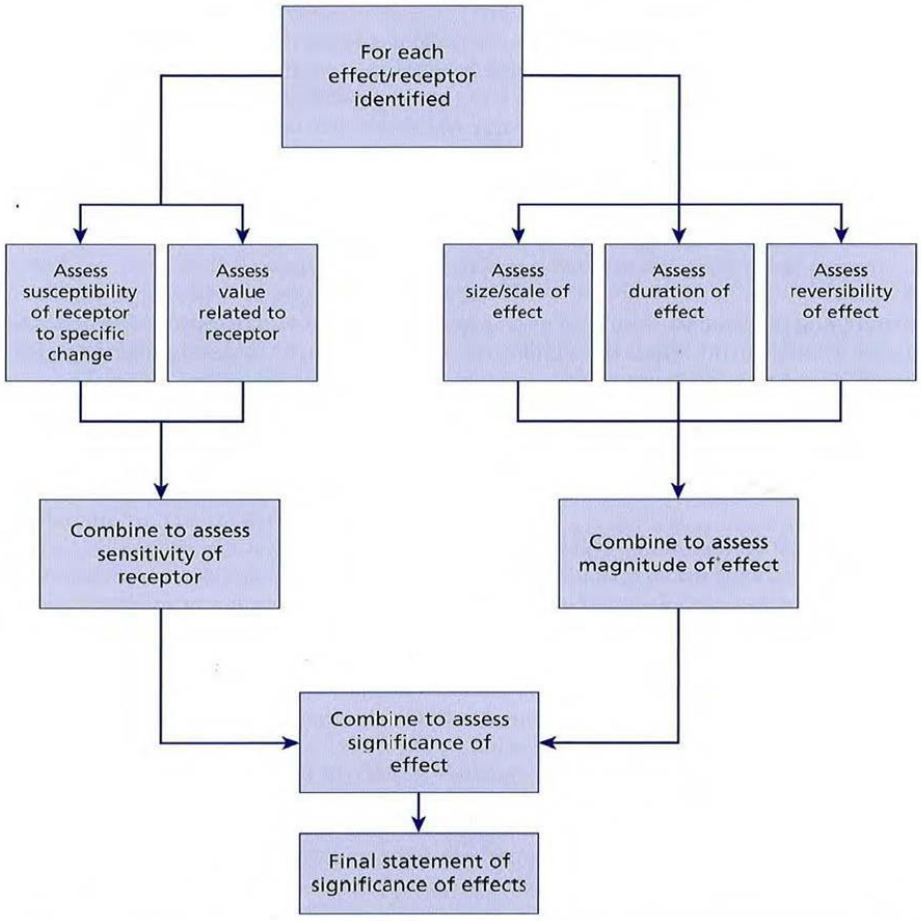
APPENDIX 8.1: LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA) METHODOLOGY

1. LVIA METHODOLOGY

1.1 Assessment approach and process

1.1.1 This 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)[1]. The assessment approach and process to determine effect significance is summarised in the flow diagram below, taken from GLVIA3. The report also refers to the NatureScot Landscape Sensitivity Assessment Guidance[2].

Figure 1: Assessment approach and process to determine the significance of effects



Source: GLVIA 3rd Edition p39 - Section 3 Principles and overview of processes, Figure 3.5.

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.

1.1.3 Conclusions about the sensitivity of receptors, the magnitude of impacts and the significance of effects are always based on professional judgement.

[1] Landscape Institute and Institute of Environmental Management and Assessment (2013). *'Guidelines for Landscape and Visual Impact Assessment'*, 3rd Edition.

[2] NatureScot, (April 2022). Landscape Sensitivity Assessment Guidance.

1.2 Assigning Value, Susceptibility and Sensitivity

1.2.1 The sensitivity of landscape and visual receptors to change is determined using professional judgement based on consideration of receptor value and its susceptibility to the type of change proposed. These factors are considered further below.

Landscape Receptors

1.2.2 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.

1.2.3 To help understand these potential effects, the sensitivity of the landscape receptors to change needs to be determined through consideration of landscape receptor value and its susceptibility to the change proposed, generally in accordance with Table 1 and Table 2. Reference is normally made to the relevant Landscape Character Assessments.

Landscape Susceptibility

1.2.4 The susceptibility of a landscape receptor relates to its ability 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.

