APPENDIX C1

1 LVA METHODOLOGY

1.1 GUIDANCE

The assessment methodology follows the 'Guidelines for Landscape and Visual Impact Assessment' Third Edition (GLVA3)[1]. As recommended by GLVA3, the process concentrates on principles and process and states (page x) that 'It does not provide a detailed or 'formulaic' recipe that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand'. The methodology that underpins this LVA process has therefore been tailored to be proportionate to the assessment and nature and location of the proposed development. The methodology also considers the following guidance:

- Landscape Institute and Institute of Environmental Management and Assessment 'Guidelines for Landscape and Visual Effect Assessment', 2013 (GLVA3)2;
- An Approach to Landscape Character Assessment (October 2014)3;
- Landscape Institute (17 September 2019) Technical Guidance Note 06/19 Visual Representation of Development Proposals.

1.2 INTRODUCTION

The level of landscape and visual effect is determined through consideration of the 'sensitivity' and 'susceptibility' of the landscape or visual receptor to the proposed development and the 'magnitude of change' that would be brought about by the proposed development were it to be constructed.

The time period for the assessment covers the construction of the proposed development and associated infrastructure, to completion of the works and the commencement of its operation and decommissioning.

The assessment has involved a process of iterative design and re-assessment of any remaining, residual effects that could not otherwise be mitigated or 'designed out'. The type of effect is also considered and may be direct or indirect; temporary or permanent (reversible); and positive, neutral or negative. The landscape and visual appraisal unavoidably involves a combination of both quantitative and qualitative assessment and wherever possible a consensus of professional opinion has been sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach.

1.3 TERMINOLOGY

A description of the definitions, scope and context of the terminoloy used in the LVA process is provided in xxx.

GLVA3 (paragraph 1.15) identifies with regard to impacts, effects and significance that 'Terminology can be complex and potentially confusing in this area, particularly in the use of the words 'impact' and

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

[2] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. (Last accessed 14/05/2020)

[3] An Approach to Landscape Character Assessment (October 2014) (Christine Tudor, Natural England) Countryside Agency and Scottish Natural Heritage (SNH), (2002) Landscape Character Assessment: Guidance for England and Scotland. [Online] Available at landscape-character-assessment.pdf (publishing.service.gov.uk) (Last accessed 13/12/2021)

'effect' in LVIA within EIA and SEA'. In this case, it encourages the consistent use of the terms 'impact and 'effect' but recognises that there may be circumstances where this is not appropriate, for example where other practitioners involved in an EIA are adopting a different convention and states that:

"*This applies to 'appraisals' of landscape and visual impacts outside the formal requirements of EIA as well as those that are part of formal assessment."*

For the purpose of this LVA process, the methodology adopts the consistent use of terms to ensure that the same meaning and ultimate judgements are applied in a transparent way throughout the assessment process. Clarity on the use of terms in this LVA process is set out below:

*1.3.1 **Sensitivity of Receptor***

This judgement is established by considering the concept of value of the landscape receptor combined with the susceptibility of the landscape resource to change. The combination of these two criteria then inform the sensitivity of landscape and visual receptors as set out in Sections 1.5.1 and 1.6.1 below.

For the purpose of this LVA process, a receptor sensitivity is classified on a four-point scale of: negligible, low, medium, and high (refer to Tables A1.4 and A1.9).

*1.3.2 **Resource / Receptor Value***

For the concept of value of the landscape receptor, this is related to the range of factors and indicators that are attached to different landscapes by society. This list of factors is not fixed as the criteria need to be appropriate to each designation process..

In terms of visual receptors, this could for example relate to recreation and enjoyment and to the recognition attached to a particular view by visitors (through appearances in guidebooks or on tourist maps and the provision of facilities such as car parking and interpretation).

In terms of landscape receptors, this could for example relate to local distinctiveness and sense of place where the landscape may be designated for it's cultural associations.

For the purpose of this LVA process, a receptor value is classified on a four-point scale of: negligible, low, medium, and high (refer to Tables A1.1, A1.2 and A1.8).

*1.3.3 **Susceptibility to Change***

For the susceptibility to change, this should not be recorded as part of the baseline situation, but should be considered as part of the assessment of effects and tailored to the project.

In terms of landscape receptors, this means the ability to accommodate a proposed development without undue consequences for the maintenance of the baseline situation and/or achievement of landscape planning policies and strategies

In terms of visual receptors, this is a product of the occupation or activity of people experiencing the view and the extent to which their attention or interest may therefore be focused on the views and visual amenity they experience.

For the purpose of this LVA process, susceptibility to change is classified on a three-point scale of: low, medium, and high (refer to Tables A1.3 and A1.7).

*1.3.4 **Magnitude of Change***

For magnitude of change,this is gauged by assessing the type and amount of change predicted to occur in relation to the landscape or visual receptor. Factors influencing the magnitude of change include: size or scale; geographical extent; and duration and reversibility of effect as set out in Sections 1.5.2 and 1.6.2 below.

For the purpose of this LVA process, the magnitude of change is classified on a five-point scale of: no change, negligible, small, medium, and large (refer to Tables A1.6 and A1.10)

Where there is no change to the receptor, or indeed no view of the proposed development, the magnitude of change is assessed as **No Change** which would result in **No Effects.**

*1.3.5 **Level of Effects***

For the level of landscape and visual effects, these are gauged by considering the magnitude of change along with the sensitivity of the receptor using professional judgement.

