



**Haweswater Aqueduct Resilience Programme Proposed Bowland
Section**

Environmental Statement

Volume 2

Chapter 10: Cultural Heritage

June 2021



Water for the North West



Haweswater Aqueduct Resilience Programme Proposed Bowland Section

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10. Cultural Heritage

10.1 Introduction

- 1) This chapter presents an assessment of the likely significant effects of the Proposed Bowland Section on cultural heritage assets.
- 2) The chapter begins by reviewing the legislation and planning policies relevant to cultural heritage. The assessment area and methodology for the assessment are then outlined. The baseline environment is then identified before an assessment is made of the potential effects on cultural heritage for the Proposed Bowland Section. Embedded and good practice mitigation measures relevant to cultural heritage are summarised in Section 10.4 and have been taken into account in the assessment in Section 10.6.
- 3) Section 10.7 of the report examines the indirect impact of construction vehicles movements on the local road network upon cultural heritage assets, specifically listed buildings and conservation areas.
- 4) The cultural heritage topic considers the following sub-topics:
 - Archaeological remains: the material remains of human activity from the earliest periods of human evolution to the present. These may be buried traces of human activities, sites visible above ground, or moveable artefacts
 - Historic buildings: architectural, designed or other structures with a significant historical value. These may include structures that have no aesthetic appeal or structures not usually thought of as buildings, such as milestones or bridges
 - Historic landscapes: the current landscape, whose character is the result of the action and interaction of natural and / or human factors. The definition encompasses all landscapes, including the countryside, townscapes and industrial landscapes as well as designed landscapes, such as gardens and parks. As the whole of the UK's (and most of the world's) landscape has been modified by past human activities, it all has a historic character. However, just as all old materials are not necessarily archaeologically significant merely by virtue of their age, so not all landscapes are equally historically significant.
- 5) The assessment area comprised a 200 m zone around the Lower Houses and Newton-in-Bowland compound planning application boundaries (see Figure 10.1). A wider assessment area was also established to identify any potential for impacts on the setting of designated cultural heritage assets, based on a Zone of Theoretical Visibility (ZTV) (see Figure 10.2). Designated assets identified within 50 m of Traffic Routes and assessed as having setting impacts were also included in the baseline and assessment below.
- 6) This cultural heritage assessment is supported by the following appendices and figures:
 - Appendix 10.1 – Cultural Heritage Desk Based Survey
 - Appendix 10.2 – Cultural Heritage Gazetteer
 - Appendix 10.3 – Geophysical Survey Report of Proposed Newton-in-Bowland Compound Haweswater Aqueduct Resilience Programme – Proposed Bowland Section
 - Appendix 10.4 – Geophysical Survey Report of Proposed Lower Houses Compound Haweswater Aqueduct Resilience Programme – Proposed Bowland Section
 - Figure 10.1 – Cultural Heritage Assets Within Assessment Area
 - Figure 10.2 – Designated Cultural Heritage Assets Within ZTV
 - Figure 10.3 – Environment Agency Light Detecting and Ranging (LiDAR) Digital Surface Model (DSM).

10.2 Scoping and Consultations

10.2.1 Scoping

7) A cultural heritage chapter was included within the Environmental Impact Assessment Scoping Report, which was submitted to the relevant planning authorities for comment in October 2019, followed by a Scoping Addendum in February 2021 due to design changes and refinements. Scoping Report responses were provided by each of the local authorities and these have been reviewed and October 2019 Scoping Report Responses incorporated into the assessment. Scoping comments and responses are outlined in Appendix 4.1.

10.2.2 Consultation

8) During the course of this assessment, consultation has taken place with relevant statutory and non-statutory consultees, stakeholders and third parties, through both email correspondence and telephone calls. This has been summarised in Appendix 4.1.

10.3 Key Legislation, Policy and Guidance

9) Table 10.1 introduces relevant cultural heritage legislation, policy and guidance.

Table 10.1: Cultural Heritage Key Legislation, Policy and Guidance

Applicable Legislation, Policy and Guidance	Description
<p><i>National Planning Policy Framework (NPPF)</i> (Ministry of Housing, Communities & Local Government, 2019a)¹</p>	<p>The preservation and enhancement of heritage assets forms an important part of the NPPF and is one of the 12 core planning principles that underpin plan-making and decision-taking. There are policies protecting the historic environment throughout the NPPF, but section 16 paragraphs 184 to 202 deal specifically with conserving and enhancing the historic environment. Paragraph 194 relates to the consideration of impacts on the setting heritage assets.</p>
<p><i>National Planning Practice Guidance (NPPG)</i> (Ministry of Housing, Communities & Local Government, 2019b)²</p>	<p>The NPPG is a dynamic web-based resource in support of the NPPF (Ministry of Housing, Communities & Local Government, 2019a). For the historic environment, the NPPG provides useful guidance particularly with regard to assessing whether development will cause substantial harm (see paragraphs 193 to 196).</p>
<p><i>Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 2 (HA 208/07)</i>³</p>	<p>Whilst DMRB sets out guidance on the assessment of the impacts of motorway and trunk road infrastructure projects, it provides a robust and widely accepted methodology that can also be adopted for other types of development. DMRB HA 208/07 sets out methods for the assessment of the value of cultural heritage assets, the magnitude of impacts and the significance of those impacts.</p>

¹ Ministry of Housing, Communities & Local Government (2019a) *National Planning Policy Framework* [Online] Available from: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed: December 2020]

² Ministry of Housing, Communities & Local Government (2019b) *Planning Practice Guidance* [Online] Available from: <https://www.gov.uk/government/collections/planning-practice-guidance> [Accessed: December 2020]

³ Highways Agency et al. (2007). DMRB Volume 11 (Cultural Heritage), Section 3, Part 2, 2007. Highways Agency, Scottish Executive Development Department, The National Assembly for Wales and the Department of Regional Development Northern Ireland.

Applicable Legislation, Policy and Guidance	Description
<i>Historic Environment Good Practice Advice in Planning: Note 1 – The Historic Environment in Local Plans</i> (GPA1) (Historic England, 2015a) ⁴	GPA1 provides detail on what local plans should include regarding the historic environment, including strategies ensuring its conservation and enjoyment. It also provides guidance as to the content of other plans which support the local plan, such as Delivery Plans, Strategic Environmental Assessments / Sustainability Appraisals, Neighbourhood Plans and Supplementary Planning Documents.
<i>Historic Environment Good Practice Advice in Planning: Note 2 – Managing Significance in Decision-Taking in the Historic Environment</i> (GPA2) (Historic England, 2015b) ⁵	GPA2 provides detail on how to determine the significance of assets and methods used to enable that assessment including desk-based assessments and field evaluation.
<i>Historic Environment Good Practice Advice in Planning: Note 3 – The Setting of Heritage Assets</i> (GPA3) (2017) ⁶	GPA3 provides detail on the setting of heritage assets and replaces earlier guidance on this matter published by English Heritage in 2011 which has now been withdrawn.
Planning (Listed Buildings and Conservation Areas) Act 1990 ⁷	This act provides specific protection for buildings and areas of special architectural or historic interest.
Ancient Monuments and Archaeological Areas Act 1979 ⁸	This act provides specific protection for archaeological monuments of national interest.
The Hedgerows Regulations 1997 ⁹	These regulations outline criteria for determining whether a hedgerow is 'important' and should be protected, based on characteristics such as age and historical associations.

10) National and Local Planning Policies are covered in Chapter 5: Planning Policy and Context.

10.4 Assessment Methodology and Assessment Criteria

10.4.1 Assessment Methodology

11) 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.

