

TRANSPORT AND WORKS ACT 1992
TRANSPORT AND WORKS (INQUIRIES PROCEDURES)
RULES 2004
NETWORK RAIL (HUDDERSFIELD TO WESTTOWN
(DEWSBURY) IMPROVEMENTS) ORDER

BIODIVERSITY
PROOF OF EVIDENCE
NIALL MACHIN

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The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021

Proof of Evidence – Biodiversity

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1. GLOSSARY AND ACRONYMS

Abbreviation	Definition
Additional mitigation	Where embedded mitigation measures do not fully avoid or mitigate impacts, and the environmental topic assessments identify potential significant effects due to construction and/or operation of the Scheme, further mitigation measures are outlined to minimise potential impacts.
AIA	Arboriculture Impact Assessment
Arboricultural Impact Assessment	An assessment which determines the site-specific effect of a proposed development on the existing tree stock.
Baseline	The conditions that exist without a scheme at the time an assessment or survey is undertaken.
BNG	Biodiversity Net Gain
Biodiversity Net Gain	<p>An approach to development that leaves biodiversity in a better state than before. Where a development has an impact on biodiversity it encourages developers to provide an increase in appropriate natural habitat and ecological features over and above that being affected in such a way it is hoped that the current loss of biodiversity through development will be halted and ecological networks can be restored.</p> <p>In terms of the Scheme this means replacing habitat lost to offset the losses incurred and adding 10% habitat by measurement using the approved DEFRA metric to calculate it</p>
CIEEM	Chartered Institute of Ecology and Environmental Management
CoCP	Code of Construction Practice
Code of Construction Practice	The document that outlines how the Scheme will reduce or mitigate construction effects on the environment
Compensation (mitigation)	Compensation measures are applied post design stage and recognise that the impacts cannot be removed or reduced. These measures are intended as a means of recording the negative change to the significance of an historic asset; enabling future dissemination of information about this change.
DPP	Deemed Planning Permission
Deemed planning permission	On making an order under the Transport and Works Act 1992, the Secretary of State may direct that planning permission shall be deemed to be granted, subject to such conditions (if any) as may be specified in the direction.

Abbreviation	Definition
Defra Metric	A calculation tool which provides a way of measuring and accounting for biodiversity losses and gains for terrestrial and/or intertidal habitats resulting from development or changes in land management in England.
EA	Environment Agency
Environment Agency	A non-departmental public body established in 1995 and sponsored by the Department for Environment, Food & Rural Affairs with responsibilities relating to the protection and enhancement of the environment in England.
EclA	Ecological Impact Assessment
Ecological Impact Assessment	A process for identifying, quantifying and evaluating potential effects of development-related or other proposed actions on habitats, species and ecosystems.
eDNA	Environmental DNA
Environmental DNA	An industry standard survey technique used to determine the presence or likely absence of great crested newts by testing water samples for traces of eDNA. Negative results indicate the likely absence of great crested newt. Positive results indicate the likely presence of great crested newt.
EDP	Environmental Design Plan
Environmental Design Plan	A document setting out the environmental requirements during the detailed design stage of the Scheme.
Effect	Outcome to an environmental feature from an impact. For example, killing / injury of bats and reducing the availability of breeding habitat as a result of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned.
EIA	Environmental Impact Assessment
Environmental Impact Assessment	The process by which the anticipated effects on the environment of a proposed development or Scheme are measured.
Embedded mitigation	Mitigation measures integrated into the design of the Scheme (i.e., the Scheme could not be delivered without them) and are intended to prevent, reduce and where possible offset any significant adverse impacts on the environment as well as measures such as compliance with statutory requirements. These measures are considered part of the Scheme when assessing the potential effects.
EPSM	European Protected Species Mitigation licence

Abbreviation	Definition
European Protected Species Mitigation licence	A type of licence obtained from Natural England to undertake actions which have impacts on European protected species that would otherwise be illegal.
ES	Environment Statement
Environment Statement	An Environmental Statement is prepared as part of an EIA in support of a planning application and summarises the findings of the EIA process.
FHS	Fish Habitat Survey
Fish Habitat Survey	A survey comprising a habitat suitability assessment for key fish species (e.g., salmonid and coarse fish species) and life stages, identifying any key discrete habitat features of specific value (e.g., discrete spawning substrate or deep pools).
GCN	Great crested newt
Habitat	A place where an organism (e.g., human, animal, plant, micro-organism) or population of organisms live, characterised by its surroundings
Habitat of Principal Importance	These habitats in England are published in a list by the Secretary of State under the Natural Environment and Rural Communities (NERC) Act, 2006, Section 41.
IEF	Important Ecological Feature
Important Ecological Feature	Habitats, species or ecosystems requiring specific assessment within EclA. Ecological features can be important for a variety of reasons (e.g., quality and extent of designated sites or habitats, habitat/species rarity).
Impact	Actions resulting in changes to an environmental feature. For example, demolition activities leading to the removal of a building used as a bat roost.
KWHN	Kirklees Wildlife Habitat Network
LEMP	Landscape and Ecological Management Plan
Landscape and Ecological Management Plan	The LEMP will provide details for the landscape proposals and management of any replacement planting as well as detail on ecological mitigation (beyond some of the specifics discussed above, e.g., protected species licencing mitigation). The LEMP will be submitted pursuant to Condition 4 of the DPP.
LNR	Local Nature Reserve
Local Nature Reserve	Statutory designations with wildlife or geological features that are of interest locally under Section 21 of the National Parks and Access to the Countryside Act, 1949

Abbreviation	Definition
	(amended by schedule 11 of the Natural Environment and Rural Communities Act 2006).
LWS	Local Wildlife Sites
Local Wildlife Sites	Wildlife-rich site selected for local nature conservation interest or value. A non-statutory designation, defined in local and structure plans under the Town and Country Planning system which may be a material consideration in planning.
MAGIC	Multi-Agency Geographic Information for the Countryside
NE	Natural England
Natural England	An executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs responsible for ensuring that England's natural environment, including its land, flora and fauna, freshwater and marine environments, geology and soils, are protected and improved.
NMP	Nuisance Management Plan A plan that describes how dust emissions will be prevented or minimised on site to avoid impacts beyond the Scheme boundary, including monitoring regime and record of complaints.
NSIP	National Significant Infrastructure Project
NVC	National Vegetation Classification
National Vegetation Classification	A hierarchal system designed to classify existing vegetation composition, and vegetation structure occurring in a specific place.
NVMP	Noise and Vibration Management Plan
OEMP	Outline Environmental Mitigation Plan
Outline Environmental Mitigation Plan	The OEMP (submitted as Figure 2-3 of the ES (Vol 4)) identified specific areas of planting and landscaping as well as showing the proposed locations of additional ecological mitigation measures such as proposed bat boxes, proposed replacement bat roosts, wildlife fencing/barriers, bird boxes and potential compensation pond locations, the detail of which will be finalised in the LEMP.
OLE	Overhead Line Equipment
Overhead Line Equipment	Overhead line electrification equipment, which supplies electric power to the trains.
OS	Ordnance Survey
PPICP	Pollution Prevention and Incident Control Plan

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Abbreviation	Definition
PSU	Principal Supply Unit
Principal Supply Unit	Infrastructure takes power from overhead 132kv power lines and transforms it down to the power requirements of the railway.
RCS	River Corridor Survey
RHS	River Habitat Survey
RS	Route Sections
Route Sections	For reporting purposes, the Scheme has been split into six distinct areas (Route Sections) based on geography.
Semi-improved grassland	Semi-improved grassland is not a formal Habitat of Principal Importance type, but this is the name used in the Natural England data GIS set which was mainly compiled from desk study sources. The level of confidence attributed to areas of mapped semi-improved grasslands is considered by Natural England to be 'low' meaning that many may not be of Habitat of Principal Importance quality.
Semi-natural woodland	A habitat that occurs prominently in the lowlands of England, giving texture and pattern to the countryside and providing interest in what are otherwise often intensively managed areas. These characteristic components of the English countryside are especially significant as very few similar landscapes occur outside Britain.
SoC	Statement of Case
SFC	Static Frequency Converter Feeder station See PSU above.
SSSI	Site of Special Scientific Interest A geological or biological conservation designation denoting a protected area in the UK.
Temporary Highway Works	Highway works proposed on the Construction Access Routes to reduce the impact of construction traffic on the public highway and improve suitability for construction vehicles. The proposed works comprise of passing places and junction works
The Order	The TWAO authorising the Scheme: The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order.
TRU	Transpennine Route Upgrade
Transpennine Route Upgrade	Series of projects to improve the Transpennine railway between Manchester, Huddersfield, Leeds and York and

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Abbreviation	Definition
	improve connections between key towns and cities across the north of England.
TPO	Tree Preservation Order
WWTW	Waste Water Treatment Works
WYBG	West Yorkshire Bat Group
WYE	West Yorkshire Ecology (local records centre)
WCA	Wildlife and Countryside Act, 1981, as amended

2. INTRODUCTION

- 2.1.1 My name is Niall Machin, Technical Director (Ecology) at the Johns Associates Limited – Environmental Consultants. I have a B.Sc. (Hons) in Environmental Biology from the University of Wales (Swansea) and have been a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) since 1993.
- 2.1.2 I have 38 years' experience in ecology and environmental sustainability, with 26 years as a professional ecologist, having worked for national and local government (Nature Conservancy Council, London Ecology Unit, Greater London Authority), wildlife trusts and private consultancy. I sit on the CIEEM England Policy Group.
- 2.1.3 I have extensive ecological experience on large development and infrastructure projects having worked on National Significant Infrastructure Projects (NSIPs) such as A63 Castle Street Improvement Hull and Oikos South Side Marine Development (Canvey Island). I have overseen ecology reporting on HS2 and a number of other rail schemes and station improvements. I have project managed ecological input to large multi-phase development projects such as Newark South (3,500 unit urban expansion south of Newark including new link road), Graven Hill Urban Village (2,000 unit self-build scheme with new urban centre near Bicester) and One Horton Heath (large 2,500 unit scheme in Eastleigh Borough).
- 2.1.4 From 2014 to end of April 2021 I was Associate Director (Ecology) at Waterman Energy, Environment & Design (latterly Waterman Infrastructure and Environment) where I headed up the national ecology team. Waterman has led the ecological input on Transpennine Route Upgrade (TRU) including Route Section W3 and from October 2017 to April 2021 I oversaw Waterman's ecological input into TRU as Project Director, overseeing the work of Waterman Principal Ecologist Steven Ward who was Waterman's Project Manager for W3 ecology and main author of the Environment Statement (ES) Biodiversity chapters.
- 2.1.5 I therefore have first-hand experience of the rationale and decision making that formed the basis of the ecology survey programme and ecological appraisal for the biodiversity chapters of the ES. I have reviewed and approved ecology reports on W3 including the biodiversity chapters and appendices.

