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Tyrone – Cavan Interconnector

Appendix 9.2: LVIA Addendum Methodology

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Appendix 9.2: Landscape and Visual Methodology

9.1 Introduction

9.1.1 The LVIA addendum adopts current best practice guidance for the assessment of landscape and visual effects – the Landscape Institute and Institute of Environmental Assessment (2013) '*Guidelines for Landscape and Visual Impact Assessment 3rd Edition'* (GLVIA3).

9.1.2 The 2013 Consolidated ES LVIA was based on the Landscape Institute and Institute of Environmental Assessment (2002) 'Guidelines for Landscape and Visual Impact Assessment' 2nd Edition (GLVIA2).

9.1.3 The Landscape Institute released the following guidance ahead of the publication of the third edition of the GLVIA3 in April 2013:

"***GLVIA3 will replace the current [2002] second edition (GLVIA2; the Blue Book). In general terms the approach and methodologies in the new edition are the same. The main difference is that GLVIA3 places greater emphasis on professional judgement and less emphasis on a formulaic approach*** [AECOM emphasis]."

Available at https://www.landscapeinstitute.org/news/landscape-institute-issues-guidance-on-transition-to-glvia3/ (accessed 12.04.19)

9.1.4 In the professional opinion of this assessment's author, GLVIA3 does not significantly change the approach to landscape and visual assessment from the previous edition - GLVIA2. The revised guidelines do present changes to the previous guidelines but it is considered that these changes are points of detail rather than a dramatically different approach to landscape and visual assessment. (The key differences are set out in the following text).

9.1.5 As a consequence, the Consolidated ES LVIA which conducted using GLVIA2 principles and practices that are, in general, aligned with GLVIA3.

9.1.6 As with GLVIA2, the latest GLVIA3 guidance establishes guiding principles and process and is not intended to be prescriptive. It is the responsibility of the professional to ensure that the approach and methodology are robust and appropriate to the task.

9.1.7 In the interests of clarity, the pertinent changes implemented by the current best practice guidance are outlined below.

9.2 GLVIA3

Principles and Approach

9.2.1 GLVIA3 takes account of the European Landscape Convention (ELC). The ELC defines landscape as "*an area, as perceived by people, whose character is the result of the action and interaction of natural and / or human factors*" (p.14). GLVIA3 now clearly defines that 'landscape' should include not only rural landscapes but also seascapes and townscapes.

9.2.2 The emphasis of GLVIA3 is that it is the responsibility of the professional to ensure that the approach and methodology adopted are appropriate "*It is especially important (a) to note the need for proportionality, 'b' to focus on likely significant adverse or positive effects, (c) to focus on what is likely to be important to the competent authorities' decision and (d) to emphasise the importance of the scoping process in helping to achieve all of these"* (Preface, x).

9.2.3 Further, GLVIA3 intends judgements to be presented in a manner that is clear and transparent "*Professional judgement is a very important part of LVIA. While there is some scope for quantitative measurement of some relatively objective matters, for example the number of trees lost to construction of a new mine, much of the assessment must rely on qualitative judgements, for example about what effects the introduction of a new proposed development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative*" (p.21, para 2.23).

9.2.4 The guidance stresses the need for LVIA to adopt *"…a reasonable approach which is proportional to the scale and nature of the proposed development*" (GLVIA3, p 98). It follows that a 'common sense' approach is taken to cumulative landscape and visual assessment (CLVIA) through consultation and negotiation, which should be reasonable and in proportion to the nature of the proposed development. GLVIA3 restates "…*the emphasis in EIA is on* ***likely significant*** [GLVIA3 emphasis] *effects rather than on a comprehensive cataloguing of every conceivable effect that might occur."* (p.121, para 7.5).

Defining Landscape and Visual Effects

9.2.5 GLVIA3 places a greater emphasis on the distinction between landscape effects and visual effects. It acknowledges that there may be links, but it requires the need to demonstrate a clear understanding of the difference. GLVIA3 states that the role of LVIA is to *"...address both effects on landscape as a resource in its own right and effects on views and visual amenity*" (p.19, para 2.18

Terminology

9.2.6 GLVIA3 provides further clarity regarding the use of 'impact' and 'effect': "This guidance generally *distinguishes between the 'impact', defined as the action being taken, and the 'effect', defined as the change resulting from that action, and recommends that the terms should be used consistently in this way*." (p.8, para 1.15)

9.2.7 GLVIA3 introduces the concept of 'Susceptibility to change', defined in the glossary of GLVIA3 as *"The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences" (Glossary, p.158)*.

