



**Haweswater Aqueduct Resilience Programme - Proposed Marl Hill  
Section**

**Environmental Statement**

**Volume 2**

**Chapter 6: Landscape and Arboriculture**

**June 2021**



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## Haweswater Aqueduct Resilience Programme - Proposed Marl Hill Section

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## 6. Landscape and Arboriculture

### 6.1 Introduction

- 1) This chapter presents an assessment of the likely significant effects of the Proposed Marl Hill Section on landscape and visual receptors and arboricultural features.
- 2) The chapter begins by defining the scope of the topic and the assessment areas for the Landscape and Visual Impact Assessment (LVIA), followed by a review of legislation and guidance documents relevant to landscape and arboriculture. The methodology for the assessment is then outlined. The nature, value and sensitivity of the existing baseline environment are then identified before an assessment is made of the potential effects on landscape and visual receptors and arboricultural features for the Proposed Marl Hill Section. Mitigation measures have been proposed to avoid, reduce or offset any potential effects and these embedded mitigation measures have been taken into account in the assessment.
- 3) The arboricultural survey was conducted in accordance with British Standard (BS) 5837:2012 *Trees in relation to design, demolition and construction. Recommendations*<sup>1</sup>, and the findings have informed the landscape assessment reported in this chapter. Full details of survey scope and methodology are detailed in Appendix 6.6: the Arboricultural Impact Assessment (AIA).
- 4) The topics of landscape and visual amenity have been considered individually. The European Landscape Convention<sup>2</sup> defines landscape as '*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*'. Landscape takes its character from a combination of elements, including landform, watercourses, land use and pattern, land cover/vegetation, open space and cultural heritage influences.
- 5) To a large extent, people experience the landscape visually, and the quality of views can affect the quality of life. This assessment addresses potential changes in the quality of existing views, taking into account the extent to which the Proposed Marl Hill Section would be visible from surrounding residential properties, settlements, farms, footpaths and cycleways.
- 6) The assessment areas for the LVIA have been broadly defined by the distance from the Proposed Marl Hill Section within which there may be significant effects on the surrounding landscape or on people's views. These areas incorporate the application site and the wider landscape and visual context. The development of the assessment areas has been supported by computer-generated Zone of Theoretical Visibility (ZTV) mapping, as described in Appendix 6.1 Methodology and illustrated on Figure 6.1 Zone of Theoretical Visibility and Figure 6.2 Representative Viewpoint Locations and Photomontage Locations.
- 7) The ZTV for each assessment area extends out to a distance of 6 km from each compound. These 6 km overarching assessment areas (shown on Figure 6.1) have been further refined, as site appraisal has shown that significant effects are unlikely to be experienced beyond 3 km and, in many situations visibility is limited by intervening topography, buildings and vegetation. Therefore, the baseline for landscape and visual effects has been focussed on a detailed assessment area extending to a distance of 3 km from each compound (shown on Figure 6.1). The assessment has also considered highly sensitive receptors beyond 3 km where there may be views from elevated location, such as within the Forest of Bowland Area of Outstanding Natural Beauty (AONB).
- 8) This chapter is supported by the following technical appendices and figures:
  - Appendix 6.1: Landscape and Visual Impact Assessment Methodology, Zone of Theoretical Visibility Methodology and Photomontage Methodology
  - Appendix 6.2: Landscape Character Baseline

<sup>1</sup> British Standards Institution (2012) *BS5837:2012 Trees in relation to design, demolition and construction. Recommendations*. London, BSI Standards Limited [Accessed January 2020]

<sup>2</sup> Council of Europe (2000) *The European Landscape Convention* [Online] Available from: <https://www.coe.int/en/web/landscape> [Accessed: January 2020]

- Appendix 6.3: Landscape Sensitivity Schedule
- Appendix 6.4: Schedule of Landscape Effects
- Appendix 6.5: Schedule of Visual Effects
- Appendix 6.6: Arboricultural Impact Assessment
- Figure 6.1: Zone of Theoretical Visibility (ZTV)
- Figure 6.2: Representative Viewpoint Locations and Photomontage Locations
- Figure 6.3: Landscape Context
- Figure 6.4: Landscape Character
- Figure 6.5: Tree Constraints and Assessment Plan
- Figure 6.6: Preliminary Trees at Risk Plan
- Figure 6.7: Representative Viewpoint Photos
- Figure 6.8 to Figure 6.10: Representative Viewpoint Photomontages (as per Section 6.2.3).

## **6.2 Scoping and consultations**

### **6.2.1 Scoping**

- 9) The landscape and arboriculture chapter included in the EIA Scoping Report, was submitted to the relevant planning authorities for comment in October 2019. A scoping addendum was submitted in February 2021. Scoping report responses were provided by each of the local authorities and these have been reviewed and the October 2019 Scoping Report responses incorporated into the assessment. Scoping comments and responses are outlined in Appendix 4.1: Schedule of Consultation.

### **6.2.2 Consultation**

- 10) During the course of this assessment, consultation has taken place with relevant statutory and non-statutory consultees, stakeholders and third parties, through both correspondence and face-to-face meetings. This has been summarised in Appendix 4.1. The principle third parties consulted in relation to the landscape have been Ribble Valley Borough Council, Lancashire County Council and the Forest of Bowland AONB management team.
- 11) The methodology and scope of the LVIA has been guided by the responses provided by local authorities to the Scoping Report. The detailed methodology for the LVIA is provided in Appendix 6.1.

### **6.2.3 Photomontages**

- 12) A series of photomontages has been developed to illustrate the likely visual changes arising from the Proposed Marl Hill Section. Publicly accessible locations have been selected with views towards components of the Proposed Marl Hill Section. These are representative of the views experienced by various groups of people, including residents, workers, walkers on footpaths and travellers on local roads.
- 13) The selection of photomontage viewpoints was undertaken in consultation with Ribble Valley Borough Council, Lancashire County Council and the Forest of Bowland AONB. A methodology for the production of the photomontages is provided in Appendix 6.1. The photomontages are shown on Figures 6.8 to 6.10 and their locations on Figure 6.2.
- 14) The locations for the photomontages are:
- A view south from Easington Road and Ribble Valley Public Right of Way (PRoW) FP35 towards Bonstone Compound. Representative viewpoint location T3/35 Easington Road (reference TR04\_01)
  - A view north-west from Slaidburn Road towards Bonstone Compound. Representative viewpoint location T4/05 Slaidburn Road (reference TR04\_02)

- A view north from Cross Lane towards Braddup Compound. Representative viewpoint location T4/19 Cross Lane (reference TR04\_03).

### 6.3 Key Legislation and Guidance

- 15) Table 6.1 sets out key legislation and guidance of relevance to both landscape and visual amenity including arboriculture.

**Table 6.1: Key Legislation and Guidance**

| Applicable Legislation and Guidance   | Description   |
|---|---|
| Countryside and Rights of Way (CRoW) Act 2000 <sup>3</sup>  | <p>The Act makes provision for designating an AONB for the purpose of conserving and enhancing the natural beauty of an area. The CRoW Act also sets out the roles and responsibilities that different organisations must follow to manage AONBs.</p> <p>The CRoW Act also aims to make new provision for public access to the countryside; conserve an area's natural beauty; amend the laws relating to public rights of way, nature conservation and the protection of wildlife; and make provision for purposes connected to the above such as Access Land.</p> |
| National Parks and Access to the Countryside Act 1949 <sup>4</sup>  | <p>An Act to make provision for National Parks and the establishment of a National Parks Commission; to confer on the Nature Conservancy and local authorities powers for the establishment and maintenance of nature reserves; to make further provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country, and to amend the law relating to rights of way; to confer further powers for preserving and enhancing natural beauty; and for matters connected with the purposes aforesaid.</p>        |
| Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990 <sup>5</sup>                           | <p>An Act relating to special controls in respect of buildings and areas of special architectural or historic interest.</p>   |
| Tree Preservation Orders: The Town and Country Planning (Tree Preservation) (England) Regulations 2012 <sup>6</sup> | <p>The Town and Country Planning Act 1990 imposes a duty on authorities by Section 197 of the Act to make Tree Preservation Orders as they think necessary. The Town and Country Planning (Tree Preservation) (England) Regulations 2012 outline the procedures to be followed for the granting of a Tree Preservation Order and protection measures for protected trees.</p>   |

<sup>3</sup> Countryside and Rights of Way Act 2000 *Legislation.gov.uk* [Online] Available from: <http://www.legislation.gov.uk/ukpga/2000/37/contents> [Accessed February 2020]

<sup>4</sup> National Parks and Access to the Countryside Act 1949 *Legislation.gov.uk* [Online] Available from: <http://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97> [Accessed: April 2020]

<sup>5</sup> Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990 *Legislation.gov.uk* [Online] Available from: <http://www.legislation.gov.uk/ukpga/1990/9/contents> [Accessed: April 2020]

<sup>6</sup> The Town and Country Planning (Tree Preservation)(England) Regulations 2012 *Legislation.gov.uk* [Online] Available from: <https://www.legislation.gov.uk/uksi/2012/605/contents/made> [Accessed: April 2020]

| Applicable Legislation and Guidance  | Description  |
|--|--|
| Important Hedgerows: Environment Act 1995 <sup>7</sup> and The Hedgerow Regulations 1997 <sup>8</sup>  | The Hedgerows Regulations 1997 of England and Wales came into effect on 1 June 1997 and is government legislation which falls under the Environment Act 1995. The regulations introduce new arrangements for local planning authorities to protect Important Hedgerows in the countryside, by controlling their removal through a system of notification.                        |
| <i>Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)</i> <sup>9</sup>  | Provides overarching guidance on the assessment of landscape and visual effects.   |
| Arboricultural guidance <i>BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations</i> <sup>10</sup>  | Provides recommendations relating to tree care, with a view to achieving a harmonious and sustainable relationship between new construction/existing structures and their surrounding trees.   |
| The European Landscape Convention (ELC) <sup>11</sup>  | Promotes the protection, management and planning of the landscapes and organises international co-operation on landscape issues.   |
| <i>An Approach to Landscape Character Assessment</i> , published in 2014 by Natural England, <sup>12</sup> is the main source of guidance for Landscape Character Assessment in England. | Set out the process of identifying and describing variation in character of the landscape. Landscape Character Assessment documents identify and explain the unique combination of elements and features that make landscapes distinctive, by mapping and describing character types and areas. They also show how the landscape is perceived, experienced and valued by people. |

- 16) National and local planning policies of relevance to landscape, visual amenity and arboriculture are set out in detail in Chapter 5: Planning Policy and Context. Local planning policies have been included from Ribbles Valley Borough Council.

## 6.4 Assessment Methodology and Assessment Criteria

### 6.4.1 Assessment Methodology

- 17) The methodology used to assess the sensitivity of receptors, magnitude of effects and significance of effects is described here only in outline. A more detailed methodology is provided in Appendix 6.1. The LVIA has been carried out in line with *Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)*, which provides overarching guidance on the assessment of landscape and visual effects.

<sup>7</sup> Environment Act 1995 *Legislation.gov.uk* [Online] Available from <http://www.legislation.gov.uk/ukpga/1995/25> [Accessed: April 2020]

<sup>8</sup> The Hedgerows Regulations 1997 *Legislation.gov.uk* [Online] Available from: <http://www.legislation.gov.uk/uksi/1997/1160/contents/made> [Accessed: february2020]

<sup>9</sup> The Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3)* Abingdon, Routledge

<sup>10</sup> *ibid*

<sup>11</sup> *ibid*

<sup>12</sup> Natural England (2014) *An Approach to Landscape Character Assessment* [Online] Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691184/landscape-character-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf) [Accessed: February 2020]

- 18) Reference has been made to national and local policy documents, relevant British Standards, national guidance and other relevant information in determining the assessment methodology and criteria to be used (see Section 6.3 for further detail).
- 19) The methodology was agreed with relevant stakeholders as outlined above in Section 6.2.2. It recognises the special qualities of the Forest of Bowland AONB and also the influence these special qualities exhibit on adjacent areas.
- 20) The landscape and visual site surveys for the LVIA were undertaken in March and April 2020 (winter survey), with some further survey work undertaken in May and June 2020 (summer survey). The winter surveys were undertaken to establish the baseline for the visual impact assessment, considering the reasonable 'worst case' when there is the least foliage cover on intervening vegetation and therefore the most visibility of the Proposed Marl Hill Section. Some receptors were visited in summer only due to programme and COVID-19 constraints (refer to limitations in Section 6.4).
- 21) In accordance with GLVIA3, a proportionate assessment and the use of representative viewpoints has been adopted, based on the largely temporary nature of the impacts. These are viewpoints that represent a number of localised and similar individual receptors. Therefore, the visual impact assessment does not identify effects on every potential individual receptor, and the number and locations of representative viewpoints are considered appropriate for the nature of likely effects.
- 22) Assessments have been made for a winter's day when vegetation screening is lowest (due to reduced leaf cover) representing the worst case / maximum visibility scenario for each of the Enabling Works, Construction and Commissioning Phases, as well as the Operational Phase (Year 1), immediately following completion of the Commissioning Phase.
- 23) Assessments during the future year (Year 15) have been made for a summer's day reflecting the effect of establishing mitigation planting. This is in line with the standard approach to LVIA for determining residual effects, i.e. those that have been mitigated.
- 24) Vegetation loss arising from the Enabling Works Phase has also been considered during the assessment of construction and operational impacts, as any loss would potentially result in greater visibility of the works associated with the Proposed Marl Hill Section.
- 25) The assessment of the Operational Phase has taken account of the re-established grass sward across the extent of the compounds and access tracks. The assessment of the future year has also taken into account the growth of proposed vegetation i.e. riparian areas, hedgerow field boundaries, individual trees and woodland. For the purposes of assessment, it has been assumed that after 15 years of growth the average height of woodland trees and shrub planting would be 7 - 8 m high; unmanaged hedgerow and shrub planting would be 2 - 3 m high, and individual native trees would be 7 - 8 m high.
- 26) Impacts on landscape elements including topography, hydrology, land use, landscape pattern, settlement pattern and land cover have been considered in the assessment of effects on landscape character.

#### **6.4.2 Assessment Criteria**

- 27) The likely significance of effect on Landscape and Visual receptors has been determined taking into account the value/sensitivity of the baseline environment, and the potential magnitude of change, the assessment criteria for which are set out in Tables 6.2 to 6.5 in the following section. Table 6.6 then provides an illustration of how the significance of effects can be assessed considering both the magnitude of effect and a receptor's sensitivity to that change. For the purposes of this ES, effects of Moderate and above are considered to be significant.
- 28) It is important to note that the tables below present typical criteria only. The assessment of levels of sensitivity, magnitude and/or significance has balanced several conflicting factors and has used professional judgement throughout. These tables aim to provide transparency in the assessment, and the LVIA has provided justification where the assessment may vary with the descriptions set out within these tables.
- 29) Table 6.2 outlines typical criteria that have been used in the evaluation of overall landscape sensitivity.



**Table 6.2: Landscape Sensitivity Criteria**

| Sensitivity | Criteria   |
|-------------|--|
| High        | Landscapes of particularly distinctive character, which are highly valued and considered susceptible to relatively small changes.                                  |
| Medium      | Landscapes of moderately valued characteristics considered reasonably tolerant of change. Some ability to accommodate the proposed development without undue harm. |
| Low         | Landscape of generally low valued characteristics considered potentially tolerant of substantial change.   |

30) The criteria used to help determine the magnitude of landscape effects are shown in Table 6.3 below.

**Table 6.3: Magnitude of Landscape Effects**

| Magnitude  | Criteria   |
|------------|--|
| Major      | <p><b>Size/Scale:</b> substantial change to the key characteristics of the landscape; and/or total loss or substantial change to the existing landscape elements; and/or the addition of major new and uncharacteristic features or components.</p> <p><b>Geographical Extent:</b> effects on a large part of the landscape character area/types; and/or a large proportion of landscape elements/features.</p> <p><b>Duration and Reversibility:</b> introduction of permanent / irreversible change.</p>   |
| Moderate   | <p><b>Size/Scale:</b> noticeable change to the key characteristics of the landscape; and/or partial loss or noticeable change to existing landscape elements; and/or the introduction of moderate new and uncharacteristic features or components.</p> <p><b>Geographical Extent:</b> effects on a moderate part of the landscape character area/types; and/or a notable proportion of landscape elements/features.</p> <p><b>Duration and Reversibility:</b> introduction of long-term / reversible change.</p>                                   |
| Minor      | <p><b>Size/Scale:</b> minor change to the key characteristics of the landscape; and/or minor loss or slight change to existing landscape elements; and/or the introduction of minor new and uncharacteristic features or components.</p> <p><b>Geographical Extent:</b> effects on a small part of the landscape character area/types; and/or a small proportion of landscape elements/features.</p> <p><b>Duration and Reversibility:</b> introduction of medium-term / reversible change.</p>  |
| Negligible | <p><b>Size/Scale:</b> barely perceptible change to the key characteristics of the landscape; and/or minimal loss or barely perceptible change to existing landscape elements; and/or the introduction of barely perceptible new and uncharacteristic features or components.</p> <p><b>Geographical Extent:</b> effects on a negligible part of the landscape character area/types; and/or a very small proportion of landscape elements/features.</p> <p><b>Duration and Reversibility:</b> introduction of a short-term / reversible change.</p> |

31) Table 6.4 outlines the criteria that have been used in the evaluation of overall visual sensitivity.

**Table 6.4: Visual Sensitivity Criteria**

| Sensitivity | Criteria  |
|-------------|---|
| High        | Receptors where the changed view would be of high value and importance and/or where the receptor would notice any change to visual amenity by reason of the nature of use and their expectations. Receptors where the view is important to users would be considered to be of high sensitivity, such as residential or PRoW.                              |
| Medium      | Receptors where the changed view is incidental, but not critical to amenity and/or the nature of the view, is not a primary consideration of the users (receptors where users are likely to spend time outside or participation in an activity looking at the view and industrial receptors that have offices with windows that take advantage of views). |
| Low         | Receptors where the changed view is unimportant and/or users are not sensitive to change (outdoor receptors where users are unlikely to consider the views an important element of their usage of the site would generally be assessed to be of low sensitivity).   |

32) The criteria used to help determine the magnitude of visual effects are shown in Table 6.5 below.

