

**A66 Northern Trans-Pennine Project
TR010062**

**3.2 Environmental Statement
Chapter 10 Landscape and Visual**

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**3.2 ENVIRONMENTAL STATEMENT
CHAPTER 10 LANDSCAPE AND VISUAL**

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10 Landscape and Visual Effects

10.1 Introduction

10.1.1 This chapter assesses the likely significant landscape and visual effects of the construction and operation of the Project, following the methodology set out in the *Design Manual for Roads and Bridges (DMRB), LA 207 Landscape and Visual Effects (DMRB LA 107)* (Highways England, 2020)¹ and *DMRB LA 104 Environmental Assessment and Monitoring DMRB LA 104* (Highways England, 2020)². The assessment is also informed by *Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)* (Landscape Institute and Institute of Environmental Management and Assessment, 2013)³. It details the methodology followed, summarises the legislation and policy framework relevant to the landscape and visual assessment and describes the existing environment in the area surrounding the Project. It then considers the design, mitigation and residual effects of the Project, including taking account of relevant characteristics of the future baseline environment. Any key assumptions and limitations applicable to the assessment are also identified.

10.1.2 Any landscape and visual effects predicted to be significant are identified in section 10.9 of this chapter. Effects identified in the course of the assessment but not predicted to be significant are included in ES Appendix 10.5: Schedule of Landscape Effects and ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4).

10.1.3 The landscape and visual assessment is supported by a number of figures (Environmental Statement Volume 2) and Technical Appendices (Environmental Statement Volume 3) as listed on the contents page.

10.1.4 This Environmental Impact Assessment (EIA) has been undertaken by competent experts with the relevant and appropriate experience in their respective topics. The lead author of this chapter has:

- BA Hons in Landscape Architecture and a Post Graduate Diploma in Landscape Architecture
- Chartered membership of the Landscape Institute
- 30 years of experience in professional practice
- 25 years of experience undertaking Landscape and Visual Impact Assessments.

10.2 Key assessment parameters

10.2.1 The key assessment parameters shown in Table 10-1: Key assessment parameters have been used in order to enable flexibility in the

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

² Highways England (2020) Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring

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

assessment and to ensure that a reasonable worst case has been assessed.

Table10-1: Key assessment parameters

Key Assessment Parameters
<ul style="list-style-type: none">Any landscape features within the Order Limits would be affected by the construction of the Project.The assessment extent has been determined by the most recent ZTV, using the model of the outline design. An assessment of any additional or increased impacts arising if the construction works were undertaken at the upper extents of the vertical Limits of Deviation (LoD) is included in ES Appendix 10.9: Limits of Deviation Assessment (Application Document 3.4).

10.3 Legislation and policy framework

Legislation

10.3.1 The following key legislation is applicable to the assessment:

- The *European Landscape Convention (ELC)* (Council of Europe, 2016)⁴. The ELC was conceived in order to acknowledge, amongst other things "that the landscape is an important part of the quality of life for people everywhere; in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas".

National level policy

National Policy Statement for National Networks

10.3.2 The primary basis for the Secretary of State deciding whether or not to grant a Development Consent Order (DCO) for the Project is the *National Policy Statement for National Networks (NPSNN)* (Department for Transport, 2014)⁵.

10.3.3 Table 1: Relevant *National Policy Statement for National Networks (NPSNN)* policies in Appendix 10.1: Landscape and Visual Policy and Consultation Tables (Application Document 3.4) identifies the *NPSNN* policies relevant to the landscape and visual assessment and a reference to where in this Environmental Statement (ES) information is provided to address each policy.

National Planning Policy Framework

10.3.4 The *National Planning Policy Framework (NPPF)* (Ministry of Housing, Communities & Local Government, 2021)⁶ originally published in March 2012 and most recently updated in July 2021, sets out the government's planning policies for England and provides a framework within which

⁴ Council of Europe (2016) Landscape Convention as amended by the 2016 Protocol

⁵ Department for Transport (2014) National Policy Statement for National Networks

⁶ Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework.

locally prepared plans can be produced. The *NPPF* is "an important and relevant matter to be considered in decision making for NSIP".

Regional and local level policy

- 10.3.5 Other regional and local level policies have been considered as part of the landscape and visual assessment where these have informed the identification of receptors and resources and their sensitivity; the assessment methodology; the potential for likely significant environmental effects; and required mitigation. These policies include:
- *Eden Local Plan 2014-2032* (Eden District Council, 2018)⁷ Policies ENV2 (Protection and Enhancement of Landscape and Trees) and ENV3 (The North Pennines Area of Outstanding Natural Beauty)
 - *County Durham Plan 2020-2035* (Durham County Council, 2020)⁸ Policies 38 (North Pennines AONB), 39 (Landscape) and 40 (Trees, Woodland and Hedges)
 - Richmondshire District Council *Core Strategy* (Richmondshire District Council, 2014)⁹ Core Policy CP12 (Conserving and Enhancing Environmental and Historic Assets)
 - Eden District Council *Core Strategy* 2010 (Eden District Council, 2010)¹⁰ Policy CS16 (Principles for the Natural Environment).
- 10.3.6 Table 2: Regional and local level policies in ES Appendix 10.1: Landscape and Visual Policy and Consultation Tables (Application Document 3.4) outlines the key regional and local level policy objectives and notes where these have been addressed.

Other Relevant Policy and Guidance

- 10.3.7 In addition to compliance with the *NPSNN* and *NPPF*, this assessment has been compiled in accordance with professional standards and guidance. The standards and guidance which relate to the assessment are:
- *The Road to Good Design* (Highways England, 2018)¹¹
 - *North Pennines AONB Planning Guidelines* (North Pennines, 2019)¹²
 - *Cumbrian Landscape Assessment Toolkit* (Cumbria County Council, 2011)¹³.

10.4 Assessment methodology

- 10.4.1 The full methodology is set out in ES Appendix 10.2: Landscape and Visual Impact Assessment (LVIA) Methodology.
- 10.4.2 This section sets out the scope of the assessment which is in accordance with the Preliminary Environmental Information (PEI)

⁷ Eden District Council (2018) Eden Local Plan 2014 - 2032

⁸ Durham County Council (2020) County Durham Plan.

⁹ Richmondshire District Council (2014) Richmondshire Local Plan 2012-2028 Core Strategy

¹⁰ Eden District Council (2010) Core Strategy

¹¹ Highways England (2018) The Road to Good Design

¹² North Pennines (2019) North Pennines Area of Outstanding Natural Beauty Planning Guidelines

¹³ Cumbria County Council (2011) Cumbria Landscape Character Guidance and Toolkit (Part Two)

Report. The methodology for the landscape and visual assessment follows the guidance set out within *DMRB LA 107* and *GLVIA3*.

- 10.4.3 The scope of the assessment, including the study area and the number, type and location of viewpoints was agreed with statutory consultees and representatives of the local authorities at regular technical working group meetings.
- 10.4.4 The assessment assesses two related but separate topics, landscape and visual impact, during construction and operation:
- 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*". Landscapes can be both rural and urban and therefore any reference to townscape falls under the overall landscape heading. Landscape character is defined as "*a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another*": and
 - Views and visual amenity are defined as the "*overall enjoyment of a particular area, surroundings, or views in terms of people's activities - living, recreating, travelling through, visiting, or working*".
- 10.4.5 There are three key considerations (derived from *DMRB LA 107* and *GLVIA3*) when carrying out an assessment of the effect of a development on landscape as a resource and people's views and their visual amenity. These are:
- 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 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.
- 10.4.6 The assessment does not assess effects on the significance of heritage assets, but it does consider effects on heritage assets in terms of their contribution to landscape character. Where appropriate, views from publicly accessible heritage assets are considered as part of the assessment of effects on visual amenity. Further assessment on the setting of heritage assets can be found in ES Chapter 8: Cultural Heritage.
- 10.4.7 A receptor-based approach is used for both landscape and visual receptors. For landscape receptors this involves describing effects on landscape character units and landscape designations. For visual receptors i.e. people, this involves assessing receptors, such as residents of properties or users of public rights of way (PRoW), individually or as groups. For visual receptors, representative viewpoints have been provided, refer to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3) for locations. These viewpoints have accompanying photography presented on ES Figures 10.8 Viewpoint Photosheets (Application Document 3.3).

Not all viewpoints have photography due to difficulties in obtaining land access and these are described as assessed views where professional judgement, site visits and sourced images have been used for the assessment.

- 10.4.8 For users of the existing A66, a photographic assessment was not possible for health and safety reasons. The impact on these receptors is therefore covered in Section 10.8 under Road User Experience where professional judgment has informed a narrative describing the likely impacts on road users at construction, operation year 1 (winter) and operation year 15 (summer).
- 10.4.9 The photosheets are intended to show both winter and summer views of the landscape and views typical of visual amenity of the locality in which they are located. However, not all have summer photography due to project timescales. Where summer photography is not available the assessment has been based on a worst-case (winter) view.
- 10.4.10 The viewpoints are not intended to show the views experienced by every receptor assessed. They are instead intended to depict a range of views experienced across the route. These views are representative - where views are selected to represent the experience of different types of visual receptors where larger numbers of viewpoints cannot all be included individually and where significant effects are unlikely to differ.
- 10.4.11 The assessment describes effects on landscape and visual receptors in the following scenarios:
- Construction - During construction, assuming a maximum perceived change situation such as when activity is at its peak and noting how long this is likely to last, subject to each scheme.
 - Winter (Year 1) - A winter's day in the year that the Project would be open to all traffic and fully operational but prior to establishment of essential/ embedded mitigation planting
 - Summer (Year 15) - A summer's day in the fifteenth year after opening, when the essential/ embedded mitigation planting can be assumed to be substantially effective. This is typically a reflection of the near full mitigation scenario under normal conditions.
- 10.4.12 Where the assessment of effect can be one of two values as defined in *DMRB LA 107* Table 3.8.1 Significance Matrix the justification for the selected value is outlined in ES Appendix 10.5: Schedule of Landscape Effects and Appendix 10.6: Schedule of Visual Effects (Application Document 3.4).
- 10.4.13 Unless otherwise stated all effects are adverse.

Assessment of Landscape Character Effects

Landscape sensitivity

- 10.4.14 As stated in *DMRB LA 107*, sensitivity is defined as "the sensitivity of the landscape receptor (susceptibility to changes combined with value of the receptor) and the magnitude of effects on the landscape (change - scale, extent, duration)". Susceptibility and value are evaluated for the

part of the landscape receptor that coincides with the study area and would be affected by the Project and combined to give a judgement of sensitivity of the receptor in accordance with Table 3.22 in *DMRB LA 107*. The sensitivity assessment is included in ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4).

Magnitude of landscape impact

- 10.4.15 The assessment of magnitude of impact for landscape receptors considers the size and scale of change, the geographical extent over which the change would occur, its duration and reversibility. Magnitude of impact is assessed for each phase of the Project during construction and operation (year one and year 15). Potential effects on landscape receptors may be, beneficial or neutral.
- 10.4.16 The size and scale of the landscape change is about the degree to which a landscape receptor is changed by the Project, such as the removal or addition of new features within the landscape, whether these are perceived as typical, and how the change would affect the key characteristics of the landscape.
- 10.4.17 The evaluation of geographical extent of effect considers whether the Project would result in local or limited effects on landscape character. It also considers where physical changes occur across a wider area or widely influence the landscape receptor, therefore having a greater influence on the overall evaluation of magnitude.
- 10.4.18 Magnitude of impact also considers the duration and reversibility of effect. Reversible effects of short duration such as the presence of construction plant and machinery influence magnitude less than irreversible effects of longer duration such as introduction of a new structure crossing of a large watercourse or loss of mature trees and woodland.

Visual assessment methodology

- 10.4.19 Visual assessment is about the change to views and visual amenity experienced by visual receptors i.e. people. An overview of the visual baseline is described for residents of settlements and rural properties, users of Public Rights of Way (PRoW), recreational routes and public parks and users of visitor attractions including viewing locations identified in Ordnance Survey maps or with cultural associations. Where PRoW are severed by the Project and would need to be re-routed but the new route is not yet known, the assessment is based on the impacts on the current route of the PRoW. The visual baseline is described with reference to representative viewpoints from which there are views in the direction of the Project. Photosheets showing the baseline view in winter without leaves on trees thereby indicating the least amount of interruption in views in the direction of the Project are included in ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3). The photosheets also show the baseline view in summer with trees in full leaf, thereby indicating the typical level of visual screening afforded by intervening vegetation towards the Project. The final location of

identified viewpoints and photomontages were identified in consultation with relevant stakeholders.

- 10.4.20 Type 3/4 Photomontages, in accordance with *Technical Guidance Note 06/19 Visual Representation of development proposals (LI TGN 06-19)* (Landscape Institute, 2019)¹⁴, of approved key views have been produced. These are included in ES Figure 10.9: Viewpoint Photomontages (Application Document 3.3).
- 10.4.21 Effects on visual receptors require consideration of the nature of the receptor (sensitivity) and the nature of the effect on those receptors (magnitude of impact, which are combined using professional judgement to record the significance of effect.

Visual sensitivity

- 10.4.22 Visual sensitivity is a combination of a visual receptor's susceptibility to change and the value of the view. Both of these values can be tempered with professional judgment due to context.
- 10.4.23 *DMRB LA 107* identifies that "*The assessment of susceptibility to change should be tailored to the project.*" *GLVIA3* states that the susceptibility of different visual receptors to changes in views and visual amenity relates to "*the occupation or activity of people experiencing the view at particular locations; and the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations*" (para. 6.32).
- 10.4.24 The assessment describes the potential for the Project to change the composition and quality of views and visual amenity during construction and operation. These changes include the widening of the A66, introduction of junctions, loss of existing features such as trees, woodland and hedgerows, changes in topography and introduction of new features such as overbridges, accommodation access tracks, detention ponds, fences and other elements of road infrastructure. The change resulting from mitigation relative to the baseline is also considered.
- 10.4.25 *GLVIA3* (para. 6.33) states that visual receptors most susceptible to change include residents or communities where views contribute to the landscape setting enjoyed, people engaging in outdoor recreation (such as users of PRow) whose attention or interest is likely to be focused on the landscape and on particular views, and visitors to heritage assets, or other attractions where views of the surroundings are an important contributor to the experience.
- 10.4.26 Visual receptors less sensitive to change include travellers on roads, rail and other transport routes, people engaged in outdoor sport or recreation which does not involve or depend on appreciation of views of the landscape, and people at their place of work, focussed on their work.

¹⁴ Landscape Institute (2019) Technical Guidance Note 06/19 Visual Representation of development proposals

- 10.4.27 The evaluation of sensitivity also considers the value of views and visual amenity which is influenced by relevant aspects of landscape designations, formal viewpoints identified on Ordnance Survey maps or other views identified in local policy documents or management plans that indicate value or special qualities of views.
- 10.4.28 Other indicators of visual value include the inclusion of viewpoints in guidebooks or tourist maps, or through the provision of facilities for their enjoyment (such as parking places, seating, sign boards and interpretive materials) or references to views in literature or art.

Visual magnitude of impact

- 10.4.29 The magnitude of impact for each visual receptor or group of receptors considers the size and scale of effect, its geographical extent, duration and reversibility. Potential effects on views and visual amenity may be, beneficial or neutral. For this project effects are considered to be unless stated otherwise.
- 10.4.30 The size and scale of change would depend on the degree to which peoples' views or visual amenity is changed by the Project, such as through the removal or addition of new features and whether these are characteristic or uncharacteristic of the baseline.
- 10.4.31 Geographical extent of visual effects considers whether effects would be localised, where there are limited locations from where the Project would be seen, and potentially fewer numbers of people affected. Where the Project may be seen from a wider area or potentially by greater numbers of people, this may have more of a bearing on the assessment of magnitude of impact.
- 10.4.32 Magnitude of impact also considers the duration and reversibility of effect. Reversible effects of short duration such as the presence of construction plant and machinery influence magnitude less than irreversible effects of longer duration such as the introduction of a new structure crossing of a large watercourse or loss of mature trees and woodland which would be a permanent change to views.

Significance of landscape and visual effect

- 10.4.33 Final judgements on the likely significance of landscape and visual effects combines judgements of the sensitivity of each receptor and the magnitude of impact as a result of the Project.
- 10.4.34 Significance of effect is identified as either neutral, slight, moderate, large or very large. Very large, large and moderate effects are judged to be significant, any effect assessed as less than moderate is considered to be not significant.
- 10.4.35 *DMRB LA 107* states that the approach to deriving impact significance should be "*based on the significance matrix included in the Environmental assessment methodology section of LA 104 and include evidence to support any professional judgements that have been made*" (para. 3.26). Paragraph 3.8.1 in *DMRB LA 104* indicates that where

Table 3.8.1 includes two significance categories, evidence should be provided to support reporting of a single significance category.

Scoping

- 10.4.36 Table 3: Summary of Scoping Opinion and Response Appendix 10.1 Landscape and Visual Policy and Consultation Tables (Application document 3.4) sets out the points from the Planning Inspectorate Scoping Opinion relevant to the landscape and visual assessment. The full Scoping Opinion is provided in ES Appendix 4.2: EIA Scoping Opinion (Application Document 3.4).
- 10.4.37 Where assessment has been undertaken in accordance with the Scoping Opinion, the wording of each point raised with a response and reference to the relevant ES section is provided. Where further discussion and/or an alternative approach has been agreed with the relevant stakeholders and the Planning Inspectorate (PINS), an explanation is provided.

Consultation

- 10.4.38 Table 4: Summary of key consultation comments received in ES Appendix 10.1: Landscape and Visual Policy and Consultation Tables (Application Document 3.4) sets out the key points from the consultation undertaken through Technical Working Group meetings.
- 10.4.39 Where assessment has been undertaken or revised in accordance with these comments, the wording of each point raised with a response and reference to the relevant ES section is provided. Where further discussion and/or an alternative approach has been agreed with the relevant stakeholders, an explanation is provided.

10.5 Assumptions and limitations

- 10.5.1 The assessment of effects described in this chapter is based on currently available information. The chapter provides an assessment of likely significant effects, where these effects would occur and what would cause them.
- 10.5.2 All viewpoints considered in the assessment are located on publicly accessible land.
- 10.5.3 Viewpoint photography includes photographs taken during field work in winter 2021/2022 and summer 2021. Through the Statutory Consultation process some viewpoint locations were altered. For some of these it has not been possible to take summer photographs. Therefore, the assessment has been undertaken using the worst-case winter photographs.
- 10.5.4 The assessment assumes that the screening provided by existing vegetation and any proposed mitigation would reduce during winter months when vegetation is not in leaf.
- 10.5.5 An overview of the assessment of night-time effects is included in this chapter. During construction there would be lighting associated with

construction compounds and construction activities which could potentially contribute to or constitute temporary localised significant effects. The majority of the Project would be unlit during operation with lighting columns installed only at Junction 40 M6 to Kemplay Bank, Bowes junction and Scotch Corner, where lighting is already part of the baseline environment. Car headlights and taillights would be more noticeable at off-line sections and potentially at online sections where roadside vegetation is removed to accommodate the Project. The assessment indicates where visibility of car lights is likely.

10.5.6 Construction assumptions are set out in Chapter 2: The Project, with the following assumptions relevant to the LVIA:

- topsoil and subsoil stockpiles are 2m in height
- the site office and compounds are one storey
- cranes and piling rigs would be used for the construction of overbridges, underpasses and structure crossings of watercourses
- temporary construction lighting would be used to illuminate compounds and for construction works of longer duration at fixed points such as structure crossings.

10.5.7 LoD have been considered in the assessment. The standard LoD of +/- 1m vertically or 3m laterally has been assessed and would not contribute to a significant change in the assessment. Areas where the vertical LoD exceed +/- 1m which could change the assessment have been included in ES Appendix 10.9: Limits of Deviation Assessment (Application Document 3.4). Chapter 2: The Project sets out the LoD throughout the Project.

10.5.8 At year one of operation mitigation planting would be between 0.4m and 0.8m in height for whips, transplants and hedgerow planting and between 1m and 1.8m in height for trees.

10.5.9 At year 15 of operation mitigation planting would have reached a height of at least 6m based on a planting size of 1m and conservative average growth rates of approximately 1m per 3 years. Intermediate mitigation has not been assessed but there would be a degree of mitigation as the planting matures between year 1 and year 15.

10.5.10 Mitigation measures have been applied within the Order Limits only.

10.5.11 PRow have been assessed with a high sensitivity rating. This recognises that there is likely to be an increase in recreational visitors to the area, demonstrated by the range of planning applications for holiday homes and caravan parks. This allows for the potential for less sensitive PRow to develop and become more sensitive due to increased footfall and ensures the assessment is robust with a degree of future proofing.

10.6 Study area

10.6.1 *DMRB LA 107* requires the study area to be identified on a project by project basis using four criteria for landscape effects and four criteria for visual effects. These criteria are listed in Table 10-2: DMRB study area

selection criteria together with the rationale for the proposed extent of the study area.

- 10.6.2 For the PEI Report a Zone of Theoretical Visibility (ZTV) was produced extending 10km from the Project. This resulted in a study area of 7km.
- 10.6.3 Further fieldwork and more detailed ZTV analysis have been undertaken since the PEI Report. The study area has been refined to 3km from the Order Limits. This adequately covers all receptors with potentially significant impacts. Specific representative viewpoints outside of the study area were requested as part of the consultation process and these have been included in the assessment. For further information on the refinement of the study area refer to ES Appendix 10.3: Landscape and Visual Study Area (Application Document 3.4).
- 10.6.4 Local landscape character, national and local landscape designations that coincide with the study area are considered in the assessment. Visibility of the Project from the study area for Temple Sowerby to Appleby, Appleby to Brough and Bowes Bypass has informed the assessment of effects on the North Pennines AONB.

Table 10-2: DMRB study area selection criteria

Criteria	Rationale
Landscape Effects	
<p>The study area shall be defined on a scheme-by-scheme basis and be proportionate to the following factors:</p> <ul style="list-style-type: none"> 1) the project boundary/construction activity (including compounds and temporary land take) 2) the wider landscape setting within which the project/its works has the potential to influence 3) the extent of the area visible by the project 4) the full extent of adjacent or affected landscape receptors of special value (i.e. conservation areas, designated areas) whose setting can be influenced by the project. 	<ul style="list-style-type: none"> 1) The Order Limits Figure 2.1: Order Limits (Sheets 1 to 8). 2) The wider setting of the Project has been considered including theoretical visibility of the Project, distance to the Project and other factors such as topography (see ES Figure 10.3: Zone of Theoretical Visibility (ZTV 7km) (Application Document 3.3). 3) A ZTV was produced at PEI Report stage to 10km from the Order Limits. Fieldwork proved that visibility from lowland areas would be restricted by vegetation and landform, and from upland areas the Project would be a distant element with a limited influence on landscape character. 4) The full extent of adjacent landscape designations affected by the works has been informed by site surveys and agreed through engagement with stakeholders.
Visual effects	
<p>The study area shall be identified on a scheme-by-scheme basis and proportionate to the following factors:</p> <ul style="list-style-type: none"> 1) the project/construction visual footprint (including compounds and temporary land take) 	<p>The proposed 3km study area has been informed by:</p> <ul style="list-style-type: none"> 1) The findings of the PEI Report (submitted September 2020) 2) Consideration of the visual footprint of the Project and construction

Criteria	Rationale
2) the wider visual envelope within which the project has the potential to influence 3) the extent of representative viewpoints visible of the project 4) the extent of adjacent or affected visual receptors and the visual amenity of the area that can be influenced by the Project.	3) A range of long-distance views within the study area have been selected, but also beyond the 3km study area if considered appropriate, informed by engagement with stakeholders 4) A broad range of viewpoints, representing a variety of receptor categories has been selected 5) The ZTV, which indicates which receptors have potential visibility of the scheme 6) Fieldwork, to verify the extent of visual receptors and visual amenity, considering the screening effect of layers of intervening vegetation.

10.7 Baseline conditions

The A66 Trans-Pennine Journey End to End

- 10.7.1 The historic strategic national route of the A66 has provided a commercial and military connection between the coastal regions of the north of England for centuries. The course of the route was influenced by the geological form and the landscape features the original builders encountered. The Project schemes (8No) that make up the strategic A66 Trans Pennine Project pass through a broad spectrum of landscape character types and these reflect both their geological form and their landscape use.
- 10.7.2 The route from the M6 junction follows the landscape features of the River Eamont and River Eden valleys before crossing the uplands of Stainmore on the lower slopes of the Pennines. It then follows the River Greta valley to the connection with the A1(M) at Scotch Corner. The range of elevations the route navigates has an influence on both the land use and the scattered settlement patterns. The landscape character areas (LCA) that the A66 Trans Pennine route traverses are described in detail by the local authorities (Cumbria, Durham, North Yorkshire & Richmondshire) and these LCA descriptions emphasise the interrelationship and transitional nature of the distinctive character types experienced whilst underlining the environmental variety of the route.
- 10.7.3 Whether the experience of the journey on the A66 Trans Pennine route starts from the east or the west, the transition from either the A1(M) in the east or M6 (J40) in the west, the journey is imbued with a sense of anticipation and transition, from the environment of the national motorway network to a more agrarian character with views of upland environments. The sinuous A66 route offers a journey where the traveller's experience changes in elevation and direction. It is a journey, valued by tourists, that provides panoramic views of high moorland, river valleys and a distinctive landscape pattern of agricultural land bounded by mature trees, hedges, and dry-stone walls.

An East Bound Journey

- 10.7.4 The A66 is comprised of sections of dual carriageway interspersed with sections of single carriage way which sometimes results in a stop/start congested journey. On the single carriage way sections, the heavy goods vehicles (HGVs) that comprise a significant percentage (30%) of the traffic can present a daunting prospect for the traveller, tourist, and users of lighter vehicles.
- 10.7.5 The transport network sections that comprise the Eastbound A66 Journey are:
- Junction 40 M6 to Kemplay Bank: The existing dual carriageway to the south of Penrith in a semi- urban environment with some grazing fields to the south.
 - Penrith to Temple Sowerby: This single carriageway section transitions from the semi-urban to the open countryside and gives the traveller their first view of the wider landscape.
 - Temple Sowerby By-pass: An existing dualled section.
 - Temple Sowerby to Appleby / Crackenthorpe / Appleby: This single carriageway section brings the traveller into proximity with Kirkby Thore, a bridge crossing point that gives the traveller a close view of some of the village buildings.
 - Appleby By-pass: an existing dualled section.
 - Appleby to Brough: A sinuous section of single carriageway in the shadow of the Pennine Fells close to the Warcop military training camp.
 - Brough By-pass: An existing dualled section leading east to Bowes.
 - Stainmore: An existing dualled section.
 - Bowes By-pass: An existing dualled section.
 - Bowes to Cross Lane: A short section of single carriageway linking between the A67 & the A66.
 - Cross Lane to Rokeby: An open section of single carriageway in a more pastoral environment.
 - Greta Bridge By-pass: An existing dualled section.
 - Stephen Bank to Carkin Moor: A single carriageway section in a more arable farming landscape skirting hamlets and small holdings.
 - Scotch Corner junction with the A1(M).

Starting the Journey

- 10.7.6 The eastbound journey starts in the sometimes-frenetic environment of the M6 Junction 40 that connects to the A66 Trans Pennine dual carriageway. Once the southerly hinterland of Penrith has been cleared the traveller is presented with a single carriageway route with views of the distant Pennine Fells beyond the Center Parcs Holiday Village. The openness of the surrounding agricultural, occasionally parkland landscape, underlines the changing landscape character and the changing wider environment of the area.
- 10.7.7 Categorised as 'Intermediate Farmland' by Cumbria County Council the area southeast of Penrith is noted for its recreational value and distant

scenic qualities as well as being a transitional landscape between the river lowlands and the more easterly moorland uplands. Travelling east the route gains elevation into more open countryside and this contributes to a sense of anticipation. The traveller has already passed elements of the historic legacy of the area, Brougham Castle (c1170), south of Penrith and south of the road is located in a commanding position on a meander of the River Eamont, on the site of an earlier Roman Fort (Brocaum).

- 10.7.8 As the journey continues east on the Temple Sowerby by-pass the Pennine Fells are more prominent to the north of the road and the wider environment adjacent to the road is of a more pastoral character, and tree cover on the field boundaries become more frequent. The Cumbria County Council landscape character type reflects these environment changes that are described as being of broad valleys, rolling fringes and sandstone ridges. This area is traversed by a narrow section of the A66 through the village of Kirkby Thore. The road environment feels invasive and incongruous as it crosses Trout Beck, a tributary of the River Eden. The Bridge Hotel, on the roadside, constructed with ashlar blocks of the local red sandstone, is very distinctive. Its prominent roadside location means the Hotel appears very vulnerable and exposed to the heavy traffic.
- 10.7.9 Continuing east, the roadside tree cover increases as the road by-passes Crackenthorpe village, which is clearly visible to the north of the road. Here the landscape is becoming an increasingly open valley as the road is running close to meanders in the River Eden. The Cumbria County Council broad valley, foothills and scarps landscape character components are visible to the traveller. This single carriageway section has hedged boundaries and follows the course of the River Eden valley flood plain. The open farmland has both a regular and irregular field pattern with hedge and stone walls delineating the field boundaries. Tree cover varies from scattered single mature specimens on the field boundaries to pockets of scrub, deciduous woodland, and small blocks of coniferous plantation. After the by-pass, the road transitions into the dual carriageway of the Appleby by-pass before returning to single carriageway west of Warcop.
- 10.7.10 As the traveller approaches Warcop the route runs adjacent to the foothills of the Pennine Fells and enters the North Pennines Area of Outstanding Natural Beauty (AONB) and the Moorland Fringe and Lower Dale LCAs that the A66 route skirts. The key characteristics of these areas are now becoming familiar to the traveller: "Broad scale landscapes with panoramic views from high ground and where the valleys of the Tees and the Greta are a long-established trans-Pennine corridor".
- 10.7.11 There is a conifer plantation to the north and a more open agrarian landscape riverine valley environment to the south. The traveller is very aware of the closeness of the Warcop training camp due to military roadside signage, views of khaki-coloured buildings, boundary fencing and a windsock adjacent to a helicopter landing field. The roadside

infrastructure detracts from the wider appreciation of the AONB at this point.

- 10.7.12 The road begins to climb on this section approaching the dualled section of the Brough by-pass. Once clear of Brough the road continues to climb, tree cover decreases, and views of the upland Pennines become more distinct. Ascending, the traveller passes the snow gates at Augill Beck, and the elevation is still increasing as the traveller passes the Stanmore Services (Stainmore Gap: 464m AOD) which is in the shadow of the high point of Great Knipe (515m AOD). This upland landscape is windswept with open views of the treeless rolling upland hills and the area is scattered with remnants of Roman historical occupation and associated infrastructure i.e., Roman Signal Stations, a Fortlet and a Roman camp with enclosure. Stanmore services (25.2miles from either end of the A66) is the halfway point of the Trans Pennine A66 journey.
- 10.7.13 The National Landscape Character Areas (NCA) of the North Pennines NCA10 and NCA 22 Pennines Dales Fringe form a distinctive area of upland moorland and dales, where the high extensive fells of the North Pennines experience severe climate conditions in some of the most wild and remote landscapes to be experienced in England. A distinctive upland plateau divided by broad pastoral dales, each with its own distinctive character; largely designated as an Area of Outstanding Natural Beauty (AONB). Much of the area is designated as a United Nations Educational, Scientific and Cultural Organization (UNESCO) European and Global Geopark as a result of the many geological sites and features including minerals.
- 10.7.14 This is a landscape of great tranquillity, with a sense of remoteness. A low population, little light pollution, a slow rate of change, extensive open moorlands with panoramic views and a sense of wildness, all providing an inspirational recreational experience.
- 10.7.15 Some of these characteristics are also reflected in the (NP AONB) LCAs. The County Durham Broad Landscape Character Types Middle Dale, Lower Dale and Moorland Fringe emphasising the transition from the upland character landscape to the value and protected status bestowed on these landscape areas.
- 10.7.16 East of the Stainmore services, and the A66 high points, the traveller begins the long descent toward Bowes, five miles to the east, passing the (Bowes) snow gates 1km before the Barnard Castle exit. The closure of the snow gates in the winter months on the A66 is due to either high snow falls or major traffic incidents, these closures are implemented on average 4 or 5 times a year.
- 10.7.17 On the descent the landscape begins to soften, tree cover increases, and a gentler pastoral agricultural environment prevails. South of the A66 is the River Greta valley in North Yorkshire and to the north of the A66 is County Durham. The landscape that surrounds the village of Bowes is the River Greta Valley, a landscape that bears the evidence of centuries of occupation and influence.

- 10.7.18 The traveller is then presented with a choice of either progressing due east towards Barnard Castle, Bishop Auckland or Darlington via the A67 or progressing southeast on the A66 to Scotch Corner and the wider connections of the A1(M).
- 10.7.19 After the Bowes by-pass, the single carriageway section from Cross Lanes to Rokeby is slightly elevated and enables glimpsed views of the surrounding agricultural landscape, more open to the north of the road than to the south, enabling the traveller to have a more unobstructed view of the agricultural environment between the tree fringe of the road. St Mary's church, to the north of the road, is a significant landmark and is a component of the Rokeby Park historic parkland landscape. Following this section, the existing dual carriageway by-passes Greta Bridge, Thorpe Farm Holiday Park and Smallways Rokeby Inn.
- 10.7.20 The next significant site of interest on the traveller's route is the Mainsgill Farm Shop south of the A66. This increasingly popular retail outlet is becoming an individual destination whilst at the same time being a useful stopping point for west bound traffic that has just left the A1(M) at Scotch Corner. The landscape is described as a Lowland Vale broad character type where the primary characteristics are a gently rolling, undulating topography with a predominantly arable agricultural use and a semi-regular field pattern of old enclosures bounded by thorn hedges.
- 10.7.21 The traveller would note the increased frequency of large lay-bys and signage provided for the A66 east bound traffic and these are a strong indication that the junction connecting to the A1(M) is ahead.
- 10.7.22 Throughout this eastbound journey many of the significant built elements, junctions and high points have a historical connection to the road builders of the past. Along the entire route there are references to the original Roman road, Roman forts, Roman settlements with stockading and kilns. Additionally, within the historic place names there are many names that are Norse in origin and it this trail of historic evidence that emphasises the ancient origins of this strategic national route.

The Landscape of the Journey

- 10.7.23 Transport corridors are an everyday part of all our lives; the challenge is to ensure the travel experience is positive and occasionally uplifting. The view from the road has an impact on the perception of place and is important to the traveller, tourist, and their awareness of our wider environment. It is important therefore that the journey experience is developed to create high quality places to stop and enjoy the opportunities this transport corridor offers.
- 10.7.24 Landscapes by their combinations and patterns of elements and features create areas of distinctive character and diverse habitats. A sense of place arises from the character and special qualities of each location and the connections that people make. A positive sense of place and reinforcement of distinctive qualities ensures and strengthens the perception and understanding of our environment. The Project

objectives support, conserve and create distinctive places, reinforce character, and promote the experience of the landscape. Transport routes can provide opportunities for creating a sense of place and a memorable experience by virtue of their course through the landscape, the provision of access and the need to provide locations for resting. A high quality of design and continuity along the corridor is essential to enhancing and exploiting these opportunities and their contribution to the experience of the whole journey.

- 10.7.25 Continuity of design along the whole road corridor is essential for maintaining the narrative of the whole landscape journey. Transport corridors can support and create opportunities that present and direct views, create vistas and provide the elements that support the overall character and identity of the route.

Route wide

- 10.7.26 This section provides a description of the landscape and visual baseline for each scheme and lists the NCA, Landscape Character Units (LCU) and landscape designations that coincide with the study area for each scheme. Key characteristics of NCA and LCU are described in the relevant publications referenced in this chapter. Scotch Corner is not included in the baseline description and assessment as it is considered there would not be significant effects during construction and operation due to the small scale and localised nature of the planned work and there would be no notable change to the landscape and visual baseline. This scheme is included on the Figures provided with this chapter for completeness.

Landscape character

- 10.7.27 A description of landscape character drawing on published studies and fieldwork is provided in the assessment for each scheme. It provides additional baseline information and where relevant explains any notable variations in landscape character occurring in individual landscape units. Section 10.8: Essential mitigation and enhancement measures also provides further baseline information about elements and features of the existing landscape that have been considered in design and mitigation of each scheme.
- 10.7.28 Natural England has produced 159 individual NCA profiles for England to make environmental evidence and information easily accessible to a wide audience.
- 10.7.29 The Project is covered by the following published Landscape Character Assessments:
- *Cumbria Landscape Character Guidance and Toolkit* (Cumbria County Council, 2011)¹⁵
 - *County Durham Landscape Character Assessment* (Durham County Council, 2008)¹⁶

¹⁵ Cumbria County Council (2011) *Cumbria Landscape Character Guidance and Toolkit*

¹⁶ Durham County Council (2008) *County Durham Landscape Character Assessment*

- *Lake District National Park Landscape Character Assessment and Guidelines* (Chris Blandford Associates, 2008)¹⁷
- *North Pennines AONB Management Plan 2019-24* (North Pennines AONB Partners, 2019)¹⁸
- *North Yorkshire & York Landscape Character Assessment* (North Yorkshire County Council, 2011)¹⁹.

- 10.7.30 The respective local authorities coinciding with the study area have different approaches to identifying and classifying landscape character. Cumbria County Council has identified landscape types in the county. Landscape types are areas that share similar broad characteristics and are not geographically unique. The landscape types are divided into sub-types which also share similar broad characteristics with geographical references in each description. The sub-types cover large areas and while the degree to which key characteristics are expressed varies in each sub-type, they are recognisably different. Localised variations in key characteristics have been identified through fieldwork observations and analysis of sensitivity and this forms part of the evidence base used to assess impacts of the Project.
- 10.7.31 Durham County Council has identified county character areas which are regional in scale and based on Natural England's NCAs. At the sub-regional level Durham has identified broad landscape types (BLT) and broad character areas (BCA). BLT are landscapes with similar patterns of geology, soils, vegetation, land use, settlement, and field patterns identified at a broad sub-regional level. BCA are geographically unique examples of a particular BLT. At a local level, local landscape types and sub-types are identified. These are smaller areas which may be found in more than one BLT. For example, Lowland Woods local landscape type is found throughout County Durham. This LVIA uses BCA and any variations in character as part of the evidence base against which effects of the Project are assessed.
- 10.7.32 The Lake District National Park has identified 13 landscape character types (LCT) which are described as having "*a distinct and relatively homogenous composition and pattern of physical and cultural attributes...Landscape Character Types are generic in form and may occur in different areas of the National Park.*" Local variations in LCT are identified by sub-types of which there are 22 in total. The published landscape character assessment also identifies 71 Areas of Distinctive Character which are individual geographical areas with a unique composition. This LVIA considers effects on sub-types due to the separation distance between the National Park and the Project, the limited theoretical visibility of the Project and the presence of existing infrastructure and development in the intervening landscape.

¹⁷ Chris Blandford Associates (2008) *Lake District National Park Landscape Character Assessment and Guidelines*

¹⁸ North Pennines AONB Partnership (2019) *North Pennines AONB Management Plan*

¹⁹ North Yorkshire County Council (2011) *North Yorkshire and York Landscape Character Assessment*

- 10.7.33 The *North Pennines AONB Management Plan*, published by the NP AONB Partnership in 2019, identifies 13 LCT and indicates there are separate LCAs coinciding with some of the 13 LCT. The *North Pennines AONB Management Plan* provides a map of LCT. LCAs are not mapped, and the *North Pennines AONB Management Plan* explains that the AONB Partnership is undertaking a detailed landscape character assessment with descriptions of LCT and LCAs. This LVIA uses LCT to inform the assessment of effects on the AONB.
- 10.7.34 North Yorkshire County Council has identified 39 County LCT and primary landscape units which are groups of LCT. The LCT cover large areas and while there may be more than one unit of a LCT and therefore not geographically unique, the published landscape character assessment provides geographically specific information in the description of each LCT that distinguishes one from another.
- 10.7.35 When referring generally to local landscape character this report uses the term LCU. When referring to a specific LCU that is affected by a scheme this report uses the terminology of the relevant local authority e.g. 8b Broad Valleys landscape sub-type.

Landscape Designations

- 10.7.36 This section identifies national and local landscape designations that coincide with the LVIA study area. These are shown on ES Figure 10.2: Landscape Designations (Application Document 3.3).

UNESCO world heritage sites

- 10.7.37 The English Lake District World Heritage Site (WHS) coincides with the study area and has the same boundary as the Lake District National Park described below. The WHS is of outstanding universal value. Its statement of outstanding universal value describes three criteria that support its designation, and these relate to recognition of its natural beauty in literature and art, its landscapes, which are an example of a northern European upland agro-pastoral system and its direct and tangible association with a number of ideas of universal significance.

UNESCO global geoparks

- 10.7.38 The NP AONB Global Geopark coincides with the study area and covers the same area as the NP AONB described below. Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.

National parks

- 10.7.39 The Lake District National Park and WHS boundary coincides with the LVIA study area with the nearest scheme being M6 Junction 40 to Kemplay Bank which is 2.5km from the NP boundary. The Yorkshire Dales National Park also coincides with the study area with the nearest scheme being Temple Sowerby to Appleby at a distance of 4km to the north of the NP. Bowes Bypass is also close to the NP boundary. The

statutory purposes of National Parks as set out in the National Parks and Access to the Countryside Act 1949 and Environment Act 1995 are:

- *"To conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks*
- *To promote opportunities for the public understanding and enjoyment of the special qualities of the Parks."*

Areas of outstanding natural beauty

- 10.7.40 The NP AONB coincides with the study area. Part of the Appleby to Brough scheme is in the AONB. A small section of the accommodation works at the western end of the Bowes Bypass scheme lies within the AONB and the Temple Sowerby to Appleby scheme is within 2.2km of the AONB boundary. The Countryside and Rights of Way Act 2000 identifies that areas are designated as AONB for the purpose of *"Conserving and enhancing the natural beauty of the area."*

Registered parks and gardens

- 10.7.41 Registered Parks and Gardens (RPG) are a non-statutory cultural heritage designation. They are considered in the LVIA in the context of their contribution to landscape character and, where relevant, their importance as a visitor destination and implications for visual amenity and views. Several RPG coincide with the study area with Rokeby Park being a key consideration for the Cross Lanes to Rokeby scheme.

Local landscape designations

- 10.7.42 Local authorities may identify landscapes with scenic qualities or characteristics that they consider should be afforded policy protection in local development plans. Durham County Council has identified Areas of High Landscape Value (AHLV) in its administrative boundary and one AHLV (Dales Fringe AHLV) coincides with the study area. Bowes Bypass scheme and Cross Lanes to Rokeby scheme are in Dales Fringe AHLV.

Visual

- 10.7.43 An overview of the visual baseline environment for each scheme is described followed by a table listing viewpoints used to represent visual receptors with the potential to be affected by the Project. Photographs of existing baseline views from each viewpoint are shown on the photosheets in ES Figure 10.8: Photosheets (Application Document 3.3). Viewpoint locations are shown on ES Figures 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3).

M6 Junction 40 to Kemplay Bank

Landscape

- 10.7.44 The relevant landscape features and elements across the M6 Junction 40 to Kemplay Bank scheme study area are set out below, including the

published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.45 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the scheme is located within the Eden Valley, on the southern edge of Penrith. As a result, the urban character of Penrith bears a large influence on landform to the north, whilst land south of the town tends to drop away to meet the River Eamont.
- 10.7.46 The River Eamont forms the main watercourse within the scheme study area, and meanders east to west approximately 300m south of the Kemplay Bank Roundabout. As the river meanders it courses relatively close to the existing A66 between Carleton Hall Police HQ and Brougham Castle.
- 10.7.47 South of the River Eamont, the River Lowther follows a more south to north course, passing Eamont Bridge and under the M6 towards Lowther Holiday Park.
- 10.7.48 Several smaller watercourses, many unnamed, pass through the scheme study area including Thacka Beck which passes through Penrith in a broadly north-west to south-east direction before joining with the River Eamont south-east of the Police HQ.
- 10.7.49 Within the northern part of the study area, aside from the urban influence of Penrith, the wooded form of Beacon Hill is a notable landform to the north of Penrith, rising from 200m AOD at its lowest to over 270m AOD at its highest, featuring the local landmark of Beacon Tower.
- 10.7.50 Elevated land continues eastward towards Gibbet Hill and Barbary Plains, punctuated by blocks of woodland such as Tods Wood. East of Penrith, land is rather more undulating and takes on an agricultural form.
- 10.7.51 Across the southern part of the study area, the flatter valley forms are apparent, particularly around the Rivers Eamont and Lowther. Much of the land either side of the River Eamont is floodplain, including around Eamont Bridge.
- 10.7.52 Across the west of the study area, west of the M6, land is relatively flat and open aside from the odd hillock, given over to long broadly uniform strips of agricultural land. Watercourses such as Carlisle Beck and Myers Beck pass through the area north-west to south-east towards Penrith and the River Eamont.
- 10.7.53 Landform across the study area therefore comprises a typical valley character, with higher elevated land providing some extensive views south whilst foreshortening views north from within Penrith, coupled with the flatter valley floor south of the existing A66.

Vegetation Patterns

- 10.7.54 The presence of Penrith within the study area is such that notable vegetation patterns tend to be situated outside the town, with the

coniferous woodland cover of Beacon Hill perhaps the most obvious. The major road corridors of the M6 and A66 feature strong woodland belts which provides screening of moving traffic. Wetheriggs Country Park provides wooded enclosure to between Clifford Road and the A66 between the M6 Junction 40 and Kemplay Bank Roundabout.

10.7.55 The riparian woodland which follows the Rivers Eamont and Lowther to the south of Penrith are also notable, in particular the woodland blocks and belts around Eamont Bridge and north of Lowther Holiday Park.

10.7.56 The woodland belt which follows the northern carriageway of the existing A66 east of Kemplay Bank Roundabout provides screening in views south for nearby residents at Pategill Park and Carleton Hall Road.