9.2.8 GLVIA3 changes the definition of 'Sensitivity' as *"A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or proposed development and the value related to that receptor" (Glossary, p.158)*.

Process

9.2.9 GLVIA3 departs from the previous edition when determining the sensitivity of landscape and visual receptors. GLVIA3 requires that sensitivity considers both the receptor value (baseline) and its susceptibility to change of the type proposed (assessment).

9.2.10 GLVIA3 is more explicit in the requirement to consider scale, duration and extent of effect when determining the magnitude of the predicted effect.

9.3 Scope of the assessment

9.3.1 The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Ref. 13.1) requires that a clear distinction is drawn between landscape and visual effects:

- Landscape effects relate to the degree of change to characteristics or physical components of a rural area, which together form the character of that landscape, e.g. topography, land use, vegetation and open space.

- Visual effects relate to the degree of change to an individual receptor or a receptor group's view of that landscape, e.g. local residents, users of public open space, footpaths or motorists passing through the area.

9.3.2 By assessing the construction and operational stages of the Tyrone – Cavan Interconnector separately, distinctions may be drawn between temporary and permanent effects, with permanent effects typically being of greater importance. Residual effects are those likely to arise from the Proposed Development taking into account all additional mitigation measures.

9.4 Impact Assessment Methodology

9.4.1 The following provides details of the process and classification criteria employed in undertaking the landscape and visual assessments. The criteria detailed in Tables 3 to Table 11 are not intended to be prescriptive. Rather these examples are used to illustrate potential combinations of judgements which relate to the scales for value, susceptibility, sensitivity to change, magnitude of change and significance of effect as described subsequently.

Professional Judgement

9.4.2 GLVIA3 places a strong emphasis on the importance of professional judgement in identifying and defining the significance of landscape effects. This LVIA Addendum has been prepared by qualified and experience Landscape Architects and professional judgement has been used in combination with structured methods and criteria to evaluate landscape value, sensitivity, magnitude and significance of effect.

Sensitivity of Landscape Receptors

9.4.3 Landscape receptors are described as components of the landscape that are likely to be affected by the Tyrone – Cavan Interconnector. These can include overall character and key characteristics, individual elements or features and specific aesthetic or perceptual aspects. It is the interaction between the different components of the Tyrone – Cavan Interconnector and these landscape receptors which has potential to result in landscape effects (both adverse and beneficial).

9.4.4 The sensitivity of the landscape receptor is a combination of the value of the landscape (undertaken as part of the baseline study) and the susceptibility to change of the receptor to the specific type of development being assessed.

9.4.5 Landscape value is frequently addressed by reference to international, national, regional and local designations, determined by statutory bodies and planning agencies. Absence of such a designation does not necessarily imply a lack of quality or value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource.

9.4.6 Factors that can help in identifying the value of a landscape include:

- Landscape quality / condition – the measure of the physical state of the landscape including the intactness of the landscape and the condition of individual elements;
- Scenic quality – the extent that the landscape receptor is recognised for its perceptual qualities (e.g. remoteness or tranquillity);
- Perceptual aspects – the extent that the landscape receptor is recognised for its perceptual qualities (e.g. remoteness or tranquillity);
- Rarity – the presence of unusual elements or features;
- Representativeness – the presence of particularly characteristic features;

- Recreation – the extent that recreational activities contribute to the landscape receptor; and
- Association – the extent that cultural or historical associations contribute to the landscape receptor.

9.4.7 The evaluation of landscape value has been undertaken with reference to a three point scale, as outlined in Table 1.

Table 1 Landscape Value Criteria

Classification	Criteria
High	Protected by a statutory landscape designation, a landscape contributing strongly to a sense of place, or an unspoilt landscape containing unique or scarce elements / features with few, if any, detracting elements / features.
Medium	Locally designated landscape or an undesignated landscape with locally important, but more commonplace, features and containing some detracting elements/features.
Low	Undesignated landscape with few, if any, notable elements / features, or containing several detracting elements / features.

9.4.8 The susceptibility to change is a measure of the ability of a landscape 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*" (Ref. 11.1 para 5.40).

9.4.9 Landscape susceptibility has been appraised through consideration of the baseline characteristics of the landscape, and in particular, the scale or complexity of a given landscape. The evaluation of landscape susceptibility has been undertaken with reference to a three point scale, as outlined in Table 2.

Table 2 Landscape Susceptibility Criteria

Classification	Criteria
High	Attributes that contribute to a landscape which is considered to be intolerant of even minor change of the type proposed without fundamentally altering key characteristics.
Medium	Attributes that contribute to a landscape which offers some opportunities to accommodate change of the type proposed without fundamentally altering the key characteristics.
Low	Attributes that contribute to a landscape which is considered to be tolerant of a large degree of change of the type proposed without fundamentally altering the key characteristics.