**Table 6.5: Magnitude of Visual Effects**

| Magnitude | Criteria   |
|-----------|--|
| Major     | <p><b>Size/Scale:</b> the project, or a part of it, would become the dominant feature or focal point of the view; and/or total loss or substantial alteration to key characteristics of the view (e.g. the proposals would dominate the view and fundamentally change its character and components); and/or introduction of uncharacteristic features across a large proportion of the view.</p> <p><b>Geographical Extent:</b> the view is available from all or most parts of a specific location; or from the majority of a linear route; and / or is within the direct frame of view; and / or experienced at close proximity from the receptor such that the project would form part of the foreground of the view.</p> <p><b>Duration and Reversibility:</b> introduction of permanent / irreversible change.</p>  |
| Moderate  | <p><b>Size/Scale:</b> the project, or a part of it, would form a noticeable feature or element of the view which would be readily apparent to the receptor (e.g. the proposals are noticeable in the view), affecting its character and altering some of its components and features; and / or partial loss or noticeable alteration to key characteristics of the view; and / or introduction of uncharacteristic features across part of the view.</p> <p><b>Geographical Extent:</b> the view is available from a moderate proportion of a specific location; or from the moderate part of a linear route; and / or is at a slightly oblique angle; and / or experienced at a distance from the receptor such that the project would form part of the middle ground of the view.</p> <p><b>Duration and Reversibility:</b> introduction of long-term / reversible change.</p> |
| Minor     | <p><b>Size/Scale:</b> the project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view; and/or slight loss or alteration to key characteristics of the view; and/or the introduction of uncharacteristic features across a small part of the view.</p> <p><b>Geographical Extent:</b> the view is available from a small proportion of a specific location; or from limited sections of a linear route; and / or is at an oblique angle; and/or experienced at a relatively long distance from the receptor such that the project would form part of the background of the view.</p> <p><b>Duration and Reversibility:</b> introduction of medium-term / reversible change.</p>   |

| Magnitude         | Criteria  |
|-------------------|---|
| <b>Negligible</b> | <p><b>Size/Scale:</b> only a very small part of the project would be discernible; and/or the introduction of features largely characteristic of the view.</p> <p><b>Geographical Extent:</b> the view is available from hardly any part of a specific location; or from a very limited part of a linear route; and / or is at a very oblique angle; and / or experienced at such a distance from the receptor that the project would form a barely noticeable feature or element of the view.</p> <p><b>Duration and Reversibility:</b> introduction of a short-term / reversible change.</p> |

33) The matrix used to help determine the significance of effects is shown in Table 6.6 below.

**Table 6.6: Significance of Effects**

|             |        | Magnitude           |                     |                   |                  |
|-------------|--------|---------------------|---------------------|-------------------|------------------|
|             |        | Negligible          | Minor               | Moderate          | Major            |
| Sensitivity | Low    | Negligible          | Negligible / slight | Slight / moderate | Moderate         |
|             | Medium | Negligible / slight | Slight              | Moderate          | Moderate / major |
|             | High   | Slight              | Slight / moderate   | Moderate / major  | Major            |

**6.4.3 Assumptions and Limitations**

- 34) It was not possible to access all representative viewpoints, for example due to some landowners not agreeing access across land or due to restrictions imposed during the COVID-19 pandemic. Where this was the case, the assessment was carried out from another similar and nearby viewpoint that was accessible. It is not considered that this has affected the findings and conclusions of the assessment, as professional judgement was used to understand the types of views anticipated through an analysis of local topography, vegetation and built form.
- 35) Where representative viewpoints were located close to receptors of varying sensitivities, the receptor with the highest sensitivity has been assessed to represent the worst case where possible. However, it was not always possible to assess views from the receptor with the highest sensitivity because of intervening vegetation and access restrictions. Additional text is included to explain any variance of effect on individual receptors being represented, if needed.
- 36) Late additions to the scope of the Proposed Marl Hill Section and COVID-19 restrictions resulted in some survey work being undertaken in May and June 2020, when partial foliage cover provided some screening of baseline views. It should be noted that through the summer period people would experience some benefits from the filtering effects from vegetation, which would tend to reduce the effects of construction and operation.

**6.4.4 Embedded Mitigation and Good Practice**

- 37) Embedded mitigation is inherent to the design, and good practice measures are standard industry methods and approaches used to manage commonly occurring environmental effects. The assessments presented in Section 6.6 of this chapter are made considering embedded mitigation and the implementation of good practice measures.
- 38) Chapter 3: Design Evolution and Development Description explains the evolution of the design with input from the environmental team, including mitigation workshops and the use of GIS based constraints data. Embedded mitigation measures specific to each phase of the works are set out below.

#### **Embedded Mitigation – Enabling Works Phase**

- Existing hedges and walls would be retained with localised openings created for vehicular access whenever practicable
- Vegetation on the compound boundaries would be retained and protected
- Important landscape features would be retained with buffer zones agreed (e.g. streams, woodland, hedgerows).

#### **Embedded Mitigation – Construction Phase**

- Existing topography would be used where practicable to limit cut and fill and limit topographical changes
- Incremental reinstatement of grasslands, fences and other boundary features, which would be undertaken where practicable and dependent on tunnelling activities
- The valve house buildings would have a natural stone finish to match with the nearby valve house buildings and other surrounding buildings.

#### **Embedded Mitigation – Commissioning Phase**

- Final reinstatement of fences and other boundary features, and grass areas would be undertaken after the completion of the commissioning activities
- Final reinstatement of trees, shrubs and other vegetation after the completion of the commissioning activities
- Trees would be reinstated with a ratio of 3:1 for each tree lost
- Areas identified for habitat creation or habitat reinstatement would be seeded with species rich grass seed mixes. Species rich seed mixes for grasslands to be developed from Phase 1 Habitat data.
- New tree and shrub planting to provide landscape integration and visual screening of the new valve house buildings
- Agricultural land would be returned to the owner or tenant for their productive use as soon as practicable after reinstatement of the work.

#### **Good Practice Measures**

39) Good practice measures are contained in Appendix 3.2: Construction Code of Practice (CCoP). Measures of particular relevance to flood risk are set out below:

- Protection of existing trees, scrub and hedgerows to be retained in accordance with the recommendations in *BS 5837:2012 Trees in Relation to Design, Demolition and Construction. Recommendations*
- The height of topsoil storage mounds would be limited to 3 m to reduce potential visual impact and reduce potential adverse impacts on topsoil quality and the suitability for re-use
- Habitats, trees, shrubs and grasslands would be planted, seeded and established by appropriate aftercare including replacement of dead/dying individual plants in line with requirements set out and agreed with the relevant Local Planning Authority
- The Contractor would be required to return agricultural land to the owner or tenant for their productive use as soon as practicable after reinstatement of the works.

40) As explained in Section 6.4.4, the assessment of effects in Sections 6.6 to 6.8 takes into account the application of both embedded mitigation and good practice measures, which have been developed iteratively as part of the EIA process, informed by the findings of the landscape and visual assessment. These measures are considered to provide appropriate mitigation for potential effects on landscape character and visual amenity, and no further topic-specific essential mitigation is therefore required.

## 6.5 Baseline Conditions

- 41) This section details the landscape baseline for the assessment areas and identifies receptors where there is potential for significant effects to arise. The Proposed Marl Hill Section is entirely within the Forest of Bowland AONB. As described in Section 6.1, the detailed assessment area for the landscape discipline extends 3 km from the Proposed Marl Hill Section compounds. The Braddup Compound is located within extensive, undulating, lowland farmland, which rises very gently north towards the moorland hills and Waddington Fell. The Bonstone Compound is located within a moorland fringe area, which is influenced by undulating, lowland farmland and the Hodder valley, and even more so by the surrounding steeply rising moorland hills.
- 42) Sheep farming is the predominant land use. Settlements are located within lower elevations and comprise rural villages such as Newton-in-Bowland in the north and Waddington in the south. Individual and isolated farms and residential properties are common to both areas.
- 43) Baseline data was collated from a variety of sources in compiling this assessment, including:
- Field surveys undertaken between March and June 2020
  - Aerial photography
  - Online resources listed in Table 6.7.

### 6.5.1 Information Sources

- 44) The assessment was undertaken with reference to the sources detailed in Table 6.7.

**Table 6.7: Key Information Sources**

| Data Source  | Reference   |
|--|---|
| MAGIC website. This data source provided information on sensitive national designations that fall within the Proposed Marl Hill Section.   | <a href="https://magic.defra.gov.uk/MagicMap.aspx">https://magic.defra.gov.uk/MagicMap.aspx</a>   |
| The National Character Area (NCA) profiles, published in 2014 by Natural England. <sup>13</sup> NCAs divide England into 159 distinct natural areas. Each area is defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries. | <a href="https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles">https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles</a> |
| <i>A Landscape Strategy for Lancashire</i> <sup>14</sup> provides a county-level landscape character assessment for Lancashire, dividing the county into a series of Landscape Character Types (LCTs) and Landscape Character Areas (LCAs).  | <a href="https://www.lancashire.gov.uk/council/strategies-policies-plans/environmental/landscape-strategy/">https://www.lancashire.gov.uk/council/strategies-policies-plans/environmental/landscape-strategy/</a>   |
| The <i>Forest of Bowland AONB Landscape Character Assessment</i> <sup>15</sup> provides a local-level assessment of the Forest of Bowland's landscape. It divides the landscape into a series of LCTs and LCAs.  | <a href="https://www.forestofbowland.com/Landscape-Character-Assessment">https://www.forestofbowland.com/Landscape-Character-Assessment</a>   |
| The Ribble Valley Borough Council website provides maps of local Conservation Areas.   | <a href="https://www.ribblevalley.gov.uk/info/200359/conservation_countryside_and_listed_buildings/908/conservation_areas">https://www.ribblevalley.gov.uk/info/200359/conservation_countryside_and_listed_buildings/908/conservation_areas</a>   |

<sup>13</sup> Natural England (2014) *National Character Area profiles* [Online] Available from: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles> [Accessed: January 2020]

<sup>14</sup> Lancashire County Council (2000) *A Landscape Strategy for Lancashire* [Online] Available from: <https://www.lancashire.gov.uk/council/strategies-policies-plans/environmental/landscape-strategy/> [Accessed: March 2020].

<sup>15</sup> Lancashire County Council (2009) *Forest of Bowland AONB Landscape Character Assessment* [Online] Available from: <https://www.forestofbowland.com/Landscape-Character-Assessment> [Accessed: March 2020].

| Data Source  | Reference   |
|--|---|
| The Sustrans website provides details of National Cycle Network (NCN) routes.  | <a href="https://www.sustrans.org.uk/find-a-route-on-the-national-cycle-network/?location=null&amp;routetype=null&amp;distance=null">https://www.sustrans.org.uk/find-a-route-on-the-national-cycle-network/?location=null&amp;routetype=null&amp;distance=null</a> |
| The Long Distance Walkers Association website provides details of the North Bowland Traverse, Tops of the North (Three Shire Heads to Carlisle), the Pendle Witches Way and the Hodder Way long distance footpaths.  | <a href="https://ldwa.org.uk/ldp/public/ldp_public_home.php">https://ldwa.org.uk/ldp/public/ldp_public_home.php</a>   |
| CPRE, The Countryside Charity, Tranquillity mapping <sup>16</sup> and mapping of England's light pollution and dark skies. <sup>17</sup> CPRE have produced tranquillity mapping, which shows the intrusions into the countryside by features that have had an impact both visually and audibly, such as road, railways, and urban areas. CPRE have also mapped England's light pollution and dark skies noting the 'tranquillity' of dark skies and their importance "including limiting impacts on intrinsically dark landscapes and nature conservation". | <a href="https://www.cpre.org.uk/what-we-care-about/nature-and-landscapes/">https://www.cpre.org.uk/what-we-care-about/nature-and-landscapes/</a>   |
| The <i>Forest of Bowland AONB Management Plan 2019 – 2024</i> <sup>18</sup> provides the reasoning behind the designation, the special qualities of the AONB and policies for management.  | <a href="https://www.forestofbowland.com/files/images/FOB%20ManPlan0719bLoRes.pdf">https://www.forestofbowland.com/files/images/FOB%20ManPlan0719bLoRes.pdf</a>   |
| The Forest of Bowland AONB website provides details of stargazing and 'Dark Sky Discovery Sites'.  | <a href="https://www.forestofbowland.com/star-gazing">https://www.forestofbowland.com/star-gazing</a>   |

### 6.5.2 Landscape Designations

- 45) The following paragraphs set out landscape designations and any other relevant designations within each assessment area. Refer to Figure 6.4 Landscape Context. The LVIA considers ecological and heritage designations in terms of their contribution to the sensitivity/value of the landscape. In addition, heritage assets have influenced the selection of representative viewpoints in accordance with GLVIA3. Further information on ecological designations such as Sites of Special Scientific Interest (SSSI), Ramsar Sites and National Nature Reserves (NNR) can be found within Chapter 8: Ecology, and further information on heritage designations can be found within Chapter 10: Cultural Heritage.
- 46) The Proposed Marl Hill Section is within the Forest of Bowland AONB. AONBs are designated and protected under the National Parks and Access to the Countryside Act 1949.<sup>19</sup> Their protection is further enhanced by the CRoW Act 2000.<sup>20</sup> Designation as an AONB gives formal recognition of the national importance of the landscape, and a high level of development constraint. The primary statutory purposes of the designation, as set out in the CRoW Act 2000, is to conserve and enhance the natural beauty. There are two secondary aims: meeting the need for quiet enjoyment of the countryside and having regard for the interests of those who live and work there.
- 47) The *Forest of Bowland AONB Management Plan* highlights several attributes that contribute to its outstanding natural beauty, including:
- The grandeur and isolation of the upland core

<sup>16</sup> Campaign for the Protection of Rural England (CPRE) (2007) *Nature and Landscape: Tranquillity Places* [Online] Available from: <https://www.cpre.org.uk/what-we-care-about/nature-and-landscapes/> [Accessed: February 2020]

<sup>17</sup> Campaign for the Protection of Rural England (CPRE) (2016) *Nature and Landscape: Dark Skies*. [Online] Available from: <https://www.cpre.org.uk/what-we-care-about/nature-and-landscapes/> [Accessed: February 2020]

<sup>18</sup> The Forest of Bowland AONB Unit (2019) *Forest of Bowland AONB Management Plan 2019 - 2024* [Online] Available from: <https://www.forestofbowland.com/files/images/FOB%20ManPlan0719bLoRes.pdf> [Accessed: July 2020]

<sup>19</sup> *Legislation.gov.uk op. cit.*

<sup>20</sup> *Legislation.gov.uk op. cit.*



- The serenity and tranquillity of the area
- The distinctive pattern of settlements
- The wildlife and the landscape's historic and cultural associations.

48) The *Forest of Bowland AONB Management Plan* also lists special qualities of relevance to the landscape:

- An outstanding landscape
- Wild open spaces
- A special place for wildlife
- A landscape rich in heritage
- A living landscape
- A place to enjoy and keep special.

49) Other designations relevant to landscape are summarised below and described in more detail in subsequent baseline sections.

- There are Conservation Areas present at Newton-in-Bowland and Waddington
- Registered Common Land and Access Land is present across the upper slopes and plateaux of Marl Hill, Waddington Fell, Easington Fell and Birkett Fell
- There are pockets of Ancient Woodland along stream valleys between Marl Hill and Waddington and within the River Hodder valley.

### 6.5.3 Landscape context

50) The Proposed Marl Hill Section comprises two detailed assessment areas (shown on Figure 6.1), which are located at the southern extent of the Forest of Bowland AONB and near Newton-in-Bowland and Waddington (shown on Figure 6.3).

#### **Bonstone Compound**

51) The assessment area is defined by the elevated Bowland fells of Standridge Hill, Birkett Fell and Crag Stones to the south and lowland farmland within the River Hodder valley to the north. The varied topography ranges from approximately 130 m Above Ordnance Datum (AOD) along the river valley to 340 m AOD at Standridge Hill. There are extensive views from these elevated areas across the lowland valley, with the hills providing a scenic backdrop to views from within the valley. Refer to Figure 6.4 Landscape Context.

52) The main settlement in the assessment area is Newton-in-Bowland on the banks of the River Hodder, which is connected to other small settlements such as Slaidburn, Dunsop Bridge and Waddington via a network of minor roads such as the B6478. Traffic noise has little influence on the tranquillity of the surrounding countryside. Away from the settlements are isolated farmsteads and building groups. There are few visual detractors noticeable in the landscape, such as pylons and overhead lines.

53) The valley landscape is well vegetated with hedgerows, hedgerow trees and small woodland blocks, which often extend up the valley sides along stream valleys. There are frequent trees along the River Hodder and dispersed, small areas of Ancient Woodland. The hill tops are more open in character, with areas of acid grassland, heathland and blanket bog.

54) There are numerous public footpaths connecting settlements with the surrounding countryside and areas of Access Land at Birkett Fell and Easington Fell. There are also three long-distance footpaths within the assessment area including the Tops of the North, the Pendle Witches Way and the Hodder Way. The Tops of the North route runs from Standridge Hill towards Easington, before turning east towards Slaidburn. The Pendle Witches Way crosses the south-western part of the assessment area between Marl Hill and Dunsop Bridge. The Hodder Way follows the River Hodder and passes through Newton-in-Bowland.

- 55) Ashnott lead mine and lime kiln is a Scheduled Monument located approximately 1 km to the south-west of Bonstone Compound. Newton-in-Bowland Conservation Area includes the village and extends to the River Hodder. There are a number of Listed Buildings in the village including the Grade II\* Listed Newton Hall. There are also Listed Buildings of cultural heritage importance within the rural landscape including a Grade II farm building near Storth Farm, which is 150 m north of the Bonstone Compound.