10.7.57 Otherwise, field boundary vegetation forms the linear patterns associated with large and small scale agriculture, interspersed with small scale woodland blocks.

10.7.58 Within the Order Limits roadside tree belts generally feature along the A66 corridor, with woodland blocks within the roundabouts. There is no ancient woodland within or adjacent to the Order Limits.

Land use and settlement pattern

10.7.59 Land use within the study area is predominantly agriculture, with the urban influence of Penrith providing the exception. Beyond the extents of Penrith agricultural land use is defined by geometric patterns of various field sizes, often bound by a combination of formal and informal hedgerow, stone walls, hedgerow trees and post and wire fencing.

10.7.60 South of the study area field patterns are often irregular, at times dictated by the presence of watercourses such as the River Eamont and the River Lowther. To the west of Penrith field patterns become narrow and regular.

10.7.61 North and east of Penrith, field patterns appear more regular, particularly to the north-east.

10.7.62 Within and around Penrith commercial influence extends to a number of industrial estates including Gilwoudy Industrial Estate directly east of the M6, and Skirsgill west of the M6 Junction 40 roundabout.

10.7.63 Other settlement within the study area tends to be small scale, including Stainton to the west of Penrith, and Clifton and Eamont Bridge to the south. East and north of Penrith, settlement is more scattered and often comprises single farmhouse dwellings or small groups of properties such as Whinfell Holme, Frenchfield and Dinglefield.

10.7.64 Other land uses within the study area include sewage works north of Lightwater Bridge, tourist accommodation such as Lowther Holiday Park and Harpers Caravan Site, and the 'blue light' area south-east of Kemplay Bank Roundabout.

10.7.65 In relation to the Order Limits, the M6 and the A66 are the main road networks across the study area, with the M6 running broadly north to

south and the A66 east to west. Within the study area the A66 is mainly dualled until reaching just west of the old Llama Karma Kafe.

- 10.7.66 Other notable routes include the A686 which branches off Kemplay Bank Roundabout to the north-east, the A6 which branches north and south off Kemplay Bank Roundabout and the A592 which arrives at the M6 Junction 40 roundabout from the north.

PRoW and other access

- 10.7.67 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), ES Chapter 13: Population and Human Health and the online Cumbria County Council public rights of way map, the Order Limits are crossed by the following PRoW:

- PRoW (footpath) 321008/358034 which runs broadly south-west to north-east some 180m north-west of Skirsgill Hall
- PRoW (footpath) 358008 which passes to the west of Kemplay Bank Roundabout
- PRoW (footpath) 358005 which runs south-east of the Police HQ, following the northern banks of the River Eamont
- PRoW (footpath) 358006 which travels north through Eamont Mews from the A66.

- 10.7.68 Other routes across the study area include:

- PRoW (footpath) 375003 which travels north of Mayburgh Henge, joining the A6 at the River Eamont and subsequently providing a link with PRoW 358005
- The Lowther Valley Cycle Route which provides a predominantly road-based route through and eventually south of, Penrith
- PRoW (footpath) 321007 which provides a link between Stainton and Mile Lane west of Penrith.

Designations

- 10.7.69 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), there are limited landscape designations and relevant environmental designations across the study area.

World heritage sites

- 10.7.70 The English Lake District World Heritage Site boundary is approximately 2.5km to the south-west of the Order Limits.

National parks

- 10.7.71 The Lake District National Park boundary is approximately 2.5km to the south-west of the Order Limits.

Areas of outstanding natural beauty

- 10.7.72 There are no AONB in the 3km study area.

Registered parks and gardens

- 10.7.73 The nearest RPG is Dalemmain Grade II* RPG, approximately 2.2km to the south-west of the Order Limits. Lowther Castle Grade II RPG is approximately 2.6km to the south.

Heritage designations

- 10.7.74 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and ES Chapter 8: Cultural Heritage, relevant cultural heritage designations include:
- Penrith Conservation Area (CA)
 - Penrith New Streets CA
 - Mayburgh Henge Scheduled Monument (SM)
 - Brougham Roman Fort and civil settlement and Brougham Castle SM
 - Roman road and enclosures SE of Frenchfield SM
 - Romano-British settlement and regular aggregate field system north of Yanwath Wood SM
 - King Arthur's Round Table henge SM
 - Various other smaller SMs across the study area.

Ecology and biodiversity designations

- 10.7.75 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 6: Biodiversity, relevant ecological designations within the study area include:
- River Eden Special Area of Conservation (SAC) which lies south of the Order Limits, at times adjacent to its boundary
 - River Eden and Tributaries SSSI which follows the same route as the SAC
 - Cowraik Quarry SSSI which lies 1.7km north-east of the Order Limits.

Perception and tranquillity

- 10.7.76 With reference to ES Figure 10.7: CPRE Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE shows clear differences between areas within and immediately around Penrith and those across the wider study area.
- 10.7.77 Within Penrith and its immediate environs the perception is of an urban environment characterised by various residential dwellings, infrastructure, commercial buildings and industrial areas.
- 10.7.78 Towards the outskirts of the town tranquillity levels remain low, influenced by the M6 and A66 road corridors. Beyond these limits however, once the broader agricultural areas are reached there is a notable change in tranquillity in all directions.
- 10.7.79 Within the town centre of Penrith there is a perception of historical character, with its narrow streets and buildings such as St. Andrew's Church and Penrith Castle. Beyond that there is a more typical urban sprawl with large housing estates and commercial and industrial areas.

10.7.80 To the south of Penrith and the A66 there is a more rural and tranquil character, although still notably influenced by the M6. This character extends to the east and west, and to the north beyond Beacon Hill.

Published landscape character assessments

10.7.81 The following section sets out the published landscape character assessment which cover the Order Limits and study area at national, county and local levels.

National Landscape Character

10.7.82 At the national level, the Order Limits for M6 Junction 40 to Kemplay Bank lie within NCA9 Eden valley.

10.7.83 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA9 is characterised by the published study as an area which *"encompasses the broad valley of the River Eden and its tributaries."*

10.7.84 The key characteristics considered relevant to the study area are:

10.7.85 *"Managed estate and farm woodlands characterise the valley floor, with numerous shelterbelts, copses and mature hedgerow trees giving a well-wooded character"*

10.7.86 *"Rich, fertile soils in the valley support mixed agriculture including arable cultivation. The poorer soils of the sandstone ridge and the foothills of the Pennine escarpment give rise to rough grassland, heath and plantations."*

10.7.87 *"Medium to large rectilinear fields are enclosed by mature hedgerows and hedgerow trees, walls or, more commonly to the east, wire fences and thin relict hedges. Limestone walls are a feature of the Pennines and Orton fringes, while red sandstone walls are a feature of the Penrith Sandstone Ridge."*

10.7.88 *"Visible archaeological or historic legacy: prehistoric stone circles, Roman forts, medieval castles and parkland are important features of the historic environment."*

10.7.89 The relevant Statement of Environmental Opportunity (SEO) for NCA9 include:

- *"Manage, restore and expand the area of woodland within the Eden Valley and its tributaries, restoring a network of woodland habitat to enhance timber supply, biodiversity, water quality, carbon storage and tranquillity, while regulating soil erosion and peak water flow."*
- *"Protect and enhance the geodiversity and historic landscape of the Eden Valley, its geological exposures and river processes, and history of human occupation and innovation, optimise their contribution to delivering wider environmental benefits and raise public awareness, understanding and enjoyment of this heritage."*

10.7.90 In addition, NCA8 Cumbria High Fells lies within the south-western fringes of the study area. The NCA is described as *"a dramatic upland landscape, carved by past glaciations, with rugged peaks, ridges and*

open fells, separated by U-shaped valleys with a radiating pattern of lakes and rivers."

10.7.91 Relevant key characteristics of the NCA include:

"Native woodland, often extensive, on valley sides and bottoms, with some larger conifer plantations, and scattered trees and scrub on the fells, with a few isolated, including in gills."

"Field pattern of pastoral hill-farming with small valley in-by fields, rougher intakes/allotments on valley sides and common grazing on the open fells; separated by a network of dry-stone walls, with some hedges and trees, including pollards."

"Large areas of relative tranquillity."

10.7.92 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above NCA.

[*Cumbria County Council Landscape Character Assessment*](#)

10.7.93 With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), most of the Order Limits lie within landscape sub-type 6 Intermediate Farmland, which covers a large swathes of land south-east, north-east and north-west of Penrith. The stated relevant key characteristics of landscape sub-type 6 Intermediate Farmland in relation to the study area are:

- *"Transitional farmland between the lowland and upland landscapes*
- *Extensive areas of improved pasture with some arable farming*
- *Planned villages with greens displaying topographical and archaeological evidence of their medieval origins*
- *In parts the landscape is dissected by the deeply incised or open river valleys*
- *Wooded valleys and ghylls".*

10.7.94 The most northerly parts of the Order Limits lie within the 'Urban Area' landscape sub-type of Penrith, and as such there is no character description within the landscape character assessment.

10.7.95 The western extents of the Order Limits lie within 12b Rolling Fringe landscape sub-type and key characteristics include: *"Large-scale undulating topography; large fields of improved pasture; stone walls mainly in the east, occasional hedges and fence boundaries; very sparse tree cover; some large-scale conifer plantations; and small streams and rivers which cut through the rolling topography".*

10.7.96 The remaining landscape sub-types within the study area are as follows:

- 8b Broad Valleys landscape sub-type which lies to the eastern extents of the study area and comprises: *"wide and deep valleys with open floodplains; rural farmland comprising significant areas of improved pasture; pockets of scrub, woodland and coniferous plantations; and hedges and stone walls which form a matrix of field boundaries".*

- 10 Sandstone Ridge landscape sub-type which lies to the northern and south-eastern extents of the study area and *"consists of a sandstone ridge running north from Penrith breaking off into a series of hills north of Lazenby."*
- 12c Limestone Foothills landscape sub-type to the western extents of the study area, characterised by *"Stone walls and hedges (which) reinforce the pastoral features; areas of unimproved and improved pasture; ancient woodland and parkland; and large forestry plantations"*.

10.7.97 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above landscape sub-types.

Lake District National Park Landscape Character Assessment and Guidelines

- Upland Valley landscape character type, a very small part of which lies to the south-western extents of the study area and comprises *"U-shaped valleys formed by glaciers cutting through underlying rock during the last Ice Age."*
- Upland limestone farmland landscape character type which also lies to the south-west of the study area and comprises primarily gently rolling topography *"forming a stark contrast with ruggedness of the neighbouring volcanic rocks of Borrowdale and Skiddaw."*

10.7.98 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above LCTs, including the applicant's assessment of landscape sensitivity.

Visual Baseline

10.7.99 The scheme is located on the alignment of the existing A66 between Junction 40 of the M6 and a point at the eastern rural fringes of Penrith. The existing A66 is a dominant visual focus along and adjacent to the existing road corridor. To the north of the scheme there are residential areas of Penrith including the districts of Wetheriggs, Pategill and Carleton. Views from the residential area around Clifford Road are represented by Viewpoints 1.1 and 1.2 (see ES Figure 10.8: Viewpoint Photosheets).

10.7.100 Between Wetheriggs and Pategill districts there is an area of institutional, industrial, retail and municipal buildings including Penrith Hospital immediately to the north of Kemplay Bank roundabout. Viewpoint 2.5, illustrated on ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3) is representative of views from the hospital boundary. There is a substantial buffer of open space, parkland and formal parks including Wetheriggs Country Park between the A66 and residential areas. Views in the direction of the scheme from the edge of Penrith comprise of formal and informal parkland, sports pitches, institutional, industrial and retail buildings. Belts of trees and woodland on the north side of the existing A66 restrict views of infrastructure and traffic. Views in the direction of the scheme from the south are relatively

open, and are broadly represented by Viewpoint 2.3 and 2.4, illustrated by ES Figure 10.8: Viewpoint Photosheets. The existing A66 is elevated at the upper valley rim of the River Eamont and traffic is visible on a large embankment. To the east of Kemplay Bank woodland and buildings obstruct views of traffic in views from the south.

- 10.7.101 To the south of the scheme, between the existing A66 and the River Eamont, topography falls from north to south and there is an elevated outlook from the existing A66 where roadside trees and woodland are absent. This provides views to the Lake District Fells for west bound travellers on the A66 from the urban fringe edge of Penrith looking out to the wider countryside.
- 10.7.102 To the south of the scheme there is an urban fringe character to the landscape with a range of different land uses including agriculture, paddocks, industrial and institutional buildings. The mosaic of land uses and the existing A66 and M6 influence views and visual amenity with a more rural character to the east of the A6, where PRoW 358005 follows the north side of the River Eamont to Brougham Castle. Views from this PRoW are illustrated by Viewpoint 2.6 in ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3).
- 10.7.103 The viewpoints listed in Table 10-3: M6 Junction 40 to Kemplay Bank Viewpoints are used to illustrate the baseline environment and inform the assessment of effects of the scheme. Viewpoints suffixed with PM are also illustrated as photomontages (see Figure 10.8: Viewpoint Photosheets).

Table 10-3: M6 Junction 40 to Kemplay Bank Viewpoints

M6 Junction 40 to Kemplay Bank Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
1.1	Clifford Road, Penrith	Representative Residential	At the western end of Clifford Road to the north of Junction 40.	NY 5111 29258
1.2 PM	Entrance to Wetheriggs Country Park, Clifford Road	Representative Recreational Residential	On Clifford Road close to the entrance to Wetheriggs Country Park	NY 51321 29122
1.3A	PRoW (footpath) 321008 north-west of Skirsgill Hall	Representative Recreational	Along footpath within enclosed area	NY 50727 28686
2.1	Footpath in Wetheriggs Country Park	Representative Recreational	In Wetheriggs Country Park south of properties on Clifford Road	NY 51737 29024
2.2	PRoW (footpath) 358008 at Wetheriggs Country Park	Representative Recreational	Adjacent to the play area on footpath within Wetheriggs Country Park	NY 51947 29165

M6 Junction 40 to Kemplay Bank Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
2.3	Skirsgill Lane at Happy Hooves Riding Centre	Representative Road users	At the road junction with minor road on Skirsgill Lane	NY 51768 28724
2.4	Mayburgh Henge Scheduled Monument	Representative Recreational	On the north-eastern bank of Mayburgh Henge Scheduled Monument	NY 51974 28456
2.5 PM	Penrith Hospital footpath	Representative Road users	On footpath leading to Kemplay Bank Roundabout	NY 52118 29193
2.6	PRoW (footpath) 358005 south-east of Cumbria Constabulary HQ	Representative Recreational	On the northern banks of the River Eamont adjacent to outflow from Cumbria Constabulary HQ	NY 52776 29189
2.7	Minor road to Yanwath west of Glendowlin Lodges	Representative Road users	On the grass verge at junction between minor road to the B5320 and minor road leading to Yanwath	NY 51075 26801
2.8	Penrith Beacon	Specific Recreational	Adjacent to Penrith Beacon	NY 52136 31369

Character of the night sky

- 10.7.104 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), The Campaign to Protect Rural England (CPRE) dark sky mapping illustrates a stark difference between skies around and within Penrith and the surrounding wider study area.
- 10.7.105 Central Penrith shows a large area of light pollution, gradually decreasing across wider areas within the study area. Light pollution decreases markedly south of Yanwath towards the Lake District, north of Beacon Hill and east of Beacon Edge.
- 10.7.106 Other built-up areas such as Stainton and Clifton also show a marked increase in light pollution from their more rural surroundings.
- 10.7.107 Light pollution along the A66 decreases as it leaves Penrith east and west as a result of a decrease in associated street lighting.
- 10.7.108 With reference to the Institution of Lighting Professionals Environmental Zones, Penrith and the existing A66 within the Order Limits are assessed as E3: Suburban.

Penrith to Temple Sowerby

Landscape

- 10.7.109 The relevant landscape features and elements across the Penrith to Temple Sowerby scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.110 The scheme lies within the Eden Valley and partially encompasses Penrith to the west, including the majority of its historic town centre.
- 10.7.111 Notable watercourses within the study area include the River Eamont which courses broadly east to west, the River Eden which courses broadly north-west to south-east and the River Lowther which flows south to north. All of these watercourses connect, with the Rivers Eamont and Lowther connecting north of Brougham Castle, and the River Eamont connecting with the River Eden north of Udford Wood.
- 10.7.112 Other minor watercourses across the study area which often feed into or from the above watercourses include Swine Gill, Light Water and Crowdundle Beck. A number of reservoirs and waterbodies such as Whins Pond are also present.
- 10.7.113 Typically land within the northern part of the study area is elevated above the existing route of the A66, falling gradually south-west from the foothills of the North Pennines. South of the A66 Whinfell Forest rises to around 210m AOD and is home to Center Parcs Holiday Park.
- 10.7.114 Across the northern part of the study area land is generally undulating around small settlements whilst rising overall from the riverbeds of the Eden and Eamont towards the North Pennines.
- 10.7.115 The eastern part of the study area also contains undulating land, with a separate valley formed by a watercourse travelling east from the River Eden through Acorn Bank towards Newbiggin.
- 10.7.116 Across the southern part of the study area land is relatively flat aside from the peak at Whinfell Forest. The western part of the study area includes the urban sprawl of Penrith, with land falling away south of the A66 around Eamont Bridge and Clifton.

Vegetation patterns

- 10.7.117 Aside from the urban influence of Penrith and other smaller settlements, land across the study area is broadly characterised by agriculture, although there are significant areas of woodland which are often ancient. These include Tipperary and Dudford Woods some 1km north of the existing A66, Salter Wood within Whinfell Forest, Slatequarry Wood north of Barbary Plains and Crosspots Wood east of Barbary Plains.
- 10.7.118 The various watercourses feature belts of riparian woodland which in turn form enclosed valleys. The mosaic of agricultural fields within the

study area are generally bound by a combination of hedgerows, timber post and wire fencing and stone walls. Occasional hedgerow trees also feature creating strong field boundaries.

- 10.7.119 Within the Order Limits there are in turn belts of strong roadside trees and shrubs on both sides and stretches of road where there is no vegetation, allowing views towards the North Pennines to the north and at times views southwest towards the Lake District fells.
- 10.7.120 There are no TPO trees or areas of ancient woodland within the Order Limits.

Land use and settlement pattern

- 10.7.121 Land within the majority of the study area retains an agricultural character, typified by individual smallholdings and small settlements with the remainder largely influenced by the larger urban character of Penrith to the west. The existing A66 has a significant influence on the character of the study area.
- 10.7.122 Center Parcs within the southern part of the study area is a commercial enterprise providing holiday accommodation and activities within Whinell Forest. As a result, the holiday park has little visual influence on the character of the area, and it is the forest itself which provides a particularly wooded quality.
- 10.7.123 Other large woodland blocks are also present across the study area, including Cliburn Moss south of Whinell, Melkinthorpe Wood near Great Strickland, Slatequarry Wood north-east of Penrith, and Udford Wood north of Woodside Cottages.
- 10.7.124 Settlements tend to be individual farmhouses or small groups such as the homes at Lane End, or at Swyneghyll. Larger settlements such as Culgaith, Temple Sowerby and Clifton also lie within the 3km study area.
- 10.7.125 Overall land use is predominantly agriculture within the study area, evidenced by swathes of patchwork fields bound by strong hedgerows, stone walls, hedgerow trees and post and wire fencing, punctuated by blocks of mixed woodland and criss-crossed by minor roads.

PRoW and other access

- 10.7.126 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints and Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), Chapter 13: Population and Human Health and the online Cumbria County Council public rights of way map, the Order Limits are crossed by the following PRoW:
- PRoW (BOAT) 311013 which lies north of Whinell Park, connecting with 311008 east of the River Eamont
 - PRoW (footpath) 311004 which originates south of Whinell Forest, passing through it before reaching the A66
- 10.7.127 Other routes of note across the wider study area include:
- National Cycle Network (NCN) route 71

- Lowther Valley Cycle Route
- Pennine Cycle Way/Eden Valley cycle route
- PRow (footpath) 358005
- PRow (footpath) 311002.

Designations

World Heritage Sites

- 10.7.128 The English Lake District WHS boundary is approximately 3.5km to the south-west of the Order Limits.

National Parks

- 10.7.129 The Lake District National Park boundary is approximately 3.5km to the south-west of the Order Limits.

Areas of outstanding natural beauty

- 10.7.130 The NP AONB boundary is approximately 5km to the north-east of the Order Limits.

Registered parks and gardens

- 10.7.131 The nearest RPG is Lowther Castle Grade II RPG which is approximately 3.7km to the south-west of the Order Limits.

Heritage designations

- 10.7.132 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:

- Brougham Roman fort (Brocavum) and civil settlement and Brougham Castle SM
- Roman marching camp 410m NE of Brocavum SM
- Settlement 540m ENE of Brougham Castle SM
- St. Ninian's preconquest monastic site, site of nucleated medieval settlement, St. Ninian's Church and churchyard SM
- Dolphenby medieval settlement and part of its associated open field system SM
- Romano-British farmstead and a length of Roman road 800m south of Winderwath SM
- Eden Hall CA
- Settle-Carlisle Railway CA
- Mayburgh Henge SM
- King Arthur's Round Table henge SM.

Ecology and biodiversity designations

- 10.7.133 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 6: Biodiversity, relevant ecological designations within the study area include:

- River Eden SAC directly adjacent to the Order Limits at some points
- River Eden and Tributaries SSSI directly adjacent to the Order Limits
- Cliburn Moss SSSI approximately 2.5km south of the Order Limits

- Temple Sowerby Moss SSSI approximately 2.6km south-east of the Order Limits
- Udford Low Moss approximately 1km north of the Order Limits.

Perception and tranquillity

- 10.7.134 With reference to ES Figure 10.7: CPRE Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE indicates generally medium to high tranquillity rates across the study area, aside from the urban influence at Penrith. Tranquillity levels are slightly decreased along the existing A66 due to the presence of traffic, and similarly around areas of settlement.
- 10.7.135 The perception within the study area is that of a relatively settled landscape, highlighted by historic field patterns, small or individual dwellings, historical landmarks such as Brougham Castle and the Countess Pillar and a consistency in building styles and materials.
- 10.7.136 The movement of vehicles along the A66 and other transport routes within the study area provides a notable contrast to the otherwise settled character, although this is much less apparent nearer the settlement extents of Penrith.

Published landscape character assessments

- 10.7.137 The following section sets out the published landscape character assessment which cover the Order Limits and study area at national, county and local levels.

National landscape character

- 10.7.138 At the national level, the Order Limit for Penrith to Temple Sowerby lies within NCA9 Eden valley.
- 10.7.139 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA9 is characterised by the published study as an area which "encompasses the broad *valley of the River Eden and its tributaries.*"
- 10.7.140 The key characteristics considered relevant to the study area are:
- *"Managed estate and farm woodlands characterise the valley floor, with numerous shelterbelts, copses and mature hedgerow trees giving a well-wooded character"*
 - *"Rich, fertile soils in the valley support mixed agriculture including arable cultivation. The poorer soils of the sandstone ridge and the foothills of the Pennine escarpment give rise to rough grassland, heath and plantations."*
 - *"Medium to large rectilinear fields are enclosed by mature hedgerows and hedgerow trees, walls or, more commonly to the east, wire fences and thin relict hedges. Limestone walls are a feature of the Pennines and Orton fringes, while red sandstone walls are a feature of the Penrith Sandstone Ridge."*

- *"Visible archaeological or historic legacy: prehistoric stone circles, Roman forts, medieval castles and parkland are important features of the historic environment."*
- 10.7.141 *The relevant Statement of Environmental Opportunity (SEO) for NCA9 include:*
- *"Manage, restore and expand the area of woodland within the Eden Valley and its tributaries, restoring a network of woodland habitat to enhance timber supply, biodiversity, water quality, carbon storage and tranquility, while regulating soil erosion and peak water flow."*
 - *"Protect and enhance the geodiversity and historic landscape of the Eden Valley, its geological exposures and river processes, and history of human occupation and innovation, optimise their contribution to delivering wider environmental benefits and raise public awareness, understanding and enjoyment of this heritage."*
- 10.7.142 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above NCA.
- Cumbria County Council Landscape Character Assessment*
- 10.7.143 With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), parts of the Order Limits fall within all three of the landscape sub-types identified in the Cumbria County Council Landscape Character Assessment.
- 10.7.144 Landscape sub-type 6 Intermediate Farmland includes the western extents of the Order Limits. Key characteristics include the following:
- *"Transitional farmland between the lowland and upland landscapes*
 - *Extensive areas of improved pasture with some arable farming*
 - *Planned villages with greens displaying topographical and archaeological evidence of their medieval origins*
 - *In parts the landscape is dissected by the deeply incised or open river valleys*
 - *Wooded valleys and ghylls".*
- 10.7.145 Landscape sub-type 8b Broad Valleys covers the northern extents of the Order Limits. Key characteristics include:
- *"Wide and deep valleys with open floodplains*
 - *Rural farmland comprising significant areas of improved pasture*
 - *Pockets of scrub, woodland and coniferous plantations*
 - *hedges and stone walls which form a matrix of field boundaries".*
- 10.7.146 10 Sandstone Ridge landscape sub-type covers the majority of the Order Limits southern extents, and include the following key characteristics:
- *"Prominent north south ridge*
 - *Improved pasture with a mosaic field pattern*
 - *Conifer plantation blocks and mixed woodland punctuate farm and heathland*
 - *Open, expansive long-distance views".*

- 10.7.147 The study area also includes a large part of Penrith including the majority of the Penrith and Penrith New Streets CAs which lie within the Urban Area landscape sub-type.
- 10.7.148 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above landscape sub-types.

Visual Baseline

- 10.7.149 The scheme is located approximately 1.2km to the east of Penrith beginning a short distance to the east of the River Eamont in the vicinity of Brougham Castle scheduled monument. Brougham Castle is a notable feature in the landscape visible from the existing A66. Viewpoint 2.1 illustrated on ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3) provides a broadly representative view towards the existing A66 from the crossroads south-east of the castle. East of Brougham Castle the existing A66 passes through a cutting before crossing an area of fairly level topography in the river floodplain from which there are views of hills in the NP AONB on the distant horizon.
- 10.7.150 Views are expansive and the single carriageway is bounded on either side by locally characteristic sandstone drystone walls. Views to the south are open with Whinfell Forest a notable feature on the horizon. At the junction by Center Parcs views of the North Pennines are more evident and for westbound traffic there are glimpses of the Lake District Fells. Views towards the junction at Center Parcs are represented by Viewpoint 3.6 illustrated by ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3).
- 10.7.151 This section of the A66 is rural in character and relatively sparsely populated. There are scattered farmsteads and residential properties mainly at the western and eastern ends of the scheme with a small number of properties adjacent to the road on the south side and a group of properties on the north side at Lane End. Views from the western part of the scheme to the existing A66 east of the B6262 are partly restricted by a cutting through which the road passes. East of this point the A66 is largely at grade or in shallow cutting or on a small embankment. The relatively straight alignment of the existing A66 and its location at the edge of the valley floor means that it is seen against a backdrop of rising land to the south. The existing A66 is visible in conjunction with the Lake District Fells in views to the west and with the edge of the NP AONB in views to the east.
- 10.7.152 To the north of the A66 views across the landscape are interrupted by belts and blocks of woodland that give the experience of an estate landscape. At Lane End to the east of the junction by Center Parcs there are open views west towards the Lake District Fells, represented by Viewpoint 3.5. East of Lane End a minor road leads to a series of farms and roadside cottages at Woodside, Low Woodside and Winderwath Farm from which there are views of the existing A66, which is seen against a backdrop of rising land towards Whinfell Forest. These views are represented by Viewpoint 3.7 and shown on ES Figure 10.8:

Viewpoint Photosheets (Application Document 3.3). On the south side of the A66 and to the east of Lane End the topography is more varied and incised with blocks and belts of woodland drawing the eye to views down a valley with a diverse visual composition.

10.7.153 The viewpoints listed in Table 10-4: Penrith to Temple Sowerby viewpoints are used to illustrate the baseline environment and inform the assessment of effects of the scheme.

Table 10-4: Penrith to Temple Sowerby viewpoints

Penrith to Temple Sowerby Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
3.1 PM	Junction of B6262 and Moor Lane near Brougham Castle	Representative Recreational	At the south-east corner of crossroads at Moor Lane B6262	NY 53968 28858
3.2	NCN 71, Moor Lane near Fremington Cottages	Representative Recreational	Adjacent to field boundary south-east of Fremington Cottages	NY 54273 28532
3.3	PRoW (footpath) 311010 west of Highground Farm	Representative Recreational	Field boundary hedgerow on the PRoW north-west of Highground Farm	NY 54794 27254
3.4	Junction of PRoW 311013 (bridleway) and 31109 (footpath)	Representative Recreational	North-west corner of field on the PRoW east of River Eamont	NY 56244 29350
3.5 PM	Minor road south of High Moss woodland	Representative Road users	Layby towards road end north of properties at Lane End	NY 57574 29101
3.6	PRoW 311004 (footpath) near Center Parcs Whinfell Forest	Representative Recreational	Adjacent to the field gate entrance north of Whinfell Forest	NY 57742 28262
3.7	Minor road near Lower Woodside	Representative Road users	Gap in roadside vegetation between Woodside and Lower Woodside	NY 58591 29038
3.8	Cliburn Road at Ash Hill Cottages	Representative Residential	Walled entrance to Ash Hill Farm north of Ash Hill Cottages	NY 59429 28349
3.9	B6412 west of Culgaith	Representative Road users	Roadside verge of the B6412 north of the River Eden	NY 59989 30126

Character of the night sky

- 10.7.154 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), the CPRE dark sky mapping illustrates that the majority of the study area is in an area of dark sky, with the clear exception of Penrith and other areas of settlement such as Clifton, Lane End, Center Parcs and Temple Sowerby.
- 10.7.155 Areas to the north and south of the study area create the darkest skies, with smaller groups and individual properties which line the A66 illustrating enough light to change the CPRE levels.
- 10.7.156 The limited built form and access within the areas of darker skies reflects the limited light sources illustrated within the mapping.
- 10.7.157 With reference to the Institution of Lighting Professionals Environmental Zones, the existing A66 within the Order Limits are assessed as being an E2: Rural Zone.

Temple Sowerby to Appleby

Landscape

- 10.7.158 The relevant landscape features and elements across the Temple Sowerby to Appleby scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.159 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the scheme lies to the foothills of the North Pennines in the Eden Valley which is characterised by higher ground to the north of the River Eden and lower less undulating land to the south.
- 10.7.160 Land to the north of the existing A66 is relatively undulating, gradually increasing in elevation towards local landmarks such as Murton Pike, Dufton Pike, Knock Pike and the North Pennines fells.
- 10.7.161 The major watercourse across the study area is the River Eden which courses broadly south-east along the valley floor, diverging at various points at times to form separate watercourses such as the River Lyvennet south of Temple Sowerby and Trout Beck east of Kirkby Thore.
- 10.7.162 Throughout the study area there are also a large number of minor watercourses generally as a result of run-off from the North Pennines. These include Swine Gill, Milburn Beck, Crowdundle Beck, Swindale Beck and Great Rundale Beck.
- 10.7.163 The northern part of the study area is dominated by gently rising agricultural land with a patchwork field pattern at times shaped by the various watercourses.
- 10.7.164 East and west of the study area landform is broadly similar, slightly more undulating in the east around Long Marton and Crackenthorpe, but again dominated by agricultural fields of differing size and shape.

10.7.165 To the south the riverine valley forms a relatively flat ribbon of landscape with a slightly more regular agricultural field pattern.

Vegetation patterns

10.7.166 Overall vegetation patterns are typically influenced by the riverine and agricultural nature of the landscape within the study area. The River Eden is generally lined with riparian woodland belts, often forming enclosure, whilst agricultural fields are often bound by hedgerows with hedgerow trees, particularly south of Bolton.

10.7.167 The northern part of the study area features small scale woodlands on or around some of the larger individual properties, and field boundaries are often delineated by hedgerows with occasional hedgerow trees, although stone walls also feature heavily.

10.7.168 Occasional woodland blocks such as the coniferous Black Plantation and the predominantly ancient mixed Burthwaite and Flakebridge Woods provide punctuation to the agricultural mosaic.

10.7.169 The remainder of the study area provides a similar pattern, riparian woodland, mixed, sometimes ancient woodland blocks, and field boundaries of hedgerow with hedgerow trees.

10.7.170 The nearest ancient woodland to the Order Limits is Ross Wood which lies some 300m west of Appleby-in-Westmorland.

Land use and settlement pattern

10.7.171 Land use is predominantly agricultural across the study area, interspersed with small and medium settlements in addition to individual farmsteads and small groups of properties.

10.7.172 The British Gypsum Works north of Kirkby Thore is a large commercial enterprise which appears uncharacteristic within the otherwise largely rural landscape. The highly visible plume from the chimney stack is an orientation point across the western part of the Project.

10.7.173 Larger settlements such as Kirkby Thore, Temple Sowerby and Appleby-in-Westmorland tend to be situated adjacent to the A66, although the latter may be more closely associated with the railway line. Mid-sized settlements such as Bolton and Dufton are still well connected, and generally provide access to the A66 by way of minor roads.

10.7.174 The railway line passes through the study area in a broadly south-easterly direction, passing through Culgaith, Newbiggin Temple Sowerby, Long Marton and Appleby-in-Westmorland.

10.7.175 Former land uses include a dismantled railway line known as the Eden Valley Railway which passes to the south of Whinell Forest before traversing the landscape broadly eastwards, running north of Crackenthorpe and Appleby-in-Westmorland.

10.7.176 The A66 is the main transport route through the study area and is dualled to the east of the study area as far as Spittals Farm; where it

transitions into a single lane carriageway as far as north of Colby Laithes Farm.

PRoW and other access

10.7.177 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), Chapter 13: Population and Human Health and the online Cumbria County Council public rights of way map, the Order Limits are crossed by the following PRoW:

- PRoW (bridleway) 336018 which runs north to south from Hale House west of the British Gypsum Works, to Cross Street
- PRoW (footpath) 336013 which follows Norman Lane from the northern outskirts of Kirkby Thore to the entrance of the British Gypsum Works
- PRoW (footpath) 317011 which terminates at Bridge End Farm
- PRoW (footpath) 341029 which originates at the A66 opposite the BP filling station
- PRoW (footpath) 317009 which passes around the eastern edge of Powis House
- PRoW (footpath) 341015 which follows the River Eden east of Castrigg Lane towards Long Marton
- PRoW (footpath) 317006 which connects with the Roman Road north of Crackenthorpe
- PRoW (footpath) 317012 which originates from the Roman Road passing Roger Head Farm to connect with the A66.

Designations

10.7.178 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), there are several landscape designations and relevant environmental designations across the study area.

National parks

10.7.179 The Yorkshire Dales National Park boundary is approximately 4.5km to the south of the Order Limits.

Areas of outstanding natural beauty

10.7.180 The NP AONB boundary is approximately 2km to the north of the Order Limits. A small section of the AONB lies within the northern extents of the study area, north of Kirkby Thore.

10.7.181 With reference to the *AONB Management Plan*, the stated special qualities of the AONB are:

- Scenic beauty.
- Strong sense of relative wildness.
- Remoteness and tranquillity.
- Wide-open moorlands.
- Species-rich grasslands.
- Truly dark night skies.
- World class mining and geological heritage.

- Breeding wading birds.

Registered parks and gardens

10.7.182 The nearest RPG is Appleby Castle Grade II* RPG which is approximately 1km to the east of the Order Limits.

Heritage designations

10.7.183 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and ES Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:

- Settle-Carlisle Railway CA
- Temple Sowerby CA
- Kirkby Thore Roman Fort and associated Vicus SM
- Roman camp, 350m east of Redlands Bank SM
- Roman fortlet, 200m SSE of Castrigg SM
- Appleby CA
- Appleby Castle Grade I Listed Building (LB).

Ecology and biodiversity designations

10.7.184 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 6: Biodiversity, relevant ecological designations within the study area include:

- River Eden SAC approximately 850m west of the Order Limits
- River Eden and Tributaries SSSI approximately 850m west of the Order Limits
- Cliburn Moss SSSI approximately 3.3km west of the Order Limits
- Temple Sowerby Moss SSSI approximately 180m north of the Order Limits.

Perception and tranquillity

10.7.185 With reference to ES Figure 10.7: Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE indicates medium to high levels of tranquillity beyond the areas of settlement at Culgaith, Temple Sowerby, Kirkby Thore, Bolton, Long Marton and Appleby-in-Westmorland.

10.7.186 This would relate with the prevalence of agricultural land and overall rural feel of the landscape within the study area. Overall rural areas display a broadly similar level of tranquillity.

10.7.187 The perception whilst travelling through the area during fieldwork is of a relatively settled landscape with historical influence, particularly around Kirkby Thore, although much of the village lies north of the A66 and therefore has limited influence on the driving experience.

10.7.188 Views are often open, leading to distant views of the North Pennines and Yorkshire Dales in opposite directions. The A66 is a notable influence on the otherwise largely rural character of the surrounding landscape.

Published landscape character assessments

10.7.189 The following section sets out the published landscape character assessment which cover the Order Limits and study area at national, county and local levels.

National landscape character

10.7.190 At the national level, the Order Limit for Temple Sowerby to Appleby lies within NCA9 Eden valley.

10.7.191 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA9 is characterised by the published study as an area which *"encompasses the broad valley of the River Eden and its tributaries."*

10.7.192 The key characteristics considered relevant to the study area are:

- *"Managed estate and farm woodlands characterise the valley floor, with numerous shelterbelts, copses and mature hedgerow trees giving a well-wooded character"*
- *"Rich, fertile soils in the valley support mixed agriculture including arable cultivation. The poorer soils of the sandstone ridge and the foothills of the Pennine escarpment give rise to rough grassland, heath and plantations."*
- *"Medium to large rectilinear fields are enclosed by mature hedgerows and hedgerow trees, walls or, more commonly to the east, wire fences and thin relict hedges. Limestone walls are a feature of the Pennines and Orton fringes, while red sandstone walls are a feature of the Penrith Sandstone Ridge."*
- *"Visible archaeological or historic legacy: prehistoric stone circles, Roman forts, medieval castles and parkland are important features of the historic environment."*

10.7.193 The relevant Statement of Environmental Opportunity (SEO) for NCA9 include:

- *"Manage, restore and expand the area of woodland within the Eden Valley and its tributaries, restoring a network of woodland habitat to enhance timber supply, biodiversity, water quality, carbon storage and tranquility, while regulating soil erosion and peak water flow."*
- *"Protect and enhance the geodiversity and historic landscape of the Eden Valley, its geological exposures and river processes, and history of human occupation and innovation, optimise their contribution to delivering wider environmental benefits and raise public awareness, understanding and enjoyment of this heritage."*

10.7.194 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above NCA.

Cumbria County Council Landscape Character Assessment

10.7.195 With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), the majority of the Order Limits fall within 8b Broad Valley landscape sub-type identified in the Cumbria County Council Landscape Character Assessment. As the Order Limits pass around the

north of Kirkby Thore they enter landscape sub-type 6 Intermediate Farmland, and again briefly north of Crackenthorpe.

10.7.196 Key characteristics of 8b Broad Valley landscape sub-type include the following:

- *"Wide and deep valleys with open floodplains*
- *Rural farmland comprising significant areas of improved pasture*
- *Pockets of scrub, woodland and coniferous plantations*
- *Hedges and stone walls which form a matrix of field boundaries".*

10.7.197 Key characteristics associated with 6 Intermediate Farmland landscape sub-type include:

- *"Transitional farmland between the lowland and upland landscapes*
- *Extensive areas of improved pasture with some arable farming*
- *Planned villages with greens displaying topographical and archaeological evidence of their medieval origins*
- *In parts the landscape is dissected by the deeply incised or open river valleys*
- *Wooded valleys and ghylls".*

10.7.198 Other landscape sub-types which lie outside the Order Limits but within the study are as follows:

- 9b Rolling Farmland and Heath landscape sub-type which lies to the southern extents of the study area which comprises a: *"Shallow relief plateau with ridges and hollows; rolling farmland; occasional rocky outcrops; coniferous plantations; and narrow wooded valleys with wetland features".*
- 10 Sandstone Ridge landscape sub-type which lies to the west of the northern extents of the Order Limits. Key characteristics include: *"Prominent north south ridge; improved pasture with a mosaic field pattern; conifer plantation blocks and mixed woodland punctuate farm and heathland; and open, expansive long-distance views".*
- 11a Foothills landscape sub-type which follows the northern extents of the study area and includes the following key characteristics: *"Rolling, hilly or plateau farmland and moorland; areas of improved grassland, unimproved heathland and extensive conifer plantations; semi-natural woodland in the small valleys; and large areas of farmland bounded by stone walls and hedges".*

10.7.199 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above landscape sub-types, including the applicant's assessment of landscape sensitivity.

Visual Baseline

10.7.200 The existing A66 follows the rim of the Eden valley before descending slightly into the valley floor at Crackenthorpe. This section of the A66 has a well settled rural character with the main villages of Temple Sowerby, Kirkby Thore and Crackenthorpe positioned on the north side of the road. The existing A66 is a very noticeable feature in views from these settlements.

- 10.7.201 The inclusion of several Viewpoints taken within the setting of these villages has sought to provide an indication of the influence of the existing A66 within views. These include Viewpoint 4.1 taken from the minor road at Skygarth Farm, Viewpoint 4.3 taken from the A66 roadside at Low Moor, Viewpoint 4.19 taken from Bridge End Farm, and Viewpoint 4.9 taken from Sleastonhow Lane.
- 10.7.202 In addition, there are a number of individual properties and groups of properties adjacent to the A66 mainly between Temple Sowerby and the Petrol Station to the east of Kirkby Thore. There is no or limited visibility of the A66 from the villages of Bolton, Long Marton and Brampton which are set back from the road. Viewpoint 4.20 indicates the limited visibility from Bolton. Viewpoint 4.11 shows views from Long Marton. To the south of the existing A66 the landscape has a stronger rural character and is influenced less by infrastructure and settlement and has an undulating topography that allows glimpses of the A66. The British Gypsum works is a notable and incongruous feature influencing views experienced by people on the north side of the A66 due to the pale colour of the buildings and frequent visibility of a plume emerging from a tall stack. Viewpoint 4.21, illustrated on ES Figure 10.8: Photosheets (Application Document 3.3) shows the influence the works has on views from the north looking south towards Kirkby Thore. The edge of the NP AONB dominates the horizon in views to the east.
- 10.7.203 The scheme is located immediately to the east of Temple Sowerby extending past Kirkby Thore and to the north of Crackenthorpe to join the existing dual carriageway at Appleby. The existing A66 narrows to a two-lane carriageway at Spitals Farm at which point the road crests a slight rise eastbound, opening up views of the North Pennines AONB. The existing A66 passes through large scale rolling farmland on the north side of the Eden valley before descending into the valley floor at Crackenthorpe.
- 10.7.204 Temple Sowerby, Kirkby Thore, Long Marton and Crackenthorpe are traditional villages with vernacular buildings. The villages are connected to a network of minor roads and lanes with drystone walls prevalent in field boundaries. There is an extensive PRow network which provides opportunities for walking and riding in a diverse range of landscapes in the Eden and Trout Beck valleys and the large tracts of farmland in the area. The NP AONB is a backdrop to views in this area with Murton Pike a notable landmark. Viewpoint 6.14 (outside the study area) provides views south from Murton Pike. Once beyond the existing A66 road corridor, and to the north and east of Kirkby Thore, topography becomes more irregular with a higher proportion of trees and woodland that contrast with the brown of the North Pennine hills.
- 10.7.205 The Roman Road to the north of Crackenthorpe is a notable feature in the landscape. It marks a transition to the more undulating topography and wooded, smaller scale landscapes of the Intermediate Farmland landscape sub-type that includes the villages of Long Marton, Brampton and Dufton and which forms part of the setting to the AONB. Viewpoint 4.13, illustrated on ES Figure 10.8: Viewpoint Photosheets (Application

Document 3.3) provides views towards the Roman Road and the NP AONB for users of PRoW 317012 heading out of Crackenthorpe.

- 10.7.206 From elevated locations in the study area such as Dufton Pike, Murton Pike and further afield at Great Dun Fell, the existing A66 is a minor feature in views. Viewpoints 4.25, 4.26 and 6.14 provide an indication of visibility from these distant locations.
- 10.7.207 ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3) details the viewpoints in the Temple Sowerby to Crackenthorpe scheme.