12) The assessment was undertaken in accordance with the following assessment methodology:

- A baseline group of assets was determined based on the Lower Houses Compound and Newton-in-Bowland Compound assessment areas, including designated and non-designated assets recorded from the local Historic Environment Records (HERs) and the National Heritage List for England (NHLE), site surveys and previous archaeological investigations. Historic Landscape Types (HLTs) are

⁴ Historic England (2015a) *Historic Environment Good Practice Advice in Planning: Note 1 – The Historic Environment in Local Plans* [Online] Available from: <https://historicengland.org.uk/images-books/publications/gpa1-historic-environment-local-plans/> [Accessed December 2020]

⁵ Historic England (2015b) *Historic Environment Good Practice Advice in Planning: Note 2 – Managing Significance in Decision-Taking in the Historic Environment* [Online] Available from: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/> [Accessed December 2020]

⁶ Historic England (2017) *Historic Environment Good Practice Advice in Planning: Note 3 (2nd Edition) – The Setting of Heritage Assets* [Online] Available from: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/> [Accessed December 2020]

⁷ Planning (Listed Buildings and Conservation Areas) Act 1990 *Legislation.gov.uk* [Online] Available from: <https://www.legislation.gov.uk/ukpga/1990/9/contents> [Accessed December 2020]

⁸ Ancient Monuments and Archaeological Areas Act 1979 *Legislation.gov.uk* [Online] Available from: <https://www.legislation.gov.uk/ukpga/1979/46> [Accessed December 2020]

⁹ The Hedgerows Regulations 1997 *Legislation.gov.uk* [Online] Available from: <https://www.legislation.gov.uk/uksi/1997/1160/contents/made> [Accessed December 2020]

categories and are not recorded as single assets, and can be present in more than one assessment area

- The sensitivity of each asset was then determined based on the assessment criteria outlined in Section 10.4.2
- The results of investigations informed the assessment of archaeological value and significance of effects and also assisted the formulation of any further evaluation and / or mitigation measures. Any proposed evaluation and subsequent mitigation will be designed with reference to the research aims contained in *the Archaeological Research Framework for North West England*.¹⁰

13) The methodology was agreed with relevant stakeholders as outlined above in Section 10.2.2.

10.4.2 Assessment Criteria

- 14) For all three sub-topics, an assessment of the value (sensitivity) of each heritage asset was undertaken on a six-point scale of very high, high, medium, low, negligible and unknown, based on professional judgement and guided by the criteria provided in DMRB HA208/07.
- 15) Table 10.2, Table 10.3 and Table 10.4 outline the criteria that were used in the evaluation of sensitivity for Archaeological Remains, Historic Buildings and Historic Landscape Types respectively.

Table 10.2: Cultural Heritage Sensitivity Criteria for Archaeological Remains

Sensitivity	Criteria
Unknown	<ul style="list-style-type: none"> ▪ The importance of the resource has not been ascertained.
Negligible	<ul style="list-style-type: none"> ▪ Assets with very little or no surviving archaeological interest.
Low	<ul style="list-style-type: none"> ▪ Designated and undesignated assets of local importance ▪ Assets compromised by poor preservation and / or poor survival of contextual associations ▪ Assets of limited value, but with potential to contribute to local research objectives.
Medium	<ul style="list-style-type: none"> ▪ Designated or undesignated assets that contribute to regional research objectives.
High	<ul style="list-style-type: none"> ▪ Scheduled Monuments (including proposed sites) ▪ Undesignated assets of schedulable quality and importance ▪ Assets that can contribute significantly to acknowledged national research objectives.
Very High	<ul style="list-style-type: none"> ▪ World Heritage Sites (including nominated sites) ▪ Assets of acknowledged international importance ▪ Assets that can contribute significantly to acknowledged international research objectives.

¹⁰ Brennand, M., Chitty, G. and Nevell, M. (Eds) (2007) *Archaeological Research Framework for North West England* (Council for British Archaeology North West / Loughborough)

Table 10.3: Cultural Heritage Sensitivity Criteria for Historic Buildings

Sensitivity	Criteria
Unknown	<ul style="list-style-type: none"> ▪ Buildings with some hidden (i.e. inaccessible) potential for historic significance.
Negligible	<ul style="list-style-type: none"> ▪ Buildings of no architectural or historical note; buildings of an intrusive character.
Low	<ul style="list-style-type: none"> ▪ 'Locally Listed' buildings ▪ Historic (unlisted) buildings of modest quality in their fabric or historical association ▪ Historic Townscapes or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
Medium	<ul style="list-style-type: none"> ▪ Grade II Listed Buildings ▪ Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations ▪ Conservation Areas containing buildings that contribute significantly to their historic character ▪ Historic Townscapes or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
High	<ul style="list-style-type: none"> ▪ Scheduled Monuments with standing remains ▪ Grade I and Grade II* Listed Buildings ▪ Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade ▪ Conservation Areas containing very important buildings ▪ Undesignated structures of clear national importance.
Very High	<ul style="list-style-type: none"> ▪ Structures inscribed as of universal importance as World Heritage Sites ▪ Other buildings of recognised international importance.

Table 10.4: Cultural Heritage Sensitivity Criteria for Historic Landscapes

Sensitivity	Criteria
Negligible	<ul style="list-style-type: none"> ▪ Landscapes with little or no significant historical interest
Low	<ul style="list-style-type: none"> ▪ Robust undesignated historic landscapes ▪ Historic landscapes with importance to local interest groups ▪ Historic landscapes whose value is limited by poor preservation and / or poor survival of contextual associations.
Medium	<ul style="list-style-type: none"> ▪ Designated special historic landscapes ▪ Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value ▪ Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
High	<ul style="list-style-type: none"> ▪ Designated historic landscapes of outstanding interest ▪ Undesignated landscapes of outstanding interest ▪ Undesignated landscapes of high quality and importance, and of demonstrable national value ▪ Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).
Very High	<ul style="list-style-type: none"> ▪ World Heritage Sites inscribed for their historic landscape qualities ▪ Historic landscapes of international value, whether designated or not ▪ Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).

16) Table 10.5 sets out the criteria used to inform determination of the magnitude of potential cultural heritage effects.

Table 10.5: Magnitude of Cultural Heritage Effects

Magnitude	Criteria
Major	<ul style="list-style-type: none"> ▪ Change to most or all key archaeological materials, such that the resource is totally altered ▪ Comprehensive changes to setting ▪ Change to key historic building elements, such that the resource is totally altered ▪ Comprehensive changes to the setting ▪ Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
Moderate	<ul style="list-style-type: none"> ▪ Changes to many key archaeological materials, such that the resource is clearly modified ▪ Considerable changes to setting that affect the character of the asset ▪ Change to many key historic building elements, such that the resource is significantly modified ▪ Changes to the setting of an historic building, such that it is significantly modified ▪ Changes to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	<ul style="list-style-type: none"> ▪ Changes to key archaeological materials, such that the asset is slightly altered ▪ Slight changes to setting ▪ Change to key historic building elements, such that the asset is slightly different ▪ Change to setting of a historic building, such that it is noticeably changed ▪ Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historic landscape character.
Negligible	<ul style="list-style-type: none"> ▪ Very minor changes to archaeological materials or setting ▪ Slight changes to historic buildings elements or setting that hardly affect it ▪ Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
No Change	<ul style="list-style-type: none"> ▪ No change. ▪ No change to fabric or setting ▪ No change to elements, parcels or components; no visual or audible changes; no changes arising from in amenity or community factors.

17) Table 10.6 provides a matrix setting out how the significance of effects was identified, taking into account the magnitude of change (Table 10.5) and a receptor’s sensitivity to that change (Tables 10.2 to 10.4). For the purposes of this assessment, those of moderate or above are considered to be significant in the context of the Environmental Impact Assessment Regulations.

Table 10.6: Significance of Effects

		Magnitude				
		No change	Negligible	Minor	Moderate	Major
Sensitivity	Negligible	Neutral	Neutral	Neutral / slight	Neutral / slight	Slight
	Low	Neutral	Negligible	Negligible / slight	Slight / moderate	Moderate
	Medium	Neutral	Negligible / slight	Slight	Moderate	Moderate / major
	High	Neutral	Slight	Slight / moderate	Moderate / major	Major
	Very High	Neutral	Slight	Moderate / large	Large or very large	Very large

10.4.3 Embedded Mitigation and Good Practice

- 18) Embedded mitigation is inherent to the design, and good practice measures are those which are standard industry practice used to manage commonly occurring environmental effects. The assessment of likely significant effects in Sections 10.6 to 10.7 takes into account the application of both embedded mitigation and good practice measures as set out in this section.
- 19) The need for any additional topic-specific essential mitigation (generally for effects likely to be significant in the context of the Environmental Impact Assessment Regulations) identified as a result of the assessment in Sections 10.6 to 10.7 is then set out separately in Section 10.8.