3. STRUCTURE OF THE PROOF OF EVIDENCE

- 3.1.1 My proof addresses the ecological/biodiversity matters identified in Section 9 of the Statement of Case, namely:
- 3.1.2 Protected species issues including floating water-plantain and licences for bats and badger
- 3.1.3 Relevant ecological mitigation
- 3.1.4 Matters relating to Biodiversity Net Gain, the Code of Construction Practice (CoCP) and wider environmental controls, are dealt with in the Environment Proof of Jim Pearson.
- 3.1.5 I will provide evidence on the following topics:
 - a. Surveys undertaken to establish the baseline position
 - b. Any limitations to the above surveys and implications of such
 - c. Measures to avoid, reduce or remedy any major or significant adverse impacts of the Scheme.
 - d. The extent of any adverse environmental impacts that would still remain after the proposed mitigation.
 - e. Responses to specific objectors.

4. SCOPE OF EVIDENCE

4.1.1 The Order Scheme has been subject to an Environmental Impact Assessment (EIA), which is reported in the ES (NR16). The ES considers Biodiversity in Volume 2i, Chapter 9 (NR16A) and Volume 3 Appendix 9.1 to 9.10 (NR16B). Key aspects of the ES Section are presented in this Proof of Evidence.

4.1.2 The following evidence demonstrates that the assessment of ecological impacts of the project has been rigorous and in accordance with established practice and guidance. Furthermore, the ES appropriately identified those ecological impacts that require mitigation or compensation during construction, which are identified in Part A of the Code of Construction Practice and will also be delivered via planning conditions principally in the form of the Landscape and Ecological Management Plan (LEMP) and Part B of the Code of Construction Practice. Further detail on the CoCP and LEMP is provided in the proof of Mr Jim Pearson.

4.2 Summary of Biodiversity Assessments for the ES

Surveys undertaken:

4.2.1 The ecological baseline has been determined through a combination of desk study, field survey and review of approved landscape restoration plans for two sites currently under development/extraction.

Desk study

4.2.2 A desk study was carried out to identify nature conservation designations and protected and priority habitats and species potentially relevant to the Scheme, as per Table 9-1 of Volume 2i: Chapter 9: Biodiversity ('hereafter referred to as 'Chapter 9'). Data was requested from the local biological information centre WYE in May 2019 for Non-statutory Local Wildlife Sites (LWS) and protected and priority species for a 2km radius of the scheme. Information was also sourced from:

- West Yorkshire Bat Group (WYBG) (data supplied in December 2019);
- Environment Agency (EA) – publicly available data;
- Canal & Rivers Trust;
- Defra MAGIC Map; and
- Ordnance Survey (OS) Maps.

Field surveys

4.2.3 The scope of habitat and protected species survey work that has been undertaken to inform the Ecological Impact Assessment (EclA) is summarised in Table 9-2 of Chapter 9. The scope of protected species survey work was defined based on the

results of extended Phase 1 habitat surveys completed across the Scheme in 2019 and 2020.

- 4.2.4 The ES identified a number of surveys that were scheduled to take place following submission of the Order application for example due to access constraints. The list and results of these surveys are provided in summary in Appendix A of this document. A copy of the full survey results is provided in Biodiversity additional survey report - September 2020 to October 2021 (NR107).
- 4.2.5 Details of the ecology surveys undertaken prior to submission of the application can be found in the ES Table 9-2 (page 12). These comprised an extended Phase 1 Habitat Survey and a suite of relevant habitat and protected species surveys. The following field surveys were **scoped out** based on a review of desk study information, the results of terrestrial and aquatic habitat surveys completed across the Scheme in 2019 and applying professional judgement:
- National Vegetation Classification (NVC) survey – no priority or particularly diverse habitats that require further botanical assessment were identified;
 - Wintering/passage bird survey – the habitats to be impacted by the Scheme are unlikely to support important numbers of wintering or passage birds. There are no designated sites within 10km with overwintering birds as a qualifying feature;
 - Breeding bird survey – no habitats or sites with the potential to support diverse assemblages of breeding birds were identified that would be subject to direct impacts (habitat loss or damage) or indirect impacts (significant or long-term disturbance) as a result of the Scheme. The potential presence of breeding Wildlife and Countryside Act (WCA) Schedule 1 bird species within the vicinity of the Scheme (with the exception of barn owl (see Table 9-2 of Chapter 9)) is limited to kingfisher (*Alcedo atthis*; along watercourses that are crossed by the Scheme) and little ringed plover (*Charadrius dubius*; potentially present in Forge Lane Quarry), based on the habitats present. No targeted surveys for these species were considered necessary for the following reasons: no suitable nesting habitat for kingfisher was identified along watercourses within 100m of the Scheme; and likely impacts and effects on little ringed plover can be assessed and appropriate mitigation measures can be specified without the need for survey information;
 - Dormouse survey – there are no records of dormouse in the desk study area and the current known distribution of the species in the UK does not extend into West Yorkshire;
 - Reptile survey – small areas of habitat suitable for common reptile species are present across the Scheme. Likely impacts and effects can be accurately characterised without the need for survey information;
 - Terrestrial invertebrate survey – the habitats to be impacted by the Scheme are unlikely to support diverse assemblages of invertebrates, or important populations of rare/notable invertebrates;
 - Fish survey – suitable proxy data (EA fish monitoring data) is available within the 2km study area for watercourses identified as requiring detailed

assessment (i.e. those watercourses identified as both potentially ecologically important and potentially affected by the Scheme). In combination with habitat survey results (River Habitat Survey (RHS), River Corridor Survey (RCS), Fish Habitat Survey (FHS) and spot-check habitat surveys), the available EA data is considered sufficient;

- Aquatic macroinvertebrate survey – suitable proxy data (EA macroinvertebrate monitoring data) is available within the 2km study area for watercourses identified as requiring detailed assessment (i.e. those watercourses identified as both potentially ecologically important and potentially affected by the Scheme). In combination with habitat survey results (RHS, RCS, FHS and spot-check habitat surveys), the available EA data is considered sufficient;
- White-clawed crayfish (*Austropotamobius pallipes*) survey – this species is unlikely to be present in watercourses to be impacted by the Scheme as there are no recent records of the species within 2km and signal crayfish (*Pacifastacus leniusculus*; an invasive non- native species that rapidly out-competes and spreads crayfish plague to the native white- clawed crayfish) has been recorded in Huddersfield Broad Canal, the River Colne and the River Calder (all of which are hydrologically connected to watercourses to be impacted by the Scheme); and
- Floating water-plantain (*Luronium natans*) – outwith the River Calder. Local records, Canal & River Trust vegetation survey results and a precautionary approach (which assumed presence in all watercourses with historical records) were considered sufficient to undertake a robust assessment.

4.2.6 Further details on scope and methodology are provided in individual species sections below.

Limitations to surveys undertaken

4.2.7 The level of biodiversity survey data collected to inform the ES was extensive and as such is considered sufficient to inform a robust ecological assessment of the scheme. Survey limitations are set out in the ES (Chapter 9: Biodiversity, Vol 2i paras 9.3.43-45 and Appendices 9-1 to 9-8).

Summary of survey results and impacts

4.2.8 Key issues per Route Section (RS) are summarised below in relation to objection issues only. The ES should be consulted for a full list of Important Ecological Features (IEF):

Route Section 1 Huddersfield

4.2.9 The following Important Ecological Features (IEF) were identified as relevant to Route Section 1:

- Statutory nature conservation designations Gledholt Woods Local Nature Reserve (LNR);
- Non-statutory nature conservation designations (Gledholt Woods Local Wildlife Site (LWS) (also LNR), Huddersfield Narrow Canal LWS, Sir John Ramsden

Canal LWS,);

- Terrestrial habitats (semi-natural broad-leaved woodland, plantation broad-leaved woodland, plantation mixed woodland, scattered trees, scrub); and
- Aquatic habitats (Hebble Beck, Gledholt Beck and River Colne).

Route Section 2 Hillhouse and Fartown

4.2.10 The following IEF were identified as relevant to Route Section 2:

- Statutory nature conservation designations (Gledholt Woods LNR);
- Non-statutory nature conservation designations (Sir John Ramsden Canal Local Wildlife Site (LWS), Huddersfield Narrow Canal LWS, Gledholt Woods LWS,);
- Terrestrial habitats (semi-natural broad-leaved woodland, semi-natural mixed woodland, plantation broad-leaved woodland, scattered trees, scrub);
- Aquatic habitats (Huddersfield Broad Canal and Blackhouse Dike); and
- Protected flora and fauna (floating water-plantain).

Route Section 3 Deighton and Bradley

4.2.11 The following IEF were identified as relevant to Route Section 3:

- Non-statutory nature conservation designations (Sir John Ramsden Canal Local Wildlife Site (LWS));
- Terrestrial habitats (semi-natural broad-leaved woodland, semi-natural mixed woodland, plantation broad-leaved woodland, scattered trees, scrub);
- Aquatic habitats (Huddersfield Broad Canal and Unnamed Watercourse at Bradley Culvert); and
- Protected flora and fauna (floating water-plantain).

Route Section 4 Colne Bridge and Battyeford

4.2.12 The following IEF were identified as relevant to Route Section 4:

- Non-statutory nature conservation designations (Sir John Ramsden Canal Local Wildlife Site (LWS));
- Terrestrial habitats (semi-natural broad-leaved woodland, plantation broad-leaved woodland, scattered trees, scrub,);
- Aquatic habitats (Huddersfield Broad Canal, River Colne, River Calder, Calder and Hebble Navigation);
- Protected and priority flora and fauna (floating water-plantain, bats, badger, barn owl).
- Five bat roosts were identified within and adjacent to the Order limits in Route Section 4 as follows:

- Daubenton's bat (*Myotis daubentonii*) maternity roost (≥15 bats) within Colne Viaduct Underbridge (MVL3/109), located within the Scheme boundary in Route Section 4. The roost is also used by hibernating Daubenton's bats. Further surveys are on-going to assess whether this is also a swarming/mating and day roost;
- Brown long-eared bat feeding perch within an old stone barn at Helm Farm, located 40m to the south of the scheme;
- Common pipistrelle day roost (one bat) within an old stone barn at Helm Farm, located 40m to the south of the scheme;
- Common pipistrelle day roost (one bat) within a residential property at Heaton Lodge Cottage located within the Scheme boundary; and
- Noctule hibernation roost (one bat) within Cooper Bridge Sewage Plant Underbridge (MNV2/186).
- In total, 13 badger setts were identified during field surveys, all of which, with the exception of one, were located within the existing railway corridor of the Scheme. These comprised one active main sett, nine disused non-main setts and three partially used non-main setts.
- An active barn owl roost site was identified within a barn at Helm Farm

Route Section 5 Mirfield and Lower Hopton

4.2.13 The following IEF were identified as relevant to Route Section 5:

- Non-statutory nature conservation designations (Local Wildlife Sites (LWS): Sir John Ramsden Canal);
- Terrestrial habitats (semi-natural broad-leaved woodland, scattered trees, scrub);
- Aquatic habitats (River Calder, Ladywood Lakes);
- Protected flora and fauna (floating water-plantain, great crested newt).
- Whilst a positive great crested newt eDNA result was returned for a large fishing lake at Ladywood Lakes carp fishery in 2020, subsequent presence/absence and eDNA surveys in 2021 indicated absence of great crested newt from this waterbody.