9.4.10 Landscape sensitivity to change has been determined by employing professional judgement to combine and analyse the identified value and susceptibility and has been defined with reference to the three point scale outlined in Table 3 below.

9.4.11 Combining susceptibility and value GLVIA3 indicates that this can be achieved in a number of ways and needs to include professional judgement. However, 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.

Table 3 Sensitivity of Landscape Receptors

Classification	Criteria
High	Landscape of national or regional value with distinctive elements and characteristics, considered to have a limited ability to absorb the type of change proposed without fundamentally altering the key characteristics.
Medium	Landscape of regional or local value, or rarity, exhibiting some distinct elements / features, considered tolerant of some degree of the type of change proposed without fundamentally altering the key characteristics.
Low	Landscape with few distinctive elements / features or valued characteristics and considered tolerant of a large degree of the type of change proposed without fundamentally altering the key characteristics.

Sensitivity of Visual Receptors

9.4.12 Sensitivity of visual receptors has been defined through appraisal of the viewing expectation, or value placed on the view as identified in the baseline study, and its susceptibility to change.

9.4.13 Value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey or tourist maps and in guidebooks, literature or art. Value can also be indicated by the provision of parking or services and signage and interpretation. The nature and composition of the view is also an indicator. Value of the view has been determined with reference to the three point scale and criteria outlined in Table 4 Value of the View.

Table 4 Value of the View

Classification	Criteria
High	Nationally recognised view, a view with cultural associations (recognised in art, literature, or other medium), or a recognised high quality view of the landscape with very few, if any detracting elements.
Medium	Locally recognised view, or unrecognised but pleasing and well composed view, with few detracting elements.
Low	Typical or poorly composed view, often with numerous detracting elements.

9.4.14 The visual susceptibility criteria are shown in Table 5 below.

Table 5 Visual Susceptibility Criteria

Classification	Criteria
High	Locations where the view is of primary importance and receptors are likely to notice even minor change.
Medium	Locations where the view is important but not necessarily the primary focus and receptors are tolerant of some change.
Low	Locations where the view is incidental or unimportant to receptors and tolerant of a high degree of change.

9.4.15 Visual sensitivity to change has been determined by employing professional judgement to combine and analyse the identified value and susceptibility and has been defined with reference to the three point scale outlined in Table 6 Sensitivity of Visual Receptors below. In combining susceptibility and value 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.

Table 6 Sensitivity of Visual Receptors

Classification	Criteria
High	Locations where receptors experience an impressive or well composed view containing few detracting elements, with limited ability to absorb change.
Medium	Locations where receptors experience a valued view which generally represents a pleasing composition but may include some detracting features and is tolerant of a degree of change.
Low	Locations where the view is incidental or not important to the receptors and the nature of the view is of limited value or poorly composed with numerous detracting features and is tolerant of a large degree of change.

Landscape Magnitude of Change

9.4.16 The magnitude of landscape change refers to the extent to which the Tyrone – Cavan Interconnector would alter the existing characteristics of the landscape. Changes to landscape characteristics can be both direct and indirect.

9.4.17 Magnitude of landscape change refers to the extent to which the Tyrone – Cavan Interconnector would alter the existing characteristics of the landscape. It is an expression of the size or scale of change to the landscape, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;
- The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;
- Whether the change alters the key characteristics of the landscape, which are integral to its distinctive character;
- The geographic area over which the change will be felt (within the application boundary itself, the immediate setting, at the scale of the landscape character area, on a larger scale influencing several landscape character areas); and
- The duration of the change short term, medium term or long term and its reversibility (whether it is permanent, temporary or partially reversible).

9.4.18 Magnitude of landscape change has been evaluated with reference to Table 7 below ranging from higher to lower levels of magnitude described using a four point scale (**high, medium, low, very low**).