Embedded Mitigation

- 20) 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 Geographic Information System-based constraints data. Due to the awareness of constraints including cultural heritage assets throughout the design process, the Proposed Bowland Section has been designed to avoid known assets where feasible.

Good Practice Measures

- 21) Good practice measures contained in Appendix 3.2: Construction Code of Practice (CCoP) of particular relevance to cultural heritage are set out below:
 - The appointed Contractor would consult with the relevant local planning authority and United Utilities' historic environment advisor should any archaeological or cultural heritage finds or sites be discovered or revealed during enabling works to allow appropriate measures to be implemented to mitigate potential impacts
 - Maintenance and operation of the Proposed Bowland Section would be in accordance with environmental legislation. Good practice procedures similar to those outlined in the draft CCoP would be established for all high-risk activities and employees would be trained in responding to such incidents.

10.4.4 Assumptions and Limitations

- 22) Due to COVID-19 restrictions during 2020 and 2021, visits to council archives and local studies services were not undertaken. No intrusive archaeological investigations have been undertaken; this is considered appropriate for the purposes of this assessment.

10.5 Baseline Conditions

- 23) This section details the cultural heritage baseline for the assessment area and identifies receptors where there is potential for significant effects to arise. The Proposed Bowland Section is within the Forest of Bowland Area of Outstanding Natural Beauty (AONB).
- 24) Baseline data was collated from a variety of sources in compiling this assessment, including:
- Field Surveys
 - NHLE for information on the designated cultural heritage resource
 - Lancashire County Council HER for information on the non-designated cultural heritage resource including archaeological sites or monuments, non-designated historic buildings, historic landscape characterisation data and for information on locally listed buildings and Conservation Areas
 - Geophysical Surveys undertaken September 2020 and April 2021
 - Light Detecting and Ranging (LiDAR) Digital Surface Model (DSM)
 - National Library of Scotland for digital mapping.
- 25) A summary of the baseline assets is contained within this chapter; full details of the baseline assets are contained in Appendices 10.1 and 10.2.

10.5.1 Information Sources

- 26) The assessment was undertaken with reference to the sources detailed in Table 10.7.

Table 10.7: Key Information Sources

Data Source	Reference
NHLE for information on the designated cultural heritage resource	https://historicengland.org.uk/listing/the-list/data-downloads/
Lancashire County Council HER for information on the non-designated cultural heritage resource including archaeological sites or monuments, non-designated historic buildings, historic landscape characterisation data and for information on locally listed buildings and Conservation Areas	https://www.lancashire.gov.uk/council/planning/historic-environment-record/
National Library of Scotland for digital mapping	https://maps.nls.uk/

10.5.2 Baseline

- 27) In total, 95 cultural heritage assets were considered as part of the baseline. This comprised 17 archaeological remains, 73 historic buildings and five historic landscape types (see Figures 10.1 and 10.2).

Roman Period (AD 43 – AD 410)

- 28) Within Lancashire, evidence for the Roman period is dominated by a well-dispersed pattern of military sites. Conversely, civilian Romano-British settlements are not as well represented in the archaeological record, although this apparent bias may be the result of research activity. Evidence for the Roman period has been attested within the Newton-in-Bowland Compound assessment area comprising the locations of the Ribchester to Tebay Roman road (low Borrowbridge) 7c¹¹ (Asset 3018) and Near The Hanning, Newton (Asset 3026) a potential Roman settlement site to the west of the Roman road.

¹¹ 7c is the Margary number for the Roman road. Margary numbers are the numbering scheme for known and suspected Roman roads developed by the historian Ivan Margary for his *Roman Roads in Britain* first edition published in 1955 by Phoenix House Ltd.

Medieval Period (AD 1066 – AD 1540)

- 29) The Medieval economy of the region was dominated by the wool trade including the spinning, dyeing and weaving of woollen cloth. During this period a system of townships and feudal administration developed, centred on small urban administrative centres such as Kendal, coupled with increasingly structured patterns of agricultural land use. Fossilised medieval lynchets, ridge and furrow earthworks and boundary banks survive within the assessment areas for both the Lower Houses Compound and the Newton-in-Bowland Compound (Assets 3011, 3012, 3033, 3036). Wool was not the only cloth produced in the region; evidence of flax retting ponds has been excavated south of Newton-in-Bowland (Asset 3036) suggesting that linen production also took place, whether to produce cloth for sale, or garments for domestic use.

Post Medieval Period (AD 1540 – AD 1901)

- 30) The Post Medieval period (AD 1540 – AD 1901) witnessed considerable change in the structure, management and organisation of the rural agrarian landscape within the assessment areas. Existing field systems were often subdivided, as evidenced by the former field boundary (Asset 3003) and an enclosure (Asset 3037).
- 31) The development of extractive industries was also an important, influential factor in shaping Post Medieval Lancashire; the remains of a quarry survive within the Lower Houses Compound assessment area (Asset 3013). Changes in agricultural practice, sometimes called the agricultural revolution, led to the building or rebuilding of farmhouses and barns, often in a new layout or architectural style (Asset 3001). In some instances, buildings were demolished but not rebuilt, leaving archaeological remains associated with the former structure, such as building platforms as recorded within the Lower Houses Compound assessment area (Asset 3004).
- 32) Methods of transport and the routes used changed through the Post Medieval period; however, trackways, causeways and roads remained in use across the region through the Post Medieval period, following periods of earlier use (Assets 3032, 3031 and 3030 respectively).

Modern Period (AD 1901 – Present)

- 33) Through increasing transportation links and networks, by the Modern period (AD 1901 – Present) the assessment areas became increasingly connected to national audiences. Of particular note is the development of mass tourism in the early-mid 20th century AD with increasing popularity in outdoor recreational activities such as sailing, rock-climbing and hiking. In part inspired by earlier activities of the Romantic movement, the formalisation of these pursuits with the creation of organisations such as the Ramblers has continued to ensure their popularity within the assessment areas. The formation of the Forest of Bowland AONB in 1964 has galvanised popular perception of the assessment areas and rural landscape as a picturesque representation of an unspoiled English landscape.

Archaeological Geophysical Survey Results

- 34) An archaeological geophysical survey was undertaken on the Proposed Lower Houses Compound during April 2021. No anomalies suggestive of significant archaeological features were identified. Anomalies of an agricultural origin were identified across the survey area including a mapped former field boundary, ploughing regimes and drainage features. Anomalies of an undetermined nature were recorded in the north-east of the survey area and while an archaeological origin could not be ruled out, they were interpreted as likely agricultural in origin given surrounding anomalies.
- 35) An archaeological geophysical survey was also undertaken on the Proposed Newton-in-Bowland Compound during September 2020. Again, no anomalies suggestive of significant archaeological features were identified. Although some anomalies were ascribed an undetermined origin, they did not conclusively suggest the presence of significant archaeological activity. The survey did identify multiple existing below ground services and associated disturbance. Anomalies related to agriculture were identified and were interpreted as being related to historic cultivation and modern ploughing and drainage.

10.6 Assessment of Likely Significant Effects

- 36) The following section describes the effects of the Proposed Bowland Section on cultural heritage during the enabling works, construction and operational phases. The location and known extents of these assets are shown on Figures 10.1 and 10.2. Identified effects take into account both embedded mitigation and good practice measures, as set out in Section 10.4.