Route Section 6 Ravensthorpe and Westtown

4.2.14 The following IEF were identified as relevant to Route Section 6:

- Terrestrial habitats (semi-natural broad-leaved woodland, plantation broad-leaved woodland, scattered trees, scrub);
- Aquatic habitats (River Calder, Calder and Hebble Navigation, two recently created ponds and two ponds and one lake which do not yet exist but shall be constructed under approved planning permission/restoration plans;
- Protected flora and fauna (floating water-plantain, bats, breeding birds);
 - A Daubenton's bat maternity roost (≥10 bats) was identified within a crevice feature in the archway of Off Forge Lane Underbridge (MVN2/206), over

the Calder & Hebble Navigation located immediately adjacent to the Scheme in Route Section 6. The roost is also used by hibernating bats – one hibernating Daubenton's bat was identified during hibernation surveys. See 4.2.43 below for further details of this roost;

- Forge Lane Quarry (within and adjacent to the Scheme in Route Section 6) was considered to have potential habitat for little ringed plover (WCA Schedule 1 species), restoration of this area (including removal of current habitats of value for this species) will be completed prior to the commencement of the Scheme. Furthermore, WYE data contained no records of little ringed plover within 2km of the Scheme in Route Section 6.

Mitigation

- 4.2.15 Part A of the Code of Construction Practice (CoCP) sets out the environmental management systems to be employed during construction of the Scheme. This document was submitted as Appendix 2-1 to the ES (Volume 3). Part B of the CoCP will include a Noise and Vibration Management Plan (NVMP), Pollution Prevention and Incident Control Plan (PPICP), Nuisance Management Plan (NMP) and Environmental Design Plan (EDP, Land Contamination and Hydrogeology). The contents of these documents will be submitted to and agreed by the Local Authority pursuant to proposed condition 5 to the Deemed Planning Permission (DPP) prior to construction works commencing.
- 4.2.16 A Landscape and Ecological Management Plan (LEMP) will be prepared pursuant to proposed condition 4 of the DPP which will provide the detailed mitigation measures. This will be submitted to and agreed by the Local Authority prior to construction works commencing.

Protected Species Mitigation Licences

- 4.2.17 Based on survey data the assessments have identified the need for a licence application to be made for the following protected species and Natural England (NE) have accepted this approach in principle. Licences will be required for the bat roosts (Colne Viaduct Underbridge (MVL3/109); and Heaton Lodge Cottages) and badger sett impact (Heaton Junction). Engagement with NE has been undertaken and draft licences have been issued to NE (NR99, NR100 and NR101) who have agreed to review and should no issues be identified issue a letter of no impediment .
- 4.2.18 Details of mitigation measures which are/would be included within the Natural England (NE) European Protected Species Mitigation (EPSM) licences application(s), are set out in the ES and are summarised in paragraphs 4.2.42 to 4.2.45 below. The documents comprising the licence submissions are included within the Core Documents before the Inquiry.
- 4.2.19 Based on the 2020 survey results, the ES concluded that a EPSM for great crested newts (GCN) would be required in relation to the Ladywood Lakes site. Based on professional judgement of the likelihood of GCN given the site

conditions at the lakes, i.e. heavily used fishing lakes, additional surveys were undertaken in 2021 including a repeat eDNA test and presence/absence surveys. The data shows that the original results were an anomaly and I am satisfied that there is no GCN population within Ladywood Lakes. This 2021 survey update has been discussed and agreed with Natural England and therefore is now no requirement for a great crested newt licence application in relation to the Scheme. Further bat surveys in 2021 have indicated that the Colne Viaduct Underbridge Daubenton's bat roost may also be a swarming, mating and day roost, in addition to its classification as a maternity and hibernation roost: this further information has been included in the draft licences submitted to NE.

Statutory designated sites

- 4.2.20 Works in the Gledholt Woods LNR/LWS are to facilitate the erection of the perimeter railway fencing.
- 4.2.21 Loss of semi-improved neutral grassland and scrub within Gledholt Woods LNR/LWS will be mitigated via re-instatement and/or natural regeneration following construction and will take approximately 5 years and 5-10 years, respectively, to achieve a comparable condition to the existing baseline.
- 4.2.22 Potential impacts to mature semi-natural broad-leaved woodland will be mitigated via the implementation of standard environmental control measures, such as establishment of tree root protection areas as detailed within the Arboricultural Impact Assessment (AIA) (Appendix 9-1 of the ES).
- 4.2.23 Temporary potential indirect impacts on grassland and woodland habitats within the LNR/LWS from pollution to air (dust generation) will be mitigated with the implementation of Part A of the CoCP and the NMP under Part B of the CoCP concerning dust and air pollution.

Non-statutory designated sites

- 4.2.24 Potential water quality impacts to Sir John Ramsden Canal LWS (pollution and sedimentation) will be mitigated through the implementation of standard environmental control measures detailed within Part A of the CoCP.
- 4.2.25 Areas of lost riparian/terrestrial habitats associated with Sir John Ramsden Canal LWS will be mitigated for via re-instatement (in land that is in temporary use for construction), or natural regeneration following construction, achieving a condition comparable to the existing baseline within approximately 15-30 years (for areas of tree cover). Any additional compensatory planting requirements will be undertaken in line with the Outline Environmental Mitigation Plan (OEMP) which formed Figure 2-3 of the ES (Vol 4), with further details (including planting plans) included within the LEMP.

- 4.2.26 Potential indirect impacts to Whitley Wood LWS from pollution to air (dust generation) will be mitigated with the implementation of Part A of the CoCP and through the NMP under Part B of the CoCP.

Aquatic habitats

- 4.2.27 Potential water quality impacts (pollution and sedimentation) will be mitigated through the implementation of the PPICP under Part B of the CoCP. Where additional mitigation measures are proposed for specific aquatic habitats, these are outlined as follows.

Unnamed Watercourse at Bradley Culvert

- 4.2.28 The extension of Bradley Culvert (MVL3/102A) (currently 45m in length) by approximately 5m will result in the permanent loss of open watercourse habitat and reduced habitat quality for aquatic species within the Unnamed Watercourse, immediately upstream of the existing railway culvert. The culvert extension may also cause disturbance to aquatic habitats and species during construction, as well as potential water quality impacts on retained sections of the watercourse downstream of the culvert extension. The impacts of the culvert extension on aquatic habitats and species will be minimised with the implementation of sensitive culvert/watercourse design measures set out in Section 11.6 of Chapter 11 (Water environment) of the ES (Vol 2i).

River Calder

- 4.2.29 The Baker Viaduct Underbridge (RBA/2) will cross the River Calder, resulting in permanent alteration of adjacent riparian/terrestrial habitat within the footprint of the structure. This will affect approximately 40m of riverbank (i.e. bank-top) in total (20m on each bank). It also includes the need to construct training walls during the construction phase but which are likely to remain in-situ permanently, which will result in permanent artificial bank-face beneath the structure on both banks (approximately 60m of riverbank (i.e. bank-face) in total; 30m on each bank). The extent of river training walls required for Baker Viaduct Underbridge (RBA/2) on the River Calder will be minimised through detailed design. Details will be included within the EDP (Land Contamination and Hydrogeology) under Part B of the CoCP. The design, where possible, will also seek opportunities to soften the hard-engineered solution through, for example, rough rather than smooth structure facing. It will also incorporate green bank protection solutions to transition hard engineering to the existing naturalised bank face.
- 4.2.30 Compensation will be required for the localised permanent loss of riparian habitat to piers (bank top), training walls (bank face), and reduced quality of habitat likely to be supported beneath Baker Viaduct Underbridge (RBA/2) bridge deck (i.e. grasses and/or ruderal vegetation rather than shrubs and trees) cumulatively affecting approximately 60m of the River Calder; 30m on each bank. As compensation, the existing riparian habitat adjacent to and downstream of Baker

Viaduct Underbridge (RBA/2) will be enhanced. This will include planting of approximately 90m of bank habitat on the right bank, between Baker Viaduct Underbridge (RBA/2) and an existing utilities pipe crossing downstream adjacent to the existing weir. Currently this habitat is of poor quality, dominated by grasses and ruderal vegetation, devoid of riparian habitat structure and complexity. The location of this compensatory habitat is indicated in the OEMP and detailed measures will be included in the LEMP.

- 4.2.31 Potential disturbance of fish (for example, due to noise and vibration) will be mitigated through the implementation of measures within Part A of the CoCP and will be detailed in the NVMP under Part B of the CoCP, to reduce acoustic disturbance. In the event dewatering (for example over-pumping) is required to create dry conditions, fish rescue will be implemented as part of environmental control measures included in the LEMP.
- 4.2.32 Any increase in track drainage will be managed through adherence to the Scheme-wide drainage strategy as summarised in Appendix 11-4 of the ES (Vol 3).

Calder and Hebble Navigation

- 4.2.33 Any increase in track drainage will be managed through adherence to the Scheme-wide drainage strategy as summarised in Appendix 11-4.

Blackhouse Dike

- 4.2.34 The impacts of the culvert extension on aquatic habitats and species will be minimised with the implementation of sensitive culvert/watercourse design measures set out in Section 11.6 of Chapter 11 (Water environment).