1.2.5 Some landscape receptors are better able to accommodate development than others due to certain characteristics that are indicative of capacity to accommodate change. Indicators (or characteristics) of landscape susceptibility to the Proposed Development are based on the following criteria:

- Scale: The scale of the landscape considers the degree of topographical relief, openness and enclosure and the presence of smaller scale features. In general, larger scale landscapes (e.g. those that are broad, simple, uniform, expansive, large scale field patterns) are typically likely to be less susceptible to substation development than small scale landscapes (intimate, small scale field patterns, varied. complex) as they will be a small component in a much wider landscape.
- Landform: Consideration of landform relates to the degree of complexity of the landform, including identification of any distinct topographical features, to determine the ability of the landscape to accommodate the development footprint. The assessment relates to how development, including ancillary works such as access tracks, could impact on or relate to landform. Simpler, homogenous, gently graded, more uniform landforms would generally be less susceptible while more dramatic, steeper, rugged, complex and distinctive landform such as drumlins, incised river valleys / gorges, cliffs or rock outcrops, would be more susceptible.
- Land cover: Land cover influence relates to the degree of complexity of the landscape and diversity of land cover, including field enclosure pattern, presence of woodlands, water courses, moorland, or lochs but also distinctive land cover features. More diverse and intricate land cover patterns (such as presence of ancient and mature or long-established vegetation such as mature trees, woodland and protected hedgerows in a complex mosaic of pattern and land cover types) would be more susceptible to development in general, whilst broader, extensive, simpler land-cover pattern or landcover types, would be less susceptible. Effects include loss of the feature and diminishment of integrity if removed, or where the Proposed Development has a detractive effect if located nearby.
- Texture: This relates to the pattern of vegetation cover or built form and its relative complexity, including presence of linear tree belts, geometric conifer planation, tree lines on water courses, hedgerow with

hedgerow trees. Landscapes with more uniform, simple, smooth textures would be less susceptible to development in general, whilst complex, irregular, rougher textures or patterns would be more susceptible.

- Detracting features: Features that detract from the key qualities or characteristics of the landscape. This could include man-made developments such as major roads, electricity infrastructure, industrial development, or unsympathetic housing, retail or commercial developments, as well as uncharacteristic vegetation or land use such as improved pasture in areas characterised by moorland.
- Built environment: Consideration of the built environment looks at the relationship with other development. Generally, contemporary landscapes where there are more modern forms of development that already have a characterising influence (such as industry, wind farms, mineral extraction or electrical grid connections) result in a lower susceptibility to the Proposed Development than areas characterised by recognised cultural features, or smaller scale, historic development and settlement boundaries, and settlement landmarks (such as historic villages with dense settlement patterns and associated buildings such as church towers).
- Perceptual / experiential aspects: Perceptual or experimental aspects relate to tranquillity, naturalness and wildness, and are generally influenced by the degree of modification by human intervention and how development could affect perceptions of naturalness, remoteness, sense of space, and openness. In general, landscapes which are more modified and developed are busier, more chaotic, and noisier than undeveloped ones, with perceptions of 'wildness' less tangible, and are therefore likely to be less susceptible. Landscapes that are acknowledged to be particularly scenic, with a distinct sense of wildness or timelessness (where the number and distinctiveness of archaeological or historic features, and scarcity of modern built features, can give a strong sense of history or 'timelessness') will be more susceptible.
- Visual amenity: Visual amenity relates to the extent of relative visibility and key views to and from the landscape. The degree of openness or enclosure influences visibility, as topography/ landform and woodland can provide screening of views, whilst elevated, extensive views which are sustained can increase visibility. More densely settled and open landscapes would also generally be of increased susceptibility although the presence of key visitor attractions and routes (including areas popular for recreation) can increase susceptibility in more sparsely settled landscapes. Key views are linked to skylines and landmarks. Prominent and distinctive skylines and horizons with important landmark natural or built features, particularly those that are identified in landscape character assessments, are generally considered to be more susceptible to the Proposed Development than broad, simple skylines which lack landmark features or contain other infrastructure features.

1.2.6 The degree of susceptibility of the landscape receptor is categorised on a scale from negligible to high, as set out in Table 1.