10.6.1 Enabling Works Phase Lower Houses Compound

Archaeological Remains

- 37) No permanent impacts are predicted on archaeological remains as a result of the enabling works phase for the Lower Houses Compound.
- 38) While no permanent physical impacts are predicted on known archaeological remains, there is the potential to impact unknown archaeological remains. However, this potential has been assessed to be low. This is in consideration of the largely rural and undeveloped nature of the assessment area but also recognising the paucity of known archaeological remains within the assessment area.

Historic Buildings

- 39) The enabling works phase for the Lower Houses Compound would introduce a new temporary source of noise and visual intrusion into the setting of Leyland Farmhouse (Asset 3015), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in views to the west. This would not detract from the ability to understand the farmhouse nor from the largely rural nature of its setting. Nevertheless, the impact on the medium value historic building has been assessed to be Moderate and the significance of effect has been assessed to be moderate.
- 40) The enabling works phase for the Lower Houses Compound would introduce a new temporary source of visual intrusion into the setting of Thwaite Moss (Asset 3000), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in views to the south-west. The enabling works phase for the Lower Houses Compound would also introduce a new temporary source of visual intrusion into the setting of Higher Stock Bridge Farmhouse (Asset 3001), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in views to the west. The enabling works phase for the Lower Houses Compound would similarly introduce a new temporary source of visual intrusion into the setting of Hole House Farmhouse (Asset 3002), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in views to the west. The enabling works phase for the Lower Houses Compound would likewise introduce a new temporary source of visual intrusion into the setting of Foss Bank Farmhouse and Farm Buildings adjoining to West (Asset 3016), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in long distance views to the north-west. The enabling works phase for the Lower Houses Compound would also introduce a new temporary source of visual intrusion into the setting of Southern Farm Building at Scale Farm (Asset 3017), a Grade II Listed Building identified within the ZTV, because of the construction of the Lower Houses Compound in views to the north-east. This would not detract from the ability to understand the historic buildings nor from the largely rural nature of their settings; therefore, the impact on these medium value historic buildings has been assessed to be negligible and the significance of effect has been assessed to be slight.
- 41) The enabling works phase for the Lower Houses Compound would introduce a new temporary source of noise and visual intrusion into the setting of the barn at Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3005) and Lower Houses Farm Cottage, Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3006) because of the construction of the Lower Houses Compound in views to the south. The enabling works phase for the Lower Houses Compound would also introduce a new temporary source of noise and visual intrusion into the setting of the combination barn at Lower Houses Farm, off Park House Lane, Wray with Botton (1) (Asset 3007) because of the construction of the Lower Houses Compound in views to the south. The enabling works phase for the Lower Houses Compound would similarly introduce a new temporary source of noise and visual intrusion into the setting of the house at Lower Houses Farm, off Park House Lane, Wray with Botton (2) (Asset 3008) because of the

construction of the Lower Houses Compound in views to the south. This would not detract from the ability to understand the historic buildings nor from the largely rural nature of their settings; therefore, the impact on the low-value historic buildings has been assessed to be minor and the significance of effect has been assessed to be slight.

- 42) The enabling works phase for the Lower Houses Compound would introduce a new temporary source of noise and visual intrusion into the setting of the Hog hole, field east of Lower Houses (Asset 3009) because of the construction of the Lower Houses Compound in views to the west. The enabling works phase for the Lower Houses Compound would also introduce a new temporary source of noise and visual intrusion into the setting of the hog hole, South-east of Lower Houses (Asset 3010) because of the construction of the Lower Houses Compound in views to the west. This would not detract from the ability to understand the hog holes nor from the largely rural nature of their settings; therefore, the impact on the low-value historic buildings has been assessed to be negligible and the significance of effect has been assessed to be negligible.

Historic Landscape Types (HLTs)

- 43) Construction of the Lower Houses Compound would result in temporary minor changes to and loss of elements from Ancient Enclosures (HLT8) and Post Medieval Enclosures (HLT10). This would not affect the legibility of these common and widespread low value HLTs; therefore, the magnitude of impact has been assessed to be negligible and the significance of effect has been assessed to be negligible.

10.6.2 Enabling Works Phase Newton-in-Bowland Compound

Archaeological Remains

- 44) The enabling works phase for the Newton-in-Bowland Compound would introduce a new temporary source of visual intrusion into the setting of Town Field, Newton-in-Bowland (Asset 3033), a surviving Medieval strip field because of the construction of the Newton-in-Bowland Compound in views to the west. This would temporarily introduce a large industrial element into the largely rural nature of the assets setting; therefore, the impact on the low value archaeological remains has been assessed to be moderate and the significance of effect has been assessed to be slight.
- 45) The enabling works phase for the Newton-in-Bowland Compound would result in the partial or complete removal of potential archaeological remains identified as geophysical survey anomalies during the geophysical survey undertaken in September 2020. At present the value of the anomalies cannot be ascertained as ground truthing has not been undertaken and therefore the significance of this effect has not currently been assessed.

Historic Buildings

- 46) The enabling works phase for the Newton-in-Bowland Compound would introduce a new temporary source of visual intrusion into Newton Conservation Area (Asset 3020), identified within the ZTV, because of the construction traffic using the access track north of the River Hodder. This would not detract from the ability to appreciate the character of the conservation area as the buildings would remain unchanged and the majority of the important views defined in the conservation area character appraisal¹² would not be impacted; therefore, the magnitude of impact on the medium value cultural heritage asset has been assessed to be minor and the significance of effect has been assessed to be slight.
- 47) The enabling works phase for the Newton-in-Bowland Compound would introduce a new temporary source of visual intrusion into the setting of Newton Hall (Asset 3025) and the Wall, Gatepiers and Gates South of Newton Hall (3027) because of the construction of the Newton-in-Bowland Compound access track in views to the south. The enabling works phase for the Newton-in-Bowland Compound would also introduce a new temporary source of visual intrusion into the setting of Parker's Arms (Asset 3028) because of the construction of the Newton-in-Bowland Compound access track in views to the south. This would not detract from the ability to understand the assets as historic buildings; however, their

¹² Ribble Valley Borough Council (2006) *Newton Conservation Area Appraisal* [Online] Available from: [file:///C:/Users/curtisali/Downloads/Newton_CAA_final_with_photos%20\(1\).pdf](file:///C:/Users/curtisali/Downloads/Newton_CAA_final_with_photos%20(1).pdf) [Accessed December 2020]

largely rural partially screened views out of the village would be altered by the presence of the access track introducing new infrastructural elements into the settings of the assets; therefore, the impact on the medium value historic buildings has been assessed to be minor and the significance of effect has been assessed to be slight.

Historic Landscape Types (HLTs)

Historic Landscape Types of High Value

- 48) The enabling works phase for the Newton-in-Bowland Compound would introduce a new source of temporary visual intrusion into the setting of Knowlmore Manor, Newton (formerly Hodder Bank) (HLT60), a designed landscape, because of the construction of the Newton-in-Bowland Compound and access track in views to the north. This would not detract from the ability to understand the designed landscape, nor from the largely rural nature of its setting; therefore, the impact on the high value designed landscape has been assessed to be minor and the significance of effect has been assessed to be slight.

Historic Landscape Types of Low Value

- 49) Construction of the Newton-in-Bowland Compound would result in minor changes to and loss of elements from Ancient Enclosures (HLT8) and Post Medieval Enclosures (HLT10). This would not affect the legibility of these common and widespread low value HLTs; therefore, the magnitude of impact has been assessed to be negligible and the significance of effect has been assessed to be negligible.
- 50) The summary of enabling works effects is shown in Table 10.8 below.