Ponds within Thornhill Quarry Landfill Site

- 4.2.35 As a worst case scenario, new pond habitat will be created to fully compensate for the loss of the two existing ecologically important ponds within Thornhill Quarry Landfill Site. Proposed locations for compensatory pond habitat are shown in the OEMP and further details, including final location(s) and pond design, will be included within the LEMP.
- 4.2.36 The compensatory pond habitats will be designed to occupy a cumulative surface area that is, at a minimum, equivalent to that being lost (a combined 4,260m²). The following design principles as set out in Chapter 9 para 9.6.19 will also be observed in the development of a detailed design for the compensation pond(s). The compensatory pond habitat will:
- Be created prior to the removal of the existing ponds, if practically achievable taking account of construction phasing, to ensure continuous provision of standing water habitat. Where it is not possible to create compensation ponds prior to the loss of existing ponds, smaller ponds/scrapes will be created in advance of the works with larger areas of pond habitat created following

construction to compensate for the total area of standing water lost;

- Consider groundwater and surface drainage and their impact on permanent and temporary water levels, to ensure a minimum of 75% of the replacement habitat is permanent standing water throughout the entire year;
- Avoid lining where possible and where unavoidable, select a clay or bentonite liner;
- Be 'seeded' with viable translocated material from the existing pond where possible (bank- side vegetation, benthic sediment, and aquatic submerged and emergent vegetation);
- Include marginal slopes with approximately 50% of pond perimeter gradient no steeper than 1:8 (to enhance the drawdown zone, the area between winter high water level and the summer low water level) and approximately 50% with gradient no shallower than 1:4;
- Include undulating topography, particularly within the drawdown zone, to maximise hydrological diversity; and
- Include water depth proportions of approximately 50% shallow water (less than 0.5m) and 50% deep water (1-2m or greater).

4.2.37 The existing ponds will be drained and removed sensitively to minimise impacts on associated species. Animals will be recovered from the ponds as far as possible and transferred to the newly created ponds and/or other suitable habitat outside construction areas. The sensitive removal of the existing ponds will be completed in accordance with an approved method statement (set out within the LEMP) and under the supervision of an ecologist.

Terrestrial habitats

4.2.38 Direct impacts to terrestrial habitats (where identified) will be mitigated for via re-instatement as far as possible following construction, with any additional planting requirements undertaken in line with the OEMP. Further details (including planting plans) will be included as part of the LEMP, which will include details on the management of any replacement planting. Timescales for replacement or naturally regenerated (i.e. scrub and grassland) habitats to reach a comparable condition to the existing baseline are as follows;

- Semi-natural broad-leaved woodland: 30-100 years;
- Semi-natural mixed woodland: <30 years;
- Plantation broad-leaved woodland: <30 years;
- Scrub: 5-10 years; and
- Semi-improved neutral grassland: <5 years.

4.2.39 Potential indirect impacts to all terrestrial habitats from pollution to air (dust generation) and water (surface run-off), where identified, will be adequately mitigated with the implementation of measures outlined in Part A of the CoCP and detailed in the NMP and PPICP under Part B of the CoCP.

Protected and priority flora and fauna

Floating water-plantain

- 4.2.40 Potential water quality impacts on floating water-plantain (pollution and sedimentation) will be mitigated through the implementation of the PPICP under Part B of the CoCP.

Bats

- 4.2.41 Re-construction of Colne Viaduct Underbridge (MVL3/109) and demolition of Heaton Lodge cottages (32030_B1) will be undertaken in accordance with an approved NE EPSM licence (see paragraphs 4.2.17 and 4.2.18 above).
- 4.2.42 Mitigation measures will be required as a condition of the EPSM licences and all mitigation would be overseen by a licensed bat ecologist. Details of potential mitigation are included in the ES and will likely include: provision of temporary or permanent roosting boxes, exclusion of bats from current roosts, pre-inspection surveys, soft demolition under supervision and monitoring of replacement roosts.
- 4.2.43 Although not directly impacted by the works a buffer zone will be maintained around the bat roost in Off Forge Lane Underbridge (MVN2/206) to avoid disturbance during establishment and use of the Ravensthorpe Area construction compound. This compound will not extend beyond the public footpath that runs between Scholefield Underbridge (MVN2/205) and Off Forge Lane Underbridge (MVN2/206) over the Calder and Hebble Navigation. This will maintain a minimum 75m distance between the compound and the bat roost. Construction lighting within the Ravensthorpe compound will be positioned and designed so as to minimise light spill onto the Calder and Hebble Navigation and associated riparian habitats, as far as possible. Hoods and covers will be used to direct lighting onto working areas only. This will minimise disturbance of riparian habitats along the canal, which are likely to be important for bats moving to and from the roost in Off Forge Lane Underbridge (MVN2/206).

Badger

- 4.2.44 Measures will be implemented prior to and during construction to minimise impacts on badger and ensure legislative compliance, including pre-construction surveys to confirm the status of identified setts (and if any new setts have been created or identified in areas previously inaccessible for surveys), provision of a replacement setts and sensitive habitat clearance under an ecological watching brief, where necessary.
- 4.2.45 A badger development licence will need to be obtained from NE to permit the destruction of the active main badger sett and two partially used subsidiary setts and disused outlier sett at Heaton Lodge junction, as well as any other active or partially used setts identified (A draft licence application has been made as detailed in paragraphs 4.2.17 and 4.2.18). Up to date information on the status of

setts would be required to support a licence application. Sett closure would only be permitted between July and November inclusive. The following measures would likely be required as a condition of the licence:

- Provision of an artificial sett within the local area (within the Scheme) to compensate for the loss of the main sett. This will be constructed well in advance of sett removal (at least 6 months in advance);
- Four weeks of monitoring on any Setts not disused to confirm status (to further inform mitigation requirements). This will avoid core winter months;
- Exclusion of badgers from setts using one-way gates and monitoring over a period of at least 21 days to ensure that exclusion has been effective; and
- Destruction of the sett as soon as possible after exclusion to reduce the chances of re- occupation by badger. It may be necessary to install heavy-gauge chainlink or weldmesh over the former sett to prevent re-excavation of the sett by badgers. It would also be necessary to discourage excluded badgers from excavating new setts in other areas of the Scheme that will be directly or indirectly impacted during construction by rendering habitat unsuitable, such as by clearing vegetation.

4.2.46 Measures will be implemented to minimise direct impacts on other partially used non-main setts. Where direct or significant indirect impacts cannot be avoided on these partially used badger setts, appropriate mitigation measures will be undertaken under the authority of a badger development licence. The measures would depend on the type of sett and nature of the impact but could include sett closure (generally only permitted between July and November inclusive). The provision of replacement setts for these non-main setts would not be required.

4.2.47 Measures will be implemented to minimise disturbance of any retained setts (such as noise, vibration and artificial light) within and adjacent to the Scheme as far as possible through the establishment of exclusion zones and/or the implementation of standard environmental control measures set out in Part A of the CoCP. Examples include the use of hoods/covers on artificial lighting to minimise illumination of adjacent habitats. Where necessary, such measures would be specified and authorised by inclusion within a badger development licence.

4.2.48 Risks to badgers within construction sites will be adequately mitigated with the implementation of measures set out in the LEMP, such as leaving a means of egress within excavations that are left open overnight.

Barn owl

4.2.49 Soft landscaping along the new section of railway line around Heaton Lodge Junction will be designed so as not to provide rank grassland habitat suitable for foraging barn owl, in order to reduce the risk of barn owl collisions/mortality from moving trains during operation of the Scheme. In addition, to avoiding the creation of grassland habitat as an end goal, the creation of habitats within which rank grassland can develop during establishment, such as plantation woodland, will also be avoided. Further detail will be provided in the LEMP.

Breeding birds

- 4.2.50 Direct impacts on other nesting bird species during vegetation clearance would be adequately mitigated for via the removal of potential nesting habitat outside the bird breeding season (which runs February to September), and pre-construction nest checks (no more than 24 hours prior to removal) where this is not possible. Appropriate buffer zones would be established around any active nests until the young have fully fledged and left the nest. Further detail will be provided in the LEMP.

Reptiles

- 4.2.51 Mitigation measures to avoid killing/injury of reptiles, such as phased vegetation clearance, will be implemented during construction where necessary as part of standard environmental control measures which will be set out in the LEMP.

Otter

- 4.2.52 Measures will be implemented prior to and during construction to minimise the risk of impacts on otter and ensure legislative compliance, including pre-construction surveys to determine the presence/likely absence of otter resting sites. If no changes to the existing baseline are identified, then no further mitigation in respect of otter resting sites will be required.
- 4.2.53 However, if additional otter resting sites are identified prior to or during construction, measures to minimise direct impacts and disturbance as far as possible, such as through establishment of exclusion zones, leaving a means of egress within excavations that are left open overnight, and sensitive habitat clearance under an ecological watching brief, where necessary will be implemented. Further details will be included within the LEMP.
- 4.2.54 Where direct or significant indirect impacts on otter resting places cannot be avoided, appropriate mitigation measures will be undertaken under the authority of an otter EPSM licence, such as the creation of replacement resting sites outside of working areas.
- 4.2.55 Potential water quality impacts (pollution and sedimentation effects) during works will also be adequately mitigated with the implementation of Part A of the CoCP and the PPICP under Part B of the CoCP. Potential water quality impacts during operation of the Scheme will be mitigated for with the implementation of the Scheme-wide drainage strategy, as summarised in Appendix 11-4 of the ES.
- 4.2.56 Lighting within construction compounds at Heaton Lodge WWTW, Colne Bridge Road, Paul Lane and Ravensthorpe area will be positioned and designed so as to minimise light spill onto the River Colne, the River Calder, Calder and Hebble Navigation and their associated riparian habitats, as far as possible. Hoods and covers will be used to direct lighting onto working areas only, to minimise

disturbance along these watercourses. Details will be included within the NMP under Part B of the CoCP and also included within the LEMP.

Residual impacts – construction

- 4.2.57 Taking into consideration the embedded mitigation, which is integrated into the Scheme design (see Chapter 9), and with the implementation of additional mitigation measures set out above, the following residual significant adverse effects are predicted during construction of the Scheme.
- 4.2.58 A temporary, adverse effect on Gledholt Woods LNR/LWS, significant at the local level in the short term (5-10 years) until replacement planting or natural regeneration becomes established. After this point, no significant residual effects are predicted.
- 4.2.59 A temporary, adverse effect to Sir John Ramsden Canal LWS that is significant at the Local level in the medium term (<30 years) until replacement planting is established. After this point, no significant residual effects are predicted.
- 4.2.60 A temporary, adverse effect on the River Calder, significant at the Local level, in the short term (2-5 years) until compensatory riparian planting is established. After this point, no significant residual effects on rivers are predicted.
- 4.2.61 A temporary adverse effect on ponds (at Thornhill Quarry), significant at a County level, in the short term (3-5 years), until replacement pond habitats are established to comparable condition. After this point, no significant residual effects on ponds are predicted.
- 4.2.62 A temporary, adverse effect on semi-natural broad-leaved woodland, significant at the Local level, in the medium to long term (30-100 years) until replacement planting is established. After this point, no significant residual effects are predicted.
- 4.2.63 A temporary, adverse effect to semi-natural mixed woodland and plantation broad-leaved woodland that is significant at the Local level in the medium term (<30 years) until replacement planting is established. After this point, no significant residual effects are predicted.
- 4.2.64 A temporary, adverse effect on scrub, significant at the Local level, in the short term (5-10 years) until replacement planting or natural regeneration is established. After this point, no significant residual effects are predicted.
- 4.2.65 A temporary, adverse effect to semi-improved neutral grassland that is significant at the Local level in the short term (<5 years) until replacement planting or natural regeneration is established. After this point, no significant residual effects are predicted.
- 4.2.66 With the inclusion of embedded mitigation measures in the Scheme design and the implementation of the additional mitigation measures outlined in Chapter 11

(Water environment), as well as additional mitigation measures detailed in Section 9.6 (Mitigation measures), no temporary or permanent significant adverse (or beneficial) effects on any other IEF are predicted during either construction or operation of the Scheme.

