



**Haweswater Aqueduct Resilience Programme - Proposed Bowland
Section**

Environmental Statement

Volume 2

Chapter 20: Environmental Mitigation

June 2021



Haweswater Aqueduct Resilience Programme - Proposed Bowland Section

Project No: B27070CT
Document Title: Proposed Bowland Section Environmental Statement Volume 2 Chapter 20:
Environmental Mitigation
Document Ref.: LCC_RVBC-BO-ES-020
Revision: 0
Date: June 2021
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20. Environmental Mitigation

20.1 Introduction

- 1) As described throughout this ES, the design of the Proposed Bowland Section has been progressed taking account of identified environmental constraints and opportunities. This iterative approach has enabled avoidance or reduction of potential environmental effects during enabling, construction, commissioning and operational phases.
- 2) The proposals as submitted with the planning applications include three categories of environmental commitments:
 - Embedded Mitigation: measures that form part of the engineering design, developed through the iterative design process, and summarised in Chapter 3: Design Evolution and Development Description
 - Good Practice: approaches and actions identified to avoid or reduce potential impacts during construction, set out in the Construction Code of Practice (CCoP) (Appendix 3.2) and Construction Traffic Management Plans (Ref: LCC-BO-APP-007, RVBC-BO-APP-007_01 and RVBC-BO-APP-007_02)
 - Essential Mitigation: any additional - measures specific to the Proposed Bowland Section that are needed to avoid, reduce or offset potential impacts that could otherwise result in effects considered significant in the context of the EIA Regulations. Essential mitigation, where required, is presented in each environmental topic chapter of the ES, and collated in Appendix 20.1.
- 3) The environmental topic chapters of this ES (Chapters 6 to 19) have assessed the proposals taking into account embedded mitigation and good practice, and the outcome of these assessments then informed the need for any additional essential mitigation. Further information on this approach is provided in Chapter 4: EIA Methodology.

20.2 Approach to Mitigation

- 4) This chapter summarises the proposed environmental mitigation that has been identified as part of the EIA process. The environmental mitigation commitments of the project are set out in the following documents:
 - Construction Code of Practice (CCoP) (Appendix 3.2 in Volume 4)
 - Schedule of Mitigation (Appendix 20.1 in Volume 4)
 - An Environmental Masterplan (EMP) (Figure 20.1 in Volume 3).
- 5) Summary information on each of these documents is provided below in Sections 20.2.1 to 20.2.3. The documents capture the mitigation as proposed at time of submission of the proposals for consideration by the relevant planning authorities. However, it is acknowledged that some measures may continue to evolve and be further refined during the planning determination process and through the development of planning conditions, should the planning authorities be minded to approve the applications.
- 6) A Biodiversity Net Gain (BNG) strategy would be implemented to offset areas of permanent habitat loss or habitat change and also to provide a 10 % net gain in biodiversity. Opportunities for advanced, additional and / or enhanced habitat creation on offsite locations within United Utilities' ownership would be explored. Further details are provided in Chapter 9A: Terrestrial Ecology, the EMP and BNG Habitat Compensation documents below:
 - LCC-BO-APP-008_01: BNG Strategy - on site
 - LCC-BO-APP-008_02: BNG Strategy - off site
 - RVBC-BO-APP-008_01: BNG Strategy - on site
 - RVBC-BO-APP-008_02: BNG Strategy - off site

20.2.1 Construction Code of Practice

- 7) The CCoP outlines the environmental control measures, standards and other good practice mitigation measures identified to reduce the potential impact of the Proposed Bowland Section.
- 8) The CCoP is an outline document in that it sets out a series of proposed measures and standards of work, but also provides a framework for the relevant planning authorities to develop planning conditions based on the mitigation measures proposed in the ES. It is intended that the CCoP would be used by United Utilities in directing its contractors to apply appropriate measures throughout the construction period to:
 - Provide effective planning, management and control during construction to control potential impacts on people, businesses and the natural and historic environment
 - To assist in engaging with the local community and stakeholders throughout the construction period.
- 9) The Contractor would produce and implement site specific Construction Environmental Management Plans (CEMPs) in full accordance with the CCoP and in consultation with the local authority and relevant stakeholders. The CEMPs would demonstrate how the CCoP would be implemented by the Contractor throughout the life of the project.

