

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.1 Environmental Statement – Chapter 0 Table of Contents, Glossary and Abbreviations

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

June 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**The A1 in Northumberland: Morpeth to Ellingham
Development Consent Order 20[xx]**

Environmental Statement

Regulation Reference:	APFP Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010041
Application Document Reference	TR010041/APP/6.1
Author:	A1 in Northumberland: Morpeth to Ellingham Project Team, Highways England

Version	Date	Status of Version
Rev 0	June 2020	Application Issue

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GLOSSARY

Term	Definition
µg/m ³ micrograms per cubic metre	A measure of concentration in terms of mass per unit volume. A concentration of 1ug/m ³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.
Above-Ground Heritage Asset	Historic earthworks, historic buildings and structures, historic landscapes and hedgerows.
Adjustment	Application of a correction factor to modelled results to account for uncertainties in the model.
Aggregate	Broad category of coarse to medium grained material used in construction, including sand and gravel.
Agricultural Land Classification (ALC)	A framework for determining the physical quality of the land at national, regional and local levels. This is based on the long term physical limitations of land for agricultural use. There are a number of factors that affect the grade and the main ones are climate, site and soil characteristics, and the interactions between them.
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air Quality Management Area	Areas of the UK where air quality does not meet the national standards; these areas then become the focus of Local Air Quality Action Plans.
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the

Term	Definition
	effects of each pollutant on human health including the effects on sensitive sub groups (see also air quality Objective).
Ambient air	Outdoor air in the troposphere, excluding workplace air.
Ambient noise / sound	The total encompassing sound in a given situation, at a given time, including sound from any source in any direction.
Ancient Woodland	Ancient woodland is defined as an area that has been wooded continuously since at least 1600 AD. Ancient Woodland is divided into ancient semi-natural woodland and plantations on ancient woodland sites. Both types are classed as ancient woods.
Annual mean	The average (mean) of the concentrations measured or modelled for each pollutant for one calendar year.
The Applicant	Highways England; the body making the DCO Application to the Secretary of State for Transport (SoS).
Arboricultural	Relating to trees and shrubs.
Assessment Parameters	As is to be expected for a nationally significant infrastructure project (NSIP), there are aspects of the design that have not yet been fixed. For these design aspects, the detailed design will continue to be developed. Assessment Parameters have been adopted to enable assumptions to be made for these aspects, to ensure that they are appropriately assessed within the EIA. The assessments therefore take into account a realistic worst case assessment of the Scheme.
Background	Pollutant concentrations at locations distant from modelled road sources.
Bankfull	Bankfull is usually defined as the water level from the top of each bank just before the watercourse starts to overtop. However, Bankfull for the River Coquet has been defined based on changes in vegetation combined with evidence of fluvial erosion such as undercutting alongside the watercourse.

Term	Definition
Baseline	A reference level of existing environmental conditions against which a project is measured and controlled.
Below Ground Heritage Asset	Both known and hitherto unknown buried archaeological remains.
Best and most versatile agricultural land (BMV)	Defined as Grades 1, 2 and 3a by the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG). This is the land that is determined to be most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is of moderate quality to very poor quality.
Biodiversity	Abbreviated form of 'biological diversity' referring to variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part.
Biodiversity Action Plan (BAP)	Plans which set specific, measurable, achievable, realistic and time bound conservation targets for species and habitats. The UK BAP is the UK Government's response to the Convention on Biological Diversity (CBD) signed in 1992. More information is available at www.ukbap.org.uk .
Biodiversity No Net Loss	Upon completion of a scheme, any loss of biodiversity should be balanced by at least equivalent gains.
Birds Directive	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Breeding Bird Survey	The main scheme coordinated by the British Trust for Ornithology (BTO) / Joint Nature Conservation Committee (JNCC) / Royal Society for the Protection of Birds (RSPB) for monitoring the population changes of the UK's common