Table 10.8: Summary of Potential Enabling Works Effects (Pre-Essential Mitigation)

Cultural Heritage Asset	Value / Sensitivity	Effect	Duration	Magnitude	Significance of Effect (Pre-Essential Mitigation)
Lower Houses Compound					
Thwaite Moss (Asset 3000)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Higher Stock Bridge Farmhouse (Asset 3001)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Hole House Farmhouse (Asset 3002)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3005)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Cottage, Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3006)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (1) (Asset 3007)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (2) (Asset 3008)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Hog hole, field east of Lower Houses (Asset 3009)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Negligible	Negligible
South-east of Lower Houses (Asset 3010)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Negligible	Negligible
Leyland Farmhouse (Asset 3015)	Medium	Noise and visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Foss Bank Farmhouse and Farm Buildings adjoining to West (Asset 3016)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Southern Farm Building at Scale Farm (Asset 3017)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Ancient Enclosures (HLT8)	Low	Minor changes and loss of elements	Short term – Adverse	Negligible	Negligible

Cultural Heritage Asset	Value / Sensitivity	Effect	Duration	Magnitude	Significance of Effect (Pre-Essential Mitigation)
Post Medieval Enclosures (HLT10)	Low	Minor changes and loss of elements	Short term – Adverse	Negligible	Negligible
Newton-in-Bowland Compound					
Town Field, Newton-in-Bowland (Asset 3033)	Low	Visual intrusion into the setting	Short term – Adverse	Moderate	Slight
Newton Conservation Area (Asset 3020)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Newton Hall (Asset 3025) and the Wall, Gatepiers and Gates South of Newton Hall (3027)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Parker's Arms (Asset 3028)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Knowlmere Manor, Newton (formerly Hodder Bank) (HLT60)	High	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Ancient Enclosures (HLT8)	Low	Minor changes and loss of elements	Short term – Adverse	Negligible	Negligible
Post Medieval Enclosures (HLT10)	Low	Minor changes and loss of elements	Short term – Adverse	Negligible	Negligible

10.6.4 Construction Phase Lower Houses Compound

Archaeological Remains

- 51) No impacts on archaeological remains are predicted during the construction phase of works for the Lower Houses Compound as any impacts would have occurred during the enabling works phase.

Historic Buildings

- 52) During the construction phase of works for the Lower Houses Compound there would be continuing visual intrusion into the setting of Thwaite Moss (Asset 3000), Higher Stock Bridge Farmhouse (Asset 3001) and Hole House Farmhouse (Asset 3002), all Grade II Listed Buildings identified within the ZTV, because of the Lower Houses Compound in long-ranging views to the west.
- 53) There would also be continuing noise and visual intrusion into the setting of the barn at Lower Houses Farm (Asset 3005), Lower House Cottage (Asset 3006), Lower Houses Farm, off Park House Lane, Wray with Botton (1) (Asset 3007), Lower Houses Farm, off Park House Lane, Wray with Botton (2) (Asset 3008) because of the Lower Houses Compound in views to the south. Similarly, there would be continuing visual and noise intrusion into the setting of the hog holes (Assets 3009 and 3010) to the east of the Lower Houses Compound.
- 54) There would be limited, long-distance views of the Lower Houses compound visible within the setting of Leyland Farmhouse (Asset 3015) and Southern Farm Building at Scale Farm (Asset 3017) to the west of the compound and Foss Bank Farmhouse and Farm Buildings adjoining to West (Asset 3016), to the east of the compound, all Grade II Listed Buildings identified within the ZTV. This would not detract from the ability to understand the historic buildings nor from the largely rural nature of their settings; therefore, the impact on the medium value historic buildings Thwaite Moss (Asset 3000), Higher Stock Bridge Farmhouse (Asset 3001) and Hole House Farmhouse (Asset 3002), has been assessed to be negligible and the significance of effect has been assessed to be slight.
- 55) The impact on the low value barn at Lower Houses Farm (Asset 3005) has been assessed to be minor and the significance of effect has been assessed to be slight. The impact on the low value historic buildings Lower House Cottage (Asset 3006), Lower Houses Farm, off Park House Lane, Wray with Botton (1) (Asset 3007), Lower Houses Farm, off Park House Lane, Wray with Botton (2) (Asset 3008) has been assessed to be minor and the significance of effect to be slight. The impact to the two low value hog holes (Assets 3009 and 3010) has been assessed to be negligible with a significance of effect of negligible. The impact on the medium value Grade II Listed historic buildings Leyland Farmhouse (Asset 3015), Foss Bank Farmhouse and Farm Buildings adjoining to West (Asset 3016) and Southern Farm Building at Scale Farm (Asset 3017), has been assessed to be negligible and the significance of effect has been assessed to be slight.

Historic Landscape Types (HLTs)

- 56) No impacts on HLTs are predicted during the construction phase of works for the Lower Houses Compound as any impacts would have occurred during the enabling works phase.

10.6.5 Construction Phase Newton-in-Bowland Compound

Archaeological Remains

- 57) No physical impacts on archaeological remains are predicted during the construction phase of works for the Newton-in-Bowland Compound as any impacts would have occurred during the enabling works phase.
- 58) During the construction phase of works for the Newton-in-Bowland Compound there would be continuing visual intrusion in the setting of Townfield Newton, Newton-in-Bowland (Asset 3033) because of the presence of the Newton-in-Bowland Compound in views to the west. This would not detract from the ability to understand the medieval strip fields, nevertheless the magnitude of this

impact has been assessed to be moderate on the low value asset and the significance of effect has been assessed to be slight.

Historic Buildings

- 59) During the construction phase of works for the Newton-in-Bowland Compound there would be continuing visual intrusion into the setting of Newton Conservation Area (Asset 3020), identified within the ZTV, because of the continued presence of the access track within the Conservation Area. There would also be continuing visual intrusion into the setting of the Grade II Listed Parker's Arms (Asset 3028), Newton Hall (Asset 3025) and wall and gatepiers to Newton Hall (Asset 3027) because of the construction traffic accessing the track north of the River Hodder, although the views would be partially screened by the deciduous trees lining the track. This would not detract from the ability to understand the historic buildings nor from the largely rural nature of their settings.
- 60) Therefore, the impact on the medium value Newton Conservation Area (Asset 3020) has been assessed to be minor and the significance of effect has been assessed to be slight. The impact on the medium value Parker's Arms (Asset 3028) has been assessed to be minor and the significance of effect has been assessed to be slight. The impact on the high value Newton Hall (Asset 3025), and medium value gatepiers and wall (Asset 3027) has been assessed to be minor and the significance of effect has also been assessed to be slight for both historic buildings.

Historic Landscape Types (HLTs)

- 61) No impacts on HLTs are predicted during the construction phase of works for the Newton-in-Bowland Compound as any impacts would have occurred during the enabling works phase.
- 62) The summary of construction effects is shown in Table 10.9 below.

Table 10.9: Summary of Potential Construction Phase Effects (Pre-Essential Mitigation)

Cultural Heritage Asset	Value / Sensitivity	Effect	Nature of Effect	Magnitude	Significance of Effect (Pre-Essential Mitigation)
Lower Houses Compound					
Thwaite Moss (Asset 3000)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Higher Stock Bridge Farmhouse (Asset 3001)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Hole House Farmhouse (Asset 3002)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3005)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Cottage, Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3006)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (1) (Asset 3007)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Lower Houses Farm, off Park House Lane, Wray with Botton (2) (Asset 3008)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Minor	Slight
Hog hole, field east of Lower Houses (Asset 3009)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Negligible	Negligible
South-east of Lower Houses (Asset 3010)	Low	Noise and visual intrusion into the setting	Short term – Adverse	Negligible	Negligible
Leyland Farmhouse (Asset 3015)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Foss Bank Farmhouse and Farm Buildings adjoining to West (3016)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight
Southern Farm Building at Scale Farm (Asset 3017)	Medium	Visual intrusion into the setting	Short term – Adverse	Negligible	Slight

Cultural Heritage Asset	Value / Sensitivity	Effect	Nature of Effect	Magnitude	Significance of Effect (Pre-Essential Mitigation)
Newton-in-Bowland Compound					
Town Field, Newton-in-Bowland (Asset 3033)	Low	Visual intrusion into the setting	Short term – Adverse	Moderate	Slight
Newton Conservation Area (Asset 3020)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Newton Hall (Asset 3025) and the Wall, Gatepiers and Gates South of Newton Hall (3027)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Parker’s Arms (Asset 3028)	Medium	Visual intrusion into the setting	Short term – Adverse	Minor	Slight
Knowlmere Manor, Newton (formerly Hodder Bank) (HLT60)	High	Visual intrusion into the setting	Short term – Adverse	Minor	Slight

10.6.6 Commissioning Phase

63) No impacts are predicted on archaeological remains, historic buildings or HLTs during the commissioning phase for the Proposed Bowland Section as any impacts would have occurred during the enabling works and construction phases.