20.2.2 Schedule of Mitigation

- 10) The Schedule of Mitigation (Appendix 20.1) collates the essential mitigation measures which have been reported in the environmental topic chapters of this ES (Chapters 6 to 19). These mitigation measures form commitments made by United Utilities and/or obligations that would be placed on its contractors.
- 11) The Schedule of Mitigation is presented on an EIA topic basis. The measures for each topic have been assigned an individual sequential reference number, as set out below:
 - Chapter 7 (Water Environment): WE1, WE2 etc.
 - Chapter 8 (Flood Risk): FR1, FR2 etc.
 - Chapter 9A (Terrestrial Ecology): ET1, ET2 etc.
 - Chapter 9B (Aquatic Ecology): EA1, EA2 etc.
 - Chapter 10 (Cultural Heritage): CH1, CH2 etc.
 - Chapter 15 (Major Accidents): MA1, MA2 etc.
 - Chapter 17 (Noise and Vibration): NV1, NV2, etc.
- 12) Taking into account embedded mitigation and good practice, no likely significant effects were identified for the following environmental topics, and therefore no essential mitigation measures are proposed:
 - Chapter 6 (Landscape and Arboriculture)
 - Chapter 11 (Soils, Geology and Land Quality)
 - Chapter 12 (Materials and Waste)
 - Chapter 13 (Public Access and Recreation)
 - Chapter 14 (Communities and Health)
 - Chapter 16 (Transport Planning)
 - Chapter 18 (Air Quality and Climate Change).
- 13) Likely significant effects associated with the proposed off-site highways works are presented in Volume 5. These works comprise sections of road widening, junction modifications, passing places, a satellite compound near Wray, and a park and ride facility and heavy good vehicles holding area at Ribblesdale Cement Works in Clitheroe. Likely significant effects associated with Landscape and Arboriculture have been identified as a consequence of these works, based on reasonable worst case assumptions concerning land take and construction easements. However, further development of

essential landscape and arboricultural mitigation is required as part of the detailed design development process. For the purposes of this chapter, therefore, mitigation of significant adverse effects on landscape and tree features is based around the good practice requirements of the CCoP. For arboriculture this includes specification of tree protection measures in a Site Specific Arboricultural Method Statement (SS-AMS), in conjunction with a Tree Protection Plan (TPP), and for landscape mitigation planting proposals as set out in Appendix 20.2 and reinstatements as presented in the Environmental Masterplan (EMP, see 20.2.3 below).

- 14) Essential mitigation measures proposed for the Ribble Crossing as identified in Volume 6 of this ES have also been included within Appendix 20.1: Schedule of Mitigation. The measures for each topic have been assigned with an additional reference number (RC), as set out below:
- Chapter 7 (Water Environment): WE-RC1, WE-RC2 etc.
 - Chapter 8 (Flood Risk): FR-RC1, FR-RC2 etc.

20.2.3 Environmental Masterplan

- 15) The EMP (Figure 20.1) comprises a series of drawings illustrating the locations where site-specific mitigation measures are proposed. Mitigation notes for these topics highlight the design response to reduce or offset identified environmental effects.
- 16) Similar to the Schedule of Mitigation, the EMP covers a limited number of EIA topic areas, namely: Landscape and Arboriculture, Ecology, Cultural Heritage, Water Environment, Public Access and Recreation and Noise and Vibration.

20.2.4 Planting Proposals

- 17) The Planting Proposals (Appendix 20.2) comprise planting schedules which have been developed for the areas of proposed landscaping, and include a planting specification and information on maintenance.
- 18) The schedules have been developed to ensure the proposed planting reflects the existing landscape character found within Proposed Bowland Section, and to ensure the proposals achieve their intended objectives and functions (such as providing visual screening or habitat creation). The proposed species mixes have been developed by the project landscape architects in conjunction with the project ecologists, cultural heritage specialist and arboriculturalists.
- 19) Further development and refinement of the planting schedules and specifications would be provided at the detailed design stage.