Table 10-5: Temple Sowerby to Crackenthorpe viewpoints

Temple Sowerby to Crackenthorpe Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
4.1	Eden Valley Ride cycle route near Skygarth Farm	Representative Recreational	At the road corner along minor road north-east of Skygarth Farm	NY 61429 26064
4.2	Priest Lane, Kirkby Thore	Representative Road users	At the field gate entrance along Priest Lane north-east of Low Moor Park	NY 62765 26328
4.3	Low Moor Park, A66	Representative Residential	At the footpath to the north-east corner of properties at Low Moor Park	NY 62624 25974
4.4	Piper Lane, Kirkby Thore	Representative Recreational	At the northern entrance to the recreational area adjacent to Piper Lane	NY 63487 25708
4.5 PM	PRoW 336017 and 336011 (footpaths) at Kirkby Thore School	Representative Recreational	At the junction of PRoW adjacent to Cross Street and Priest Lane	NY 63651 26054
4.6	PRoW 336013 and 336014 (footpaths) at British Gypsum Works	Representative Recreational	Road end of Fell Lane before British Gypsum Works gatehouse	NY 64577 26377
4.7A	Amenity area west of Sandersons Croft	Representative Recreational	Grassy area west of properties along Sandersons Croft looking north	NY 64145 25999
4.8	PRoW 336005 (footpath), Main Street, Kirkby Thore	Representative Recreational	At the exit of narrow PRoW lane between homes along Main Street	NY 63890 25576

Temple Sowerby to Crackenthorpe Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
4.9	Sleastonhow Lane, Kirkby Thore	Representative Road users	Corner field boundary opening west of Sleastonhow Farm	NY 64940 24994
4.9A	Sleastonhow Farm	Representative Residential	Field gate looking south from the farm	NY 65053 24936
4.10A PM	PRoW (footpath) 341017 near Powis House	Representative Recreational	On PRoW between Dunelm and A66	NY 65056 23973
4.11	Stevens Gate at Long Marton Primary School	Representative Recreational	Field entrance at south-western extents of Long Marton at Long Marton Primary School	NY 66401 24545
4.12	PRoW (bridleway) 317005 at Crackenthorpe	Illustrative Recreational	PRoW on an area of amenity grassland at northern extents of Crackenthorpe	NY 66132 22212
4.13 PM	PRoW (bridleway) 317012 north-east of Crackenthorpe	Representative Recreational	Adjacent to the western field boundary approximately 270m south of Roman Road	NY 66455 22549
4.14	PRoW (footpath) 317004 near Roman Road (High Street)	Representative Recreational	Adjacent to the field entry stile at Roman Road north-east of Roger Head Farm	NY 67270 22207
4.15	PRoW (footpath) 341003 at Castrigg Lane	Illustrative Recreational	Field track entrance west of railway line and Keld Farm	NY 67342 22754
4.16	PRoW (bridleway) 311002 at Slate Hill	Representative Recreational	South-east corner of Atkinson's Plantation adjacent to birdwatcher's tower	NY 59614 27108
4.17	PRoW (footpath) 314007 at Howgate House	Representative Recreational	Adjacent to the field boundary north-east of Howgate House	NY 59349 25146
4.18	PRoW (footpath) 308012 near Peatgate Farm	Representative Recreational	On PRoW adjacent to the field boundary north of Crossrigg	NY 62052 24307

Temple Sowerby to Crackenthorpe Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
			Lane and Peatgate Farm	
4.19	PRoW (bridleway) 317011 at Bridge End Farm	Representative Recreational	Gated entry/exit of PRoW at southern end of Bridge End Farm	NY 63491 24969
4.20	PRoW 308006 north of Bolton	Representative Recreational	Adjacent to the north-western field boundary north of Bolton Hall leading to a belt of mixed woodland	NY 63468 23809
4.21	PRoW (footpath) 336013 east of Low Abbey Farm	Representative Recreational	Adjacent to the field boundary wall along the entrance road to Low Abbey Cottages and Farm	NY 65432 27108
4.22	PRoW (footpath) 317008 at Redlands Bank Farm	Representative Recreational	At the field entrance on northern edge of Redlands Bank Farm	NY 64695 23790
4.23	Minor road east of Knock Cross Farm	Representative Road users	Grass roadside verge at the field boundary east of Knock Cross Farm	NY 67193 26206
4.24	PRoW (footpath) 308002 south of Luz Beck	Representative Recreational	Adjacent to the field entry stile on PRoW south of farm outbuilding	NY 63369 22447
4.25	Dufton Pike	Representative Recreational	Eastern access track on Dufton Pike leading from PRoW 322018	NY 70253 26375
4.26	Great Dun Fell	Representative Recreational	At the summit of Great Dun Fell	NY 71027 32125
4.27A	PRoW (bridleway) 336018 south of Hale Grange	Representative Recreational	Along the PRoW heading south towards Kirkby Thore	NY 63728 26805
4.28A	Long Marton Road east of Powis Cottages	Representative Road users	On Long Marton Road looking east towards the Roman Road	NY 65414 23892

Character of the night sky

- 10.7.208 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), the CPRE dark sky mapping illustrates that the majority of the study area is in an area of dark sky, with the clear exception of Temple Sowerby, Kirkby Thore, the British Gypsum works and Appleby-in-Westmorland.
- 10.7.209 Areas to the north and south of the study area create the darkest skies, with elevated levels along the existing A66.
- 10.7.210 The limited built form and access within the areas of darker skies reflects the limited light sources illustrated within the mapping.
- 10.7.211 With reference to the Institution of Lighting Professionals Environmental Zones, Temple Sowerby, Kirkby Thore, British Gypsum works, and Appleby-in-Westmorland are assessed as being E3: Suburban, with the existing A66 within the Order Limits are assessed as being an E2: Rural Zone.

Appleby to Brough

Landscape

- 10.7.212 The relevant landscape features and elements across the Appleby to Brough scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.213 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the scheme is located within the Eden Valley, with land within the northern part of the study area heavily influenced by the North Pennines.
- 10.7.214 The River Eden is the main hydrological feature within the study area, coursing broadly south-east towards Great Musgrave. The River Eden feeds and is fed by a number of lesser watercourses, including Hilton Beck which feeds in north of Great Ormside, Helm Beck which courses south from Little Ormside, the River Belah which courses east, south of Rudd Hills Farm, and Blind Beck which flows south, past Wood House Farm.
- 10.7.215 As noted, the overall pattern of landform across the study area is that of a valley, with lower ground around the River Eden rising consistently towards the A66 before rising rapidly north of Warcop at the North Pennines.
- 10.7.216 South of the River Eden, land is gently undulating across the valley floor, and relatively open with agricultural fields of varying scale.
- 10.7.217 Across the northern part of the study area landform is generally dominated by the North Pennines range, particularly north of Warcop, where land rises to the fells at a height of some 619m AOD before rising further to peaks of around 750m AOD.

- 10.7.218 Within the eastern part of the study area, land retains an undulating character, at times forming enclosure through landform and at times providing open views north and south.
- 10.7.219 The southern part of the study area, as stated previously, retains a valley character with gentle undulation forming internal valleys with minor watercourses.
- 10.7.220 The western part of the study area is slightly less undulating, with areas of broadly flat land between Great Ormside and Sandford, through which the River Eden courses.
- 10.7.221 In relation to landform within the Order Limits, the path of the A66 generally cuts through middle ground between the North Pennines and the valley floor, providing frequent views of the road from the lower ground to the south. At times the road lies within false cutting, such as at Flitholme, but in general the route follows the lie of the land.

Vegetation patterns

- 10.7.222 Vegetation patterns retain a similar character across the majority of the study area, aside from the northern part within the North Pennines AONB which retains a sparser, less vegetated character. In general, given the agricultural nature across much of the study area, vegetation patterns are dictated by field boundaries and river corridors in addition to the A66.
- 10.7.223 Woodland blocks are also in evidence, particularly around Warcop, to the south near Bleatarn and Little Ormside and to the north along the foothills of the North Pennines.
- 10.7.224 Aside from the woodland blocks, riparian woodland belts along the River Eden within the study area to the south provide the main concentration of vegetation, including areas of ancient woodland such as Trickle Banks Wood south of Sandford.
- 10.7.225 Boundaries of agricultural land comprise hedgerows supported by occasional hedgerow trees, occasional dry-stone walls particularly around settled areas, and post and wire fencing.

Land use and settlement pattern

- 10.7.226 Land use throughout the study area is predominantly agricultural, with land under the governance of the Ministry of Defence (MoD) the notable exception. Within the settlement of Warcop the MoD retain accommodation barracks, recreation and storage areas. North of the A66 the MoD retain a large area of land for manoeuvres and parking/storage criss-crossed by a network of access tracks.
- 10.7.227 Within the south-east of the study area, the Settle-Carlisle Railway runs south-east past Great Ormside before continuing south towards the Yorkshire Dales National Park.
- 10.7.228 Settlements across the study area are generally small, and include Great Ormside, Little Ormside, Sandford, Warcop, Lanrigg, Great Musgrave, Brough Sowerby and Brough. This settlement is

predominantly located south of the A66, likely as a result of the less hospitable land around the North Pennines to the north.

10.7.229 Other past land uses include the partly disused Eden Valley Railway line which lies broadly parallel with the existing A66 to the south. A 3.5km section of the railway line is used as a commercial venture run by the Eden Valley Railway Trust and is generally open during the summer months. The line terminates at Warcop, and the remaining sections of line are disused.

10.7.230 In relation to the Order Limits, the A66 is the main road network across the study area, consisting of dual carriageway at the western extents of the study area until just east of Café Sixty Six, thereafter comprising single carriageway until the approach to Brough at West View Farm.

PRoW and other access

10.7.231 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), Chapter 13: Population and Human Health and the online Cumbria County Council public rights of way map, the Order Limits are crossed by the following PRoW:

- PRoW (footpath) 372028 passing to the west of Café Sixty Six
- PRoW (bridleway) 372024 south-east of Café Sixty Six
- PRoW (footpath) 372027 which terminates on the northern carriageway of the A66 west of Dyke Nook
- PRoW (footpath) 372022 which passes directly west of Dyke Nook
- PRoW (footpath) 372013 originating at Sandford travelling north-east to Warcop Roman camp
- PRoW (footpath) 372014 which runs broadly north to south terminating at Wheatsheaf Cottage
- PRoW (footpath) 372021 which passes Warcop Training Centre before travelling north to terminate at Walk Mill Barn
- PRoW (footpath) a short path which runs from Meadow Bank Farm to meet the southern carriageway of the A66
- PRoW (bridleway) 350021 which broadly follows Musgrave Lane north of Broomrigg House
- PRoW (bridleway) 309003 which runs east to west south of West View Farm
- PRoW (footpath) a short footpath which follows the route of the A66 at Croft Cottage
- PRoW (footpath) 309004 which runs to the south of Mains House
- PRoW (footpath) 329001 which connects the northern carriageway of the A66 with Helbeck Road to the north-east.

10.7.232 Other routes across the study area include:

- A Pennine Journey, a long-distance circular walk of some 400km divided into 18 stages
- Numerous PRoW throughout the North Pennines AONB.

Designations

National parks

- 10.7.233 The Yorkshire Dales National Park boundary is approximately 4km to the south of the Order Limits.

Areas of outstanding natural beauty

- 10.7.234 The northern part of the Order Limits from Wheatsheaf Cottages as far as Brough lies within the NP AONB.

Registered parks and gardens

- 10.7.235 The nearest RPG is Appleby Castle Grade II* RPG which is outside the study area approximately 3.3km to the west of the Order Limits.

Heritage designations

- 10.7.236 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and ES Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:

- Settle-Carlisle Railway CA which runs broadly south approximately 2km south-west of the Order Limits
- Warcop Roman camp and length of Roman road, 285m south-west of Moor House SM
- Brough Castle and Brough (Verteris) Roman fort and civil settlement SM
- Church Brough CA
- Great Musgrave shrunken medieval village SM.

Ecology and biodiversity designations

- 10.7.237 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 6: Biodiversity, relevant ecological designations within the study area include:

- River Eden SAC approximately 600m south-west of the Order Limits
- Moor House-Upper Teesdale SAC approximately 2km north-east of the Order Limits
- North Pennine Moors Special Protection Area (SPA) approximately 2km north-east of the Order Limits
- River Eden and Tributaries SSSI approximately 600m south-west of the Order Limits
- Appleby Fells SSSI approximately 2km north-east of the Order Limits
- Swindale Wood SSSI approximately 1.5km north-east of the Order Limits
- Helbeck Wood SSSI approximately 480m north of the Order Limits.

Perception and tranquillity

- 10.7.238 With reference to ES Figure 10.7: CPRE Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE indicates medium to high levels of tranquillity throughout the study area, broken only by lower levels around medium sized settlement such as Warcop and Brough, and along the A66 road corridor.

- 10.7.239 Levels of tranquillity increase towards the north of the study area at the North Pennines, particularly on the higher ground of the fells.
- 10.7.240 Elsewhere within the study area levels of tranquillity are generally similar with minor changes at smaller settlements.
- 10.7.241 Overall, there is some perception of a rural, settled landscape with cultural and heritage association, via Brough Castle and the River Eden. Movement of vehicles along the A66, and to an extent within the MoD land at Warcop limits the sense of rural landscape in these areas. Elsewhere however the rural experience is notable, particularly whilst travelling along the minor road network within the south of the study area.

Published landscape character assessments

- 10.7.242 The following section sets out the published landscape character assessment which cover the Order Limits and study area at national, county and local levels.

National landscape character

- 10.7.243 At the national level, the Order Limit for Appleby to Brough lies within NCA9 Eden valley.
- 10.7.244 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA9 is characterised by the published study as an area which *"encompasses the broad valley of the River Eden and its tributaries."*
- 10.7.245 The key characteristics considered relevant to the study area are:
- "Managed estate and farm woodlands characterise the valley floor, with numerous shelterbelts, copses and mature hedgerow trees giving a well-wooded character"*
- "Rich, fertile soils in the valley support mixed agriculture including arable cultivation. The poorer soils of the sandstone ridge and the foothills of the Pennine escarpment give rise to rough grassland, heath and plantations."*
- "Medium to large rectilinear fields are enclosed by mature hedgerows and hedgerow trees, walls or, more commonly to the east, wire fences and thin relict hedges. Limestone walls are a feature of the Pennines and Orton fringes, while red sandstone walls are a feature of the Penrith Sandstone Ridge."*
- "Visible archaeological or historic legacy: prehistoric stone circles, Roman forts, medieval castles and parkland are important features of the historic environment."*
- 10.7.246 The relevant Statement of Environmental Opportunity (SEO) for NCA9 include:
- "Manage, restore and expand the area of woodland within the Eden Valley and its tributaries, restoring a network of woodland habitat to enhance timber supply, biodiversity, water quality, carbon storage and tranquility, while regulating soil erosion and peak water flow."*

"Protect and enhance the geodiversity and historic landscape of the Eden Valley, its geological exposures and river processes, and history of human occupation and innovation, optimise their contribution to delivering wider environmental benefits and raise public awareness, understanding and enjoyment of this heritage."

- 10.7.247 The remainder of the study area is within NCA10 North Pennines (NCA10), which covers most of the North Pennines AONB.
- 10.7.248 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA10 is noted by the published study as being an area of *"distinct identity...remoteness, with few settlements...dramatic and panoramic views."* The published study notes that the existing A66 from Brough to Bowes is an area of relatively low tranquillity, with visual and aural intrusion from the existing road.
- 10.7.249 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above NCA.

Cumbria County Council Landscape Character Assessment

- 10.7.250 With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), the majority of the Order Limits fall within 8b Broad Valley landscape sub-type and 11a Foothills landscape sub-type identified in the Cumbria County Council Landscape Character Assessment.
- 10.7.251 Landscape sub-type 8b Broad Valleys broadly follows the southern extents of the Order Limits; the existing A66 currently acts as a dividing line for the most part. Key characteristics associated with the 8b Broad Valleys landscape sub-type are as follows:
- *"Wide and deep valleys with open floodplains*
 - *Rural farmland comprising significant areas of improved pasture*
 - *Pockets of scrub, woodland and coniferous plantations*
 - *hedges and stone walls which form a matrix of field boundaries"*.
- 10.7.252 With regards to 11a Foothills landscape sub-type which broadly covers the northern extents of the Order Limits, the following relevant key characteristics apply:
- *"Hills dissected by numerous streams and minor river valleys*
 - *Areas of improved grassland, unimproved heathland and extensive conifer plantations*
 - *Semi natural woodland in the small valleys*
 - *Large areas of farmland bounded by stone walls and hedges"*.
- 10.7.253 Other landscape sub-types which lie outside the Order Limits but within the study area include the following:
- 9b Rolling Farmland and Heath landscape sub-type which lies south-west of the Order Limits and comprises: *"Rolling farmland; occasional rocky outcrops; rough pasture with semi heathland; coniferous plantations; and narrow wooded valleys with wetland features"*.
 - 13a Scarps landscape sub-type which lies to the north-east of the Order Limits. Relevant key characteristics include: *"Unimproved*

grassland; steep slopes often filled with bracken and scrub; improved pasture on lower slopes; and small fields bounded by stone walls".

- 10.7.254 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above landscape sub-types.

North Pennines AONB Landscape Character Assessment

- 10.7.255 The NP AONB Management Plan identifies several LCA across its geographic extent. The northern section of the Order Limits lies within the AONB. With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), the following LCA are within the study area:
- Upland Fringe Foothills LCA which lies across the northern extents of the study area and is described as a transitional landscape of rolling farmland with low hills.
- 10.7.256 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for the relevant key characteristics of this LCA and the applicant's assessment of landscape sensitivity.

Visual Baseline

- 10.7.257 This section of the A66 passes along the north side of the Eden valley before heading cross country to Brough. There are glimpsed views of the A66 from the northern edge of Sandford, represented by Viewpoint 6.3 and more prominent views from the northern edge of Warcop, represented by Viewpoints 6.7 and 6.8. The majority of Warcop does not experience views of the existing A66 due to screening by landform, woodland, buildings and a railway embankment that runs east west and is the route of the Eden Valley steam railway.
- 10.7.258 The hamlet of Flitholme is a short distance from the existing A66 but without views due to screening by landform. Views from the eastern side of Flitholme on PRoW 350017 are represented by Viewpoint 6.9. The existing A66 is visible from the western edge of Brough and from a new residential area adjacent to the existing dual carriageway a short distance to the east of the scheme. There are several residential properties and farmsteads on the north and south side of the existing A66. Those on the north side generally look across the Eden valley to the undulating pasture landscape beyond where small blocks of woodland and mature hedges are an important element of views.
- 10.7.259 Views towards the A66 from the south are truncated by the undulating topography and where visible the A66 is seen against the backdrop of the NP AONB foothills and the distinctive skyline of brown and grey moorland that contrasts with the green pasture of the valleys. These views are represented by Viewpoint 6.6. In closer views to the north, MoD compounds, tracks and depots are visible at the edge of the AONB and influence the composition of views.
- 10.7.260 The western part of the scheme begins at Café Sixty Six, where Viewpoint 6.1 provides an indication of views from PRoW 372028. To the south of the road the land falls gradually to the floor of the Eden

valley. There are views towards the Yorkshire Dales across a landscape of rural character. Approaching Warcop the topography becomes more irregular and undulating and views to the south are truncated by landform. East of Warcop where the A66 skirts the foothills of the North Pennines there are views through gaps in hills to the surrounding ridges and undulating pastoral landscapes between the River Eden and Swindale Beck.

- 10.7.261 At Warcop the A66 becomes channelled through a gap between the foothills of the AONB to the north and a large drumlin landform to the west of Warcop. Land on the north side of the road rises steeply to the grey and brown hills of the North Pennines which contrast markedly with the green pastures in the valley below.
- 10.7.262 Approaching Brough the topography is more open and regular, giving open views across the landscape and towards Brough Castle which is situated on a low hill that increases its prominence as a focal point in the landscape.
- 10.7.263 Between Café Sixty Six and Brough, where the scheme ends, there are small villages and hamlets such as Sandford, Warcop and Flitholme, and groups of properties such as those at Broom Rigg mainly to the south of the scheme.
- 10.7.264 Also to the south of the scheme there are PRow in the Eden Valley and traversing the ridges and drumlin landforms in the locality. A Pennine Journey long distance trail passes approximately 1.3km to the south of the scheme.
- 10.7.265 On the north side of the road east of Moorhouse Lane, the majority of the AONB coinciding with the study area is owned by the MoD and used for military training with limited public access from the south. There are several MoD compounds and storage areas within the AONB that are visible from the locality.
- 10.7.266 The viewpoints listed in Table 10-6: Appleby to Brough (Warcop) viewpoints are used to illustrate the baseline environment and inform the assessment of effects of the scheme.

Table 10-6: Appleby to Brough (Warcop) viewpoints

Appleby to Brough (Warcop) Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
6.1	Near PRow 372028 north of Café Sixty Six	Representative Recreational	Field gate entrance at the northern drystone wall field boundary	NY 71924 18330
6.2	PRow (bridleway) 354010 near Trickle Banks Wood	Representative Recreational	Near the field entrance approximately 170m west of woodland edge	NY 71781 16221

Appleby to Brough (Warcop) Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
6.3	Sandford Fold	Representative Residential	The field gate entrance at northern extents of Sandford Fold	NY 73131 16264
6.4	B6259 south of the Eden Valley Railway bridge	Representative Road users	At the roadside adjacent to grass verge and road signage	NY 73392 16777
6.5	Minor road leading to Moor House Farm	Representative Road users	On the road midway between Moor House Farm and the existing A66	NY 74333 16789
6.6	PRoW (bridleway) 372008 south of Langford Farm	Illustrative Recreational	At the field gate entrance on bridleway south of Langford Farm	NY 73736 15415
6.7	PRoW (footpath) 372021 north of Warcop Training Centre	Representative Recreational	On the PRoW adjacent to railway line at northern extents of Warcop Training Centre	NY 74830 16019
6.8 PM	Adjacent to Warcop Railway Station entrance	Representative Residential	At the field gate entrance immediately east of residential properties opposite railway station	NY 75396 15638
6.9	PRoW (bridleway) 350017 south of Lowgill Beck	Representative Recreational	On the PRoW approximately 60m south of Lowgill Beck	NY 76727 14984
6.10	PRoW (bridleway) 309003 west of Low Garth Farm	Representative Recreational	Adjacent to the field gate entrance between Musgrave Lane and Lowgill Farm	NY 77888 14337
6.11A	Adjacent to PRoW 309003 (bridleway) and PRoW (footpath) 309033	Representative Recreational	Roadside grass verge at the entrance to residential properties at Mains House and West View Farm	NY 78683 14912
6.12	PRoW (footpath) 329001 between A66 and Helbeck Road	Representative Recreational	On the PRoW track at Bullistone Bridge heading towards the A66	NY 78768 15045
6.13	PRoW (footpath) 354011 between	Representative Recreational	Adjacent to the field boundary	NY 70586 17046

Appleby to Brough (Warcop) Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
	Little Ormside and Great Ormside		approximately 190m north of Mill Beck	
6.14	Murton Pike Triangulation Pillar	Specific Recreational	Top of Murton Pike adjacent to the Triangulation Pillar	NY 73486 23103
6.15	Leagarth Lane south-east of Hilton	Illustrative Road users	Adjacent to a drystone wall to the front of residential properties on Hag Lane	NY 73323 20436

Character of the night sky

- 10.7.267 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), the CPRE dark sky mapping illustrates that the majority of the study area is in an area of dark sky, with the clear exception of Appleby-in-Westmorland and a small area around Warcop.
- 10.7.268 Areas to the north and south of the study area create the darkest skies, with elevated levels along the existing A66.
- 10.7.269 The limited built form and access within the areas of darker skies reflects the limited light sources illustrated within the mapping.
- 10.7.270 With reference to the Institution of Lighting Professionals Environmental Zones, Appleby-in-Westmorland are assessed as being E3: Suburban, with the existing A66 assessed as being an E2: Rural Zone.

Bowes Bypass

Landscape

- 10.7.271 The relevant landscape features and elements across the Bowes Bypass scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.272 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the scheme is located within the mid Greta Valley, which is characterised by rising undulating landform to the north and south of the River Greta.
- 10.7.273 The River Greta is therefore the main hydrological feature within the study area and flows across the central part of the study area in a gently meandering alignment, gradually falling in elevation from 310m AOD in the western part of the study area to 250m AOD in the eastern part of the study area.
- 10.7.274 There are several secondary watercourses flowing across the study area, including the Sleightholme Beck and Hugg Gill, which converge

with the River Greta to the west of Bowes. Similarly, to the east of Bowes, several unnamed watercourse flow between The Street and the River Greta, resulting in localised areas of steeply sided terrain.

- 10.7.275 The Deepdale Beck flows across the northern part of the study area, approximately 2km to the north of Bowes. The localised variation in landform and conflux with many unnamed watercourses results in several very small-scale waterfalls along the course of the Deepdale Beck.
- 10.7.276 As noted, the overall pattern of landform across the study area is that of a valley, with landform rising to the north and south of the River Greta, culminating in a series of ridgelines.
- 10.7.277 Across the northern part of the study area, the landform rises very steeply from the River Greta to the southern edge of Bowes, before transitioning to a more consistent rising gradient across the village, which is situated around 285m AOD. The landform continues to rise to the north of Bowes, forming localised ridgelines at Tute Hill, at around 330m AOD, and localised high points, including Crag Hill, at around 300m AOD. From these ridgelines, the landform falls towards the Deepdale Beck, before rising across Cotherstone Moor, at around 400m AOD, at the northern edge of the study area.
- 10.7.278 In the eastern part of the study area, there are several large-scale quarries, where excavations and changes to terrain have altered the underlying pattern of the valley landform. Kilmond Quarry, to the south of the existing A66, is in an elevated position, at around 311m AOD and in combination with elevated land to the north of the existing A66 forms a ridgeline across the eastern part of the study area.
- 10.7.279 Across the southern part of the study area, the landform is undulating as it rises steeply from the valley floor, at around 250m AOD, to Sleightholme Lane, situated around 320m AOD. The hamlet of Gilmonby is situated in a relatively low-lying position, around 260m AOD, to the south of Bowes. To the south of Sleightholme Lane, the landform continues to rise across Gilmonby Moor and Scargill Low Moor, culminating at a ridgeline at around 446m AOD, at the southern edge of the study area.
- 10.7.280 The landform across the western part of the study area reflects the underlying pattern of rising landform to the north and south of the River Greta. There is localised steeper sided landform adjacent to the Sleightholme Beck and many of the unnamed watercourses which converge with the River Greta.
- 10.7.281 The landform across the study area therefore forms a series of localised ridgelines which limit the extent of visibility across the northern parts of the study area.
- 10.7.282 In relation to the landform within the Order Limits, the existing A66 is situated on a low embankment on the approach to Bowes, to enable the transition to an overbridge as the road crosses over the A67. To the north of Bowes, the existing A66 is in cutting, as it crosses the lower

parts of Tute Hill, enabling The Street to cross over the A66 via an overbridge at the western edge of Bowes. To the west of Bowes, the existing A66 returns to being situated on a low embankment as it continues across the valley side.

- 10.7.283 The landform across the Order Limits is therefore already altered from the underlying pattern of the valley landform due to the existing A66 infrastructure, with embankments and cuttings, particularly at the interchange with the A67.

Vegetation patterns

- 10.7.284 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), the combination of the arable land use and moorland across most of the study area results in a generally open landscape, such that the main areas of vegetation are concentrated adjacent to the River Greta, as part of field boundaries, adjacent to the road networks, or as small scale woodlands, often across the valley sides or ridgelines.
- 10.7.285 There are small scale woodlands adjacent to properties and infrastructure land uses adjacent to Clint Lane across the northern part of the study area. There is also woodland adjacent to the Deepdale Beck. The main concentration of vegetation is adjacent to the existing A66, across the road cutting to the north of Bowes and around the junction with the A67. The density of this vegetation reduces the perception of the existing overbridge from the wider landscape. There are also several small woodlands along the southern edge of Bowes and between residential properties and the existing A66.
- 10.7.286 The eastern part of the study area is characterised by linear belts of trees forming the field boundaries, predominantly between the existing A66 and the A67. The alignment of this vegetation resulting in a geometric pattern to the landscape. There are also tree belts and small woodlands bordering the quarries, with Kilmond Wood and Kilmond Scars, to the south of the existing A66.
- 10.7.287 Within the southern part of the study area, the main concentration of vegetation is adjacent to the River Greta, with woodland extending from the River to border Gilmonby. There are several plantations to the south of Gilmonby, which extend across Gilmonby Moor and across the ridgelines.
- 10.7.288 The western part of the study area is similarly characterised by vegetation adjacent to the River Greta and adjacent to the Sleightholme Beck. Smaller groups of trees and tree belts divide some of the fields, but in combination with Cotherstone Moor, there is an open character to this part of the study area.
- 10.7.289 As noted, within the Order Limits there is tree cover adjacent to the existing A66, around the junction with the A67 and across the road cutting to the north of Bowes. There is neither ancient woodland nor TPOs within, or adjacent to, the Order Limits.

10.7.290 The closest ancient woodland to the Order Limits is across the north-east part of the study area, adjacent to the Deepdale Beck.

Land use and settlement pattern

10.7.291 The dominant land use across the study area is agriculture. In proximity to Bowes, the agricultural land use is defined by a geometric pattern of various sized fields, often divided by low stone walls or linear belts of trees. This arrangement of fields extends to the north and south of the existing A66 across the central part of the study area. Across the northern and southern parts of the study area, the field pattern becomes larger in scale, before transitioning into moorland.

10.7.292 Bowes is the main settlement within the study area, characterised as a small-scale village, situated between the existing A66 and the River Greta. Bowes is predominantly a linear settlement, with terraced residential properties situated adjacent to The Street. The residential properties are predominantly two storeys in height, constructed of stone and with slate roofs. There are several barns and outbuildings situated to the north of residential properties adjacent to The Street. These outbuildings extend the overall settlement pattern towards the existing A66 and often negate views between the residents and the existing road.

10.7.293 The Street is a secondary road that extends from Clint Lane to the west of Bowes, to the existing A66 at Stone Bridge, approximately 1km to the east of Bowes. At the eastern edge of Bowes, The Street connects with Gilmonby Lane, to form a small-scale junction, which provides access southwards, to the River Greta and Gilmonby, and northwards, to the interchange with the existing A66.

10.7.294 Gilmonby is a small hamlet consisting of several two storey residential properties, set within well vegetated grounds and farm buildings.

10.7.295 Across the remainder of the study area, the settlement pattern is intermittent, consisting of individual farms or properties. This includes Stone Bridge House, adjacent to the junction of The Street and the existing A66. There are also individual farms across the valley sides to the east and west of Bowes with related names, e.g. Low and High Broats, to the north of the existing A66 and Low Field, Mid Low Field and East Low Field farms to the south of the existing A66. There is also a large scale barn between the existing A66 and the A67, to the east of Bowes which is notable in the landscape due to its height and relatively elevated position within the landscape.

10.7.296 There are several residential properties adjacent to Clint Lane. Also adjacent to Clint Lane are several tall communication masts and covered reservoirs, along with allotments in proximity to the existing A66.

10.7.297 Other land uses are quarries in the eastern part of the study area, at Hulands quarry and Kilmond quarry, to the north and south of the existing A66 respectively. Disused quarries adjacent to Clint Lane have

been recolonised by vegetation, such that they are not discernible from the wider landscape.

10.7.298 Other past land uses include a dismantled railway line across the eastern part of the study areas, extending between the A67 and the junction with the existing A66, with parts of the former embankments notable in contrast to the field patterns. The dismantled railway also extends across the western part of the study area, adjacent to the River Greta.

10.7.299 In relation to the Order Limits, the existing A66 is the main road network across the study area, consisting of a dual carriageway across the western part of the study area and to the north of Bowes. The existing A66 transitions to a single lane road (in both directions) at the junction with the A67, until Low Broats Farm, in the eastern part of the study area, where the road reverts back to a dual carriageway.

10.7.300 The A67 is a single lane road (in both directions). The A67 junction with the existing A66 consists of 'T' junctions, to the north and south of the existing A66 overbridge, which provide access to the slip roads to connect with the existing A66. This junction is lit by tall lighting columns.

PRoW and other access

10.7.301 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), Chapter 13 Population and Human Health and the on-line Durham County Council definitive map, the Order Limits are crossed by the following PRoW:

- PRoW (footpath) nos.16 and 18, between the River Greta and Bowes. PRoW no.18 forms part of the Pennine Way.
- NCN no.70, which forms part of the Pennine Journey as it crosses the overbridge, above the existing A66, as part of the route along The Street.
- PRoW (footpath) no.6, at the eastern part of the Order Limits, as the PRoW crosses between The Street and the dismantled railway.

10.7.302 Other routes across the study area include:

- A designated cycle route between the existing A66 and the River Greta, adjacent to the south-west edge of the Order Limits.
- NCN 70, along Clint Lane in the northern part of the study area, through Bowes to Gilmonby Moor, in the south-west part of the study area.
- PRoW (footpath) nos.8 and 9, which cross the eastern part of the study area, between Bowes and Kilmond quarry.
- PRoW (footpath) nos.10, 11, 12 and 18, which cross the valley sides to the south-east of Gilmonby.

Designations

10.7.303 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), there are several landscape designations and relevant environmental designations across the study area.

Areas of outstanding natural beauty

- 10.7.304 The NP AONB covers the south-west part of the study area. The Order Limits for the western end of the scheme lie within the NP AONB. The NP AONB is also a UNESCO Global Geopark.
- 10.7.305 With reference to the NP AONB Management Plan, the stated special qualities of the NP AONB are:
- Scenic beauty.
 - Strong sense of relative wildness.
 - Remoteness and tranquillity.
 - Wide-open moorlands.
 - Species-rich grasslands.
 - Truly dark night skies.
 - World class mining and geological heritage.
 - Breeding wading birds.
- 10.7.306 The Order Limits are considered to be within the 'setting' of the AONB, given the potential for the scheme to affect land within the NP AONB, including the impact of the scheme on people's views.

Local landscape designations

- 10.7.307 With reference to ES Figure 10. 4: 3km ZTV and Viewpoints (Application Document 3.3), the scheme and most of the central and all of the eastern parts of the study area are covered by an AHLV. The AHLV is covered by Policy 39 of the Durham Local Plan, which states proposals for development within an AHLV would only be permitted where it conserves and enhances the special qualities of the landscape, unless the benefits of the development clearly outweigh the harm.

Heritage designations

- 10.7.308 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:
- Bowes CA, covering most of the village and extending to border the existing A66. At the time of undertaking the LVIA, there was no character appraisal for the CA.
 - Several listed buildings adjacent to The Street (Bowes) and within Boldron and Gilmonby.
 - The Roman Fort and Bowes Castle scheduled ancient monuments at the southern edge of Bowes.

Ecology and biodiversity designations

- 10.7.309 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and the Chapter 6: Biodiversity, relevant ecological designations within the study area include:
- North Pennine Moors SAC approximately 280m north and 2.5km south-west of the Order Limits
 - North Pennine Moors SPA approximately 280m north and 2.5km south-west of the Order Limits

- Bowes Moor SSSI approximately 280m north and 2.5km south-west of the Order Limits
- God's Bridge SSSI approximately 2.5km west of the Order Limits
- Sleightholme Beck Gorge - The Troughs SSSI approximately 2.1km south-west of the Order Limits
- Kilmond Scar SSSI approximately 450m east of the Order Limits.

Perception and tranquillity

- 10.7.310 With reference to ES Figure 10.7: Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE indicates generally medium to high levels of tranquillity across the study area, particularly across the moors in the northern and southern parts of the study area. The tranquillity is illustrated as being lower within Bowes, particularly along the alignment of the existing A66.
- 10.7.311 From the fieldwork, there is the perception of a settled landscape, with cultural and heritage association, via Bowes Castle, the field patterns and moorland, the River Greta and the consistent building styles and materials within Bowes and across the study area. These features result in a small range of colour tones but a larger range of textural qualities to the landscape.
- 10.7.312 The movement of vehicles on the existing A66 are a notable contrast to this settled character of the landscape, although the perception of the larger infrastructure features, such as the Bowes overbridge is limited due to the extent of existing vegetation. The existing A66 is also perceived in close proximity via audible vehicle noise.
- 10.7.313 The sense of remoteness is limited due to the perception of settlements, the quarries and vehicles, although it does increase across the northern parts of the study area, due to the substantially reduced perception of the existing A66 and Bowes. The sense of remoteness is also increased along parts of the River Greta, which are enclosed by vegetation or more localised steep sided landform.
- 10.7.314 Similarly, the tranquillity is considered to vary due to the same factors, such that in proximity to Bowes and the existing A66 the sense of tranquillity is very limited, but across the northern and southern parts of the study area the tranquillity increases, reflecting the conclusions of the published studies.

Published landscape character assessments

- 10.7.315 The following section sets out the published landscape character assessment which cover the Order Limits and study area at national, county and local levels.

National landscape character

- 10.7.316 At the national level, the Order Limit for Bowes Bypass and the eastern part of the study area are within NCA22 Pennine Dales Fringe (NCA22).
- 10.7.317 With reference to Appendix 10.4: Landscape Character Assessments, NCA22 is characterised by the published study as an area of *"varied*

topography...separated by major river valleys and incised by numerous minor tributary valleys." The stated key characteristics considered relevant to the study area are:

"Side slopes of Pennine Dales uplands, predominantly sloping down to the east, but with locally varied topography formed by several significant river valleys running from west to east.

A well-wooded landscape, with woodland along valleys, many copses and plantations on the side slopes, and hedges with hedgerow trees in the lower lying arable areas.

Field boundaries of drystone walls on higher ground and hedges in lower areas."

10.7.318 In addition to the above key characteristics, the existing A66 is noted by the published study as a major road, and where the road traffic has reduced the tranquillity levels across the NCA22. Bowes is mentioned within the published study for its historical association with Roman activity and as the location for part of the Pennine Way.

10.7.319 The relevant Statements of Environmental Opportunity (SEO) for NCA22 are:

"SE01: Protect and connect native broadleaved woodland, parkland and veteran trees to maximise their value for wildlife, flood risk alleviation, water quality, climate regulation, recreation, sense of place and sense of history.

SE03: Protect the area's rich historic environment and geodiversity and manage development pressure to preserve tranquillity, sense of place and sense of history and to enhance recreational opportunities."

10.7.320 The remainder of the study area is within NCA10 North Pennines (NCA10), which covers most of the NP AONB.

10.7.321 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA10 is noted by the published study as being an area of *"distinct identity...remoteness, with few settlements...dramatic and panoramic views."* The published study notes that the existing A66 from Brough to Bowes is an area of relatively low tranquillity, with visual and aural intrusion from the existing road.

[Durham County Council Landscape Character Assessment](#)

10.7.322 With reference to Figure 10.5: Landscape Character, most of the Order Limits is within BLT Gritstone Upland Fringe, which covers land to the north and east of Bowes. The stated relevant key characteristics of BLT Gritstone Upland Fringe in relation to the study area are:

- Broad ridges and plateaux.
- Pastoral land use or improved, semi-improved or wet rushy pasture.
- Regular grids of parliamentary enclosures bounded by dry stone walls or hawthorn hedges, often gappy and overgrown. Occasional older field systems.
- Few trees - scattered hedgerow oak and ash.

- Variable woodland cover - generally sparsely wooded but with scattered conifer plantations in places.
 - A visually open landscape, broad in scale though locally defined by minor ridgelines and with occasional panoramic views across the Tees vale.
- 10.7.323 Relevant published guidelines for BLT Gritstone Upland Fringe are to increase the extent of small woodlands via locally native species; restore, protect and reinstate dry stone walls and hedgerow field boundaries and to avoid 'urban' detailing in the minor road network.
- 10.7.324 Within BLT Gritstone Upland Fringe, most of the DCO scheme boundary is within the smaller area of BCA Bowes. The published study describes BCA Bowes as *"an area of high almost flat ground on the edges of the moorland plateau of the Stainmore Gap. An open pastoral landscape of improved pasture and wet, rushy pasture with few trees or woodlands. Regular grids of parliamentary enclosures cover much of the area. In the north across Deepdale, large fields are bounded by dry stone walls. East of Bowes, narrow linear parliamentary enclosures and older curvilinear town field enclosures are bounded by a mixture of leggy, overgrown hedges and stone walls with scattered, locally abundant, ash and Sycamore trees. Isolated farms are scattered across the area."*
- 10.7.325 The published study identifies several local landscape types within BCA Bowes and the Order Limits. These are:
- High plateau farmland: walled pasture, covering the fields to the east of Bowes.
 - High plateau farmland: pasture, covering the fields to the north and south of the existing A66 at the eastern extent of the DCO scheme boundary and the fields to the north of Bowes.
- 10.7.326 The eastern and most of the western parts of the Order Limits (to the south of the existing A66) and land to the south of Bowes are within BLT Lower Dale. The stated relevant stated key characteristics for BLT Lower Dale are:
- Broad valleys with narrow floodplains or gorges on the valley floor.
 - Pastoral farmland of improved and semi-improved pastures.
 - Old field systems with sub regular or linear patterns of hedges and walls.
 - Frequent hedgerow oak, ash, sycamore, tree lined watercourses and overgrown hedgerows.
 - Scattered farmsteads and field barns.
 - Visually enclosed by woodlands, trees and hedgerows and defined by moorland ridgelines.
- 10.7.327 Relevant published guidelines for BLT Lower Dale are to conserve, restore and extend woodlands and field boundaries.
- 10.7.328 Within BCT Lower Dale, the Order Limits is also within the smaller area of BCA Lower Greta. The published study describes BCA Lower Greta as *"a shallow dale running across the high plateau of the Stainmore Gap. The river Greta meanders across a narrow floodplain in the west*

before entering a narrow wooded gorge in the east. The wooded limestone scar of Kilmond Wood rises above the dale in the north. A pastoral landscape of improved and semi-improved pastures, sub regular patterns of old hedges and walls, with a linear grain in places, and scattered hedgerow trees. Farms and farm clusters are scattered along the dale."

- 10.7.329 The published study identifies the local landscape type of the Daleside farmland: walled pasture and meadow within BCA Lower Greta at the western end of the DCO scheme boundary.
- 10.7.330 Also, within BLT Lower Dale, a small part of the Order Limits extends into the northern part of Bowes. The published assessment identifies Bowes as an 'urban area' but does not set out any specific key characteristics or description for the village. A stated general observation on the settlements across the BCT area that the *"Buildings are of local stone with roofs of stone flag or slate and have a strong vernacular character."*
- 10.7.331 A small part of the western edge of the Order Limits (to the north of the existing A66) is within BCT Middle Vale and the smaller area of BCA Mid Greta Valley. The relevant stated characteristics of BCT Middle Vale are:
- Broad upland valleys with moderately sloping, often gently stepped valley sides, incised by narrow steep-sided gills.
 - Strong regular or sub-regular patterns of dry-stone walls with occasional ash, oak and sycamore field trees.
- 10.7.332 Relevant stated landscape guidelines for BLT Middle Vale are to extend woodland and restore or reinstate roadside walls.
- 10.7.333 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3), other BLT and/or BCA within the study area (but not covering the Order Limits) are:
- BLT Moorland Plateau, covering rising and elevated land in the western part of the study area, including the smaller areas of BCA Cotherstone Moor and BCA Stainmore to the north and south of the River Greta respectively.
 - BLT Moorland Fringe, covering the northern, western and southern central parts of the study area, including the smaller areas of BCA Deepdale moorland fringe, BCA Sleightholme and Greta Fringes and BCA Scargill and Barningham Fringes.
 - BLT Gritstone Vale, covering the north-east part of the study area, including the smaller area of BCA Boldron and Lartington.
 - BLT Upper Dale, covering sloping land at the western edge of the study area, and including the smaller area of BCA Upper Greta Valley.
 - BLT Moorland Ridges and Summits, in the southern central part of the study area, including the smaller area of BCA Barningham, Hope and Scargill Moors.

- BCA Moorhouse and Gillbeck, at the eastern edge of the study area, forming other parts of the BLT Gritstone Upland Fringe.

10.7.334 Refer to Appendix 10.4: Landscape Character Assessments for details of the above BLT and BCA.

NP AONB Landscape Character Assessment

10.7.335 The NP AONB Management Plan identifies several LCA across its geographic extent. The Order Limits for the western end of the scheme lie within the NP AONB. With reference to Figure 10.5: Landscape Character, the following NP AONB LCA are within the study area:

- LCA Middle Dale, covering the western part of the study area and characterised as a broad upland valley, which is visually 'open' in character.
- LCA Lower Dale, covering the south-west part of the study area and characterised as a broad valley with narrow floodplains, with visual enclosure due to vegetation.
- LCA Moorland Fringe and LCA Moor and Plateau, covering elevated land in the southern part of the study area.

10.7.336 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for the relevant key characteristics of these LCA and the applicant's assessment of landscape sensitivity.

Visual Baseline

10.7.337 A range of representative people's views (visual receptors) have been identified across the study area via the desk-based reviews and fieldwork during winter and summer conditions.

10.7.338 With reference to ES Appendix 10.9 Zone of Theoretical Visibility (ZTV) and Visualisation Methodology (Application Document 3.4), several Zones of Theoretical Visibility (ZTV) have been generated to aid the fieldwork. These ZTVs demonstrated how the extent of theoretical visibility of the scheme was influenced by the undulating valley landform, being truncated to the north of Bowes due to Tute Hill, whilst extending across the southern part of the study area, due to the lower lying valley floor and rising valley sides.

10.7.339 With reference to ES Figure 10.8: Photosheets (Application Document 3.3), photographs have been taken from publicly accessible locations (viewpoints) to demonstrate this existing visibility and represent the views of the visual receptors. The following section summarises the conclusions of the fieldwork and should be read in combination with the ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), which sets out the existing viewpoint descriptions in full along with the sensitivity of the visual receptors. The locations of the viewpoints and visual receptors are illustrated on ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (Application Document 3.3).

10.7.340 From the few roads across the valley sides in the south-west part of the study area within the NP AONB, viewpoint 7.1 (ES Figure 10.5:

Landscape Character (Application Document 3.3)) demonstrates that views extend across the valley, to Bowes and the elevated ridgelines at Kilmond quarry. The western part of the Order Limits is visible in the middle ground of the view, forming part of the fields extending between residential properties and the valley floor and seen in the context the existing A66 which crosses the valley side. Within Bowes, the existing A66 is not visible, due to being in cutting and the extent of vegetation across the Bowes overbridge. Vehicles on the existing A66 are visible to the west of Bowes but form a small part of the rural landscape. The large agricultural barn between the existing A66 and the A67 is also notable on the skyline.