Table 1: Susceptibility of the landscape receptor to change

Susceptibility to proposed change	
High	Key characteristics and qualities of the landscape are highly sensitive to change from the development type. Low or no 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	Some of the key landscape characteristics or qualities of the landscape are sensitive to change from the development type. Some 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	Key characteristics and qualities of the landscape are unlikely to be adversely affected by the introduction of the development type. 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	Key characteristics and qualities of the landscape will not be adversely affected by the introduction of the development type. 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.

Source: adapted from GLVIA 3rd Edition and NatureScot Landscape Sensitivity Assessment Guidance

Landscape Value

1.2.7 The value of a landscape receptor is a reflection of the value that society attaches to that landscape. Typical indicators of value are based on the following range of factors:

- Landscape designations / recognition: A receptor that lies within the boundary of a recognised landscape or landscape-related planning designation is likely to be of increased value, depending on the proportion of the receptor that is affected and the level of importance of the designation which may be international (such as World Heritage Sites), national (e.g. National Scenic Areas, National Parks), regional (Scheduled Monuments, Listed Buildings (A), Inventory Gardens and Designed Landscapes, Battlefields) or local (e.g. Local Landscape Areas, Listed Buildings (B, C), Conservation Areas). Other recognised landscape values include Wild Land Areas and Dark Sky Reserves. The absence of designation does not however preclude value, as an undesignated landscape receptor may still be valued as a resource at a variety of levels.
- Landscape features and quality: The quality of a landscape receptor is a reflection of its attributes, such as scenic quality, sense of place, rarity and representativeness, and the extent to which its valued attributes have remained intact. A landscape with consistent, intact, well-defined and distinctive attributes is considered to be of higher quality and, in turn, higher value, than a landscape where the introduction of elements has detracted from its character.
- Landscape experience: The experiential qualities that can be evoked by a landscape receptor can add to its value. These responses relate to a number of factors including: cultural associations that may exist in art, literature or history; the recreational value of the landscape, or the iconic status of the landscape in its own right; and its contribution of other values such as nature conservation or archaeology.

1.2.8 The value attributed to the landscape receptor is categorised on a scale from negligible to high, as set out in Table 2.

Table 2: Landscape receptor value

Value	Recognition	Quality	Features
High	Typically, a landscape or feature of international or national recognition: National Scenic Areas National Parks, World Heritage Sites (where designated for landscape reasons), designed landscapes on the Historic Environment Scotland (HES) Register, Wild Land Areas and Dark Sky Reserves.	A high quality, attractive landscape, typically with a strong sense of place with landscape / features worthy of conservation. An exceptional / distinctive landscape with no or few detracting features. Often a more wild, remote or tranquil landscape.	Typically, a landscape or feature with many cultural associations (existing in art, literature, TV/film, or history). High recreational value/ use e.g. Core Paths, long-distance routes, national cycle network, scenic routes (e.g. North Coast 500), Munros and Corbetts. Significant Tourism e.g. many established visitor attractions, OS marked / promoted or valued viewpoints, visitor 'hotspots'.
Medium	Regional recognition or undesignated, but locally valued landscape or features: Local Landscape Areas, Regional Scenic Areas, Special Landscape Areas, locally listed designed landscapes and Regional Parks.	Ordinary to good quality landscape, typically containing distinguishing features worthy of conservation. Evidence of some degradation and / or some detracting elements. A reasonably attractive landscape or feature that is typical and commonplace, containing some areas more tranquil and natural. Some potential for substitution.	A landscape or feature with a number of cultural associations recognised at a more local level in art, literature, TV/film, or history. A landscape or feature with good recreational value or use e.g. local path network, rights of way, regional/ local cycle network, lesser but still notable hills such as Grahams. Notable tourism, including visitor attractions, touring routes / trails (e.g. Whiskey Trail).
Low	Typically, an undesignated landscape or feature with some / limited value locally.	An ordinary landscape or feature that is typically commonplace and unremarkable with limited variety or distinctiveness. Some landscape features worthy of conservation but evidence of degradation with detracting features. Limited tranquillity; a typically busy landscape with numerous artificial influences. High potential for substitution.	Some cultural associations. Some recognised recreational value or use – some designated paths or trails, typically local path network only. Quieter rural roads providing recreational routes for cycling and car-based leisure trips. Some tourism value: some visitor attractions, rural routes.
Negligible	An undesignated landscape or feature of little or no value locally.	Low quality landscape or feature with few or no landscape features worthy of conservation. Limited variety or distinctiveness, commonplace and typically degraded with many detracting features. A very busy landscape with many artificial influences such as lighting, noise, activity. Very high potential for substitution.	Limited or no discernible cultural associations. Limited or no recognised recreational value/ use (enclosed, extensive farmland, local path network only, few attractive leisure/cycling on-road routes). Limited tourism: few/ no notable tourist attractions or routes.

