

TR010062

**3.4 Environmental Statement  
Appendix 10.2 Landscape and Visual  
Impact Assessment**

**APFP Regulations 5(2)(a)**

**Planning Act 2008**

**Infrastructure Planning (Applications: Prescribed Forms and  
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**3.4 ENVIRONMENTAL STATEMENT  
APPENDIX 10.2 LANDSCAPE AND VISUAL IMPACT  
ASSESSMENT**

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|---|---|
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## 10.2 Landscape and Visual Impact Assessment Methodology

### 10.2.1 Introduction

- 10.2.1.1 As set out in the PCF Stage 3 Environmental Scoping Report and Preliminary Environmental Impact (PEI) Report, the Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with *Design Manual for Roads and Bridges (DMRB) LA 107 Landscape and Visual Effects (DMRB LA 107)* (Highways England, 2020a)<sup>1</sup> and *DMRB LA 104 Environmental assessment and monitoring (DMRB LA 104)* (Highways England, 2020b)<sup>2</sup>, with landscape and visual matters assessed separately.
- 10.2.1.2 In addition to *DMRB LA 107* and *DMRB LA 104*, the LVIA methodology has also been informed by the *Guidelines for Landscape and Visual Impact Assessment (GLVIA3)* (Landscape Institute and Institute of Environmental Management and Assessment, 2013)<sup>3</sup>, in respect of footnote 102 of the *National Policy Statement for National Networks (NPSNN)* (Department for Transport, 2014)<sup>4</sup>. *DMRB LA 107* and *GLVIA3* guidance are complementary methodologies, with *DMRB LA 107* referring throughout to *GLVIA3* and specifically that the assessment of likely significant landscape and visual effects shall be informed by:
- The sensitivity of the landscape and visual receptors, with the sensitivity of the receptors defined via an assessment of their value and susceptibility
  - The magnitude of impact (change) resulting from the scheme
  - The likely significance of effect being determined via the relationship between a receptor's sensitivity and the magnitude of impact, in combination with professional judgement.
- 10.2.1.3 The combination of *DMRB LA 107* and *GLVIA3* methodologies have been considered acceptable in several recent Development Consent Orders (DCO), including the A303 Amesbury to Berwick Down DCO, the A428 Black Cat to Caxton Gibbet Road Improvement and the A27 Arundel Bypass.
- 10.2.1.4 Other publications which have informed the LVIA are:
- The Landscape Institute's *Technical Guidance Note 02/21: Assessing landscape value outside of national designations*, 2021 (Landscape Institute, 2021)<sup>5</sup>.

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<sup>1</sup> Highways England (2020) Design Manual for Roads and Bridges LA 107 Landscape and Visual Effects

<sup>2</sup> Highways England. (2020) Design Manual for Roads and Bridges LA 104 Environmental assessment and monitoring

<sup>3</sup> Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition

<sup>4</sup> Department for Transport (2014) National Policy Statement for National Networks

<sup>5</sup> Landscape Institute (2021), Technical Guidance Note 02/21: Assessing landscape value outside national designations

- The Landscape Institute's *Technical Information Note 05/2017: Townscape character assessment*, revised 2018 (Landscape Institute, 2018)<sup>6</sup>.
- The Landscape Institute's *Technical Guidance Note 04/2020: Infrastructure* (Landscape Institute, 2020)<sup>7</sup>.
- Natural England's *An Approach to landscape character assessment*, 2014 (Natural England, 2014)<sup>8</sup>.

10.2.1.5 The following sections set out the methodology for the landscape and visual assessment.

### Study area

10.2.1.6 In accordance with *DMRB LA 107* paragraph 3.11, a 3km study area has been defined for the LVIA, which is considered proportionate to the identification of a representative range of landscape and visual receptors and the likely significant landscape and visual effects, based upon the construction (winter), operation year 1 (winter) and operation year 15 (summer) phases of the Project. Refer to Appendix 10.3: Landscape and Visual Study Area for the analysis and justification of the LVIA study area. Appendix 10.3: Landscape and Visual Study Area also sets out where specific visual receptors beyond the 3km study area are included in the assessment to address Stakeholder comments.