- 10.7.341 The western part of the Order Limits is also visible from the PRoW at the western edge of Bowes, as demonstrated by viewpoint 7.1A (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)). The remainder of the Order Limits is not visible, due to the low lying position of the receptor and the intervening buildings and vegetation.
- 10.7.342 Moving to the northern part of the study area, viewpoints 7.2 and 7.2A (ES Figure 10.8 Viewpoint Photosheets (Application Document 3.3) are taken from Clint Lane. The viewpoints demonstrate that due to the elevated position of the receptors' views extend across the valley, but the visibility of the existing A66 is varied, due to being in cutting through Bowes, the extent of roadside vegetation and the intervening undulating landform. From the western end of Clint Lane (viewpoint 7.2), the western part of the Order Limits is visible, along with the existing A66 extending towards Kilmond quarry.
- 10.7.343 From within Bowes, viewpoint 7.3 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrates that the existing A66 and part of the Bowes overbridge is visible from the eastern edge of the village. The viewpoint is also representative of residents at the eastern edge of Bowes, with oblique views from first floor rear windows. The existing A66 is therefore in an elevated position in relation to the receptors, forming part of the skyline, which also consists of lighting columns, highways signage and the large agricultural barn between the existing A66 and the A67.
- 10.7.344 Returning to the southern part of the study area, viewpoints 7.4, 7.4A and 7.8 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) are representative of longer distance views from PRoW and lanes in elevated positions within the NP AONB. The viewpoints demonstrate the central and eastern parts of the Order Limits are visible, seen in the context of Bowes and the existing A66 approach to the village. The Order Limits, like the existing A66 is situated below the skyline, such that views extend across the wider landscape, to the north of the study area.
- 10.7.345 From the opposite side of the valley, viewpoint 7.5 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrates how the undulating landform screens views of vehicles on the existing A66, despite the relatively close proximity of the receptor. Large scale fields

cover the foreground of the view, which form part of the Order Limits, with the upper part of the large barn between the existing A66 and A67 also visible.

- 10.7.346 Viewpoint 7.6 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) is representative of recreational users on PRoW to the east of Bowes. The viewpoint demonstrates that the Order Limits is visible at close range. The composition of the view is rectilinear fields divided by stone walls, forming the setting to Bowes, along with the existing A66. The density of vegetation bordering Bowes largely softens views of the existing A66 overbridge, although existing road signage, barriers and vehicles on the approach to the overbridge are visible in the foreground of the view, situated below the skyline, such that overall there is a developed character to the composition of the view.
- 10.7.347 To the east of viewpoint 7.6, viewpoint 7.7 (ES Figure 10.8.: Viewpoint Photosheets (Application Document 3.3)) are taken from The Street, in proximity to the existing junction with the A66. The view demonstrates that the existing A66 is in a slightly elevated position in relation to the receptor, such that vehicles on the road form the skyline of the view and the Order Limits is visible across the composition of the view. The location is also representative of residents in Stone Bridge cottages, visible to the right of the photograph. In comparison to receptors on The Street, the residents' views of the existing A66 are predominantly screened by the intervening roadside vegetation.
- 10.7.348 Viewpoints 7.7A and 7.7B are representative of recreational and residential receptors in the eastern part of the study area. From the south of the existing A66, viewpoint 7.7A demonstrates the Order Limits is visible, consisting of fields and vehicles on the existing A66, which extends towards the junction with The Street. In contrast, viewpoint 7.7B demonstrates that the Order Limits are not visible, due to the intervening vegetation and falling landform, such that the composition of the view is of a rural landscape, with elevated ridgelines forming the background of the view.
- 10.7.349 From the above, Table 10-7: Bowes Bypass viewpoints summarises the viewpoints and visual receptors which form the visual baseline for the assessment

Table 10-7: Bowes Bypass viewpoints

Bowes Bypass: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
7.1	View from Sleightholme Road, looking north-east	Representative Recreational users of National Cycle Route no.70 Motorists on Sleightholme Road	At the field gate entrance west of West Plantation	NY 98437 12442

Bowes Bypass: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
7.1A	View from Lane, west of The Street, looking east	Representative Recreational users on the Pennine Way, cyclists on the lane and residents adjacent to The Street	Access track south of existing A66	NY 98736 13375
7.2	View from Clint Lane (part of the Pennine Way - Bowes Loop, looking south.	Representative Recreational users and motorists	On Pennine Way leading south from Clint Lane towards Bowes	NY 98596 13795
7.2A	View from Clint Lane, looking south	Residents and cyclists on NCN 70	Adjacent to the road and properties at the eastern end of the Clint Lane	NY 99285 14214
7.3	View from The Steet, Bowes, looking north	Representative Residents at the eastern edge of Bowes	At the entrance to residential properties north-east of Bowes roundabout	NY 99588 13610
7.4	View from PRow (footpath) 10, looking north	Representative Recreational	On the roadside grass verge adjacent to PRow signpost	NY 99658 12693
7.4A	South-west of Whorlands adjacent to PRow (footpath)	Representative Recreational	On the roadside grass verge south of Whorlands looking north	NZ 00149 12407
7.5	View from the A67, adjacent to Black Lodge Farm, looking south-west	Representative Road users	At a gated field entrance on western boundary of Black Lodge Farm	NY 99896 14106
7.6 PM	View from PRow (footpath) 6 east of Bowes, looking north-west	Representative Recreational	Adjacent to timber post and wire field boundary on PRow approximately 125m south of the A66	NY 99882 13633
7.7	The Street, Bowes near Junction with the A66	Representative Residents at Stone Bridge Farm and motorists	On roadside grass verge adjacent to field boundary along The Street	NZ 00520 13516
7.7A	View from PRow (footpath) no.8, adjacent to Mid Low Farm, looking north-west	Representative Recreational Residents	Adjacent to Mid Low Farm	NZ 01101 13113

Bowes Bypass: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
7.7B	View from PRow (footpath) no.6, looking south	Representative Recreational	At field boundary stone wall on PRow	NZ 01003 14247
7.8	View from PRow (bridleway) no.7 across Gilmonby Moor, looking north	Representative Recreational	At south-east corner of the first field adjacent to single tree	NY 99217 12123

Character of the Night Sky

- 10.7.350 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), the CPRE dark sky mapping illustrates that most of the study area is an area of the darkest skies, particularly across the northern and southern parts of the study area. At Bowes and along parts of the existing A66, the night sky is brighter, with the published study assigning a mid-level of luminance to the night sky.
- 10.7.351 From the fieldwork, the arable and moorland land use across the northern and southern parts of the study area, with limited access and settlements, results in no discernible light sources, to reflect the CPRE dark sky mapping.
- 10.7.352 From within Bowes, there is street lighting on the slip roads between the existing A66 and the A67, including extending along the eastern edge of Bowes, to the junction with The Street. The residential land uses within Bowes are also a source of lighting, along with vehicle headlights and associated glare from vehicles on the existing A66.
- 10.7.353 With reference to the Institution of Lighting Professionals Environmental Zones, Bowes and the existing A66 within the Order Limits are assessed as being an E2: Rural Zone. The remainder of the study area is assessed as ranging between Zones E1: Natural and E2: Rural.

Cross Lanes to Rokeby

Landscape

- 10.7.354 The relevant landscape features and elements across the Cross Lanes to Rokeby scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.355 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the scheme is located across an area of undulating landform, due to the conflux of several watercourses, resulting in a consistent pattern of lower lying valleys and elevated ridgelines.

- 10.7.356 The River Tees is the principal watercourse, flowing across the northern part of the study area, between Barnard Castle and Whorlton. There are numerous small watercourses ('becks') which converge with the River Tees, including the Thorsgill Beck and Manyfold Beck, to the north of the existing A66.
- 10.7.357 The River Tees flows across the study area at approximately 135m AOD. To the north of the river the landform rises gradually towards Westwick Road and the southern edge of Barnard Castle at approximately 160m AOD. The landform then rises steeply between Westwick Road and the A67 in the northern part of the study area, situated across a ridgeline, at approximately 200m AOD. To the north of the A67 the landform falls across Westwick Moor, to the northern edge of the study area.
- 10.7.358 To the south of the River Tees, the landform rises consistently towards the existing A66, which is located across a localised ridgeline, ranging between 140m AOD in proximity to Greta Bridge, to around 210m AOD at Cross Lanes.
- 10.7.359 To the south of the existing A66 the landform falls towards the Tutta Beck, a narrow watercourse flowing between Kilmond quarry and Greta Bridge.
- 10.7.360 From the Tutta Beck, the landform then rises consistently across the southern part of the study area across Tutte Hill and Timplon Hill to form a ridgeline broadly along the alignment of Brignall Lane, at around 250m AOD.
- 10.7.361 From Brignall Lane, the landform falls steeply towards the meandering course of the River Greta, which is situated around 160m AOD. The River Greta flows beneath the existing A66 at Greta Bridge, to converge with the River Tees at the northern edge of Rokeby Park.
- 10.7.362 To the south of the River Greta, the landform rises across Bank Hill, Chapel Hill and Eggmartin Hill to form a ridgeline along the alignment of Chapel Lane and Barningham, at the southern edge of the study area.
- 10.7.363 Kilmond quarry is in the western part of the study area and forms a localised ridgeline line, extending to the north and south of the existing A66. To the west of the quarry the landform falls towards Bowes.
- 10.7.364 In the eastern part of the study area, to the east of the River Greta, the landform remains undulating and low lying, at around 140m AOD, before rising towards Smallways, situated around 160m AOD at the eastern edge of the study area.
- 10.7.365 The Order Limits is therefore situated across an area of low-lying undulating landform, bordered by more elevated ridgelines across to the northern, southern and western parts of the study area.

Vegetation patterns

- 10.7.366 The agricultural land use across the study area results in a consistent pattern of fields which are open in character and divided by narrow belts of trees or hedgerows.

- 10.7.367 The main areas of woodland area adjacent to the watercourses, including the River Tees, River Greta and at Tutta Beck, with Jack Wood, which extends to the south of the existing A66, between Tutta Beck Farm and Tutta Bridge.
- 10.7.368 Smaller scale woodlands and plantations are interspersed across the study area and include Princess Charlotte Wood and Graham's Wood, situated between the existing A66 and the River Tees.
- 10.7.369 There is also extensive vegetation across Rokeby Park, including woodland adjacent to the River Greta, individual trees between the existing A66 and Rokeby House and 'Church Plantation' consisting of a belt of trees between Rokeby Park and the Church of St Mary, and within the Order Limits.
- 10.7.370 Other notable vegetation within the Order Limits includes individual trees and tree belts adjacent to the existing A66, between the Church of St Mary and Cross Lanes. Established hedgerows and trees are also adjacent to Moorhouse Lane and Rutherford Lane.
- 10.7.371 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), there is ancient woodland adjacent to the Tutta Beck. A small part of this ancient woodland is within the Order Limits boundary.
- 10.7.372 Other ancient woodlands are adjacent to the River Greta, in the southern part of the study area and adjacent to the River Tees, in the north-east part of the study area.
- 10.7.373 There are no TPOs within or adjacent to the Order Limits.

Land use and settlement pattern

- 10.7.374 The dominant land use across the study area is agriculture, characterised by fields of varying sizes, although with a generally geometric form. As part of this land use, there are individual farm buildings across the study area, with several in proximity to the existing A66, including Ivy Cottage, Dent House Farm, Street Side Farm and Cross Lanes in proximity to Cross Lanes junction.
- 10.7.375 Barnard Castle is the main settlement in the northern part of the study area. The market town is clustered around the A67 and extends to the north and south of the River Tees. The high street, with a range of retail premises is also adjacent to the A67 and is characterised by a consistent pattern of predominantly two and three storey terraced stone buildings. Cultural and heritage assets are located across the town, including Barnard Castle, in proximity to the River Tees and The Bowes Museum, in the eastern part of the town, adjacent to Newgate/Westwick Road.
- 10.7.376 Egglestone Abbey Bridge crosses the River Tees to connect with Abbey Lane, which continues around the edge of Rokeby Park via Barnard Castle Road to connect with the existing A66 adjacent to the stone pillars and gates. The existing junction is a relatively large junction in comparison to other junctions along the existing A66, extending to four

lanes in width with associated verges, signage and contrasting colour toned tarmac to alert motorists to the junction.

- 10.7.377 Other roads between Barnard Castle and the existing A66 are the B6277, which connects to the A66 at Cross Lanes, a staggered junction with access to Moorhouse Lane to the south of the A66.
- 10.7.378 The remainder of the study area consists of small scale villages and hamlets. These include Boldron, in the western part of the study area and Greta Bridge in the eastern part of the study area.
- 10.7.379 Boldron is characterised by a small ribbon pattern of two storey residential properties adjacent to West Lane. Properties in the eastern part of the village are mainly terraced and orientated north to south, although there are several semi-detached and detached properties at the eastern edge of the village.
- 10.7.380 Greta Bridge is characterised by a small-scale arrangement of terraced two storey stone residential properties around the junction of The St Road and the existing A66. The St Road crosses the River Greta via a single lane bridge, which provides access to a large hotel and Brignall Lane.
- 10.7.381 Other land uses are quarries in the western part of the study area, at Hulands quarry and Kilmond quarry, to the north and south of the existing A66 respectively. There are also several farm shops, including Cross Lanes Organic Farm, located between the existing A66 and Moorhouse Lane. The Farm consists of a large building with external car-parking.

PRoW and other access

- 10.7.382 With reference to ES Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and ES Figure 10.8 Viewpoint Photosheets (Application Document 3.3), Chapter 13 Population and Human Health and the on-line Durham County Council definitive map, the Order Limits are crossed by the following PRoW:
- PRoW (footpath) no.1 and no.7 in the western part of the Order Limits, extending northwards from the existing A66.
 - PRoW (footpath) no.5, in the south-west part of the Order Limits, extending between Moorhouse Lane and Rutherford Lane, via Den House Farm.
 - PRoW (footpath) no.8 and no.14, extending to the west and east of the existing B6277, with PRoW no.14 extending to Boldron.
 - PRoW (footpath) no.6, extending to the south of the existing A66, opposite the Church of St Mary.
 - PRoW (footpath) no.9 and no.10, in the central part of the Order Limits, extending northwards from the existing A66 to Downson's Gill.
- 10.7.383 Other routes across the study area include:
- PRoW (footpath) no.1, to the east of the River Greta and forming part of the

- PRow (footpath) no.3, in the southern part of the study area, extending between Brignall and the Tutta Beck.
- PRow (footpath) no.5, extending across the Church of St Mary churchyard, to the north of the existing A66.
- PRow (footpath) no.13, to the west of Rokeby Park, extending south-east to north-west along Abbey Road.
- The Teesdale Way, a long-distance route, adjacent to the River Tees.
- PRow (byway) no.13 and no.28, extending to the east of Barnard Castle, between the town and Mount Eff Road.
- NCN no.165, along Westwick Road.

Designations

10.7.384 With reference to Figure 10.2: Landscape Designations, there are several landscape designations and relevant environmental designations across the study area.

Areas of outstanding natural beauty

10.7.385 The NP AONB covers the south-west edge of the study area, approximately 2.3km from the Order Limits. The NP AONB is also a UNESCO Global Geopark.

10.7.386 With reference to the *NP AONB Management Plan*, the special qualities of the NP AONB and their relationship to the study area are:

- Scenic beauty.
- Strong sense of relative wildness.
- Remoteness and tranquillity.
- Wide-open moorlands.
- Species-rich grasslands.
- Truly dark night skies.
- World class mining and geological heritage.
- Breeding wading birds.

Local landscape designations

10.7.387 With reference to ES Figure 10. 2: Designations (Application Document 3.3), the scheme and most of the study area are covered by an AHLV. The AHLV is covered by Policy 39 of the Durham Local Plan, which states proposals for development within an AHLV would only be permitted where it conserves and enhances the special qualities of the landscape, unless the benefits of the development clearly outweigh the harm.

Heritage Designations

10.7.388 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:

- Barnard Castle CA, in the northern part of the study area, Whorlton CA, in the north-east part of the study area and Greta Bridge, in the eastern part of the study area. At the time of undertaking the LVIA, there were no character appraisals for these CA.

- Numerous listed buildings throughout Barnard Castle, at Greta Bridge, across Rokeby Park, including Rokeby Park (Grade I), milestones adjacent to the existing A66 and Cross Lanes Farmhouse and outbuildings (Grade II) at Cross Lanes junction.
- Scheduled ancient monuments including Barnard Castle in the southern part of the town and Greta Bride Roman fort and a section of Roman road at Greta Bridge, covering part of the existing A66 and land adjacent to the Tutta Beck.
- Rokeby Park (Grade II*) Registered Historic Park and Garden, which extends between the River Greta and the River Tees, via part of the existing A66. The western boundary to the Park is predominantly along the alignment of Barnard Castle Road, but the Park also extends westwards, adjacent to the existing A66, via Church Plantation, to cover the grounds of the Church of St Mary. With reference to Historic England's listing, the entrance gate and stone piers to the north of the A66 are noted as forming an entrance from which the rides through woodland were aligned with the house.
- The Church of St Mary (Grade II), adjacent to the existing A66. The church is a single storey classical style stone building, consisting of a tall plinth, with a pitched roof and cross atop a bellcote, which extends the overall height of the building. The church is situated centrally within the churchyard, on a localised area of very slightly higher landform. There are no windows on the southern façade of the church, but the main access door is situated on this facade. Bordering the churchyard are a single storey stone building and two storey residential property. The Old Rectory is adjacent to these buildings, on the opposite side of the existing A66 and is also a two-storey stone building, bordered by tall evergreen trees to the north and west and a stone wall to the south.
- The Grade II RHPG at the Bowes Museum, at the eastern edge of Barnard Castle, but there is no stated physical or visual relationship with the existing A66 within the listing.

Ecology and Biodiversity Designations

10.7.389 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and the Chapter 6: Biodiversity, relevant ecological designations within the study area include:

- Kilmond Scar SSSI approximately 1.4km south-west of the Order Limits
- Brignall Banks SSSI approximately 700m south of the Order Limits.

Perception and tranquillity

10.7.390 With reference to ES Figure 10.7: CPRE Tranquillity (Application Document 3.3), tranquillity mapping published by the CPRE indicates that most of the study is an area of mid-level to lower tranquillity. The southern parts of the study area, to the south of the River Greta are indicated as higher areas of tranquillity. Barnard Castle and parts of the existing A66, and the larger villages adjacent to the A67 are indicated as areas of low tranquillity.

- 10.7.391 From the fieldwork, the range of land uses and extent of activity within Barnard Castle reduces the sense of tranquillity, to accord with the published study. The perception is of a market town with a notable cultural association, but where the volume of vehicles results in busy road networks and no sense of remoteness or wildness.
- 10.7.392 The existing A66 is visible and audible in close proximity, such that from within the grounds of the Church of St Mary and the Cross Lanes Farm Shop, there is no sense of tranquillity or remoteness. Similarly, from along many of the PRow in proximity to the existing A66, the sight or sound of vehicles negates any sense of remoteness and reduces the tranquillity.
- 10.7.393 The tranquillity and sense of remoteness does increase across the southern part of the study area. This is due to the increased extent of woodland and valley landform, such that the perception of settlements and vehicle movements is substantially reduced.

Published landscape character assessments

- 10.7.394 The following section sets out the published landscape character assessments which cover the Order Limits and study area at national, county and local levels.

National landscape character

- 10.7.395 At the national level, the Order Limits for the Cross Lanes to Rokeby scheme and all of the study area are within NCA22 Pennine Dales Fringe (NCA22).
- 10.7.396 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA22 is characterised by the published study as an area of *"varied topography...separated by major river valleys and incised by numerous minor tributary valleys."* The stated key characteristics considered relevant to the study area are:
- "A well-wooded landscape, with woodland along valleys, many copses and plantations on the side slopes, and hedges with hedgerow trees in the lower lying arable areas.*
- Several historic parklands, with woodlands and veteran trees.*
- Field boundaries of drystone walls on higher ground and hedges in lower areas.*
- A generally tranquil and rural area, with a distinctly ancient character in some parts with several small historic market towns including...Barnard Castle, linked by a network of minor roads."*
- 10.7.397 Notwithstanding the above key characteristics, the existing A66 is noted by the published study as a major road, and where the road traffic has reduced the tranquillity levels across the NCA22.
- 10.7.398 Barnard Castle is also mentioned within the published study for its historic market town association and as an area where there is lower tranquillity due to the urban land use.

10.7.399 Greta Bridge is also noted by the published study as one of a series of Roman forts across the NCA.

10.7.400 The relevant Statements of Environmental Opportunity (SEO) for NCA22 are:

"SE01: Protect and connect native broadleaved woodland, parkland and veteran trees to maximise their value for wildlife, flood risk alleviation, water quality, climate regulation, recreation, sense of place and sense of history.

SE03: Protect the area's rich historic environment and geodiversity and manage development pressure to preserve tranquillity, sense of place and sense of history and to enhance recreational opportunities."

Durham county council landscape character assessment

10.7.401 With reference to ES Figure 10.5: Landscape Character Areas (Application Document 3.3), the Order Limits is within BLT Gritstone Vale, for which the relevant stated key characteristics are:

- Broad rolling value, incised by the narrow denes of rivers and streams.
- Mixed farmland of improved pasture and arable cropping.
- Semi-regular, sometimes linear, patterns of old enclosures bounded by thorn hedges, with occasional dry-stone walls.
- Areas of old parklands and heavily wooded estate farmland.
- Nucleated settlement pattern of small green villages centred on the historic market town of Barnard Castle. Scattered farms.
- Narrow winding lanes and some busy modern highways.
- A well-timbered landscape creating a high degree of enclosure in places, but with some broad scale panoramic views across the vale from higher vantage points.

10.7.402 Relevant published guidelines for BCT Gritstone Vale are to plant new broadleaved woodlands, respecting field patterns and plant new field boundary trees. The guidelines also include conserving parklands and respecting designed elements and veteran trees, protecting and maintain dry stone walls and hedgerows and reinstating hedges and avoiding 'urban' detailing in minor road networks.

10.7.403 Within BCT Gritstone Vale, most of the Order Limits is within BCA Barningham, Brignall and Rokeby. The published study describes BCA Barningham, Brignall and Rokeby as *"gently sloping farmland on the southern flanks of the Tees Vale. A patchwork of arable fields and improved pastures is defined by sub-regular patterns of old hedgerows with scattered hedgerow oak, ash and sycamore. There are frequent small plantations of conifers or broadleaves. The River Tees is lined by low wooded bluffs or narrow riparian woods. Its tributaries, including the River Greta, lie in narrow steep-sided denes containing ancient ash and oak woodlands. There are historic parklands along the lower Greta at Rokeby Eastwood Hall, and remains of a medieval abbey at Egglestone. The small villages of Barningham and Brignall lie on the upper vale side."*

- 10.7.404 At the local scale, the published study categorises the land across the Order Limits within BCA Barningham, Brignall and Rokeby as a combination of vale farmland pasture, wooded pasture, wooded estate pasture and parkland.
- 10.7.405 The western part of the Order Limits (also within BCT Gritstone Vale) covers BCA Boldron and Larthington. The published study describes BCA Boldron and Larthington as *"gently sloping farmland falling from the fringes of the moorland plateau to the River Tees. A pastoral landscape of improved and semi-improved pastures bounded by old hedges and walls with scattered, locally abundant, hedgerow trees. The River Tees is lined by steep wooded bluffs; its tributaries, including the Deepdale Beck, lie in narrow steep-sided denes containing ancient ash and oak woodlands. The small villages of Boldron, Larthington and Cotherstone lie on the upper slopes of the vale. There are historic parklands at Larthington."*
- 10.7.406 The south-west of the Order Limits covers a very small part of BLT Gritstone Upland Fringe. The stated relevant key characteristics of BLT Gritstone Upland Fringe in relation to the study area are:
- Regular grids of parliamentary enclosures bounded by dry stone walls or hawthorn hedges, often gappy and overgrown. Occasional older field systems.
 - Few trees - scattered hedgerow oak and ash.
- 10.7.407 Relevant published guidelines for BLT Gritstone Upland Fringe are to increase the extent of small woodlands via locally native species; restore, protect and reinstate dry stone walls and hedgerow field boundaries and to avoid 'urban' detailing in the minor road network. Within the BLT, the Order Limits also covers BCA Moorhouse and Gillbeck.
- 10.7.408 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), the other BCT and/or BCA within the scheme study area (but not covering the Order Limits) are:
- BCA 'urban areas' of Barnard Castle (in the north-west of the study area) and the villages of Boldron, Brignall and Greta Bridge, (in the western, southern and eastern parts of the study area respectively).
 - BCA Newsham and Cleatlam as a part of BCT Gritstone Vale, covering the north-east part of the study area, to the north of the River Tees.
 - BCT Lowland River Terraces, covering the River Tees corridor, with the smaller area of BCA River Tees in the eastern part of the study area.
 - BCT Lowland Vale, covering undulating land in the south-east part of the study area, and the smaller area of BCA Southern Tees Vale Hutton Magna.
 - BCA Bowes, at the north-west of the study area, as part of the BCT Gritstone Upland Fringe.
 - BCT Lower Dale, covering sloping land to the south of the existing A66 and the smaller area of BCA Lower Greta.

- BCT Moorland Fringe, covering elevated land in the southern part of the study area and the smaller area of BCA Scargill and Barningham Fringes.
- BCT Moorland Ridges and Summits, covering elevated land also in the southern part of the study area, and the smaller area of BCA Barningham, Hope and Scargill Moors.

10.7.409 Refer to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4) for details of the above BCT and BCA, including the applicant's assessments of their landscape sensitivity.

Richmond borough landscape character assessment

10.7.410 The south-east edge of the study area is covered by LCA Moors Fringe and within this, the smaller area of B1: Newsham Moors Fringe. These areas are characterised by undulating landform and a consistent pattern of small-scale rectilinear fields. The published study notes that in some parts of these areas the existing A66 already results in visual intrusion and reduced tranquillity.

Visual Baseline

10.7.411 A range of representative people's views (visual receptors) have been identified across the study area via the desk-based reviews and fieldwork during winter and summer conditions.

10.7.412 With reference to ES Appendix 10.3: Landscape and Visual Study Area (Application Document 3.4), several ZTVs have been generated to aid the fieldwork. These ZTVs demonstrated how the theoretical visibility covers land in close proximity to the scheme, before becoming more intermittent to the north due to the ridgeline and the density of vegetation adjacent to the River Tees. The theoretical visibility extends further to the south of the scheme due to the undulating landform but reduces across the southern part of the study area due to the undulating landform adjacent to the River Greta.

10.7.413 With reference to ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3), photographs have been taken from publicly accessible locations (viewpoints) to demonstrate this existing visibility and represent the views of the visual receptors. The following section summarises the conclusions of the fieldwork and should be read in combination with the ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), which sets out the existing viewpoint descriptions in full along with the sensitivity of the visual receptors. The locations of the viewpoints and visual receptors are illustrated on ES Figure 10.4: Zone of Theoretical Visibility (3km) and ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3). Viewpoints from within Rokeby Park have been established via photographic information provided to the applicant as access to Rokeby Park was not granted by the landowner.

10.7.414 From PRoW within close proximity to the western part of the scheme, the existing A66 and associated vehicles are visible across the

foreground of the view, as demonstrated by Viewpoint 8.1 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)). The existing road and Order Limits are in a relatively low-lying position within the view, as the landform rises to the south of the road, to form a ridgeline. The composition of the view is of a rural and well wooded landscape, with the intermittent farms, in which the existing A66 is notable feature, but aligned to the pattern of underlying landform.

- 10.7.415 Also from the western part of the scheme, Viewpoint 8.1A (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrates that from the edge of Boldron, density of the existing field boundary vegetation and relatively low-lying position of the existing A66 limit views of vehicles along the road, such that the composition of the view is similarly of a rural landscape.
- 10.7.416 To the south of the scheme, Viewpoint 8.2 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)), taken near to Dent House Farm, demonstrates how the existing A66 and Cross Lanes junction is situated in a low-lying position in relation to the wider landscape to the north. The alignment of the existing road is below a localised ridgeline, consisting of woodlands and properties. The viewpoint also demonstrates the falling landform to the south of the existing A66 and the scale of Cross Lanes Organic Farm shop and its associated car-parking consolidated to the south of Cross Lanes junction.
- 10.7.417 For recreational users to the north of the Order Limits, on sloping land between the existing A66 and the River Tees, Viewpoint 8.3 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrates that existing vehicles are visible across the ridgeline, forming part of the skyline. The ridgeline screens any longer distance views southwards. The viewpoint also demonstrates the intermittent extent of roadside vegetation, such that even when in leaf, vehicles remain visible across parts of the composition of the view.
- 10.7.418 In closer proximity to the existing A66, Viewpoint 8.4A (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)), from within the churchyard of the Church of St Mary, demonstrates the dominance of vehicles within views and in proximity to the Church. The view also demonstrates the relationship between the Church and the Old Rectory and that the land falls to the south of the existing A66, to culminate in woodland adjacent to the Tutta Beck.
- 10.7.419 As demonstrated by Viewpoint 8.4A, there is tall evergreen vegetation bordering the northern edge of the Old Rectory, such that views of vehicles on the existing A66 are largely screened for residents. Viewpoint 8.4D is included to cover views from the south of the property, which like Viewpoint 8.4A extend across fields to vegetation adjacent to the Tutta Beck.
- 10.7.420 Across the eastern part of the study area, the density of the existing vegetation screens views of the Order Limits, as demonstrated by Viewpoint 8.5A (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)). Similarly, from the elevated land at Brignall, in the

southern part of the study area and to the east of Barnard Castle, in the northern part of the study area, the existing A66 is either screened by the density of the intervening vegetation, or not discernible due to the distance, as demonstrated by Viewpoints 8.6 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) and 8.7 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)).

- 10.7.421 Returning to the central part of the study area, Viewpoint 8.8 (Figure 10.8: Viewpoint Photosheets) is representative of recreational users to the south of the existing A66 and the Church of St Mary. The view demonstrates how the landform rises towards the existing A66, which is situated across a ridgeline, such that views do not extend beyond the existing A66 and vehicles form part of the skyline. The intermittent extent of the roadside vegetation also results in vehicles being visible when the vegetation is in leaf.
- 10.7.422 In proximity to Rokeby Park, Viewpoint 8.9A (Figure 10.8: Viewpoint Photosheets), demonstrates that the Order Limits is not visible due to the rising land and the density of the intervening vegetation. Similarly, views neither extend to Rokeby Chapel, nor the existing junction of Barnard Castle Road and the A66.
- 10.7.423 From within Rokeby Park, the vehicles on the existing A66 are visible from the upper storey windows of Rokeby House. Views from the house extend across parkland, such that parts of the stone piers and gates adjacent to the existing Barnard Castle Road and A66 junction are visible, as demonstrated by Viewpoint 8.10. Similarly, from within the parkland and in proximity to the gates, vehicles at the existing A66 and Barnard Castle Road junction are also visible, as demonstrated by Viewpoint 8.11.
- 10.7.424 For motorists on Abbey Road, Viewpoint 8.12 (Figure 10.8: Viewpoint Photosheets), demonstrates the relatively large scale of the existing junction between Abbey Road and the A66, due to the slip roads, signage and additional turning lanes within the A66. The piers and gates are also visible, although views are filtered across the remainder of the park due to the density of the parkland trees. Views also extend to the south of the existing A66, characterised by a wooded rural landscape.
- 10.7.425 The viewpoints listed in Table 10-8: Cross Lanes to Rokeby viewpoints are used to illustrate the baseline environment and inform the assessment of effects of the scheme.

Table 10-8: Cross Lanes to Rokeby viewpoints

Cross Lanes to Rokeby: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
8.1 PM	View from PRow (footpath) no.8, looking south	Representative Recreational	Adjacent to the south-east edge of Princess Charlotte Wood	NZ 04731 13952

Cross Lanes to Rokeby: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
8.1A	View from PRoW (footpath) no.14, looking east	Representative Recreational Residents	Adjacent to the style into the field	NZ 03709 14224
8.2	View from PRoW (footpath) no.5 on the access road to Dent House Farm, looking north	Representative Recreational Residential	Approximately mid-way along entrance road to Dent House Farm	NZ 04934 13443
8.3	View from PRoW (footpath) no.10 looking south	Representative Recreational	North-western corner of the field adjacent to Dowson's Gill woodland	NZ 06403 14051
8.4A	View from PRoW no.5, within the Church of St Mary churchyard, looking south	Representative Recreational Visitors Residents	From PRoW (no.5) at the southern edge of the churchyard	NZ 07256 13769
8.4D	View from the Old Rectory	Residents	tbc	tbc
8.5A	View from PRoW (footpath) no.1 looking west	Recreational Users	Adjacent to the northern edge of the woodland	NZ 08818 13441
8.6	View from PRoW (footpath) no.3, looking south	Representative Recreational	North of Brignall Farm	NZ 07133 12541
8.7	View from PRoW (bridleway) no.13 (Mount Eff Trail) looking south	Representative Recreational	East of Barnard Castle, at Lowfield Gardens	NZ 06184 16188
8.8 PM	View from PRoW no.6 looking north	Representative Recreational	On the PRoW along the field boundary	NZ 07216 13535
8.9A	View from PRoW (footpath) no.13, looking south-west	Representative Recreational users	On the eastern part of the PRoW	NZ 07931 13946
8.10	View from Rokeby Park House, looking south-west	Representative Residential	tbc	NZ 08278 14153
8.11	South of Stable Yard Cottage, Rokeby Park	Representative Recreational	Within Rokeby Hall grounds south of Stable Yard Cottage	NZ 08034 13815

Cross Lanes to Rokeby: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
8.12	View from Abbey Road, looking south-west	Representative Motorists	At southern gated entrance to Rokeby Hall adjacent to Abbey Road	NZ 08005 13791

Character of the Night Sky

- 10.7.426 With reference to Figure 10.6: CPRE Dark Skies, the CPRE dark sky mapping illustrates that most of the study area is an area of darker sky. There is a localised increase in the amount of radiance at Greta Bridge and Boldron. Barnard Castle in the northern part of the study area, and its associated setting is illustrated as an area of brighter radiance, particularly across the town centre.
- 10.7.427 From the fieldwork, the existing A66 and surrounding road networks are not lit. The extent of agricultural land use, woodlands, rivers and the small-scale settlement patterns results in limited sources of light. There is localised glare from vehicles along the existing A66, but the relatively low-lying position of the road and the surrounding vegetation negate the perception of this lighting from across most of the study area. As a town centre, there is lighting across Barnard Castle, reflecting the conclusions of the published studies.
- 10.7.428 With reference to the Institution of Lighting Professionals Environmental Zones, most of the study area is assessed as E1: Natural and E2: Rural Environmental Zones. Barnard Castle is assessed as an E4: Urban Zone

Stephen Bank to Carkin Moor

Landscape

- 10.7.429 The relevant landscape features and elements across the Cross Lanes to Rokeby scheme study area are set out below, including the published landscape character assessments in order to determine the landscape baseline.

Landform and hydrology

- 10.7.430 With reference to ES Figure 10.1: Landscape and Visual Context (Application Document 3.3), the study area is characterised by several valleys, due to the several becks and their associated tributaries.
- 10.7.431 The main valley is located across the central part of the study area, in a north-west to south-east orientation, between Newsham, at 170m AOD and Gilling West, at 100m AOD. Numerous watercourses flow across this valley floor, including the Dalton Beck, Holme Beck and Gilling Beck.
- 10.7.432 To the north of this main valley floor, the landform forms a ridgeline with a number of localised high points, including Stephen Bank, at 163m

AOD, Sorrowful Hill, at 150m AOD and Diddersly Hill, at 209m AOD and which forms part of Gatherley Moor.

- 10.7.433 From this ridgeline, the landform falls towards the Hutton Beck, Caldwell Beck and Aldborough Beck, which flow across the northern part of the study area between 130m and 100m.
- 10.7.434 Localised variation in this pattern of landform results from smaller watercourses flowing from the ridgeline to the valley floor. These include the Mains Gill, which forms a shallow and very gently undulating valley between Carkin Moor and the Holme Beck, via Mainsgill Bridge. There are also several large watercourses at quarries and within the grounds of Forcett Park.
- 10.7.435 To the south of the main valley floor, the landform rises, often very steeply, across Gayles Moor and High Moor, to form an elevated ridgeline ranging between 390m AOD and 250m AOD across the southern part of the study area.
- 10.7.436 The Order Limits and the existing A66 are located across the rising landform and ridgeline to the north of the main valley. The alignment of the existing A66 is therefore elevated across Stephen Bank, but in localised cutting, such that the perception of the road is reduced. From Stephen Bank the alignment of the existing A66 falls from around 175m AOD to the west of West Layton, to around 144m AOD at Mainsgill Bridge. The alignment of the existing A66 then rises towards Carkin Moor, at around 150m AOD, where the lanes diverge to become grade separated dual carriageways, rising across Gatherley Moor.
- 10.7.437 The alignment of the existing A66 is therefore reflective of the underlying pattern of landform, with localised areas of engineered earthworks across Stephen Bank and at Carkin Moor.

Vegetation patterns

- 10.7.438 With reference to ES Figure 10.1 Landscape and Visual Context (Application Document 3.3), the main vegetation patterns across the study area are field boundary hedgerows and trees dividing fields, roadside hedgerows bordering the lanes and minor roads and tree belts bordering settlements, including at West Layton.
- 10.7.439 There are many plantations across the study area. Along the main valley floor these includes Hareclose and Back Plantation, between Newsham and Stephen Bank and May and Car Plantation between Ravensworth and Hartforth.
- 10.7.440 To the north of the valley floor, there are several plantations between West Layton and Carkin Moor, with those adjacent to the existing A66 including Ravensworth Copse, Fox Grove, Mainsgill Plantation and Street Plantation.
- 10.7.441 To the south of the valley floor, woodlands extend along many of the gills and the upper valley sides, including Hartforth Wood and Gilling Wood.

- 10.7.442 In relation to the alignment of the Order Limits, there is established vegetation adjacent to the existing A66 across Stephen Bank. This vegetation becomes more intermittent until the south of West Layton, where there are many established individual trees in proximity to the junction with Collier Lane.
- 10.7.443 Between Mainsgill Bridge and Carkin Moor, the northern edge of the existing A66 is bordered intermittently by trees and scrub, whilst the southern edge is open in character. At Carkin Moor, the extent of vegetation increases, particularly within the cutting to the south of Street Plantation and adjacent to the grade separated dual carriageway.
- 10.7.444 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3), there is neither ancient woodland within, nor adjacent to, the Order Limits. The main area of ancient woodland is in the south-east part of the study area, at Hartforth. There are smaller areas of ancient woodland to the south of Dalton in the southern part of the study area and to the north of East Layton, in the northern part of the study area.
- 10.7.445 There are no TPOs within or adjacent to the Order Limits. There are TPOs within Newsham and to the south of Dalton, across the southern parts of the study area.

Land use and settlement pattern

- 10.7.446 The main land use across the study area is agriculture, characterised by a range of field sizes, varying between large irregular field parcels across the northern part of the study area, to smaller scale geometric field parcels in the eastern part of the study area.
- 10.7.447 As part of this agricultural land use, there are many individual farms and farm shops across the study area, including West Layton Farm, Mainsgill Farm and Carkin Moor Farm. At Mainsgill Farm, to the south of the existing A66 and junction with the Moor Lane, the farm shop consists of a contemporary building reflective of a three-bay barn, with a large external car-park.
- 10.7.448 The settlement pattern is characterised by several small-scale villages. In the central part of the study area, Ravensworth, is clustered around the conflux of the Holme Beck and Dalton Beck. The northern part of the village consists of several large-scale greenhouses. The southern part of the village is predominantly residential and includes a linear arrangement of semi-detached and terraced two storey stone properties set around a 'village green' adjacent to Waitlands Lane.
- 10.7.449 In the northern part of the study area, the two main settlements are West Layton and East Layton. West Layton is a small hamlet, clustered around the junction of Collier Lane and West Lane. At the southern edge of the village, West Layton Manor is a large property set within wooded grounds and with a walled garden. Low stone walls are also characteristic of the hamlet, extending along the western edge of Collier Lane from the existing A66 and through the hamlet. Entrances into the adjoining fields from Collier Lane are often demarcated by low stone pillars.

- 10.7.450 East Layton is a small ribbon settlement, located predominantly to the north of West Lane, with the community hall and Christ Church to the south of the lane. Properties are mostly two storey stone buildings, with red tiles roofs, with established garden vegetation, often including trees adjacent to West Lane.
- 10.7.451 In the southern part of the study area there are several small villages situated across the upper parts of the valley side, including Gayles and Kirby. Both settlements extend to the south of the road network, but Gayles is an elongated village, whereas Kirby is clustered around a village green and to the south of the Church of St Peter and St Felix.
- 10.7.452 The existing A66 is the main road network across the study area. The B6274 crosses the eastern part of the study area, between Carkin Grange and Gilling West, via a staggered junction with the A66. Other road networks include Colliers Lane, between the A66 and West Layton, which is notable for its low stone walls; Moor Lane, between East Layton and Mainsgill Farm, which is predominantly straight in its alignment, in contrast to many of the lanes, and Warrener Lane, which extends to the south of the A66, from the dualled section at Carkin Moor, to Gilling West.

PRoW and other access

- 10.7.453 With reference to Figure 10.4: Zone of Theoretical Visibility (ZTV 3km) and Viewpoints, Chapter 13 Population and Human Health and on-line mapping, the Order Limits is crossed by the following PRoW:
- PRoW (footpath) 20.72/1/1, crossing between Collier Lane in the northern part of West Layton and the existing A66.
 - PRoW (footpath) 20.55/1/1, crossing to the south of the existing A66, to the south of the West Layton, and extending to Dick Scot Lane.
 - PRoW (footpath) 20.23/8/1, crossing between West Layton and Fox Hall Inn, adjacent to the existing A66.
 - PRoW (footpath) 20.55/2/1, crossing from Fox Hall Inn to New Lane, to the south of the existing A66.
 - PRoW (bridleway) 20.55/6/1, crossing from the existing A66 to the Holme Beck, via Mainsgill Farm.
 - PRoW (bridleway) 20.23/5/1, crossing between Moor Lane and the existing A66, in the western part of the scheme.
 - PRoW (bridleway) 20.30/8/1, crossing between Cross Lanes Farm and the existing A66 at the western part of the scheme.
 - PRoW (bridleway) 20.33/24/1, crossing between Warrener Lane and the existing A66.
 - PRoW (bridleway) 20.33/17/2, extending to the south of Warrener Lane.
- 10.7.454 Other routes across the study area include:
- PRoW (footpath) 20.49/26/1, bordering Newsham, at the western part of the study area.
 - PRoW (footpath) 20.32/6/1, extending across elevated land in the south-west part of the study area.

- PRow (footpath) 20.55/13/1, extending between New Lane and Ravensworth.
- PRow (footpath) 20.39/3/1, extending across elevated land at Kirby, in the south-east part of the study area.

Designations

10.7.455 With reference to Figure 10.2: Landscape Designations, the study area is not covered by any statutory landscape designations.

Local landscape designations

10.7.456 With reference to Figure 10.2: Landscape Designations, the north-west part of the study area, around Hutton Magna, is covered by an AHLV. The AHLV is covered by Policy 39 of the Durham Local Plan, which states

- *"proposals for development within an AHLV would only be permitted where it conserves and enhances the special qualities of the landscape, unless the benefits of the development clearly outweigh the harm."*

Heritage Designations

10.7.457 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 8: Cultural Heritage, relevant cultural heritage designations within the study area include:

- Conservation Areas at Newsham, East Layton, Ravensworth, Dalton, Gayles, Hartforth, Whanton and Kirkby. With reference to the Conservation Area appraisals for Ravensworth and Gayles, there are no identified 'important views' from the Conservation Areas towards the Order Limits. The Newsham Conservation Area appraisal identifies an 'important' view from the western edge of the Conservation Area, which is covered by the following viewpoint 9.10. There are no available Conservation Areas appraisals for the remaining Conservation Areas.
- A Grade II Listed hay barn in the northern part of West Layton.
- Several listed buildings in East Layton, including the Christ Church (Grade II).
- Forcett Hall (Grade II) RHPG in the northern part of the study area.
- The Church of St Peter and St Felix (Grade I), Kirby.
- Roman Fort and prehistoric enclosed settlement, 400m to the west of Carkin Moor Farm.

Ecology and Biodiversity Designations

10.7.458 With reference to ES Figure 10.2: Landscape Designations (Application Document 3.3) and Chapter 6: Biodiversity, relevant ecological designations within the study area include numerous areas of broadleaved woodland priority habitats. Perception and tranquillity

10.7.459 With reference to ES Figure 10.7: Tranquillity (Application Document 3.3), the published mapping illustrates a generally consistent mid-tier level of tranquillity across most of the study area. In proximity to the

existing A66 the tranquillity is illustrated as being reduced, particularly between West Layton and Ravensworth. The tranquillity increases across the northern and southern parts of the study area.

10.7.460 From the fieldwork, the movement and sound of vehicles on the existing A66 is perceived from within close range and across the southern parts of the study area due to the alignment of the existing road across the valley side. Therefore, as per the published mapping, there is no sense of remoteness or wildness from across these parts of the study area and the tranquillity is reduced due to the perception of the existing road and settlements.

10.7.461 The tranquillity and sense of remoteness does increase across the northern part of the study area. This is due to the increased extent of woodland and the substantially reduced perception of the existing A66.

Published landscape character assessments

10.7.462 The following section sets out the published landscape character assessments which cover the Order Limits and study area at national, county and local levels.

National landscape character

10.7.463 At the national level, the Order Limits for Stephen Bank to Carkin Moor and most of the study area is within NCA22 Pennine Dales Fringe (NCA 22).

10.7.464 With reference to ES Appendix 10.4: Landscape Character Assessments (Application Document 3.4), NCA22 is characterised by the published study as an area of "*varied topography...separated by major river valleys and incised by numerous minor tributary valleys.*" The stated key characteristics considered relevant to the study area are:

"A well-wooded landscape, with woodland along valleys, many copses and plantations on the side slopes, and hedges with hedgerow trees in the lower lying arable areas.

Field boundaries of drystone walls on higher ground and hedges in lower areas."

10.7.465 The existing A66 is noted by the published study as a major road, and where the road traffic has reduced the tranquillity levels across the NCA22.

10.7.466 The other NCA within the study area are:

- NCA 23 Tees Lowlands, covering the north-east part of the study area.
- NCA 24 Vale of Mowbray, covering the eastern part of the study area, to the east of the B6274.