Source: adapted from GLVIA 3rd Edition; TGN 02/21; and NatureScot Landscape Sensitivity Assessment Guidance (2022)

Landscape Sensitivity

1.2.9 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[1], 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.

1.2.10 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 would lead to a reduction in sensitivity.

1.2.11 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 would lead to an increase in sensitivity.

1.2.12 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: areas found to lie between two of these levels may be rated, for example, medium-high or low-medium. 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.	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.
Medium: 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.	Areas that have a positive landscape character but include some areas of alteration/degradation/or erosion of features. Perceptual/aesthetic aspects have 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. 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.
Low: 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.	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. 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.
Negligible: Key characteristics and qualities of the landscape would not be adversely affected by the introduction of the development type.	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 commonplace or make little contribution to local distinctiveness. Opportunities for the restoration of landscape through mitigation measures associated with the proposal.

Source: adapted from GLVIA 3rd Edition

Visual Receptors

1.2.13 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.

1.2.14 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.

1.2.15 The sensitivity of the visual receptors is therefore 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).

Visual Susceptibility

1.2.16 The susceptibility of a visual receptor to the Proposed Development relates to the type of receptor and their purpose for being there, which influences their ability to accommodate the Proposed Development without undue consequences for the maintenance of the baseline visual situation.

1.2.17 Visual susceptibility criteria are outlined in Table 4.

Table 4: Susceptibility of the visual receptor to change

Susceptibility Rating	Type of visual receptor
High	Residents at home, who can have static views (including from upstairs windows) and where the pleasantness of the view can be an important factor. Walkers on long distance trails and mountain access routes, whose focus is on the landscape. 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. 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	General road users, at moderate speeds, where enjoyment of the surroundings may be a factor. Passengers on rail lines where the trains run at low or moderate speeds to give views of the countryside. Users of public open space and footpaths where the nature of the surroundings is a minor factor in the enjoyment of the activity. 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	People at their place of work or shopping whose focus is not on the surrounding landscape. Users of high speed roads 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). Users of public open space and footpaths where the nature of the surroundings is irrelevant to the enjoyment of the activity.
Negligible	Users of indoor facilities where the view is irrelevant to their activity.

Source: adapted from GLVIA 3rd Edition

Values associated with Views

1.2.18 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.

1.2.19 Typical indicators of value are outlined in Table 5.

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 landscape-related resources such as Scheduled Monuments. May be identified in planning policies or statutory documents.	High value / celebrated view Referred to in national or international guidebooks, maps, tourist guides etc. Literary and art references TV/ film/ social media 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 guidebooks, tourist maps etc. Local literary and art references Local / regional TV Presence of some interpretive facilities (e.g. parking places or sign boards)
Low	Views of no recognised importance. Not identified in any planning policies or supplementary planning documents.	Ordinary view Not referred to in guidebooks, tourist maps No literary or art references No TV/ film/ social media references No interpretive facilities

Source: adapted from GLVIA 3rd Edition

Visual Sensitivity

1.2.20 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 low value is likely to result in the lowest level of sensitivity.

1.2.21 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 would lead to a reduction in sensitivity.

1.2.22 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 would lead to an increase in sensitivity.

1.2.23 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	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	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).

Level of sensitivity	Typical characteristics
	An otherwise attractive view that includes noticeable discordant features or overall visual amenity where there are noticeable visual detractors.
Low	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	A view or overall visual amenity which is irrelevant to the receptor's experience or reasons for being there.

Source: adapted from GLVIA 3rd Edition

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. GLVIA3 advises that it is helpful to consider (but not be 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;
- the nature of the changes to the view; and
- the seasonal effects of vegetation, which varies the degree of screening and filtering of views available.