Term	Definition
	breeding birds. Commonly used in commercial ecological consultancy to survey for birds.
British Geological Survey	Provider of objective and authoritative geoscientific data, information and knowledge for the UK.
Characterisation	The process of identifying areas of similar landscape character, classifying and mapping them and describing their character.
Characteristics	Elements, or combinations of elements, which make a contribution to distinctive landscape character.
Charlton Mires Site Compound	A construction compound located within the Order Limits to the east of the existing A1, in a field to the south of Charlton Mires.
Chartered Institute of Ecology and Environmental Management (CIEEM)	The professional membership body representing and supporting Ecologists and Environmental professionals in the UK, Ireland and abroad. Previously known as Institute of Ecology and Environmental Management (IEEM).
Climate Change	Large scale, long term shift in the planet’s weather patterns or average temperature.
Combined effects	The summation of effects that result from changes caused by a development on multiple environmental factors, which then combine to cause multiple effects on a single receptor.
Conservative	Tending to over-predict the impact rather than under-predict.
Construction Environmental Management Plan (CEMP)	Document setting out methods to avoid, minimise and mitigate environmental impacts on the environment and surrounding area and the protocols to be followed in implementing these measures in accordance with environmental commitments during construction.

Term	Definition
Critical Level	The concentration of a pollutant in the atmosphere above which direct adverse effects on ecosystems may occur, according to present knowledge.
Critical Load	A quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge
Cross Topic combined effect	Effects that occur due to impacts from different environmental topics associated with Part A and Part B that combine to cause multiple effects on a single common sensitive receptor. For example, there may be multiple effects on residents from the use of the Main Compound and construction traffic traveling between the Main Compound and Part B.
Cultural Heritage Significance	The value of a Heritage Asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a Heritage Asset's physical presence, but also from its setting.
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other reasonably foreseeable development that is either consented but not yet constructed or is in the process of seeking consent.
Dangerous Substances Directive	Dangerous Substances Directive (2006/11/EC) controls the amount of dangerous substances that are discharged into inland, coastal and territorial waters.
De-trunking	Removal of 'trunk road' status, i.e. the removal of a road from the strategic highway network and from the responsibility of Highways England.
Development Consent Order (DCO)	A Development Consent Order (DCO) is made by the SoS pursuant to the Planning Act 2008 to authorise a Nationally

Term	Definition
	Significant Infrastructure Project (NSIP). A draft DCO was submitted with the Application and revised versions of the draft will be submitted throughout the Examination by the Applicant.
DCO Application	The application for a DCO in respect of the Scheme.
Decibel (dB)	The decibel scale is used in relation to sound because it is a logarithmic rather than a linear scale. The decibel scale compares the level of a sound relative to another. The human ear can detect a wide range of sound pressures, typically between 2×10^{-5} and 200 Pa, so the logarithmic scale is used to quantify these levels using a more manageable range of values.
Deposition	The input of airborne nitrogen to the surface of vegetation or soils.
Designated Heritage Assets	World Heritage Site, scheduled monument, listed building, protected wreck site, registered park and garden, registered battlefield or conservation area.
Diffusion Tubes	Passive monitoring devices for measuring the concentration of pollutants in air, typically used for NO ₂ .
Direct impact	An impact that is directly attributable to the Scheme.
Direct employment	Refers to the initial injection of expenditure, i.e. people employed in the construction of the Scheme (direct and contracted employment) and expenditure of goods, services and capital for the construction.
Disaster	In the context of the Scheme, a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident.

Term	Definition
'Do minimum' scenario	Continued change in the absence of the Scheme
'Do something' scenario	Continued change with the addition of the Scheme.
Dust	Dust comprises particles typically in the size range 1-75 micrometres (μm) in aerodynamic diameter and is created through the action of crushing and abrasive forces on materials.
Environmental DNA (eDNA)	Sampling ecological DNA from media such as soil, water, or air, rather than directly sampled from the organism. Typically utilised to test for the presence or absence of Great Crested Newts in water bodies.
Ecological Impact Assessment	A recommended procedure for the ecological component of Environmental Impact Assessment.
Effect	The environmental / social / economic consequence of an impact of the Scheme.
Elements	Individual parts which make up the landscape, such as, for example, trees, hedges, and buildings.
Emission	A material that is expelled or released to the environment. Usually applied to gaseous or odorous discharges to the atmosphere.
Emissions factor	A value by which an organisation's activities must be multiplied in order to report/calculate their emissions.
Emission rate	The quantity of a pollutant released from a source over a given period of time.
Enhancement	Proposals that seek to improve the state of the environment surrounding the Scheme and its wider setting, over and above its baseline condition.