Durham county council landscape character assessment

10.7.467 With reference to ES Figure 10.5: Landscape Character (Application Document 3.3), the western part of the Order Limits and study area (to

the north of the existing A66) are covered by BLT Lowland Vale, for which the relevant stated key characteristics are:

- Broad lowland vale.
- Mixed, but predominantly arable farmland - a mosaic of improved pasture and arable cropping.
- Semi-regular patterns of old enclosures bounded by thorn hedges.
- Sparsely wooded but with some heavily wooded areas of old parkland and estate farmland.
- Nucleated pattern of small green villages connected by narrow, winding, hedged lanes.
- The high incidence of hedgerow trees creates a degree of enclosure in places, but the landscape remains fairly broad in scale with views to distant high ground.
- A tranquil settled rural landscape.

10.7.468 Relevant published guidelines for BLT Lowland Vale include protecting hedgerow trees, planting new woodlands, respecting field patterns and avoiding 'urban' detailing and street lighting on country roads.

10.7.469 Within BCT Lowland Value, the western part of the Order Limits and study area are within the smaller area of BCA Southern Tees Vale: Hutton Magna. The published study describes the BCA as *"gently rolling or undulating farmland in the south of the vale. An open, predominantly arable, landscape with old pre-enclosure field systems of clipped hawthorn hedges and scattered hedgerow trees. The area is sparsely wooded, with occasional small broadleaved plantations. Small hamlets and scattered farms are connected by narrow winding lane."*

10.7.470 Refer to Appendix 10.4: Landscape Character Assessments for details of the above BLT and BCA, including the assessment of landscape sensitivity.

Richmond borough landscape character assessment

10.7.471 With reference to Figure 10.5: Landscape Character most of the Order Limits and the study area are within Local Landscape Character Type (LLCT) B: Moors Fringe, which is described by the published study as *"It forms the slopes at the edge of the Moors, into the valley areas and transitioning into the Vale. It comprises the gently sloping eastern fringes of the Yorkshire Dales to the north and Gritstone Moors and Fells to the south. There is local variation in topography."*

10.7.472 The published guidelines for LLCT B: Moors Fringe include conserving stone walls, maintaining public access and encouraging new built form to reflect the character of small villages linked by minor roads.

10.7.473 Within LLCT B: Moors Fringe, the following smaller local landscape character areas (LLCA) covers most of the Order Limits, in the central part of the study area, from the west of West Layton to Carkin Moor:

- B3: East and West Layton Moors Fringe, consisting of mixture of small, regular often linear fields with a variety of tree cover. The

published study notes that traffic on the existing A66 results in localised intrusion.

- 10.7.474 LLCT D: Narrow Valley covers land to the south of the existing A66 and also covers parts of the Order Limits. The published study describes LLCT D: Narrow Valley as *"a narrow valley floor that is generally well-treed. Vegetation comprises of sinuous lines of riparian trees and shrubs that define watercourses, hedgerow boundaries with trees, scattered field trees and small blocks of woodland particularly concentrated in the centre of the LLCT."*
- 10.7.475 Relevant guidelines for LLCT D: Narrow Valley include extending woodland, strengthening hedgerow patterns, protecting the rural character and cross-valley views.
- 10.7.476 Smaller LLCA within LLCT D also covering the Order Limits within the central part of the study area are:
- D1: Ravensworth Narrow Valley, a shallow valley with an irregular pattern of fields and covering the south-west part of the Order Limits.

Visual Baseline

- 10.7.477 A range of representative people's views (visual receptors) have been identified across the study area via the desk-based reviews and fieldwork during winter and summer conditions.
- 10.7.478 With reference to Appendix 10.3: Landscape and Visual Study Area, several ZTVs have been generated to aid the fieldwork. These ZTVs demonstrated how the theoretical visibility is concentrated to the north of the Order Limits, due to the ridgeline reducing the theoretical visibility across lower lying land within the northern part of the study area. In contrast, the theoretical visibility extends to the south of the existing A66, across the lower lying valley floor and to elevated land in the southern edge of the study area.
- 10.7.479 With reference to ES 10.4: Zone of Theoretical Visibility (ZTV) and Viewpoints: to ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3), photographs have been taken from publicly accessible locations (viewpoints) to demonstrate this existing visibility and represent the views of the visual receptors. The following section summarises the conclusions of the fieldwork and should be read in combination with the ES Appendix 10.9 Zone of Theoretical Visibility (ZTV) and Visualisation Methodology (Application Document 3.4), which sets out the existing viewpoint descriptions in full along with the sensitivity of the visual receptors.
- 10.7.480 In respect of views from the southern edge of West Layton, Viewpoint 9.1 (ES Figure 10.8: Viewpoint Photosheets Application Document 3.3)) demonstrates the view for motorists on Collier Lane, travelling towards the existing A66. The view demonstrates the low stone walls and hedgerows adjacent to the lane and that views extend to elevated land in the background of the view. Vehicles on the existing A66 are also

visible, ranging in elevation from west to east across the composition of the view.

- 10.7.481 From the opposite side of the existing A66, Viewpoint 9.1A (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) similarly demonstrates the sloping alignment of the A66 across the landscape, the visibility of vehicles across the rural landscape and that the extent of views to the north of the A66 is limited by the ridgeline.
- 10.7.482 Viewpoints 9.2 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) and 9.6 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrate views from PRow to the north of the Order Limits, within the central part of the study area. The composition of the view is characterised by a rural landscape of large-scale fields and vegetation which fall towards a localised ridge. This ridge screens most of the existing A66, although the upper parts of vehicles are visible across part of the view and seen in the context of buildings at Fox Hall. Views extend beyond to a rural landscape situated across elevated landform.
- 10.7.483 Further to the north of these locations, the increased density of the intervening vegetation screens views of the existing A66 from the southern edge of East Layton, as demonstrated by Viewpoint 9.7 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)).
- 10.7.484 From adjacent to the existing A66, Viewpoint 9.3 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) is representative of views from Fox Hall. The overall extent of views is limited by the rising landform, but vehicles are evidently noticeable at close range.
- 10.7.485 Moving to the south of the existing A66, Viewpoint 9.4 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) demonstrates views from the northern edge of Ravensworth and across the main valley floor. Vehicles on the existing road are visible, situated in an elevated position in relation to the receptor and seen in the context of buildings at Mainsgill Farm Shop. The view also demonstrates the rising land to the north of the existing A66, which truncates views across the wider landscape within the northern part of the study area.
- 10.7.486 From the more elevated southern parts of the study area, Viewpoint 9.4B (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)), demonstrates views from Kirby Hill. The elevated position of the receptor enables views across most of the scheme boundary, from Stephen Bank to Carkin Moor. Vehicles on the existing A66 are notable due to their movement in relation to the rural landscape but remain small in scale in relation to the larger scale of the landscape.
- 10.7.487 Returning to within closer proximity of the existing A66, Viewpoint 9.5 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) is taken from access road into Mainsgill Farm Shop. The view demonstrates that vehicles on the existing A66 are notable at close range, with views extending across the rural landscape to the south of

the road, whilst views to the north of the road are truncated by the elevated position of the A66.

- 10.7.488 The rural landscape to the south of the existing A66 is also visible from along Warrener Lane, extending towards Mainsgill Farm Shop and covering part of the Order Limits, as demonstrated by Viewpoint 9.8 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)). The rising alignment of Warrener Lane screens views of the existing A66 to the north.
- 10.7.489 From opposite Viewpoint 9.8, Viewpoint 9.8A demonstrates the view from PRoW and properties at Carkin Moor. The elevated position of the receptor enables views across part of the existing A66 and fields to the south of the road which are within the Order Limits. Views across the remainder of the Order Limits are screened by Street Plantation.
- 10.7.490 Viewpoint 9.9 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) is representative of views from PRoW in the south-west part of the study area and Gayles. The view demonstrates the rural composition of the view and that the western part of the Order Limits is situated across rising and elevated landform. The localised variation in landform at Stephen Bank is also visible.
- 10.7.491 Viewpoint 9.10 (ES Figure 10.8: Viewpoint Photosheets (Application Document 3.3)) similarly demonstrates views of the western part of the Order Limits from PRoW at the edge of Newsham. The scale of vehicles on the existing A66 is very small in relation to the wider rural landscape, but their elevated position and movement within the landscape results in them being discernible.
- 10.7.492 The viewpoints listed in Table 10-9: Stephen Bank to Carkin Moor viewpoints are used to illustrate the baseline environment and inform the assessment of effects of the scheme.

Table 10-9: Stephen Bank to Carkin Moor viewpoints

Stephen Bank to Carkin Moor: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
9.1	View from Collier Lane, south of West Layton, looking south	Representative Road users	At the roadside of adjacent to the entrance piers to the field	NZ 14238 09662
9.1A PM	View from PRoW (footpath) no. 20.55/1/1 looking north	Representative Recreational	Adjacent to a concrete feeder on the PRoW	NZ 14041 09314
9.2	View from PRoW (bridleway) 20.23 8/1 looking south-west	Illustrative Recreational	At the southern corner Fox Grove	NZ 14832 09585
9.3	View from Fox Hall Inn, looking north	Representative Motorists and visitors	On the grass embankment at the	NZ 14703 09181

Stephen Bank to Carkin Moor: Viewpoints				
Viewpoint number	Viewpoint title	Viewpoint type and receptors	Description of location	Grid reference
			northern edge of the Fox Hall Inn car park	
9.4	View from PRow (bridleway) 20.55 6/4 looking north	Representative Recreational	Adjacent to concrete silage storage area at the eastern edge of Ravensworth	NZ 14402 07885
9.4B	View from PRow (footpath) no. 20.39/3/1, looking north	Representative Recreational	At the northern edge of the field, prior to the style	NZ 14018 06672
9.5	View from the entrance to Mainsgill Farm Shop, looking north	Representative Employment users Visitors	At the bottom of the entrance/exit road east of the car park at Mainsgill Farm Shop	NZ 15516 08631
9.6 PM	View from PRow (bridleway) 20.23 5/1, looking south	Representative Recreational	At the south-eastern edge of Middle Plantation	NZ 16050 08916
9.7	View from East Layton Social Club, looking south	Representative Residential	At the southern edge of the East Layton Social Club car park	NZ 16444 09803
9.8 PM	View from PRow (bridleway) 20.33 17/2 adjacent to Warrener Lane, looking north-west	Representative Recreational	South of the road junction between Warrener Lane and the bridleway leading to Pond Dale	NZ 16434 07824
9.8A	View from PRow (bridleway) 20.30/8/1, looking south	Representative Residential Recreational	On the PRow at the junction with the access lane to Carkin Moor Farm	NZ 16620 08342
9.9	View from PRow (footpath) 20.32/6/1, looking north-east	Representative Recreational Residential	North of Swinery Wood at field boundary fence	NZ 11793 07839
9.10	View from PRow (footpath) 20.49/10/1 looking north-east	Representative Recreational	At the north-western field corner adjacent to the eastern settlement edge of Newsham	NZ 10915 10063

Character of the Night Sky

10.7.493 With reference to ES Figure 10.6: CPRE Dark Skies (Application Document 3.3), the CPRE dark sky mapping illustrates that study area is predominantly and area of darker skies. The level of radiance increases around Smallways and the existing A66 across Stephen Bank. There is

also increased levels of radiance at Ravensworth, West Layton and Mainsgill.

- 10.7.494 From the fieldwork, the existing A66 is not lit, but there is localised glare from vehicles along the road. The predominantly rural landscape with small scale settlements results darker skies across the study area, reflective of the published mapping.
- 10.7.495 With reference to the Institution of Lighting Professionals Environmental Zones, the study area is assessed as an area of E1: Natural and E2: Rural Zone

A1(M) Junction 53 Scotch Corner

- 10.7.496 This section of the scheme has been scoped out of the landscape and visual assessment. Whilst there would be some removal of roadside vegetation and additional highways infrastructure, it has been assessed that the very localised and small-scale changes, within the existing A66 road corridor, would not result in significant landscape or visual effects during the construction or operational phases of the scheme.

Future baseline

- 10.7.497 There may be changes to the landscape baseline from the following activities:
- Changes to working practices with more agri-tourism and diversification of farms. This would increase the numbers of visitors to the countryside and require additional parking.
 - Wider land-use changes, but these tend to be slowly adopted.
 - Residential development adjoining existing settlements will increase the number and visibility of vehicles.
 - Pressure from farmers to consolidate fields for efficiency, removing valuable landscape features.
 - Additional wind turbines and other vertical structures that may detract from the appreciation of the remote character of the landscape.
 - Changes in crop types due to the change in climate.
- 10.7.498 Additional changes to the landscape baseline may occur as a result of in-combination climate change impacts. The in-combination climate change assessment has used a future climate baseline that is based on representative concentration pathway 8.5 (RCP 8.5) of the UK climate change 2018 projections (UKCP18). This future climate baseline is presented in Chapter 7: Climate.

10.8 Potential impacts

- 10.8.1 Based on the Project design and associated construction activities, the Project has the potential to impact upon landscape and visual amenity during both construction and operation.
- 10.8.2 The design of the Project, including any embedded mitigation measures that have been incorporated, are described in Chapter 2: The Project. Any key aspects of the design and embedded mitigation are also

referenced in this section where they are directly applicable to the landscape and visual assessment.

- 10.8.3 Potential impacts of the Project are described in this section prior to the implementation of the essential mitigation described in Section 10.8: Essential mitigation and enhancement measures below. The residual effects of the Project, considering this essential mitigation, are then described in Section 10.9: Assessment of likely significant effects.

Construction

Potential Impacts before essential mitigation and enhancement

- 10.8.4 Construction and demolition activities associated with the Project would take place between 2024 and 2029.
- 10.8.5 To avoid double counting of effects, the assessment of landscape and visual construction effects identifies and assesses only temporary effects which arise as a result of activities and elements that are unique to the construction phase.
- 10.8.6 For example, the permanent removal of built form or vegetation is assessed as part of the operational phase, but the works such as the disruption caused by construction plant used during demolition and site clearance are assessed as part of the construction phase. A further example would be proposed landforms or structures, which would form permanent features and have been assessed as part of the operational phase, but the earthworks required to form them, including excavation, aggregate, earth movements and stock piling are assessed as construction effects.
- 10.8.7 Sources of construction impacts on landscape and visual receptors typically include:
- Temporary construction compounds with associated fencing
 - Temporary haul roads
 - Temporary closures of PRoW
 - Stock piling and storage of materials
 - Excavation, large-scale temporary earthworks and handling of materials
 - On-site and off-site construction traffic
 - On-site plant
 - Night-time lighting year-round.
- 10.8.8 The construction phase planning is currently in the early stages, with detailed phasing and programming underway. A description of the information currently known about the construction phase that has informed this assessment is provided in Chapter 2: The Projects section 2.6: Construction Methods and Management Statement.

Operation

- 10.8.9 Sources of landscape and visual effects are likely to occur as a result of the loss of or changes to existing landscape features or characteristics,

or the addition of new infrastructure or features within the landscape or view.

Potential Impacts

10.8.10 The following section describes the potential operational effects as a result of individual schemes.

M6 Junction 40 to Kemplay Bank

10.8.11 Landscape and visual effects likely to occur as a result of the scheme include:

- Relocation of the entrance point to Skirsgill Depot resulting in the partial loss of farmland to the east.
- Introduction of substantial earthworks and balancing pond to accommodate the new road infrastructure north of Skirsgill Lane resulting in change of land use and opening of views towards the scheme.
- Widening of the route on the approach to Kemplay Bank Roundabout to three lanes in each direction resulting in loss of roadside vegetation.
- Loss of mature vegetation along the northern and southern carriageways, including at Wetheriggs Country Park and south of Carleton Avenue.
- Grading and modification to road embankments to accommodate road widening to the south, resulting in the opening of views for residents and recreational users.
- Introduction of replacement woodland edge, individual trees, hedgerows, landscape bunds and noise barriers to provide screening and noise attenuation.
- Introduction of large detention pond east of Penrith Police HQ resulting in partial loss of farmland.

Penrith to Temple Sowerby

10.8.12 Landscape and visual effects likely to occur as a result of the scheme include:

- Introduction of a major compact grade-separated junction, earthworks and associated slip roads at Center Parcs Whinfell forest to connect the facility with the new A66 alignment. This would result in changes to existing landscape form, field pattern and vegetation that would increase the visual presence of infrastructure for nearby residents and road users.
- Provision of an overbridge to serve as an accommodation track east of the junction with the B6262 resulting in vegetation loss and an increase in visible infrastructure.
- Introduction of balancing ponds throughout the length of the scheme at various locations resulting in the partial loss of agricultural land.
- Provision of access tracks north and south of the realigned A66 to serve Whinfell Park Farm, including an overpass north-east of the

farm, resulting in partial change of use to farmland and additional infrastructure.

- Demolition of High Barn Farm buildings and Lightwater Cottages to accommodate the new road alignment, further opening views towards the scheme from the south.
- Removal of stretches of roadside vegetation and stone walls to accommodate road widening, leading to changes in landscape character and views.
- Introduction of replacement woodland edge, individual trees, hedgerows, landscape bunds and walls that provide screening and noise attenuation would promote the partial restoration of landscape character.

Temple Sowerby to Appleby

10.8.13 Landscape and visual effects likely to occur as a result of the scheme include:

- Alteration of existing field patterns resulting in a change in landscape character around Kirkby Thore due to a substantial increase in infrastructure.
- Substantial earthworks to accommodate the new road infrastructure, altering baseline views and characteristics particularly at Kirkby Thore.
- Introduction of several balancing ponds, filtration strips, drainage channels and culverts associated with drainage proposals, particularly where these are typical engineered solutions e.g., regular shaped ponds, slope angle and location on steep gradients and any associated earthworks or other features.
- Creation of a new grade separated junction south of the British Gypsum Works which will also provide the realignment of Main Street.
- Creation of an overpass north-west of Kirkby Thore at Cross Street, with the realigned Cross Street on embankment resulting in views of additional infrastructure for residents and recreational users to the western extents of the village.
- Creation of several overpasses at Norman Lane, Sleastonhow Lane, and Roman Vale, resulting in visual change for residents and recreational users of nearby PRow.
- Provision of a multi span viaduct structure across Trout Beck in addition to a watercourse crossing at Keld Syke, creating substantial visual and landscape change as a result of field pattern change, interruption of skyline, views, introduction of noise and movement and additional infrastructure.
- Introduction of large detention ponds either side of Trout Beck at the proposed crossing, resulting in further loss of agricultural land and reduction in rural character.
- Loss of field boundary vegetation, historic lanes and stone walls, altering the perceived landscape character of the area, changing views and modifying the scale of field patterns, including potential

loss of avenue woodland along the Roman road, predominantly as a result of a new junction east of Roman Vale.

- Introduction of landscape mitigation measures including woodland blocks and belts, hedgerows, individual trees and grading in order to reduce landscape and visual impacts and retain landscape character.
- Realignment of a number of PRow, including a shared cycleway extended alongside the existing A66 for access towards Temple Sowerby, resulting in partial change of use for affected farmland.
- Provision of a connector road east of Oak Dene between the new road alignment and existing A66, thereby severing existing field patterns resulting in a loss of rural character.

Appleby to Brough

10.8.14 Landscape and visual effects likely to occur as a result of the scheme include:

- Construction of an eastbound diverge and merge at Café Sixty Six to provide access to the eastbound carriageway and an access track providing links to a replacement underpass for New Hall Farm, resulting in changes to existing land use and visual change for users of the nearby PRow.
- Construction of a northern carriageway to the north of the existing A66 along a Roman Road section north of Sandford resulting in the loss of a substantial woodland belt.
- Provision of a grade-separated junction forming an underpass at Dyke Nook in addition to several balancing ponds and associated earthworks and access tracks, creating a change in localised landscape character and land use whilst increasing the visibility of associated infrastructure.
- Substantial loss of roadside vegetation north of Dyke Nook as a result of road widening and grade-separated junction.
- Substantial earthworks (embankments) south of Wheatsheaf Farm to accommodate the scheme as a result of realignment, in addition to an overpass north of Hall Park to allow access to the realigned A66 on the north and south side of the new carriageway which will encroach on the NPAONB, resulting in a localised loss of landscape character and severance of existing field patterns.
- Provision of an underpass connecting the new local road to the north of the existing A66 with Flitholme via an underpass which would also provide a connector road with the new A66 to the east which will encroach within the NP AONB, resulting in loss of agricultural land and change of field pattern.
- Construction of the westbound carriageway directly south of the existing A66 resulting in the loss of roadside vegetation and field boundaries.
- Construction of an overbridge for walkers, cyclists and horse riders at the eastern end of the scheme near West View Farm, resulting in visual change for nearby residents and users of the PRow.

- Provision of a new access track forming an underpass east of Old Long Byre.
- Provision of a new road formed as a realignment of the existing A66 which would provide access to Brough High Street. This may also incur additional landscape impacts on the NP AONB through encroachment
- Introduction of landscape mitigation measures including woodland blocks and belts, hedgerows, stone walls and individual trees in order to reduce landscape and visual impacts and restore local character.
- Alteration of existing field patterns as a result of the scheme by severing existing areas of agricultural land and loss of field boundaries including stone walls
- Potential for impacts on views from within and towards the NP AONB as a result of additional infrastructure.

Bowes Bypass

10.8.15 Landscape and visual effects likely to occur as a result of the scheme include:

- Construction of a large balancing pond, associated earthworks and access track directly south of Ivy Hall Cottage resulting in changes to surface landform and removal of vegetation.
- Widening of the existing A66 to construct a new eastbound carriageway and eastbound slip road, resulting in the alteration of surface landform, the field patterns, removal of stone walls and vegetation.
- Construction of a new slip road from the A67 eastbound the new A66, resulting in the demolition of several farm buildings, alteration to surface landform, removal of vegetation and alteration to field boundaries.
- Demolition of Low Broats Farm and associated farm outbuildings to construct the eastbound carriageway and overpass, with localised excavation for the balancing ponds.

Cross Lanes to Rokeby

10.8.16 Landscape and visual effects likely to occur as a result of the mainly online scheme include:

- Construction of a compact grade-separated junction to the east of the B6277 resulting in the loss of agricultural land, field boundaries and changes to views for nearby residents, recreational users and visitors to Cross Lanes Organic Farm Shop.
- Construction of a grade-separated junction and re-alignment of the road corridor to the south of the Church of St Mary. There would be a change from baseline conditions, via a loss of farmland and associated field boundaries in addition to the introduction of large balancing ponds.
- Addition of the westbound carriageway to the south of the existing A66 for the majority of the scheme, incurring extensive loss of

roadside and field boundary vegetation, resulting in close range open views towards the scheme and loss of farmland.

- Introduction of a roundabout in replace of the existing 'T' junction at the A66 junction with Barnard Castle Road.

Stephen Bank to Carkin Moor

10.8.17 The western section of the scheme broadly follows a similar alignment to the existing A66 across Stephen Bank, before its alignment extends towards West Layton and then returns south to the existing A66 alignment, between Mainsgill and Warrener Lane.

10.8.18 Landscape and visual effects likely to occur as a result of the scheme include:

- Some loss of roadside vegetation and agricultural land as a result of the scheme, opening views towards infrastructure mainly for receptors to the south of the scheme, situated across the valley floor and elevated land.
- Alteration of existing field patterns south and east of West Layton as a result of field boundary loss and loss of part of the stone wall estate boundary to Collier Lane.
- Landscape and visual change via the introduction of a grade-separated junction north of Mainsgill Farm Shop.
- Loss of areas of woodland blocks within the footprint of the scheme, resulting in loss to a stated key characteristic of the landscape character.
- Changes in field pattern south of the eastern section of the scheme following realignment of the existing A66 to connect with Warrener Lane and loss of farmland to accommodate several balancing ponds.

A1(M) Junction 53 Scotch Corner

10.8.19 As set out above, although the introduction of the scheme would incur some loss of roadside vegetation along Middleton Tyas Lane, this loss is not predicted to incur significant landscape or visual effects. Therefore, this section is scoped out of the assessment.

Road User Experience

10.8.20 This section looks at the change in experience of current users of the A66. It examines the impacts that would be associated with the new route during construction, at year 1 in the winter and at year 15 in the summer once mitigation planting has achieved a level of maturity. It should be noted that mitigation planting would be increasingly effective from year 5 when, depending on species, it would be at least 2m high.

10.8.21 LA104 defines road users as low sensitivity receptors and this is the case with the existing A66 where, due to the hazards associated with the changing road conditions, drivers need to concentrate on the road. The proposed improvements would reduce these hazards and there is an appreciation that many road users will travel this road for its

landscape setting and would be more sensitive to change on some parts of the route.

Route Wide

Construction

- 10.8.22 Due to the scale of the construction works there would be a significant change for road users creating a major degree of change for each scheme. There would be visual impacts associated with the presence of construction vehicles, traffic control and movement and stockpiling of materials. There would also be the effects of temporary lighting and changes in lane markings and diversions. All of these impacts are temporary, but they would create a diminished driver experience. These significant impacts are project wide. Mitigation measures would not be effective for road users as the construction occurs along the road corridor where these receptors are located.
- 10.8.23 As the construction impacts are consistent across each scheme for all road users the assessment has not been repeated for each scheme individually. There is a significant effect for all road users during construction.

Year 1 (winter)

- 10.8.24 In year 1, before mitigation measures mature, the drivers' experience would be altered by visual impacts associated with the tree shelters and the rawness of landform before vegetation becomes established. When newly constructed concrete and galvanised finishes have a brightness that stands out in the landscape, so structures would be more apparent due to the lack of materials weathering and the lack of maturity of mitigation planting.

Year 15 (summer)

- 10.8.25 In year 15 mitigation planting would have achieved a level of maturity and would be restoring the visual screening along the road corridor to a similar extent as the existing situation. Landform would be fully vegetated, and the surfaces of structures would have weathered.

M6 Junction 40 to Kemplay Bank

Year 1 (winter)

- 10.8.26 In year 1 drivers would benefit from the improved road conditions with less tailbacks and clearer signage and lining making the transition from the M6 to the A66 less stressful and safer. As the mitigation planting in year one is still young, there would be some visual impact from the protective tree shelters, but wider views would be more open across Skirsgill Park, Eamont Bridge and Wetheriggs Park.
- 10.8.27 The driver experience at Kemplay Bank roundabout would change as travellers on the A66 would no longer need to use the roundabout. Traffic would pass under the roundabout and would be freer flowing.

The road passing under the roundabout would create a gateway feature as the driver leaves Penrith.

- 10.8.28 The low sensitivity of road users combined with a moderate degree of change results in a slight effect, which is not significant.

Year 15 (summer)

- 10.8.29 In year 15 the mitigation planting would have achieved a level of maturity and would be restoring the visual screening along Skirsgill Park and Wetheriggs Park. This would contain the road corridor to a similar extent as the existing situation.
- 10.8.30 Woodland planting in and around the Kemplay Bank roundabout would supplement the existing retained road corridor planting to help fit the new construction into its landscape setting.
- 10.8.31 In year 15 there would be an overall minor change in the driver experience which, combined with the low sensitivity of road users, would result in a neutral effect, which is not significant.
- 10.8.32 The landscape and visual effect is neutral rather than slight at this point as road users would be concentrating on road conditions and route decisions with diverging and converging traffic at the junctions.

Penrith to Temple Sowerby

Year 1 (winter)

- 10.8.33 In year 1, as planting is yet to mature, views would be more open. The new access bridge close to the Countess Pillar, while it spans high points either side of the road, would be an obvious change for road users.
- 10.8.34 The junctions at Whinfell and Center Parcs increase the area of infrastructure due to the access roads. Before the establishment of vegetation, side slopes would be bare and planted areas would stand out due to tree shelters.
- 10.8.35 The removal of the single mature pine at the junction by Center Parcs would constitute a noticeable change in the view for road users.
- 10.8.36 The low sensitivity of road users combined with a moderate degree of change results in a slight effect, which is not significant.

Year 15 (summer)

- 10.8.37 In year 15, the mitigation planting would be mature, and landform would be vegetated. Larger fields would be returned to agriculture and would fit with the local landscape pattern. From the road user's perspective, at this stage, there would be little change from the current position.
- 10.8.38 Mitigation planting would be positioned to retain existing views of landscape features such as Brougham Castle and the Countess Pillar.
- 10.8.39 The overbridge near the Countess Pillar would emerge from the mitigation planting at the higher level and being a simple, functional

structure it would provide a visual gateway through which the road passes.

- 10.8.40 Infilling between the access roads at each junction would give additional height to mitigation planting and would fit the infrastructure better into the landscape. Considered species selection at Center Parcs would ensure the orientation point provided by the removed single pine tree is reinstated.
- 10.8.41 In year 15 there would be an overall minor change in the driver experience which combined with the low sensitivity of road users, would result in a neutral effect, which is not significant.
- 10.8.42 The landscape and visual effect is neutral rather than slight at this point as road users would be concentrating on road conditions and route decisions and mitigation planting would continue to develop over time to reduce the impact.

Temple Sowerby to Appleby

Year 1 (winter)

- 10.8.43 Travelling west to east the first significant change in this section would be the by-pass around Kirkby Thore. This section of the road would be in cutting, to avoid noise and visual impacts. The driver experience therefore would change in two main respects. Currently the traffic speed is reduced as the existing A66 passes through the edge of the village. HGVs turn off, through the village, to access the British Gypsum works. The setting of Kirkby Thore on the old roman road and the proximity to the traffic of the Bridge Hotel gives this section a unique character. However, this needs to be balanced by the number of accidents that occur here, which negatively affect the driving experience.
- 10.8.44 The proposed route takes the traffic in cutting north of the village, with new junctions allowing access to the gypsum works away from the village. The road user would experience a significant change in year 1 when the embankments are bare and planting barely visible above the tree shelters. The visual connection between the road and the village would be lost.
- 10.8.45 The proposed route would then cross the existing A66 after passing over the Trout Beck on a viaduct. The road user would experience open views at this point, a change from the existing.
- 10.8.46 The road would continue on embankment, past a new junction near Long Marton which realigns the access road, now passing under the proposed route. This would change the experience of road users on the A66 and the Long Marton road. On the embankment, before mitigation planting matures, views would be open and exposed.
- 10.8.47 The proposed route remains offline, running parallel to the Roman Road. Due to undulations in landform, it changes from cutting to embankment along this stretch. There will be a change in the road user experience at this point as the distinctive avenue of trees along the

Roman Road are obvious. For the road user this is a positive impact as it allows an understanding of the context of the road and points to the history of the route.

- 10.8.48 In year 1 there would be a major change to a low sensitivity receptor giving a moderate effect, which is significant.

Year 15 (summer)

- 10.8.49 In year 15 the planting would be mature enough to mitigate impacts. Slopes would be fully vegetated, and a degree of naturalness would be achieved. There would still be a change to the driver experience due to the change in road alignment, but overall, the experience will be balanced.
- 10.8.50 The alignment along the Roman Road would be simply treated to allow the character of the tree lined avenue to be the dominant landscape feature.
- 10.8.51 In year 15 there would still be a major change to a low sensitivity receptor, but mitigation would reduce the impact to slight and therefore not significant.
- 10.8.52 The landscape and visual effect would be slight rather than moderate at this point as road users would be concentrating on road conditions and route decisions and mitigation planting will continue to develop over time to reduce the impact.

Appleby to Brough

Year 1 (winter)

- 10.8.53 In year 1 there would be a change in the road user experience as mitigation planting would not have achieved maturity and side slopes would be bare.
- 10.8.54 The proposed junction with the B6259 would necessitate the removal of a large area of mature woodland, affecting the driver experience at this point. New replacement screen planting would not be effective and elevated sections of the route would have greater visual exposure.
- 10.8.55 The proposed route runs offline northwest of Warcop, crossing a small valley on an overbridge structure. This section of the existing A66 is an untidy mixture of MoD signage, poorly maintained verges and unsightly maintenance sheds visible from the carriageway. The proposed scheme at this point would make this section more contiguous with the rest of the road corridor and would strengthen the boundary of the NP AONB that runs along the northern edge of the road.
- 10.8.56 A new junction at Warcop would be an elevated structure with an overbridge. Landform in year 1 would be recently seeded but would be bare. The screen woodland planting would not be effective, and the tree shelters would be very visible.
- 10.8.57 The proposed road alignment runs to the south of the existing A66, which is retained as an access road. Due to the undulating topography

the road would change from embankment to cutting. In year 1 there would be impacts associated with the earthworks and planting that would not yet have reached maturity.

- 10.8.58 The access road and proposed new road alignment would create a wider infrastructure corridor. In year 1 the visual impact for road users would not be mitigated by planting and the changes in level would be bare slopes.
- 10.8.59 A new junction is proposed near West View Farm west of Brough. The overbridge associated with this junction would create a gateway feature before Brough.
- 10.8.60 The low sensitivity of road users combined with a moderate degree of change results in a slight effect, which is not significant.

Year 15 (summer)

- 10.8.61 In year 15 mitigation planting would have reached effective maturity and side slopes would be vegetated and have achieved a degree of naturalness.
- 10.8.62 The impact of the proposed junction with the B6259 would be mitigated by the replacement of woodland. Views from the road would be controlled, allowing a similar driving experience to that which exists currently.
- 10.8.63 The boundary of the NP AONB that runs along the northern edge of the road at Warcop would benefit from the establishment of woodland belts and effective screen planting. The buildings, signage and other MoD paraphernalia would be rationalised to create a neater and more contiguous boundary to the NP AONB.
- 10.8.64 In year 15 screen planting would be established at the new junction at Warcop which together with the slackened side slopes would help to fit the junction into the landscape.
- 10.8.65 In year 15 the mitigation planting would provide an effective screen where required, improving the driver experience while allowing established views into the NP AONB for legibility and wayfinding.
- 10.8.66 In year 15 there would still be a major change to a low sensitivity receptor, but mitigation would reduce the effect to slight and therefore not significant.

Bowes Bypass

Year 1 (winter)

- 10.8.67 This scheme proposes significant earthworks associated with the widening of the by-pass and providing safer access roads and junctions. This would necessitate the removal of existing screen planting. In year 1 the reinstatement and mitigation planting would not be established and there would be a moderate effect on the road users. Slopes would be bare and woodland planting would be obvious because of tree shelters.

- 10.8.68 Between Bowes and Hulands Quarry a new junction is proposed at Low Broats. This includes an overbridge and associated earthworks. At year 1 the slopes, although slackened to blend in with the surrounding topography would be bare. The overbridge would also stand out as a fresh structure and together these would constitute a moderate impact for road users.
- 10.8.69 The low sensitivity of road users combined with a moderate degree of change results in a slight effect, which is not significant.
- Year 15 (summer)*
- 10.8.70 In year 15 the mitigation planting would have achieved a level of maturity and would be restoring the visual screening along the by-pass and access roads. This would contain the road corridor to a similar extent as the existing situation.
- 10.8.71 Woodland planting in and around the Bowes junction would supplement the existing retained planting to help fit the new construction into its landscape setting.
- 10.8.72 The Low Broats junction slopes would be vegetated in year 15 and the species rich grassland would be established. While the earthworks and overbridge would be new elements in the landscape, in respect of the driver experience overall these would not constitute a major change.
- 10.8.73 In year 15 there would be an overall moderate change in the driver experience which, combined with the low sensitivity of road users results in a slight effect, which is not significant.

Cross Lanes to Rokeby

Year 1 (winter)

- 10.8.74 In year 1 there would be a change in the road user experience as mitigation planting would not have achieved maturity and side slopes would be bare.
- 10.8.75 The road user would notice changes in year 1 at the Cross Lanes junction. There would be earthworks adjacent to the carriageway to accommodate the overbridge. Without mature mitigation planting and with a fresh new structure the difference would be obvious. The existing B6277 would be easier and safer to navigate, improving the road user experience.
- 10.8.76 There are parallel access tracks between Cross Lanes and Rokeby. While these are designed to have a low visual impact, the infrastructure corridor would be widened, and planting would not fully mitigate this impact at year 1. Expansive views from the proposed route, across the Greta valley, would be possible.
- 10.8.77 At Rokeby the proposed alignment diverges to the south at a new junction. This would be a distinct change from the existing situation where the road bisects the group of properties at St Mary's chapel. The

road corridor remains contained by the riparian corridors associated with the Tutta Beck and the River Tees.

10.8.78 The proposed route would re-join the existing alignment close to the gates to the Rokeby estate. The de-trunked A66 would link to a proposed new roundabout providing safer access to the road past the estate to Barnard Castle. At year 1 the combination of the access roads either side, the dual carriageway and the roundabout would change the driver experience at this point, widening the infrastructure corridor.

10.8.79 The degree of change across this scheme would constitute a moderate impact on the road user experience. This combined with the low sensitivity of road users results in a slight effect which is not significant.

Year 15 (summer)

10.8.80 At Cross Lanes junction the hedgerows, woodland and reinstated grassland would be established. The road user would be aware of the new overbridge, but it would not be a dominant landscape feature as it would be set within woodland planting.

10.8.81 In year 15 the hedgerows separating the carriageway and access roads would have matured, mitigating the negative impact of the widened infrastructure corridor across the whole scheme.

10.8.82 Significant areas of woodland planting in and around the junction at Rokeby would supplement the retained blocks of woodland providing screening and protecting the setting of the estate buildings. The road user would experience the gateway effect and the reveal of the estate gates.

10.8.83 Following discussions with Historic England the woodland planting edge treatment at Rokeby would repeat the semi-formal avenue planting of the Church Plantation, reinforcing the estate character for road users.

10.8.84 In year 15, with the maturity of planting there would be an overall moderate change in the driver experience which, combined with the low sensitivity of road users, would result in a slight effect, which is not significant.

Stephen Bank to Carkin Moor

Year 1 (winter)

10.8.85 In year 1 road users on the proposed route would have open views across the landscape due to the elevation and lack of maturity of the mitigation measures. The proposed overbridge at West Layton would be an obvious new feature.

10.8.86 The proposed route would be aligned to the north of East Layton on embankment. This would disconnect the road from the historic alignment and the street frontage of East Layton.

10.8.87 There is a proposed junction at Moor Lane where the access roads would pass under the dual carriageway. In year 1 this would be an

obvious new feature with tree shelters and immature planting on bare slopes affecting the view.

10.8.88 The proposed route would run through a widened cutting at the Carkin Bank Roman fort. In year 1 the retaining structures would be fresh and obvious without the softening of adjacent planting.

10.8.89 The low sensitivity of road users combined with a major degree of change would result in a slight effect in year 1, which is not significant.

Year 15 (summer)

10.8.90 In year 15 the hedgerow, scrub and woodland planting would provide effective mitigation of views from the road, softening the open aspect and containing the road corridor without screening important views.

10.8.91 The junction and overbridge at West Layton would be softened by the established mitigation planting and the weathering of the structure. Stone walls and hedges will reinstate the character for road users at this point.

10.8.92 Woodland screen planting along the roadside north of East Layton would contain the dual carriageway. This would change the road user experience.

10.8.93 The Moor Lane junction would be experienced within woodland blocks that reinforce the local landscape character.

10.8.94 In year 15 the cutting at Carkin Moor would have established vegetation softening its impact. The road user experience would be enhanced by making the picture of the historic route and the heritage asset clear.

10.8.95 In year 15, with the maturity of planting there would be an overall moderate change in the driver experience which, combined with the low sensitivity of road users, would result in a slight effect, which is not significant.

A1(M) Junction 53 Scotch Corner

10.8.96 The changes for the road user at this scheme are negligible so there would be a neutral effect for both year 1 and year 15.

Cumulative Impact

10.8.97 The overall cumulative effect is covered in Chapter 15: Cumulative and Combined Effects. The potential cumulative effect on the landscape and visual impact assessment relate to the intervisibility of potential developments, including the individual schemes that make up this project. This has been assessed in two ways.

- An overlapping ZTV analysis based on the Digital Surface Model (DSM) with vehicle height set at 4.7m to show where, in theory, two schemes may be visible from a single receptor. This was further assessed by site surveys.
- A desktop study of current planning applications with a review of the scale, nature and location of each relevant application. The full list of

planning applications assessed can be found in Cumulative Impact Appendix 15.1: Consideration of Cumulative Effects and Appendix 15.2: Cumulative Assessment.

- 10.8.98 There would be no change in the significance of effect in visual or landscape terms caused by different parts of the Project. The receptors which would in theory be able to see two or more schemes were assessed by fieldwork and this proved that due to the distance from the schemes and the separation between them the cumulative effect was not significant.
- 10.8.99 There would be a sequential impact on road users as each scheme is developed as they may experience the adverse effects of the construction phase in one or more sections. This would be considered part of the significant adverse effect on road users during construction. In years one and 15 these effects would dissipate, and the road user experience would be improved by a safer journey without the challenges of moving from dual carriageway to single carriageway.
- 10.8.100 The results of the desk top study are assessed on a scheme by scheme basis.

M6 Junction 40 to Kemplay Bank

- 10.8.101 There are a large number of planning applications in and around Penrith. Most of these are small scale and relate to small residential improvements, changes of use or individual houses. In the context of the urban area these would have no additional impact. To the northeast of Penrith there are a number of large residential applications to be considered around Carleton Avenue. Due to topography and intervening woodland, there would be no intervisibility between these and the scheme in this location, therefore there would be no cumulative landscape and visual impact.
- 10.8.102 All other planning applications in this area are small scale and would not lead to a cumulative landscape and visual impact.

Penrith to Temple Sowerby

- 10.8.103 There is a large application for additional lodges at Center Parcs but this is entirely contained within Whinfell forest and would therefore have no cumulative landscape and visual impact. There are no other significant planning applications that would affect the assessment for this scheme.

Temple Sowerby to Appleby

- 10.8.104 There are a number of small planning applications within Kirkby Thore and Crackenthorpe. These are for individual dwellings, changes to existing buildings or for a change of use and none would be significant in respect of cumulative landscape and visual impact. There is an application for an extension to a caravan park at Long Marton but the nature of that type of development in that location would not contribute to a cumulative landscape and visual impact.

10.8.105 There is a planning application for 31 dwellings at Eden Grove in Bolton, but this is south of the River Eden and would be well screened from the works by the riparian corridor and therefore would have no cumulative landscape and visual impact.

Appleby to Brough

10.8.106 All planning applications for the area around this scheme are small in scale, residential improvements or changes of use or are at some distance. Therefore, there would be no cumulative landscape and visual impact.

Bowes Bypass

10.8.107 This section has a number of planning applications for small-scale developments, mostly for residential alterations or single dwellings. These would not cause a cumulative landscape and visual impact. To the east of Bowes there are existing quarries that have planning applications for extensions or changes in working practice. Given the area is currently quarried and they are recognisable parts of the existing landscape, this would not constitute a cumulative landscape and visual impact.

Cross Lanes to Rokeby

10.8.108 All planning applications for the area around this scheme are for small scale developments, residential improvements or changes of use or are located at some distance from the scheme. There would be no cumulative landscape and visual impact.

Stephen Bank to Carkin Moor

10.8.109 There are a number of planning applications for small scale developments, residential improvements, individual dwellings or changes of use, in West Layton and Ravensworth. There would be no cumulative landscape and visual impact.

10.8.110 To the south of the scheme, between West Layton and Ravensworth there is a planning application for the opening of a quarry. While this is a change in current use, it is small scale and therefore would not constitute a cumulative landscape and visual impact.

10.8.111 Mainsgill farm shop has submitted a number of planning applications for the improvement and development of their facility. As it already has an impact on the surrounding area the nature and scale of these new developments would not constitute a cumulative landscape and visual impact.

A1(M) junction 53 Scotch Corner

10.8.112 There are a number of planning applications submitted for the development of this junction including the provision of additional retail opportunities. While these are large in scale the junction is already blighted by the existing roads infrastructure and busy traffic. The

additional development when assessed against the existing situation would not constitute a cumulative landscape and visual impact.

10.9 Embedded and essential mitigation and enhancement measures

Routewide

Embedded mitigation

- 10.9.1 Construction of each scheme would result in the loss and alteration of landscape character and features such as trees, woodland, hedges, walls and modification of landform. Operation of each scheme would result in impacts on landscape of longer duration along with impacts on views and visual amenity.
- 10.9.2 The purpose of landscape mitigation is to avoid, minimise, restore or offset potential landscape and visual impacts of the Project. The principal means of mitigation is embedded in the design of each scheme through considered alignment and associated earthworks to achieve the best fit with topography and sensitive landscape features. Additional mitigation is described in Appendix 10.7 Landscape Mitigation Schedule.
- 10.9.3 A landscape and ecological survey of veteran trees has been used to inform the embedded mitigation of avoiding through amending the design.

Structures

- 10.9.4 The proposed designs for the family of structures that include overbridges, underpasses and the Trout Beck crossing have been developed through an iterative design process. Each structure has undergone an aesthetic review to ensure they comply with the overarching design aspirations which are embedded in the Project Design Principles (Application Document 5.11).

Construction

- 10.9.5 Generally, the construction activity would be located across and in close proximity to the existing A66, to consolidate the construction phase within the existing perception of the road.
- 10.9.6 The removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.
- 10.9.7 The landform and planting has been carefully considered to retain important views.
- 10.9.8 The construction activity adopts the relevant measures set out within the Environmental Management Plan (EMP) (Application Document 2.7), to ensure best practice construction measures.

Operation

- 10.9.9 Landscape mitigation for the Project seeks to replace lost features where practicable and to ameliorate or offset impacts on landscape

character. The landscape mitigation strategy is illustrated on Environmental Mitigation Maps (Application Document 2.8) which show the environmental mitigation strategy.

10.9.10 The landscape planting design would include a range of measures designed to complement the local landscape character using species of local provenance with appropriate consideration of climate change resilient species. Mitigation planting may also function as visual screening when it has become established and reaches a reasonable height. The measures would include:

- Woodland and woodland edge planting
- Linear belts of trees and shrubs
- Blocks of mixed species native woodland
- Scattered trees
- Scrub
- Hedgerows
- Hedgerows with trees
- Individual trees
- Ecological planting for ponds and marginal wetland areas
- Species rich grassland.

10.9.11 Essential mitigation for each scheme is described below.

M6 Junction 40 to Kemplay Bank

Construction

10.9.12 The construction activity for this scheme would be located across and in close proximity to the existing A66, to consolidate the construction phase within the existing perception of the road.