### LVIA assumptions

- 10.2.1.7 The following assumptions are made for the LVIA:
- The assessment is based on the drawings for determination, including the standard limits of deviation (LoD).
  - Viewpoints are located on publicly accessible land.
  - The likely effects on views from residential properties is undertaken from publicly accessible land.
  - The construction (winter) phase assessment assumes that existing vegetation is not in leaf and is also based on a peak level of construction activity, such that construction activity is ongoing across the Order Limits. This is rather than a phased assessment so as to provide a worse case and precautionary approach.
  - The construction phase assumes that stockpiles are up to 2m in height, site offices and compounds are one storey in height, cranes and piling rigs will be used for the construction of over bridges, underpasses and structure crossings of watercourses, construction activities will be bound by open wire mesh fencing and that there will be temporary lighting.
  - The year 1 (winter) phase assessment assumes that the existing vegetation and proposed planting is not in leaf. The height of the proposed planting will range between 0.4m and 0.8m for hedgerows, whips and transplants. New trees will be between 1m and 1.8m in height.

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<sup>6</sup> Landscape Institute (2018) Technical Information Note, Townscape character assessment

<sup>7</sup> Landscape Institute (2020) Technical Guidance Note 04/2020: Infrastructure

<sup>8</sup> Natural England (2014) An Approach to landscape character assessment

- The year 15 (summer) phase assessment assumes that the existing vegetation and new planting is in leaf. The new planting will also have established, to be taller in height, based on a growth rate of 1m every 3 years. New trees will be at least 6m in height. Hedgerows will be managed to between 1.5m and 2m in height.

### Landscape assessment

- 10.2.1.8 Landscape is defined in the European Landscape Convention as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors."
- 10.2.1.9 Landscapes can be both rural and urban and therefore any reference to townscape is covered by the term 'landscape'.
- 10.2.1.10 The landscape receptors covered by the LVIA are the published landscape character areas across the study area, defined as "a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another." The published studies are considered to be appropriate and proportionate to the project in accordance with DMRB LA 107 paragraph 3.13 and the relevant key characteristics of these published studies have been set out within the LVIA via desk-based reviews and verification fieldwork.

### Landscape sensitivity

- 10.2.1.11 In accordance with *DMRB LA 107* Figure 3.17N, the steps in the assessment of landscape effects include determining the sensitivity of the landscape receptors via combining judgements on the value attached to the landscape receptor and the susceptibility of the landscape receptor.
- 10.2.1.12 *DMRB LA 107* Table 3.22 provides 'typical descriptions' in relation to landscape sensitivity (including landscape value and susceptibility); however, *DMRB LA 107* requires a structured approach to these processes and *DMRB LA 107* paragraph 3.4.1 states that the "assessment of susceptibility should be tailored to the project." In order to address these matters, it is considered appropriate that an individual assessment of landscape value and landscape susceptibility are set out, to align with the requirements of *DMRB LA 107*.

### Landscape value

- 10.2.1.13 *DMRB LA 107* defers to *GLVIA3* for the definition of landscape value, defining landscape value as the "relative value or importance of a landscape's quality, special qualities including perceptual aspects such as scenic beauty, tranquillity, or wildness, cultural associations or other conservation issues."
- 10.2.1.14 Table 1: Landscape Value Criteria, which has been tailored specifically for the Project, sets out the criterion for landscape value to align with the five tiers of landscape sensitivity set out in *DMRB LA 107* Table 3.22 and the 'typical descriptions.'