Residual impacts – operation

4.2.67 None are predicted.

4.3 Landscape and Ecological Management Plan (LEMP)

4.3.1 Indicative areas of planting were shown on the OEMP. The aim of this document was to indicate specific areas of planting and landscaping as well as showing the locations of additional ecological mitigation measures such as proposed bat boxes, proposed replacement bat roosts, wildlife fencing/barriers, bird boxes and potential compensation pond locations, the detail of which will be finalised in the LEMP that will be submitted to and agreed with Kirklees Council under proposed Condition 4 of the DPP.

4.3.2 The LEMP will provide details for the landscape proposals and management of any replacement planting as well as detail on ecological mitigation (beyond some of the specific measures I have discussed above). This will be secured by planning condition and therefore provide a robust and valid approach to ecological mitigation in the ES.

4.3.3 The general approach to ecological mitigation is to allow impacted habitats to regenerate naturally where appropriate, supplemented by areas of bespoke landscaping using appropriate native species and creating wildlife habitats where appropriate. Much of the habitats within the rail corridor have been subjected to human influence at some point and have regenerated following previous clearances e.g. when the line was created or previous construction, operational or maintenance works have been undertaken. Given the security and operational and safety constraints upon such land, allowing the habitat to regenerate naturally is considered entirely appropriate.

4.3.4 Habitat creation is also proposed within the Scheme boundary. Landscape and ecological works will be implemented where the work requires clearance of existing vegetation and habitats. This includes areas used for construction compounds and access. Details of the landscaping plan will be set out in the LEMP

4.3.5 The mitigation hierarchy has been applied at key design points in the Scheme development. Loss of habitat has been avoided where reasonably practicable to do so. Habitat losses are broadly indicated in the Vegetation Loss Plan (Figure 9-8 of the ES, Vol 4).

4.3.6 Compensatory works include:

- Hedgerow planting;
- Shrub mix (particularly along the rail corridor where tree planting would conflict with the OLE infrastructure);
- Creation of semi-improved grassland;
- Creation of semi-natural broadleaved woodland;
- Riparian planting – specifically along the River Calder (mitigation for Baker Viaduct works);
- Protected species habitat creation including replacement badger setts and bat roost mitigation;
- Replacement ponds;
- Vegetation reinstatement – where possible vegetation removed to facilitate construction will be replaced; and
- Regeneration – where beneficial, areas where vegetation is removed will be allowed to regenerate naturally.

5. RESPONSES TO SPECIFIC OBJECTORS

5.1.1 The objectors who raise biodiversity as a substantive issue are:

- OBJ 33 – Kirklees Council
- OBJ 35 – Canal and River Trust
- OBJ 38– Huddersfield Town Association Football Club
- OBJ 45 – Mr. Hutchinson

5.2 OBJ 33 – Kirklees Council

Objection

5.2.1 A number of technical issues were raised in Kirklees Council's objection to the Order.

Response on behalf of Network Rail

5.2.2 Technical issues are being resolved through the collaborative effort in the workshops between Network Rail and Kirklees Council. This will be dealt with in the Statement of Common Ground currently being agreed between the two parties and it is not proposed to comment on this aspect in this proof of evidence. Additional comments in this section directly address the issues raised in Kirklees Council's Statement of Case (SoC).

Objection

Impacts on Biodiversity and Ecology (including Trees)

5.2.3 Paragraph 6.2.2 of the Council's Statement of Case raises concerns regarding the loss of trees both from within and outside the rail corridor including trees covered by TPOs. Of most concern are the following;

- TPO ref 10/85/a1 (Network Rail AIA ref G63 (4 – Colne Bridge and Battyeford)).
- TPO ref 21/94/w1 (Not identified as a constraint within Network Rail AIA)
- TPO ref 21/20/w1 (Not identified as a constraint within Network Rail AIA).
- Losses at Lady Wood of mature woodland up to boundary of railway land (Network Rail AIA ref W147, G146 and G148). Although not covered by a TPO, the loss of all trees in the area depicted would be extensive and result in a negative impact on the wider woodland.

Response on behalf of Network Rail

5.2.4 Issues relating to the loss of trees covered by TPOs are addressed in the proof of Tony Rivero (NR/PoE/TR/4.2).

- 5.2.5 In relation to Lady Wood the ES (Chapter 9, 9.5.19) states a loss of up to 0.77ha of mature semi-natural broad-leaved woodland at the northern edge of Lady Wood adjacent to the existing railway due to land take requirements for the establishment of the Ravensthorpe construction compounds and earthworks. The area of woodland to be lost represents approximately 8.5% of the total area of Lady Wood (approximately 9ha in size) and is in a relatively poor condition compared to the remainder of the woodland, with a disturbed and impoverished ground flora and significant encroachment by invasive species, in particular Japanese knotweed. Lady Wood is not Ancient Woodland.

Objection

Mitigation Proposals for SFC site

- 5.2.6 Paragraph 6.2.5 of the SoC sets out concerns regarding the ambiguity of the mitigation proposed to compensate for the loss of the restoration scheme on waste safeguarded land (WS19 Forge Lane Ravensthorpe) for the construction of the large-scale Power Supply Unit and Static Frequency Converter Feeder station (SFC). The proposals will result in the permanent loss of the habitats to be restored, including wetland and two ecologically valuable ponds. Currently there is no detail on how the loss of these habitats is to be mitigated to compensate for the loss of the restoration site. The context of the ponds to be delivered as part of the restoration is important as the scheme aimed to deliver opportunities to wading birds, including little ringed plover.

Response on behalf of Network Rail

- 5.2.7 The SFC will be located on land at Thornhill Quarry, which will result in the loss of two ponds. The ES assesses the impact of the Scheme as a temporary adverse effect on the ponds significant at a County level, as set out in paragraph 4.2.61 above.
- 5.2.8 Mitigation in the form of two new ecologically designed ponds is proposed (see paragraphs 4.2.35 to 4.2.37 above). Details of all the ecological habitat creation, will be set out in the LEMP. Specific details regarding ecological mitigation at the SFC site will also be provided pursuant to proposed condition 14 of the DPP.
- 5.2.9 Little ringed plover are a summer migrant species that make use of open gravelly substrate near to standing fresh water bodies to nest. Their stronghold in the UK comprises gravel pits and wetlands with such habitat usually managed for nature conservation. However, they are an opportunistic breeder on 'brownfield sites' in the very early stages of succession where large areas of open gravelly or stony substrate is present in the vicinity of open fresh water. They have been known to nest on gravel car parks. Little ringed plover presence, habitat and mitigation was addressed in the ES and potential opportunities to create habitat suitable for little ringed plover will be set out within the LEMP.

Objection

Statutory & Non-Statutory Designated Sites

- 5.2.10 Paragraph 6.2.6 of the SoC states that direct temporary loss of habitats within two Local Wildlife Sites (LWS) (UG102/LWS35 Gledholt Wood and LWS32 Sir John Ramsden Canal) are expected as a result of the scheme.
- 5.2.11 The Council go on to state that Network Rail has set out that there is no alternative way to deliver the proposals, therefore in this case full compensatory measures are required to be secured in the long term.

Response on behalf of Network Rail

- 5.2.12 Gledholt Woods LNR (and LWS) is located within the Scheme boundary. Construction access and works to replace the existing stone wall boundary along the railway with palisade fencing will result in the temporary loss of up to 0.09ha of other neutral grassland and 0.02ha mixed scrub within the LNR/LWS. The areas impacted represent approximately 1.2% of the total area of the LNR/LWS and are habitats of relatively low value when compared with areas of other habitat within the LNR/LWS, such as mature broadleaved mixed deciduous woodland and ponds. There are mature broad-leaved mixed deciduous woodland areas within the south-east of the LNR/LWS boundary immediately adjacent to the railway boundary. Fencing is already in place along this boundary, but this will be removed and replaced during construction. Fence replacement works would be facilitated from trackside to avoid impacts to trees as far as possible.
- 5.2.13 Loss of semi-improved neutral grassland and scrub within Gledholt Woods LNR/LWS will be mitigated via re-instatement and/or natural regeneration following construction and will take approximately 5 years and 5-10 years, respectively, to achieve a comparable condition to the existing baseline. Potential impacts to mature semi-natural broad-leaved woodland will be adequately mitigated via the implementation of standard environmental control measures, such as establishment of tree root protection areas as detailed within the Arboricultural Impact Assessment (AIA). Whilst current proposals seek to reinstate this habitat loss, there are opportunities to provide further enhancement within this LNR/LWS in discussion with landowners.
- 5.2.14 Sir John Ramsden Canal LWS (Huddersfield Broad Canal) is located within the Scheme. The LWS supports floating water-plantain, which is protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2017. Construction of a utilities pipe bridge over the canal, adjacent to Huddersfield Broad Canal Underbridge (MVL3/108S), will require construction of new bank top abutments and clearance of adjacent riparian/terrestrial vegetation on either side of the bridge. The establishment and use of construction compounds adjacent to the canal at Red Doles Road, Ridings and Colne Bridge Road, as well as works to replace the bridge deck of Huddersfield Broad Canal Underbridge (MVL3/108S),

will also result in the temporary loss of adjacent riparian/terrestrial vegetation along the canal, affecting up to 330m of canal bank in total. Vegetation removal will be reduced as much as reasonably practicable. No in-channel works or marginal/in-channel vegetation clearance is required. The areas of work that temporarily affect the canal are relatively small compared to the canal as a whole so do not reduce its condition. Potential water quality impacts (pollution and sedimentation) will be mitigated through the implementation of good practice measures (implemented through the PPICP under Part B of the CoCP will reduce the likelihood of a pollution event arising from adjacent construction compounds within the scheme to low.