#### **Braddup Compound**

- 56) The assessment area comprises the very gently rising topography between Waddington village in the valley of the River Ribble and the Bowland Fells including Cabin Hill, Duckpit Hill and Marl Hill. The undulating topography ranges from approximately 80 m AOD near Waddington to 311 m AOD at Marl Hill. The elevated fells have extensive views across the surrounding uplands and Pendle Hill, and towards isolated farmsteads and settlements on the slopes below. Conversely, the elevated fells provide a scenic backdrop to views from within the River Ribble valley. Refer to Figure 6.4 Landscape Character.
- 57) Waddington is the main settlement within the assessment area, with Clitheroe and West Bradford situated just outside the assessment area to the south and east. Elsewhere, settlement is limited to isolated farmsteads and residential properties across the lower slopes of the Bowland fells and within the River Ribble valley. A network of local roads links properties and settlements; however, traffic noise has limited influence on local tranquillity. Waddington Fell Quarry is a noticeable visual detractor in the landscape and there are some glimpsed views south towards industry in Clitheroe.
- 58) The undulating valley landscape is well vegetated with hedgerows, hedgerow trees, woodland blocks and large plantations. Some of the woodland blocks along the stream valleys draining south towards the River Ribble are designated as Ancient Woodland. At higher elevations, the predominant vegetation types are acid grassland, heathland and blanket bog.
- 59) Several PRoW cross the assessment area linking Waddington, West Bradford and Clitheroe with the surrounding countryside and Access Land at Marl Hill, Waddington Fell and Easington Fell. There are also two long-distance footpaths within the assessment area including the Tops of the North, the Pendle Witches Way and the Hodder Way. The Pendle Witches Way crosses the south-western part of the assessment area between Clitheroe and Bashall Eaves. The Hodder Way follows the River Hodder at the south-western edge of the assessment area. NCN route 90 runs along a minor road between the River Hodder, Waddington and West Bradford.
- 60) Undesignated designed landscapes are present within the assessment area including gardens at Browsholme Hall in the 'picturesque' style. Waddington village is designated as a Conservation Area and contains Listed Buildings such as the Grade II Waddington Old Hall and Grade II\* Church of St Helen. Other Listed Buildings in the wider rural landscape include the Grade II Braddup House and associated farm building and Thornber, both of which are within 300 m of the Braddup Compound.

#### **6.5.4 Landscape Character**

- 61) The following text summarises landscape character within the assessment area based on information from published national, county and district-level landscape character assessments. Further information can be found in Appendix 6.2: Landscape Character Baseline and Figure 6.4 Landscape Character.
- 62) Landscapes that would experience a 'negligible' or 'no change' effect have been excluded from the baseline text below.

#### **National Character Areas**

- 63) The national-level landscape character assessment subdivides England into a series of 159 distinct National Character Areas (NCAs). A brief summary of the NCAs relevant to the assessment area is provided below. For full details of the key characteristics of the NCAs associated with the assessment area, refer to Appendix 6.2: Landscape Baseline and Figure 6.4 Landscape Character.



- 64) The assessment areas are covered by NCA 33. Bowland Fringe and Pendle Hill<sup>21</sup> and NCA 34. Bowland Fells.<sup>22</sup>
- 65) NCA 33. Bowland Fringe and Pendle Hill is a transitional landscape encircling the upland core of the Bowland Fells. Over half the area contributes to the Forest of Bowland AONB. It comprises herb-rich hay meadows, lush pastures, broadleaved woodland, parkland and waterbodies, with numerous river valleys and associated woodlands. Over time, the area has been changed by human habitation and activity, including its long farming history. It includes the urban areas of Clitheroe, Bentham and Longridge that contrast with the predominantly rural feel of the area.
- 66) NCA 34. Bowland Fells is a distinctive upland block on the boundary between north Lancashire and the Yorkshire Dales. It is located within the Forest of Bowland AONB and contains important areas of moorland designated as Special Protection Areas. The overall landscape is generally wild and windswept, with steep escarpments, upland pasture and expansive open moorland. Blanket bog and peat soils of fells are important for water storage and carbon storage, and there are also a large number of important waterbodies throughout the area. High-quality species-rich meadows can be found in the limestone areas to the east and extensive conifer plantations to the south-east and east.
- 67) Due to their broad geographical coverage effects on the landscape character of the NCAs have been considered as part of the assessment of the county- and district-level LCAs described below, as the LCAs more related to the scale and extent of the landscape character in the assessment area.

#### **County- and District-Level Landscape Character Assessments**

- 68) Landscape character assessments identify and describe the elements and features that make landscapes distinctive by mapping and describing character areas and/or types.
- 69) At the county and district-level, the assessment areas are covered by the published landscape character assessments listed below. These assessments divide the county or district-level landscape into a series of smaller and recognisable units of character described as Landscape Character Types (LCTs) and/or Landscape Character Areas (LCAs).
- 70) LCTs are typically more uniform units of landscape with a distinct and recognisable pattern of elements that occur consistently throughout the LCT. They provide a spatial framework for landscape character and can occur in more than one geographical location. LCAs are more place-specific and generally only occur in one distinct geographical location. LCTs often include a number of distinct LCAs. LCTs have been excluded from this assessment due to their broader geographical extent and occurrence across multiple geographical locations. They have been listed below for reference only.
- 71) The extent to which the published documents are representative of the assessment areas has also been considered as part of a desk study and field survey conducted in 2020. The description of the LCAs are consistent with judgements made during site surveys and appropriate for the assessment of landscape effects.
- 72) A list of the relevant LCTs and LCAs within the assessment areas is provided in the sections below. For full details of the relevant units of character associated with the assessment areas, refer to Appendix 6.2: Landscape Baseline and Figure 6.4 Landscape Character.

#### **A Landscape Strategy for Lancashire**

- 73) *A Landscape Strategy for Lancashire*<sup>23</sup> provides a county-level landscape character assessment for Lancashire, dividing the county into a series of LCTs and LCAs.

<sup>21</sup> Natural England (2013) *National Character Area Profile: 33. Bowland Fringe and Pendle Hill* [Online] Available from: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles> [Accessed: March 2020]

<sup>22</sup> Natural England (2013) *National Character Area Profile: 34. Bowland Fells* [Online] Available from: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles> [Accessed: March 2020]

<sup>23</sup> Lancashire County Council (2000) *op. cit.*

- 74) The assessment area is covered by the following LCTs and LCAs:
- 02. Moorland Hills LCT and 2d. Waddington Fell LCA
  - 04. Moorland Fringe LCT and 4d. Bowland Gritstone Fringes LCA
  - 04. Moorland Fringe LCT and 4e. Bowland Limestone Fringes LCA
  - 05. Undulating Lowland Farmland LCT and 5a. Upper Hodder Valley LCA
  - 05. Undulating Lowland Farmland LCT and 5b. Lower Hodder and Loud Valley LCA
  - 05. Undulating Lowland Farmland LCT and 5g. South Bowland Fringes LCA
  - 14. Rolling Upland Farmland LCT 14a. Slaidburn-Giggleswick LCA.

**Forest of Bowland AONB Landscape Character Assessment**

- 75) The *Forest of Bowland AONB Landscape Character Assessment*<sup>24</sup> provides a local-level assessment of the Forest of Bowland’s landscape. It divides the landscape into a series of LCTs and LCAs.
- 76) The assessment area is covered by the following LCTs and LCAs:
- C. Enclosed Moorland Hills LCT and C3. Easington LCA
  - C. Enclosed Moorland Hills LCT and C9. Newton and Birkett LCA
  - D. Moorland Fringe LCT and D5. Beatrix to Collyholme LCA
  - D. Moorland Fringe LCT and D7. Moorcock LCA
  - F. Undulating Lowland Farmland with Wooded Brooks LCT and F2. Bolton by Bowland to Waddington LCA
  - G. Undulating Lowland Farmland with Parkland LCT and G3. Upper Hodder LCA
  - G. Undulating Lowland Farmland with Parkland LCT and G7. Browsholme LCA.

**6.5.5 Landscape Sensitivity**

77) To assess the significance of landscape effects on key landscape receptors, an evaluation has been made of their sensitivity to the changes that would be likely to arise from the Proposed Marl Hill Section. This has been determined by combining judgements on their susceptibility to change and the value attached to the landscape using the criteria outlined in Table 6.2 and Appendix 6.1: Landscape Methodology. The overall assessment of sensitivity of the landscape receptors is described in Appendix 6.3: Landscape Sensitivity Schedule and has been determined using professional judgement. A summary of the sensitivity of landscape receptors is shown in Table 6.8 below.

**Table 6.8: Evaluation of Landscape Sensitivity**

| Landscape Receptor                   | Value | Susceptibility | Sensitivity |
|--------------------------------------|-------|----------------|-------------|
| 2d. Waddington Fell LCA              | High  | High           | High        |
| 4d. Bowland Gritstone Fringes LCA    | High  | High           | High        |
| 4e. Bowland Limestone Fringes LCA    | High  | High           | High        |
| 5a. Upper Hodder Valley LCA          | High  | High           | High        |
| 5b. Lower Hodder and Loud Valley LCA | High  | High           | High        |
| 5g. South Bowland Fringes LCA        | High  | High           | High        |
| 14a. Slaidburn-Giggleswick LCA       | High  | High           | High        |

<sup>24</sup> Lancashire County Council (2009) *op. cit.*

| Landscape Receptor                      | Value | Susceptibility | Sensitivity |
|---|-------|----------------|-------------|
| C3. Easington LCA                       | High  | High           | High        |
| C9. Newton and Birkett LCA              | High  | High           | High        |
| D5. Beatrix to Collyholme LCA           | High  | High           | High        |
| D7. Moorcock LCA                        | High  | Medium         | High        |
| F2. Bolton by Bowland to Waddington LCA | High  | Medium         | High        |
| G3. Upper Hodder LCA                    | High  | High           | High        |
| G7. Browsholme LCA                      | High  | Medium         | High        |

### 6.5.6 Tranquillity

- 78) CPRE have undertaken a study of tranquillity in England and have mapped and published the results. Tranquillity is one of the most important qualities by which people judge their environment. Tranquil area maps show places that are 'disturbed' and 'undisturbed' by noise and visual intrusion from urban areas (towns and cities) and other major infrastructure such as traffic (road, rail and airports), power stations, pylons and power lines.
- 79) There are high levels of tranquillity within the Forest of Bowland AONB relative to many other parts of England, with slightly lower levels along minor roads due to associated traffic noise. The Proposed Marl Hill Section is located within this rural AONB, with few or no influences that would detract from the high levels of tranquillity.

### 6.5.7 Woodland and Hedgerows

- 80) An Arboricultural Impact Assessment (AIA), Appendix 6.6, and including Figure 6.5 Tree Constraints Plan and Figure 6.6 Preliminary Trees at Risk, has been undertaken to assess the potential impact on trees and the report findings have been taken into account in the assessment of landscape character. *BS 5837:2012 Trees in relation to design, demolition and construction Recommendations* (British Standards Institution, 2012)<sup>25</sup> sets out the need to assess the effects of a development on trees. The tree survey was undertaken by arboriculturists to record information about trees within 15 m of the Planning Application boundary. The AIA also refers to any Tree Preservation Orders present within the assessment area.
- 81) Notable trees are defined as prominent trees within the landscape and by nature will generally be the larger more mature specimens. Notable trees were assessed as Category A and B trees during the arboricultural survey, using the grading definitions within British Standard 5837:2012. A precautionary approach was taken to the identification of notable trees where surveyed as tree groups and woodlands, in that not every tree within the group may be notable.
- 82) Chapter 6 of GLVIA3 sets out how the visual baseline should be established for the purposes of an LVIA. This includes determining:
- The area within which the Proposed Marl Hill Section may be visible
  - People who may experience views of the development
  - Viewpoints where people may be affected
  - The nature of the view at the viewpoints.

<sup>25</sup> British Standards Institution *op. cit.*

### Extent of Visibility

- 83) The potential extent of visibility of the Proposed Marl Hill Section has been determined for each of the compounds through a combination of digital ZTV mapping, desk study and field survey. Firstly, a ZTV was created using GIS software to determine theoretical visibility within a 6 km area for a 45 m high crane jib located at each compound (refer to Appendix 6.1 for methodology). The crane jib is anticipated to be the tallest piece of construction plant that would be present for the duration of the works in the compounds. The ZTV is based on a 'bare earth' scenario, which represents the worst-case extent of visibility. Only limited reliance can therefore be placed on the ZTVs and further refinement was undertaken as described below. The ZTVs are shown on Figure 6.1.
- 84) Further refinement of the ZTVs was undertaken through desk study and field survey work to determine potential screening features such as vegetation and buildings. OS mapping, aerial photographs and Google Street View were used to locate these features, as well as the locations of people who may experience views of the development by identifying a series of representative viewpoints. Field survey work was then undertaken to review the potential screening features and to visit each representative viewpoint to more accurately confirm the extent of visibility and the potential for significant effects. As a result, it was determined that a distance of 3 km from the Proposed Marl Hill Section captured the areas of greatest visibility and those visual receptors likely to be significantly affected.

### Representative Viewpoints

- 85) As described above, a series of representative viewpoints were identified using the ZTVs, OS mapping, aerial photographs and Google Street View as a guide. These representative viewpoint locations and the extent of the detailed 3 km assessment area were then agreed with the local planning authority officers at Lancashire County Council, Ribble Valley Borough Council and within the Forest of Bowland AONB management team during a meeting on the 7 July 2020.
- 86) Representative viewpoints relevant to each proposed compound are identified in Table 6.9 and shown on Figure 6.2 and Figure 6.7 Photosheets. Greater detail on the representative viewpoints, the associated visual receptors and the nature of existing views is presented in Appendix 6.5: Visual Assessment Schedules, with a summary of the nature of existing views provided in the section below.

**Table 6.9: Representative Viewpoints for the Proposed Marl Hill Section**

| Representative Viewpoint Number   | Location   | Receptor Group               | Sensitivity |
|-----------------------------------|--|------------------------------|-------------|
| Bonstone Compound assessment area |  |                              |             |
| T4/01                             | Wyndfell Farm, Slaidburn Road                        | Residential and transient    | High        |
| T4/02                             | Ribble Valley FP 43                                  | Recreational                 | High        |
| T4/03                             | Newlaithe Farm, Ribble Valley FP 43                  | Residential and recreational | High        |
| T4/04                             | Ing Barn, Easington Road                             | Residential and transient    | High        |
| T4/05                             | Slaidburn Road                                       | Transient                    | High        |
| T3/23                             | Ribble Valley FP 9                                   | Recreational                 | High        |
| T3/24                             | Crawshaw Farm, Ribble Valley FP 11                   | Residential, recreational    | High        |
| T3/28                             | Newton settlement edge, Newton Road to Dunsop Bridge | Residential, transient       | High        |

| Representative Viewpoint Number         | Location   | Receptor Group                       | Sensitivity |
|---|--|--------------------------------------|-------------|
| T3/29                                   | The Heaning (Farm), Ribble Valley FP 15  | Recreational                         | High        |
| T3/30                                   | Fober Farm, Dunsop Road  | Residential, transient               | High        |
| T3/32                                   | The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network  | Recreational                         | High        |
| T3/33                                   | The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network  | Recreational                         | High        |
| T3/34                                   | Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network  | Residential, recreational            | High        |
| T3/35                                   | Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road | Residential, recreational, transient | High        |
| T3/36                                   | The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill  | Recreational, transient              | High        |
| T3/40                                   | Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18  | Residential, recreational            | High        |
| T3/43                                   | Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network                             | Recreational                         | High        |
| T3/44                                   | Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network                             | Recreational                         | High        |
| <b>Braddup Compound assessment area</b> |  |                                      |             |
| T4/06                                   | Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road  | Residential, recreational, transient | High        |
| T4/07                                   | Surrounding residential properties near Hodgesons Moor   | Residential                          | High        |
| T4/07a                                  | North Bowland Traverse Long distance path, Lancaster PRoW FP22, FP23 and FP44, Park House Lane   | Recreational, transient              |             |
| T4/08                                   | Daisy Hill Farm, Ribble Valley Bridleway BW 1, FP1, FP 2,  | Residential, recreational            | High        |
| T4/09                                   | Ribble Valley FP 3   | Recreational                         | High        |
| T4/10                                   | Ribble Valley FP 3   | Recreational                         | High        |
| T4/11                                   | Ribble Valley Bridleway BW 1   | Recreational                         | High        |
| T4/12                                   | Ribble Valley FP 9   | Recreational                         | High        |
| T4/13                                   | Bookies Farm   | Residential                          | High        |
| T4/14                                   | Ravelston House, Cross Lane  | Residential, transient               | High        |

| Representative Viewpoint Number | Location   | Receptor Group            | Sensitivity |
|---------------------------------|--|---------------------------|-------------|
| T4/15                           | Colthurst bungalow, Oak Cottage, Cross Lane          | Residential, transient    | High        |
| T4/16                           | Cross Lane   | Transient                 | High        |
| T4/17                           | Colthurst Farm and surrounding residential receptors | Residential, transient    | High        |
| T4/18                           | Braddup House Farm, Grade II Listed, Peter Barn      | Residential, recreational | High        |
| T4/19                           | Cross Lane   | Transient                 | High        |
| T4/20                           | Braddup Farm, Ribble Valley FP 3                     | Residential, recreational | High        |

#### Nature of Existing Views at Bonstone Compound

- 87) The rural landscape rises from the River Hodder valley to the Bowland Fells including Burn Fell in the north, and Easington Fell, Standridge Hill and Crag Stones in the south. Areas of Access Land are located on the higher elevations, which have elevated and unobstructed long-distance views towards the surrounding fells and across the River Hodder valley below. Views from within Newton-in-Bowland along the River Hodder valley are mostly contained by surrounding buildings and vegetation, although the rising high fells to the south are apparent. Views from the western edge of the village are more open, allowing views to the nearby River Hodder vegetation along its banks.
- 88) Views from the network of footpaths, including the Tops of the North (Three Shire Heads to Carlisle), Pendle Witches Way and Hodder Way long distance footpaths, are generally extensive and open, allowing long-distance views across the River Hodder valley and to the surrounding fells.
- 89) The B6478 crosses the landscape in a north-south alignment from the River Hodder valley and climbs southwards towards Waddington Fell. The route allows particularly extensive views in a northerly direction across the River Hodder valley. Travellers along the un-named road travelling westwards from Newton-in-Bowland towards Dunsop Bridge generally have slightly elevated views from the River Hodder valley southwards.

#### Nature of Existing Views at Braddup Compound

- 90) The rural farmland landscape rises very gently northwards from the River Ribble towards the Bowland Fells including Marl Hill and Cabin Hill, both of which are designated as Access Land and have open, expansive views south. The lower Bowland fell slopes are afforded with middle-distance views south, although these views are contained by woodlands, plantations and hedgerow trees.
- 91) Farmsteads and individual properties are located within the gently rising farmland and generally have partly enclosed views, contained by surrounding woodlands, hedgerows and hedgerow trees, particularly at the lower elevations. Views from properties on the higher elevations where vegetation is sparser have more open views, although some woodland groups contain views in places. The settlement of Waddington is located approximately 2.8 km south-east of the proposed Braddup compound, although there is no intervisibility.
- 92) The many local footpaths, residential estate roads and B-roads provide access throughout the area. Travellers on footpaths west of Slaidburn Road generally have near- to middle-distance views towards the adjacent undulating fields where the compound would be located. The B6478 crosses the Bowland Fells in a north-south alignment between Newton-in-Bowland in the River Hodder valley to the north and Waddington in the River Ribble valley to the south. The route allows particularly extensive views in a southerly direction across the River Ribble valley, until north of Waddington where topography, woodland, hedgerows and hedgerow trees contain views.