Table 1: Landscape Value Criteria

| Landscape Value | Description  |
|-----------------|--|
| Very High       | Landscapes of very high international/national importance and rarity or value, including matters of perception and tranquillity (i.e. national parks, internationally acclaimed landscapes - United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites)   |
| High            | Landscapes of high national importance containing distinctive features/elements, including matters of perception and tranquillity. (i.e. Areas of Outstanding Natural Beauty (AONB), areas with a strong sense of place including Areas of High Landscape Value, registered historic parks and gardens, Conservation Areas and country parks). |
| Medium          | Landscapes of local or regional recognition of importance (i.e. landscape features worthy of conservation, some sense of place or value through use/perception) but where the perception and tranquillity may be influenced by developed features.   |
| Low             | Local landscape areas of importance but where the perception and tranquillity may be influenced by developed features (i.e. non-designated areas, areas of local recognition or areas of a sense of place).  |
| Negligible      | Landscapes of very low importance and a very limited sense of place and/or where the perception and tranquillity are substantially influenced by developed features.   |

### Landscape susceptibility

10.2.1.15 DMRB LA 107 refers to GLVIA3 for the definition of susceptibility, defining it as “the ability of a defined landscape to accommodate the specific proposed change without negative consequences.”

10.2.1.16 Table 2: Landscape Susceptibility Criteria, which has been tailored specifically for the Project, sets out the criterion for landscape susceptibility to align with the five tiers of landscape sensitivity set out in *DMRB LA 107* Table 3.22.

Table 2: Landscape Susceptibility Criteria

| Landscape Susceptibility | Description   |
|--------------------------|---|
| Very High                | Landscapes with no or very limited ability to accommodate changes to landform, vegetation or land use via the introduction of road infrastructure without substantial loss/gain to their character such that the scheme would likely result in negative (adverse) change to the landscape receptor. |
| High                     | Landscapes with limited ability to accommodate changes to landform, vegetation or land use via the introduction of road infrastructure without incurring substantial loss/gain to their character such that the scheme would likely result in negative (adverse) change to the landscape receptor.  |
| Medium                   | Landscapes able to accommodate some changes to landform, vegetation or land use via road infrastructure due to the existing A66, such that the landscape receptor may be able to accommodate some change without negative (adverse) change.   |
| Low                      | Landscapes with the ability to accommodate changes to landform, vegetation and land use via road infrastructure due to  |

| Landscape Susceptibility | Description   |
|--------------------------|---|
|                          | the existing A66 such that the scheme would not result in negative (adverse) change.  |
| Negligible               | Landscapes able to accommodate change via road infrastructure as they are either damaged, or the underlying pattern of landform, vegetation and land use are substantially altered by the existing A66, such that the scheme would not result in negative (adverse) change. |

### Landscape sensitivity

10.2.1.17 From the above, the consideration of the landscape value and landscape susceptibility is used to make the assessment of landscape receptor sensitivity in accordance with *DMRB LA 107* Table 3.22, as reproduced below in Table 3: Landscape Sensitivity Criteria.

Table 3: Landscape Sensitivity Criteria

| Landscape Sensitivity | Description   |
|-----------------------|---|
| Very High             | Landscape of very high international/national importance or rarity or value with no or very limited ability to accommodate change without substantial loss/gain (i.e. national parks, internationally acclaimed landscape – UNESCO World Heritage Sites). |
| High                  | Landscape of high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain to their character such that scheme would likely result in negative (adverse) changes.  |
| Medium                | Landscape of local or regional recognition of importance able to accommodate some changes (i.e. features worthy of conservation, some sense of place or value through use/perception).  |
| Low                   | Local landscape areas or receptor of low to medium importance with the ability to accommodate change (i.e. non designated or designated areas of local recognition or areas of little sense of place).  |
| Negligible            | Landscapes of very low importance and rarity to accommodate change.   |

### Landscape magnitude of impact

10.2.1.18 In accordance with *DMRB LA 107* and *GLVIA3*, the magnitude of landscape impact considers:

- The size and scale of the Project during the construction and operational phases.
- The extent or area covered by the Project during the construction and operational phases.
- Whether the Project is reversible or permanent.
- The duration, whereby short term is considered to mean up to 5 years, medium term is between 5 and 10 years and long term is 10 years and beyond.

10.2.1.19 Table 4: Landscape Magnitude of Impact Criteria, reproduced from Table 3.24 of *DMRB LA 107* sets out the landscape magnitude of impact criteria.



