

# Cottam Parkway Railway Station

## **Environmental Statement** Volume 3: List of Appendices



www.lancashire.gov.uk

### Contents

#### 1, 2 & 3 Introduction, Background and Description

Appendix 1-3.1 Access Options Assessment – Technical Report

Appendix A Highway Options Report Appendix B Outline Landscape & Visual Impacts Assessment Appendix C Environmental Constraints Technical Note Appendix D Bridge Options Technical Note Appendix E Property Report

Appendix 1-3.2 Planning Policy Reference

Appendix 1-3.3 Competent Experts

#### 4. Assessment Methodology and Consultation Process

Appendix 4.1 Consultation Statement

Appendix 1. Policy Background
Appendix 2. Postal Flyer
Appendix 3. Poster
Appendix 4. Library Display
Appendix 5. Questions
Appendix 6. Postcode Respondents

#### 5. Landscape and Visual Impact

Appendix 5.1 Figures

Figure 5.1 Zone of Theoretical Visibility

Figure 5.2 Landscape and Visual Constraints Plan

Figure 5.3 Landscape Character Plan

Figure 5.4 Representative Viewpoints

Appendix 5.2 Landscape and Visual Impact Assessment Methodology

Appendix 5.3 Landscape Effects Receptor Schedules

Appendix 5.3 Visual Effects Receptor Schedule

Appendix 5.4 Photomontages

Appendix 5.5 Arboricultural Impact Assessment Report

Appendix A: Survey Methodology Appendix B: Preliminary Generic Arboricultural Method Statement Appendix C: Comprehensive Glossary of Arboricultural Terms Appendix D: Cascade Chart of Tree Quality Assessment (taken from BS 5837:2012) Appendix E: Tree Survey Schedule Key Appendix F: Tree Survey Schedule Appendix G: Tree Constraints Plan Appendix H: Tree Removal Plan

#### 6. Ecology

Appendix 6.1 Ecological Constraints Plan

Appendix 6.2 Phase 1 Habitat Survey Report

Appendix A. Figures

Figure 1 Extended Phase 1 Habitat Survey Area

Figure 2 Designated Site Locations

Figure 3 Extended Phase 1 Habitat Survey Results

Appendix B. Wildlife Legislation

Appendix C. Survey Personnel Details

Appendix D. EP1HS Survey Results and Photographs

#### Appendix 6.3 Hedgerow Report

Appendix A. Figure

Figure 1 Hedgerow survey results

Appendix B. Hedgerow Information and Legislative Background

Appendix C. Survey Results - Archaeology and History Criteria

Appendix D. Survey Results - Wildlife and Landscape Criteria

Appendix E. Survey Results - Species Recorded

#### Appendix 6.4 Aquatic Report

Appendix A. Figure 1 Freshwater macro-invertebrate survey locations

Appendix B. Figure 2 PSYM survey results

Appendix C. Freshwater macro-invertebrate survey data

Appendix D. Pond PSYM survey results

Appendix 6.5 Great Crested Newts

Appendix A. Figures

Figure 1 Pond locations and habitat suitability index results

Figure 2 Pond locations and EDNA results

Appendix B. Additional Information

Appendix C. Pond Descriptions and Photographs

Appendix D. Habitat Suitability Index Assessment Results

Appendix E. GCN Survey Results

Appendix 6.6 Breeding Birds Survey Report

Appendix A. Figures

Figure 1 Breeding bird survey area

Figure 2 Statutory and non-statutory designated sites (of potential relevance for breeding birds)

Figure 3 Breeding bird survey results visit 1 (April 2020)

Figure 4 Breeding bird survey results visit 2 (May 2020)

Figure 5 Breeding bird survey results visit 3 (June 2020)

Appendix B. Legislation, Planning Policy and Biodiversity Background

Appendix C. Field Survey Metadata

Appendix D. BTO Bird Species Codes

Appendix E. Ribble and Alt Estuaries Special Protection Area (SPA) Qualifying Species Information

Appendix F. Ribble and Alt Estuary Ramsar Qualifying Species Information

Appendix G. Ribble Estuary Site of Special Scientific Interest (SSSI) Information