For the purpose of this LVA process, the level of effects are classified on a six-point scale of: negligible, minor, minor to moderate, moderate, moderate to major and major (Tables A1.15 and A1.16).

In line with best practice guidance set out in GLVA3 (paragraph 1.17), in addition to assessing level, effects are classified as: beneficial, adverse or neutral, as well as direct and indirect. An effect is understood to be neutral when the predicted residual change would, on balance, result in neither an improvement, nor a deterioration of the landscape and visual resource compared with the existing situation.

1.4 BASELINE CONDITIONS

The landscape and visual baseline conditions of the assessment was established by undertaking a detailed desk study, fieldwork, and analysis of findings to create a detailed understanding of the existing landscape and visual context of both the site and surrounding landscape within the proposed study area.

Establishing the landscape baseline included gathering data on the landscape character and how this varies through the proposed study area; together with its geographic extent; and how it is experienced and valued. The desk-based assessment began with a review of legislation, policy and guidance including published landscape and townscape character assessments of the area and its wider context. This developed an understanding of the wider baseline environment within which the 1 km radius study area is located.

The visual baseline established the areas from where the new components of the proposed development would be seen, who would see them, the places where those who would see them would be affected and the nature of views and visual amenity.

Together the established baseline provides an understanding of the components of the landscape and visual resource that may be affected by the proposed development, which includes the identification of key landscape receptors and viewpoints which represent the existing situation. The baseline for this LVA process is of sufficient detail to enable a well-informed assessment of the likely landscape & visual effects on the baseline conditions of the Scheme.

The desk-based assessment has involved the following key activities:

- Familiarisation with the landscape and visual resources of the area within which the proposed development would be located;
- Identification of landscape and visual resources likely to be significantly affected by the proposed development;
- Preparation of Zone of Theoretical Visibility (ZTV) maps;
- Identification of the location of viewpoints, informed by the ZTV, that were used to inform the assessment of effects of both landscape and visual resources; and
- Identification of suitable study areas for the LVA.

Viewpoints identified through consultation and during desk studies were ground-truthed through fieldwork and their positions fixed prior to photography being undertaken. Landscape character types (LCTs) were reviewed during fieldwork and the descriptions contained in the published landscape character assessment were augmented where necessary. Landscape and visual receptors were also assessed to ensure they are accurately represented through desk-based assessment.

1.5 ASSESSMENT OF LANDSCAPE EFFECTS

In accordance with GLVA3 (paragraph 2.21), the assessment of landscape and visual effects are separate but linked procedures; the landscape is assessed as an environmental resource in its own right, whereas visual effects are assessed on views and visual amenity experienced by people.

Landscape effects are concerned wholly with the effects of a development on the character of the landscape, the individual elements, the aesthetic and perceptual aspects and the condition of the landscape and are defined by GLVA3 (paragraph 5.34), as follows:

- *"The first step is to identify the components of the landscape that are likely to be affected by the scheme, often referred to as the **landscape receptors**, such as overall character and key characteristics, individual elements or features, and specific aesthetic or perceptual aspects.*
- *The second step is to identify interactions between these landscape receptors and the different components of the development at all different stages, including construction, operation and, where relevant, decommissioning and restoration/reinstatement."*

For the purpose of this LVA process, both landscape and visual effects have been assessed at construction stage, and during operation and decommissioning of the proposed development.

*1.5.1 **Landscape Sensitivity***

As noted above, the sensitivity of landscape receptors is assessed through consideration of their value and susceptibility to change. The process for determining landscape sensitivity is set out below.

Landscape Value

For landscape receptors, value concerns the importance of the landscape resource as evidenced by the presence of landscape designations and professional judgement. Susceptibility is concerned with the landscapes ability to absorb change brought about by the proposed development.

Table A1.1 below illustrates how the value has been determined.

Table A1.1: Landscape Receptor Value

Value	Recognition	Features / Quality	Condition
High	Typically, a landscape / feature of international or national recognition e.g. World Heritage Sites, National Parks, Scheduled Monuments and Grade I and II* Listed Buildings, Registered Parks and Gardens	A strong sense of place with landscape / features worthy of conservation; Absence of detracting features.	A very high-quality landscape / feature; attractive landscape / feature; exceptional
Medium	Regional recognition e.g. Conservation Areas; Grade II Listed Buildings, Registered Parks and Gardens	A number of distinguishing features worthy of conservation; evidence of some degradation and occasional detracting features.	Ordinary to good quality landscape / feature with some potential for substitution; a reasonably attractive landscape / feature.
Low	Undesignated, but locally valued landscape / features	Few landscape features worthy of conservation; evidence of degradation with some detracting features.	Ordinary landscape / feature with high potential for substitution; quality that is fairly commonplace.
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

The European Landscape Convention[4] promotes the need to take account of all landscapes, with less emphasis on the special and more recognition that ordinary landscapes, such as community landscapes also have their own value.

[4] The European Landscape Convention for the UK. Available on line at https://www.gov.uk/government/publications/european-landscape-convention-guidelines-for-managing-landscapes

Table A1.2 below illustrates the criteria used to assess undesignated (community value) landscapes as set within GLVA3[5] (Box 5.1).

Table A1.2: Factors for Assessing the Value of Undesignated Landscapes

Factor	Criteria
Landscape quality (condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Scenic quality	The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses).
Rarity	The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
Representativeness	Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
Conservation interests	The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.
Recreation value	Evidence that the landscape is valued for recreational activity where experience of the landscape is important.
Perceptual aspects	A landscape may be valued for its perceptual qualities, notably wildness and/or tranquility.
Associations	Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.