Table 4: Landscape Magnitude of Impact Criteria

| Landscape Magnitude of Impact |            | Description  |
|-------------------------------|------------|--|
| Major                         | Adverse    | Total loss or large scale damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, conspicuous features or elements (i.e. road infrastructure).    |
|                               | Beneficial | Large scale improvement of landscape character to features and elements; and/or addition of new distinctive features or elements, or removal of conspicuous road infrastructure elements.                      |
| Moderate                      | Adverse    | Partial loss or noticeable damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, noticeable features or elements (i.e. road infrastructure).    |
|                               | Beneficial | Partial or noticeable improvement of landscape character by restoration of existing feature or elements; or addition of new characteristic features or elements or removal of noticeable features or elements. |
| Minor                         | Adverse    | Slight loss or damage to existing landscape character of one (maybe more) key features and elements and/or addition of new uncharacteristic features and elements.   |
|                               | Beneficial | Slight improvement of landscape character by the restoration of one (maybe more) key existing features and elements; and/or the addition of new characteristic features.                                       |
| Negligible                    | Adverse    | Very minor loss, damage or alteration to existing landscape character of one or more features and elements.  |
|                               | Beneficial | Very minor noticeable improvement of character by the restoration or one or more existing features and elements.   |
| No Change                     | n/a        | No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements.   |

## 10.2.2 Visual assessment

10.2.2.1 Like the landscape assessment, the visual assessment is also based upon the assessment of visual sensitivity via an analysis of visual value and visual susceptibility.

10.2.2.2 *DMRB LA 107* Table 3.41 sets out a range of 'typical descriptions' for visual sensitivity. As per the landscape assessment, *DMRB LA 107* paragraph 3.4.1 sets out the susceptibility shall be tailored to the project, with the stated example of "*where receptors with prominent views towards the highway infrastructure are more likely to have a low susceptibility to change of a project, than receptors with no existing views towards the highway infrastructure which are more likely to have a high susceptibility to change.*"

10.2.2.3 It is therefore considered appropriate to set out the individual criteria for visual value and visual susceptibility to align with the requirements of *DMRB LA 107* through being tailored specifically to the Project and the 'typical descriptions' set out in *DMRB LA 107* Table 3.41.

## Visual value

10.2.2.4 With reference to *GLVIA3*, visual value relates to the recognition of a view, eg. whether it is noted in guidebooks, tourist attractions, art, heritage assets or planning designations. The criteria for visual value are set out in the Table 5: Visual Value Criteria and are tailored specifically for the Project.

Table 5: Visual Value Criteria

| Visual Value | Description  |
|--------------|--|
| Very High    | Views from and of major tourist attractions, or national/international landscape, or cultural/historical site, where the viewing location is specifically designated and visited, with references in either published studies, evidence base documents, literature or art. |
| High         | Views from and of a rare nationally designated landscape or conservation areas, designated areas of High Landscape Value, and locations on nationally important Public Rights of Way (PRoW) and recreational trails.   |
| Medium       | Views from locations which are not designated but from where views are valued, eg. public open spaces and scenic roads, local or regionally designated tourist routes identified in published studies, evidence base documents, literature or art.                         |
| Low          | Views which are likely to be representative of local landscape characteristics or where there is likely to be limited variety or distinctiveness in the view.  |
| Negligible   | Views from and of industrial, degraded or detracting landscapes with no variety or distinctiveness.  |

## Visual susceptibility

10.2.2.5 With reference to *GLVIA3*, the visual susceptibility refers to the occupation of the people experiencing the view and the extent to which their attention may be focused on the view. The criteria for visual susceptibility are set out in the Table 6: Visual Susceptibility Criteria and are tailored specifically for the Project.