Table 7 Magnitude of Landscape Change

Size or Scale of Change	Geographical Extent	Duration	Reversibility
Highly noticeable change, affecting many key characteristics and dominating the experience of the landscape; and introduction of highly incongruous proposed development.	Very extensive affecting several landscape types or character areas.	Long-term (10 years +)	Irreversible
Noticeable change, affecting some key characteristics and the experience of the landscape; and introduction of some uncharacteristic elements.	Affecting a substantial proportion of the landscape character area.	Medium-term (5-10 years)	Partially reversible
Minor change, affecting some characteristics and the experience of the landscape to an extent; and introduction of elements that are not uncharacteristic.	Affecting the immediate setting of the Project Site.	Short-term (0-5 years)	Reversible
Little perceptible change.	Limited to within the Proposed Development application boundary.	Short-term (0-5 years)	Reversible

Visual Magnitude of Change

9.4.19 Visual magnitude of change relates to the extent to which the Tyrone – Cavan Interconnector would alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the Tyrone – Cavan Interconnector;
- The degree of contrast or integration of any new features or changes in the form, scale, composition and focal points of the view;
- The nature of the view of the Tyrone – Cavan Interconnector in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpsed;
- The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the Tyrone – Cavan Interconnector and the extent of the area over which the changes would be visible; and
- The duration of the change short term, medium term or long term and its reversibility (whether it is permanent, temporary or partially reversible).

9.4.20 Visual magnitude of change has been evaluated with reference to Table 8 Magnitude of Visual Change, ranging from higher to lower levels of magnitude described using a four point scale (**high, medium, low, very low**).

Table 8 Magnitude of Visual Change

Size or Scale of Change	Geographical Extent	Duration	Reversibility
Extensive change to the existing view including the loss of existing characteristic features, and/or introduction of new discordant features. A change to an extensive proportion of the view. Views where the proposed development would become the dominant landscape feature or contrast heavily with the current view.	The proposed development is located in the main focus of the view; and or at close range over a large area.	Long-term (10 years +)	Irreversible
The proposed development will result in a change to the view but not fundamentally change its characteristics. Changes that would be immediately visible but not the key feature of the view.	Changes where the proposed development is located obliquely to the main focus of the view; and/or at medium range; and/or over a narrow area.	Medium-term (5-10 years)	Partially reversible
The proposed development would result in a small change to the composition of the view. Changes that would only affect a small portion of the view or introduce new features that were partially screened.	Changes where the proposed development is located on the periphery to the main focus of the view; and/or long range; and/or over a small area.	Short-term (0-5 years)	Reversible
Little perceptible change in the existing view.	Changes where the proposed development is peripheral to the overall view.	Short-term (0-5 years)	Reversible

Significance of Landscape Effect

9.4.21 Determination of the significance of landscape effects has been undertaken by employing professional judgement and experience to combine and analyse the magnitude of change, against the identified sensitivity of the receptor. The assessment takes account of direct and indirect change on existing landscape elements, features and key characteristics and evaluates the extent to which these would be lost or modified, in the context of their importance in determining the existing baseline character.

9.4.22 The levels of landscape effects are described with reference to the four point scale outlined in Table 9 Significance of Landscape Effect, below.

Table 9 Significance of Landscape Effect

Classification	Criteria
Major	Considerable change over an extensive area of a more sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.
Moderate	Small or noticeable change to a more sensitive landscape or more intensive change to a less sensitive landscape, affecting some key characteristics and the overall impression of its character.
Minor	Small change to a limited area of more sensitive landscape or a more widespread area of a less sensitive landscape, affecting few characteristics and not altering the overall impression of its character.
Negligible	Scarcely any perceptible change to the existing landscape.

9.4.23 Following the classification of an effect as detailed in Table 9, a clear statement is made as to whether the effect is 'significant' or 'not significant'. As a general rule, major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

Significance of Visual Effect

9.4.24 Determination of the significance of visual effects has been undertaken by employing professional judgement and experience to combine and analyse the magnitude of change against the sensitivity of the receptor. The assessment takes into account likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure or focus of the existing view.

9.4.25 The levels of visual effects are described with reference to the four point scale outlined in Table 10 below.

Table 10 Significance of Visual Effect

Classification	Criteria
Major	Substantial loss, alteration or replacement of existing components which causes a very noticeable change in the existing view.
Moderate	Whilst some existing characteristic components of the existing view remain, there is a noticeable change in the overall composition.
Minor	The proposed development would be visible in the view but would form a small component and the majority of the view would be unaffected.
Negligible	The proposed development would be scarcely perceptible in the existing view.

9.4.26 Following the classification of an effect as detailed in Table 10 a clear statement is made as to whether the effect is 'significant' or 'not significant'. As a general rule, **Moderate or greater** effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

9.5 Other Relevant Landscape and Visual Guidance

9.5.1 The method employed in the LVIA Addendum accords with other related guidance pertaining to the assessment of landscape and visual effects and the presentation of photography and photomontages, namely:

- Natural England (2014) 'An Approach to Landscape Character Assessment'
- Landscape Institute (2011) 'Advice Note 01/11; Photography and photomontage in landscape and visual impact assessment'

9.6 References

Landscape Institute and Institute of Environmental Assessment and Management. (2013). *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition (GLVIA3).