Appendix H. Newton Marsh Site of Special Scientific Interest (SSSI) Information

Appendix I. Breeding Bird Survey Results Table – April, May and June 2020 Surveys

Appendix 6.7 Wintering Birds Survey Report

Appendix A. Figures

Appendix B. Legislation, Planning Policy and Biodiversity Background

Appendix C. Jacobs Field Survey Metadata

Appendix D. BTO Bird Species Codes

Appendix E. Ribble and Alt Estuaries Special Protection Area (SPA) Qualifying Species Information

Appendix F. Ribble and Alt Estuary Ramsar Qualifying Species Information

Appendix G. Ribble Estuary Site of Special Scientific Interest (SSSI) Information

Appendix H. Newton Marsh Site of Special Scientific Interest (SSSI) Information

Appendix I. Jacobs Wintering Bird Survey Results Table – 2019/2020 Surveys

Appendix J. Population Status of Wintering Bird Species of Conservation Concern in Lancashire

Appendix 6.8 Barn Owl Survey Report (CONFIDENTIAL)

Appendix A. Figures

Figure 1 Barn Owl Survey Area

Figure 2 Suitable barn owl foraging habitat

Figure 3 Barn own field survey and desk study results (CONFIDENTIAL)

Appendix B. Legislation, Policy and Biodiversity Background

Appendix C. Building Inspection Results

Appendix D. Building Photographs

#### Appendix 6.9 Bat Roost Report

Appendix A. Figures

Figure 1.1 Preliminary roost assessment results – structures

figure 1.2 Preliminary roost assessment results – structures

Figure 2.1 Preliminary roost assessment results - trees

Figure 2.2 Preliminary roost assessment results-trees

Appendix B. Bat Ecology and Legislation

Appendix C. PRA Results and Photos – Structures

Appendix D. PRA Results – Trees

#### Appendix 6.10 Bat Activity Report

Appendix A. Figures

Figure 1 Climb and inspect survey results

Figure 2 Confirmed Roosts

Figure 3 Transect results and static detector locations

Appendix B. Bat Ecology and Legislation

Appendix C. Climb and Inspect Survey Results

Appendix D. Dusk Emergence Results and Photos – Structures

Appendix E. Bat Transect Survey Results

Appendix F. Static Detector Survey Results

Appendix 6.11 Water Vole and Otter Survey Report Appendix A. Figures Figure 1 Otter and Water Vole Survey Results Appendix B. Legislation and Policies Appendix C. Watercourse Descriptions and Photographs Appendix D. Target Notes and Survey Results

Appendix 6.12 Badger Report (CONFIDENTIAL)

Appendix A. Figure Figure 1 Scheme boundary and badger survey area. Appendix B. Badger Biology and Legislative Background

Appendix 6.13 Common Toad Report

Appendix A. Figure Figure 1 Common Toad Survey Areas and Results Appendix B. Pond Descriptions and Photographs Appendix C. Survey Results

Appendix 6.14 Priority Species Report

Appendix A. Figure Figure 1 Priority species desk study and field survey results Appendix B. Legislation, Policy and Biodiversity Background Appendix C. Priority Species Records Provided By LERN

Appendix 6.15 Report to Inform a Habitats Regulations Assessment (Stage 1 - Screening)

Appendix 6.16 Biodiversity Metrics Report Appendix A. UK Habitat Classification Map and Scheme Boundary Figure 1 UK habitat classification map and scheme boundary Appendix B. Biodiversity Metrics Tool Appendix C. Environmental Masterplan

#### 7. Cultural Heritage

Appendix 7.1 Cultural Heritage Desk Study

Annex A. Cultural Heritage Gazetteer

Figure 1 Cultural Heritage Assets: Historic Buildings and Archaeological Remains

Figure 2 Cultural Heritage Assets: Historic Landscape Types

Appendix 7.2 Geophysical Survey Report

Appendix 1. Magnetometer Survey

Appendix 2. Survey Location Information

Appendix 3. Geophysical Survey Archive

Appendix 4. Data Processing

Appendix 5. Oasis Data Collection Form: England

#### 8. Air Quality

Appendix 8.1 Air Quality Dispersion Modelling

Figure 8.1 Study areas and affected roads for human receptors

Figure 8.2 Affected roads for ecological receptors

Figure 8.3 Pollution climate mapping road links and receptors

Figure 8.4 Air quality Monitoring survey station

Figure 8.5 Predicted annual mean nitrogen dioxide concentrations at human receptors-operational phase