Table 6: Visual Susceptibility Criteria

| Visual Susceptibility | Description   |
|-----------------------|---|
| Very High             | People visiting very important and designated viewpoints for the specific purpose of experiencing the view, and/or people engaged in specific activities for the enjoyment of dark skies, and/or where the existing road infrastructure is either not visible or not prominent.   |
| High                  | Recreational users of nationally important trails and/or public open spaces for the enjoyment of the countryside (eg. country parks).<br>Residents of dense residential areas where views are static.<br>People with longer transient views across the landscape from recreation areas (including designated open spaces) and where existing road infrastructure is not visible or not prominent. |
| Moderate              | Residents of less populated residential areas where views are static.<br>People at school or other institutional buildings and their outdoor areas.<br>Outdoor workers.   |

| Visual Susceptibility | Description  |
|-----------------------|--|
|                       | <p>People with transient views from secondary transport routes including local/regional designated tourist routes; and recreational users of public rights of way.</p> <p>Views where existing road infrastructure is visible within the composition of the view but is not the focus of the view.</p>   |
| Low                   | <p>People travelling along main roads or main transport routes but with transient views across the landscape.</p> <p>People at work indoors, where views of the landscape are secondary to the occupation.</p> <p>Recreational users of sports facilities where the landscape is secondary to enjoyment of the sport.</p> <p>Recreational users of local public open spaces.</p> <p>Views where the existing road infrastructure is visible within the composition of the view and is prominent.</p> |
| Negligible            | <p>People travelling along main roads or main arterial transport routes with quick transient views across the landscape, such that the perception of the landscape is substantially lessened.</p> <p>People passing through industrial areas or damaged landscapes.</p> <p>People passing through land awaiting re-development.</p> <p>Views where the existing road infrastructure is visible within the composition of the view and is very prominent and the focal feature.</p>                   |

## Visual sensitivity

10.2.2.6 From the above, the consideration of the visual value and visual susceptibility is used to make the assessment of landscape receptor sensitivity in accordance with Table 3.41 of *DMRB LA 107*, which is reproduced below in Table 7: Visual Sensitivity Criteria

Table 7: Visual Sensitivity Criteria

| Visual Sensitivity | Description  |
|--------------------|--|
| Very High          | <p>Static views from and of major tourist attractions.</p> <p>Views from and of very important national/international landscapes, cultural/historical sites (eg. National Parks, UNESCO World Heritage Sites).</p> <p>Receptors engaged in specific activities for enjoyment of dark skies.</p>  |
| High               | <p>Views by users of nationally important PROW / recreational trails (eg. national trails, long distance footpaths).</p> <p>Views by users of public open spaces for enjoyment of the countryside (eg. country parks).</p> <p>Static views from dense residential areas, longer transient views from designated open space, recreational areas.</p> <p>Views from and of rare, designated landscapes of national importance.</p> |
| Moderate           | <p>Static views from less populated residential areas, schools and other institutional buildings and their outdoor areas.</p> <p>Views by outdoor workers.</p> <p>Transient views from local/regional areas such as public open space, scenic roads, railways or waterways. Users of local/regional designated tourist routes of moderate importance.</p> <p>Views from and of landscapes of regional importance.</p>            |

| Visual Sensitivity | Description   |
|--------------------|---|
| Low                | Views by users of main roads or passengers in public transport on main arterial routes.<br>Views by indoor workers.<br>Views by users of recreational / formal sports facilities where the landscape is secondary to enjoyment of the sport.<br>Views by users of local public open spaces of limited importance with limited variety of distinctiveness. |
| Negligible         | Quick transient views such as from fast moving vehicles.<br>Views from industrial areas, land awaiting re-development.<br>Views from landscape of no importance with no variety or distinctives.  |

### Visual magnitude of impact

10.2.2.7 In accordance with *DMRB LA 107* and *GLVIA3*, the magnitude of visual impact considers:

- Scale of change (including the mitigation).
- Nature of change (including the mitigation).
- Duration of change, whereby short term is considered to mean up to 5 years, medium term is between 5 and 10 years and long term is 10 years and beyond.
- Distance.
- Screening (by buildings or by existing vegetation).
- Direction and focus of the view.
- Removal of existing vegetation as a result of the Project.
- Whether the receptor is static or moving.

10.2.2.8 Table 8: Visual Magnitude of Impact Criteria reproduced from *DMRB LA 107* Table 3.43 sets out the visual magnitude of impact criteria.