- 93) The local road network within lower elevations of the assessment area, including Cross Lane, comprises very narrow lanes, most of which are flanked by hedgerows or high banks generally allowing only glimpsed views to surrounding areas. There are slightly more open views from the few local roads at higher elevations.

#### **Dark Skies**

- 94) CPRE have undertaken a study of dark skies in England and have mapped and published the results. They also organise an annual star count to analyse any changes in light pollution. CPRE's aim is to try to protect and improve existing dark skies. Light pollution reduces the visibility of starry skies, as well as interrupting the natural pattern of wildlife. Generally, urban areas are most affected by light pollution, with darker skies present in rural areas.
- 95) CPRE have mapped the majority of the sky within the Forest of Bowland AONB as the two darkest sky categories due to an absence of light sources, with the darkest areas across the moorland plateaux and upper fell slopes. Within the Proposed Marl Hill Section and the Bonstone assessment area, the night-time environment is generally dark in character. Much of the northern and central parts of the Braddup assessment area are also generally dark in character. However, the south-eastern edge is affected by light pollution from the villages of Waddington and West Bradford, and the town of Clitheroe.
- 96) The Forest of Bowland AONB website describes the skies within the AONB as being among the darkest in England. They are recognised as being important for stargazing, with five designated 'Dark Sky Discovery Sites' within the AONB. Two of the sites fall within the assessment areas, one of which is located at a private business called Clerk Laithe Lodge in Newton-in-Bowland, with the other located at Slaidburn visitor car park.

## **6.6 Assessment of Likely Significant Effects**

- 97) The assessment considers the potentially significant landscape and visual effects likely to result from the Proposed Marl Hill Section during the following development phases:
- Enabling Works Phase
  - Construction Phase
  - Commissioning Phase
  - Operational Phase (Year 1) and (Year 15).
- 98) Two assessment timeframes have been assessed: during the first year of operation and 15 years into operation. The main difference between Year 1 and Year 15 is that the replacement planting would provide some beneficial screening by Year 15, depending on species and microclimate, thereby providing some landscape and visual integration.
- 99) Guidance within GLVIA<sup>26</sup> states that visual assessments should be undertaken during winter months, before vegetation is in leaf, to allow maximum visibility from surrounding visual receptors. However, due to COVID-19 restrictions and some later design changes, some survey work was undertaken in spring when trees and other vegetation had come into leaf. Therefore, professional judgement has been exercised to consider how the same views would appear in winter, where effects could not be verified during the field surveys.
- 100) The assessment of Landscape and Visual effects has been described in full in Appendix 6.4: Schedule of Landscape Effects and Appendix 6.5: Schedule of Visual Effects. Additional detail on representative viewpoints and photomontage views is included in Figures 6.2: Representative Viewpoints, Figure 6.7: Photosheets and 6.8- to 6.10 Photomontages respectively.
- 101) The assessment takes into account the embedded mitigation and good practice measures that have been identified as part of the design and assessment process, as set out in Section 6.4.3.

<sup>26</sup> Landscape Institute (2013) *op. cit.*

### 6.6.1 Enabling Works Phase

- 102) The following section describes the basis for the assessment of effects for the enabling works. Enabling works effects would be temporary (short-term). The summary of enabling works effects is shown in Table 6.10, Table 6.11 and Table 6.12 below.

#### **Predicted Impacts**

- 103) The enabling works activities for the Bonstone Compound and the Braddup Compound described below are considered relevant to the assessment of landscape and visual effects:
- Erection of post and wire fencing along access roads and 2.4 m high branded hoarding around compound areas. Heras-type fencing around other facilities within the wider compound footprint
  - Stripping of topsoil and installation of drainage within working areas
  - Clearance of vegetation within the Bonstone Compound, along the access track and at the access and egress point from the local road network
  - Clearance of vegetation within the Braddup Compound, along the access track and at the access and egress point from the local road network
  - Localised ground reprofiling.
- 104) The main effects on landscape character and people's views that could arise during the Enabling Works due to the construction activities are:
- Loss of landscape features such as hedgerows, stone walls and trees, soil stripping and the stockpiling of materials
  - Levelling and grading of slopes
  - Visual effects and disruption from temporary soil storage
  - Visual effects from moving plant and construction equipment within the compounds and along access tracks
  - Visual effects from task lighting.

#### **Landscape Effects**

- 105) LCAs 4e. Bowland Limestone Fringes, 5g. South Bowland Fringes, F2. Bolton by Bowland to Waddington, G3. Upper Hodder and G7. Browsholme would be directly and indirectly affected by the enabling works at the Bonstone and Braddup compounds.
- 106) These compounds would comprise construction compounds, laydown areas and temporary access roads, and improvements to the existing highway network. This would require the removal of some vegetation and landscape features; the installation of construction and internal boundary fencing; soil stripping and the removal of the existing grass sward; and the localised reprofiling of the existing landform. The establishment of these features would also require the temporary diversion of the local PRow network at the Bonstone Compound.
- 107) The removal of existing shrubs, trees and field boundaries, including hedgerows, fences and stone walls, would result in a more open character and the severance of the existing field pattern in the immediate vicinity. Soil stripping, including the resultant loss of the grass sward; the installation of temporary drainage; and the temporary storage of topsoil and subsoil would all be at variance with the surrounding pastoral landscape and would represent detracting features in this rural landscape. The Enabling Works Phase would also result in the temporary loss of farmland and minor changes to the existing topography.
- 108) The movement of plant and machinery, along with the enabling works activities, would reduce the perceived tranquillity, remoteness and rural character, introducing uncharacteristic features and affecting the predominantly rural character of the landscape.



- 109) Due to the disturbance from the enabling works, there would be a noticeable and uncharacteristic change to a moderate or small proportion of the landscape, which would be experienced over the short term. These high sensitivity landscape receptors would therefore experience a minor or moderate magnitude of effect, resulting in a moderate or major adverse significance of effect.
- 110) 2d. Waddington Fell LCA would be indirectly affected by the enabling works at the Braddup Compound within its immediate landscape setting. Enabling works, such as the removal of existing vegetation, soil stripping, landform alterations and the establishment of the construction compounds, laydown areas and temporary access roads, would contrast with the predominantly rural character and setting of this landscape.
- 111) Due to the proximity of the disturbance and vegetation loss from the enabling works, there would be a minor and uncharacteristic change to a small proportion of this landscape, which would be experienced over the short term. This high sensitivity landscape receptor would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 112) C9. Newton and Birkett LCA would also be indirectly affected by the enabling works at the Bonstone and Braddup compounds within its landscape setting. However, the disturbance from the enabling works would be experienced across a much broader proportion of the landscape and from a much greater distance.
- 113) Due to the disturbance from the enabling works, there would be a barely perceptible and uncharacteristic change to a moderate proportion of the landscape, which would be experienced over the short term. This high sensitivity landscape receptor would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 114) LCAs 4d. Bowland Gritstone Fringes, C3. Easington and D7. Moorcock would also be indirectly affected by the disturbance from the enabling works within their landscape setting. These LCAs would have a barely perceptible and uncharacteristic change to a small or very small proportion of the landscape, which would be experienced over the short term. These high sensitivity landscape receptors would therefore experience a minor or negligible magnitude of effect, resulting in a slight adverse significance of effect.
- 115) LCAs 5b. Lower Hodder and Loud Valley, 14a. Slaidburn-Giggleswick, D5. Beatrix to Collyholme, I6. Upper Hodder, I7. Lower Hodder would experience a negligible or no discernible change to their landscape during the Enabling Works Phase due to a combination of intervening topography and vegetation. These high sensitivity landscape receptors would therefore experience no significant effect.

#### **Visual Effects – Bonstone Compound**

- 116) Views and visual receptors within the detailed assessment area, which could be subject to significant short-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5 Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 117) Residential viewers and recreational users of footpaths (T3/34, T3/35) would have views to the Bonstone Compound to the south in a large proportion of the middle-distance views. Specific changes during the enabling works would result from the visual disturbance associated with constructing the construction access tracks, hoarding and fencing installation, removal of sections of dry stone walls and hedgerows, site preparation, localised soil stripping and soil storage mound formation. The enabling works would become the dominant feature of views and would be seen on the rising hillsides to the north and south and on the skyline to the north and would result in a substantial change to the character of the view. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 118) Recreational users of the footpath (T4/02) would be very close to the Bonstone Compound with direct and open views. Specific changes during the enabling works would result from the visual disturbance from hoarding and fencing installation, site preparation, localised soil stripping and soil storage mound formation. Residential viewers and recreational users of footpaths (T4/03) would be close to the Bonstone Compound construction access track and views would include fencing installation, site preparation, localised soil stripping and soil storage mound formation for the construction access track.

The enabling works would become the dominant feature of the view from both viewpoint locations and would result in a substantial change to the character of the view. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.

- 119) Recreational users of footpaths would have open middle-distance views to the Bonstone Compound. Recreational users of footpaths and travellers on local roads (T4/04 and T4/05) would have open middle-distance views to the Bonstone Compound. Specific changes during the enabling works would result from the visual disturbance associated with site preparation and construction of construction access track, including hoarding and fencing installation, localised soil stripping and soil storage mound formation and clearance of short sections of hedgerow. The enabling works would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across part of the view. These high sensitivity visual receptors would therefore experience a minor or moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 120) Non-significantly affected representative viewpoints – Residential viewers, recreational users of footpaths, including the Hodder Way and Pendle Witches Way long distance footpaths, and travellers on the local road (T3/23, T3/28, T3/29, T3/30, T3/32, T3/33) would have open or partially filtered, elevated long-distance or very long-distance views to the Bonstone Compound located on an open ridge to the south in a small proportion of the view. Specific changes during the enabling works would result from the visual disturbance associated with constructing the construction access track, site preparation, localised soil stripping and soil storage mound formation within the two compounds. Enabling works activities would result in a perceptible change which would alter the key characteristics across a small part of the rural view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 121) There would be a negligible effect or no change to the view (no intervisibility) during the Enabling Works Phase due to a combination of intervening topography, built form and vegetation, from the following viewpoint locations: T3/24, T3/36, T3/40, T3/43, T3/44, T4/01.

#### **Visual Effects – Braddup Compound**

- 122) Views and visual receptors within the detailed assessment area, which could be subject to significant short-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5 Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 123) Recreational users of footpaths (T4/09 and T4/10) would be close with views to a large proportion of the compound, although from T4/09 the southern part of the construction compound would be hidden by the gently falling topography and filtered by individual trees, and from T4/10 the northern part of the construction compound would be screened by woodland plantation. Specific changes during the enabling works would result from the visual disturbance associated with site preparation for the construction access track within the compound, and also fencing and hoarding installation, removal of a line of small trees, soil stripping and soil storage mound formation. Enabling works would become the dominant feature in the view and would result in a substantial change to the character of the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 124) Recreational users of footpaths (T4/11 and T4/12) would see the construction access track in the direct frame of the view, and in a large proportion of views to the east (T4/11) and east and west (T4/12). Tree belts would screen more distant views. The construction compound to the west would be screened by a woodland. Specific changes during the enabling works would result from the visual disturbance associated with site preparation and construction of the tarmac construction access track, including removal of small sections of hedgerow, fencing installation, soil stripping and soil storage mound formation. Enabling works would become the dominant feature in the view and would result in a substantial change to the character of the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 125) Residential viewers, users of recreational footpaths and travellers on the local road (T4/06 and T4/07) would have partially screened and filtered middle-distance views of a small proportion of the compound to the south. The long access track to the south-east would be obscured by slight topographical changes

and intervening woodland. Specific changes during the enabling works would result from the visual disturbance associated with site preparation for the construction compound, including fencing and hoarding installation, soil stripping and soil storage mound formation. The enabling works would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across a small part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.

- 126) Residential viewers, users of recreational footpaths and travellers on the local road (T4/13, T4/14 and T4/15) would have partially filtered middle-distance views of a moderate proportion of the construction access track, seen between breaks in tall hedgerows and filtered by intervening trees. Tree belts and hedgerow boundaries would limit views to more distant sections of the access track. The construction compound to the west would be screened by a woodland. Specific changes during the enabling works would result from the visual disturbance associated with site preparation and construction of the tarmac construction access track and laydown area adjacent to the A4678 Slaidburn Road. Construction activities would also include removal of short sections of hedgerow, fencing installation, soil stripping and soil storage mound formation. The enabling works would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across small part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 127) Travellers along Cross Lane (T4/19) would have partially filtered, short- to middle-distance views to the skyline to the north of a moderate proportion of the Braddup Compound. The northern part of the compound would be hidden behind a ridge in the middle distance. A tree belt would screen the construction access track to the east. Specific changes during the enabling works would result from the visual disturbance associated with site preparation for the construction access track within the compound; also fencing and hoarding installation, soil stripping and soil storage mound formation. The enabling works would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across part of the view. The high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 128) Non-significantly affected representative viewpoints – Residential viewers and users of footpaths (T4/08) would have views, substantially obscured by the gently falling topography, screened by woodland blocks and filtered by individual trees, towards the Braddup Compound. Specific changes during the enabling works would result from the visual disturbance associated with site preparation for the construction compound including, fencing and hoarding installation, soil stripping and soil storage mound formation. Residential viewers and travellers on Cross Lane (T4/16 and T4/17) would have glimpsed views, substantially filtered by intervening trees and hedgerows on Cross Lane, to the construction access track. Only a small section of the construction access track would be visible. Tree belts and hedgerow boundaries would screen the access track further to the east and west. The construction compound to the west would be screened by woodland. There would be glimpsed views of activities for site preparation and construction of the tarmac construction access track, including fencing installation, soil stripping and soil storage mound formation. The enabling works would be perceptible but would not alter the balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 129) There would be a negligible effect during the Enabling Works Phase due to a combination of intervening topography and vegetation (T4/18 and T4/20).

**Table 6.10: Summary of Enabling Works Landscape Effects**

| Environmental / Community Asset  | Sensitivity | Effect   | Duration                | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|--|-------------------------|------------|---|
| G3. Upper Hodder LCA   | High        | A noticeable and uncharacteristic change to a moderate proportion of the landscape.                    | Short-term / reversible | Moderate   | Major adverse (Significant)             |
| 4e. Bowland Limestone Fringes LCA<br>5a. Upper Hodder Valley LCA<br>5g. South Bowland Fringes LCA<br>F2. Bolton by Bowland to Waddington LCA<br>G7. Browsholme LCA | High        | A noticeable and uncharacteristic change to a small proportion of the landscape.                       | Short-term / reversible | Minor      | Moderate adverse (Significant)          |
| 2d. Waddington Fell LCA  | High        | A minor and uncharacteristic change to a small proportion of the landscape.                            | Short-term / reversible | Minor      | Slight adverse                          |
| C9. Newton and Birkett LCA<br>4d. Bowland Gritstone Fringes LCA  | High        | A barely perceptible uncharacteristic change to a moderate proportion of the landscape.                | Short-term / reversible | Minor      | Slight adverse                          |
| C3. Easington LCA<br>D7. Moorcock LCA  | High        | A barely perceptible and uncharacteristic change to a small or very small proportion of the landscape. | Short-term / reversible | Negligible | Slight adverse                          |
| 17. Lower Hodder LCA   | High        | A barely perceptible and uncharacteristic change to  | Short-term / reversible | Negligible | Negligible                              |

|   |      |   |     |           |           |
|---|------|---|-----|-----------|-----------|
|   |      | a very small proportion of the landscape. |     |           |           |
| 5b. Lower Hodder and Loud Valley LCA<br>14a. Slaidburn-Giggleswick LCA<br>D5. Beatrix to Collyholme LCA<br>I6. Upper Hodder LCA | High | No discernible change to the landscape.   | N/A | No Change | No Change |

**Table 6.11: Summary of Enabling Works Visual Effects – Bonstone Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-------------------------|-----------|---|
| T3/34 Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network<br>T3/35 Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road<br>T4/02 Ribble Valley FP 43<br>T4/03 Newlaithe Farm, Ribble Valley FP 43 | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short-term / reversible | Major     | Major adverse (Significant)             |
| T4/04 Ing Barn, Easington Road<br>T4/05 B4678 Slaidburn Road  | High        | A noticeable and uncharacteristic change across a moderate part of the view.  | Short-term / reversible | Moderate  | Moderate adverse (Significant)          |
| T3/23 Ribble Valley FP 9  | High        | A perceptible and uncharacteristic change                                     | Short-term / reversible | Minor     | Slight adverse                          |

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                       | Magnitude         | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|--------------------------------|-------------------|---|
| <p>T3/28 Newton settlement edge, Newton Road to Dunsop Bridge</p> <p>T3/29 The Heaning (Farm), Ribble Valley FP 15</p> <p>T3/30 Fober Farm, Dunsop Road</p> <p>T3/32 The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/33 The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network</p> |             | <p>across a small part of the view.</p>   |                                |                   |   |
| <p>T3/24 Crawshaw Farm, Ribble Valley FP 11</p> <p>T4/01 Wyndfell Farm, B4678 Slaidburn Road</p>  | <p>High</p> | <p>A barely perceptible and uncharacteristic change across a small part of the view.</p>                        | <p>Short-term / reversible</p> | <p>Negligible</p> | <p>Negligible</p>                       |
| <p>T3/36 The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill</p> <p>T3/40 Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18</p> <p>T3/43 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p>           | <p>High</p> | <p>There would be no view of the construction activities due to intervening topography and / or vegetation.</p> | <p>N/A</p>                     | <p>No Change</p>  | <p>No Change</p>                        |

| Environmental / Community Asset  | Sensitivity | Effect | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|--|-------------|--------|----------|-----------|---|
| T3/44 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network |             |        |          |           |   |

**Table 6.12: Summary of Enabling Works Visual Effects – Braddup Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-------------------------|-----------|---|
| T4/09 Ribble Valley FP 3<br>T4/10 Ribble Valley FP 3<br>T4/11 Ribble Valley Bridleway BW 1<br>T4/12 Ribble Valley FP 9  | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short-term / reversible | Major     | Major adverse (Significant)             |
| T4/06 Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road<br>T4/07 Surrounding residential properties near Hodgesons Moor<br>T4/13 Brooklands Farm, Brooklands Barn, A4678 Slaidburn Road <sup>27</sup><br>T4/14 Ravelston House, Cross Lane<br>T4/15 Colthurst bungalow, Oak Cottage, Cross Lane | High        | A noticeable and uncharacteristic change across a moderate part of the view.  | Short-term / reversible | Moderate  | Moderate adverse (Significant)          |

<sup>27</sup> Bookers Farm and Bookers Barn are referred to in Volumes 3, 4, 5 and 6 of the Environmental Statement as, respectively, Brooklands Farm and Brooklands Barn.

| Environmental / Community Asset  | Sensitivity | Effect  | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|-----------------------------------|------------|---|
| T4/19 Cross Lane   |             |   |                                   |            |   |
| T4/08 Daisy Hill Farm, Ribble Valley<br>Bridleway BW 1, FP1, FP 2<br>T4/16 Cross Lane<br>T4/17 Colthurst Farm and surrounding<br>residential receptors | High        | A perceptible and uncharacteristic change across a small part of the view | Short-term / reversible           | Minor      | Slight adverse                          |
| T4/18 Braddup House Farm, Grade II<br>Listed, Peter Barn<br>T4/20 Braddup Farm, Ribble Valley FP<br>3  | High        | A barely noticeable change across a small part of the view                | Short to medium-term / reversible | Negligible | Negligible                              |



### 6.6.2 Construction Phase

- 130) The following section describes the effects of the Proposed Marl Hill Section on landscape and visual receptors during the construction phase.
- 131) Effects during the Construction Phase are described in Appendix 6.4: Schedule of Landscape Effects and Appendix 6.5: Schedule of Visual Effects.
- 132) The summary of construction effects is shown in Table 6.13, Table 6.14 and Table 6.15 below.