1.3.2 Typical criteria used in this Assessment are given in Table 7.

Table 7: Magnitude of landscape and visual change

Level of Magnitude	Size, Scale and Nature	Geographical Extent	Duration and Reversibility
High	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 or largely non-reversible.
Medium	Occupies a noticeable portion of the view Forms a noticeable or discordant element in the view. Noticeable change to existing landscape elements and /or landscape character. Discernibly changes the surroundings of a receptor, such that its baseline is altered. Readily noticeable.	Moderate changes in a localised area.	Medium term; semi-permanent or partially reversible.
Low	Occupies a small portion of the view. Small change to existing landscape elements and / or landscape character. Slight, but detectable changes that slightly alter a small part of the baseline of a receptor. Not readily noticeable.	Minor changes in a localised area.	Short term; temporary or largely reversible.
Negligible	Occupies a very small portion of the view. Limited or no change in existing landscape elements and / or landscape character. Barely distinguishable change from baseline conditions. Hardly noticeable.	No change discernible.	Short term; temporary or reversible.

Source: adapted from GLVIA 3rd Edition

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 The gradations of magnitude of change and level of effect used in the assessment are described on a four-point scale: major; moderate; minor; and negligible, but these levels are indicative, and the levels shown are arbitrary divisions of a continuum. Professional judgement is always used to determine the overall level.

1.4.3 To better represent this continuum, the matrix showing how sensitivity and magnitude are combined included in as Table 5-1 in **Volume 2, Chapter 5: EIA Process and Methodology** has been developed for this assessment, as set out in Table 8.

1.4.4 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. Where appropriate, this assessment uses intermediate descriptors, such as negligible to minor, minor to moderate or moderate to major, where the assessor considers that the effect falls between the levels used in Table 8.

1.4.5 As set out in GLVIA3 (paras 5.37 & 6.29), a professional decision is made about whether effects should be categorised as positive or negative (here described respectively as beneficial and adverse). It is also possible for

effects to be neutral in their consequences – changing the view or the landscape character but neither improving nor worsening the situation.

1.4.6 **Volume 2, Chapter 5: EIA Process and Methodology** states that effects assessed as moderate or greater are considered significant. In some cases, it is possible for a visual effect found to be of medium magnitude to a receptor of medium sensitivity to be considered non-significant. If this does occur, the specific reasoning for the finding of non-significance is set out in the assessment.

Table 8: Matrix for Determining the Significance of Effects

		Sensitivity of Landscape or Visual Receptor			
		High	Medium	Low	Negligible
Magnitude of Change/ Effect	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

1.4.7 Table 9 gives typical descriptors of the levels of landscape and visual effects.

Table 9: Level of landscape and visual effect Descriptors

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 Cumulative Effects

1.5.1 The LVIA considers 'in-combination' landscape and visual effects. Cumulative landscape and visual effects are the additional changes caused by the Proposed Development in combination with other similar or related developments, or the combined effect of a set of similar developments taken together.

1.5.2 Effect interactions – where the cumulation of different types of environmental impact on specific receptors increases the overall impact on that receptor (for example, a residential receptor subject to both visual and noise effects) are considered in **Volume 2, Chapter 14: Cumulative Effects**.

1.5.3 The underlying approach to the assessment of cumulative effects is the same as for the assessment of effects of the Proposed Development alone, as set out above. In particular, the assessment follows the guidance on cumulative effects set out in Chapter 7 of GLVIA3.

1.5.4 The receptors considered for cumulative effects are those found to be subject to major, moderate or minor effects from the Proposed Development. Minor effects, whilst not significant due to the Proposed Development alone, are considered on the basis that multiple minor effects may interact to result in a significant effect.

1.5.5 Receptors subject to a negligible effect from the Proposed Development are not considered as, almost by definition, any significant effect could only be caused by the cumulative development(s) with the Proposed Development.

1.5.6 The search area for the cumulative assessment is larger than the study area for the 'stand-alone' assessments, normally twice the radius of the study area plus a margin. This is to allow for the situation where a receptor may lie between two developments, beyond the area within which significant effects may be expected from the Proposed Development alone but where the minor (non-significant) effect of the Proposed Development may combine with effects (potentially non-significant in their own right) from another development to be found significant when considered together.

1.5.7 The methodology for the assessment of sensitivity is as set out in Section 1.2, above.

1.5.8 The cumulative magnitude of change is determined by considering together the change caused by the Proposed Development (already assessed) and the likely change caused by the cumulative development(s). The latter is an appraisal following the approach set out in 1.3, above, based on the information about the cumulative development(s) available at the time of the assessment. Criteria considered include:

- 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.