Susceptibility of the Landscape Receptors to Change

This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies[6].

Table A1.3 below illustrates how susceptibility of landscape receptors to change has been assessed.

Table A1.3: Landscape Receptor Susceptibility to Change

Susceptibility	Criteria
High	The landscape receptor is highly susceptible to the proposed development, and a low ability to accommodate the specific proposed change, because the key characteristics of the landscape have no or very limited ability to accommodate the specific proposed change without undue adverse effects taking account of the existing character and quality of the landscape, and/or achievement of relevant planning policies and strategies.
Medium	The landscape receptor is moderately susceptible to the proposed development, and a moderate ability to accommodate the specific proposed change, because the

[5] Landscape Institute Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Box 5.1, Page 84.
[6] Landscape Institute Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Paragraph 5.40, Page 88.

Susceptibility	Criteria
	relevant characteristics of the landscape have some ability to accommodate it without undue adverse effects, taking account of the existing character and quality of the landscape, and/or achievement of relevant planning policies and strategies.
Low	The landscape receptor has low susceptibility to the proposed development, and a high ability to accommodate the specific proposed change, because the relevant characteristics of the landscape are generally able to accommodate it with little, or no, undue consequences for the maintenance of the baseline situation, taking account of the existing character and quality of the landscape.
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 and strategies.

Landscape Sensitivity

GLVA3 (paragraph 5.5) indicates that combining susceptibility and value 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 resulting in the lowest level of sensitivity. It should be noted that the levels are indicative and in practice there is not a clear distinction between criteria levels.

Table A1.4 below provides a summary of the likely characteristics of the differing levels of sensitivity.

Table A1.4: Landscape Sensitivity Criteria

Landscape Resource Sensitivity	Characteristics
High	Landscape character, characteristics, and elements where, through consideration of the landscape resource and characteristics, there would generally be a lower landscape capacity or scope for landscape change or positive enhancement, and higher landscape value and quality. Often includes landscapes which are highly valued for their scenic quality, including most statutorily (nationally / internationally designated landscapes). Elements/features that could for example be described as unique or are nationally scarce. Mature vegetation with provenance such as ancient woodland or mature parkland trees, and/or 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 for example not be replaced other than in the long term.
Medium	Landscape character, characteristics, and elements where, through consideration of the landscape resource and characteristics, there would be a medium landscape capacity or some scope for landscape change. Often includes landscapes of medium landscape value and quality which may be locally designated.

Landscape Resource Sensitivity	Characteristics
	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.
Low	Landscape character, characteristics and elements where, through consideration of the landscape resource and characteristics, there would be higher landscape capacity or scope for landscape change or positive enhancement. Damaged or substantially modified landscapes with few characteristic features of value. Capable of absorbing major change, and landscape elements/features that might be considered to detract from landscape character such as obtrusive man-made features (e.g. power lines, large scale developments, etc.).
Negligible	Landscape character, characteristics and elements where there is a high landscape capacity or a planned desire for landscape change. Usually applies to landscapes with a lower landscape susceptibility or higher landscape capacity for the proposed development. May also apply to derelict landscapes, spoil heaps, and de-graded urban fringe areas that require restoration or re- development / re-planting. 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, and/or 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.

*1.5.2 **Magnitude of Landscape Change***

The determination of the magnitude of landscape change combines an assessment of the size or scale of change likely to be experienced as a result of each effect[7], the geographical extent of the area likely to be influenced and the duration and reversibility of effects.

[7] Guidelines for Landscape and Visual Impact Assessment (page 90)

Size or Scale

Judgements are needed about the size or scale of change in the landscape that is likely to be experienced as a result of each effect. GLVA3 (paragraph 5.49), states that 'The judgements should, for example, take account of:

- The extent of the 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 – in some cases this may be quantified;
- The degree to which aesthetic and perceptual aspects of the landscape are altered either for example, removal of existing components of the landscape or by addition of new ones – for example, removal of hedges may change a small scale, intimate landscape into a large-scale, open one, or introduction of new buildings or tall structures may alter open skylines;
- Whether the effects change the key characteristics of the landscape, which are critical to its distinctive character.'

Geographical Extent

The geographical area over which the landscape change would be felt is also considered. This is dependent upon the nature of the proposal and the scale of effects upon the receiving landscape / landscape; however GLVA3 (paragraph 5.5), notes that, in general effects may have an influence at varying scales and states that 'this will vary according to the nature of the project and may not always be relevant on every occasion:

- at the site level, within the proposed development site itself;
- at the level of the **immediate setting** of the site;
- at the scale of the **landscape type** or **character area** within which the proposal lies;
- on a larger scale, influencing several landscape types or character areas.'

Duration and Reversibility of the Landscape Effects

GLVA3 (paragraph 5.51), notes that duration and reversibility are separate but linked considerations. Duration can usually be simply judged on a scale such as:

- Short-term: 0-5 years;
- Medium-term: 5-10 years; and
- Long-term: 10-40 years.

For the purpose of this LVA process, this proposed development has been assessed as a long term duration.

Reversibility is a judgement about whether or not a development can be removed, and once removed can the landscape be reinstated and/ orfully restored.

Table A1.5 below indicates the type of land use and the respective assessment of reversibility defined by GLVA3 (paragraph 5.2).

Table A1.5 Magnitude of Landscape Change: Reversibility

Category	Description
Permanent	Permanent, is irreversible change to the landscape, such as housing development, as it not possible to remove the development and restore the land to the original state.