#### Predicted Impacts

- 133) The tunnel between the Bonstone Compound and the Braddup Compound would be approximately 4.3 km in length. It is anticipated that Construction Phase for the Bonstone Compound and the Braddup Compound would last for approximately 24 months.
- 134) The Construction Phase activities for the Bonstone Compound and the Braddup Compound described below are considered relevant to the assessment of landscape and visual effects:
- Construction of access tracks, plant compounds, laydown areas, temporary car parks and temporary office accommodation
  - Construction of tunnel shafts
  - Continuous construction activity during the tunnelling phase at the Braddup Compound
  - Construction of new valve house buildings
  - Construction of approximately 170 m of open-cut section within the Bonstone Compound
  - Construction of approximately 370 m of open-cut section within the Braddup Compound
  - Partial reinstatement of temporary compound areas
  - Reinstatement of tunnel shafts at ground level
  - Topsoiling and grass seeding of reinstated areas
  - Reinstatement of the boundary stone wall at the Bonstone Compound access point
  - Reinstatement of hedgerow at the Braddup Compound access point.
- 135) The main effects on landscape character and people's views that could arise during the Construction Phase due to the construction activities are:
- Visual effects from moving plant including a tall crane and construction equipment within compounds, including transport of sections of tunnel lining
  - Visual effects from movement of haulage vehicles on the access tracks. The majority of surplus material would be removed from the Braddup Compound
  - Visual effects and disruption from temporary storage of excavated materials
  - Disruption from creation of the construction compounds, laydown areas and material storage areas for plant, machinery, equipment, construction materials and offices
  - Disruption from the reinstatement of topsoil spreading
  - Visual effects from task lighting.

#### Landscape Effects

- 136) LCAs 4e. Bowland Limestone Fringes, 5a. Upper Hodder Valley, 5g. South Bowland Fringes, F2. Bolton by Bowland to Waddington, G3. Upper Hodder and G7. Browsholme would be directly and indirectly affected by the construction works at the Bonstone and Braddup compounds.
- 137) The movement of plant and machinery, along with the introduced construction works activities, would increase the perception of disruption and further contrast with the rural character of the landscape. At

the launch and reception shafts, this would include the tunnel boring operations and the presence of the TBM and cranes. Tall cranes at these shafts would be prominent within the assessment area and would represent incongruous, large-scale features within several outward views. Construction activities at the compounds would also include open-cut trenching to connect to the existing network, the storage of excavated materials and the establishment of temporary water management systems.

- 138) The overall impact would also be more evident due to works undertaken for the Enabling Works Phase, including continued use of temporary access roads, laydown areas and construction compounds, landform alterations, loss of existing vegetation and disruption to the existing field pattern. The temporary diversions to the PRoW network undertaken at the Enabling Phase would also continue.
- 139) Reinstatement would occur within sections of the compounds during the Construction Phase, although the construction compound, laydown areas and temporary access roads would remain. Any areas of localised reseeded would have limited impact at this stage.
- 140) Due to the direct disturbance from the construction works, there would be a substantial and uncharacteristic change to a moderate or large proportion of the landscape, which would be experienced over the short to medium term. These high sensitivity landscape receptors would therefore experience a moderate or major magnitude of effect, resulting in a major adverse significance of effect.
- 141) LCAs 2d. Waddington Fell, 4d. Bowland Gritstone Fringes and D7. Moorcock would be indirectly affected by the construction works at the Bonstone and Braddup compounds within their immediate landscape setting. This would include the tunnel boring operation and open-cut trenching, as well as the storage and removal of excavated materials. Tall cranes stationed at the launch and reception shafts would be visible within the setting of these landscapes and would represent incongruous, large-scale features within several or a small number of outward views. There would also be a slight detectable or barely perceptible loss of existing vegetation, field boundaries and landform alterations undertaken at the enabling works phase.
- 142) Construction activity would be uncharacteristic and would slightly contrast with the predominantly rural character and setting of these landscapes. Due to the proximity of the disturbance from the construction activity, there would be a noticeable or minor and uncharacteristic change to a moderate or small part of the landscape, which would be experienced over the short to medium term. These high sensitivity landscape receptors would therefore experience a minor or moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 143) C9. Newton and Birkett LCA would also be indirectly affected by the construction activity at the Bonstone and Braddup compounds within its landscape setting; however, the impact would be experienced at a greater distance and across a much larger proportion of the landscape. Specific changes would include the tunnel boring operation and open-cut trenching, and the storage and removal of excavated materials. Tall cranes stationed at the launch and reception facilities would be visible within the setting and represent incongruous, large-scale features within outward views. There would also be a barely perceptible or slight detectable loss of existing vegetation, field boundaries and landform alterations undertaken at the Enabling Works Phase.
- 144) Due to the greater distance to the construction activity and broader geographical extent of the impact, there would be a minor and uncharacteristic change to a large proportion of the landscape, which would be experienced over the short to medium term. These high sensitivity landscape receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 145) LCAs 5b. Lower Hodder and Loud Valley, 14a. Slaidburn-Giggleswick, C3. Easington and D5. Beatrix to Collyholme would also be indirectly affected by the construction works within their landscape setting; however, the impact would be experienced at a greater distance and across a much smaller proportion of the landscape. There would also be barely perceptible loss of existing vegetation, field boundaries and landform alterations undertaken at the Enabling Works Phase.
- 146) Due to the greater distance to the construction activity and smaller geographical extent of the impact, there would be a minor and uncharacteristic change to a small proportion of the landscape, which would

be experienced over the short to medium term. These high sensitivity landscape receptors would therefore experience a minor magnitude of effect, resulting in a moderate adverse significance of effect.

- 147) 17. Lower Hodder and I6. Upper Hodder LCAs would continue to experience a negligible or no discernible change to their landscape during the Construction Phase due to a combination of intervening topography and vegetation. These high sensitivity landscape receptors would therefore continue to experience no significant effect.

#### **Visual Effects – Bonstone Compound**

- 148) Views and visual receptors within the detailed assessment area, which could be subject to significant short to medium-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7. Construction Phase photomontages are shown on Figures 6.8 and 6.9.
- 149) Residential viewers and recreational users of footpaths (T3/34, T3/35) would have views to the Bonstone Compound to the south in a large proportion of the middle-distance views. Specific changes would result from the visual presence of the construction compound, materials laydown areas and hoarding. Visual disturbance would include excavations and land reprofiling for the working platform, excavation for the open-cut works, construction traffic, and the removal and storage of excavated materials. The operating crane would be a dominant feature silhouetted against the sky. Reinstatement activities within sections of the compound used as laydown areas would occur at the end of the Construction Phase and would be prominent across a large part of the view. The construction activities would become the dominant feature of the view and would be seen on the skyline. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 150) Recreational users of footpaths (T4/02) would be very close to the Bonstone Compound with direct and open views. Specific changes would result from the visual presence in the direct frame of view of the hoarding, compound and materials laydown areas, which would screen more distant views. Visual disturbance would include movement of construction vehicles along the construction access track. Construction activity within the construction compound would be screened by the hoarding. The operating crane would be a dominant feature silhouetted against the skyline. Reinstatement activities within sections of the compound used as laydown areas would occur at the end of the construction phase and would be prominent across a large part of the view. Residential viewers and recreational users of footpath (T4/03) would be near to the Bonstone Compound construction access track and moving traffic along its alignment. There would be no views to the Bonstone Compound. The construction activities would become the dominant feature of the view from both viewpoint locations and would result in a substantial change to the character of the view. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 151) Recreational users of footpaths and travellers on local roads (T4/04 and T4/05) would have open middle-distance views to the Bonstone Compound. Visual disturbance would include land reprofiling for the working platform, excavation for the open-cut works, crane operation, construction traffic, and the removal and storage of excavated materials. The operating crane would be a noticeable feature and silhouetted against the sky in the middle distance. Reinstatement activities within sections of the compound used as laydown areas would occur at the end of the construction phase and would be noticeable across a moderate part of the view. The construction activities would result in a noticeable alteration to key characteristics of the view and the introduction of uncharacteristic features across a moderate part of the view. These high sensitivity visual receptors would experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 152) Non-significantly affected representative viewpoints – Residential viewers, travellers on the local road and recreational users of footpaths, including the Hodder Way and Pendle Witches Way long distance footpaths (T3/23, T3/28, T3/29, T3/30, T3/32 and T3/33) would have open or partially filtered, elevated long-distance views to the Bonstone Compound located on an open ridge to the south in a small proportion of the view. Specific changes would result from the visual presence of the construction compound, materials laydown areas and hoarding. Visual disturbance, which would be seen in the long

distance, would include excavations and land reprofiling for the working platform, excavation for the open-cut works, construction traffic, and the removal and storage of excavated materials. The operating crane would be a perceptible feature and seen against the backdrop of the distant hillside. Reinstatement activities within sections of the compound used as laydown areas would occur at the end of the construction phase although the construction compound would remain. The construction activities would be perceptible but not alter the overall balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.

- 153) Residential viewers and travellers on the local road (T4/01) would have views focussed between woodland plantations. Specific changes would result from the visual presence of the construction compound. Visual disturbance, which would be seen in the long distance, and would include excavations and land reprofiling at the working platform and excavation for the open-cut works. The operating crane would be a perceptible feature seen against the backdrop of the rising hillside. Reinstatement activities would occur within sections of the compound although the construction access track and construction compound would remain. The high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 154) Non-significantly affected representative viewpoints – Residential viewers within Easington and north of Newton-in-Bowland, recreational users of footpaths and the Tops of the North (Three Shire Heads to Carlisle) long distance path (T3/40) would have long-distance views to a small part of the 45 m high crane jib at the Bonstone Compound, which would be perceptible and seen against a backdrop of rising hillsides but would not alter the balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 155) There would be a negligible effect during the Construction Phase due to a combination of intervening topography and vegetation, and distance from the compound for the following viewpoint locations: T3/24, T3/36, T3/43, T3/44.

#### **Visual Effects – Braddup Compound**

- 156) Views and visual receptors within the detailed assessment area, which could be subject to significant short to medium-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7. Construction Phase photomontages are shown on Figure 6.10.
- 157) Recreational users of footpaths (T4/09 and T4/10) would be close by, with views to a large proportion to the compound, although from T4/09 the southern part of the construction compound would be hidden by the gently falling topography and filtered by individual trees. From T4/10 the northern part of the construction compound would be screened by woodland plantation. Specific changes would result from the visual presence of the construction compound, materials laydown areas and hoarding. Visual disturbance, which would be seen in a large proportion of short-distance views, would include excavation activity and land reprofiling for the tunnel shaft and working platform, excavation for the open-cut works, crane operation at the tunnel shaft and the removal and storage of excavated materials. The 45 m high crane jib at the tunnel shaft would become a dominant feature silhouetted against the sky. Construction activities would become the dominant feature in the view and would result in a substantial change to the character of the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 158) Recreational users of footpaths (T4/11 and T4/12) would see the construction access track in the direct frame of the view, and in a large proportion of views to the east (T4/11) and east and west (T4/12). Tree belts would screen more distant views. The construction compound to the west would be screened by a woodland. Specific changes would result from the visual presence of the tarmac construction access track and fencing. Visual disturbance from moving plant and equipment and HGVs would be seen in the direct frame of the view. The moving traffic would become the dominant feature within the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.

- 159) Residential viewers, users of recreational footpaths and travellers on the local road (T4/06 and T4/07) would have partially screened and filtered middle-distance views of a small proportion of the compound to the south. The long access track to the south-east would be obscured by slight topographical changes and intervening woodland. Specific changes would result from the visual presence of the construction compound, materials laydown areas and hoarding. Visual disturbance, which would be seen in a small proportion of the middle-distance views would include excavation activity and land reprofiling for the tunnel shaft and working platform, excavation for the open-cut works, crane operation at the tunnel shaft and the removal and storage of excavated materials. The operating crane at the tunnel shaft would be a noticeable feature seen against the extensive backdrop of the undulating farmland. The construction activities would result in a noticeable alteration to key characteristics of the view; and introduce uncharacteristic features across small part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 160) Residential viewers, users of recreational footpaths and travellers on the local road (T4/13, T4/14 and T4/15) would have partially filtered middle-distance views of a moderate proportion of the construction access track, seen between breaks in tall hedgerows and filtered by intervening trees. Tree belts and hedgerow boundaries would limit views to more distant sections of the access track. The construction compound to the west would be screened by a woodland. Specific changes would result from the visual presence of the soil storage mounds; the construction access track would not be visible. Visual disturbance from moving plant and equipment and HGVs would be seen in the short-distance views. The moving traffic would result in a noticeable alteration to key characteristics of the view and would introduce uncharacteristic features across small part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 161) Travellers along Cross Lane (T4/19) would have partially filtered, short- to middle-distance views to the skyline to the north of a moderate proportion of the Braddup Compound. The northern part of the compound would be hidden behind a ridge in the middle distance. A tree belt would screen the construction access track to the east. Specific changes would result from the visual presence of the construction compound, materials laydown areas and hoarding. Visual disturbance, which would be seen in a moderate proportion of short- to middle-distance views would include excavation for the open-cut works, crane operation at the tunnel shaft and the removal and storage of excavated materials. Excavation activity and land reprofiling for the tunnel shaft and working platform would be behind the ridgeline, although taller construction equipment would be apparent moving across the skyline. The 45 m high crane jib at the tunnel shaft would become a noticeable feature silhouetted against the sky.
- 162) Users of footpaths (T4/08) would have views, substantially obscured by the gently falling topography, screened by woodland blocks and filtered by individual trees, towards the Braddup Compound, although the 45 m high crane jib at the tunnel shaft would be a noticeable and uncharacteristic feature projecting above the woodland canopy and silhouetted against the sky. The construction activities would result in a noticeable alteration to key characteristics of the view and would introduce uncharacteristic features across part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 163) Non-significantly affected representative viewpoints – Residential viewers and users of footpaths (T4/08) would have views, substantially obscured by the gently falling topography, screened by woodland blocks and filtered by individual trees, towards the Braddup Compound. Specific changes would result from the visual presence of a part of the construction compound, materials laydown areas and hoarding. Visual disturbance, which would be seen in a small proportion of short-distance views, would include excavation activity and land reprofiling for the tunnel shaft and working platform, crane operation at the tunnel shaft, and the removal and storage of excavated materials. A small part of the 45 m high crane jib at the tunnel shaft would be noticeable above the woodland and silhouetted against the sky. The construction activities would be perceptible but would not alter the balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.

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- 164) Residential viewers and travellers on Cross Lane (T4/16 and T4/17) would have glimpsed views, substantially filtered by intervening trees and hedgerows on Cross Lane, to the construction access track. Only a small section of the construction access track would be visible. Tree belts and hedgerow boundaries would screen the access track further to the east and west. The construction compound to the west would be screened by a woodland. There would be glimpsed and heavily filtered views of soil storage mounds and moving plant and equipment and HGVs. The construction activities would be perceptible but would not alter the balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 165) There would be a negligible effect during the Construction Phase due to a combination of intervening topography and vegetation (T4/18).