Figure 8.6 Predicted nitrogen deposition at ecological receptors

Appendix 8.2 Air Quality Dispersion Modelling

Appendix 8.3 Construction Dust Risk Assessment

#### 9. Noise and Vibration

Appendix 9.1 Figures 9.1 – 9.4

Figure 9.1 Construction noise and vibration assessment context plan

Figure 9.2 Operational noise assessment context plan

Figure 9.3a Short-term noise change contour plot with the scheme (dominimum 2024 vs do-something 2024) daytime

Figure 9.3b Long-term noise change contour plot with the scheme (dominimum 2024 vs do-something 2039) daytime

Figure 9.3c Long-term noise change contour plot without the scheme (do-minimum 2024 vs do-minimum 2039) daytime

Figure 9.3d Short-term noise change contour plot with the scheme (dominimum 2024 vs do-something 2024) night-time

Figure 9.3e Long-term noise change plot with the scheme (do-minimum 2024 vs do-something 2039) night-time

Figure 9.3f Long-term noise change contour plot without the scheme (do-minimum 2024 vs do-minimum 2039 night-time

Figure 9.4 Significant operational noise effects

Appendix 9.2 Noise and Vibration Technical Appendices

#### 10. Soils and Geology

Appendix 10.1 Geo-environmental Desk Study

Appendix 10.2 Access Bridge and Road Preliminary Sources Study Report

Appendix A. Site location;

Appendix B. Site photographs;

Appendix C. Previous investigation logs and testing;

Appendix D. Service information;

Appendix E. Preliminary site investigation model;

Appendix F. Additional topographical map

Appendix 10.2 Ground Investigation Report (GIR)

Appendix A. Site location

Appendix B. CC Geotechnical Ltd - Factual Report, May 2021

Appendix C. Borehole logs

Appendix D. Ground investigation location plan

Appendix E. Ground Model

Appendix F. Groundwater monitoring results

Appendix G. HazWaste report

Appendix 10.2 Combined Ground Investigation Report (GIR)

Appendix A. Site location Plan

Appendix B. Site Walkover Photographs

Appendix C. Borehole Location Plans and Logs

Appendix D. CCG Factual Report 2021

Appendix E. Geotechnical and Chemical Test Results

Appendix F. Geotechnical Ground Model

Appendix G. PWD Carriageway Cores

Appendix H. HazWaste Report

Appendix 10.3 National Soils Resources Institute Report

#### 11. The Water Environment

Appendix 11.1 FRA

Appendix 11.2 HEWRAT Assessment

Appendix 11.3 Water Environment Regulations Assessment

Appendix 11.4 Figures

Figure 11.1 Proposed scheme and associated water features

Figure 11.2 Baseline flood risk

Figure 11.3 British geological survey (bgs) 1:50,000 superficial geology inc. Baseline groundwater receptors

Figure 11.4 British geological survey (bgs) 1:50,000 solid geology inc. Baseline groundwater receptors

Figure 11.5 Source protection zones (spz) inc. Baseline groundwater receptors

Figure 11.6 Hydromorphology and surface water quality

#### 12. Climate Change

Appendix 12.1 Carbon Calculation Values

#### 13. Human Health and Population

Appendix 13.1 District Health Profiles Appendix 13.2 Health Deprivation and Disability Rank Appendix 13.3 Rapid Health Impact Assessment

#### 14. Traffic and Transport

Appendix 14.1 Traffic and Transport Assessment Methodology

#### 15. Land Use and Accessibility

Appendix 15.1 Private and Community Assets Appendix 15.2 Agricultural Assessment (CONFIDENTIAL)

#### **17. Cumulative Impacts**

Appedix 17.1 Cottam Parkway Planning Applications Nearby

#### 18. Environmental Action Plan

Appendix 18.1 Environmental Masterplan Appendix 18.2 EMP Cross Sections Appendix 18.4 Impacts Summary Table