- 5.2.15 Mitigation measures identified in the ES include measures which require the maintenance of vegetation corridors/riparian buffer strips adjacent to watercourses wherever practical, thereby retaining a degree of habitat continuity and function immediately adjacent to watercourses, as well as protection from pollution during construction.
- 5.2.16 Areas of lost riparian/terrestrial habitats associated with the Sir John Ramsden Canal LWS will be mitigated for via re-instatement (in land that is in temporary use for construction), or natural regeneration following construction, achieving a condition comparable to the existing baseline within approximately 15-30 years (for areas of tree cover). Any additional compensatory planting requirements will be undertaken in line with the OEMP, with further details (including planting plans) included within the LEMP, the contents of which will be submitted to and agreed by the Local Authority, prior to construction works, pursuant to proposed condition 4 of the deemed planning permission.

Objection

Impacts on Designated Local Ecological Networks (Kirklees Wildlife Habitat Network)

- 5.2.17 Kirklees Council's objection states "When overlaying the scheme boundary onto the Kirklees Wildlife Habitat Network (KWHN) it has been determined that approximately 38.7ha of woodland included within the KWHN falls within the scheme boundary. If all of the woodland cover predicted to be lost as a result of the scheme (12.9ha) also falls within the KWHN, this would result in a net loss of 33.33% of woodland designated as KWHN within the scheme, which is a significant percentage".
- 5.2.18 The Council require further security concerning the likelihood of significant ecological harm to the KWHN, particularly as these are likely to be increasingly substantial when the order is considered cumulatively across the entirety of the scheme. Habitats created for mitigation/compensation/enhancement should be located as close as possible to the location of impacts to maximise the impact of mitigation of losses to ecological networks or, as a last resort, seek to strengthen the network within the vicinity.

Response on behalf of Network Rail

- 5.2.19 Woodland 'loss' within the KWHN is calculated at 11.4ha from a baseline of 24.6ha i.e. a 46% loss. However, this includes 'temporary loss' where cleared areas of woodland (e.g. for temporary works) will either be allowed to naturally reinstate as woodland or be replanted with trees. So this figure is best referred to as woodland 'impacted' by the scheme.
- 5.2.20 In terms of removing woodland within the rail corridor, the new OLE equipment requires that all vegetation (e.g. woody vegetation like trees and scrub) is removed within 3 metres in terms of electrical clearances. Safety of the railway is a priority and requires that trees are controlled in operational areas. Of the 11.4 hectares of woodland impacted within the KWHN, 5.5hectares falls within the existing operational rail corridor.
- 5.2.21 In terms of the approach to temporary loss of woodland and trees of land forming part of the KWHN, the temporary loss of woodland will not impact the ability of the habitat to provide a green corridor function, which is the main purpose of the KWHN. The temporary impact relates in the main to small areas, whose loss, in effect would create woodland rides or glades – a habitat which in itself is of wildlife value for invertebrates (such as butterflies and moths) and also therefore birds and bats. Such woodland edges or glades are often more diverse than interior woodland of this type. Most species can tolerate small gaps in corridors, even formed of inhospitable habitat such as roads.
- 5.2.22 The impact to woodland within the scheme will also be an issue targeted in the approach to biodiversity net gain. Where impacted woodland cannot be compensated for by natural regeneration or replanted within the scheme, created woodland will be a priority for off-site net gain proposals. These would seek to enhance the KWHN and other local policies such as Local Nature Recovery Areas.

Objection

Lack of detail on Proposed Mitigation Planting

- 5.2.23 Outline environmental mitigation plans provided by Network Rail are not sufficiently detailed to establish the full extent and type of planting due to implemented within the scheme boundary. The Council considers that there is an overreliance in the ES on the submission of the LEMP to provide the lacking details regarding the mitigation of habitat loss along the scheme. The ES also states significant losses of Lowland Mixed Deciduous Woodland which is a Priority Habitat and Habitat of Principal Importance within Kirklees. No evidence has been provided to date of how or where the loss of habitat or tree groups will be accommodated, and the application currently avoids the confirmation that it will be meet the standards set for 10% Biodiversity Net Gain set out in Network Rail's national policy and required by the Government. As a result, the Council has

strong reservations that the extent and type of re-instated and mitigative planting will be sufficient to even demonstrate a result of 'no net loss' in biodiversity or to fully compensate for losses to Priority Habitat and Habitats of Principal Importance within Kirklees.

Response on behalf of Network Rail

- 5.2.24 Please see para 4.3.1 above, the detail of planting will be finalised in the LEMP that will be submitted to and agreed with Kirklees Council under proposed Condition 4 of the DPP.
- 5.2.25 The LEMP will provide details for the landscape proposals and management of any replacement planting. This will be secured by planning condition and therefore provide a robust and valid approach to ecological mitigation in the ES.
- 5.2.26 An illustrative planting plan with proposed general management approach is shown as Appendix B. This shows ecological replanting with a range of locally appropriate native species in line with local priorities. Such planting will develop into woodland over time affording ecological niches for various plant and animal species in all stages of development through to mature woodland.
- 5.2.27 The general approach to ecological mitigation is to allow impacted habitats to regenerate naturally where appropriate, supplemented by areas of bespoke landscaping using appropriate native species and creating wildlife habitats where appropriate. Much of the habitats within the rail corridor have been subjected to human influence at some point and have regenerated following previous clearances e.g. when the line was created or previous construction, operational or maintenance works have been undertaken. Given the security and operational and safety constraints upon such land, allowing the habitat to regenerate naturally is considered entirely appropriate.
- 5.2.28 Habitat creation is proposed within the Order limits. Details of the landscaping plan will be set out in the LEMP. Landscape and ecological works will be implemented where the work requires clearance of existing vegetation and habitats. This includes areas used for construction compounds and access.
- 5.2.29 Paragraphs 9.5.18 to 9.5.31 in the ES Biodiversity Chapter set out the impacts on different types of woodland including 'priority' woodland habitat and woodland habitat of 'principal importance' in Kirklees. These paragraphs summarise the main locations where such impacts/losses are predicted.
- 5.2.30 A key overarching principle has been the inclusion of compensation planting that broadly replaces the habitat lost (for example replacing woodland loss with woodland planting, providing this is unlikely to result in vegetation management constraints in the future, rather than another habitat of lower distinctiveness). Similarly, there has been a focus on seeking to create priority habitats where possible (within the constraints of railway corridor management) that contribute to local and national biodiversity gains including those listed in relevant local

strategies. Reinstatement planting on the railway corridor seeks to maintain and enhance key ecological connectivity functions where possible.

- 5.2.31 In relation to lowland mixed deciduous woodland, to which the above objection relates, ES Volume 2ii: Route Section Assessment Route Section 3 – Deighton and Bradley Chapter 9: Biodiversity Para 9.3.16 states:
- 5.2.32 Construction works will result in the loss of up to 0.68ha of semi-natural mixed woodland due to land take required for the establishment of construction compounds at Fieldhouse Lane and slope stabilisation work to the railway embankment east of this location, and construction works at Wheatley's Overbridge (MVL3/103). Semi-natural mixed woodlands of similar age are well represented in the surrounding area.
- 5.2.33 Given that areas of impacted woodland will be left to regenerate or replanted, and that such woodlands are well represented in the surrounding area, this is not considered to be a significant impact. In addition, broad-leaved woodland would be replanted on and off-site as part of the Scheme's biodiversity net gain strategy.
- 5.2.34 Several blocks of semi-natural broadleaved woodland are located within and directly adjacent to the Scheme, including large mature woodlands within Gledholt Wood in Huddersfield and Lady Wood in Ravensthorpe (both partially within the Order Limits). In general, woodlands are semi-mature to mature in age. A large area of mature semi-natural mixed woodland is present to the north of Peace Pit Lane, Huddersfield, located directly adjacent to the Scheme.
- 5.2.35 Elsewhere, much of the rail side woodland is young to semi-mature plantation woodland present within and adjacent to the Scheme, typically in recreational areas and along railway embankments.
- 5.2.36 The ES acknowledges that these woodland habitats are common and widespread in the local and wider area, and that they contribute to the biodiversity interest of the local area, provide habitat connectivity in the landscape (especially in urban settings), and provide habitat for protected and priority species.
- 5.2.37 The LEMP will provide detail on where any losses/impacts are mitigated for, in conjunction with the biodiversity net gain strategy.
- 5.2.38 The issue of biodiversity net gain is addressed in the proof of evidence of Mr. Jim Pearson.

Objection

Lack of information regarding European Protected Species

- 5.2.39 The Council considers that the proposed mitigation for a number of European Protected Species and priority species including bats, otter, water vole and barn owl is sufficient to avoid significant harm, subject to further details to be submitted within the proposed LEMP and CoCP. However, information related to several

specific protected species is missing, unclear or inadequate, and therefore compliance with LP30i has not been demonstrated within the submitted information to date.

- 5.2.40 Particular concerns have been raised in relation to survey data for great crested newts and badgers.

Response on behalf of Network Rail

- 5.2.41 As reported in the ES (Chapter 9, Vol 2i), additional surveys have been carried out in 2021. This information is provided at Appendix 1 of this proof of evidence as well as in the Biodiversity additional survey report - September 2020 to October 2021(NR107). Paragraphs 4.2.17 to 4.2.19 above provide more detail on protected species licencing and paragraphs 4.2.44 to 4.2.48 detail mitigation measures proposed in bat and badger licences. Paragraphs 4.2.51 to 4.2.56 address mitigation in relation to barn owl, breeding birds, reptiles and otter. No mitigation has been identified as being required for water vole.
- 5.2.42 In relation to great crested newt surveys in 2021 (both eDNA and presence/absence) found no evidence of great crested newt presence in the Ladywood Lake ponds confirming previous suspicions that the previous eDNA positive result was likely an error in terms of laboratory analysis. These ponds are extremely busy fishing lakes – the presence of fish is usually negatively correlated with GCN presence due to predation.
- 5.2.43 In terms of badgers, the establishment of construction compounds at Paul Lane, Heaton Lodge WWTW, Steanard Lane and in the Ravensthorpe area, as well as the installation of overhead line equipment (OLE), works to overhead power lines in the Ravensthorpe area, earthworks, replacement or installation of lineside fencing, construction of Deighton Station and Wheatley's Overbridge (MVL3/103) and vegetation clearance along the railway corridor is likely to result in the destruction and/or disturbance of badger setts, including one active main sett (at Heaton Lodge curve/junction). Construction works including vegetation clearance and earthworks may also result in the disturbance (noise, vibration, artificial light) and obstruction/destruction of other unidentified setts within the Scheme. These impacts will be progressed under licence and the landscaping design has sought to replace foraging habitat for badgers in this area. Appropriate survey data will be collected for the licence during the most appropriate season.
- 5.2.44 Badger mitigation has been agreed in principle by Natural England. A draft licence has been prepared and submitted to NE (NR101) who have agreed to review and should no issues be identified issue a letter of no impediment.