10.9.13 Removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.

10.9.14 The construction activity adopts the relevant measures set out within the draft Environmental Management Plan, to ensure best practice construction measures.

Operation

10.9.15 The M6 Junction 40 crossing link to the A66 with adjacent light industrial use requires restoration and enhancement to the existing visual and noise screening, with the additional benefit of improving the experience for the users of the PRoW. The inclusion of a detention pond south-west of the junction would provide the opportunity to increase the ecological potential of the site with marginal wetland planting and tree planting appropriate for the adjacent red squirrel habitat. The immediate roadside environment would benefit from the planting of mixed species woodland blocks that break the linearity of this environment.

10.9.16 The junction above the M6 would be restored where disturbed with species rich grassland, mixed deciduous and coniferous tree planting to ensure visual continuity and ecological connectivity.

- 10.9.17 The south bound M6 off slip to the A592 filter lane borders the Gillian Way Business Park, where the existing visual screening would be restored and enhanced with mixed species woodland planting.
- 10.9.18 The existing woodland screening on the A66 link to Kemplay Roundabout would be restored and enhanced to maximise ecological connectivity. Species rich grassland on southern facing embankments would provide the potential for invertebrate habitat, whilst restoring and extending the woodland planting increase visual screening.
- 10.9.19 The Carleton Park and Hall (Blue Light zone), south of the A66, are set in a parkland environment with the River Eamont further to the south of the park. The single specimen trees and coppice form of planting, with the soft engineered slopes and appropriate native ecological planting at the detention pond, are elements that are suitable for the Carleton Hall Park landscape.
- 10.9.20 The proposed woodland belt north of the A66 provides visual screening for Carleton Avenue (A686), Penrith Rugby Union Club, Carleton Hall Farm and Carleton Hill housing estate.

Penrith to Temple Sowerby

Construction

- 10.9.21 The construction activity would be located across and in close proximity to the existing A66, so consolidating the construction phase to within the existing perception of the road.
- 10.9.22 Removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.
- 10.9.23 The construction activity adopts the relevant measures set out within the EMP to ensure best practice construction measures.

Operation

- 10.9.24 Crossing the River Eamont the density of the roadside woodland decreases giving way to a more open agrarian landscape with small tree belts, scattered trees and hedgerows and the relict parkland of Brougham Castle. The on-off slip of the B6262 south of Brougham Castle would be seen in the context of restored field boundaries of Cumbria dry stone walling, individual specimen trees and scrub planting with species rich grassland.
- 10.9.25 The Countess Pillar scheduled monument on the boundary of an embankment would be kept clear of vegetation to ensure open sight lines of it from the road.
- 10.9.26 The detention ponds with softly engineered slopes to the north and woodland planting would provide an ecological connection with existing woodlands and potential to develop greater biodiversity.
- 10.9.27 At Whinfell Park, south of the A66, there is PRow access to Barrackbank Wood and the River Eamont and public car parking. The

restoration planting would make an ecological connection with the wood and provide additional screening for the car parking.

- 10.9.28 The overbridge at Center Parcs is an opportunity for route identification or destination identification by considered planting that replaces an existing large and distinctive Scots pine that provides a local landmark but is lost as part of the works.
- 10.9.29 The effects of current lighting at the junction by Center Parcs will be reduced as the existing lighting would not be replaced.

Temple Sowerby to Appleby

Construction

- 10.9.30 The construction activity would be located across and in close proximity to the existing A66, so as to consolidate the construction phase to within the existing perception of the road and Bowes.
- 10.9.31 Removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.
- 10.9.32 The construction activity adopts the relevant measures set out within the EMP to ensure best practice construction measures.

Operation

- 10.9.33 Linear tree belt and shrub planting would provide screening of views towards the new roundabout and link road south of properties at Illings View. Linear tree belt and shrub planting would also be present to the south of Spittals Farm where a realigned underpass provides farm access from south of the A66 mainline.
- 10.9.34 As the mainline sweeps north-east at Lowmoor Row, embankments would be softened to 1:20 slopes as opposed to 1:3 standard batter in order to restore to agriculture where possible. The combination of dry-stone walls and hedgerows would provide visual screening towards the mainline in cutting and link road to Priest Lane.
- 10.9.35 New landform created by false cutting and landscape earthworks in addition to reinstatement of historic field patterns with locally characteristic materials would provide restoration to currently degraded landscape character.
- 10.9.36 Integration of woodland and woodland edge planting would provide screening of views towards the overbridge at the realigned Cross Street whilst providing additional woodland character.
- 10.9.37 South of the British Gypsum Works the mainline would be retained in cutting to ensure distant views towards the NP AONB are maintained. Embankments and false cuttings would be planted with woodland and woodland edge to provide landscape and visual integration for road users and nearby residents.

- 10.9.38 Land would be returned to agriculture where possible across the north of Kirkby Thore, with hedgerows providing locally historic field boundary treatments.
- 10.9.39 The mainline would pass through deep cutting at Sleastonhow Lane, with the lane itself realigned as an overpass. Woodland edge and hedgerow planting on the overpass would provide visual screening of vehicles.
- 10.9.40 The Trout Beck viaduct crossing would provide an open span structure to reduce visual impact as far as possible, whilst supporting the necessary functions of the river. Tree loss is predicted as part of the construction process, however reinstatement would be undertaken where possible to ensure the riparian character is not entirely lost. Embankments either side of the viaduct would be softened with the use of woodland edge planting.
- 10.9.41 Loss of woodland along the Roman Road is predicted as a consequence of the scheme, however this would be minimised and retention of woodland along this important stretch would be sought as far as possible. Where trees are lost there would be reinstatement measures where possible in order to retain its linear characteristics.
- 10.9.42 A number of PRoW would require realignment to accommodate the scheme across the Order Limits, often as overpasses, and these have been carefully considered in order to ensure continuity of safe crossings, with woodland edge planting on embankments to provide visual amenity.
- 10.9.43 No additional lighting is proposed across the scheme, so as to avoid impacts to the character of the night sky.

Appleby to Brough

Construction

- 10.9.44 The Order Limits has avoided the NP AONB boundary to the western section but has encroached the NP AONB southern extents along parts of the central and eastern sections.
- 10.9.45 The construction activity would be located across and in close proximity to the existing A66, so as to consolidate the construction phase to within the existing perception of the road and Bowes.
- 10.9.46 Removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.
- 10.9.47 The construction activity adopts the relevant measures set out within the EMP, to ensure best practice construction measures.

Operation

- 10.9.48 Environmental design is particularly important for this scheme which passes adjacent to and partly in the NP AONB. As mentioned in section 10.6 the purpose of the NP AONB is the conservation and enhancement of the natural beauty of the area. It is therefore of key importance that

the scheme alignment, junction configurations, link roads and alterations to the existing minor roads and lanes and new detention ponds are designed to minimise potential negative impacts on the NP AONB and its setting. DCO document 5.11 Project Design Principles lists specific design considerations for sensitive areas within the project. The potential impacts on areas outside the NP AONB are also a consideration with regard to setting of the NP AONB, landscape character and visual amenity.

- 10.9.49 The detention ponds at New Hall and Dyke Nook are an opportunity to increase the biodiversity of the area. The species rich grassland at the detention ponds would provide areas that are both ecologically and visually diverse.
- 10.9.50 New mixed species woodland blocks and hedgerow planting would be introduced as appropriate to create new field boundaries to visually screen the scheme. New planting areas would link with existing woodland and hedgerows to unify and link habitats in the area.
- 10.9.51 The offline section, northwest of Warcop village and army camp, would bypass Wheat Sheaf Farm, Walk Mill and the other outlying buildings associated with Toddygill Hall. The route remains offline as it approaches Brough bypassing West View, Mains House, the embankments, and detention ponds of the off-line section, with south facing slopes that would be planted with species rich grasslands that are suitable for invertebrate habitat. These areas would provide additional ecological benefits and the mixed species woodland would provide seasonal variation, screening, and would break the linearity of the route.
- 10.9.52 The long-distance walking route 'The Pennine Way' becomes 'A Pennine Journey' and south of Appleby there is a link to the Dales High Way National Trail.
- 10.9.53 No additional lighting is proposed across the scheme, to avoid impacts to the character of the night sky.

Bowes Bypass

Construction

- 10.9.54 The Order Limits have avoided the NP AONB boundary to a large extent, with a small incursion occurring to the western extents of the scheme.
- 10.9.55 The construction activity would be located across and in close proximity to the existing A66, so as to consolidate the construction phase to within the existing perception of the road and Bowes.
- 10.9.56 Removal of vegetation and stone walls has been minimised where practicable by the alignment of the Order Limits.
- 10.9.57 The construction activity adopts the relevant measures set out within the EMP to ensure best practice construction measures.

Operation

- 10.9.58 The alignment of the proposed A66 has sought to mirror the existing A66 as far as practicable, so as to retain the proposed scheme within a part of the landscape which is already defined by highways infrastructure. This includes avoiding physical change within the NP AONB aside from a small area of embankment and road widening to the western outskirts of Bowes.
- 10.9.59 The replacement overbridge has been positioned in a low-lying part of the landscape, so as to reduce its perception from Bowes and the NP AONB.
- 10.9.60 The proposed tree planting across the widened cutting to the north of Bowes and around the junction with the A67 would reflect the existing vegetation patterns and local landscape character.
- 10.9.61 In relation to the Statements of Environmental Opportunity for NCA 22, the proposed woodland planting would respond positively to the objectives outlined in SE01 by connecting native broadleaved woodland. The alignment of the proposed scheme along and in close proximity to the existing A66 would also respond positively to protecting the area from development pressures, by retaining the scheme within a part of landscape already characterised by highways infrastructure.
- 10.9.62 In relation to the guidelines for BLT Gritstone Upland Fringe, which covers most of the Order Limits, the proposed planting responds positively to the guidelines for increasing the extent of small woodlands via locally native species, reinstating dry stone walls and hedgerow field boundaries and avoiding 'urban' detailing in the minor road network.
- 10.9.63 As part of the restoration of the stone walls, this would be via using County Durham dry stone walling on field boundaries and along parts of the scheme boundary would match and complement the local character. The stone walling would also reference the local mineral extraction industry (Hulands & Kilmonds Quarries) integrating the scheme into the built elements of the surrounding landscape.
- 10.9.64 In respect of BLT Lower Dale, which covers the western and eastern parts of the Order Limits, the scheme responds positively to the guidelines by extending the amount of woodland and field boundary cover.
- 10.9.65 For BLT Middle Vale, which covers the remainder of the Order Limits, the scheme similarly responds positively to the stated guidelines via extending woodland cover and where practicable, reinstating roadside walls.
- 10.9.66 The proposed species rich grassland is also considered to provide improved opportunities for biodiversity and textural and tonal qualities to the landscape in comparison to the agricultural fields. These ecological and vegetation cover improvements are considered to be beneficial to the landscape character.

- 10.9.67 Existing recreational access across the Order Limits has also been retained.
- 10.9.68 No additional lighting is proposed, with the lighting at the A66 and A67 junction replacing existing lighting with more efficient lighting to reduce the amount of light spillage and glare, thereby minimising impacts to the character of the night sky.

Cross Lanes to Rokeby

Construction

- 10.9.69 The Order Limits have been consolidated to within close proximity of the existing A66, so as to concentrate the construction phase to within the existing perception of the road.
- 10.9.70 Removal of vegetation has been minimised and areas of ancient woodland have been avoided from the construction phase.
- 10.9.71 The proposed route is aligned to the south of the group of buildings that form the western edge of the Rokeby Estate. Construction online at this point would require the demolition of the rectory which would destroy the set piece.
- 10.9.72 The construction activity adopts the relevant measures set out within the EMP to ensure best practice construction measures.

Operation

- 10.9.73 The alignment of the Cross Lanes junction has been located in close proximity to the existing junction so as to reflect the existing pattern of the road network and perception of the road junction.
- 10.9.74 The embankments of the overbridge and surrounding land would be planted with new trees to reduce the perceived scale of the overbridge.
- 10.9.75 At the eastern end of the scheme the route diverts south of the Church of St. Mary so as to re-position the A66 further from the church, avoid its demolition as a result of road widening and retain its immediate setting. Once established, the proposed planting adjacent to the proposed A66 alignment would reduce the perception of vehicles in the setting of the church, as the number of vehicles on the de-trunked A66 would be less than the existing A66.
- 10.9.76 The alignment of the junction with Barnard Castle Road and the A66 has utilised the existing junction to the south-west of Rokeby Park and Gardens, so as to retain the pattern of road infrastructure within this part of the landscape and the setting of the park.
- 10.9.77 In relation to NCA 22, the alignment of the scheme would respond positively to protecting the parkland character and retaining the historic environment. The proposed planting would respond positively to connecting woodlands and protecting the area from development pressure by locating the scheme along and in close proximity to the existing A66 and transport corridor across the NCA.

- 10.9.78 In relation to BLT Gritstone Fringe, which covers the Order Limits, the proposed planting responds positively to the guidelines of planting new woodlands and field boundary trees. The scheme also responds positively to respecting the design elements of the Church of St Mary and Rokeby Park, protecting the stone piers and gates, as well as reinstating hedgerows and hedges where practicable.
- 10.9.79 The proposed species rich grassland is also considered to provide improved opportunities for biodiversity and textural and tonal qualities to the landscape in comparison to the agricultural fields. These ecological and vegetation cover improvements are considered to be beneficial to the landscape character.
- 10.9.80 Existing recreational access across the Order Limits has also been retained.
- 10.9.81 No additional lighting is proposed across the scheme, so as to avoid impacts to the character of the night sky.

Stephen Bank to Carkin Moor

Construction

- 10.9.82 The Order Limits have been consolidated to within close proximity of the existing A66, so as to concentrate the construction phase to within the existing perception of the road.
- 10.9.83 Removal of vegetation has been minimised to the footprint and working areas required for the construction activity.
- 10.9.84 The construction activity adopts the relevant measures set out within the EMP to ensure best practice construction measures

Operation

- 10.9.85 The alignment of the scheme has been located in close proximity to the existing alignment, so as to reflect the existing pattern of the road network and perception of the road.
- 10.9.86 The alignment of the overbridge along Collier Lane has retained the pattern of the local road network and junction with the A66.
- 10.9.87 In relation to NCA 22, the proposed woodland planting would reflect the stated characteristics of the study area being a well-wooded landscape.
- 10.9.88 In relation to BLT Lowland Value, which covered the western part of the Order Limits, the proposed planting would respond positively to the guidelines by new hedgerow trees and respecting the field patterns.
- 10.9.89 For the remainder of the Order Limits which covers LLCT B: Moors Fringe, the scheme would respond positively to the stated guidelines by maintaining public access across the scheme and extending woodland across the landscape.
- 10.9.90 The proposed species rich grassland is also considered to provide improved opportunities for biodiversity and textural and tonal qualities to the landscape in comparison to the agricultural fields. These ecological

and vegetation cover improvements are considered to be beneficial to the landscape character.

- 10.9.91 No additional lighting is proposed across the scheme, so as to avoid impacts to the character of the night sky.

10.10 Assessment of likely significant effects

- 10.10.1 This section identifies the likely landscape and visual effects of the Project that are predicted to be significant. All effects, (significant and not significant) are presented in ES Appendix 10.5: Schedule of Landscape Effects and ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4).
- 10.10.2 Predicted significant landscape and visual effects during construction have been identified across the study area. Construction effects are often more significant than operation given the temporary presence of tall plant and machinery, heavy goods vehicles, temporary fencing and hoardings and construction compounds.

M6 Junction 40 to Kemplay Bank

Construction Landscape Effects

- 10.10.3 The construction activity would result in scheme wide changes to the road corridor environment due to the excavation adjacent to the existing dualled section of the A66 south of Penrith, these changes would include the removal of existing vegetation from this part of the existing A66. There would be the presence of construction activity and machinery to facilitate the excavation of the underpass beneath Kemplay Bank Roundabout and attenuation basins adjacent to the main road widening south of Penrith.
- 10.10.4 Likewise, there would be regrading of land adjacent to the A66 south of Penrith to form the embankments, the attenuation basin and the slip road between the A66 and the northern fringe of Eamont Bridge. This activity would also result in vegetation removal and changes to surface landform, as well as the removal of parts of stone wall field boundaries and field boundary vegetation.
- 10.10.5 At the western end of the Order Limits, the construction activity would include heavy machinery to facilitate the formation of widened embankments at Junction 40 of the M6/A66. Additionally, changes to surface landform and activity to enhance the existing access roads and junctions at this westerly end of the A66. There would also be changes to surface landform and localised vegetation removal to construct the attenuation basins and enhance the access road between the M6/A66 Junction 40 and the A592 at the Skirsgill Interchange western access to Penrith.
- 10.10.6 At this western edge of the Order Limits, the construction activity would result in localised excavation and changes to surface landform to construct the attenuation basin across sloping land to the south of Penrith.

- 10.10.7 There would also be construction compounds, south of the A66, which would introduce temporary buildings via offices and welfare facilities, external parking areas, stockpiles, hoardings and temporary lighting.
- 10.10.8 With reference to ES Appendix 10.4: Landscape Character Assessments and ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4) in relation to NCA 9 the geographic extent and physical change to these landscape features would be very small in relation to the wider extent of the NCA. In addition, the construction machinery and activity would be located in a part of the NCA which is already noted by the published study as being of lower tranquillity and where the A66 is a 'major road'. The magnitude of impact is therefore assessed as negligible which in relation to the high sensitivity of the receptor would result in a slight effect during construction.
- 10.10.9 Most of the construction activity would be located in LCA 06. Intermediate Farmland. In relation to the stated key characteristics of the LCA, the construction activity would result in localised changes to the river valley topography, the regular field patterns, dry stone walls and variable vegetation cover. The construction activity would locally reduce the tranquillity of the LCA due to the sound and perception of the machinery, activity, the varied state of the landform, including changes to the colour and texture of the landform from the excavation.
- 10.10.10 For LCA Intermediate Farmland, there would be localised vegetation removal from within the LCA, along with the presence of construction activity and compounds, with localised changes to landform associated with the underpass construction and around the A6 on and off-slip roads and Carleton Avenue at the eastern edge of the scheme.
- 10.10.11 However, given the construction activity would be localised to a small part of the LCA, where the tranquillity is already reduced by the existing A66 and there is no sense of remoteness due to the road and settlement pattern, the magnitude of impact to the LCA during construction is assessed as minor. In relation to the medium sensitivity of the LCA, the effect would be slight during construction.
- 10.10.12 From LCA 00 Urban Area the vegetation and excavation removal adjacent to the existing A66, to the south of Penrith and the formation of the revisions to M6/40 junction with the A66 would be visible. Therefore, for this LCA there would be a moderate magnitude of impact during construction. The sensitivity of this receptor is low due to the existing presence of the A66 corridor and traffic on the approaches therefore there would be a not significant, slight effect.
- 10.10.13 For all other NCA and LCA within the wider study area for this scheme (Figure 10.5: Landscape Character and Appendix 10.5: Schedule of Landscape Effects), but located outside the Order Limits, there would be no physical change to their landscape features due to the construction activity not being present within the areas. Any perception of the construction activity would be in the context of the existing A66 and therefore, no significant effects are predicted.

Construction Visual Effects

- 10.10.14 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), the construction activity would be visible for several receptors, either at close range from Wetheriggs Country Park, PRoW or the southern urban fringe of Penrith.
- 10.10.15 Likewise, the A66 corridor south of Penrith, the forming of the embankments, the attenuation basin and the slip road between the A66 and the northern fringe of Eamont Bridge. This activity would also result in vegetation removal and changes to surface landform, as well as the removal of parts of stone wall field boundaries and field boundary vegetation.
- 10.10.16 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors during the construction phase:
- Residential users on the Clifford Road (Viewpoint 1.1), due to the moderate magnitude of impact, which in relation to the moderate sensitivity of the receptor would result in a moderate (significant) effect.
 - Recreational users on Wetheriggs Country Park (Viewpoint 1.2 and 2.1), due to the major impact, which in relation to the high sensitivity of the receptors would result in a large (significant) effect.
 - Recreational users on PRoW 321008 (Viewpoint 1.3) would experience a large (significant) effect due to a major magnitude of impact.
 - Residents and recreational users on Skirsgill Lane south of Penrith (Viewpoint 2.3), due to the major impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.
 - Recreational users at Mayburgh Henge (Viewpoint 2.4), due to the moderate impact, which in relation to the high sensitivity of the receptors would result in moderate (significant) effects.
 - Motorists and pedestrians on the A6 (Viewpoint 2.5), due to the major impact, which in relation to the low sensitivity of the receptor would result in a moderate (significant) effect.
 - Recreational users on PRoW 358005 (Viewpoint 2.6) would experience a large effect due to a major magnitude of impact on a moderate sensitivity receptor.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.17 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), at year 1 of operation, the scheme would reflect the existing alignment of the A66, remaining to the south of Penrith and with an interchange with the M6/J40 characterised by the widened slip road A592 accessing the existing A66.

- 10.10.18 The scheme would result in a slight beneficial effect due to the reduction of road infrastructure features and less queuing traffic due to the construction of the Kemplay underpass
- 10.10.19 There would also be changes to the junction and road alignments associated with the A6 north and south of the Kemplay underpass.
- 10.10.20 The scheme would result in a reduction of the existing massing via the construction of the underpass between the existing A66 and the A6.
- 10.10.21 There would be a reduction in the density of vegetation adjacent to the road corridor from the removal of the existing vegetation. This would locally increase the perception of the road and vehicles, specifically in relation to the emergency services area south of the road.
- 10.10.22 The scheme would introduce substantial new planting in accordance with the stated landscape guidelines of increasing the extent of small woodlands; although this would not have established at year 1 and would not be in leaf.
- 10.10.23 In relation to NCA 9 Eden Valley, the scheme would represent a very small and localised addition of road infrastructure to a part of the NCA already consisting of the A66. The magnitude of impact at year 1 is assessed as negligible and when combined with the high sensitivity of the receptor, the effect assessed as slight (not significant).
- 10.10.24 LCA Urban Area and the LCA Intermediate Farmland cover most of the Order Limits. There would be a reduction in the density of vegetation adjacent to the road corridor. This would locally increase the perception of the road and vehicles, specifically in relation to Wetheriggs Country Park. The scale and extent of the scheme would be very localised in relation to the wider geographic area of the LCAs. The scheme would remain within the LCA which is already defined by the existing A66. The magnitude of impact to LCA Urban Area and LCA Intermediate Farmland is therefore assessed as minor at year 1. In relation to the low sensitivity of the LCAs, the effect at year 1 would be slight (not significant).
- 10.10.25 For those LCAs across the study area outside the Order Limits, there would be no physical change to their landscape features from the scheme in operation. Any perception of the scheme would be in the context of the existing A66 and therefore with reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), no significant effects are predicted to the respective LCAs across the study area at year 1 of operation.

Year 1 Visual Effects

- 10.10.26 At year 1 of operation, vehicles to the south of Penrith would be on the existing road corridor per the baseline, such that there would be increased visibility, although the change to the composition of the view would be via the reduction in vegetation and an increased visibility of road infrastructure and the emergency services area.

- 10.10.27 The eastern end of the Scheme with the construction of the Kemplay underpass and the re-aligned A66 corridor and the reduction in massing would be visible at close range.
- 10.10.28 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors at year 1 of operation:
- Recreational users in Wetheriggs Country Park (Viewpoint 1.2 & 2.1), due to the major impact, which in relation to the high sensitivity of the receptors would result in a large (significant) effect.
 - Recreational users and residents on Skirsgill Lane (Viewpoint 2.3), due to the moderate impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.
 - Recreational users of PRoW 321008 (Viewpoint 1.3), due to the moderate impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

- 10.10.29 Compared to the year 1 assessment, the proposed planting would have established across the Order Limits and would be in leaf.
- 10.10.30 The woodland adjacent to the underpass at the A6 & A66 would further reduce the perception of the scale and integrate the remodelling of the Kemplay junction.
- 10.10.31 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), due to the increased integration of the scheme within the landscape and its reduced perception due to the underpass construction, establishment of the proposed planting, the impacts would reduce in relation to those predicted at year 1, specifically for LCA Urban Area, Intermediate Farmland and Rolling Fringe, which are influenced by the scheme.
- 10.10.32 With the scheme remaining across a part of the landscape already characterised by the A66, there would not be significant effects to the published landscape characters at year 15 of operation.

Year 15 Visual Effects

- 10.10.33 The visibility of the scheme would reduce at year 15 in comparison to the year 1 assessment due to the combination of the existing vegetation being in leaf and the establishment of the proposed planting, which would also be in leaf.
- 10.10.34 For recreational receptors and residents in close proximity to the northern part of the scheme, the proposed woodland would have established across the A66 underpass and adjacent to A6. This would reduce the visibility of vehicles on these roads, as well as aid in softening the overall form of the Kemplay junction.

10.10.35 With reference to Appendix 10.6: Schedule of Visual Effects, due to the increased integration of the scheme within the landscape and its reduced perception due to the underpass construction and the establishment of the proposed planting there would be no significant effects on visual receptors.

Effects to Character of the Night Sky

10.10.36 During the construction phase there would be lighting within construction compounds and across the working areas. This lighting would be temporary and located within an existing lit context around the A66 and Penrith. Whilst there would be additional glare and very localised light spillage, there would not be an increase in sky glow to alter the baseline environmental lighting zone categories. Therefore, there would be no significant effects from lighting during the construction phase.

10.10.37 In operation, the existing lighting would be replaced with new lighting columns which use LED technology that has greater direction control and would reduce light spillage and have a localised beneficial effect, but not sufficient to alter the Environmental Zone due to the presence of existing lighting at Penrith and surrounding area. The glare and light spillage from vehicle headlights would be substantially softened by the proposed earthworks and planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Penrith to Temple Sowerby

Construction

Construction Landscape Effects

10.10.38 The construction activity would result in localised changes to landform due to the construction of an overbridge west of Brougham Castle along with the removal of existing vegetation from this part of the existing A66. There would be the presence of construction activity and machinery to excavate the attenuation basins adjacent to the main road widening and underpass construction at Whinfell Park.

10.10.39 Likewise, there would be regrading of land to the north and west of the junction by Center Parcs to form the embankments, underpass, an attenuation basin and the slip road between the widened A66 and the entrance to Center Parcs. This activity would also result in vegetation removal and changes to surface landform, as well as the removal of parts of stone wall field boundaries and field boundary vegetation.

10.10.40 At the western end of the Order Limits, the construction activity would include the formation of embankments, changes to surface landform to construct the new access roads and junctions along the north and south sides of the A66. There would also be changes to surface landform and localised vegetation removal to construct the attenuation basins and the access road under the A66 to Whinfell Park.

- 10.10.41 There would be construction compounds across the Order Limits, which would introduce temporary buildings via offices and welfare facilities, external parking areas, stockpiles and hoardings and temporary lighting.
- 10.10.42 With reference to Appendix 10.5: Schedule of Landscape Effects, in relation to NCA 9, & 17, the geographic extent and physical change to these landscape features would be very small in relation to the wider extent of the NCA's. In addition, the construction machinery and activity would be located in a part of the NCA which is already noted by the published study as being of lower tranquillity²⁰ and where the A66 is a 'major road'. The magnitude of impact is therefore assessed as negligible which in relation to the high sensitivity of the receptor would result in a slight (not significant) effect during construction.
- 10.10.43 Most of the construction activity would be located in LCA 10 Sandstone Ridge and LCA 08b Broad Valleys. In relation to the stated key characteristics of the LCAs, the construction activity would result in localised changes to the open large-scale landscape, the mosaic field patterns, dry stone walls and variable vegetation cover. The construction activity would locally reduce the tranquillity of the LCAs due to the sound and perception of the machinery, activity, the varied condition of the landform, including changes to the colour and texture of the landform from the excavation.
- 10.10.44 Within LCA Sandstone Ridge, construction activity would be localised to a small part of the LCA and would result in alteration to some of the key features, in terms of the landform, vegetation and stone walls, the magnitude of impact to the LCA during construction is assessed as moderate. In relation to the high sensitivity of the LCA, the effect would be moderate (significant).
- 10.10.45 For LCA Broad valleys, there would be localised vegetation removal from the south of the LCA, along with the presence of construction activity and compounds, with localised changes to landform associated with the over and under bridges and construction around the east bound on-slip and the access track to Whinfell Park at the Southern fringe of the LCA. The magnitude of impact to this LCA during construction is assessed as moderate. In relation to the medium sensitivity of the LCA, the effect would be moderate (significant).
- 10.10.46 For LCA Intermediate Farmland due to the small part of the LCA affected by the works and the existing visual threshold created by local topography there would be no significant effects.
- 10.10.47 For all other NCA and LCA within the wider study area for this scheme (Figure 10.5: Landscape Character and Appendix 10.5: Schedule of Landscape Effects), but located outside the Order Limits, there would be no physical change to their landscape features due to the construction activity not being present within the areas. Any perception of the construction activity would be in the context of the existing A66 and therefore, no significant effects are predicted.

²⁰ Natural England: National Character Area profile, Area 9; Eden Valley

Construction Visual Effects

- 10.10.48 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), construction activity would be visible for several receptors, including at close range from properties such as Whinfell Park Cottages and Lane Ends, users of PRow, visitors to Center Parcs and local road users.
- 10.10.49 The construction of the overpass west of the Countess Pillar which would incur vegetation loss to form cutting and embankments would result in visual change for PRow users, visitors to Brougham Castle and nearby residents.
- 10.10.50 As previously mentioned, creation of the new junction at Center Parcs would incur visual change for nearby residents as a result of vegetation removal, earthworks including realignment of the A66 to the south-west on embankment and the movement of large vehicles.
- 10.10.51 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors during the construction phase:
- Recreational users at the junction of the B6262 and Moor Lane near Brougham Castle (Viewpoint 3.1), who would experience views towards the new overbridge to the north-east following roadside vegetation removal. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational users of PRow 311013 (BOAT) (Viewpoint 3.4). Users would experience views towards construction of the balancing pond to the south, with limited views towards the new grade-separated junction at Center Parcs. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
 - Road users along the minor road south of High Moss Woodland leading to properties at Lane Ends (Viewpoint 3.5) who would experience views towards construction of the Center Parcs grade-separated junction. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational users of PRow 311004 (footpath) (Viewpoint 3.6) travelling north as they emerge from Whinfell Forest will experience clear views towards construction of the new grade-separated junction at Center Parcs. High sensitivity combined with a major magnitude of impact results in a very large (significant) effect.
 - Residents at Ash Hill Cottages along Cliburn Road will experience views towards the scheme (Viewpoint 3.8) as a result of vegetation loss along the southern carriageway. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.52 With reference to Appendix 10.5: Schedule of Landscape Effects, at year 1 of operation, the scheme would reflect the existing alignment of the A66 with the exception of the revised junction by Center Parcs.
- 10.10.53 The scheme would result in additional road infrastructure from the additional width in the carriageways, from one lane (in each direction) to two lanes. The scale and extent of the junction with Center Parcs would be greater than the existing junction, due to the east bound off-slip being located to the north of the existing alignment and the two new slip roads to the northeast of Center Parcs.
- 10.10.54 There would be a reduction in the density of vegetation adjacent to the road corridor because of the removal of the existing vegetation. This would locally increase the perception of the road and vehicles, specifically in relation to the west bound traffic after the Center Parcs under pass.
- 10.10.55 The scheme would introduce substantial new planting in accordance with the stated landscape guidelines of increasing the extent of small woodlands; although this would not have established at year 1 and would not be in leaf.
- 10.10.56 In relation to NCA 9 and 17 the scheme would represent a very small and localised addition of road infrastructure to a part of the NCA's already consisting of the A66. The magnitude of impact at year 1 is assessed as negligible and, when combined with the high sensitivity of the receptor, the effect as slight (not significant).
- 10.10.57 LCAs Broad Valleys and Sandstone Ridge constitute most of the Order Limits and the scheme would result in a localised reduction in the extent of the stone boundary walls on the margins of the A66 and some post and wire field boundaries adjacent to the A66, which are a stated key characteristic of the LCA. There would be a reduction in the density of vegetation adjacent to the road corridor, which is also a stated characteristic of the LCA. The scale and extent of the scheme would be very localised in relation to the wider geographic area of these LCAs. The scheme would remain within the fringe of the two LCAs which are already influenced by the existing A66. The magnitude of impact is therefore assessed as minor at year 1. In relation to the medium sensitivity of the LCAs, the effect at year 1 would be slight (not significant).
- 10.10.58 With reference to Appendix 10.5: Schedule of Landscape Effects, for all other LCAs covered by the scheme, the impacts would be very localised and small in scale. Therefore, no significant effects are predicted to LCA Urban Area, LCA Intermediate Farmland, LCA Foothills and LCA Rolling Fringe. There are also no predicted effects for Temple Sowerby Conservation Area and the Settle to Carlisle Railway Conservation Area.

Year 1 Visual Effects

- 10.10.59 At year 1 of operation, vehicles to the east of Brougham Castle would be in the cutting that facilitates a new agricultural access overbridge. The composition of the view would change due to the reduction in vegetation, an increased visibility of road infrastructure and interruption of the views east to the upland landscape.
- 10.10.60 The northern part of the re-aligned junction of the A66 and B6262 would be visible at close range (Brougham Castle) and in longer views from elevated land across the south of the study area (VP 3.2 and 3.3).
- 10.10.61 For residents at Whinfell Park, there would be increased visibility of vehicles on the A66 due to the removal of the existing intervening vegetation. The underpass would also be visible to the north of the receptor, with views of vehicles within the composition of the view of the A66.
- 10.10.62 Compared to the arable land cover adjacent to the existing A66, there would be retention ponds with species rich grassland, to provide a more diverse vegetation cover and improve the opportunities for biodiversity, which would have begun to establish by year 1.
- 10.10.63 The revised junction at Centre Parcs, underpass and on/off slip roads would be visible for residents and recreational users across the eastern part of the study area. The elevated position within the middle ground of the view would be a noticeable change in the middle distance, along with significant vegetation no longer being present.
- 10.10.64 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted for the following receptors at year 1 of operation:
- Recreational users on Moor Lane (Viewpoint 3.1), due to the moderate impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.
 - There is a representative viewpoint 3.5 which demonstrates the impact on road users, walkers and the properties at School House. This would constitute a moderate impact on a moderately sensitive receptor giving a moderate and therefore significant effect.
 - Recreational users on PRoW 311004 (footpath Viewpoints 3.6) nr Centre Parcs, Whinfell Forest, due to the moderate change, which in relation to the high sensitivity of the receptors would result in moderate (significant) effects.

Operation Year 15 (summer)

Year 15 Landscape Effects

- 10.10.65 Compared to the year 1 assessment, the proposed planting would have established across the Order Limits and would be in leaf.
- 10.10.66 Across the revised A66/B6262 junction east of Brougham Castle east of Penrith, the proposed planting would consist of species rich grassland, broadleaved woodland trees along the southern edge of the A66,

between the B6262 and the road, to reflect the existing vegetation cover. On the northside of the A66 and around the overbridge connecting with the B6262, the woodland and species rich grassland would have established to likewise reflect the existing vegetation cover, integrate the B6262 / Moor Lane overbridge and reduce the perception of the earthworks and structures.

- 10.10.67 The area immediately adjacent to the Countess Pillar on the southern fringe of the A66 would be species rich grassland to ensure that the sight lines towards the pillar remain uninterrupted. Compared to the arable land cover adjacent to the existing A66, this species rich grassland would provide a more diverse vegetation cover and improve the opportunities for biodiversity, which would have established to form an integrated sward by year 15.
- 10.10.68 The species rich grassland would continue across the proposed embankments of the underpass in the eastern part of the Order Limits, which as an established sward would reduce the perception of the engineered gradients.
- 10.10.69 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), at year 15, the scheme would, due to reflecting the character of the existing A66 and highways infrastructure across the NCA, result in a neutral (not significant) effect to NCA9 and 17.
- 10.10.70 Similarly, there would be no significant landscape character effects to any of the published landscape character areas and conservation areas at year 15. This is due to the proposed planting maturing and reducing the perception of the A66, including the Moor Lane/B6262 overbridge and the Center Parcs underpass, the attenuation basins and embankments, so that the impact of the scheme would be lessened in comparison to year 1. Year 15 Visual Effects
- 10.10.71 The visibility of the scheme would reduce at year 15 in comparison to the year 1 assessment due to the combination of the existing vegetation being in leaf and the establishment of the proposed planting, which would also be in leaf.
- 10.10.72 In close range views from Moor Lane, the proposed planting would reflect the existing composition of vegetation adjacent to the A66 and the varying visibility of buildings at Brougham Castle.
- 10.10.73 From locations across the part of the study area, with the existing intervening vegetation in leaf, the visibility of the Center Parcs underpass and associated vehicles at the eastern end of the scheme would be reduced. The establishment of the proposed planting would also soften the engineered slopes of the embankment.
- 10.10.74 For residents at Whinfell Park, the establishment of the proposed woodland would soften views of vehicles on the A66. The access underpass would reduce the visibility of the local traffic in comparison to the existing view.

10.10.75 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), there are no predicted significant residual visual effects for any of the visual receptors in year 15.

Effects to the Character of the Night Sky

10.10.76 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting would be temporary and located within an existing lit context of the A66, therefore, whilst there would be additional glare and very localised light spillage, there would not be an increase in sky glow to alter the baseline environmental lighting zone categories. Therefore, there would be no significant effects from lighting during the construction phase.

10.10.77 During operation there will be no change to the existing dark skies condition as there is no additional lighting proposed and the glare and light spillage from vehicle headlights would be substantially softened by the proposed planting.

Temple Sowerby to Appleby

Construction

Construction Landscape Effects

10.10.78 During construction there would be localised significant effects across limited LCAs as a result of the offline nature of sections of the scheme, and consequent extensive construction activity.

10.10.79 With reference to Appendix 10.5 Schedule of Landscape Effects, LCA 08b Broad Valleys will experience large significant effects during construction due to a major magnitude of impact on a medium sensitivity receptor. The majority of construction within the Order Limits will occur across the LCA, including re-routing of several minor roads and PRow, construction of overbridges and construction of the mainline which will bypass around the north of Kirkby Thore, mainly in cutting. This will result in loss of agricultural land and associated field patterns and boundaries, constituting a loss of localised landscape character.

10.10.80 With reference to ES Appendix 10.5 Schedule of Landscape Effects (Application Document 3.4), LCA 06 Intermediate Farmland there will be significant effects on a localised area south of the British Gypsum Works within the Order Limits, due to major magnitude of impact on a medium sensitivity receptor. Loss of agricultural land, field patterns and boundaries will incur a change in localised landscape character. Earthworks would include cutting to accommodate the scheme mainline and loosely graded embankments to allow a return to agriculture where possible.

10.10.81 For all other NCA and LCA within the wider study area for this scheme (Figure 10.5: Landscape Character and Appendix 10.5: Schedule of Landscape Effects), but located outside the Order Limits, there would be no physical change to their landscape features due to the construction activity not being present within the areas. Any perception of the

construction activity would be in the context of the existing A66 or the village of Kirkby Thore and therefore, no significant effects are predicted.

Construction Visual Effects

- 10.10.82 Visual effects are predicted for a number of receptors across the study area during the construction phase, in particular around Kirkby Thore in close proximity to the works including residents at Low Moor Park and Sandersons Croft. A number of PRow users will also experience significant change as a result of the scheme, particularly where realignment is undertaken.
- 10.10.83 Views towards construction activity would be typical across a wide field of view from parts of the surrounding area including from the extents of Kirkby Thore and from elevated ground to the north of the British Gypsum Works.
- 10.10.84 To the west of the scheme, visual change is predicted for residents at Low Moor Park as the mainline passes directly north, whilst residents across the western and northern extents of Kirkby Thore will experience relatively close views of construction.
- 10.10.85 To the eastern end of the scheme, limited receptors and overall distance results in more limited visual effects overall.
- 10.10.86 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted for the following receptors during the construction phase:
- Recreational users of the Eden Valley Cycle Route near Skygarth Farm (Viewpoint 4.1) who would experience views towards the new roundabout and realigned A66. High sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Road users along Priest Lane (Viewpoint 4.2) who will experience views towards construction activity at close range to the east. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Residents at Low Moor Park (Viewpoint 4.3) who will experience views towards construction of the mainline to the north. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational users of PRow near Kirkby Thore Primary School (Viewpoint 4.5) who will experience views at close range towards realignment of Cross Street and mainline construction to the north-west. High sensitivity combined with a major magnitude of impact results in a very large (significant) effect.
 - Residents at Sandersons Croft (Viewpoint 4.7a) who would experience close views towards construction of the mainline and regrading of agricultural land. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational users of PRow 36005 (footpath) to the east of Kirkby Thore (Viewpoint 4.8) who would have views towards construction of

the overbridge at Sleastonhow Lane and the mainline in cutting. High sensitivity combined with a major magnitude of impact results in a large (significant) effect.

- Road users along Sleastonhow Lane (Viewpoint 4.9) and residents at Sleastonhow Farm (Viewpoint 4.9a) would experience views towards construction of the mainline to the south-west, with residents at the farm also experiencing views towards construction of the Trout Beck viaduct. Moderate sensitivity combined with a major magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 341017 (footpath) (Viewpoint 4.10a) as the mainline passes to the north at close range. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of the PRow north of Crackenthorpe (317012 bridleway) who would experience views towards the mainline to the north on embankment (Viewpoint 4.13). Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of PRow 317004 (Viewpoint 4.14) adjacent to the Roman Road north of Crackenthorpe who would experience close views of construction of the mainline. High sensitivity combined with a major magnitude of impact results in a very large (significant) effect.
- Recreational users of PRow 336013 (footpath) east of Low Abbey Farm (Viewpoint 4.21) who would experience wide views of construction from elevated land north of the British Gypsum Works. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 336018 (bridleway) south of Hale Grange (Viewpoint 4.27a), who would experience views towards construction of the mainline in cutting and overbridge at Cross Street in addition to realignment of PRow and earthworks. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Road users along Long Marton Road east of Powis Cottages (Viewpoint 4.28a) who would experience views of tree removal along the Roman Road and construction of the mainline and new junction to the east. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.87 During year 1 of operation significant landscape effects would remain across the two LCAs identified during the construction phase; that is LCA 06 Intermediate Farmland, and 08b Broad Valleys.
- 10.10.88 For LCA 08b Broad Valleys, mitigation proposals such as woodland blocks would not have matured to the point where they would provide a restoration of landscape character. Loss of vegetation including at field boundaries would remain a significant landscape change.

10.10.89 Likewise for LCA 06 Intermediate Farmland north of Kirkby Thore, mitigation proposals such as would woodland provide minimal restoration of landscape character, resulting in no change in impact overall.

10.10.90 There would be no significant landscape effects predicted across the remaining LCAs or NCAs within the study area.

Year 1 Visual Effects

10.10.91 By year 1 of operation mitigation planting would not have matured to the point where it will effectively screen views towards the scheme. Across both LCA 08a Broad Valleys and LCA 06 Intermediate Farmland proposed mitigation such as woodland blocks and woodland edge planting would provide some limited screening of views for receptors.

10.10.92 Grassland would not provide a continuous sward where utilised, although there will be a notable visual improvement from the construction phase.

10.10.93 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted for the following receptors during year 1 of operation:

- Recreational users of the Eden Valley cycle route near Skygarth Farm (Viewpoint 4.1) High sensitivity combined with a moderate magnitude of impact results in a large (significant) effect.
- Road users along Priest Lane (Viewpoint 4.2) Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Residents at Low Moor Park (Viewpoint 4.3) Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRoW 336017 and 336011 at Kirkby Thore near the primary school (Viewpoint 4.5) High sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Residents at the north-western corner of Sandersons Croft (Viewpoint 4.7a) Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRoW 36005 (footpath) (Viewpoint 4.8) High sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Residents of Sleastonhow Farm (Viewpoint 4.9a) Moderate sensitivity combined with a major magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRoW 341017 (footpath) (Viewpoint 4.10a) Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of PRoW 317012 (bridleway) (Viewpoint 4.13) Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.

- Recreational users of PRow 317004 (footpath) (Viewpoint 4.14) High sensitivity combined with a major magnitude of impact results in a very large (significant) effect.
- Recreational users of PRow 336013 (footpath) (Viewpoint 4.21) Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 336018 (bridleway) (Viewpoint 4.27a) Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Road users along Long Marton Road (Viewpoint 4.28a) Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

- 10.10.94 Compared to the year 1 assessment, the proposed planting would have established across the Order Limits and would be in leaf. This would provide some restoration of localised landscape character within LCA 08b Broad Valleys and LCA 06 Intermediate Farmland.
- 10.10.95 This would incur a slight reduction in significance; medium sensitivity combined with a minor magnitude resulting in moderate and significant landscape effects. As noted, this would still represent a significant effect. This is broadly due to the introduction of additional infrastructure across a predominantly rural landscape, albeit alongside the conspicuous presence of the British Gypsum Works, existing A66 and built form.
- 10.10.96 Across the western end of the scheme, proposed grassland would form a continuous sward, providing some return to character, whilst woodland would provide context with woodland along the existing carriageway.
- 10.10.97 Across the central section of the scheme, where changes in landscape character are more pronounced, land would have returned to agriculture and proposed grassland would provide a continuous sward by year 15. Woodland and woodland edge planting will have matured, providing a backdrop more in keeping with its surroundings, and whilst the scheme will still incur a change in character it will appear less pronounced.

Year 15 Visual Effects

- 10.10.98 By year 15 visual effects would be reduced for the majority of receptors as a result of mitigation proposals maturing, including woodland which would provide screening of views towards parts of the scheme.
- 10.10.99 Within the central section of the scheme, woodland planting has been designed to ensure screening of moving traffic along the mainline section of the scheme, whilst simultaneously retaining long distance views towards the NP AONB.
- 10.10.100 The integration of woodland edge and species-rich grassland at the Trout Beck viaduct would ensure visual integration of the structure as far as possible, whilst retaining the visual context of the beck's riparian woodland.