10.6.7 Operational Phase

64) No impacts are predicted on archaeological remains, historic buildings or HLTs during the operational phase for the Proposed Bowland Section as any impacts would have occurred during the enabling works and construction phases.

10.7 Proposed Traffic Routes Effects

65) Proposed Construction Traffic Routes Impacts Volume 2 Chapter 3: Development Description and Design Evolution and the corresponding appendix in Volume 4 describes the public highway traffic routes that construction vehicles would use from the strategic road network to the construction compounds. Construction vehicles would use these public highway routes from the early stages of the enabling works through to completion of the commissioning phase, although the largest number of vehicle movements would be associated with the construction phase.

66) Construction vehicles movements would have the potential to give rise to adverse, direct effects on cultural heritage assets through impacts on their settings. Section 10.7 examines the listed buildings and conservation areas located either on or adjacent (within 50 m) to the proposed construction traffic routes. The section is divided into two parts

- Section 10.7.1 appraises the construction traffic routes serving the Lower Houses compound at the north end of the Proposed Bowland Section, within the administrative area of Lancaster City Council
- Section 10.7.2 examines the construction traffic routes serving the New-in-Bowland compound at the south end of the Proposed Bowland Section, within the administrative areas of Ribble Valley Borough Council and South Ribble Borough Council.

10.7.1 Lower Houses Compound, Lancaster City Council Area

67) There are 51 Listed Buildings within 50 m of the proposed traffic routes for the Proposed Bowland Section on that part of the local road network serving the Lower Houses compound in the administrative area of Lancaster City Council. Of these, 50 are Grade II Listed and one is Grade II* Listed. There are no Grade I Listed Buildings within the 50 m proposed traffic routes assessment area. The operation of the proposed traffic routes would not physically impact on any of the Listed Buildings within the 50 m assessment area. Traffic Route impacts on cultural heritage assets in the Lancaster City Council area are presented in Table 10.10.

Table 10.10: Traffic Route Impacts – Lower Houses Compound

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Punch Bowl Inn	1131621	Medium	Its setting is defined by its roadside position within the settlement of Low Bentham.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Barn to right of Punch Bowl Inn	1131622	Medium	Its setting is defined by its roadside position within the settlement of Low	The presence of construction traffic on the B6480 is likely to present	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
			Bentham and association with the Punch Bowl Inn.	some noise and visual intrusion.		
Church Bridge	1131620	Medium	Its setting is defined by its position within the settlement of Low Bentham, across the River Wenning, supporting the B6480.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Church of St John the Baptist	1157613	High	Its setting is defined by its roadside position within the settlement of Low Bentham.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion; however, there is some partial screening from trees along the edge of the churchyard.	Negligible	Slight
High Park House Farmhouse and Farm Building Adjoining to South	1071588	Medium	Its setting is defined by its rural location.	The presence of construction traffic on Park House Lane is likely to present some noise and visual intrusion.	Minor	Slight
Barn North-East of Park House Farmhouse	1317455	Medium	Its setting is defined by its rural location.	The presence of construction traffic on Park House Lane is likely to present some noise and visual intrusion.	Minor	Slight
Park House Farmhouse	1165157	Medium	Its setting is defined by its rural location.	The presence of construction traffic on Park House Lane is likely to present some noise and visual intrusion.	Minor	Slight
Birks Holme Barn	1165062	Medium	Its setting is defined by its rural location.	The presence of construction traffic on Park House Lane is likely to present some	Minor	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
				noise and visual intrusion.		
Lane House and Barn Adjoining to South-East	1317444	Medium	Its setting is defined by its rural location.	The presence of construction traffic on the unnamed road is likely to present some noise and visual intrusion.	Minor	Slight
Lane Head Farmhouse and Barn Adjoining to West	1071574	Medium	Its setting is defined by its rural roadside position at the junction of Russells Lane, Mewith Lane and Trinket Lane.	The presence of construction traffic on Mewith Lane is likely to present some noise and visual intrusion.	Negligible	Slight
Oak Cottage	1071646	Medium	Its setting is defined by its roadside position on the B6480, within the settlement of Wennington.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Pound on North-East Side of Wennington Bridge	1165281	Medium	Its setting is defined by its roadside position on the B6480, within the settlement of Wennington.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Wennington Bridge	1071645	Medium	Its setting is defined by its position within the settlement of Wennington, across the River Wenning, supporting the B6480.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Boundary Stone	1362565	Medium	Its setting is defined by its roadside position.	The proposed traffic route would not affect our ability to understand and appreciate the historic boundary stone.	No change	Neutral
Tatham Bridge Inn	1071581	Medium	Its setting is defined by its rural roadside position on the B6480.	The presence of construction traffic on the B6480 is likely to present	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
				some noise and visual intrusion.		
Bridge Inn Cottage	1164901	Medium	Its setting is defined by its rural roadside position on the B6480.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight
Beck Farmhouse	1317478	Medium	Its setting is defined by its rural location.	The use of the unnamed road as a traffic route for construction traffic would introduce a temporary noise and visual impact.	Minor	Slight
Above Beck and Barn Adjoining to West	1071586	Medium	Its setting is defined by its rural location.	The use of the unnamed road as a traffic route for construction traffic would introduce a temporary noise and visual impact.	Minor	Slight
Wray Bridge	1165326	Medium	Its setting is defined by its position within the settlement of Wray, across the River Roeburn, supporting Main Street.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Bridge End House	1362604	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Burnside	1165302	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Bridge End Cottage	1071564	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Home Farm Cottage Home Farmhouse	1165280	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Holme View	1362603	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Roeburnside	1071568	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
94 Main Street	1165446	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Hope Cottage	1362606	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Dale End Cottage	1165432	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
73 Main Street	1165265	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Post Office and House Adjoining to South-East	1071567	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
71 and 72 Main Street	1071562	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Thistle House	1317334	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Greystones Cottages	1362602	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Ivy Cottage Ivy House	1071561	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Barn North of Hoskin's Farmhouse	1362605	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Vicarage	1071569	Medium	Its setting is defined by its position within the settlement of Wray and proximity to the Parish Church of the Holy Trinity.	The presence of construction traffic on Wennington Road is likely to present some noise and visual intrusion.	Negligible	Slight
Malvern House	1165333	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Windsor House	1362601	Medium	Its setting is defined by its roadside position on the junction of Wennington Road,	The presence of construction traffic on Wennington Road, Hornby Road and Main	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
			Hornby Road and Main Street, within the settlement of Wray.	Street is likely to present some noise and visual intrusion.		
Oak Cottage	1071566	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Wray House	1071558	Medium	Its setting is defined by its roadside position within the settlement of Wray, at the junction of Main Street, Wennington Road and Hornby Road.	The presence of construction traffic on Main Street, Wennington Road and Hornby Road is likely to present some noise and visual intrusion.	Negligible	Slight
Walnut Cottage	1071565	Medium	Its setting is defined by its roadside position on Main Street, within the settlement of Wray.	The presence of construction traffic on Main Street is likely to present some noise and visual intrusion.	Negligible	Slight
Friends Meeting House	1071560	Medium	Its setting is defined by its roadside position on Hornby Road (B6480).	The presence of construction traffic on Hornby Road is likely to present some noise and visual intrusion.	Negligible	Slight
New Inn	1071559	Medium	Its setting is defined by its roadside position on Hornby Road (B6480).	The presence of construction traffic on Hornby Road is likely to present some noise and visual intrusion.	Negligible	Slight
Shaw House	1362546	Medium	Its setting is defined by its roadside position on the A683, within the settlement of Claughton.	The presence of construction traffic on the A683 is likely to present some noise and visual intrusion.	Negligible	Slight
The Old Rectory	1317696	Medium	Its setting is defined by its position within the settlement of Claughton and proximity to the	The presence of construction traffic on A683 is likely to present some noise and visual intrusion.	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
			Church of St Chad which lies a short distance to the south.			
Church of St Chad	1071678	Medium	Its setting is defined by its position within the settlement of Claughton and proximity to the Old Rectory which lies a short distance to the north.	The presence of construction traffic on A683 is likely to present some noise and visual intrusion.	Negligible	Slight
Rose Cottage	1071784	Medium	Its setting is defined by its roadside position on Lancaster Road (A683), within the settlement of Caton.	The presence of construction traffic on Lancaster Road (A683) is likely to present some noise and visual intrusion.	Negligible	Slight
Farrar House and Barn Adjoining to West	1362477	Medium	Its setting is defined by its roadside position on Lancaster Road (A683), within the settlement of Caton.	The presence of construction traffic on Lancaster Road (A683) is likely to present some noise and visual intrusion.	Negligible	Slight
Fish Stones	1071783	Medium	Its setting is defined by its roadside position on Lancaster Road (A683), within the settlement of Caton.	The presence of construction traffic on Lancaster Road (A683) is likely to present some noise and visual intrusion.	Negligible	Slight
Old Post Cottage	1362475	Medium	Its setting is defined by its roadside position on Lancaster Road (A683), within the settlement of Caton.	The presence of construction traffic on Lancaster Road (A683) is likely to present some noise and visual intrusion.	Negligible	Slight
Chain Lodge	1164502	Medium	Its setting is defined by its roadside position on the periphery of Quernmore Park and the A683.	The presence of construction traffic on the A683 is likely to present some noise and visual intrusion.	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Wray Conservation Area	N/A	Medium	The conservation area lies wholly within the Forest of Bowland Area of Outstanding Natural Beauty, an area of sprawling heather moorland and blanket bog. An area of undulating lowland farming lies to the west of the village and to the north lies the valley floodplain of the Rivers Lune, Wenning and Hindburn.	The presence of construction traffic on the B6480 is likely to present some noise and visual intrusion.	Negligible	Slight