1.5.9 The level of effect and significance is determined by professional judgement in accordance with Section 1.4, above. The appraisal considers the overall effect on the receptors, which may be caused primarily by the Proposed Development, primarily by the cumulative development(s), or by the combined effect together being greater than the effect of one or the other(s).

1.5.10 The descriptors of the levels of landscape and visual effects in Table 9, above, apply to the cumulative assessment. Table 10, below, sets out some additional descriptors for cumulative effects where the combined effect is greater than the effect of one or the other(s) alone.

Table 10: Level of cumulative landscape and visual effect – Additional Descriptors

Level of Effect	Cumulative Landscape effect	Cumulative Visual effect
Major	The types of development under consideration become a characterising feature of the landscape, where they weren't previously.	The developments seen together would be very prominent or be noticeably discordant or enhancing features, where one or the other(s) alone would not be.
Moderate	No additional descriptors	The developments seen together would be clearly noticeable or be somewhat discordant or enhancing features, where one or the other(s) alone would not be.
Minor	No additional descriptors	The developments seen together would be visible but not particularly noticeable or be slightly discordant or enhancing features, where one or the other(s) alone would be negligible.
Negligible	No additional descriptors	No additional descriptors.

2. VISUALISATION METHODOLOGY

2.1 Overview

2.1.1 Photography and photomontages and photo-wires production has been carried out in accordance with Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals.

2.1.2 They also comply with guidance from NatureScot (Visual Representation of Wind Farms Guidance. Version 2.2 February 2017) and Highland Council (Visualisation Standards for Wind Energy Developments - July 2016).

2.1.3 High quality / resolution photographs were taken from the agreed locations by FTR Visuals. A georeferenced model was constructed to OSGB36.

2.2 Photography

2.2.1 The photography was undertaken over the course of several site visits in 2024, consideration being given to:

- forecast weather conditions;
- shot itinerary based on sun position/time of day;
- access / distance to site / duration of journey to site and required time on site; and
- suitable parking.

Equipment and Set up

2.2.2 The following equipment was used during each site visit:

- full frame camera (Sony A7IV) with a 50 mm 'prime' lens (Sigma 50 mm F1.4 DG DN | Art);
- remote cabled shutter release; and
- tripod with indexed/panoramic head (ARTCISE AS80C 63.8").

2.2.3 In accordance with guidance a 50 mm lens was used in combination with a panoramic tripod head. A series of shots were taken (with the camera in landscape and portrait orientation) to form panoramic photographs for each view location. The on-site procedure was as follows:

- the tripod erected and camera attached;
- the height of the lens' central axis above ground level was set to 1.5 m;
- using a camera phone, shots were taken of the tripod location;
- RAW files captured to avoid loss of dynamic range and image quality;
- enabled highlight warning; and
- 'live view' and zoom function used to fix and verify focus on the site.

Panoramic Shots

2.2.4 A full 360 degrees horizontal field of view was photographed, with a minimum of 50 % overlap between shots. The full panorama ensures sufficient relevant context is captured to allow accurate matching of the 3D model created for visualisation purposes to the photographs.

2.2.5 Vertical field of view was also considered based on height of the proposals and proximity to the site. Where the views were very close to the site, the camera was set in both landscape and portrait orientation.

2.2.6 The tripod was levelled using the tripod mounted level. The panoramic tripod head was adjusted to centre the lens nodal point on the rotational axis of the tripod to avoid parallax.

2.2.7 With the camera centred on the site, 'live view' and x10 magnification was enabled and an appropriate point was identified to focus on.

2.2.8 Once focused, and accounting for conditions, the correct exposure was achieved by adjusting the shutter speed.

2.2.9 The panorama was shot from left to right, through the panorama attempting where possible to avoid cars and any other moving objects.

2.2.10 Shots were previewed to check the quality, focus, highlight warning and histogram for the shots to ensure that a well exposed usable set of photographs had been captured.

Photographic Processing

2.2.11 The RAW files were processed in Adobe Photoshop. Settings were adjusted to achieve the best exposure, contrast sharpening, and noise reduction. They were then stitched to form 360° cylindrical panorama photos using PTGui software.