Category	Description
Partially Reversible	Partially Reversible, change to the landscape, where the landscape can be restored to something similar to the landscape that was removed. For example, mineral developments, as it is possible to restore the land to something similar to the original state, but not the same state.
Reversible	Reversible, change to the landscape where the landscape can be fully restored. For example, a marine fish farm development, as it is possible to wholly remove the remove the development and to restore the landscape to the original state. This also includes construction activities which are of temporary nature.

Overall Magnitude of Landscape Change

The overall magnitude of landscape change combines size and scale, geographical extent and duration and reversibility. Not all aspects of a criterion need to be met for an evaluation to be given.

Table A1.6 below sets out the criteria used to assess the overall magnitude of landscape change.

Table A1.6: The Assessment of Overall Magnitude of Landscape Change

Category	Description
Large	A large extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is considerable and the resultant change to the landscape character resulting from such a loss is large. Large scale alteration of the aesthetic and perceptual aspects of the landscape such as the removal of existing components of the landscape or by addition of new ones – for example, removal of hedges may change a small scale, intimate landscape into a large-scale, open one, or introduction of new buildings or tall structures may alter open skylines. The effects change the key characteristics of the landscape, which are critical to its distinctive character. The change would affect all of the landscape receptors being assessed, as the proposed development would occupy a large geographical extent, e.g., the change would be on a large scale, influencing several landscape types or character areas. The effects are either of a long duration, permanent, or irreversible /reversible change to the landscape.
Medium	A medium extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is medium and the resultant change to the landscape character resulting from such a loss is medium. Medium scale alteration of the aesthetic and perceptual aspects of the landscape such as the, removal of existing components of the landscape or by addition of new ones. The effects change some of the key characteristics of the landscape & landscape, which are critical to its distinctive character. The change would affect a medium extent of the landscape receptors being assessed, as the proposed development would occupy a moderate geographical extent, e.g., at the scale of the landscape type or character area within which the proposal lies. The effects are either of a long / or medium duration, permanent, or irreversible /reversible change to the landscape.

Category	Description
Small	A small extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is low and the resultant change to the landscape character resulting from such a loss is low. Small scale alteration of the aesthetic and perceptual aspects of the landscape such as the, removal of existing components of the landscape or by addition of new ones. The effects change a small number of the key characteristics of the landscape & landscape, which are critical to its distinctive character. The change would affect a small part of the landscape receptors being assessed, as the proposed development would occupy a small geographical extent, e.g., at the level of the immediate setting of the site. The effects are either of a Medium / or short duration and reversible change to the landscape.
Negligible	A barely perceptible extent of landscape features and elements of importance to the character of the baseline are lost / adjusted. There is a barely discernible change to aesthetic and / or perceptual attributes of landscape & landscape character and such changes occurs across a very limited geographical area and / or proportion of the landscape receptor. The effects change a barely discernible number of the key characteristics of the landscape, which are critical to its distinctive character. The change would affect only a negligible part of the landscape receptors being assessed, as the proposed development would occupy a limited geographical extent, e.g., the site level, within the proposed development site itself. The effects are of short duration and reversible.
No Change	The proposals would not affect any of the landscape receptors being assessed

1.6 ASSESSMENT OF VISUAL EFFECTS

Visual effects are concerned wholly with the effect of a development on views, and the general visual amenity and are defined by the Landscape Institute in GLVA 3 (paragraphs 6.1), as follows:

"An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity. The concern ... is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views."

Visual effects are identified for different receptors (people) who will experience the view at their places of residence, during recreational activities, at work, or when travelling through the area. The visual effects may include the following:

- Visual effect: a change to an existing static view, sequential views, or wider visual amenity as a result of a development or the loss of particular landscape elements or features already present in the view.

The visual assessment for this LVA process aims to determine from which points the proposed development can be seen in the surrounding landscape; this is known as the visual envelope. Once determined, a series of representative, specific and illustrative viewpoints were chosen (i.e. areas within the visual envelope from where it may be possible to see the proposed development from

publicly accessible viewpoints), such as residential areas, public open spaces, PRoW / public footpaths and roads.

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

- The direct effects of the proposed development on the content and character of views through the intrusion or obstruction and/or the change or loss of existing elements.
- The overall effect on visual amenity, be it degradation or enhancement.

In predicting the effects of the proposed development on the visual receptors from the viewpoints being assessed, GLVA3 (para 6.27), states that it is helpful to consider (but not restricted to) the following issues:

- 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.

Additionally, the seasonal effects of vegetation are to be considered, in particular the varying degree of screening and filtering of views.

People have different responses to views which are dependent upon context such as the:

- Location;
- Time of day;
- Season; and
- Degree of exposure to views.

Responses to views are also dependent upon the purpose of people being in a particular place such as:

- Recreation;
- Residence;
- Employment; and
- Passing through on roads, rail or other forms of transport.

As people move through the landscape, certain activities or locations may be specifically associated with the experience and enjoyment of the landscape, such as:

- The use of paths such as core paths, footpaths, bridleways, byways open to all traffic (BOATs) and National Trails;
- National or local cycle routes; and
- Tourist or scenic routes, and associated viewpoints on land or water.