10.7.2 Newton-in-Bowland Compound, Ribble Valley Borough Council Area

68) There are 21 Listed Buildings and one Conservation Area within 50 m of the proposed traffic routes for the Proposed Bowland Section on that part of the local road network serving the Newton-in-Bowland compound in the administrative area of Ribble Valley Borough Council. Of these, 20 are Grade II Listed and one is Grade II* Listed. There are no Grade I Listed Buildings within the 50 m proposed traffic routes assessment area. The operation of the proposed traffic routes would not physically impact on any of the Listed Buildings within the 50 m assessment area. The Waddington Conservation Area is located at the convergence of the two traffic route options prior to the traffic route continuing in a northerly direction along the Slaidburn Road – this is described in Chapter 3: Development Description and Design Evolution and Chapter 16 Transport Planning. Traffic Route impacts on cultural heritage assets in the Ribble Valley area are presented in Table 10.11.

Table 10.11: Traffic Route Impacts – Newton-in-Bowland Compound

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Church of St Mary with Presbytery	1072076	High	Its setting is defined by its position within the settlement of Osbaldeston and proximity to the A59 Longsight Road.	The presence of construction traffic on the A59 is likely to present some noise and visual intrusion.	Negligible	Slight
Brungerley Farmhouse	1072154	High	Its setting is defined by its location off the B6478.	The use of the B6478 as a traffic route for construction traffic would introduce a temporary noise and visual impact.	Minor	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Glebe House	1072155	High	Its setting is defined by its location off the B6478 Slaidburn Road.	The use of the B6478 Slaidburn Road as a traffic route for construction traffic would introduce a temporary noise and visual impact.	Negligible	Slight
The Three Millstones	1072161	High	Its setting is defined by its position within the settlement of West Bradford and proximity to Waddington Road.	The presence of construction traffic on Waddington Road is likely to present some noise and visual intrusion.	Negligible	Slight
West Bradford Bridge	1072162	High	Its setting is defined by its position within the settlement of West Bradford, across the West Bradford Brook, supporting Waddington Road.	The presence of construction traffic on Waddington Road is likely to present some noise and visual intrusion.	Negligible	Slight
The Alleys	1072356	High	Its setting is defined by its roadside position within the historic market town of Clitheroe.	The presence of construction traffic on Waddington Road B6478 is likely to present some noise and visual intrusion.	Negligible	Slight
Post Office and House adjoining to South	1163638	High	Its setting is defined by its roadside position within the settlement of Waddington.	The presence of construction traffic on Belle Vue Lane is likely to present some noise and visual intrusion.	Negligible	Slight
Thornbers	1163647	High	Its setting is defined by its rural location off the B6478 Slaidburn Road.	The presence of construction traffic on Slaidburn Road is likely to present some noise and visual intrusion.	Minor	Slight
Church of St Helen	1163679	High	Its setting is defined by its position within the village of Waddington off the B6478 Clitheroe Road.	The presence of construction traffic on the B6478 is likely to present some noise and visual intrusion.	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
Lane Side	1163699	High	Its setting is defined by its rural, roadside position on the West Bradford Road.	The presence of construction traffic on West Bradford Road is likely to present some noise and visual intrusion.	Negligible	Slight
Crown Inn Chambers and Numbers 3 to 7 (odd)	1164312	High	Their setting is defined by their urban location	The presence of construction traffic on Waddington Road/Well Terrace (B6478) is likely to present some noise and visual intrusion	Negligible	Slight
School South West of Church of St Mary	1164570	High	Its setting is defined by its roadside position by the A59 on the periphery of Osbaldeston village.	The presence of construction traffic on the A59 is likely to present some noise and visual intrusion.	Negligible	Slight
Lower West Clough Farmhouse	1318111	High	Its setting is defined by its rural location.	The presence of construction traffic on Grindleton Road is likely to present some noise and visual intrusion.	Minor	Slight
Crow Trees Farmhouse	1318160	High	Its setting is defined by its roadside position on Crow Trees Brow, within the settlement of Chatburn.	The presence of construction traffic on Crow Trees Brow is likely to present some noise and visual intrusion.	Negligible	Slight
Saint Mary's Well	1362227	High	Its setting is defined by its roadside position off the B6478.	The presence of construction traffic on Well Terrace (B6478) is likely to present some noise and visual intrusion.	Negligible	Slight
Waddington Hall	1362302	High	Its setting is defined by its position within the settlement of Waddington	The presence of construction traffic on Clitheroe Road (B6478) is likely to present some	Negligible	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
				noise and visual intrusion.		
Ivy Cottage	1362303	High	Its setting is defined by its position within the settlement of Waddington.	The presence of construction traffic on Clitheroe Road (B6478) is likely to present some noise and visual intrusion.	Negligible	Slight
Waddington Bridge	1362304	High	Its setting is defined by its position within the settlement of Waddington, across the Waddington brook, supporting West Bradford Road.	The presence of construction traffic on West Bradford Road is likely to present some noise and visual intrusion.	Negligible	Slight
Stocks	1072160	High	Its setting is defined by its location off the B6478 within the village of Waddington.	The presence of construction traffic on Belle View Lane is likely to present some noise and visual intrusion.	Negligible	Slight
Wall West of Waddington Hall containing 2 Gateways and 2 pairs of Gate Piers with Gates	1163629	High	Its setting is defined by its roadside location off the B6478 within the village of Waddington.	The presence of construction traffic on Clitheroe Road is likely to present some noise and visual intrusion.	Minor	Slight
Waddington Hospital Gateway	1163649	High	Its setting is defined by its roadside location off the West Bradford Road within the village of Waddington.	The presence of construction traffic on West Bradford Road is likely to present some noise and visual intrusion.	Minor	Slight
Tomb of Robert Parker in St Helen's Churchyard, approximately 1 m East of Chancel	1163690	High	Its setting is defined by its roadside location off the B6478 within the churchyard of St Helen's within the village of Waddington.	The presence of construction traffic on Clitheroe Road is likely to present some noise and visual intrusion.	Negligible	Slight
Oaks Bar	1362342	High	Its setting is defined by its roadside	The presence of construction traffic on Longsight Road	Minor	Slight