**Table 6.13: Summary of Construction Phase Landscape Effects**

| Environmental / Community Asset  | Sensitivity | Effect   | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|--|-----------------------------------|------------|---|
| G3. Upper Hodder LCA   | High        | A substantial and uncharacteristic change to a large proportion of the landscape.    | Short to medium term / reversible | Moderate   | Major adverse (Significant)             |
| 4e. Bowland Limestone Fringes LCA<br>5a. Upper Hodder Valley LCA<br>5g. South Bowland Fringes LCA<br>F2. Bolton by Bowland to Waddington LCA<br>G7. Browsholme LCA | High        | A substantial and uncharacteristic change to a moderate proportion of the landscape. | Short to medium-term / reversible | Moderate   | Major adverse (Significant)             |
| 2d. Waddington Fell LCA<br>4d. Bowland Gritstone Fringes LCA   | High        | A noticeable and uncharacteristic change to a moderate proportion of the landscape.  | Short to medium-term / reversible | Moderate   | Moderate adverse (Significant)          |
| D7. Moorcock LCA   | High        | A minor and uncharacteristic change to a moderate proportion of the landscape.       | Short to medium-term / reversible | Minor      | Moderate adverse (Significant)          |
| C9. Newton and Birkett LCA   | High        | A minor and uncharacteristic change to a large proportion of the landscape.          | Short to medium-term / reversible | Minor      | Moderate adverse (Significant)          |
| 5b. Lower Hodder and Loud Valley LCA<br>14a. Slaidburn-Giggleswick LCA<br>C3. Easington LCA<br>D5. Beatrix to Collyholme LCA                                       | High        | A minor and uncharacteristic change to a very small proportion of the landscape.     | Short to medium-term / reversible | Negligible | Slight adverse                          |

| Environmental / Community Asset | Sensitivity | Effect  | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|---------------------------------|-------------|---|-----------------------------------|------------|---|
| 17. Lower Hodder LCA            | High        | A barely perceptible and uncharacteristic change to a very small proportion of the landscape. | Short to medium-term / reversible | Negligible | Negligible                              |
| 16. Upper Hodder LCA            | High        | No discernible change to the landscape.   | N/A                               | No Change  | No Change                               |

**Table 6.14: Summary of Construction Phase Visual Effects –Bonstone Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                          | Magnitude        | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-----------------------------------|------------------|---|
| T3/34 Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network<br>T3/35 Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road<br>T4/02 Ribble Valley FP 43<br>T4/03 Newlaithe Farm, Ribble Valley FP 43 | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short to medium-term / reversible | Major            | Major adverse (Significant)             |
| T4/04 Ing Barn, Easington Road<br>T4/05 B4678 Slaidburn Road  | High        | A noticeable and uncharacteristic change across a moderate part of the view.  | Short to medium-term / reversible | Moderate / minor | Moderate adverse (Significant)          |



| Environmental / Community Asset   | Sensitivity | Effect   | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|-----------------------------------|------------|---|
| <p>T3/23 Ribble Valley FP 9</p> <p>T3/28 Newton settlement edge, Newton Road to Dunsop Bridge</p> <p>T3/29 The Heaning (Farm), Ribble Valley FP 15</p> <p>T3/30 Fober Farm, Dunsop Road</p> <p>T3/32 The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/33 The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/40 Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18</p> <p>T4/01 Wyndfell Farm, B4678 Slaidburn Road</p> | High        | A perceptible and uncharacteristic change across a small part of the view. | Short to medium-term / reversible | Minor      | Slight adverse                          |
| <p>T3/24 Crawshaw Farm, Ribble Valley FP 11</p> <p>T3/36 The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill</p> <p>T3/43 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p>  | High        | A barely noticeable change across a small part of the view.                | Short to medium-term / reversible | Negligible | Negligible                              |

| Environmental / Community Asset  | Sensitivity | Effect | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|--|-------------|--------|----------|-----------|---|
| T3/44 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network |             |        |          |           |   |

**Table 6.15: Summary of Construction Phase Visual Effects – Braddup Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                          | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-----------------------------------|-----------|---|
| T4/09 Ribble Valley FP 3<br>T4/10 Ribble Valley FP 3<br>T4/11 Ribble Valley Bridleway BW 1<br>T4/12 Ribble Valley FP 9  | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short to medium-term / reversible | Major     | Major adverse                           |
| T4/06 Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road<br>T4/07 Surrounding residential properties near Hodgesons Moor<br>T4/13 Brooklands Farm, Brooklands Barn, A4678 Slaidburn Road<br>T4/14 Ravelston House, Cross Lane<br>T4/15 Colthurst bungalow, Oak Cottage, Cross Lane<br>T4/19 Cross Lane | High        | A noticeable and uncharacteristic change across a moderate part of the view.  | Short to medium-term / reversible | Moderate  | Moderate adverse (Significant)          |

| Environmental / Community Asset  | Sensitivity | Effect   | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|--|-----------------------------------|------------|---|
| T4/20 Braddup Farm, Ribble Valley<br>FP 3  |             |  |                                   |            |   |
| T4/08 Daisy Hill Farm, Ribble Valley<br>Bridleway BW 1, FP1, FP 2<br>T4/16 Cross Lane<br>T4/17 Colthurst Farm and surrounding<br>residential receptors | High        | A perceptible and uncharacteristic change across a small part of the view. | Short to medium-term / reversible | Minor      | Slight adverse                          |
| T4/18 Braddup House Farm, Grade II Listed, Peter Barn  | High        | A barely noticeable change across a small part of the view.                | Short to medium-term / reversible | Negligible | Negligible                              |

### 6.6.3 Commissioning Phase

- 166) The following section describes the effects of the Proposed Marl Hill Section on landscape and visual receptors during the Commissioning Phase. The Commissioning Phase would use the construction compound during the construction phase. Other activities would be similar although reduced in scale and duration for the connection of the new aqueduct to the existing pipelines.
- 167) Effects during the Commissioning Phase are described in Appendix 6.4: Schedule of Landscape Effects and Appendix 6.5: Schedule of Visual Effects.
- 168) The summary of Commissioning Phase effects is shown in Table 6.16, Table 6.17 and Table 6.18 below.

#### **Predicted Impacts**

- 169) Following the Construction Phase the land would be partially restored to its existing use (agricultural land). It is anticipated that Commissioning Phase works for the Bonstone Compound and the Braddup Compound would last for approximately two months.
- 170) The Commissioning Phase activities for the Bonstone Compound and the Braddup Compound described below are considered relevant to the assessment of landscape and visual effects:
- Connection of the Haweswater Aqueduct to the section of open-cut pipeline
  - Reinstatement of the section of open-cut pipeline and removal of construction access tracks
  - Removal of all construction compound fencing and hoarding
  - Removal of the widened section of the construction access track
  - Topsoiling and grass seeding of areas and re-planting of previously removed hedgerows and environmental mitigation works
  - Reinstatement of compound areas to the original use.
- 171) The main effects on landscape character and people's views that could arise during the Commissioning Phase due to the construction activities are:
- Visual effects from moving plant and construction equipment within construction compounds
  - Visual effects from movement of haulage vehicles on the access tracks
  - Visual effects and disruption from temporary storage of excavated materials
  - Disruption from the construction compounds, laydown areas and material storage areas for plant, machinery, equipment, construction materials and offices
  - Disruption from the reinstatement of graded slopes and topsoil spreading
  - Visual effects from task lighting.

#### **Landscape Effects**

- 172) LCAs 4e. Bowland Limestone Fringes, 5g. South Bowland Fringes, F2. Bolton by Bowland to Waddington, G3. Upper Hodder and G7. Browsholme would be directly and indirectly affected by the commission works at the Bonstone and Braddup compounds.
- 173) Specific disturbance would occur from open-cut trenching and pipeline laying; the presence and movement of plant and machinery; and the removal and storage of excavated materials. However, tall cranes located at the launch and reception shafts would no longer be present. The impact would also be more evident due to the continued use and presence of the existing construction compounds, laydown areas and temporary access roads introduced at the Enabling Works Phase; the remaining changes to landform, vegetation cover and field pattern introduced during the Enabling Works Phase; and the presence of above-ground features introduced during the Construction Phase. The temporary diversions to the PRoW undertaken at the Enabling Works Phase would also continue.

- 174) Reinstatement and restoration activities, including mitigation planting, the reinstatement of field boundaries and land reprofiling, would be undertaken on completion of the Commissioning Phase. However, due to the relatively short period of establishment, mitigation planting would not contribute to integration, screening or enclosure at this stage.
- 175) Commissioning activity would continue to be uncharacteristic and contrast with the predominantly rural character and setting of this landscape; however, the scale of these effects would be reduced compared with the construction phase. Due to the direct disturbance from the commissioning works, there would be a noticeable and uncharacteristic change to a moderate or small proportion of the landscape, which would be experienced over the short term. These high sensitivity landscape receptors would therefore experience a minor or moderate magnitude of effect, resulting in a moderate or major adverse significance of effect.
- 176) LCAs 4d. Bowland Gritstone Fringes, and 2d. Waddington Fell LCA would be indirectly affected by the commissioning works at the Braddup Compound within its immediate landscape setting. Specific changes would result from short sections of open-cut trenching, the movement and temporary storage of excavated material, and the presence of above-ground features introduced during the Construction Phase. The changes to landform, vegetation cover and field pattern arising during the commissioning works would continue to be evident. Mitigation planting would not contribute to integration or screening at this stage.
- 177) Commissioning activity would continue to be uncharacteristic and contrast with the predominantly rural character and setting of this landscape; however, the scale of these effects would be reduced compared with the construction phase. Due to the proximity of the disturbance and vegetation loss from the commissioning works, there would be a minor and uncharacteristic change to a small proportion of the landscape, which would be experienced over the short term. This high sensitivity landscape receptor would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 178) C9. Newton and Birkett LCA would also be indirectly affected by the commissioning works at the Bonstone and Braddup compounds within its landscape setting. However, the disturbance from the commissioning works would be experienced across a much broader proportion of the landscape and from a much greater distance.
- 179) Due to the more distant disturbance from the commissioning works, there would be barely perceptible and uncharacteristic change to a moderate proportion of the landscape, which would be experienced over the short term. This high sensitivity landscape receptor would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 180) LCAs C3. Easington and D7. Moorcock would also be indirectly affected by the disturbance from the commissioning works within their landscape setting. These LCAs would have a barely perceptible and uncharacteristic change to a small or very small proportion of the landscape, which would be experienced over the short term. These high sensitivity landscape receptors would therefore experience a negligible magnitude of effect, resulting in a slight adverse significance of effect.
- 181) LCAs 5b. Lower Hodder and Loud Valley, 14a. Slaidburn-Giggleswick, D5. Beatrix to Collyholme, 16. Upper Hodder, 17. Lower Hodder would experience a negligible or no discernible change to their landscape during the Enabling Works Phase due to a combination of intervening topography and vegetation. These high sensitivity landscape receptors would therefore experience no significant effect.

#### **Visual Effects – Bonstone Compound**

- 182) Views and visual receptors within the detailed assessment area, which could be subject to significant short-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 183) There would be views from the viewpoint locations to the Bonstone Compound, approximately 1 km to the south. Residential viewers and recreational users of footpaths (T3/34, T3/35) would have views to the Bonstone Compound to the south in a large proportion of the middle-distance views. Specific

changes would result from the visual presence of the retained construction compound and from the visual disturbance and movement associated with localised open-cut excavations, pipelaying near the existing valve house building and vehicles travelling along the construction access road. Reinstatement activities, including removal of the construction access tracks, removal of fencing and hoarding, removal of the temporary compound surfacing, land reprofiling and reinstatement of grassland, dry stone wall and hedgerow vegetation would be undertaken on completion of the commissioning works. The commissioning activities would become the dominant feature of views and would be seen on the rising hillsides and on the skyline to the north, and would result in a substantial change to the character of the view. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.

- 184) Recreational users of the footpath (T4/02) would be very close to the Bonstone Compound with direct and open views. Specific changes would result from the visual presence of the retained construction compound and construction access tracks, and from the visual disturbance and movement associated with the movement of plant and equipment along the construction access track. Visual disturbance would also occur at the end of the commissioning phase due to the removal of the construction access tracks, removal of fencing and hoarding, removal of the temporary compound surfacing, land reprofiling, and reinstatement of grassland, field boundaries and vegetation. Residential viewers and recreational users of footpath (T4/03) would be close to the Bonstone Compound construction access track and views would include movement of construction vehicles along the construction access track. The commissioning activities would become the dominant feature of the view from both viewpoint locations and would result in a substantial change to the character of the view. These high sensitivity visual receptors would experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 185) Recreational users of footpaths and travellers on local roads (T4/04 and T4/05) would have open middle-distance views to the Bonstone Compound. Specific changes, which would be seen in the middle distance, would result from the visual presence of the retained construction compound and from the visual disturbance and movement associated with localised open-cut excavations and pipelaying near the existing valve house building. Reinstatement activities, including removal of fencing and hoarding, removal of the temporary compound surfacing, land reprofiling, and reinstatement of grassland and field boundaries, would be undertaken on completion of the commissioning activities. The commissioning activities would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across part of the view. These high sensitivity visual receptors would therefore experience a minor or moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 186) Non-significantly affected representative viewpoints – Residents and travellers on the local road, recreational users of footpaths, including the Hodder Way and Pendle Witches Way long distance footpaths (T3/23, T3/28, T3/29, T3/30, T3/32, T3/33) would have open or partially filtered, elevated long-distance views to the Bonstone Compound located on an open ridge to the south in a small proportion of the view. Specific changes would result from the visual presence of the retained construction compound on the ridge and from the visual disturbance and movement associated with localised open-cut excavations and pipelaying near the existing valve house buildings. Reinstatement activities, including removal of fencing and hoarding, removal of the temporary compound surfacing, land reprofiling, and reinstatement of grassland and field boundaries, would be undertaken on completion of the commissioning activities. The activities would result in a perceptible change which would alter the key characteristics across a small part of the rural view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 187) There would be a negligible effect or no change to the view (no intervisibility) during the Commissioning Phase due to a combination of intervening topography, built form and vegetation, from the following viewpoint locations: T3/24, T3/36, T3/40, T3/43, T3/44, T4/01.

### Visual Effects – Braddup Compound

- 188) Views and visual receptors within the detailed assessment area, which could be subject to significant short-term effects are described below. Refer to Figure 6.2 for viewpoint locations and Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 189) Recreational users of footpaths (T4/09 and T4/10) would be close by, with views to a large proportion of the compound, although from T4/09 the southern part of the construction compound would be hidden by the gently falling topography and filtered by individual trees, and from T4/10 the northern part of the construction compound would be screened by woodland plantation. Specific changes would result from the visual presence of the construction compound. Visual disturbance, which would be seen in short-distance views, would result from the movement associated with localised open-cut excavations. Reinstatement activities, including the removal of fencing and hoarding, removal of the construction access track and temporary compound surfacing, land reprofiling, and reinstatement of grassland and field boundaries, would be undertaken on completion of the commissioning activities. The commissioning activities would become the dominant feature in the view and would result in a substantial change to the character of the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 190) Recreational users of footpaths (T4/11 and T4/12) would see the construction access track in the direct frame of view, and in a large proportion of views to the east (T4/11) and east and west (T4/12). Tree belts would screen more distant views. The construction compound to the west would be screened by woodland. Specific changes would result from the visual presence of the tarmac construction access track and fencing. Visual disturbance from moving plant and equipment and HGVs would be seen in the direct frame of view although construction traffic would substantially reduce during the commissioning phase. Reinstatement activities, including the removal of the tarmac construction access track, fencing, land reprofiling and reinstatement of grassland, would be undertaken on completion of the commissioning activities. The commissioning activities would become the dominant feature in the view and would result in a substantial change to the character of the view. These high sensitivity visual receptors would therefore experience a major magnitude of effect, resulting in a major adverse significance of effect.
- 191) Residential viewers, users of recreational footpaths and travellers on the local road (T4/06 and T4/07) would have partially screened and filtered middle-distance views of a small proportion of the compound to the south. The long access track to the south-east would be obscured by slight topographical changes and intervening woodland. Specific changes would result from the visual presence of the construction compound. Visual disturbance, which would be seen in short-distance views, would result from the movement associated with localised open-cut excavations and pipelaying near the existing valve house building. Reinstatement activities, including the removal of fencing and hoarding, removal of the temporary compound surfacing, land reprofiling, and reinstatement of grassland and field boundaries, would be undertaken on completion of the commissioning activities. The commissioning activities would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across a small part of the view. These high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 192) Residential viewers, users of recreational footpaths and travellers on the local road (T4/13, T4/14 and T4/15) would have partially filtered middle-distance views of a moderate proportion of the construction access track, seen between breaks in tall hedgerows and filtered by intervening trees. Tree belts and hedgerow boundaries would limit views to more distant sections of the access track. The construction compound to the west would be screened by a woodland. Specific changes would result from the visual disturbance from moving plant and equipment and HGVs travelling along the construction access road, although traffic would substantially reduce during the commissioning phase. Reinstatement activities, including the removal of the tarmac construction access track, fencing, land reprofiling and reinstatement of grassland would be undertaken on completion of the commissioning activities. The commissioning activities would result in a noticeable alteration to key characteristics of the view, and would introduce uncharacteristic features across a small part of the view. These high sensitivity visual



receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.

- 193) Travellers along Cross Lane (T4/19) would have partially filtered, short- to middle-distance views to the skyline to the north of a moderate proportion of the Braddup Compound. The northern part of the compound would be hidden behind a ridge in the middle distance. A tree belt would screen the construction access track to the east. Specific changes would result from the visual presence of the construction compound. Visual disturbance would result from the movement associated with localised open-cut excavations within the southern section of the compound. Reinstatement activities, including the removal of fencing and hoarding, removal of the construction access track within the compound and temporary compound surfacing, land reprofiling and reinstatement of grassland, would be undertaken on completion of the commissioning activities. The commissioning activities would result in a noticeable alteration to key characteristics of the view; and introduce uncharacteristic features across part of the view. The high sensitivity visual receptors would therefore experience a moderate magnitude of effect, resulting in a moderate adverse significance of effect.
- 194) Non-significantly affected representative viewpoints – Residential viewers and users of footpaths (T4/08) would have views, substantially obscured by the gently falling topography, screened by woodland blocks and filtered by individual trees, towards the Braddup Compound. Residential viewers and travellers on Cross Lane (T4/16 and T4/17) would have glimpsed views, substantially filtered by intervening trees and hedgerows on Cross Lane, to the construction access track. Only a small section of the construction access track would be visible. Tree belts and hedgerow boundaries would screen the access track further to the east and west. The construction compound to the west would be screened by woodland. Specific changes would result from the visual presence of the soil storage mounds; the construction access track would not be visible. There would be glimpsed and heavily filtered views of moving plant and equipment and HGVs although construction traffic would substantially reduce during the commissioning phase. Reinstatement activities, including the removal of the tarmac construction access track, fencing, land reprofiling and reinstatement of grassland, would be undertaken on completion of the commissioning activities. The commissioning activities would be perceptible but would not alter the balance of features that comprise the existing view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 195) There would be a negligible effect during the Enabling Works Phase due to a combination of intervening topography and vegetation (T4/18 and T4/20).

