not as a prescriptive formula: the level of effect (and thus significance) would vary depending on the circumstances, the type and scale of development proposed, the baseline context and other factors. **Table 8**, below, gives typical descriptors of the levels of landscape and visual effects.
- 1.4.3 The gradations of magnitude of change and level of effect used in the assessment represent a continuum, which are described in **Volume 2, Chapter 5** on a four-point scale: Major; Moderate; Minor; and Negligible.

Where appropriate, this assessment uses intermediate descriptors, such as Minor to Negligible, Minor to Moderate or Moderate to Major, where the assessor considers that the effect falls between the levels used in **Table 5-1 of Volume 2, Chapter 5**. In most cases, a definitive result is preferred for clarity, based on professional judgement.

- 1.4.4 Effects can be either beneficial or adverse and, in some cases, neutral (neither beneficial nor adverse) and, effects assessed as moderate or greater are significant in terms of the EIA Regulations.

Table 8: Level of landscape and visual effect

Level of Effect	Landscape effect	Visual effect
Major	Considerable change over an extensive area of a highly sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.	The development would be a prominent feature or a noticeably discordant or enhancing feature substantially affecting overall visual amenity or would result in a clearly noticeable change to a highly sensitive and well composed existing view. A clearly noticeable or substantial improvement or deterioration of the existing view.
Moderate	Small or noticeable change to a highly sensitive landscape or more intensive change to a landscape of medium or low sensitivity, affecting some key characteristics and the overall impression of its character	The development would be a noticeable feature or a somewhat discordant or enhancing feature affecting overall visual amenity or would result in a noticeable change to a highly sensitive and well composed existing view, or would be prominent within a less well composed and less sensitivity view. A noticeable improvement or deterioration of the existing view.
Minor	Small change to a limited area of landscape of high or medium sensitivity or a more widespread area of a less sensitive landscape, affecting few characteristics without altering the overall impression of its character.	The development would be a visible but not particularly noticeable feature or a slightly discordant or enhancing feature affecting overall visual amenity or would result in a small change to a highly sensitive and well composed existing view, or would be noticeable within a less well composed and less sensitivity view. A small improvement or deterioration of the existing view.
Negligible	No discernible improvement or deterioration to the existing landscape character.	No discernible improvement or deterioration in the existing view.

1.5 Assessment of Cumulative Effects

Approach to Cumulative Assessment

- 1.5.1 GLVIA3 provides the basis for the cumulative assessment methodology. The assessment of cumulative effects is essentially the same as for the assessment of the stand-alone landscape and visual effects, in that the level of landscape and visual effect is determined by assessing the combination of sensitivity of the landscape or visual receptor and the magnitude of change.
- 1.5.2 A review of applications has been carried out to determine which applications within the planning system would be included for assessment. These are referred to as Cumulative Developments. The Cumulative Developments considered within this report are listed and described in **Volume 2, Chapter 5, Table 5- 2 Cumulative Developments**.

1.5.3 Types of cumulative effect are defined as follows:

- In-combination effects that is the combined effect of the Proposed Development with other schemes within the 3 km study area and Intra related effects (or effect interactions) where effects within one environmental area may give rise to other effects in others within the Proposed Development and the surrounding areas.
- Cumulative landscape effects: where more than one type of development may have an effect on a landscape designation or particular area of landscape character. This may also include effects on the physical fabric of the landscape where one or more developments may affect landscape components; and
- Cumulative visual effects: where the cumulative or incremental visibility of similar types of development combined generate a cumulative visual effect.

1.5.4 The Study Area remains at 3 km as per the Proposed Development assessment. Significant effects in relation to Netherpton Hub and in-combination effects with other developments within the locality unlikely to occur beyond 3 km.

1.5.5 The methodology for the assessment of sensitivity remains the same as per the Proposed Development assessment. The cumulative landscape and visual magnitude of change is determined with reference to the criteria set out above for the main assessment and the following considerations:

- the distance and direction to each visible or potentially visible Cumulative Development;
- the number of visible or potentially visible Cumulative Developments;
- the distance between Cumulative Developments and the Proposed Development;
- the height of features at each Cumulative Development;
- the horizontal extent of the view occupied by Cumulative Developments;
- the vertical scale comparison of Cumulative Developments; and
- duration of the change of Cumulative Developments.

1.5.6 Determination of the significance of cumulative landscape and visual effects is undertaken by employing professional judgement to combine and analyse the cumulative magnitude of change against the identified sensitivity to change. It should be noted that the cumulative assessment is the result of the addition of the Proposed Development to the identified cumulative baseline scenario. The results of the cumulative effects assessment is presented in **Volume 2, Chapter 8: Landscape and Visual Impact** and **Chapter 15: Cumulative Effects**.

1.6 Visual Representations

1.6.1 All visual representations are produced in line with Landscape Institute (2019) Technical Guidance Note (TGN) 06/19 (2019); 'Visual Representation of Development Proposals'². Viewpoint photography and visualisations are presented as annotated photo-panoramas (to TGN 06/19 Type 3).

1.6.2 The key aspects of the methodology include:

- a 50mm fixed lens on a SLR camera with a full frame sensor;
- tripod with a panoramic head;
- camera positioned at 1.6 m height;
- 50% overlap on panoramic photographs to minimise distortion when stitching the photographs;
- portrait orientation photographs taken for viewpoints close to the Proposed Development to ensure full vertical extent of the Proposed Development can be seen;
- at least a 180-degree panorama taken (where the viewpoint allows); and
- grid reference recorded at each viewpoint location.

² Landscape Institute, (2019) Technical Guidance Note (TGN 06/19 Visual Representation of Development Proposals.

Baseline presentation layouts

1.6.3 The following describes how each baseline photograph is presented:

- the standard Layout is A1 Landscape with a horizontal field of view of 90° with an image size of 820 mm x 250 mm minimum (height as appropriate); and
- each view is annotated with specific camera and viewpoint information as required in TGN 06/19, Appendix 10.

1.6.4 When printing there should be no scaling or fit to page options selected as this would alter the size of the image. A high-quality print setting with a minimum resolution of 300 dots per inch (dpi) should be used.