10.10.101 With reference to Appendix 10.6: Schedule of Visual Effects, the following visual receptors would experience significant effects during year 15 of operation:

- Road users along Priest Lane (Viewpoint 4.2) who would experience moderate significant effects. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 341017 (footpath) (Viewpoint 4.10a) who would experience moderate significant effects. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 317012 (bridleway) (Viewpoint 4.13) who would experience moderate significant effects. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 317004 (footpath) (Viewpoint 4.14) who would experience large significant effects. High sensitivity combined with a moderate magnitude of impact results in a large (significant) effect.

Effects to the Character of the Night Sky

10.10.102 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting is temporary and for short durations. Therefore, whilst there would be additional flare and very localised light spillages, there would not be an increase in sky glow to alter baseline environmental lighting zone categories.

10.10.103 In operation, the scheme would not alter the baseline environmental lighting zone categories as no lighting is proposed across the scheme. There would be introduction of headlights into a new area, but the surrounding context of Kirkby Thore and British Gypsum existing lighting pollution would not cause a notable effect due to the proposed planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Appleby to Brough

Construction

Construction Landscape Effects

10.10.104 With reference to Appendix 10.5: Schedule of Landscape Effects, there would be limited significant effects within the Order Limits as a result of construction. With the exception of sections north of Warcop, Flitholme and Lanrigg, the scheme lies broadly online. It's proximity, and at times incursion into, the highly sensitive NP AONB has been limited where possible, ensuring limited impact on the NP AONB itself – slight during the construction phase.

10.10.105 The assessment (Appendix 10.5: Schedule of Landscape Effects) determined that two LCAs would experience significant effects as a

result of the scheme. LCA 08b Broad Valleys lies to the south of the Order Limits and beyond and has a medium sensitivity, whilst LCA 11a Foothills lies to the north of the Order Limits and beyond and has a high sensitivity. The magnitude of impact on both LCAs is assessed to be moderate, resulting in moderate and large effects respectively.

- 10.10.106 The western end of the scheme, which is outside the NP AONB, would experience road widening, relocated access tracks, introduction of balancing ponds and earthworks, particularly around Café Sixty Six.
- 10.10.107 At the junction with the B6259 north of Sandford, there would be significant roadside tree loss to accommodate road widening and a new underpass in addition to several balancing ponds. This would incur a notable change within both LCAs, although localised.
- 10.10.108 Further west the mainline passes through agricultural land within LCA 08b Broad Valleys, resulting in further localised change to landscape character. Major earthworks would be undertaken west to east forming embankments.
- 10.10.109 North-east of Warcop a new grade separated junction will result in loss of woodland, agricultural land to the south and MOD land within the NP AONB to the north.
- 10.10.110 Further west the mainline drops south of the existing A66 which would be re-routed slightly further north resulting in further tree loss within the NP AONB and LCA 11a Foothills. Realigned minor roads and several balancing ponds would provide localised landscape character changes to LCA 8b Broad Valleys.
- 10.10.111 Towards the eastern end of the scheme road widening, realigned PRoW in the form of an overpass north-east of West View Farm would incur loss of agricultural land, roadside vegetation and field boundaries.
- 10.10.112 For the majority of the scheme, given its broadly online nature, the existing A66 had a notable influence on the existing landscape character within the Order Limits.
- 10.10.113 For all other LCAs and NCAs within the study area there would be no predicted impacts on landscape character. Similarly, the NP AONB, The Yorkshire Dales NP and the Durham CC AHLV or their settings are not considered to be significantly affected.

Construction Visual Effects

- 10.10.114 During construction a number of receptors would experience significant visual effects as a result of the scheme.
- 10.10.115 Towards the western end of the scheme, Café Sixty Six would experience views of construction including extensive earthworks to the rear and east. Limited residents to the south including High Bank End and New Hall would experience limited views towards construction given the existing screening of nearby woodland or individual trees.
- 10.10.116 Further east residents and users of PRoW around Barn End would experience views towards construction of a new grade separated

junction, earthworks to accommodate road widening and removal of roadside woodland.

- 10.10.117 Residents at Wheatsheaf Farm, Wheatsheaf Cottages and Street House and recreational users of nearby PRow would experience views towards earthworks at a lower elevation to accommodate the scheme mainline.
- 10.10.118 Residents at Hylton Holme, Dacre House, Station House and Hall Park east of Warcop would experience views towards a new grade separated junction, much of it on embankment, in addition to several large balancing ponds with associated access tracks.
- 10.10.119 For residents at Flitholme and users of the surrounding PRow during construction there would be views towards construction of the mainline in cutting south of the existing A66, and there would be opening of views north as a result of roadside tree loss.
- 10.10.120 Further east towards the extents of the Order Limits the new overpass and earthworks associated with road widening would incur notable close range visual change for users of the PRow and residents at West View Farm, Foxtower View, Croft Cottage, Mains House and Grey Horse Stables.
- 10.10.121 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors during the construction phase:
- Recreational users of PRow 372028 (footpath) north of Café Sixty Six (Viewpoint 6.1) who would experience direct views towards earthworks, Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Road users along the B6259 (Viewpoint 6.4) who would experience views towards construction of a new grade separated junction, although limited by the railway bridge span. Low sensitivity combined with a major magnitude of impact results in a moderate (significant) effect.
 - Road users of the minor road leading to Moor House Farm (Viewpoint 6.5) who would experience views towards construction of the mainline on embankment passing east to west. Low sensitivity combined with a major magnitude of impact results in a moderate (significant) effect.
 - Recreational users of PRow 372021 (footpath) north of Warcop Training Centre (Viewpoint 6.7) who would experience close views of mainline construction to the north. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational visitors to Warcop Railway Station (Viewpoint 6.8) who would experience views towards construction of the mainline on slight embankment and two large balancing ponds with access track in close views. High sensitivity combined with a major magnitude of impact results in a large (significant) effect.
 - Recreational users of PRow 350017 (bridleway) (Viewpoint 6.9) who would experience relatively close views towards construction of the mainline, realigned accommodation track and large balancing ponds.

Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.

- Recreational users of PRoW 309003 (bridleway) and 309034 (footpath) (Viewpoint 6.11a) who would experience close views of construction of the realigned PRoW as an overpass, realigned access track and earthworks associated with the mainline. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of PRoW 329001 (footpath) (Viewpoint 6.12) who would experience close views of construction of the realigned PRoW as an overpass, realigned access track and earthworks associated with the mainline. High sensitivity combined with a major magnitude of impact results in a large (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.122 During year 1 of operation significant landscape effects would remain across LCA 08b Broad Valleys and LCA 11a Foothills.
- 10.10.123 This would generally be as a result of changes in landscape character within the Order Limits across the broadly online scheme. Where the scheme moves offline landscape change would appear more evident, although the scheme would often be viewed in context with the existing or realigned A66.
- 10.10.124 Extensive areas of proposed species-rich grassland would not provide a full sward, and proposed woodland and woodland edge planting would not have reached a level of maturity that would reinstate previous landscape character for either LCAs.
- 10.10.125 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), no other LCAs, NCAs or AHLV within the study area are predicted to experience significant effects as a result of the scheme.

Year 1 Visual Effects

- 10.10.126 By year 1 winter of operation mitigation planting would not be fully matured. As a result it would not provide a level of screening which would reduce significance sufficiently for the majority of receptors to a level of non-significance. For road users of the B6259 (Viewpoint 6.4) and minor road leading to Moor House Farm (Viewpoint 6.5) however, the absence of construction activity would reduce their significance to slight.
- 10.10.127 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), the remaining visual receptors who retain significance are as follows:
- Recreational users of PRoW 372028 (footpath) (Viewpoint 6.1) whose significance would reduce to moderate. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.

- Recreational users of PRow 372021 (footpath) (Viewpoint 6.7) whose significance would reduce to moderate. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational visitors to Warcop Railway Station (Viewpoint 6.8) whose significance would remain large. High sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of PRow 350017 (bridleway) (Viewpoint 6.9) whose significance would remain large. Moderate sensitivity combined with a major magnitude of impact results in a large (significant) effect.
- Recreational users of PRow 309003 (bridleway) (Viewpoint 6.11a) whose significance would reduce to moderate. Moderate sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.
- Recreational users of PRow 329001 (footpath) (Viewpoint 6.12) whose significance would reduce to moderate. High sensitivity combined with a moderate magnitude of impact results in a moderate (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

- 10.10.128 By year 15 of operation summer the proposed mitigation planting would have allowed the scheme to integrate within its surroundings to a large degree, providing ecological compensation through species-rich grassland, heathland and scrub, woodland and woodland edge planting and wet grassland areas.
- 10.10.129 Prevailing landscape character would be reinstated locally to a degree where there would no longer be significant effects across LCA 8b Broad Valleys or LCA 11a Foothills.
- 10.10.130 There would be no effects predicted across the remaining LCAs, NCAs or AHLV within the study area. Similarly, no significant effects are predicted across the NP AONB as a result of the scheme.
- 10.10.131 Extensive woodland planting north-west of the grade separated junction off the B6259 would provide additional wooded context within LCA 11a Foothills, adding to its key characteristic of semi natural woodland and extensive conifer plantations.
- 10.10.132 Similarly, blocks of woodland to the north and east of Warcop, north-east of Flitholme and west of West View Farm would enhance the key characteristics of LCA 8b Broad Valleys, which includes pockets of scrub, woodland and coniferous plantations.

Year 15 Visual Effects

- 10.10.133 By Year 15 summer, views towards the scheme would generally be enhanced by mitigation proposals in full leaf. Areas of woodland such as those around Warcop and Flitholme would provide screening or enhancement in views towards the scheme for receptors.

10.10.134 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), one visual receptor is predicted to experience significant effects as a result of the scheme. Recreational visitors to Warcop Railway Station (Viewpoint 6.8) are predicted to experience a moderate adverse magnitude of impact as a result of close views towards the balancing pond and views towards the overbridge to the north-west for a highly sensitive receptor. This results in a moderate (significant) effect.

10.10.135 All other identified visual receptors within ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4) are not predicted to experience significant visual effects by year 15 summer.

Effects to the Character of the Night Sky

10.10.136 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting is temporary and for short durations. Therefore, whilst there would be additional flare and very localised light spillages, there would not be an increase in sky glow to alter baseline environmental lighting zone categories.

10.10.137 In operation, the scheme would not alter the baseline environmental lighting zone categories as no lighting is proposed across the scheme and the glare and light spillage from vehicle headlights would be substantially softened by the proposed planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Effects to the North Pennines AONB

10.10.138 The scheme infringes slightly on the southern border of the NP AONB but there would be no significant physical change to the landscape features across the designated landscape. While it is important to define designated areas, often the line on a plan suggests the special qualities begin at that point. In this case, appreciation of the special qualities of the NP AONB can only be realised when the receptor leaves the influence of the existing road corridor.

10.10.139 The existing A66 forms the southern border of the NP AONB but this road corridor does not represent any of the special qualities of the NP AONB. The experience of the NP AONB at this point is diluted by the significant presence of traffic, the roadside buildings and signage. The landscape is typical roadside verge with scrubby trees and untidy grass strips.

10.10.140 With reference to the NP AONB Management Plan, the stated special qualities of the NP AONB are:

- Scenic beauty.
- Strong sense of relative wildness.
- Remoteness and tranquillity.
- Wide-open moorlands.
- Species-rich grasslands.

- Truly dark night skies.
- World class mining and geological heritage.
- Breeding wading birds.

10.10.141 The following table highlights how the special qualities of the NP AONB would be affected by the Project.

Table 10-10: NP AONB Special Qualities

Special Quality	Impact	Narrative
Scenic beauty	No change	The area affected by the Project does not represent this special quality.
Strong sense of relative wildness	No change	The wild areas are found within the NP AONB, not at the boundary and not along the existing A66 corridor.
Remoteness and Tranquillity	No change	The existing A66 already affects this special quality in the area of the Project.
Wide open moorlands	No change	The wide-open moorlands are found within the NP AONB, not at the boundary and not along the existing A66 corridor.
Species rich grasslands	No change	Any species rich grassland lost will be reinstated.
Truly dark night skies	No change	There will be no change to the lighting levels within the NP AONB caused by the Project.
World class mining and geological heritage	No change	There will be no impact on this special quality due to the Project.
Breeding wading birds	No change	Habitats will be protected.

10.10.142 There are no significant impacts on the stated special qualities of the NP AONB by the Project.

10.10.143 In addition to the above, the presence of Warcop, Warcop Army Training Centre and the existing A66 negate any sense of relative wildness or remoteness from across the NP AONB within the study area.

10.10.144 The tranquillity within the NP AONB across the study area is also affected by the existing road corridor and associated infrastructure. The study area is therefore considered not to be fully representative of the stated special qualities of the NP AONB.

10.10.145 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), the construction activity would be perceived from the Foothills character area, which covers the NP AONB within the Order Limits. The construction activity would result in additional movement and activity in comparison to the existing A66; however as there would be no physical change and the special qualities of the NP AONB would remain, the effect is assessed as a slight (not significant).

10.10.146 In operation, the alignment of the scheme would reflect that of the existing A66, such that the spatial relationship between the A66 and the NP AONB would remain. There would be a greater perception of vehicles and buildings at year 1 of operation, due to the reduction of the intervening vegetation. The stated special qualities of the NP AONB

would remain and the effect to Foothills character area would be slight (not significant).

- 10.10.147 By year 15 of operation, the perception of the scheme would reflect that of the existing A66 and the effect to the Foothills character area would be neutral (no change) due to the maturing replacement roadside screen planting and intervening topography and woodland.
- 10.10.148 From the above and with reference to *NPSNN* paragraph 5.154, the scheme avoids compromising the purpose of the NP AONB designation and has been designed sensitively to reflect the existing alignment and vegetated character of the A66 in proximity to the NP AONB boundary.

Bowes Bypass

Construction

Construction Landscape Effects

- 10.10.149 The construction activity would result in localised changes to landform due to the excavation across the existing cutting to the north of Bowes, along with the removal of existing vegetation from this part of the existing A66. There would be the presence of construction activity and machinery to excavate the underpass and attenuation basins adjacent to the main road widening to the north of Bowes.
- 10.10.150 Likewise, there would be regrading of land to the east of Bowes, to form the embankments, the attenuation basin and the slip road between the proposed A66 and the eastern edge of Bowes. This activity would also result in vegetation removal and changes to surface landform, as well as the removal of parts of stone wall field boundaries and field boundary vegetation.
- 10.10.151 At the eastern end of the Order Limits, the construction activity would include tall machinery to construct the overbridge, along with the formation of embankments to the north of the A66, along with the changes to surface landform and activity to construction the new access roads and junctions along the north side of the A66. There would also be changes to surface landform and localised vegetation removal to construct the attenuation basins and the access road between The Street and the overbridge at Low Broats.
- 10.10.152 At the western part of the Order Limits, the construction activity would result in localised excavation and changes to surface landform to construct the attenuation basin across sloping land to the south of Bowes.
- 10.10.153 There would also be construction compounds across the Order Limits, which would introduce temporary buildings via offices and welfare facilities, external parking areas, stockpiles and hoardings and temporary lighting.
- 10.10.154 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), in relation to NCA 22, the geographic extent and physical change to these landscape features would be very small in

relation to the wider extent of the NCA. In addition, the construction machinery and activity would be located in a part of the NCA which is already noted by the published study as being of lower tranquillity and where the A66 is a 'major road'. The magnitude of impact is therefore assessed as negligible, which in relation to the medium sensitivity of the receptor would result in a neutral (not significant) effect during construction.

- 10.10.155 Most of the construction activity would be located in BLT Gritstone Upland Fringe. In relation to the stated key characteristics of the BLT, the construction activity would result in localised changes to the rounded topography, the regular field patterns, dry stone walls and variable vegetation cover. The construction activity would locally reduce the tranquillity of the BLT due to the sound and perception of the machinery, activity, the varied state of the landform, including changes to the colour and texture of the landform from the excavation.
- 10.10.156 However, given the construction activity would be localised to a very small part of the BLT, where the tranquillity is already reduced by the existing A66 and there is no sense of remoteness due to the road and settlement pattern, the magnitude of impact to the BLT during construction is assessed as negligible. In relation to the medium sensitivity of the BLT, the effect would be slight (not significant) during construction.
- 10.10.157 Within BLT Gritstone Upland Fringe, the construction activity would also be located within the smaller area of BCA Bowes. The construction activity would be localised to a small part of the BCA and would result in alteration to some of the key features, in terms of the landform, vegetation and stone walls, the magnitude of impact to the BCA during construction is assessed as minor. In relation to the medium sensitivity of the BCA, the effect would be slight (not significant).
- 10.10.158 For BCA Urban Area Bowes, there would be localised vegetation removal from within the BCA, along with the presence of construction activity and compounds, with localised changes to landform associated with the underbridge and construction around the west bound on-slip and the access track at the eastern edge of the BCA.
- 10.10.159 There would also be the perception of construction activity adjacent to the BCA, via the vegetation removal, construction activity and compounds along the alignment of the A66. The landscape setting to the BCA, whilst consisting of the existing A66, would experience a partial change from being areas of excavation and construction activity to the east and west of the BCA. The impact is therefore assessed as moderate. In relation to the high sensitivity of the BCA, the effect is predicted to be moderate (significant) during the construction phase.
- 10.10.160 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), for all other BLT and BCA within the Order Limits and covered by the construction activity, the impacts would be very localised and small in scale. Therefore, no significant effects are predicted to BLT Lower Dale and BLT Middle Vale.

10.10.161 For those BLT and BCA across the study area but which do not fall within the Order Limits, there would be no physical change to their landscape features due to the construction activity not being present within the areas. Any perception of the construction activity would be in the context of the existing A66 and therefore with reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), no significant effects are predicted to the respective BLT and BCA across the study area during the construction phase.

10.10.162 For NCA10 and the NP AONB there would be no changes to sensitive receptors due to the scale of the works within each area resulting in a neutral (not significant) effect.

Construction Visual Effects

10.10.163 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), the construction activity would be visible for a number of receptors, either at close range from along Clint Lane, PRoW and Bowes, and in longer distance views from elevated land across the southern part of the study area.

10.10.164 Within these views, the vegetation and excavation removal adjacent to the existing A66, to the north of Bowes, along with the demolition of the large barn and the formation of the proposed junction with the A67 would be visible.

10.10.165 The upper parts of tall lifting equipment associated with the overbridge to the east of The Street would also be visible, including the regrading of land around the junction with the A67 and the removal of vegetation, demolition of farm buildings and excavation for the attenuation basins,

10.10.166 Compared to views of a settled rural landscape, including the existing A66, the construction activity would result in additional movement, activity and machinery within views in comparison to general farming activity.

10.10.167 The excavation of surface landform would also result in changes to the colour tones of the landscape within views.

10.10.168 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors during the construction phase:

- Recreational users on the Pennine Way (Viewpoint 7.1A), due to the moderate magnitude of impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users on Clint Lane (Viewpoint 7.2 and 7.2A), due to the major impact, which in relation to the high sensitivity of the receptors would result in a large (significant) effect.
- Residents in Bowes and pedestrians on The Street (Viewpoint 7.3), due to the major impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.
- Recreational users on PRoW (footpath) no.10 (Viewpoints 7.4 and 7.4A), due to the moderate impact, which in relation to the high

sensitivity of the receptors would result in moderate (significant) effects.

- Motorists on the A67 (Viewpoint 7.5), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users on PRow (footpath) no.6 (Viewpoint 7.6), due to the major impact, which in relation to the high sensitivity of the receptor would result in a large (significant) effect.
- Residents and motorists adjacent to The Street (Viewpoint 7.7), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational users on PRow (footpath) no.8 and no.6, (Viewpoints 7.7A and 7.7B) due to the major and moderate impacts, which in relation to the high sensitivity of the receptors would result in a large (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.169 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), at year 1 of operation, the scheme would reflect the existing alignment of the A66, via remaining to the north of Bowes and with an interchange with the A67 characterised by the slip roads at a lower topographic level than the existing A66.
- 10.10.170 The scheme would result in additional road infrastructure features, via the additional width in the carriageways, from one lane (in each direction) to two lanes. The scale and extent of the junction with the A67 would be greater than the existing junction, due to the west bound off-slip being located to the north of the existing alignment and the two new slip roads to the east of Bowes.
- 10.10.171 There would also be changes to the junction and road alignments along The Street, with a new access road replacing the existing junction. The alignment of the new access road would reflect that of the A66 by being parallel to it, until the proposed overbridge, which would be a raised structure, with associated embankments. This overbridge would increase the number of road structures and locally increase the perception of engineered earthworks and introduce additional massing within the road corridor.
- 10.10.172 The scheme would result in a reduction of the existing massing via the removal of the large barn located between the existing A66 and the A67. There would also be localised reduction in the extent of stone walls dividing the fields to the east of Bowes.
- 10.10.173 There would be a reduction in the density of vegetation adjacent to the road corridor from the removal of the existing vegetation. This would locally increase the perception of the road and vehicles, specifically in relation to Bowes overbridge and buildings in Bowes.

- 10.10.174 The scheme would introduce substantial new planting in accordance with the stated landscape guidelines of increasing the extent of small woodlands; although this would not have established at year 1 and would not be in leaf.
- 10.10.175 In relation to NCA 22, the scheme would represent a very small and localised addition of road infrastructure to a part of the NCA already consisting of the A66. The magnitude of impact at year 1 is assessed as negligible and when combined with the medium sensitivity of the receptor, the effect as neutral (not significant).
- 10.10.176 For BLT Gritstone Upland Fringe, which covers most of the Order Limits, the scheme would result in a localised reduction in the extent of stone walls dividing the fields to the east of Bowes, which are a stated key characteristic of the BLT. There would be a reduction in the density of vegetation adjacent to the road corridor, which is a stated characteristic of the BLT. This would locally increase the perception of the road and vehicles, specifically in relation to Bowes overbridge. The scale and extent of the scheme would be very localised in relation to the wider geographic area of the BLT. The scheme would remain within a part of the BLT which is already defined by the existing A66. The magnitude of impact is therefore assessed as negligible at year 1. In relation to the medium sensitivity of the BLT, the effect at year 1 would be slight (not significant).
- 10.10.177 Similarly for BCA Bowes (a smaller part of BLT Gritstone Upland Fringe), the scale and extent of the scheme would be very localised in relation to the wider geographic area of the BCA. The scheme would remain within a part of the BCA which is already defined by the existing A66, and the scheme would retain the pattern of road infrastructure in the southern part of the BCA, reflecting the pattern of the existing A66 via its alignment remaining to the north and east of Bowes. This would include the scheme remaining in cutting to the north of Bowes, with the interchange with the A67 to the north-east of Bowes. The reduced amount of vegetation and the slightly more elevated position of the A66 would result in a minor impact. In relation to the medium sensitivity of the receptor, the effect at year 1 would be slight (not significant).
- 10.10.178 For BCA Urban Area Bowes, the scheme would retain the landscape pattern of the northern edge of the BCA consisting of the A66. The small scale field pattern within the Order Limits would be retained, along with the individual trees. There would be an increased perception of the A66 due to the reduction of vegetation around the Bowes overbridge and the additional attenuation basins and earthworks in the setting of the BCA. The magnitude of impact is therefore assessed as minor. In relation to the high sensitivity of the receptor, the effect is assessed as slight (not significant). This effect is reduced from moderate (significant) due to the very limited physical change to the landscape features across the BCA and there is already the perception of the existing A66.
- 10.10.179 With reference to Appendix 10.5: Schedule of Landscape Effects, for all other BLT and BCA covered by the scheme, the impacts would be very

localised and small in scale. Therefore, no significant effects are predicted to BLT Lower Dale and BLT Middle Vale.

10.10.180 For those BLT across the study area but which do not cover the Order Limits, there would be no physical change to their landscape features from the scheme in operation. Any perception of the scheme would be in the context of the existing A66 and therefore with reference to Appendix 10.5: Schedule of Landscape Effects, no significant effects are predicted to the respective BLT and BCA across the study area at year 1 of operation.

10.10.181 For NCA10 and the NP AONB there would be no changes to sensitive receptors resulting in a neutral (not significant) effect.

Year 1 Visual Effects

10.10.182 At year 1 of operation, vehicles to the north of Bowes would be in cutting, as per the baseline, such that these would not be visible, although the change to the composition of the view would be via the reduction in vegetation and an increased visibility of Bowes in views from Clint Lane.

10.10.183 The eastern part of the re-aligned junction of the A66 and A67 would be visible at close range and in longer views from elevated land across the south of the study area.

10.10.184 The movement of vehicles via the A66 on embankment and the adjacent slip road connecting with The Street towards Bowes would introduce additional road infrastructure within views from the eastern edge of Bowes and the eastern part of the study area. The reduction in the density of vegetation to the north of Bowes would result in the Bowes overbridge and vehicles being more visible in comparison to the existing view.

10.10.185 For residents at Stone Bridge Farm, there would be increased visibility of vehicles on the A66 due to the removal of the existing intervening vegetation and via the slip road to the north of the property. The overbridge would also be visible to the east of the receptor, with views of vehicles in a higher position within the composition of the view than existing views of the A66.

10.10.186 The overbridge would also be visible for residents and recreational users across the southern part of the study area. The embankments of the overbridge and vehicles in a more elevated position within the middle ground of the view would be a noticeable change to the skyline, along with Low Broats no longer being present.

10.10.187 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted for the following receptors at year 1 of operation:

- Recreational users on Clint Lane (Viewpoint 7.2 and 7.2A), due to the moderate impact, which in relation to the high sensitivity of the receptors would result in a moderate (significant) effect.

- Residents in Bowes and pedestrians on The Street (Viewpoint 7.3), due to the moderate impact, which in relation to the moderate sensitivity of the receptors would result in a moderate (significant) effect.
- Recreational users on PRow (footpath) no.10 (Viewpoints 7.4 and 7.4A), due to the moderate impact, which in relation to the high sensitivity of the receptors would result in moderate (significant) effects.
- Recreational users on PRow (footpath) no.6 (Viewpoint 7.6), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Residents and motorists adjacent to The Street (Viewpoint 7.7), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational users on PRow (footpath) no.8 and no.6, (Viewpoints 7.7A and 7.7B) due to the moderate impacts, which in relation to the high sensitivity of the receptors would result in a moderate (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

- 10.10.188 Compared to the year 1 assessment, the proposed planting would have established across the Order Limits and would be in leaf.
- 10.10.189 Across the cutting to the north of Bowes, the proposed planting would consist of broadleaved trees along the southern edge of the cutting, between Bowes and the road, to reflect the existing vegetation cover. On the northside of the cutting and around the junction with the A67, the woodland and mixed scrub would have established to likewise reflect the existing vegetation cover, integrate the Bowes overbridge and reduce the perception of the earthworks and structures.
- 10.10.190 Compared to the arable land cover adjacent to the existing A66, there would be species rich grassland, to provide a more diverse vegetation cover and improve the opportunities for biodiversity, which would have established to form an integrated sward by year 15.
- 10.10.191 There would be a retained reduction in the vegetation between Stone Bridge Cottages and the proposed slip road and dual carriageway, with the existing trees replaced with mixed scrub and species rich grassland.
- 10.10.192 The species rich grassland would continue across the proposed embankments of the overbridge in the eastern part of the Order Limits, which as an established sward would reduce the perception of the engineered gradients. The scale and mass of the overbridge would remain as per the year 1 assessment, with vehicles in an elevated position in relation to the existing alignment of the A66.
- 10.10.193 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4) regarding NCA 10 and NCA 22. At year 15, the scheme would result in an impact of no change and the effect, due

to reflecting the character of the existing A66 and highways infrastructure, results in an effect across these NCA's that would be neutral (not significant).

10.10.194 Similarly, there would be no significant landscape character effects to any of the published LCAs at year 15. This is due to the proposed planting reducing the perception of the A66, including the cutting, Bowes overbridge, the attenuation basins and embankments, so that the impact of the scheme would be lessened in comparison to year 1. Year 15 Visual Effects

10.10.195 The visibility of the scheme would reduce at year 15 in comparison to the year 1 assessment due to the combination of the existing vegetation being in leaf and the establishment of the proposed planting, which would also be in leaf.

10.10.196 In close range views from Clint Lane, the proposed planting would reflect the existing composition of vegetation adjacent to the A66 and the varying visibility of buildings in Bowes. The proposed junction with the A67 (at the location of the existing large barn) would not be visible due to the establishment of the proposed woodland.

10.10.197 From locations across the southern part of the study area, with the existing intervening vegetation in leaf, the visibility of the overbridge and associated vehicles at the eastern end of the scheme would be reduced. The establishment of the proposed planting would also soften the engineered slopes of the embankment.

10.10.198 For residents at Stone Bridge Farm, the establishment of the proposed woodland would soften views of vehicles on part of the slip road and A66, but there would be an increased visibility of the vehicles in comparison to the existing view. Similarly, views of the overbridge would also remain.

10.10.199 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors at year 15 of operation.

- Residents and motorists adjacent to The Street (Viewpoint 7.7), due to the moderate impact, which in relation to the moderate sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users on PRoW (footpath) no.6, (Viewpoint 7.7B) due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.

10.10.200 There would no significant effects the remaining visual receptors at year 15.

Effects to the Character of the Night Sky

10.10.201 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting would be temporary and located within an existing lit context of the A66, Bowes and the junction of the A66 and A67. Therefore, whilst there would be additional glare and very localised light spillage, there would

not be an increase in sky glow to alter the baseline environmental lighting zone categories. Therefore, there would be no significant effects from lighting during the construction phase.

10.10.202 In operation, the existing lighting at the junction of the A66 and the A67 would be replaced and upgraded with lighting columns and associated luminaries which are more efficient and emit less glare and light spillage. This is assessed as a beneficial change to the character of the night sky, although given the relatively small-scale change to an area of existing lighting, the scheme would not alter the baseline environmental lighting zone categories. The glare and light spillage from vehicle headlights would be substantially softened by the proposed planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Effects to the North Pennines AONB

10.10.203 The scheme will present a minor incursion into the western extents of the NP AONB at the western entrance to Bowes and therefore physical change to the landscape features within the designated landscape will be very limited.

10.10.204 With reference to the *NP AONB Management Plan*, the stated special qualities of the NP AONB are:

- Scenic beauty.
- Strong sense of relative wildness.
- Remoteness and tranquillity.
- Wide-open moorlands.
- Species-rich grasslands.
- Truly dark night skies.
- World class mining and geological heritage.
- Breeding wading birds.

10.10.205 In relation to the above, the presence of Bowes and the existing A66 negate any sense of relative wildness or remoteness from across the NP AONB within the study area.

10.10.206 The tranquillity within the NP AONB across the study area is also varied due to the presence of these features, although it does increase across the lower lying parts of the study area, particularly in proximity to the River Greta.

10.10.207 The study area is therefore considered not to be fully representative of the stated special qualities of the NP AONB.

10.10.208 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), the construction activity would be perceived from the Moorland Fringe character area, which covers the NP AONB in closest proximity to the Order Limits. The construction activity would result in additional movement and activity in comparison to farming and the existing A66; however as there would be no physical change and the special qualities of the NP AONB would remain, the effect is assessed as a slight (not significant).

10.10.209 In operation, the alignment of the scheme would reflect that of the existing A66, such that the spatial relationship between the A66 and the NP AONB would remain. There would be a greater perception of vehicles and buildings in Bowes at year 1 of operation, due to the reduction of the intervening vegetation and the re-alignment of the A66 and A67. The stated special qualities of the NP AONB would remain and the effect to Moorland Fringe character area would be slight (not significant).

10.10.210 By year 15 of operation, the perception of the scheme would reflect that of the existing A66 and the effect to the Moorland Fringe character area would be neutral (no change), in addition to no change to the special qualities.

10.10.211 From the above and with reference to *NPSNN* paragraph 5.154, the scheme avoids compromising the purpose of the NP AONB designation and has been designed sensitively to reflect the existing alignment and vegetated character of the A66 in proximity to the NP AONB boundary.

Effects to the Area of Higher Landscape Value

10.10.212 In respect of *NPSNN* paragraph 5.156, the design and assessment of the scheme has been based upon the areas and landscape guidance within the published landscape character assessments which cover this local landscape designation.

10.10.213 The Project has been designed carefully to remain along or within close proximity to the existing A66 alignment, so that the siting of the scheme reflects the character of the existing road infrastructure. In combination with the substantial new planting in accordance with the published landscape character assessments, to integrate the scheme and provide additional opportunities for biodiversity, the scheme has avoided and minimised harm to the landscape via reasonable mitigation in accordance with *NSPNN* paragraph 5.157.

10.10.214 Due to the above, the scheme is assessed as responding positively to the requirements of the *Durham Local Plan* Policy 39, via conserving the special qualities of the designated landscape.

Cross Lanes to Rokeby

Construction

Construction Landscape Effects

10.10.215 The construction of the northern part of the proposed Cross Lanes junction would result in hedgerow and roadside trees being removed and alterations to the surface landform within the fields between Ivy Cottage and the Order Limits. There would also be tall machinery to construct the overbridge and the formation of the embankments, with associated stockpiles, hoardings and compounds.

10.10.216 Similar activities would occur to the west of the Organic Farm Shop, with removal of vegetation, formation of embankments and the construction of the new road to the south of the existing A66.

- 10.10.217 Between Cross Lanes and Street Side Farm, there would be localised vegetation removal and alteration to surface landform as part of the construction of the proposed access road to the north of the existing A66. There would also be excavation to the south of the Farm, on the opposite side of the existing A66 to construct the attenuation basin.
- 10.10.218 To the east of Street Side Farm, the construction activity would be located between the existing A66 and the Tutta Beck in order to construct the dualled section of road and the proposed junction to the south-west of the Church of St Mary. This activity would result in alterations to landform, removal of roadside trees and hedgerows dividing the fields. The construction of the junction would result in the formation of embankments and excavation for the cutting and underpass beneath the proposed A66 alignment. There would also be smaller scale excavation, changes to surface landform and road construction between Tutta Beck cottages and The Old Rectory.
- 10.10.219 To the south of the Old Rectory, there would be similar construction activity to implement the dualled alignment of the proposed A66 and the attenuation basin, as well as smaller scale alterations to the existing A66 to the north of the property.
- 10.10.220 The construction activity for the proposed dualling would extend across fields to the existing junction with Barnard Castle Road. The construction would result in changes to areas of existing hard surfacing, to implement the roundabout, as well as localised changes to the alignments of the kerbs adjacent to the stone walls and piers of Rokeby Park. There would be removal of roadside trees to the south of the existing A66
- 10.10.221 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), in relation to NCA 22, the scale and extent of the above activities would be very localised in relation to the wider geographic extent of the NCA. The magnitude of impact is therefore assessed as negligible and, when combined with the medium sensitivity of the receptor, the effect is predicted as neutral (not significant).
- 10.10.222 For BLT Gritstone Vale, the scale and extent of the above activities would be very localised in relation to the wider geographic extent of the BLT, although there would be very localised impacts to the key characteristics of rounded topography, vegetation cover, field patterns and the lanes. The presence of construction machinery and compounds and the associated changes to the landform and vegetation, would locally reduce the tranquillity, although to a part of the BLT where the tranquillity is impacted upon by the existing A66. The impact is assessed as negligible. In relation to the medium sensitivity of the BLT, the effect would be slight (not significant) during the construction phase.
- 10.10.223 Within BLT Gritstone Vale, all of the construction activity would be located in the central part of BCA Barningham, Brignall and Rokeby, along and adjacent to the existing A66. The perception of the construction activity would extend across the southern parts of the BCA, such that the combination of the physical change stated above, and

perception of the construction would result in a moderate magnitude of impact. In relation to the high sensitivity of the BCA, the effect during the construction phase would be moderate (significant).

10.10.224 Due to the construction activity not being located in any other published character areas, and with reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), there would be no significant effects to any of the other published LCAs across the study area.

10.10.225 In relation to Rokeby Historic Park and Garden character area, defined by the Applicant, the construction of the new roundabout junction would be located in and adjacent to the character area, as the designation extends across Barnard Castle Road. The construction activity would also be perceived from the Church of St Mary churchyard, the south-west part of the parkland, the main house and the Old Rectory. The physical change to the landscape would be to areas of existing road infrastructure and the key landscape structure across the area would be retained. The perception of the construction activity in proximity to the Church of St Mary would not unduly impact the tranquillity, given the existing presence of the A66. The magnitude of impact is therefore assessed as minor. In relation to the high sensitivity of the receptor, the effect would be moderate (significant) during the construction phase.

Construction Visual Effects

10.10.226 There would be close range views of the construction of Cross Lanes junction for recreational users and residents in close proximity to the scheme. Changes to the view would consist of the hedgerow and tree removal, topsoil stripping, excavation and the formation of the overbridge embankments, along with tall construction equipment.

10.10.227 The close proximity of this activity to the receptor would truncate views across the landscape and result in the construction activity being the dominant feature within the view.

10.10.228 From within the cemetery of the Church of St Mary, there would be close range views of construction activity along the existing A66, associated with the proposed junction. There would also be channelled views of the construction of the proposed A66 dualling across the fields in the middle ground of the view, including the topsoil stripping, formation of low embankments and removal of hedgerows and trees. The construction compounds and movement of vehicles would also be visible, along with oblique views of the construction of the proposed junction, although filtered by retained vegetation.

10.10.229 From Rokeby House, parts of the construction activity at the existing Barnard Castle Road junction would be visible in the background of the view. The remainder of the construction activity would not be visible due to being situated beyond the existing A66 and in a lower lying position within the landscape. From within the Park, in proximity to the scheme, the construction of the proposed re-configuration of the junction of Barnard Castle Road would be visible at close range, seen beyond the

intervening railings, resulting in additional activity and movement within the view in comparison to the existing vehicles. The removal of vegetation in the background of the view would also be visible.

10.10.230 With reference to Appendix 10.6: Schedule of Visual Effects, for receptors across the wider northern, southern and eastern parts of the study area, including at Barnard Castle, Brignall and Greta Bridge, the distance and intervening rising and wooded landform would reduce the visibility of the construction activity.

10.10.231 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors during the construction phase:

- Recreational users on PRoW (footpath) no.8, (Viewpoint 8.1) due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Residents in Boldron and recreational users on PRoW (footpath) no.14, (Viewpoint 8.1A), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Residents in Dent House Farm and recreational users of PRoW (footpath) no.5 (Viewpoint 8.2), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Visitors and recreational users within the grounds of the Church of St Mary (Viewpoint 8.4A), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational receptors on PRoW (footpath) no.6 (Viewpoint 8.8), due to the major impact, which in relation to the moderate sensitivity would result in a large (significant) effect.
- Visitors and recreational users in Rokeby Park (Viewpoint 8.11), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Motorists on Abbey Road (Viewpoint 8.12), due to the major impact, which in relation to the low sensitivity of the receptor would result in a moderate (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

10.10.232 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), at year 1 of operation, the scheme would increase the extent and scale of road infrastructure across and adjacent to an existing A66 road corridor.

10.10.233 At the western part of the scheme, the overbridge would result in new massing and a locally elevated highways structure in comparison to the alignment of the existing A66. In combination with the re-positioned Cross Lanes junction, there would be an alteration to the small-scale

geometric field pattern, although at an area which is already characterised by an existing junction.

- 10.10.234 The dualling between the Organic Farm Shop and Street Side Farm would reflect the alignment and width of the existing A66. The two access roads to the north and south of the A66 would be parallel to the existing A66, reflecting its alignment and therefore consolidated to the existing road corridor.
- 10.10.235 In proximity to the Church of St Mary, the existing A66 would be retained, although the volume of traffic would be less, such that locally the perception of the A66 would reduce due to the realignment of the road and the increased distance from the Church and that the proposed junction and underpass would be sited in a lower topographic position within the landscape. The overall extent of road infrastructure would increase due to the combination of the dualled section of the A66 and the retention of the existing A66 alignment.
- 10.10.236 The scale of the proposed junction and overbridge would be result in alteration to the field patterns between the existing A66 and Jack Wood.
- 10.10.237 The scale of the roundabout adjacent to Rokeby Park would reflect that of the existing T junction. The dualled sections of the A66 and the attenuation basin would increase the overall extent of highways infrastructure adjacent to this part of the Park.
- 10.10.238 For NCA 22 the scheme would respond positively to the Statements of Environmental Opportunity via new broadleaved woodland planting, although this would not have established at year 1. Due to the very small and localised addition of road infrastructure to a part of the NCA already consisting of the A66, the magnitude of impact at year 1 is assessed as negligible. Based on the medium sensitivity of the receptor, the effect at year 1 would be neutral (not significant).
- 10.10.239 For BLT Gritstone Vale, the scheme would increase the extent and scale of road infrastructure across an existing road corridor. This would be via the additional lanes and junctions, in addition to the retention of parts of the existing A66 to form part of the secondary road network, specifically adjacent to the Church of St Mary. The scheme would result in a very localised reduction to the key characteristics. These changes would be very localised within the context of the wider geographic extent of the BLT, such that the impact is assessed as negligible. In relation to the medium sensitivity of the BLT, the effect would be slight (not significant).
- 10.10.240 For BCA Barningham, Brignall and Rokeby the increase in the extent of road infrastructure and an increased perception of the existing A66 would result in a localised reduction to the key characteristics of small field patterns. However, these changes would be localised within the context of the wider geographic extent of the BCA and located either along or adjacent to the existing alignment of the A66, where the landscape pattern consists of existing large junctions and the tranquillity is reduced. The impact is assessed as moderate at year 1. In relation to

the high sensitivity of the BCA, the effect would be moderate (significant) at year 1.

- 10.10.241 For the remaining published landscape character assessments, the scheme would not be located across their geographic areas. Therefore, there would be no physical change to the key characteristics and any perception of the scheme would be in the context of the existing A66. Therefore, with reference to Appendix 10.5 Schedule of Landscape Effects, no other significant effects are predicted at year 1 to the published LCAs.
- 10.10.242 In relation to the Rokeby Historic Park and Garden character area, defined by the Applicant, the proposed roundabout junction would reflect the scale and extent of the existing junction bordering the area, as would the perception of vehicles on this part of the scheme. Therefore, the scheme is assessed as maintaining the existing landscape character to this part of the character area. There would be a reduction in the extent of vegetation within the setting of the area.
- 10.10.243 In relation to Church Plantation and the Church of St Mary, important elements of Rokeby Park, the proposed alignment of the A66 would be further from these parts of the character area than the existing A66. As the existing A66 would be retained as part of the access between Abbey Road and the proposed A66 alignment, there would still be vehicles in close proximity to these parts of the character area. However, the number of vehicles is considered to be less than those on the existing A66, such that the overall impact is assessed as negligible. In relation to the high sensitivity of the receptor, the effect would be slight (not significant) at year 1.

Year 1 Visual Effects

- 10.10.244 With reference to Appendix 10.6: Schedule of Visual Effects, for receptors at the western part of the scheme, vehicles along the re-aligned Rutherford Lane would be visible in addition to vehicles on the A66.
- 10.10.245 Vehicles would also be in a more elevated position within the composition of views, due to being on embankment and crossing the overbridge, such that this structure would be readily apparent to receptors.
- 10.10.246 From the Church of St Mary churchyard, the existing A66 would remain visible in close range views, but with a reduction in the number of vehicles, which is assessed as beneficial in comparison to existing views. Vehicles on the proposed A66 alignment would be visible in the middle ground of the view, extending from the south of the Old Rectory across to the proposed junction to the south-west of the receptor.
- 10.10.247 From Rokeby House, views of vehicles travelling along Abbey Road and around the proposed junction, in combination with vehicles on the A66, would reflect the composition of existing views, with the very minor addition of vehicles within the view, such that there would be no

significant effects to the designed view from the house, across the parkland.

10.10.248 Similarly, from within the park, views of vehicles on Abbey Road and across the proposed junction and A66 would reflect the context of existing views.

10.10.249 With reference to Appendix 10.6: Schedule of Visual Effects, for receptors across the wider northern, southern and eastern parts of the study area, including at Barnard Castle, Brignall and Greta Bridge, the distance and intervening rising and wooded landform would either screen the scheme, or where visible reflect the existing composition of views, such that there would be no significant effects.

10.10.250 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors at year 1 of operation:

- Recreational users on PRoW (footpath) no.8, (Viewpoint 8,1) due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Residents in Dent House Farm and recreational users of PRoW (footpath) no.5 (Viewpoint 8.2), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Visitors and recreational users within the grounds of the Church of St Mary (Viewpoint 8.4A), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational receptors on PRoW (footpath) no.6 (Viewpoint 8.8), due to the major impact, which in relation to the moderate sensitivity would result in a large (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

10.10.251 Compared to the year 1 assessment, the proposed planting would have established across the Order Limits and would be in leaf.

10.10.252 The woodland around the overbridge at the Cross Lanes would reduce the perception of its scale and mass.

10.10.253 The perception of the alterations to the landform associated with the proposed junction to the south-west of the Church of St Mary would also be reduced by the proposed planting.

10.10.254 The establishment of the proposed species rich grassland would also integrate the changes to landform to a greater degree than at year 1, increase the tonal and textural qualities and opportunities for biodiversity in relation to the agricultural land cover across the Order Limits.

10.10.255 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), due to the increased integration of the scheme within the landscape and its reduced perception due to the

establishment of the proposed planting, the impacts would reduce in relation to those predicted at year 1, specifically for BCA Barningham, Brignall and Rokeby, which covers the scheme.

10.10.256 With the scheme remaining across a part of the landscape already characterised by the A66, there would not be significant effects to the published landscape characters at year 15 of operation.

Year 15 Visual Effects

10.10.257 The visibility of the scheme would reduce at year 15 in comparison to the year 1 assessment due to the combination of the existing vegetation being in leaf and the establishment of the proposed planting, which would also be in leaf.