**Table 6.16: Summary of Commissioning Phase Landscape Effects**

| Environmental / Community Asset  | Sensitivity | Effect   | Duration                | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|--|-------------------------|------------|---|
| G3. Upper Hodder LCA   | High        | A noticeable and uncharacteristic change to a moderate proportion of the landscape.                    | Short-term / reversible | Moderate   | Major adverse (Significant)             |
| 4e. Bowland Limestone Fringes LCA<br>5a. Upper Hodder Valley LCA<br>5g. South Bowland Fringes LCA<br>F2. Bolton by Bowland to Waddington LCA<br>G7. Browsholme LCA | High        | A noticeable and uncharacteristic change to a small proportion of the landscape.                       | Short-term / reversible | Minor      | Moderate adverse (Significant)          |
| 2d. Waddington Fell LCA<br>4d. Bowland Gritstone Fringes LCA   | High        | A minor and uncharacteristic change to a small proportion of the landscape.                            | Short-term / reversible | Minor      | Slight adverse                          |
| C9. Newton and Birkett LCA   | High        | A barely perceptible or minor and uncharacteristic change to a moderate proportion of the landscape.   | Short-term / reversible | Minor      | Slight adverse                          |
| C3. Easington LCA<br>D7. Moorcock LCA  | High        | A barely perceptible and uncharacteristic change to a small or very small proportion of the landscape. | Short-term / reversible | Negligible | Slight adverse                          |
| 17. Lower Hodder LCA   | High        | A barely perceptible and uncharacteristic change to  | Short-term / reversible | Negligible | Negligible                              |

| Environmental / Community Asset   | Sensitivity | Effect                                    | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|----------|-----------|---|
|   |             | a very small proportion of the landscape. |          |           |   |
| 5b. Lower Hodder and Loud Valley LCA<br>14a. Slaidburn-Giggleswick LCA<br>D5. Beatrix to Collyholme LCA<br>I6. Upper Hodder LCA | High        | No discernible change to the landscape.   | N/A      | No Change | No Change                               |

**Table 6.17: Summary of Enabling Works Visual Effects – Bonstone Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-------------------------|-----------|---|
| T3/34 Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network<br>T3/35 Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road<br>T4/02 Ribble Valley FP 43<br>T4/03 Newlaithe Farm, Ribble Valley FP 43 | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short-term / reversible | Major     | Major adverse (Significant)             |
| T4/04 Ing Barn, Easington Road<br>T4/05 B4678 Slaidburn Road  | High        | A noticeable and uncharacteristic change                                      | Short-term / reversible | Moderate  | Moderate adverse (Significant)          |

| Environmental / Community Asset   | Sensitivity | Effect   | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|-----------------------------------|------------|---|
|   |             | across a moderate part of the view.  |                                   |            |   |
| <p>T3/23 Ribble Valley FP 9</p> <p>T3/28 Newton settlement edge, Newton Road to Dunsop Bridge</p> <p>T3/29 The Heaning (Farm), Ribble Valley FP 15</p> <p>T3/30 Fober Farm, Dunsop Road</p> <p>T3/32 The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/33 The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network</p> | High        | A perceptible and uncharacteristic change across a small part of the view.                               | Short-term / reversible           | Minor      | Slight adverse                          |
| <p>T3/24 Crawshaw Farm, Ribble Valley FP 11</p> <p>T4/01 Wyndfell Farm, B4678 Slaidburn Road</p>  | High        | A barely noticeable change across a small part of the view.  | Short to medium-term / reversible | Negligible | Negligible                              |
| <p>T3/36 The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill</p> <p>T3/40 Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18</p> <p>T3/43 Tops of the North (Three Shire Heads to Carlisle) Long distance path,</p>  | High        | There would be no view of the construction activities due to intervening topography and / or vegetation. | N/A                               | No Change  | No Change                               |

| Environmental / Community Asset  | Sensitivity | Effect | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|--|-------------|--------|----------|-----------|---|
| Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network<br>T3/44 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network |             |        |          |           |   |

**Table 6.18: Summary of Enabling Works Visual Effects – Braddup Compound**

| Environmental / Community Asset   | Sensitivity | Effect  | Duration                | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|---|-------------------------|-----------|---|
| T4/09 Ribble Valley FP 3<br>T4/10 Ribble Valley FP 3<br>T4/11 Ribble Valley Bridleway BW 1<br>T4/12 Ribble Valley FP 9  | High        | A dominant and uncharacteristic change across a large proportion of the view. | Short-term / reversible | Major     | Major adverse                           |
| T4/06 Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road<br>T4/07 Surrounding residential properties near Hodgesons Moor<br>T4/13 Brooklands Farm, Brooklands Barn, A4678 Slaidburn Road<br>T4/14 Ravelston House, Cross Lane<br>T4/15 Colthurst bungalow, Oak Cottage, Cross Lane | High        | A noticeable and uncharacteristic change across a moderate part of the view.  | Short-term / reversible | Moderate  | Moderate adverse                        |

| Environmental / Community Asset  | Sensitivity | Effect   | Duration                          | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|--|-----------------------------------|------------|---|
| T4/19 Cross Lane   |             |  |                                   |            |   |
| T4/08 Daisy Hill Farm, Ribble Valley<br>Bridleway BW 1, FP1, FP 2<br>T4/16 Cross Lane<br>T4/17 Colthurst Farm and surrounding<br>residential receptors | High        | A perceptible and uncharacteristic change across a small part of the view. | Short-term / reversible           | Minor      | Slight adverse                          |
| T4/18 Braddup House Farm, Grade II<br>Listed, Peter Barn<br>T4/20 Braddup Farm, Ribble Valley FP<br>3  | High        | A barely noticeable change across a small part of the view.                | Short to medium-term / reversible | Negligible | Negligible                              |

#### 6.6.4 Operational Phase

- 196) The following section describes the effects of the Proposed Marl Hill Section on landscape and visual receptors during the operational phase.
- 197) Effects during the Operational Phase are described in Appendix 6.4: Schedule of Landscape Effects and Appendix 6.5: Schedule of Visual Effects.
- 198) The summary of Operational Phase effects is shown in Table 6.19 to Table 6.24 below.

##### **Predicted Impacts**

- 199) The main effects on landscape character and people's views that could arise during the Operational Phase are:
- Visual effects of a new permanent valve house building at the Braddup Compound, at the Bonstone Compound located in the vicinity of the existing valve house buildings and new access tracks.

##### **Landscape Effects**

###### Year 1 of Operation

- 200) LCAs 4d. Bowland Gritstone Fringes, 4e. Bowland Limestone Fringes, 5g. South Bowland Fringes, F2. Bolton by Bowland to Waddington, G3. Upper Hodder and G7. Browsholme would be directly and indirectly affected by the presence of above-ground features and vegetation loss at the Bonstone and Braddup compounds.
- 201) At Year 1, the commissioning works would have ceased, and the uncharacteristic elements introduced during the Enabling Works, Construction and Commissioning phases would no longer be present in the landscape. Landscape features including stone walls and fences would be reinstated and new hedgerows would be establishing, restoring the original field pattern. The local landscape profiles would have been reinstated and the grass sward established, except where the permanent access tracks would be required for operational use. The diverted PRow network at the affected compounds would be reinstated to its original alignment.
- 202) Changes within the assessment area would arise from the introduction of one additional valve house building at each of the Bonstone and Braddup compounds. The new valve houses, located alongside the existing valve house buildings, would be built to an appropriate vernacular design. These would be similar to the existing valve house buildings and characteristic of the existing rural landscape. There would also be a requirement for new access roads and air valves local to the sections of open-cut pipeline, although these would be small and discreet new features.
- 203) Direct impacts due to the loss of existing vegetation, such as trees, shrubs and hedgerows, would remain. The mitigation planting introduced during the Commissioning Phase would have a limited contribution to integration, enclosure or screening at this stage.
- 204) Due to the limited contribution of the mitigation planting, the presence of the above-ground features and the loss of vegetation undertaken at the Enabling Works Phase, there would be a minor and predominantly characteristic change to a small proportion of the landscape. These high sensitivity landscape receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 205) LCAs 2d. Waddington Fell and 5a. Upper Hodder Valley would be indirectly affected by the above-ground features at the Bonstone and Braddup compounds during the Operational Phase at Year 1. This would include views towards the introduced valve houses and access roads. Mitigation planting introduced during the commissioning phase would not be fully established and therefore at this stage provide only limited contribution to integration and screening at this stage.
- 206) Due to the proximity of the of the above-ground features and vegetation loss at Year 1, these LCAs would have a minor and predominantly characteristic change to a small proportion of the landscape, which



would be experienced over the long term. These high sensitivity receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.

- 207) LCAs C3. Easington, C9. Newton and Birkett and D7. Moorcock LCAs would also be indirectly affected by the presence of above-ground features and vegetation loss within their landscape setting.
- 208) Due to the more distant presence of the above-ground features and vegetation loss at Year 1, these LCAs would experience a barely perceptible and predominantly characteristic change to a small or very small part of the landscape, which would be experienced over the long term. These high sensitivity receptors would therefore experience a negligible magnitude of effect, resulting in a slight adverse significance of effect.
- 209) LCAs 5b. Lower Hodder and Loud Valley, 14a. Slaidburn-Giggleswick, D5. Beatrix to Collyholme, I6. Upper Hodder, I7. Lower Hodder would continue to experience a negligible or no discernible change to their landscape during the Operation Phase at Year 1. These high sensitivity landscape receptors would therefore continue to experience no significant effect.

#### Year 15 of Operation

- 210) LCAs 4d. Bowland Gritstone Fringes, 4e. Bowland Limestone Fringes, 5g. South Bowland Fringes, F2. Bolton by Bowland to Waddington, G3. Upper Hodder and G7. Browsholme would continue to be directly and indirectly affected by the presence of the above-ground features at the Bonstone and Braddup compounds, which would be experienced as a permanent change 15 years into operation. Maturing mitigation planting would help to replace existing vegetation removed during the Enabling Works Phase and provide some integration, enclosure and screening of introduced structures and features into the surrounding landscape. However, some of the introduced above-ground structures, such as valve house buildings, air valves and access roads, would remain partially present within a very small proportion of the landscape. Restored pasture and reinstated hedgerows would have established sufficiently to restore the character locally, and the introduced above-ground features would be characteristic of the existing compounds. These high sensitivity landscape receptors would therefore experience a negligible magnitude of effect, resulting in a negligible significance of effect.
- 211) The remaining affected LCAs would continue to have barely perceptible views towards the above-ground features at the Bonstone and Braddup compounds. At Year 15, maturing mitigation planting would help to replace existing vegetation removed during the Enabling Works Phase and provide some integration of introduced features, such as the new valve houses, with the surrounding landscape. There would be a barely perceptible and characteristic change to a small or very small proportion of the landscape, which would be experienced as a permanent change. These high sensitivity landscape receptors would also experience a negligible magnitude of effect, resulting in a negligible significance of effect.
- 212) LCAs 5b. Lower Hodder and Loud Valley, 14a. Slaidburn-Giggleswick, D5. Beatrix to Collyholme, I6. Upper Hodder, I7. Lower Hodder would continue to experience no significant effect.

#### **Visual Effects: – Bonstone Compound**

##### Year 1 of Operation

- 213) Views and visual receptors within the detailed assessment area, which could be subject to significant effects, are described below. Refer to the ZTV and the viewpoint locations on Figure 6.1 and Figure 6.2. Additional detail on representative viewpoints is provided in Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 214) Non-significantly affected representative viewpoints – Residential viewers and travellers along the local road (T3/34 and T3/35) would have short to middle distance views to the Bonstone Compound. The new valve house building would be perceptible on the skyline although seen in the context of the existing valve house buildings.
- 215) Residential viewers and recreational users of footpaths (T4/02 and T4/03) would be close to the Bonstone Compound. On completion of the construction and commissioning activities, reinstatement of the boundary features and reinstatement planting of the hedgerow, a perceptible change in view

would remain while the grassland and rush characteristics establish. The valve house building would be a new and noticeable building seen on the skyline although it would be seen in context of the existing valve house buildings.

- 216) Residential viewers and travellers on the local roads (T4/04 and T4/05) would have middle-distance views to the Bonstone Compound. On completion of the construction and commissioning activities and reinstatement of agricultural field boundaries a perceptible change would remain while the grassland and rush characteristics establish. The small area of reinstated hedgerow would not be fully established at this stage and would provide only limited screening at Year 1. The new valve house building would be partially visible on the skyline from most locations and seen in the context of the existing valve house buildings on the skyline, and would be largely characteristic of the view. The changed views would result in a perceptible change which would alter the key characteristics across a small part of the rural view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect.
- 217) Residential viewers, recreational users of footpaths and the Pendle Witches Way long distance path, and road travellers, including on Dunsop Road (T3/23, T3/24, T3/28, T3/29, T3/30, T3/32, T3/33), would have substantially screened and / or heavily filtered middle- to long-distance views. On completion of the construction and commissioning activities and reinstatement of agricultural fields boundaries there would be a barely noticeable change in view. The new valve house building would be seen from a distance and in the context of the existing valve house buildings. The changed views would result in a barely noticeable change across a very small part of the rural view. These high sensitivity visual receptors would therefore experience a negligible effect, resulting in a negligible significance of effect.
- 218) There would be no change to the view (no intervisibility) due to a combination of intervening topography, built form and vegetation, from the following viewpoint locations: T3/36, T3/40, T3/43, T3/44, T4/01.

#### Year 15 of Operation

- 219) Non-significantly affected representative viewpoints – There would continue to be a slight adverse effect on views from the following location due to the presence of the new valve house building in close proximity by and silhouetted above the skyline :T4/02.
- 220) By summer of Year 15, mitigation planting and grassland would be sufficiently established to reinstate the landscape pattern and provide integration. The new valve house building would be largely characteristic of the view. There would be a barely noticeable change and a negligible effect from viewpoints T3/23, T3/24, T3/28, T3/29, T3/30, T3/32, T3/33, T3/34, T3/35, T4/03, T4/04 and T4/05.
- 221) There would continue to be no change to the view from the locations as described above.

#### **Visual Effects: – Braddup Compound**

##### Year 1 of Operation

- 222) Views and visual receptors within the detailed assessment area, which could be subject to significant effects, are described below. Refer to the ZTV and the viewpoint locations on Figure 6.1 and Figure 6.2. Additional detail on representative viewpoints is provided in Appendix 6.5: Schedule of Visual Effects. Representative viewpoint photographs are shown on Figure 6.7.
- 223) Recreational users of footpaths and road travellers on Cross lane (T4/09, T4/10, T4/12 and T4/19) would perceive a slight change across the agricultural fields while the grassland and rush characteristics establish. There would also be a perceptible increase in openness from T4/09 resulting from the previous removal of a line of small trees located centrally within the compound and from the removal of short sections of hedgerow along the construction access track at T4/12. The reinstated trees and hedgerow would not be fully established at this stage and would provide only limited screening at Year 1. The new valve house building would be seen from viewpoint locations T4/09 and T4/19, in the context of the existing valve house buildings, located nearby on the brow of the hill, and would be largely characteristic of the view. The new valve house building would not be visible from viewpoint locations T4/10 and T4/12. The changed views would result in a perceptible change which would alter the

characteristics across a small part of the rural view. These high sensitivity visual receptors would therefore experience a minor magnitude of effect, resulting in a slight adverse significance of effect

- 224) Residential viewers, recreational users of footpaths and road travellers (T4/06, T4/07, T4/08, T4/11, T4/13, T4/14, T4/15, T4/16 T4/17, T4/18 and T4/20) would generally have substantially screened and / or heavily filtered middle- to long-distance views towards the Braddup Compound. On completion of the construction and commissioning activities and reinstatement of the pastoral grass sward there would be a barely noticeable change in view. Where the new valve house building is visible, it would be seen from a distance and in the context of the existing valve house building. The changed views would result in a barely noticeable change across a small part of the rural view. These high sensitivity visual receptors would therefore experience a negligible effect, resulting in a negligible significance of effect.

Year 15 of Operation

- 225) By summer of Year 15, mitigation planting and grassland would be sufficiently established to reinstate the landscape pattern and provide integration. The new valve house building would be largely characteristic of the view. There would be a barely noticeable change from all representative viewpoints resulting in a negligible effect from all representative viewpoint locations.

**Table 6.19: Summary of Operational Phase Landscape Effects (Year 1)**

| Environmental / Community Asset  | Sensitivity | Effect  | Duration               | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|------------------------|------------|---|
| 2d. Waddington Fell LCA<br>4d. Bowland Gritstone Fringes LCA<br>4e. Bowland Limestone Fringes LCA<br>5a. Upper Hodder Valley LCA<br>5g. South Bowland Fringes LCA<br>F2. Bolton by Bowland to Waddington LCA<br>G3. Upper Hodder LCA<br>G7. Browsholme LCA | High        | A minor and predominantly characteristic change to a small proportion of the landscape.                   | Long-term / reversible | Minor      | Slight adverse                          |
| C3. Easington LCA<br>C9. Newton and Birkett LCA<br>D7. Moorcock LCA  | High        | A barely perceptible and predominantly characteristic change to a very small proportion of the landscape. | Long-term / reversible | Negligible | Slight adverse                          |
| I7. Lower Hodder LCA   | High        | A barely perceptible and predominantly characteristic change to a very small proportion of the landscape. | Long-term / reversible | Negligible | Negligible                              |
| 5b. Lower Hodder and Loud Valley LCA<br>14a. Slaidburn-Giggleswick LCA<br>D5. Beatrix to Collyholme LCA<br>I6. Upper Hodder LCA  | High        | No discernible change to the landscape.   | N/A                    | No Change  | No Change                               |

**Table 6.20: Summary of Operational Phase Landscape Effects (Year 15)**

| Environmental / Community Asset   | Sensitivity | Effect   | Duration                 | Magnitude  | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|--------------------------|------------|---|
| 2d. Waddington Fell LCA<br>4d. Bowland Gritstone Fringes LCA<br>4e. Bowland Limestone Fringes LCA<br>5a. Upper Hodder Valley LCA<br>5g. South Bowland Fringes LCA<br>C3. Easington LCA<br>C9. Newton and Birkett LCA<br>D7. Moorcock LCA<br>F2. Bolton by Bowland to Waddington LCA<br>G3. Upper Hodder LCA<br>G7. Browsholme LCA<br>I7. Lower Hodder LCA | High        | A barely perceptible and characteristic change to a small or very small proportion of the landscape. | Permanent / irreversible | Negligible | Negligible                              |
| 5b. Lower Hodder and Loud Valley LCA<br>14a. Slaidburn-Giggleswick LCA<br>D5. Beatrix to Collyholme LCA<br>I6. Upper Hodder LCA   | High        | No discernible change to the landscape.  | N/A                      | No Change  | No Change                               |