5.3 OBJ 35 – Canal and River Trust

Objection

Red Doles Bridge

- 5.3.1 Route Drawing 6 shows the red line of the scheme boundary at Red Doles Bridge which extends to the offside of the Huddersfield Broad Canal. A construction compound is proposed here between the railway bridge and canal corridor. The canal is in a heavily treed cutting here, is in a County Wildlife Site and there is a culverted watercourse under the canal. Earthworks are shown here and compaction during the construction phase which could impact the stability of the canal infrastructure. Protection measures would be required to safeguard the canal corridor and its users via the Code of Practice.
- 5.3.2 Although semi-natural broadleaved woodland is proposed, in the outline environmental mitigation plan, this would take significant time to establish to mitigate the impact.
- 5.3.3 As set out above any new or altered discharges to the canal would need to be agreed with the Trust via our mandatory process and works carried out in accordance with the Code of Practice

Response on behalf of Network Rail

- 5.3.4 The ES assesses the impact of the temporary loss of woodland at this location and acknowledges the time it will take to reach maturity. The proposed tree planting to mitigate for the compound works and to recreate the broad-leaved woodland would take between 30-100 years to become mature.
- 5.3.5 An illustrative planting plan with proposed general management approach is shown as Appendix 2. This shows ecological replanting with a range of locally appropriate native species in line with local priorities. The tree and shrub planting will develop into woodland over time affording ecological niches for various plant and animal species in all stages of development through to mature woodland. The riparian edge planting will quickly develop into wetland habitats for a variety of species within the first 2 years.
- 5.3.6 As stated in the ES, mitigation for biodiversity and the water environment will include the maintenance of vegetation corridors/riparian buffer strips adjacent to watercourses wherever practical, thereby retaining a degree of habitat continuity and function immediately adjacent to watercourses, as well as protection from pollution during construction.

Objection

Order Plan Sheet 11: Work No 9A Reconfiguration of Huddersfield Broad Canal Bridge

- 5.3.7 The works would result in irreversible loss of habitat and harm to the setting of the listed lock here with the permanent loss of the established tree cover and temporary loss of vegetation on the towpath side. Although the outline environmental mitigation plan shows a thin buffer of semi- natural woodland along the offside of the canal to be provided, this alone would be unlikely to mitigate the harm, even in the long term. In the case of the wider setting around the crossing and given the permanent loss of vegetation on the offside of the canal, the Trust considers that a bespoke landscape plan specific for the area is important to mitigate the visual impact, softening views of the warehouse and tracks and overhead lines in the background and balancing the negative impacts of the crossing through improvement to the wider setting. The Trust would welcome further meaningful discussions with the applicant in relation to this mitigation.

Response on behalf of Network Rail

- 5.3.8 Issues relating to the setting of the listed lock are dealt with in Mrs Katie Rees-Gill's proof of evidence (NR/PoE/KR-G/6.2).
- 5.3.9 The proposals for landscape mitigation will be set out in the LEMP to be submitted pursuant to proposed Condition 4 of the DPP. This will detail the proposed planting proposed in this area.

Objection

Fishing Rights

- 5.3.10 Our waterways that would be affected by the Order are the subject of fishing rights with Angling Clubs. The loss of the riparian tree habitat loss along the canal corridor, not only affects birds and bats, but also has a negative impact on the coarse fish community. The trees provide important protection from predators, from the shelter from the weather and the tree roots in the water offer valuable areas for spawning. This can affect the productivity of the water, which in turn affects the value of the fishing rights. If as a result of the scheme, the sections support a poorer fish community, then this will have a direct consequence on the value of the fishing rights and the agreements with our customers. The Environmental Statement does consider fish, but it is disappointing that the primary legislation that protects fish, namely the Salmon & Freshwater Fisheries Act 1975 (as amended), is not referenced at all.
- 5.3.11 The mitigation set out at Chapter 23 of the Environmental Statement is a summary of mitigation to be included as part of the Landscape and Ecological Management Plan. This sets out that the Promoter would need to avoid nesting birds, but it does not mention that spawn and spawning fish are protected under Section 2(4) of the Salmon & Freshwater Fisheries Act 1975 (as amended). To

avoid an offence work should be timed to take place outside of the statutory fishing close-season. The improvement of in-channel canal vegetation habitat should be further considered as part of the mitigation where this would be compatible with maintaining the navigation.

Response on behalf of Network Rail

- 5.3.12 Appendix 9-4 to the ES (Aquatic Ecology Baseline Assessment) considers fish in detail as part of baseline characterisation of all watercourses potentially affected by the Scheme. Watercourses were subject to habitat suitability assessment for fish (species and life stages). Combined with extensive background fish species data review, and other coincident supporting habitat surveys, the fish assemblage and supporting watercourse habitat was characterised and reported for each watercourse potentially affected by the Scheme (including all canals). With reference to the Salmon & Freshwater Fisheries Act 1975, the outcomes of the assessment would not be affected.
- 5.3.13 No in-channel works are proposed for any canal as part of the Scheme. In-channel works on rivers (for the Scheme, restricted to the River Calder at the Baker Viaduct Underbridge (RBA/2)) will be scheduled where reasonably practical outside of the salmonid fish breeding season (1st October to 31st May). The ES reported that the temporary in-channel works will not significantly affect fish populations within the watercourse. In-channel conveyance will be maintained throughout the works, and no significant areas of spawning or juvenile fish habitat were recorded within the affected areas that are not otherwise well distributed in adjacent habitats.
- 5.3.14 The ES acknowledges the importance of riparian habitats and their contribution to in-channel habitat condition (for example provision of woody debris). Whilst riparian/terrestrial vegetation loss has been identified adjacent to the canal network, potential bankside loss represents a relatively small extent of the canal receptors as a whole.
- 5.3.15 Construction works (including compounds) at Red Doles Road, Ridings and Colne Bridge Road Huddersfield Broad Canal, Underbridge (MVL3/108S), will require clearance of riparian/terrestrial vegetation on either side of the bridge, cumulatively affecting up to 330m of canal bank (approximately 3% of 12km total bank length of the Huddersfield Broad Canal).
- 5.3.16 Similarly, the Baker Viaduct Underbridge (RBA/2) over the Calder and Hebble Navigation construction works will result in localised clearance of adjacent riparian/terrestrial vegetation on either side of the viaduct, along the bank of the Calder & Hebble Navigation.
- 5.3.17 NR will seek to retain vegetation where reasonably practical. Areas of lost riparian/terrestrial habitats will be mitigated via re-instatement (in land that is in temporary use for construction), or natural regeneration following construction,

achieving a condition comparable to the existing baseline within approximately 15-30 years (for areas of tree cover). Any additional compensatory planting requirements will be undertaken in line with the OEMP, with further details (including planting plans) included within the LEMP.

- 5.3.18 The CoCP sets out a requirement for maintenance of vegetation corridors/riparian buffer strips adjacent to watercourses wherever practical, thereby retaining a degree of habitat continuity and function immediately adjacent to watercourses, as well as protection from pollution during construction.
- 5.3.19 A temporary adverse effect at the Local level has been identified for the Huddersfield Broad Canal, mitigated in full by regeneration and replacement planting.

Objection

Ecological Matters

- 5.3.20 Based on the submitted details it would not appear that canals are mentioned separately as a habitat type included in the scope of ecological field surveys. We consider that the wildlife corridor function of the canal is important in an area such as this, linking other habitat areas together, and that a complex, multi-faceted project such as this would potentially have a major impact on that function (particularly with the large scale tree and scrub clearance proposed) and so should have been assessed as part of the Ecological Impact Assessment.
- 5.3.21 The impacts that have been identified on canal habitats have been noted as Local level for up to 30 years and for broad-leaved woodland, (which includes the felling of canal corridor woodland) also as Local level but long term (up to 100 years). There would also be impacts on protected species such as bats and nesting birds that rely on woodlands. Additionally, reducing shading to the waterways in question could adversely impact on populations of floating water plantain. We would conclude that this is an unacceptable impact on the canal ecology and would be very difficult or perhaps impossible to mitigate for. We would therefore conclude that, if impacts cannot be mitigated for, they should be avoided. The works would result in the irrevocable loss of habitat.
- 5.3.22 The potential impacts to the Calder and Hebble and River Calder and associated populations of floating water plantain are considered to be local. It is unclear how this has been established as floating water plantain is a European Protected Species. An assessment needs to be made on the potential cumulative effects on the whole population of these proposals. We agree that the shading effect of new bridges may be localised, however this together with effects of vegetation removal from banks will alter the ecology of the channel significantly. The cumulative effect of all of these proposals (along with potential impacts that may result from pollution incidents and dust) needs to be assessed for this European Protected Species.

- 5.3.23 More detail needs to be provided of how the proposal for new crossings, lighting and clearing of bankside vegetation would impact on commuting of bats along the waterway corridors. Indeed, there does not seem to be consideration of the loss of bankside trees along the river or canals. The loss of bankside trees is likely to have a significant ecological impact.
- 5.3.24 The report states that badger setts will be destroyed, and badgers displaced into suitable habitat in the surrounding area. There is a significant risk that this may encourage the establishment of badger setts within the Trust's estate which could represent a threat to earth embankments and other structures which could undermine their structural integrity.
- 5.3.25 The reports conclude that only a relatively small amount of habitat suitable for otters and water voles will be lost, however there is no assessment of the potential impacts of severing the riparian corridor through new crossings and vegetation clearance. The reports conclude that there is no suitable nesting habitat for kingfisher within the Scheme, it is unclear how this conclusion has been reached as the waterway corridor would provide prime habitat for kingfishers.
- 5.3.26 There is mention of using damping as a mitigation for dust nuisance; if this is used water must be contained and treated and must not be discharged into the canal as the introduction of waterborne particulates will have a potentially severe impact on canal ecology.
- 5.3.27 Finally, we also disagree with the conclusion that an uncontrolled pollution event is unlikely to have more than a localised effect on the canal. This is because the waterways are hydrologically connected by their very nature and as such pollution could potential disperse over a large area across the waterway networks

Response on behalf of Network Rail

- 5.3.28 The ES fully assesses the impact of the scheme on the canal system and acknowledges the ecological status of the canals involved. Supplementary information regarding baseline survey and assessment of aquatic features of the canal network is also included in Appendix 9-4 to the ES (Aquatic Ecology Baseline Assessment). The Kirklees Wildlife Habitat Network is also assessed, which comprises various habitats including woodland and canal waterways and the wildlife corridor function they perform.
- 5.3.29 In terms of terrestrial ecology, whilst there will be a temporary impact upon woodland whilst new planting matures and natural regeneration develops, the impact of this on species such as bats and nesting birds is not considered significant.
- 5.3.30 A total of five walked bat activity transect routes were undertaken across the Scheme to provide representative coverage of habitats of value to bats, especially in areas where more significant impacts on bat habitat were

anticipated. Walked transect surveys were undertaken at dusk on a monthly basis between late May/June and October 2019, as well as early May to June 2020.