10.10.258 For recreational receptors and residents in close proximity to the western part of the scheme, the proposed woodland would have established across the overbridge embankments and adjacent to Rutherford Lane. This would reduce the visibility of vehicles on these roads, as well as aid in softening the form of the overbridge and reflect the woodland across the ridgeline in the middle ground of the view within the view. In relation to the undulating landform across the foreground and middle ground of the view, the wooded embankments of the overbridge would remain an apparent change in relation to the underlying pattern of landform within the view, extending above the alignment of the A66.

10.10.259 For visitors and recreational users at the Church of St Mary, the proposed woodland and scrub adjacent to the alignment of the proposed A66, including around the junction to the south-west of the Church, would be taller in height and in leaf. This would screen vehicles on the proposed A66 to the south of the receptor and reduce the perception of the remainder of the proposed alignment. Close range views of vehicles on the retained A66 would remain, although the smaller number of vehicles is assessed as beneficial to the view.

10.10.260 From Rokeby Park House, with the intervening vegetation in leaf, there would be no change to the composition of the view. For visitors and recreational users within the park, in close proximity to the scheme, with the parkland vegetation in leaf, there would be some softening of views of vehicles on Abbey Road and the A66, but the reduction in background vegetation would remain due to the alignment of the proposed scheme.

10.10.261 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), for receptors across the wider northern, southern and eastern parts of the study area, including at Barnard Castle, Brignall and Greta Bridge, the distance and intervening rising and wooded landform would screen the scheme, such that there would be no significant effects.

10.10.262 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant visual effects are predicted for the following receptors at year 15 of operation:

- Recreational users on PRow (footpath) no.8, (Viewpoint 8,1) due to the major magnitude of impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Residents in Dent House Farm and recreational users of PRow (footpath) no.5 (Viewpoint 8.2), due to the major magnitude of impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Visitors and recreational users within the grounds of the Church of St Mary (Viewpoint 8.4A), due to the major magnitude of impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational receptors on PRow (footpath) no.6 (Viewpoint 8.8), due to the major magnitude of impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.

Effects to the Character of the Night Sky

10.10.263 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting would be temporary and located within an existing lit context of the A66, Cross Lanes, Rokeby Park and the junction with Abbey Road and the existing A66. Therefore, whilst there would be additional glare and very localised light spillage, there would not be an increase in sky glow to alter the baseline environmental lighting zone categories. Therefore, there would be no significant effects from lighting during the construction phase.

10.10.264 In operation, the scheme would not alter the baseline environmental lighting zone categories as no lighting is proposed across the scheme. The glare and light spillage from vehicle headlights would be substantially softened by the proposed planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Effects to the North Pennines AONB

10.10.265 The scheme would not be located in the NP AONB. The closest point is 2km to the southwest, because of the distance from its boundaries and lack of intervisibility due to the intervening landscape features, including the riparian corridor associated with the River Greta, there would be no change to the special qualities and landscape character of the NP AONB.

10.10.266 With reference to *NPSNN* paragraph 5.154, the scheme avoids compromising the purpose of the NP AONB designation and has been designed sensitively to reflect the existing alignment and vegetated character of the A66 in proximity to the NP AONB boundary.

Effects to the Area of Higher Landscape Value

10.10.267 In respect of *NPSNN* paragraph 5.156, the design and assessment of the scheme has been based upon the areas and landscape guidance

within the published landscape character assessments which cover this local landscape designation.

- 10.10.268 The Project has been designed carefully to remain along or within close proximity to the existing A66 alignment, so that the siting of the scheme reflects the character of the existing road infrastructure. In combination with the substantial new planting in accordance with the published landscape character assessments, to integrate the scheme and provide additional opportunities for biodiversity, the scheme has avoided and minimised harm to the landscape via reasonable mitigation in accordance with *NSPNN* paragraph 5.157.
- 10.10.269 Due to the above, the scheme is assessed as responding positively to the requirements of the *Durham Local Plan* Policy 39, via conserving the special qualities of the designated landscape.

Stephen Bank to Carkin Moor

Construction

Construction Landscape Effects

- 10.10.270 The construction activity to the west of West Layton would result in excavation to the fields and removal of vegetation to construct the cutting between the southern edge of the village and the existing A66. This would also result in the removal of part of the low stone wall and hedgerow adjacent to Collier Lane. The construction of the overbridge would require tall lifting equipment, along with the presence of construction compounds.
- 10.10.271 To the south of West Layton there would be the excavation within the fields for the proposed A66 alignment within cutting, along with the excavation for the attenuation basin within the fields to the south of the existing A66. The construction activity would also include the removal of vegetation from within part of Ravensworth Copse.
- 10.10.272 The changes to surface landform and construction of the dualled road on a shallow embankment would extend to the east of Ravensworth Cope, resulting in the removal of field boundary vegetation and parts of Fox Grove and Fox Well plantation. There would also be the construction of a new access road to the east of Foxwell Farm, including excavation of surface landform due to the construction of the proposed road in cutting.
- 10.10.273 To the west of Moor Lane, the construction activity would alter the geometric field patterns and field boundary vegetation via the construction of the proposed junction and the associated excavation for the road alignment to be in cutting. There would also be vegetation removal from Mainsgill Plantation.
- 10.10.274 In the western part of the Order Limits the construction activity would extend across fields to the south of the existing A66, with changes to surface landform to construct the dualled A66 on embankment to the south of Street Plantation and the excavation for the attenuation basins

between the proposed dualled embankment and the realignment of Warrener Lane. This activity would also result in the removal of field boundary vegetation and vegetation between the existing dualled sections of the A66.

- 10.10.275 In addition to the above, there would be construction compounds, with associated storage and buildings and the movement of vehicles across the Order Limits.
- 10.10.276 In relation to the published LCAs, the scale and extent of the construction activity would be very small in relation to the wider geographic area of NCA 22. There would be alteration to the stated key characteristics of field boundaries and hedges, but the construction activity would be located in a part of the NCA which the published study notes is already impacted in terms of tranquillity by the existing A66. Therefore, with reference to Appendix 10.5: Schedule of Landscape Effects, the impacts to NCA 22 are predicted to be negligible and, when combined with the medium sensitivity of the receptor, the effect during the construction phase would be neutral (not significant).
- 10.10.277 For LLCT B: Moors Fringe, the construction activity set out above would be located in the northern part of the landscape character type. Like NCA 22, the scale and extent of the construction phase would be within a part of the LLCT where the character is already defined by the road corridor and tranquillity is lowered. Whilst the physical change would be localised, the construction activity would be perceived from other parts of the LLCT, covering land across the elevated valley sides to the south of the Order Limits. With reference to Appendix 10.5: Schedule of Landscape Effects, the impact is assessed as minor and, when combined with the high sensitivity of the receptor, the effect during the construction phase would be slight (not significant).
- 10.10.278 Within LLCT B: Moors Fringe, the above construction activity would be located in the smaller area of LLCA B3: East and West Layton Fringe. This is an arable landscape, but where the published study notes that the existing A66 results in local 'intrusion' on the landscape. The construction activity would be located across and adjacent to the A66 and therefore within a part of the area where the character is already defined by the road corridor and tranquillity is lowered. Whilst the physical change would be localised, the construction activity would be perceived from other parts of the area, covering land to the south and north of the A66. The combination of the physical change and perception of the construction activity would result in a moderate impact. In relation to the medium sensitivity of the receptor, the effect during the construction phase would be moderate (significant).
- 10.10.279 For the remaining published LCAs and with reference to Appendix 10.5: Schedule of Landscape Effects, the construction activity would not result in significant effects during the construction phase. This is due to the construction activity not being located within these areas or resulting in a very small change to the existing road network or adjacent field patterns,

such that there would be no significant change to the landscape character.

10.10.280 In relation to the West Layton LCA, defined by the Applicant, the construction activity would not be located in the village. The construction would be located in the fields to the south of the village and adjacent to the southern part of Collier Lane. The construction activity would remove the low stone wall and hedgerows and result in excavation and change to surface landform to construct the alignment of the proposed A66 and overbridge. The combination of the changes to the setting of the area and the perception of the construction activity would result in a moderate impact. In relation to the medium sensitivity of the receptor the effect would be moderate (significant).

Construction Visual Effects

10.10.281 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), the construction activity would be visible from close range to the scheme and from across the southern part of the study area, due to existing A66 being located across a valley side and the elevated land across the southern part of the study area. The construction activity would either not be visible from most of the wider northern part of the study area, including from East Layton, due to the undulating landform and vegetation patterns, or at such distance that significant effects are not predicted.

10.10.282 From along Collier Lane, locations in close proximity to the A66, including Fox Hall Inn and Mainsgill Farm shop and to the south of the existing A66, there would be close range views of the excavation, along with the movement of machinery, compounds and compound fencing. The removal of vegetation from adjacent to the existing A66 and the machinery excavating the cutting and implementation of the overbridge would also be visible, including tall lifting equipment for those receptors in proximity to West Layton.

10.10.283 Similarly, from PRow to the east of West Layton and residential properties, there would be close range views of the construction activity to implement the re-aligned A66 across the foreground fields. Views would include the machinery, topsoil stripping and the formation of the embankments along with the removal of vegetation.

10.10.284 From locations along the valley floor, including Ravensworth, tall lifting equipment and cranes constructing the overbridge at West Layton would be visible in the background of the view, whilst the intervening vegetation would screen views of the construction activity to the north of Mainsgill Farm Shop. The construction of the proposed access road to the east of the Farm Shop, extending to Warrener Lane would be visible, along with the associated changes to surface landform, removal of vegetation, machinery, compounds and stockpiles.

10.10.285 From elevated locations across the southern part of the study area, the construction of the overbridge to the south of West Layton, the junction and re-aligned A66 to the north of Mainsgill Farm and the re-alignment

of the existing A66 to form the access road to Warrener Lane would be visible. In addition, the excavation for the access route beneath the dualled section of the proposed A66 and embankments at the eastern end of the Order Limits, including the excavation for the attenuation basins would also be visible. Views of the construction phase would include the removal of vegetation, changes to surface landform, including changes to the tonal colour of the landscape, compounds and the movement of machinery.

10.10.286 At the western end of the scheme, at Carkin Moor Farm and in proximity to Warrener Lane, there would be close range views of the excavation to form the cutting for the route beneath the proposed A66 alignment, which in turn would be on embankment with the construction of the additional lanes visible. The excavation for the attenuation basin and construction of the re-aligned Warrener Lane in the fields to the south of the existing A66 would also be visible, along with the removal of hedgerows and roadside vegetation. The density of the intervening plantations would screen the remainder of the construction activity.

10.10.287 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted for the following receptors at during the construction phase:

- Motorists on Colliers Lane (Viewpoint 9.1), due to the major impact, which in relation to the moderate sensitivity of the receptor would result in a large (significant) effect.
- Recreational users of PRoW (footpath) no.20.55/1/1 (Viewpoint 9.1A) and no.20.23/8/1 (Viewpoint 9.2), due to the major impact, which in relation to the moderate and high sensitivity of the receptors, would result in large and very large (significant) effects.
- Recreational users of PRoW (bridleway) no.20.55/6/4 (Viewpoint 9.4), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a large (significant) effect.
- Recreational users of PRoW (footpath) no.20.39/3/1 (Viewpoint 9.4B), due to the major impact, which in relation to the high sensitivity of the receptor would result in a large (significant) effect.
- Visitors to Mainsgill Farm (Viewpoint 9.5), due to the major impact, which in relation to the low sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRoW (bridleway) 20.23/5/1 (Viewpoint 9.6), due to the major impact, which in relation to the high sensitivity of the receptor would result in a large (significant) effect.
- Recreational users of PRoW (bridleway) 20.33/17/2 (Viewpoint 9.8), due to the major impact, which in relation to the low sensitivity of the receptor, would result in a moderate (significant) effect.
- Recreational users of PRoW (bridleway) 20.30/8/1 (Viewpoint 9.8A), due to the major impact, which in relation to the high sensitivity of the receptor would result in a large (significant) effect.
- Recreational users on PRoW (footpath) 20.32/6/1 (Viewpoint 9.9) and PRoW (footpath) 20.49/10/1 (Viewpoint 9.10) due to the moderate

impact, which in relation to the high sensitivity of the receptors would result in a moderate (significant) effect.

Operation Year 1 (winter)

Year 1 Landscape Effects

- 10.10.288 At year 1 of operation, the scheme would result in additional road infrastructure across the study area, but within or adjacent to an existing road corridor. The scheme would in part follow a similar alignment as the existing A66, with additional road infrastructure between the existing A66 and West Layton, to the north of Mainsgill Bridge and to the south of the existing A66, extending to the realignment of Warrener Lane.
- 10.10.289 The sections of separated west and east bound carriageways would reflect existing parts of the A66 in this part of study area, which are similarly separated by verges.
- 10.10.290 The removal of vegetation would increase the perception of the vehicles on the former A66 and the proposed dualled section of the A66, where the scheme is located on embankment.
- 10.10.291 The overbridge to the south of West Layton would introduce additional structure and massing within the landscape, with vehicles in an elevated position in relation to the existing alignment of the A66 with the associated gradients of the embankments contrasting with the gently undulating landform.
- 10.10.292 In relation to NCA 22, there would be a very small reduction in the existing vegetation within the Order Limits in relation to the extent of vegetation across the NCA. The new planting would consist of mixed scrub and woodland to provide new connectivity between woodlands and linear tree belts within the Order Limits, including around the proposed junction to the north of Mainsgill Bridge and to the south of Carkin Moor Farm. The scheme would respond positively to the Statements of Environmental Opportunity via new woodland planting. Due to the scheme being located within a part of the NCA which is already characterised by the A66, the impact at year 1 would be negligible and, combined with the medium sensitivity of the receptor, the effect would be neutral (not significant).
- 10.10.293 For LLCT B: Moors Fringe, the changes from the scheme would be localised in relation to the wider scale of the LLCT, and within a part of the landscape already characterised by the A66. The impact is therefore assessed as minor. In relation to the high sensitivity of the receptor the effect would be slight (not significant). The effect is reduced from moderate (significant) as the scheme would not diminish the sense of place across the LLCT.
- 10.10.294 Within LLCA B3: East and West Layton Fringe, covering a smaller part of the LLCT, the scheme would result in localised alteration to the gently sloping landform, reduce the tranquillity, reduce the extent of stone walls and established woodland and plantation cover. There would also be localised alteration to the alignment of the minor roads, including Moor

Lane. Due to the localised extent of these changes, the impact is assessed as moderate. In relation to the medium sensitivity of the receptor, the effect is assessed as moderate (significant) at year 1.

- 10.10.295 With reference to ES Appendix 10.5: Schedule of Landscape Effects (Application Document 3.4), for the remaining published LCAs, at year 1 the scheme would not result in significant effects. This is due to the scheme not being located within these areas or resulting in a very small change to the existing road network or adjacent field patterns, such that there would be no significant change to the landscape character.
- 10.10.296 In relation to the West Layton LCA, defined by the Applicant, at year 1, the key characteristics of the clustered settlement pattern, vegetation and building form would remain. The scheme would increase the extent of road infrastructure in the southern setting of the village, with the overbridge forming a new structure of a greater scale and mass in relation to the existing A66, along with an increased perception of the road. The reduction in the stone wall and roadside hedgerows would result in minor impact to the character area. In relation to the medium sensitivity of the character area, the effect at year 1 would be moderate (significant).

Year 1 Visual Effects

- 10.10.297 For close range receptors to the scheme along Collier Lane and PRow to the south of the existing A66, the alignment of the proposed A66 would be in closer proximity to the receptor than the existing A66, although the number of vehicles within the view would be less, due to the existing A66 being made a secondary road and the proposed A66 alignment being in cutting. The overbridge would also be visible, along with vehicles in a more elevated position in the landscape in relation to the receptor's view, forming part of the skyline.
- 10.10.298 For recreational receptors to the north of the scheme, vehicles on the proposed dualled section of the A66 would be visible to the south-west of the receptor due to being on embankment and the slightly elevated position of the receptor. Views would be slightly filtered by the retained intervening field boundary vegetation. Vehicles would also be visible in contrast to fields and no visibility vehicles on the existing A66.
- 10.10.299 In views from the valley floor, vehicles on the proposed access road between Warrener Lane and Mainsgill Farm shop would be visible in addition to vehicles on the A66, along with the alteration to the landform and reduction in the field boundary patterns.
- 10.10.300 From elevated locations across the southern part of the study area, the overbridge at West Layton, the junction to the north of Mainsgill and associated vehicles on the proposed road to Warrener Lane would be visible, which would result in additional road infrastructure within the view in comparison to the west to east alignment of the existing A66. The overbridge and junction would remain below the skyline in the middle ground of the view, enabling views of the ridgeline and churches to remain. Vehicles would also be visible on the proposed access road

to Warrener Lane, being more apparent to the receptor than views of vehicles on the existing A66, in addition to the reduction in woodland, plantations and roadside vegetation.

10.10.301 At the western end of the scheme, vehicles on the proposed A66, Warrener Lane and re-aligned A66 would be visible, in addition to the cutting along PRow (bridleway) 20.30/8/1.

10.10.302 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), significant effects are predicted to the following visual receptors at year 1 of operation:

- Motorists on Colliers Lane (Viewpoint 9.1), due to the moderate impact, which in relation to the moderate sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRow (footpath) no.20.55/1/1 (Viewpoint 9.1A) and no.20.23/8/1 (Viewpoint 9.2), due to the major impact, which in relation to the moderate and high sensitivity of the receptors, would result in a large (significant) effect.
- Recreational users of PRow (bridleway) no.20.55/6/4 (Viewpoint 9.4), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRow (footpath) no.20.39/3/1 (Viewpoint 9.4B), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Visitors to Mainsgill Farm (Viewpoint 9.5), due to the moderate impact, which in relation to the low sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRow (bridleway) 20.23/5/1 (Viewpoint 9.6), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRow (bridleway) 20.30/8/1 (Viewpoint 9.8A), due to the moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.

Operation Year 15 (summer)

Year 15 Landscape Effects

10.10.303 Compared to the year 1 assessment the proposed planting would have established across the Order Limits. This would include woodland adjacent to the embankment sections of the road and cutting to the north of the existing A66, at the junction to the north of Mainsgill Farm and at the interface with the existing dualled section of the retained A66.

10.10.304 With the establishment of this woodland, the scheme would reflect the vegetated character of the existing context and the perception of the scheme, including the cuttings, embankments and the scale and mass of the overbridge would be reduced.

10.10.305 The reduction in the vegetation cover within several of the plantations would remain due to the alignment of the scheme, however the new

planting adjacent to the road alignment would provide new linkages between existing woodlands.

10.10.306 With reference to ES Appendix 10.6: Schedule of Visual Effects (Application Document 3.4), due to the reduced perception of the scheme, which would remain within a part of the published LCAs already crossed by the existing A66, there would be no significant landscape effects at year 15.

Year 15 Visual Effects

10.10.307 The visibility of the scheme would reduce in comparison to the year 1 assessment due to the establishment of the proposed planting, such that it is taller in height than at year 1, and in leaf, like the existing vegetation.

10.10.308 For recreational receptors in proximity to the overbridge to the West Layton, the establishment of the proposed woodland would reduce the visibility of vehicles on the former A66 (and its associated re-alignment) as well as softening views of the overbridge and associated vehicles, although the mass and height of the structure would still be evident to the receptor.

10.10.309 For recreational users to the north of the scheme, the planting would screen views of vehicles on the proposed A66 but also truncate views across the foreground and middle ground of the view, such that the extent of longer distance views would be reduced.

10.10.310 From locations along the valley floor the visibility of the scheme would also reduce due to the combination of the intervening vegetation being in leaf and the establishment of the proposed planting adjacent to the re-aligned A66 and Warrener Lane.

10.10.311 From elevated locations across the southern part of the study area, the visibility of the overbridge to the south of West Layton, the junction to the north of Mainsgill and vehicles on the scheme would reduce overall. Views of vehicles on the re-aligned A66 at the eastern end of the Order Limits which remain visible would reflect existing views of vehicles on the dualled section.

10.10.312 With reference to Appendix 10.6: Schedule of Visual Effects, significant visual effects are predicted to the following visual receptors at year 15:

- Recreational users of PRoW (footpath) no.20.55/1/1 (Viewpoint 9.1A), due to the moderate impact, which in relation to the moderate sensitivity of the receptor would result in a moderate (significant) effect.
- Recreational users of PRoW no.20.23/8/1 (Viewpoint 9.2), due to moderate impact, which in relation to the high sensitivity of the receptor would result in a moderate (significant) effect.

Effects to the Character of the Night Sky

10.10.313 During the construction phase there would be lighting within the construction compounds and across the working areas. This lighting

would be temporary and located within an existing lit context of the A66, West Layton, to west of Moor Lane and to the north of Mainsgill. Therefore, whilst there would be additional glare and very localised light spillage, there would not be an increase in sky glow to alter the baseline environmental lighting zone categories. Therefore, there would be no significant effects from lighting during the construction phase.

- 10.10.314 In operation, the scheme would not alter the baseline environmental lighting zone categories, as there would be no additional lighting. The glare and light spillage from vehicle headlights would be substantially softened by the proposed planting. Therefore, there would be no significant effects from lighting during the operational phases of the scheme.

Effects to the Area of Higher Landscape Value

- 10.10.315 In respect of *NPSNN* paragraph 5.156, the design and assessment of the scheme has been based upon the areas and landscape guidance within the published landscape character assessments which cover this local landscape designation.
- 10.10.316 The Project has been designed carefully to remain along or within close proximity to the existing A66 alignment, so that the siting of the scheme reflects the character of the existing road infrastructure. In combination with the substantial new planting in accordance with the published landscape character assessments, to integrate the scheme and provide additional opportunities for biodiversity, the scheme has avoided and minimised harm to the landscape via reasonable mitigation in accordance with *NSPNN* paragraph 5.157.
- 10.10.317 Due to the above, the scheme is assessed as responding positively to the requirements of the *Durham Local Plan* Policy 39, via conserving the special qualities of the designated landscape.

A1(M) Junction 53 Scotch Corner

Construction

- 10.10.318 Due to the construction activity occurring across an existing road corridor and being localised and small in scale, no significant effects are predicted to landscape and visual receptors.

Operation

- 10.10.319 In operation, the scheme would result in small scale changes within the existing A66 corridor with new road markings and signage, such that no significant effects are predicted to landscape and visual receptors.

Future baseline

In-Combination Climate Impacts

Construction

- 10.10.320 The construction period has been scoped out from the climate resilience assessment because the climate projections suggest only a minimal

change to the climate by the 2020s compared to the 1981-2010 baseline.

Operation

10.10.321 The aim of the In Combination Climate Change Impact review is to understand whether any of the effects identified in the original assessment are exacerbated or reduced by projected future climate change. Effects on the landscape which might change as the result of climate impacts after the construction period are:

- Changes in vegetation due to disease, waterlogging or desiccation.
- Changes in landcover, such as crop types due to changes in climate.
- Smaller or larger water bodies due to climate change.

10.10.322 The design mixes for mitigation planting would be chosen to give a robust, natural effect where moderate changes in climate would not change the effectiveness of the planting.

10.10.323 The Project considers the need for the design to accommodate predicted changes in climate over its lifespan. Drainage improvements will result from construction of the road reducing the contribution of run-off from the road to flooding during extreme weather events. Generally, slopes have been made less steep to blend with the landscape surroundings. This also slows down run-off, preventing scour and channelling.

10.10.324 The following table describe the possible effects of ICCI during the operational stage of the project.

Table 10-8: ICCI assessment for operation likely effects

Effect impacted by climate change	Climate hazard(s)	Impact of climate hazard(s)	Impact on significance of the effect	Embedded mitigation or additional mitigation/enhancement
Landscape and Visual impact	Increase in precipitation and more extreme weather events	Increased precipitation has the potential to increase run off. This, in combination with saturated ground conditions or hydrophobic soils due to dry spells, gives an increased flood risk to construction works and compounds.	Significant run off or flooding could damage existing planting landform or grass cover.	Embedded mitigation in the Project design, such as climate change allowances in the drainage design and addition of flood compensation (as defined by flood modelling). Slackening of slopes to slow down runoff which with an integrated drainage system will mitigate these effects. Early establishment of grass swards will help to retain soils in runoff

Effect impacted by climate change	Climate hazard(s)	Impact of climate hazard(s)	Impact on significance of the effect	Embedded mitigation or additional mitigation/enhancement
				events. Slopes should be seeded as soon as is practicable.
Landscape and Visual impact	Increase in precipitation and more extreme weather events	Changes in rainfall or temperature can have a deleterious effect on planting. Too much rain or too little rain can cause plant deaths.	Changes in landcover may impact the landscape character. Significant tree deaths may reduce the effectiveness of visual screening.	Planting mixes and grass mixes will be selected to provide a robust response to future climate changes. The mixes will ensure that they remain effective whatever expected changes in climate occur.

10.10.325 In combination climate effects are not expected to arise as a result of interaction with operational effects on Landscape and Visual receptors.

Summary of Significant Effects

10.10.326 This chapter provides information on the landscape and visual baseline conditions. It sets out the methodology used to assess the significant effects of the scheme on landscape character, views, and receptors i.e people.

10.10.327 The following tables list the significant effects for landscape and visual receptors at construction, operation year 1 (winter) and operation year 15 (summer).

Table 10-11: Summary of significant effects (construction)

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
M6 Junction to Kemplay Bank					
There are no predicted significant landscape effects					
VP No	1.1	Clifford Road, Penrith	Moderate	Major	Moderate
VP No	1.2	Wetheriggs Country Park, Penrith	High	Major	Large
VP No	1.3	PRoW 321008	Moderate	Major	Large
VP No	2.1	Wetheriggs Country Park, Clifford Road, Penrith	High	Major	Large
VP No	2.2	Wetheriggs Country Park, Clifford Road, Penrith	High	Moderate	Moderate
VP No	2.3	Skirsgill Lane, Penrith	Moderate	Major	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
VP No	2.4	Mayburgh Henge, Penrith	High	Moderate	Moderate
VP No	2.5	Penrith Hospital Footpath	Low	Major	Moderate
VP No	2.6	PRoW 358005	Moderate	Major	Large
Penrith to Temple Sowerby					
LCA	08b	Broad Valleys	Medium	Moderate	Moderate
LCA	10	Sandstone Ridge	Medium	Moderate	Moderate
VP No	3.1	Junction of B6262 and Moor Lane, Brougham Castle	Moderate	Major	Large
VP No	3.4	Junction of PRoW 311013 (bridleway) 31109 (footpath)	Moderate	Moderate	Moderate
VP No	3.5	Minor Road south of High Moss Woodland	Moderate	Major	Large
VP No	3.6	PRoW (footpath) 311004 nr, Center Parcs Whinell Forest	High	Major	Very Large
VP No	3.8	Cliburn Road Ash Hill Cottages	Moderate	Moderate	Moderate
Temple Sowerby to Appleby / Crackenthorpe					
LCA	06	Intermediate Farmland	Medium	Major	Large
LCA	08b	Broad Valleys	Medium	Major	Large
VP No	4.1	Eden Valley Ride cycle route nr. Skygarth Farm	High	Major	Large
VP No	4.2	Priest Lane, Kirkby Thore	Moderate	Major	Large
VP No	4.3	Low Moor Park. A66	Moderate	Major	Large
VP No	4.5	PRoW (footpath) 336017 and 336011 at Kirkby Thore	High	Major	Very Large
VP No	4.7a	Open space near Sanderson Croft	Moderate	Major	Large
VP No	4.8	PRoW (footpath) 36005 Main Street, Kirkby Thore	High	Major	Large
VP No	4.9	Sleastonhow Lane, Kirkby Thore	Low	Major	Moderate
VP No	4.9A	Sleastonhow Farm	Moderate	Major	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
VP No	4.10A	PRoW (footpath) 341017 south-west of Dunelm	Moderate	Major	Large
VP No	4.13	PRoW (Bridleway) 317012 north-east of Crackenthorpe	Moderate	Major	Large
VP No	4.14	PRoW (footpath) 317004 nr. Roman Road (High Street)	High	Major	Very Large
VP No	4.21	PRoW (footpath) 336013 east of Low Abbey Farm	Moderate	Moderate	Moderate
VP No	4.27A	PRoW (bridleway) 336018 South of Hale Grange	Moderate	Major	Large
VP No	4.28A	Long Marton Road east of Powis Cottages	Moderate	Major	Large
Appleby to Brough					
LCA	08b	Broad Valleys	Medium	Moderate	Moderate
LCA	11a	Foothills	High	Moderate	Large
VP No	6.1	Near PRoW (footpath) 372028 north of Café Sixty Six	Moderate	Major	Large
VP No	6.4	B6259 south of the Eden Valley Railway bridge	Low	Major	Moderate
VP No	6.5	Minor road leading to Moor House Farm	Low	Major	Moderate
VP No	6.7	PRoW (footpath) 372021 north of Warcop Training Centre	Moderate	Major	Large
VP No	6.8	Adjacent to Warcop Railway Station entrance	High	Major	Large
VP No	6.9	PRoW (bridleway) 350017 south of Lowgill Beck	Moderate	Major	Large
VP No	6.11a	Adjacent to PRoW 309003 (bridleway) and PRoW (footpath) 309034	Moderate	Major	Large

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
VP No	6.12	PRoW (footpath) 329001 between A66 and Helbeck Road	High	Major	Large
Bowes By-Pass					
BCA		Urban Area Bowes	High	Moderate	Moderate
VP No	7.1A	View from lane (Part of the Pennine Way), west of The Street, looking east	High	Moderate	Moderate
VP No	7.2	View from south of Clint Lane (part of the Pennine Way), looking south	High	Major	Large
VP No	7.2A	View from Clint Lane (part of NCN), looking south	High	Major	Large
VP No	7.3	View from The Street, looking north	Moderate	Major	Large
VP No	7.4	View from PRoW (footpath) no.10, looking north	High	Moderate	Moderate
VP No	7.4A	View from PROW (footpath) at layby on visual threshold	High	Moderate	Moderate
VP No	7.5	View from the A67, adjacent to Black Lodge Farm, looking south-west	Moderate	Major	Moderate
VP No	7.6	View from PRoW (footpath) no.6, looking north-west	High	Major	Large
VP No	7.7	View from The Street, looking north-east	Moderate	Major	Large
VP No	7.7A	View from PRoW (footpath) no.8 adjacent to Mid Low Field Farm, looking north-west	High	Major	Large
VP No	7.7B	View from PRoW (footpath) no.6, looking south	High	Moderate	Large
Cross Lanes to Rokeby					
BCA		Barningham, Brignall and Rokeby	High	Moderate	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
		Rokeby Park RHPG	High	Minor	Moderate
VP No	8.1	View from PRoW (footpath) no.8, looking south	Moderate	Major	Large
VP No	8.1A	View from PRoW (footpath) no.14, looking east	High	Moderate	Moderate
VP No	8.2	View from PRoW (footpath) no.5, looking north	Moderate	Major	Large
VP No	8.4A	View from PRoW (footpath) no.5, within the grounds of the Church of St Mary, looking south	Moderate	Major	Large
VP No	8.8	View from PRoW (footpath) no.6, looking north	Moderate	Major	Large
VP No	8.11	Assessed view from Rokeby Park, looking south-west	High	Moderate	Moderate
VP No	8.12	View from Abbey Road, looking south-west	Low	Major	Moderate
Stephen Bank to Carkin Moor					
LLCA	B3	East and West Layton Fringe	Medium	Moderate	Moderate
		West Layton	Medium	Moderate	Moderate
VP No	9.1	View from Colliers Lane, south of West Layton, looking south	Moderate	Major	Large
VP No	9.1A	View from PRoW (footpath) no.20.55/1/1, looking north	Moderate	Major	Large
VP No	9.2	View from PRoW (bridleway) 20.23/8/1, looking south	High	Major	Very Large
VP No	9.4	View from PRoW (bridleway) 20.55/6/4, looking north	High	Moderate	Large
VP No	9.4B	View from PRoW (footpath) no.20.39/3/1, looking north	High	Major	Large

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
VP No	9.5	View from Mainsgill Farm, looking north-east	Low	Major	Moderate
VP No	9.6	View from PRow (bridleway) 20.23/5/1, looking south	High	Major	Large
VP No	9.8	View from PRow (bridleway) 20.33/17/2, looking north-west	Low	Major	Moderate
VP No	9.8A	View from PRow (bridleway) 20.30/8/1, looking south	High	Major	Large
VP No	9.9	View from PRow (footpath) 20.32/6/1, looking north-east	High	Moderate	Moderate
VP No	9.8A	View from PRow (bridleway) 20.30/8/1, looking south	High	Major	Large
VP No	9.9	View from PRow (footpath) 20.32/6/1, looking north-east	High	Moderate	Moderate
VP No	9.10	View from PRow (footpath) 20.49/10/1, looking north-east	High	Moderate	Moderate

Scotch Corner

There are no significant landscape or visual effects

Table 10-12: Summary of significant effects (operation year 1)

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Year 1)	Significance Year 1
M6 Junction to Kemplay Bank					
There are no predicted significant landscape effects					
VP No	1.2	Wetheriggs Country Park, Penrith	High	Major	Large
VP No	1.3	PRow 321008	Moderate	Moderate	Moderate
VP No	2.1	Wetheriggs Country Park, Clifford Road, Penrith	High	Major	Large
VP No	2.3	Skirsgill Lane, Penrith	Moderate	Moderate	Moderate
Penrith to Temple Sowerby					
There are no predicted significant landscape effects					

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Year 1)	Significance Year 1
VP No	3.1	Junction of B6262 and Moor Lane, Brougham Castle	Moderate	Moderate	Moderate
VP No	3.5	Minor Road south of High Moss Woodland	Moderate	Moderate	Moderate
VP No	3.6	PRoW (footpath) 311004 nr. Center Parcs Whinell Forest	High	Moderate	Moderate
Temple Sowerby to Appleby / Crackenthorpe					
LCA	06	Intermediate Farmland	Medium	Major	Large
LCA	08b	Broad Valleys	Medium	Major	Large
VP No	4.1	Eden Valley Ride cycle route nr. Skygarth Farm	High	Moderate	Large
VP No	4.2	Priest Lane, Kirkby Thore	Moderate	Major	Large
VP No	4.3	Low Moor Park. A66	Moderate	Moderate	Moderate
VP No	4.5	PRoW (footpath) 336017 and 336011 at Kirkby Thore	High	Moderate	Moderate
VP No	4.7a	Open space near Sanderson Croft	Moderate	Moderate	Moderate
VP No	4.8	PRoW (footpath) 36005 Main Street, Kirkby Thore	High	Moderate	Moderate
VP No	4.9A	Sleastonhow Farm	Moderate	Major	Moderate
VP No	4.10A	PRoW (footpath) 341017 south-west of Dunelm	Moderate	Major	Large
VP No	4.13	PRoW (Bridleway) 317012 north-east of Crackenthorpe	Moderate	Major	Large
VP No	4.14	PRoW (footpath) 317004 nr. Roman Road (High Street)	High	Major	Very Large
VP No	4.21	PRoW (footpath) 336013 east of Low Abbey Farm	Moderate	Moderate	Moderate
VP No	4.27A	PRoW (bridleway) 336018 South of Hale Grange	Moderate	Moderate	Moderate
VP No	4.28A	Long Marton Road east of Powis Cottages	Moderate	Moderate	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Year 1)	Significance Year 1
Appleby to Brough					
LCA	08b	Broad Valleys	Medium	Moderate	Moderate
LCA	11a	Foothills	High	Moderate	Moderate
VP No	6.1	Near PRoW (footpath) 372028 north of Café Sixty Six	Moderate	Moderate	Moderate
VP No	6.7	PRoW (footpath) 372021 north of Warcop Training Centre	Moderate	Moderate	Moderate
VP No	6.8	Adjacent to Warcop Railway Station entrance	High	Major	Large
VP No	6.9	PRoW (bridleway) 350017 south of Lowgill Beck	Moderate	Major	Large
VP No	6.11a	Adjacent to PRoW 309003 (bridleway) and PRoW (footpath) 309034	Moderate	Moderate	Moderate
VP No	6.12	PRoW (footpath) 329001 between A66 and Helbeck Road	High	Moderate	Moderate
Bowes By-Pass					
There are no predicted significant landscape effects					
VP No	7.2	View from south of Clint Lane (part of the Pennine Way), looking south	High	Moderate	Moderate
VP No	7.2A	View from Clint Lane (part of NCN), looking south	High	Moderate	Moderate
VP No	7.3	View from The Street, looking north	Moderate	Moderate	Moderate
VP No	7.4	View from PRoW (footpath) no.10, looking north	High	Moderate	Moderate
VP No	7.4A	View from PROW (footpath) at layby on visual threshold	High	Moderate	Moderate
VP No	7.6	View from PRoW (footpath) no.6, looking north-west	High	Moderate	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Year 1)	Significance Year 1
VP No	7.7	View from The Street, looking north-east	Moderate	Major	Large
VP No	7.7A	View from PRoW (footpath) no.8 adjacent to Mid Low Field Farm, looking north-west	High	Moderate	Moderate
VP No	7.7B	View from PRoW (footpath) no.6, looking south	High	Moderate	Moderate
Cross Lanes to Rokeby					
BCA		Barningham, Brignall and Rokeby	High	Moderate	Moderate
VP No	8.1	View from PRoW (footpath) no.8, looking south	Moderate	Major	Large
VP No	8.2	View from PRoW (footpath) no.5, looking north	Moderate	Major	Large
VP No	8.4A	View from PRoW (footpath) no.5, within the grounds of the Church of St Mary, looking south	Moderate	Major	Large
VP No	8.8	View from PRoW (footpath) no.6, looking north	Moderate	Major	Large
Stephen Bank to Carkin Moor					
LLCA	B3	East and West Layton Fringe	Medium	Moderate	Moderate
		West Layton	Medium	Minor	Moderate
VP No	9.1	View from Colliers Lane, south of West Layton, looking south	Moderate	Moderate	Moderate
VP No	9.1A	View from PRoW (footpath) no.20.55/1/1, looking north	Moderate	Major	Large
VP No	9.2	View from PRoW (bridleway) 20.23/8/1, looking south	High	Major	Large
VP No	9.4	View from PRoW (bridleway) 20.55/6/4, looking north	High	Moderate	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Year 1)	Significance Year 1
VP No	9.4B	View from PRoW (footpath) no.20.39/3/1, looking north	High	Moderate	Moderate
VP No	9.5	View from Mainsgill Farm, looking north-east	Low	Moderate	Moderate
VP No	9.6	View from PRoW (bridleway) 20.23/5/1, looking south	High	Moderate	Moderate
VP No	9.8A	View from PRoW (bridleway) 20.30/8/1, looking south	High	Moderate	Moderate
Scotch Corner					
There are no significant landscape or visual effects					

Table 10-7: Summary of residual significant effects (year 15 - summer)

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
M6 Junction to Kemplay Bank					
There are no predicted significant landscape effects					
There are no predicted significant visual effects					
Penrith to Temple Sowerby					
There are no predicted significant landscape effects					
There are no predicted significant visual effects					
Temple Sowerby to Appleby / Crackenthorpe					
There are no predicted significant landscape effects					
VP No	4.2	Priest Lane, Kirkby Thore	Moderate	Moderate	Moderate
VP No	4.10A	PRoW (footpath) 341017 south-west of Dunelm	Moderate	Moderate	Moderate
VP No	4.13	PRoW (Bridleway) 317012 north-east of Crackenthorpe	Moderate	Moderate	Moderate
VP No	4.14	PRoW (footpath) 317004 nr. Roman Road (High Street)	High	Moderate	Large
Appleby to Brough					
There are no predicted significant landscape effects					
VP No	6.8	Adjacent to Warcop Railway Station entrance	High	Moderate	Moderate

Landscape / Visual Receptor			Sensitivity of Receptor	Magnitude of impact (Construction)	Significance Construction Phase
Bowes By-Pass					
There are no predicted significant landscape effects					
VP No	7.7	View from The Street, looking north-east	Moderate	Moderate	Moderate
VP No	7.7B	View from PRow (footpath) no.6, looking south	High	Minor	Moderate
Cross Lanes to Rokeby					
There are no predicted significant landscape effects					
VP No	8.1	View from PRow (footpath) no.8, looking south	Moderate	Major	Large
VP No	8.2	View from PRow (footpath) no.5, looking north	Moderate	Major	Large
VP No	8.4A	View from PRow (footpath) no.5, within the grounds of the Church of St Mary, looking south	Moderate	Major	Large
VP No	8.8	View from PRow (footpath) no.6, looking north	Moderate	Major	Large
Stephen Bank to Carkin Moor					
There are no predicted significant landscape effects					
VP No	9.1A	View from PRow (footpath) no.20.55/1/1, looking north	Moderate	Moderate	Moderate
VP No	9.2	View from PRow (bridleway) 20.23/8/1, looking south	High	Moderate	Moderate
A1(M) Junction 53 Scotch Corner					
There are no significant landscape or visual effects					

Conclusion

10.10.328 Of the 109 landscape character designations assessed across the study area there are predicted to be 11 with significant adverse effects during construction. In year 1 there are predicted to be seven landscape receptors with significant adverse effects. In year 15 there are predicted to be two landscape receptors with significant residual adverse effects. These are both in Scheme 0405 Temple Sowerby to Appleby / Crackenthorpe and are:

- LCA 06 Intermediate Farmland.
- LCA 08b Broad Valleys.

10.10.329 Of the 102 visual receptors assessed across the study area there are predicted to be 65 with significant adverse effects during construction. In year 1 there are predicted to be 47 visual receptors with significant adverse effects. In year 15 there are predicted to be 13 visual receptors with significant residual adverse effects. The distribution of these is as follows:

- Scheme 0405 Temple Sowerby to Appleby / Crackenthorpe - four receptors.
- Scheme 06 Appleby to Brough - one receptor.
- Scheme 07 Bowes Bypass - two receptors.
- Scheme 08 Cross Lanes to Rokeby - four receptors.
- Scheme 09 Stephen Bank to Carkin Moor - two receptors.

10.10.330 Road users are predicted to have a significant adverse effect across all schemes during construction. In year 1 road users are predicted to experience significant effects on Scheme 0405 Temple Sowerby to Appleby / Crackenthorpe. In year 15 it is predicted that there would be no significant effects for road users across all schemes.

10.10.331 *DMRB LA 107* states that “*The effect of a project on the landscape and visual amenity shall be assessed independently and the outcome combined to a single conclusion of the likely significant effect on landscape and visual amenity.*” [Para 2.7] On a scheme-by-scheme basis the combined assessment of significant landscape and visual effects, based on the residual effects is noted in the following table.

Table 10-8 Combined predicted residual effects

Scheme	Combined likely residual effect
M1 Junction 40 to Kemplay Bank	Not significant
Penrith to Temple Sowerby	Not significant
Temple Sowerby to Appleby / Crackenthorpe	Significant
Appleby to Brough	Not significant
Bowes Bypass	Not significant
Cross Lanes to Rokeby	Significant
Stephen Bank to Carkin Moor	Not significant
A1(M) Junction 53 Scotch Corner	Not significant

10.10.332 ES Appendix 10.9 Limits of Deviation (Application Document 3.4) looks at the changes in effect should the LoD's be taken to the limits defined within the DCO and are defined in Chapter 2: The Project. There could be changes to the predicted effects for Temple Sowerby to Appleby / Crackenthorpe where five visual receptors could change from a not significant to significant effect. There could also be a change for scheme 09 Stephen Bank to Carkin Moor, where one visual receptor could

experience a change in predicted effect from slight to moderate, making it significant.

10.10.333 Given the context of the existing road corridor, the nature and scale of the effects and the distribution of the receptors which would retain a residual adverse effect the overall assessment for the Project is minor adverse and therefore not significant.

10.10.334 *DMRB LA107* defines a minor adverse effect as:

"Slight loss or damage to existing landscape character of one (maybe more) key existing features and elements and /or the addition of new uncharacteristic features and elements."

and

"The project, or part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view."

10.11 Monitoring

Route Wide

10.11.1 *DMRB LA 104* states that where significant landscape and visual effects have been identified *"project must undertake proportionate monitoring of associated mitigation measures, in accordance with the EIA Directive."* [Para 5.1]

10.11.2 *DMRB LA 107* states that monitoring *"shall determine the effectiveness of delivery of mitigation measures linked to the landscape or screening commitments agreed as part of the assessment process."* [Para 4.1]

10.11.3 Proposed planting would be monitored every year for the first three years under a normal establishment phase then inspected every five years for the next 15 years, to support successful establishment of landscape mitigation.

10.11.4 It is essential that the proposed planting is monitored and maintained to allow it to establish well and grow to the desired extent and become effective as mitigation during the long-term operation of the new road infrastructure.

10.11.5 A Landscape and Ecological Management Plan (LEMP) has been developed within the Environmental Management Plan (EMP) DCO Document 2.7 which sets out a framework within which the successful establishment of these measures can be managed and ensured.

10.12 References

Highways England (2020) Design Manual for Roads and Bridges LA 107 Landscape and Visual Effects

Highways England (2020) Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring

Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition

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Durham County Council (2020) County Durham Plan.

Richmondshire District Council (2014) Richmondshire Local Plan 2012-2028 Core Strategy

Eden District Council (2010) Core Strategy

Highways England (2018) The Road to Good Design

North Pennines (2019) North Pennines Area of Outstanding Natural Beauty Planning Guidelines

Cumbria County Council (2011) Cumbria Landscape Character Guidance and Toolkit (Part Two)

Landscape Institute (2019) Technical Guidance Note 06/19 Visual Representation of development proposals

Cumbria County Council (2011) Cumbria Landscape Character Guidance and Toolkit

Durham County Council (2008) County Durham Landscape Character Assessment

Chris Blandford Associates (2008) Lake District National Park Landscape Character Assessment and Guidelines

North Pennines AONB Partnership (2019) North Pennines AONB Management Plan

North Yorkshire County Council (2011) North Yorkshire and York Landscape Character Assessment

Natural England: National Character Area profile, Area 9; Eden Valley