



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

**Environmental Statement**

**Volume 2**

**Chapter 2: Environmental Context**

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## Haweswater Aqueduct Resilience Programme - Proposed Marl Hill Section

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## 2. Environmental Context

### 2.1 Introduction

- 1) This chapter provides an overview of the environmental setting of the Proposed Marl Hill Section, describing some of the key features of the natural and built environment which fall within or are in proximity to the planning application boundary. More detailed baseline environmental information specific to individual assessment topics are presented in Chapters 6 to 18.
- 2) As indicated in Figure 1.1, the Proposed Programme of Works comprises five sections of aqueduct, extending from Docker in Cumbria to Bury in Greater Manchester. The existing aqueduct starts by taking raw water from Haweswater Reservoir in the Lake District National Park along a 16 km section of the aqueduct to Watchgate Water Treatment Works (WTW) for treatment. From Watchgate WTW the existing aqueduct conveys treated water to customers in Cumbria, Lancashire and Greater Manchester via service reservoirs and water mains which branch off the main aqueduct.
- 3) The environmental context of the Proposed Marl Hill Section is similar to that of the Proposed Bowland Section. The landscape is characterised by undulating lowland, moorland and rolling upland with occasional rocky outcrops. The Proposed Marl Hill Section is located within the south-east of the Forest of Bowland Area of Outstanding Natural Beauty (AONB), passing through a mixture of moorland and agricultural areas. There are few settlements within 3 km of the Proposed Marl Hill Section, the nearest being Newton-in-Bowland to the north and Waddington to the south. There are farmsteads located throughout the area, often along tracks following the contour of the hills. The network of PRoWs provides opportunities for recreation and access into the AONB. The local road network provides links between villages and isolated properties.
- 4) The existing tunnel enables water to be conveyed by gravity for the entire length, avoiding the need for the water to be pumped. The route of the Proposed Marl Hill Section follows the same philosophy, generally following the alignment of the existing aqueduct between Newton-in-Bowland and land to the north of Waddington. It would replace an existing 4.3 km section of aqueduct running from the permanent pastures of the Hodder river valley continuing southwards, passing under Waddington Fell before reaching further agricultural land, fringed by woodland, approximately 1 km north of Waddington. The Proposed Marl Hill Section would be constructed by a Tunnel Boring Machine (TBM) below ground level with short open-cut surface trenching sections at each end, making connections back to the existing aqueduct.

### 2.2 Proposed Marl Hill Section

- 5) The following sections describe the environmental context of the route, running from south to north along the route.
- 6) As shown on Figure 1.1, all of the Proposed Marl Hill Section runs through the local authority area of Ribble Valley Borough Council. Ribble Valley in East Lancashire is the largest borough in Lancashire covering 583 km<sup>2</sup> and 26 wards.<sup>1</sup>
- 7) The Marl Hill tunnel would have a launch compound to the south (referred to as the Braddup Compound), approximately 4.5 km to the north-west of Clitheroe, and a reception shaft approximately 1.5 km south of Newton-in-Bowland (referred to as the Bonstone Compound).

#### 2.2.1 Bonstone Compound

- 8) The Bonstone Compound would be located between 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

<sup>1</sup> Lancashire County Council Local Authority Profile, Ribble Valley District - <https://www.lancashire.gov.uk/lancashire-insight/area-profiles/local-authority-profiles/ribble-valley-district/> [accessed 14 January 2021]

north. The topography ranges from approximately 130 m Above Ordnance Datum (AOD) along the river valley to 340 m AOD at Standridge Hill.

- 9) The main settlement within 3 km of Bonstone Compound 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. Permanent pasture for livestock grazing is the predominant land use in the wider area. Isolated farmsteads and building groups are also found in the surrounding area, away from the settlements.
- 10) There are seven statutorily designated wildlife sites located within 5 km of the Bonstone Compound, namely: Langcliff Cross Meadow SSSI (3.6 km north east), North Pennine Dales Meadows SAC (3.6 km north east), Bell Sykes Meadow SSSI (3.7 km north east), Myttons Meadows SSSI (3.9 km north), Bowland Fells SPA (4 km north west), Bowland Fells SSSI (4 km north west), and Field Head Meadow SSSI (4 km north east). There are also 14 Biological Heritage Sites (BHS) located within 2 km of the Bonstone Compound. The main habitats identified within the Bonstone Compound are poor semi-improved grassland (6.93 ha), semi-improved neutral grassland (2.08 ha), scattered broadleaved trees and 96 m of intact native species poor hedgerow. There are also watercourses flowing across and in the vicinity of the compound area.
- 11) The Bonstone Compound falls within the Impact Risk Zone (IRZ) for Bowland Fells, Langcliffe Cross Meadows and Bell Sykes Meadows SSSIs. This IRZ identifies risk categories relating to air pollution and combustion processes.
- 12) The Bonstone Compound would be located between areas identified as Ancient Enclosure, Post Medieval Enclosure and Reverted Moorland (Lancashire Historic Landscape Types). There are several cultural heritage assets within 200 m of the Bonstone Compound, including one Grade II Listed Building (Foulscales), two non-designated historic buildings and one archaeological remain of unknown value.
- 13) There are public footpaths connecting settlements with the surrounding countryside and access land at Birkett Fell and Easington Fell. There are three PRoWs which are intersected by the proposed access into the compound. There are also three long-distance footpaths within 3 km of the Bonstone Compound, including the Tops of the North, the Pendle Witches Way and the Hodder Way.

### 2.2.2 Braddup Compound

- 14) The Braddup Compound would be located within undulating, lowland farmland, between Waddington village, in the valley of the River Ribble, and the higher fell areas 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.
- 15) The main settlement within 3 km of Braddup Compound is Waddington, with Clitheroe and West Bradford situated farther to the south and south-east respectively. Elsewhere, settlements are limited to isolated farmsteads and residential properties across the lower slopes of the Bowland fells and within the River Ribble valley.
- 16) There are three statutorily designated wildlife sites (geological in nature) located within 5 km of the Braddup Compound, these include Coplow Quarry SSSI (4.2 km south east), Salthill and Bellmanpark Quarries SSSI (4.7 km south east) and Hodder River Section SSSI (4.7 km south). There are also nine Biological Heritage Sites (BHS) located within 2 km of the Braddup Compound. The main habitats identified within the Braddup Compound are poor semi-improved grassland (14.41 ha), marshy grassland (1.14 ha), scattered broadleaved trees (18 No.) and 96 m of intact native species poor hedgerow and six watercourses crossing through the compound area. There are also other habitats identified in smaller representations (extension) within the compound area.
- 17) The Braddup Compound would be located within an area of Post Medieval Enclosure (Lancashire Historic Landscape Types). There are several cultural heritage assets within 200 m of the Braddup Compound, including one Grade II Listed Building (Braddup House and Farm Building) and two non-designated historic buildings. Within the wider area, 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.

- 18) There are several Public Rights of Way (PRoW) 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 3 km of Braddup Compound, including the Tops of the North, the Pendle Witches Way and the Hodder Way. National Cycle Network (NCN) route 90 runs along a minor road between the River Hodder, Waddington and West Bradford.