**Table 6.21: Summary of Operational Phase Visual Effects (Year 1) – Bonstone Compound**

| Environmental / Community Asset   | Sensitivity | Effect   | Duration               | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|------------------------|-----------|---|
| T3/34 Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network | High        | A perceptible and uncharacteristic change across a small part of the view. | Long-term / reversible | Minor     | Slight adverse                          |

| Environmental / Community Asset  | Sensitivity | Effect  | Duration               | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|------------------------|------------|---|
| T3/35 Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road<br>T4/02 Ribble Valley FP 43<br>T4/03 Newlaithe Farm, Ribble Valley FP 43<br>T4/04 Ing Barn, Easington Road<br>T4/05 B4678 Slaidburn Road   |             |   |                        |            |   |
| T3/23 Ribble Valley FP 9<br>T3/24 Crawshaw Farm, Ribble Valley FP 11<br>T3/28 Newton settlement edge, Newton Road to Dunsop Bridge<br>T3/29 The Heaning (Farm), Ribble Valley FP 15<br>T3/30 Fober Farm, Dunsop Road<br>T3/32 The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network<br>T3/33 The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network | High        | A barely noticeable change across a small part of the view. | Long-term / reversible | Negligible | Negligible                              |

| Environmental / Community Asset  | Sensitivity | Effect  | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|----------|-----------|---|
| <p>T3/36 The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill</p> <p>T3/40 Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18</p> <p>T3/43 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p> <p>T3/44 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p> <p>T4/01 Wyndfell Farm, B4678 Slaidburn Road</p> | High        | There would be no view of the compound due to intervening topography and / or vegetation. | N/A      | No Change | No Change                               |

**Table 6.22: Summary of Operational Phase Visual Effects (Year 15) – Bonstone Compound**

| Environmental / Community Asset | Sensitivity | Effect   | Duration                 | Magnitude | Significance of Effect (Pre-Mitigation) |
|---------------------------------|-------------|--|--------------------------|-----------|---|
| T4/02 Ribble Valley FP 43       | High        | A perceptible and uncharacteristic change across a small part of the view. | Permanent / irreversible | Minor     | Slight adverse                          |



| Environmental / Community Asset   | Sensitivity | Effect   | Duration                        | Magnitude         | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|---------------------------------|-------------------|---|
| <p>T3/23 Ribble Valley FP 9</p> <p>T3/24 Crawshaw Farm, Ribble Valley FP 11</p> <p>T3/28 Newton settlement edge, Newton Road to Dunsop Bridge</p> <p>T3/29 The Heaning (Farm), Ribble Valley FP 15</p> <p>T3/30 Fober Farm, Dunsop Road</p> <p>T3/32 The Pendle Witches Way Long distance path, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/33 The Hodder Way and the Pendle Witches Way Long distance paths, Ribble Valley FP 31 and the surrounding footpath network</p> <p>T3/34 Long Stripes Farmhouse, Grade II Listed, Ribble Valley FP 26 and the surrounding footpath network</p> <p>T3/35 Residential properties Farrowfield and surrounding properties, the Hodder Way Long distance path, Ribble Valley FP 35, FP 40, FP 43 and the surrounding footpath network, Easington Road</p> <p>T4/03 Newlaithe Farm, Ribble Valley FP 43</p> <p>T4/04 Ing Barn, Easington Road</p> <p>T4/05 B4678 Slaidburn Road</p> | <p>High</p> | <p>A barely noticeable change across a small part of the view.</p> | <p>Permanent / irreversible</p> | <p>Negligible</p> | <p>Negligible</p>                       |

| Environmental / Community Asset  | Sensitivity | Effect  | Duration | Magnitude | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|----------|-----------|---|
| <p>T3/36 The Hodder Way Long distance path, Ribble Valley FP 26, Hallgate Hill</p> <p>T3/40 Properties within Easington, Tops of the North (Three Shire Heads to Carlisle) Long distance path, Ribble Valley FP 17, FP 18</p> <p>T3/43 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p> <p>T3/44 Tops of the North (Three Shire Heads to Carlisle) Long distance path, Open Access Land Standridge Hill, Ribble Valley FP 17 and surrounding footpath network</p> <p>T4/01 Wyndfell Farm, B4678 Slaidburn Road</p> | High        | There would be no view of the compound due to intervening topography and / or vegetation. | N/A      | No Change | No Change                               |

**Table 6.23: Summary of Operational Phase Visual Effects (Year 1) – Braddup Compound**

| Environmental / Community Asset   | Sensitivity | Effect   | Duration               | Magnitude | Significance of Effect (Pre-Mitigation) |
|---|-------------|--|------------------------|-----------|---|
| <p>T4/09 Ribble Valley FP 3</p> <p>T4/10 Ribble Valley FP 3</p> <p>T4/12 Ribble Valley FP 9</p> <p>T4/19 Cross Lane</p> | High        | A perceptible and uncharacteristic change across a small part of the view. | Long-term / reversible | Minor     | Slight adverse                          |

| Environmental / Community Asset  | Sensitivity | Effect  | Duration               | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|------------------------|------------|---|
| T4/06 Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road<br>T4/07 Surrounding residential properties near Hodgesons Moor<br>T4/08 Daisy Hill Farm, Ribble Valley Bridleway BW 1, FP1, FP 2<br>T4/11 Ribble Valley Bridleway BW 1<br>T4/13 Brooklands Farm, Brooklands Barn, A4678 Slaidburn Road<br>T4/14 Ravelston House, Cross Lane<br>T4/15 Colthurst bungalow, Oak Cottage, Cross Lane<br>T4/16 Cross Lane<br>T4/17 Colthurst Farm and surrounding residential receptors<br>T4/18 Braddup House Farm, Grade II Listed, Peter Barn<br>T4/20 Braddup Farm, Ribble Valley FP 3 | High        | A barely noticeable change across a small part of the view. | Long-term / reversible | Negligible | Negligible                              |

**Table 6.24: Summary of Operational Phase Visual Effects (Year 15) – Braddup Compound**

| Environmental / Community Asset  | Sensitivity | Effect  | Duration               | Magnitude  | Significance of Effect (Pre-Mitigation) |
|--|-------------|---|------------------------|------------|---|
| T4/06 Summit House, New-o-Nook, Ribble Valley Bridleway BW 1, Browsholme Road<br>T4/07 Surrounding residential properties near Hodgesons Moor<br>T4/08 Daisy Hill Farm, Ribble Valley Bridleway BW 1, FP1, FP 2<br>T4/09 Ribble Valley FP 3<br>T4/10 Ribble Valley FP 3<br>T4/11 Ribble Valley Bridleway BW 1<br>T4/12 Ribble Valley FP 9<br>T4/13 Brooklands Farm, Brooklands Barn, A4678 Slaidburn Road<br>T4/14 Ravelston House, Cross Lane<br>T4/15 Colthurst bungalow, Oak Cottage, Cross Lane<br>T4/16 Cross Lane<br>T4/17 Colthurst Farm and surrounding residential receptors<br>T4/18 Braddup House Farm, Grade II Listed, Peter Barn<br>T4/19 Cross Lane<br>T4/20 Braddup Farm, Ribble Valley FP 3 | High        | A barely noticeable change across a small part of the view. | Long-term / reversible | Negligible | Negligible                              |

### **Dark Skies**

- 226) The Proposed Bonstone Compound is situated in a rural location with occasional residential properties, and within the AONB, and has low levels of artificial lighting. The closest village is Newton-in-Bowland, which is located approximately 1.2 km north-east of the Proposed Bonstone Compound. The village roads are lit with a limited number of 5 m post top lights. The B6478 Slaidburn Road approaching the access road from Newton-in-Bowland and from Waddington is unlit.
- 227) The Proposed Braddup Compound is situated in a rural location with occasional residential properties, and within the AONB, and has low levels of artificial lighting. The closest village is Waddington, which is located approximately 2 km south-east of the Proposed Braddup Compound. The village roads are lit with 5m post top lights. The B6478 Slaidburn Road approaching the access road from Waddington to the site is unlit. Glow from streetlights in Waddington would be visible on cloudy evenings from the proposed site. Sky glow from Clitheroe, located 3.5 km to the south-east, would be visible from Waddington and the proposed site.
- 228) The both compounds are within an area identified by CPRE, The Countryside Charity, as an area with the least amount of 'light blight'. i.e. darkest skies, and within Environmental Zone E1, as described in the International Commission on Illumination. More detail can be found in the Marl Hill Section Lighting Management Plan. Two 'Dark Sky Discovery Sites' sites fall within the Bonstone Compound assessment area; one of them is located at a private business called Clerk Laithe Lodge in Newton-in-Bowland, approximately 1.7 km from the Proposed Bonstone Compound, with the other, Slaidburn visitor car park, is located approximately 3.8 km to the north-east. There are no 'Dark Sky Discovery Sites' within the assessment area of the Proposed Braddup Compound.
- 229) The primary objective of lighting during construction activities is to provide a safe illuminated working environment and to provide security lighting. The 45 m crane high would have specific luminaires to light the crane hook when in operation which would be tilted at 0° to light the hook. Aircraft warning lights would also be required on the crane. A full description of mitigation measures to address the potential impact from the construction phase lighting have been set out in the Marl Hill Section Lighting Management Plan. These range from equipment choice, use of site topography and competent design and site management. The required lighting would be designed to minimise impacts on the surrounding environment, with specific measures described to minimise the impacts on surrounding habitats. This includes limiting the hours of lighting where practicable and directing luminaires into the area to be lit (light from the boundary inwards) and use of cowls to minimise light spill into surrounding areas including watercourses and trees.

## **6.7 Mitigation and Residual Effects**

- 230) Mitigation is most effective if considered as an integral part of the Proposed Bowland Section design in order to avoid, reduce or offset any adverse effects on the landscape or wider environment. Landscape and visual considerations have been a key input to the iterative design process, and a range of mitigation measures are proposed (refer to Section 6.4.3 and shown on Figure 20.1: Environmental Masterplan). These would include keeping hedges and woodland within compound areas where practicable and narrowing the working width at intersections with field boundaries, tracks, roads, woodland and vegetation belts. This would maintain some benefits of screening by preserving existing features and increase opportunities for protection of root zones of trees to be retained. There is also some flexibility built into the working area to allow for further avoidance of features.
- 231) Whilst all embedded mitigation and good practice measures described above in Section 6.4.3 would reduce or offset Landscape and Visual effects, some residual effects would remain significant. This is in part due to the location, scale, nature and short duration of the Proposed Bowland Section, which means it is only practicable to reduce rather than eliminate significant effects.
- 232) Major or moderate effect would relate to a detectable loss of nearby vegetation; the presence of temporary construction compounds, construction access tracks and laydown areas; movement of machinery required to manage and operate the activities to support the tunnel boring operations; the presence of 45 m high cranes, and open-cut operations to tie in with the existing Haweswater Aqueduct.

Landscape and visual receptors experiencing minor adverse or negligible effects would Have some of the views of elements such as construction compounds, construction access tracks and laydown areas. However, these would not be their primary focus due to a combination of distance, intervening topography and vegetation, and, therefore, the effects are typically considered to be less significant.

- 233) Due also to the relatively short duration of the construction activities, there is no opportunity to provide additional mitigation that would be beneficial to the Proposed Bowland Section. As such, the level of residual effects assessed for all landscape and visual receptors are the same as those assessed prior to the application of additional mitigation.
- 234) No further essential mitigation is proposed, and the residual effects are therefore as set out in Section 6.6.

## 6.8 Cumulative Effects

### 6.8.1 Inter-development Effects

- 235) The following section provides an overview of the potential cumulative effects from different proposed developments and land allocations, in combination with the Proposed Marl Hill Section (i.e. inter-project cumulative assessment). Data on proposed third party developments and land allocations contained in development plan documents were obtained from various sources, including local planning authority websites, online searches, and consultations with planning officers. Proposed development data were then reviewed with a view to identifying schemes or land allocations whose nature, scale and scope could potentially give rise to significant environmental effects when considered in combination with the likely effects arising from the Proposed Marl Hill Section.
- 236) Intra-project cumulative impacts, i.e. two or more types of impact acting in combination on a given environmental receptor, property or community resource, are considered in Chapter 14: Communities and Health.
- 237) The over-arching cumulative effects of the Proposed Programme of Works i.e. the five proposed replacement tunnel sections in combination, are considered in Chapter 19: Cumulative Effects. In addition, Chapter 19 examines the cumulative effects associated with the outcomes from Volume 2 (delivery and operation of the main construction compounds, tunnel, and construction traffic routes), Volume 5 (proposed off-site highways works and satellite compounds), and Volume 6 (Proposed Ribble Crossing).
- 238) Based on professional judgement, it was concluded that there is potential for environmental effects associated with the Proposed Marl Hill Section to act cumulatively with the Proposed Bowland Section development. The following section describes the outcome of this cumulative assessment.

**Table 6.25: Summary of Cumulative Effects**

| Proposed Development  | Nature / Scope of Effects                             | Commentary on Cumulative Effects  |
|---|---|---|
| Planning application:<br>Lancashire District Council<br>Ribble Valley Borough Council<br>Proposed Bowland Section | Potential for cumulative effects during construction. | <p><u>Landscape character</u></p> <p>The Proposed Marl Hill Section would give rise to a significant landscape effect on 4d. Bowland Gritstone Fringes during construction. The combined effects from both schemes would give rise to a greater significance of effect.</p> <p>The Proposed Marl Hill Section would give rise to a non-significant landscape effect on C9. Newton</p> |

| Proposed Development | Nature / Scope of Effects | Commentary on Cumulative Effects  |
|----------------------|---------------------------|---|
|                      |                           | <p>and Birkett LCA during construction.</p> <p>The combined effects from both schemes would give rise to a significant effect.</p> <p><u>Visual amenity</u></p> <p>The Proposed Marl Hill Section would give rise to significant and non-significant effects on visual amenity from viewpoints in the vicinity of the Proposed Bonstone Compound. Some residents of rural properties, farmsteads, users of the PRoW including Long distance paths: the Pendle Witches Way, The Hodder Way, Tops of the North (Three Shire Heads to Carlisle); and travellers on the local road network would have combined views of the Proposed Bonstone Compound and the Proposed Newton-in-Bowland Compound in the foreground, the middle distance or long-distance views. The users of the local road network would have sequential cumulative effects of the two schemes from short sections. From some viewpoints, the combined effects from proposed developments would give rise to a significant effect or greater significance of effect.</p> |

**6.8.2 Proposed Marl Hill Section**

- 239) Likely significant effects have been identified for the proposed off-site highways works, main construction areas, and for the Ribble Crossing. Cumulative effects are envisaged when taking account of the main construction compounds, construction access routes on the local public highway and off-site highways works. It is envisaged that the off-site highways would account for an additional cumulative landscape and visual effects in a broader landscape context.
- 240) The combination of construction activity and construction traffic movement within the main compounds, proposed off-site highways works and the Ribble Crossing would result in disruption across a wider area of the AONB. The construction compounds and highways improvement works would also result in disturbance to the wider landscape area from vegetation loss and removal of boundary features such as trees, hedgerows and dry stone walls.
- 241) The disruption caused by the Proposed Bonstone Compound would affect a small part of the Forest of Bowland AONB. However, in combination with the highways improvement works between the compound and Wray, the disruption from construction activity and the movement of construction vehicles and the loss of landscape features along the off-site highways routes, there would be a greater combined adverse effect on landscape quality. Effects from off-site improvement works would be



particularly pronounced on open moorland areas near Easington Fell, adversely affecting perceived tranquillity, remoteness and rural character.

- 242) Disruption caused by the Proposed Braddup Compound, would affect a small part of the Forest of Bowland AONB. However, in combination with the highways improvement works and the Proposed Ribble Crossing between the compound and Clitheroe, the disruption from construction activity, movement of construction vehicles and the loss of landscape features along the off-site highways routes would have greater combined adverse effect landscape quality. Effects on landscape quality would be particularly pronounced near the settlement of Waddington due to the construction and operation of the Proposed Braddup Compound and off-site highways improvement works and vehicle traffic on the B6478 Slaidburn Road. The combined effects from off-site highways improvement works and the construction and operation of the Ribble Crossing, located just outside the AONB, would also adversely affect landscape quality locally, and adversely affect the setting of the AONB. The movement of plant and machinery, along with the construction activities, would reduce the perceived tranquility, remoteness and rural character, introducing uncharacteristic features and affecting the landscape quality in the short to medium term. These effects would be reversible, however and the landscape areas would be returned to their original uses; trees would be planted and landscape features would be reinstated once construction activity ceases.
- 243) Visual receptors, both static, e.g. residents, and transient, e.g. footpath users and road travellers would experience a noticeable change in views within the wider area due to the construction related activity and vehicle movement, and removal of features such as trees, hedgerows and dry stone walls. The visual change would be most evident for travellers through the rural areas such as along the B6478 Slaidburn Road and near Waddington due to the frequency of both construction related activity for the highways improvement works and compounds, and the frequency of construction traffic movement during the construction phase. For example, the construction activity and vehicle movement would be seen in combination in the vicinity of the Proposed Bonstone Compound and would adversely affect views and the tranquillity of the wider settled rural area over the short to medium term. At the end of the construction phase, after the reinstatement of highways improvement areas and compound areas, construction vehicle movement would cease and landscape features would be reinstated.
- 244) Construction activity and vehicle movement would also be seen in combination in the area of the Proposed Braddup Compound and in the area of Waddington. The construction activity, which would occur over the short to medium term, would adversely affect views and the tranquillity of the wider settled rural area. Residential properties within Waddington, along the B6478 Slaidburn Road and along West Bradford Road, and footpath users with views towards the River Ribble valley would have views of moving construction traffic, the Proposed Braddup Compound and the construction and operation of the Ribble Crossing which would adversely affect views and perceived tranquillity to the south of Easington Fell. At the end of the construction phase, after the reinstatement of highways improvement areas and compound areas and the Ribble Crossing, construction vehicle movement would cease, and landscape features would be reinstated.

## 6.9 Conclusion

- 245) This chapter of the ES considered the potential impacts on landscape character and visual amenity associated with the construction of the route of the Proposed Marl Hill Section.
- 246) The Proposed Marl Hill Section would have a direct or indirect effect on LCAs and alter people's views during the Enabling Works Phase, the Construction Phase, the Commissioning Phase and the Operational Phase. It is anticipated that due to the scale and nature of the Proposed Marl Hill Section, there would be significant impacts on landscape character and visual amenity during the construction phases.
- 247) These effects would reduce once construction activity ceases and there would be no residual significant effects by Year 1 of the Operational Phase. The new valve house buildings located alongside existing facilities at the Bonstone Ground and at the Braddup Compound would be perceptible new features, keeping in scale and building style to the existing buildings. These new buildings would result in a non-significant change to landscape character and visual amenity. By Year 15, it is anticipated that the

reinstated vegetation and other landscape features would be sufficiently established to fully integrate within the landscape.

## **6.10 Glossary and Key Terms**

248) Key phrases and terms used within this technical chapter relating to Landscape and Arboriculture are defined within Appendix 1.2: Glossary and Key Terms.