*1.6.1 **Evaluating Visual Susceptibility to Change***

To determine visual effects both the sensitivity of the visual receptor and the magnitude of change must be considered. Determining visual sensitivity is the combination of susceptibility to change and value of a view. It is considered that a combination of high susceptibility to change and high value is likely to result in the highest sensitivity, whereas a low susceptibility and value is likely to result in the lowest level. The value, susceptibility to change and resultant sensitivity of a visual receptor are broadly categorised based on Tables A1.7 and A1.8 below. It should be noted that the levels are indicative and in practice there is not a clear distinction between criteria levels.

The susceptibility of visual receptors to changes in the view and visual amenity is related to activity they are engaged in and the extent to which their attention is focussed on the views and visual amenity at that location. As such those receptors most sensitive to change are likely to include people engaged in outdoor activities where an appreciation of the landscape is the focus or residents in areas where the landscape setting contributes to the setting of the properties.

Conversely, those considered least sensitive to change include (but are not restricted to) people engaged in outdoor sports or recreation where there is no focus on the surrounding landscape/views and people at their place of work where the focus is on the work activity.

Susceptibility of Visual Receptors to Change

The susceptibility of visual receptors to changes in views depends upon:

- The occupation or activity of people experiencing the view at particular locations; and
- The extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations.8

Table A1.7 below summarises the criteria used to assess the susceptibility of a visual receptor to change.

Table A1.7 Visual Receptor Susceptibility to Change

Susceptibility	Type of Receptor
High	Residents at home. Views from well used public rights of way including strategic footpaths / long distance trails and cycle routes (where the attractive nature of the countryside is a significant factor in the enjoyment of the walk). Visitors along scenic routes and to recognized viewpoints. Visitors to protected landscapes or heritage assets where views of the surroundings are an important contributor to the experience. The location, numbers, frequency of use and visual context of the viewpoint would be high. Communities where views contribute to the landscape setting enjoyed by residents in the area. Travellers on road, rail or other transport routes along scenic routes, where the appreciation of the view contributes to the enjoyment and quality of the journey.
Medium	Views experienced from boats, public rights of way / footpaths used locally and passing through the landscape and well used footpaths within settlements.

[8] Ibid. 1. Paragraph 6.32

	Views from places of worship and associated grounds, schools, country parks and golf clubs. Views experienced by users of local roads where there are clear / open views across the landscape and low levels of traffic. The location, numbers, frequency of use and visual context of the viewpoint would be medium.
Low	Views experienced from places of work where workers and visitors are concentrating on their day to day activities. Views experienced by on near to motorways, major roads Views experienced by users of the rail network and main roads travelling at speed or local roads where the focus is upon the road ahead owing to traffic conditions and the context / composition of the view. Views experienced from less well used public rights of way which pass through less attractive landscapes or townscapes and are not used for enjoyment of the scenery. Views experienced by those playing or spectating at outdoor sports or utilising outdoor sports facilities. The location, numbers, frequency of use and visual context of the viewpoint would be low.

In making judgements about the value of each view, the assessment should take into account the following:

- Recognition of the value to a particular view, e.g. in relation to heritage assets or planning designations; and
- Indicators of the value attached to views by others, e.g., in guide books, tourist maps, literary references, painting etc.

The value attached to views should be made on judgements based on the following:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations; and
- Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art.

Table A1.8 below summarises the criteria used to assess the value attached to views.

Table A1.8 Value Attached to Views

Value	Criteria
High	Views from and within landscapes / viewpoints of national importance (National Parks, AONBs), highly popular visitor attractions where the view forms an important part of the experience, or heritage assets, or through planning designations such as conservation areas, listed buildings, Registered Parks & Gardens or with important cultural associations, or where the view is deemed by the assessor to be of a high value.
Medium	Views from landscapes / viewpoints of regional/district importance,

Value	Criteria
	or visitor attractions at regional or local levels where the view forms part of the experience, or local planning designations, or with local cultural associations, or where the view is deemed by the assessor to be of a medium value.
Low	Views from landscapes / viewpoints with no designations, and not particularly popular as a viewpoint, and unlikely to be visited specifically to experience the view available with minimal or no cultural associations, or where the view is deemed by the assessor to be of a low value.

Sensitivity of Visual Receptors

The sensitivity of visual receptors is defined in terms of the relationship between the value of views and the susceptibility of the different viewers to the proposed change. Professional judgements are made on the merit of the view based on the visual receptor and it should be noted that the levels are indicative and in practice there is not a clear distinction between criteria levels.

Table A1.9 below summarises the likely characteristics of the differing levels of sensitivity.

Table A1.9 Visual Sensitivity Criteria

Visual Resource Sensitivity	Characteristics
High	A well balanced view containing attractive features and notable for its scenic quality. A view which is an important reason for receptors being there. A view which is experienced by a large number of people and/ or recognized for its qualities. A view with a medium – high susceptibility to change, and experienced by visual receptors of a high sensitivity.
Medium	An otherwise attractive view that includes some attractive or discordant features or visual detractors. A view which plays a small part in the reason why a receptor would be there. A view which is locally recognized. A view with a low - medium susceptibility to change, and experienced by visual receptors of a low - medium sensitivity.
Low	A view that is unattractive, discordant and/or contains many visual detractors. A view which is unlikely to be part of the receptor's experience. A view with a low susceptibility to change, and a low sensitivity.
Negligible	A view that may apply to derelict landscapes, spoil heaps, and de-graded urban fringe areas that require restoration or re- development / re-planting.