Table 8: Visual Magnitude of Impact Criteria

| Visual Magnitude | Description  |
|------------------|--|
| Major            | The Project, or a part of it, would become the dominant feature or focal point of the view.  |
| Moderate         | The Project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.  |
| Minor            | The Project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.                           |
| Negligible       | Only a very small part of the Project work or activity would be discernible, or being at such distance it would form a barely noticeable feature or element of the view. |
| No Change        | No part of the Project work or activity would be discernible.  |

### Landscape and visual significance of effects

10.2.2.9 The significance of landscape and effects is determined via the relationship between the sensitivity of the landscape or visual receptor, the magnitude of impact and professional judgement. To guide this relationship, reference is made to Table 3.8.1 of LA104 Environmental assessment and monitoring, which is reproduced below in Table 9:

**DMRB LA 104 Landscape and Visual Significance of Effects Matrix from DMRB LA 104:**

Table 9: DMRB LA 104 Landscape and Visual Significance of Effects Matrix

| Landscape or Visual Receptor Sensitivity | Magnitude of Impact |                   |                    |                     |                     |
|--|---------------------|-------------------|--------------------|---------------------|---------------------|
|  | No Change           | Negligible        | Minor              | Moderate            | Major               |
| Very High                                | Neutral             | Slight            | Moderate or Large  | Large or Very Large | Very Large          |
| High                                     | Neutral             | Slight            | Slight or Moderate | Moderate or Large   | Large or Very Large |
| Medium / Moderate                        | Neutral             | Neutral or Slight | Slight             | Moderate            | Moderate or Large   |
| Low                                      | Neutral             | Neutral or Slight | Neutral or Slight  | Slight              | Slight or Moderate  |
| Negligible                               | Neutral             | Neutral           | Neutral or Slight  | Neutral or Slight   | Slight              |

10.2.2.10 Where the above guide enables a choice in the significance of effect, eg. moderate or large, professional judgement is used to determine the significance of effect, with a reasoned justification set out in the assessment narrative for the decision.

10.2.2.11 The significance of effect can be either beneficial or adverse.

10.2.2.12 Similarly, should professional judgement consider that the significance of effect should differ from the above guide, a reasoned justification is set out in the assessment narrative.

10.2.2.13 In accordance with *DMRB LA 107*, effects of moderate, large or very large are considered 'significant', with the other categories of slight and neutral considered 'not significant'.

10.2.2.14 Table 10: Definitions for the Significance of Landscape and Visual Effects sets out the definitions for the respective categories in Table 10.9 and is based on previous National Highways guidance for the assessment of landscape and visual effects.

Table 10: Definitions for the Significance of Landscape and Visual Effects

| Significance of Effect | Typical Landscape Descriptors  | Typical Visual Descriptors   |
|------------------------|--|--|
| Very Large Beneficial  | The scheme would greatly enhance the character (including quality and value) of the landscape; and/or<br>The scheme would create an iconic high quality feature and/or series of elements; and/or<br>The scheme would enable a sense of place to be created or greatly enhanced. | The scheme would create an iconic new feature that would greatly enhance the view.       |
| Large Beneficial       | The scheme would enhance the character (including the quality and value) of the landscape; and/or<br>The scheme would enable the restoration of characteristic features and elements lost as a result of changes from inappropriate management or development; and/or            | The scheme would lead to a major improvement in a view from a highly sensitive receptor. |