Asset Name	NHLE reference	Value / Sensitivity	Setting	Effect	Magnitude	Significance of Effect
			location off the A59.	is likely to present some noise and visual intrusion.		
Waddington War Memorial	1431780	High	Its setting is defined by its roadside location by the B6478 within the village of Waddington.	The presence of construction traffic on Clitheroe Road is likely to present some noise and visual intrusion.	Minor	Slight
Waddington Conservation Area	N/A	Medium	Its setting is within the banks of the narrow valley cut by the Waddington Brook.	The presence of construction traffic going through the village and at the confluence of traffic routes at the northern end of the village centre is likely to present noise and visual intrusion in the quiet village.	Moderate	Moderate - significant

10.8 Essential Mitigation and Residual Effects

69) As explained in Section 10.4.3, the assessment of effects in Sections 10.6 to 10.7 takes into account the application of both embedded mitigation and good practice measures. This section identifies additional topic-specific essential mitigation identified through the assessment process, and then sets out the residual effects taking all three categories (embedded, good practice and essential) into account. Each essential mitigation item is assigned a reference number.

10.8.1 Archaeological Remains

70) Prior to the enabling works, archaeological trial trenching would be undertaken in line with the Chartered Institute for Archaeologists (CIfA) *Standard and guidance for archaeological field evaluation* (CIfA, 2020).¹³ This would target both known archaeological remains and areas of archaeological potential for unknown remains arising from the geophysical survey undertaken from 16 - 19 September 2020 on the Proposed Newton-in-Bowland Compound (Appendix 10.3) and undertaken from 12 - 13 April 2021 on the Proposed Lower Houses Compound (Appendix 10.4) (Mitigation Item CH1).

71) Following archaeological trial trenching (Mitigation Item CH1), archaeological mitigation to make a permanent record of any affected previously unknown archaeological remains could include:

- Detailed archaeological excavation (Mitigation Item CH2)
- Strip, map and sample (Mitigation Item CH3)
- Archaeological recording during construction ('watching brief') (Mitigation Item CH4).

72) Sufficient time must be allowed within the construction programme in order to mitigate any previously unknown archaeological remains identified during the archaeological trial trenching (Mitigation

¹³ Chartered Institute for Archaeologists (2020) *Standard and guidance for archaeological field evaluation* [Online] Available from: https://www.archaeologists.net/sites/default/files/CIfAS%26GFieldevaluation_3.pdf [Accessed December 2020]

Item CH1). These or any other mitigation measures would be agreed with the local planning authority archaeological advisor.

10.8.2 Historic Buildings and Conservation Areas

- 73) Good practice measures that would mitigate noise and visual impacts in the settings of Thwaite Moss (Asset 3000), Higher Stock Bridge Farmhouse (Asset 3001), Hole House Farmhouse (3002), Lower Houses Farm, off Park House Lane, Wray with Botton (Asset 3005), Lower House Cottage, Lower Houses Farm, off Park House Lane, Wray with Botton (3006), Lower Houses Farm, off Park House Lane, Wray with Botton (1) (3007), Lower Houses Farm, off Park House Lane, Wray with Botton (2) (3008), Leyland Farmhouse (3015), Foss Bank Farmhouse and Farm buildings adjoining to West (3016), Southern Farm Building at Scale Farm (3017), Newton Conservation Area (3020), Newton Hall (3025), Wall, Gatepiers and Gates South of Newton Hall (Asset 3027), Parkers Arms (3028) and Town Field, Newton-in-Bowland (Asset 3033) are set out in Chapter 6 Landscape and Arboriculture and Chapter 17: Noise and Vibration. The CTMP also explains ways in which the number and timing of construction vehicle movements through this area would be managed by the contractor to reduce adverse effects.
- 74) Opportunities to mitigate the anticipated adverse effects on Waddington conservation area would centre on the deployment of the CTMP, and the adoption of measures to reduce overall vehicle movements by implementing the park and ride facility near Ribblesdale Cement Works. These steps would not, however, be sufficient to reduce the overall effects on the conservation area below the 'significant' threshold.

10.8.3 Historic Landscape Types (HLTs)

- 75) No essential mitigation is proposed for the HLTs.

10.8.4 Summary of Mitigation and Residual Effects

- 76) To mitigate potential impacts on previously unknown archaeological remains a staged programme of archaeological investigations comprising archaeological evaluation by trial trenching (Mitigation Item CH1) would be required. Depending on the results of the trial trenching further mitigation works comprising either detailed archaeological excavation, strip map and sample or an archaeological watching brief (Mitigation Items CH2 to CH4) may be required.
- 77) No essential mitigation or good practice measures was identified for likely neutral significance effects on the following cultural heritage assets as they would experience temporary non-significant impacts in their settings; these therefore remain as stated in Tables 10.8 and 10.9:
- Hog Hole, field east of Lower Houses (Asset 3009)
 - South-East of Lower Houses (Asset 3010).
- 78) Significant residual effects would remain through the construction programme at Waddington conservation area, due to the level of construction vehicle movements.

10.9 Cumulative Effects

- 79) The following section provides an overview of the potential cumulative effects from different proposed developments and land allocations, in combination with the Proposed Bowland 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 Bowland Section.
- 80) 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.

- 81) It is important to note that future growth on the local road network was taken into account in the traffic modelling described in Chapter 16: Transport Planning. For this reason, the potential cumulative effects of future traffic growth between the Proposed Bowland Section and other proposed developments are embedded into predicted road traffic-related impacts on highways capacity, air quality and noise.
- 82) 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).
- 83) Based on professional judgement, it was concluded that there are no proposed third party developments or land allocations in local development plan documents which could potentially give rise to likely significant cumulative effects. No cumulative assessment was therefore undertaken in connection with cultural heritage.

10.9.1 Highways Works

- 84) As described in Volume 5 there would be an impact on a ridge and furrow system (located at 363139/465653) as a portion of it would be removed by construction activities. The pre-mitigation magnitude of this impact would be major and therefore a significant effect. Topographic surveys should be undertaken on the area of ridge and furrow that would be lost with a suitable buffer around it to provide context. This would result in a minor residual effect with a slight significance of effect.

10.9.2 Ribble Crossing

- 85) Impacts on cultural heritage resource by the Proposed Ribble Crossing have been assessed and are reported in Volume 6.
- 86) There were no significant effects predicted on the known cultural heritage resource identified due to the proposed Ribble Crossing. However, there is the potential for previously unknown archaeological remains to be present and evaluation by geophysical survey and/or trial trenching would be undertaken to ascertain the presence or absence of previously unknown archaeological remains.

10.10 Conclusion

- 87) This chapter of the Environmental Statement considered the potential cultural heritage impacts associated with the Enabling Works Phase, Construction Phase, Commissioning Phase and Operational Phase of the route of the Proposed Bowland Section. Residual impacts of slight significance have been identified on 55 cultural heritage assets, residual impacts of negligible significance have been identified on two cultural heritage assets and a residual impact of neutral significance has been identified on one cultural heritage asset. In addition, a significant effect has been identified on Waddington conservation area due to the anticipated volume and duration of construction vehicle movements passing through the village en route to the Proposed Marl Hill Section.
- 88) No further residual impacts were identified on the remaining cultural heritage resource.

10.11 Glossary and Key Terms

- 89) Key phrases and terms used within this technical chapter relating to Cultural Heritage are defined within Appendix 1.2: Glossary and Key Terms.