Visual Resource Sensitivity	Characteristics
	A view which is likely to include areas that are relatively bland or neutral in character with few/no notable features. A view of a landscape that includes areas of alteration/degradation or erosion of features, and/or landscape elements/features that are common place or make little contribution to local distinctiveness. A view with opportunities for the restoration of landscape through mitigation measures associated with the proposal. A view with a very low susceptibility to change, and a very low sensivity.

*1.6.2 **Magnitude of Visual Change***

The magnitude of change to visual receptors is assessed in terms of the following:

- 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 proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture; and
- The nature of the view of the proposed development, in terms of the relative amount of time over which it would be experienced and whether views would be full, partial or glimpses.

Not all aspects of a criterion need to be met for an evaluation to be given.

Geographical Extent

The geographical extent of the visual change identified at viewpoints is assessed by reference to a combination of the ZTV and field work. The following factors are considered:

The geographical extent of a visual effect reflects:

- The angle of view in relation to the main activity of the receptor;
- The distance of the viewpoint from the proposed development; and
- The extent of the area over which the changes would be visible.

Duration and Reversibility of Visual Change

The following terminology, which considers whether views would be permanent and irreversible or temporary and reversible, is used to describe the duration of the visual change at representative, specific and illustrative viewpoints:

- Short-term: 0-5 years;
- Medium-term: 5-10 years; and
- Long-term: 10 to 40 years.

For the purpose of this LVA process, the proposed development has been assessed as a long term duration.

Reversibility is a judgement about whether or not a development can be removed, and once removed can the view be fully restored.

Overall Magnitude of Visual Change

Table A1.10 below sets out the criteria used to assess the overall magnitude of visual change.

Table A1.10 The Assessment of Overall Magnitude of Visual Change

Magnitude evaluation	Size orScale	Geographical Extent	Duration and Reversibility
Large	Occupies an extensive proportion of the view and may even obstruct a significant portion of the view. Views may become the dominant feature. Considerable change to the majority / many existing	Ranging from notable change over extensive area to intensive change	Long term; permanent / non- reversible or partially reversible.

Magnitude evaluation	Size orScale	Geographical Extent	Duration and Reversibility
	landscape elements and/or landscape character; fundamental changes the surroundings and baseline to a large extent; very noticeable	over a more limited area.	
Medium	Occupies much of the view but would not fundamentally change its characteristics. Changes would be immediately visible but not a key feature of the view. Some change to existing landscape elements and /or landscape character; discernible 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.
Small	Occupies a small portion of the view and therefore would not result in a change to the view's composition. 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	Occupies a small portion of the view and therefore would not result in a change to the view's composition. 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.
No Change	There are no changes to the existing view.		

1.7 NATURE OF EFFECTS

The nature of an effect is also assessed. This is dependent on a number of criteria which vary between effects upon the landscape/landscape and effects on visual amenity. Effects are classified as beneficial, neutral or adverse according to the following definitions:

- **Beneficial** effects contribute to the landscape and visual resource through the enhancement of desirable characteristics or the introduction of new, positive attributes. The removal of undesirable existing elements or characteristics can also be beneficial, as can their replacement with more appropriate components;
- **Neutral** effects occur where a development neither contributes to nor detracts from the landscape and visual resource or where the effects are so limited that the change is hardly

noticeable. A change to the landscape and visual resource is not considered to be adverse simply because it constitutes an alteration to the existing situation; and

- **Adverse** effects are those that detract from or weaken the landscape and visual resource through the introduction of elements that contrast in a detrimental way with the existing characteristics of the landscape and visual resource, or through the removal of elements that are key in its positive characterisation.

For the purpose of this LVA, the process describes the overall effects on receptors and explains the justification for each assessment. For each assessed effect, a conclusion has been drawn on whether the effect is beneficial, neutral or adverse.

1.8 LEVEL OF EFFECT AND CRITERIA

For the purpose of this LVA, the level of landscape and visual effect has been assessed based on the sensitivity of the affected resource / receptor, and the magnitude of change caused by the proposed development, as set out for each above in the preceding tables. Note that effects can be either positive or negative, and in some cases, neutral (neither positive, nor negative).

Table A1.11 below shows how the combined factors of sensitivity and magnitude are used to determine the level of effect.

Table A1.11 - Matrix for Determining Level of Effect

		Sensitivity (value / importance)			
		High	**Medium**	**Low**	**Negligible**
Magnitude of change	**Large**	Major	Moderate – Major	Minor – Moderate	Negligible
	Medium	Moderate – Major	Moderate	Minor	Negligible
	Small	Minor – Moderate	Minor	Negligible – Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

It should be noted that the above matrix is intended as a framework for assessment only and that the level of effect will vary depending on the circumstances, the type and scale of a development, the baseline context and other factors. The gradations of magnitude of change and level of effect used in the assessment represent a continuum; the assessor has used professional judgement when gauging the level of effect. Note that while the LVA process may assess a major level of visual or landscape effects at a localised level, these would not be significant in terms of the EIA Regulations.

Table A1.12 below summarises the categories of landscape and visual effects.

Table A1.12 - Categories of Landscape and Visual Effects

Level of Effects	**Description of Landscape Effects**	**Description of Visual Effects**
Major	Considerable change over an extensive area of a highly sensitive landscape, fundamentally affecting the key	The proposed development would become a prominent feature and would result in a very noticeable change to an existing highly sensitive and well composed view.