| Significance of Effect | Typical Landscape Descriptors   | Typical Visual Descriptors   |
|------------------------|---|--|
|                        | The scheme would enable a sense of place to be enhanced.  |  |
| Moderate Beneficial    | The scheme would improve the character (including quality and value) of the landscape; and/or<br>The scheme would enable the restoration of characteristic features and elements partially lost or diminished as a result of changes from inappropriate management or development; and/or<br>The scheme would enable a sense of place to be restored. | The scheme would cause obvious improvement to a view from a moderately sensitive receptor, or perceptible improvement to a view from a more sensitive receptor.              |
| Slight Beneficial      | The scheme would complement the character (including quality and value) of the landscape;<br>The scheme would maintain or enhance characteristic features and elements;<br>The scheme would enable some sense of place to be restored.  | The scheme would cause limited improvement to a view from a receptor of medium sensitivity, or would cause greater improvement to a view from a receptor of low sensitivity. |
| Neutral                | The scheme would maintain the character of the landscape and enable a sense of place to be maintained.  | No perceptible change in the view.   |
| Slight Adverse         | The scheme would not quite fit the character (including quality and value) of the landscape;<br>The scheme would be at variance with characteristic features and elements;<br>The scheme would detract from a sense of place.   | The scheme would cause limited deterioration to a view from a receptor of medium sensitivity, or cause greater deterioration to a view from a receptor of low sensitivity.   |
| Moderate Adverse       | The scheme would conflict with the character (including quality and value) of the landscape;<br>The scheme would have an adverse impact on characteristic features or elements;<br>The scheme would diminish a sense of place.  | The scheme would cause obvious deterioration to a view from a moderately sensitive receptor, or perceptible damage to a view from a more sensitive receptor.                 |
| Large Adverse          | The scheme would be at considerable variance with the character (including quality and value) of the landscape; and/or<br>The scheme would degrade or diminish the integrity of a range of characteristic features and elements; and/or<br>The scheme would damage a sense of place.  | The scheme would cause major deterioration to a view from a highly sensitive receptor, and would constitute a major discordant element in the view.                          |
| Very Large Adverse     | The scheme would be at complete variance with the character (including quality and value) of the landscape.; and/or<br>The scheme would cause the integrity of characteristic features and elements to be lost; and/or<br>The scheme would cause a sense of place to be lost.   | The scheme would cause the loss of views from a highly sensitive receptor, and would constitute a dominant discordant feature in the view                                    |

### 10.2.3 Night time assessment

- 10.2.3.1 The Project does not include new sections of lighting, only replacement of existing lit sections. The higher tiers of impacts and effects are likely to occur during the construction phase, due to the activity to replace the existing lighting and temporary lighting to facilitate general night-time construction activity and lighting of the construction compounds. This temporary construction lighting would be in accordance with the Environmental Management Plan (DCO Document 2.7)
- 10.2.3.2 Where night time working is undertaken, it would be for short durations similar to current maintenance work along the route.
- 10.2.3.3 A qualitative assessment has been made on the perception of artificial lighting at the construction and operation stages for each Project based upon the methodology set out below.

#### Character of the Night Sky

- 10.2.3.4 To establish the baseline of the night sky across the study area, a review of the Campaign for the Protection of Rural England’s *Night Blight on-line mapping* (Campaign for the Protection of Rural England, 2022)<sup>9</sup> was undertaken. This mapping illustrated the level of radiance (night lights) shining up into the night sky, categorised into colour bands to distinguish between different light levels.
- 10.2.3.5 Following this baseline review, each Project study area was assigned a level of existing night-time lighting by professional judgement, based upon Table 2 of the Institution of Lighting Professional Environmental Zones (Institute of Lighting Professionals, 2021)<sup>10</sup>, reproduced below in Table 11:

Table 11: Environmental Lighting Zones

| Environmental Lighting Zone | Surrounding | Lighting Environment       | Examples   |
|-----------------------------|-------------|----------------------------|--|
| E0                          | Protected   | Dark                       | Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places.                            |
| E1                          | Natural     | Dark                       | Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc. |
| E2                          | Rural       | Low brightness district    | Sparsely inhabited rural areas, village or relatively dark outer suburban locations.                           |
| E3                          | Suburban    | Medium brightness district | Well inhabited rural and urban settlements, small town centres of suburban locations.                          |

- 10.2.3.6 The proposed lighting during the construction and operational phases of the Project was then assessed and the potential impact to the night sky was considered in relation to the magnitude criteria set out for the day

<sup>9</sup> Campaign for the Protection of Rural England (2022) CPRE Night Blight on-line mapping

<sup>10</sup> Institute of Lighting Professionals (2021) Guidance Note 01/21 The Reduction of Obtrusive Lighting.

time LVIA and whether the proposed lighting would alter the existing Environmental Lighting Zone.

- 10.2.3.7 A significant effect would be where there is an expected change in the environmental lighting zone due to the Project and a non-significant effect would retain the existing environmental lighting zone.

#### 10.2.4 References

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