- 5.3.31 Using the scoring system within guidance for valuing bats in EclA (NR116 (pages 23 to 25)), which considers bat rarity, number of bats recorded, number of known/likely roost sites nearby and habitat context, the foraging/commuting habitat associated with the Scheme is of value at a 'District/Local/Parish' level for the different bat species identified. Given the relatively low levels of bat activity recorded, as well as the existing site context (presence of an active railway line), the habitats associated with the Scheme are only likely to be important for populations of bats at a local level.
- 5.3.32 Taking the above into account, given that the areas of woodland impacted will form glades (along which bats will feed) until they mature into woodland, the impact upon the bat population of woodland impact is considered insignificant.
- 5.3.33 No significant populations of rare or notable populations of woodland birds were identified in connection with the scheme and breeding birds were scoped out of the assessment (this rationale was not contested by Kirklees Council or Natural England).
- 5.3.34 The LEMP will detail landscape planting in relation to new crossings, lighting and clearing of bankside vegetation for commuting of bats along the waterway corridors. Given the relatively low levels of bat activity recorded, as well as the existing site context (presence of an active railway line), this is not considered to be a significant issue.
- 5.3.35 The loss of bankside trees is restricted as far as possible and buffer zones of trees and vegetation will be retained alongside the waterways where vegetation is impacted on adjacent land. This will assist in retaining corridor function and shading. However, small gaps in corridors can be tolerated by wildlife and many species (such as birds and bats) can readily cross the waterways to utilise habitat on the opposite bank. Shading with regard to floating water plantain is addressed below.
- 5.3.36 Impacts upon badger are addressed above in paras 4.2.44 to 4.2.48. The only active main badger sett loss occurs in the Heaton Lodge area and is unlikely to impact Trust land (and a replacement sett is planned away from water courses).
- 5.3.37 The ES contains the survey information for otter and water vole, with no predicted impact in the vicinity of works areas (e.g. crossings, bridges). The design of such features will take into account any connectivity issues in relation to riparian mammals where appropriate. No targeted surveys for kingfisher was considered necessary as no suitable nesting habitat for kingfisher was identified along watercourses within 100m of the Scheme.

- 5.3.38 The statutory protection afforded to floating water plantain should not be conflated with the ecological importance of a given population of the species, or the magnitude of any potential effect within an identified population. The National importance afforded to identified populations of floating water plantain within the ES is dictated by the conservation status of the species rather than its statutory protection.
- 5.3.39 As reported within the ES, floating water-plantain is currently listed as Near Threatened in England and Nationally Scarce in the UK. As such, any watercourse potentially affected by the Scheme and identified as supporting the species has been determined to be of National importance for its conservation within the ES. The loss of a population in its entirety from a given watercourse could therefore have a significant effect on the conservation status of floating water plantain at a National level. However it does not follow that any localised loss or re-distribution of floating water plantain would significantly affect the maintenance of the population within the supporting watercourse, nor the conservation status of the species at the National scale at which the population is considered important. The matter of statutory protection of floating water plantain (which applies to each individual plant, as a European Protected Species) is separate to the matter of population importance and impact. Both are considered separately within the ES and summarised below.
- 5.3.40 Floating water plantain has been shown, through Canal and River Trust surveys (summarised within Appendix 9-4 to the ES), to be well-distributed throughout the canal network associated with the Scheme (i.e. both Huddersfield Broad Canal and Calder and Hebble Navigation).
- 5.3.41 The ES considered, in detail, those aspects of the Scheme with potential to result in direct and indirect loss of floating water plantain from construction (i.e. in-channel works, construction pollution, and shading from temporary structures), and operational (i.e. changes in operational drainage and shading from new/amended permanent structures).
- 5.3.42 No in-channel works are proposed for any canal.
- 5.3.43 With the exception of a localised section of the River Calder at the new Baker Viaduct Underbridge RBA/2 crossing, no in-channel works are proposed for any watercourse identified as having potential to support floating water plantain.
- 5.3.44 A new permanent bridge is proposed for the Scheme spanning the River Calder and Calder and Hebble Canal (Baker Viaduct Underbridge RBA/2)). Colne Viaduct Underbridge MVL3/109 will be subject to upgrades including minor changes in its width and height (relative to watercourse). In addition, two temporary clear-span bailey bridges (spanning the Calder and Hebble Navigation) are proposed during construction.

- 5.3.45 Cumulatively, temporary and permanent bridge decks and in-channel working has the potential to affect less than 0.1% of the available open channel habitat within the identified watercourses. Therefore the assessment concludes there will be no significant effects related to footprint on conservation status of floating water plantain within affected watercourses.
- 5.3.46 No in-channel works are proposed for the canals (which serves to reduce the risk of an accidental or uncontrolled pollution event within the network). Uncontrolled events due to construction works adjacent to the canals were also assessed. Due to the dilution capacity and the presence of locks (enabling isolation of canal sections) uncontrolled pollution events (e.g. fuel/chemical spills) were assessed as unlikely to have more than a localised effect. It was also concluded that such an event would not have a significant effect on any watercourse receptor (or supported floating water plantain population) as a whole. With mitigation, through implementation of environmental control measures detailed within the CoCP, no residual significant effects are predicted from construction pollution.
- 5.3.47 New operational drainage discharge (associated with the Baker Viaduct Underbridge RBA/2) and amended operational drainage discharge (associated with amended drainage at Colnebridge Culvert MVL3/110A) was identified for the River Calder and Calder and Hebble Navigation respectively. With mitigation, through adherence to the Scheme-wide drainage strategy (as summarised in Appendix 11-4 of the ES), no residual significant effects are reported from operational drainage changes.
- 5.3.48 Whilst no significant effects on floating water plantain populations are predicted by any mechanism, it is afforded statutory protection (under Schedule 5 of The Conservation of Habitats and Species Regulations 2017 (as amended)) which makes it an offence to deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species. Consequently, further assessment was also undertaken within the ES to consider the potential for committing an offence.
- 5.3.49 Natural England was consulted on the approaches and findings in relation to floating water plantain. As committed within the ES, pre-construction surveys (River Calder Baseline Aquatic Macrophyte Survey) to inform any potential licensable activities were undertaken in August 2021 (NR115). The survey area was agreed with Natural England and comprised the in-channel works areas only (coincident with the proposed Baker Viaduct Underbridge; RBA/2). No floating water plantain was identified within the survey area, thereby addressing the risk of committing an offence.
- 5.3.50 The proposed new and amended bridge decks (both temporary and permanent) spanning watercourses identified as supporting floating water plantain, were further assessed based on their Height to Width ratios. As reported within the ES, this confirmed that no structure is likely to preclude floating water plantain growth, thereby addressing the risk of committing an offence by shading out individual floating water plantain plants.

- 5.3.51 The potential effect of shading reduction on floating water plantain through reduction in tree shading was screened out as a potential impact mechanism based on the proposals and has therefore not been subject to detailed assessment within the ES.
- 5.3.52 Willby and Eaton 1993 (NR114) suggests that the plasticity of floating water-plantain supports its ability to tolerate a wide ecological range, with the most important factor in maintaining floating water plantain noted as sustained human disturbance; in canals typically through maintenance activities and light boat trafficking. Fundamentally, light availability is a prerequisite for floating water plantain growth and maintenance. The exclusion of light (e.g. to new bridge decks), has the potential to indirectly (through the effect of shading) preclude floating water plantain from the channel and was therefore the subject of detailed assessment within the ES. Conversely, the effect of subtle increases in light availability from vegetation clearance on the macrophyte community is uncertain. However, local reduction in tree shading based on the proposals here is considered unlikely to have a significant adverse effect on floating water plantain and is more likely to be beneficial. Channel daylighting is a widely applied approach by which watercourses are managed to enhance aquatic macrophyte communities.
- 5.3.53 According to Goulder (2019) (for the Canal and Rivers Trust; see page 14 of NR106) observed that submerged plants (including floating water plantain) were more prevalent in less tree-shaded areas of the Calder and Hebble Navigation. Goulder (2019) also summarised previous work on the Broad Canal (see page 8 of NR106) which noted the importance of preventing shading by tree growth for the maintenance of floating water plantain. He also reported widespread distribution of floating water plantain throughout both the Huddersfield Broad Canal and Calder and Hebble Navigation. Within this setting, different channel orientation, bankform and shading conditions (from different land-use types including urban development and clear-felled areas) will result in a range of in-channel shade conditions that are apparently tolerated by the plant.
- 5.3.54 The magnitude of riparian vegetation clearance approximately 3% of total bank length on the Huddersfield Broad Canal and 0.4% of the Calder and Hebble Navigation) is not considered likely to significantly affect habitat availability for, or conservation status of, floating water plantain populations within the canals. The significant uncertainty in any cause and effect between increased channel daylighting and destruction of floating water plantain, particularly accounting for other more significant factors including boating, also means that committing a deliberate offence under statutory provisions through increasing light availability is highly unlikely. The ES concluded a negligible residual risk of direct loss of floating water plantain to increased shading from bridge decks. Given the temporary and localised nature of in-channel works, and the relatively small proportion of the watercourse affected

as a whole, no significant effect is predicted for the River Calder or its macrophyte assemblage (including floating water-plantain).

5.4 OBJ 45 – Mr. Hutchinson

Objection

- 5.4.1 Lady Wood is a designated Ancient Woodland. Any disturbance to it should be minimised. If the battering back of the slopes entails the removal of trees, planting of oaks should take place. Land to be provided in exchange for that taken from lady Wood should adjoin Lady Wood. Any land added should be specifically for the planting of oak trees.

Response on behalf of Network Rail

- 5.4.2 Lady Wood is not designated as Ancient Woodland. The ES (Chapter 9, 9.5.19) states a loss of up to 0.77ha of mature semi-natural broad-leaved woodland at the northern edge of Lady Wood adjacent to the existing railway due to land take requirements for the establishment of the Ravensthorpe construction compounds and earthworks. The area of woodland to be lost represents approximately 8.5% of the total area of Lady Wood (approximately 9ha in size) and is in a relatively poor condition compared to the remainder of the woodland, with a disturbed and impoverished ground flora and significant encroachment by invasive species, in particular Japanese knotweed.

6. WITNESS DECLARATION

6.1 Statement of declaration

6.1.1 I hereby declare as follows:

- (i) This proof of evidence includes all facts which I regard as being relevant to the opinions that I have expressed and that the Inquiry's attention has been drawn to any matter which would affect the validity of that opinion.
- (ii) I believe the facts that I have stated in this proof of evidence are true and that the opinion expressed are correct.
- (iii) I understand my duty to the Inquiry to help it with matters within my expertise and I have complied with that duty.