Level of Effects	Description of Landscape Effects	Description of Visual Effects
	characteristics and the overall impression of its character.	
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 proposed development would introduce some enhancing or detracting features to an existing highly sensitive and well composed view, or would be prominent within a less well composed and less sensitivity view, resulting in 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.	Where the proposed development would form a perceptible but not enhancing or detracting feature within a view of high or medium sensitivity or would be a more prominent feature within a poorly composed view of low sensitivity, resulting in 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.
No Effect	The proposed development would not affect the landscape receptor.	The proposed development would not affect the view

1.9 ASSESSMENT OF CUMULATIVE EFFECTS

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 (ranging from high to negligible) and the magnitude of change (ranging from high to no change).

Types of cumulative effect are defined as follows:

- Cumulative Landscape Effects: Where more than one type of development may have an effect on a landscape designation or particular area of landscape character.
- Cumulative Visual Effects: Where the cumulative or incremental visibility of similar types of
- Development combined generate a cumulative visual effect.

These can be further defined as follows:

- Simultaneous or combined: where two or more developments may be viewed from a single fixed viewpoint simultaneously, within the viewer's field of view and without requiring them to turn their head.

- Successive or repetitive: where two or more developments may be viewed from a single viewpoint successively as the viewer turns their head or swivels through 360°.
- Sequential: where a number of developments may be viewed sequentially or repeatedly at increased frequency, from a range of locations when travelling along a route within the study area.

A cumulative landscape or visual effect simply means that more than one type of development is present or visible within the landscape. Other forms of existing development and land use such as woodland and forestry, patterns of agriculture, built form, and settlements already have a cumulative effect on the existing landscape that is already accepted or taken for granted. These features often contribute strongly to the existing character, forming a positive component of the local landscape. Landscapes however, will have a finite capacity for new development, beyond which further change or alteration to the existing landscape character may be unacceptable in landscape terms.

Whilst this LVA process considers other development, it should not be considered as a substitute for an independent LVA assessment in respect of each of the other developments concerned.

The methodology for cumulative assessment follows that contained within GLVA3. GVLA3 (paragraph 7.8) notes that 'Of greater importance for LVIA are the cumulative landscape and visual effects that may result from an individual project that is being assessed interacting with the effects of other proposed developments in the area' and therefore requires that the baseline includes additional changes to the baseline landscapes or visual resources as a result of other development.

Existing similar types of developments are therefore included within the baseline description, and cumulative effects of consented and proposed development are considered separately.

*1.9.1 **Magnitude of Cumulative Change***

Cumulative landscape and visual effects may result from additional changes to the baseline landscape or visual resources, as a result of adevelopment, in conjunction with other developments.

The principle of magnitude of cumulative change thus makes it possible for a development to have a major effect on a particular receptor, while having only a minor cumulative effect in conjunction with other existing developments.

For the purpose of this LVA process, the cumulative landscape and visual magnitude of change is determined with reference to the criteria set out above and the following considerations:

- The number of visible existing and/or potentially visible proposed developments.
- The distance to existing and/or proposed developments.

*1.9.2 **Level of Cumulative Effects***

Cumulative landscape and visual effects may result from additional changes to the baseline landscape or visual resources, as a result of a development, in conjunction with other developments.

The principle of magnitude of cumulative change thus makes it possible for a development to have a major effect on a particular receptor, while having only a minor cumulative effect in conjunction with other existing developments.

For the purpose of this LVA process, the cumulative landscape and visual magnitude of change is determined with reference to the criteria set out above and the following considerations:

- The number of visible existing and/or potentially visible proposed developments; and
- The distance to existing and/or proposed developments.

APPENDIX C2

2 VISUAL ASSESSMENT OF RESIDENTIAL PROPERTIES METHODOLOGY

Planning law contains a widely understood principle that individuals (i.e. visual receptors at a single residential property) have no 'right to a view' and that the outlook or view from a private property is a private interest and not therefore protected by the UK planning system.

However, the UK planning system also recognises situations where the effects on residential visual amenity are considered as a matter of public interest. This matter has been examined at a number of public inquiries where the key determining issue was not the identification of significant effects on views, but whether a development would have an overbearing effect and/or result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live.

As a consequence the visual assessment methodology provides for a much more detailed assessment of the closest residential properties. This allows the assessor, and consequently the determining authority, to make a judgement as to whether the residents at these properties would be likely to sustain unsatisfactory living conditions which it would not be in the public interest to create. Reviews of decisions demonstrate that significant changes to the views available from a residential property, and its curtilage, are not the decisive consideration.

By way of further clarification, the methodology for assessing the visual effects on views from residential properties allows for two stages of assessment as follows:

- The first stage is to identify those properties where a significant visual effect on a view from the property is likely to occur.
- The second stage is to consider the residential amenity and whether, in terms of the wider public interest, the visual effects would result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live.

A residential property, for the purpose of environmental impact assessment, should be one that was designed and built/converted for that purpose and currently (at the time of the assessment) remains in a habitable condition, of a safe construction, wind and water tight with appropriate vehicle access, and services (drinking water, sanitation, and power supply). Related buildings such as barns/outbuildings, garage, huts and derelict properties should generally be excluded from the assessment, unless they form part of the curtilage of an existing residence.

The sensitivity of individual residential receptors is assessed as high in each case.

The assessment of residential properties or groups of residential properties in this case has been limited to those properties within 1 km of the proposed convertor station, which appear on the Ordnance Survey 1:25,000 scale map. Whilst most of the properties can be viewed at close range from public roads and footpaths, some of these properties are accessed via private or gated roads and due to these access limitations, they have been assessed from the nearest public road or footpath which may be at greater distance from the property. The assessment, in this instance, should therefore be regarded as a 'best estimate' of the likely visual effects.

The assessment has been further supported by aerial and ground level photography as well as map based data. The assessment takes account of the likely views from the ground floors of properties and main garden areas, but excludes upper floors and other land that may be connected with the property.

Relevant information considered as part of the assessment for this LVA process may include, but is not limited to the following:

- Scale of the proposed development:
    - Number and height of the proposed development;
    - The horizontal extent or AOV of the visible array; and
    - Separation distance (closest and furthest buildings).
- Description of the property, as far as this can be ascertained:
    - Orientation and size of property and whether views from the property towards the proposed development would be direct or oblique;
    - Location of principle rooms and main living areas such as living/dining rooms, kitchens and conservatories, as opposed to working areas such as farm buildings and utility areas;
    - Location of principle garden areas which may include patios and seating areas as opposed to less well used areas such as paddocks or garages; and
    - The effects of any screening by landform, vegetation or nearby built form.
- Location and Context:
    - The aspect of the property in terms of the overall use and relationship to the garden areas and surrounding landscape;
    - The principle direction of main views and visual amenity; and
    - The context and nature of any intervening structures e.g. other existing development, farm buildings or forestry.

APPENDIX C3

3 VIEWPOINT ANALYSIS AND VISUALISATIONS METHODOLOGY

Viewpoint analysis is used to assist this LVA process and is conducted from selected viewpoints within the proposed study area. The purpose of this analysis is to assess both the level of visual impact for particular receptors,to help guide the design process and to focus the landscape and visual assessment.

For the purpose of this LVA process, a range of viewpoints were examined in detail and analysed to determine whether a significant visual effect would occur. By arranging the viewpoint location in order of distance it was possible to define a threshold or outer limit beyond which there would be no further significant effects.

The process involved visiting the viewpoint location, since GLVA (paragraph 8.15) acknowledges 'Photographs can have an important role to play in communication information about the landscape and visual effects of a proposed development, although it is acknowledged that they cannot convey exactly the way that the effects would appear on site'. The process also involved the viewing of wireframes and photomontages prepared for each viewpoint location. The fieldwork was conducted in periods of fine weather and good visibility and also considered seasonally reduced leaf cover.

For the purpose of this LVA process, the viewpoint selection follows good practice guidance in GLVA3 (paragraphs 6.18 to 6.20). The viewpoints chosen are selected as being representative, specific and illustrative to aid the description of effects on both landscape and visual resources.

The selection of viewpoints was made on the basis of the following types of publicly accessible viewpoints, as follows:

- Representative viewpoints (for example, representing views of users of a particular footpath);
- Specific viewpoints (for example, a key view from a specific visitor attraction);
- Illustrative viewpoints (chosen to demonstrate a particular effect/specific issue);
- Any important sequential views, for example, along key transport routes; and
- Any additional viewpoints that have been requested by consultees at Scoping.

For the purpose of this LVA process, all of the viewpoints were taken from publicly accessible land.

3.1 VIEWPOINT PHOTOGRAPHY

Upon arrival at each proposed viewpoint location, minor adjustments to position (micro-siting) were made in order to obtain as clear a view to the site centre as possible, avoiding trees, landscape or man-made obstructions where practicable.

The camera and tripod configuration used is as follows:

*3.1.1 **Nikon D3 –Viewpoint Photography and Visualisations***

- Camera body: Nikon D610 professional specification digital SLR (full frame CMOS sensor)
- Camera lens: Nikon AF 50mm f1.8 prime

Camera settings used for all photography:

- Camera mode: Manual Priority

- ISO: 200
- Aperture: f13
- Image format: NEF

Baseline panoramic photographs have been produced for each viewpoint to illustrate the nature of existing views in the direction of the proposed development. Baseline photographic survey data has also been undertaken at each viewpoint location using a digital SLR camera in accordance with current good practice guidance[9].

Photographs were taken at each viewpoint using a Nikon D610 Digital SLR camerain NEF format . The time, date, and grid coordinates for each photographic frame were recorded.

[9] Landscape Institute, 2019, *Technical Guidance Note 06/19 Visual representation of development proposals* https://landscapewpstorage01.blob.core.aows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf

APPENDIX C4

4 ZTV METHODOLOGY

For the purpose of this LVA process in order to assist with viewpoint selection and to appreciate the potential influence of the proposed development in the wider landscape, preliminary ZTV plans were used. ZTV plans illustrate the area from where it may be theoretically possible to view all, or part, of the proposed development. The ZTV does not however, take account of the screening effects of buildings, localised landform and vegetation, unless specifically mentioned (represented by individual figures within this LVA process). As a result, there may be roads, tracks and footpaths in the vicinity of the site and in the wider setting which, although shown as falling within the ZTV, are screened or filtered by banks, walls and vegetation which would otherwise preclude viewing opportunities.

The ZTVs provide a starting point in the assessment process and accordingly tend towards giving a 'worst case' or greatest calculation of the theoretical visibility.

Ordnance Survey Terrain dataset was used as the Digital Terrain Model (DTM) for the Bare Earth ZTV. This DTM is a 5 m by 5 m raster dataset that is representative of the landform across Great Britain.

The ZTV was produced using QGIS 3.20 software, and the calculations were based on the proposed development. The ZTV is created by highlighting areas on the DTM where a potential piece of the proposed development may be visible, based on the DTM.

A further augmented ZTV was also produced utilising visual National Tree mapping (NTM) which integrates the effects of vegetation on visibility.