Term	Definition
Environment Agency	A non-departmental public body sponsored by the United Kingdom Government's Department for Environment, Food and Rural Affairs (Defra), with responsibilities relating to the protection and enhancement of the environment in England.
Environmental Impact Assessment (EIA)	A systematic means of assessing a development project's likely significant environmental effects undertaken in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
The EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which prescribe the information to be included in the Environmental Statement and the consultation to be carried out in connection with development requiring an Environmental Statement.
Environmental Statement	A statement that includes the information that is reasonably required to assess the environmental effects of a development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile, but that includes at least the information required in the EIA Regulations 2017 and which is prepared in accordance with the latest Scoping Opinion adopted by the Secretary of State (where relevant).
Equivalent Continuous Level (Lea, T)	<p>The Equivalent Continuous Level represents a theoretical continuous Sound Pressure Level, over a stated time period, T, which contains the same amount of energy as a number of sound events occurring within that time, or a source that fluctuates in level. It is essentially the average noise level over a specified time period.</p> <p>For example, a noise source with an SPL of 80 dB(A) operating for two hours during an eight-hour working day, has an equivalent A-weighted continuous level over eight hours of 74 dB, or LAeq,8hrs = 74 dB.</p> <p>The time period over which the LAeq is calculated should always be stated.</p>

Term	Definition
Euro Emissions Standards	Acceptable limits for exhaust emissions of new vehicles sold in the EU and EEA member states. Euro 6/VI are the latest standards for light and heavy vehicles respectively.
European Commission (EC)	The executive body of the European Union responsible for proposing legislation, enforcing European law, setting objectives and priorities for action, negotiating trade agreements and managing implementing European Union policies and the budget.
European Protected Species (EPS)	European Protected Species are animals and plants that receive protection under the Conservation of Habitats and Species Regulations 2017, in addition to the Wildlife and Countryside Act 1981 (as amended).
Examining Authority (ExA)	The examining inspector or panel of examining inspectors appointed by the SoS to be responsible for conducting the Examination of, and recommendation to the SoS as to a decision on, the DCO Application.
Exceedance	A period of time where the concentrations of a pollutant is greater than the appropriate air quality standard.
Façade	At a distance of 1 metre in front of a large sound reflecting object such as a building façade.
Feature	Particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines OR a particular aspect of the Scheme.
Flood Map for Planning	Defines flood zones based on annual probability of flooding from fluvial and tidal sources to inform development planning and flood risk assessment. Nationally consistent delineation of 'high', 'medium' and 'low' flood risk updated by the Environment Agency as deemed appropriate, typically on a quarterly basis.

Term	Definition
Flood Risk Assessment	An assessment of the risk of flooding both to and from the Scheme and the measures taken to ensure no increase in flood risk as a result of the Scheme.
Flood Zone 1	This zone comprises land assessed as having less than a 1 in 1000 (0.1%) annual probability of flooding from rivers or the sea in any year.
Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 (1%) and 1 in 1000 (0.1%) annual probability of flooding from rivers, or between a 1 in 200 (0.5%) and 1 in 1000 (0.1%) annual probability of flooding from the sea in any year.
Flood Zone 3a	This zone comprises land assessed as having a 1 in 100 (1%) or greater annual probability of flooding from rivers or a 1 in 200 (0.5%) or greater annual probability of flooding from the sea in any year.
Flood Zone 3b	This zone comprises land where water has to flow or be stored in times of flood.
Fluvial	Of, or relating to, or inhabiting a river or stream.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5 metres away.
Gap Analysis	Method for the adjustment of model results to take account of the gap between current projected vehicle emission reductions and projections of the annual rate of improvement in ambient air quality.
Gazetteer	A geographical directory to be used in conjunction with a map; in this instance a directory of all designated historic assets.

Term	Definition
Geographical Information System	A system that captures, stores, analyses, manages and presents data linked to location. It links spatial information to a digital database.
Green Belt	A planning designation whereby development is limited in designated rural/undeveloped areas surrounding neighbouring urban areas to limit urban growth within these areas.
Glaciofluvial deposits	Deposits by waters from glaciers
Greenhouse Gas (GHG)	Greenhouse gases are gases that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. The six main GHGs whose emissions are human-caused are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon and sulphur hexafluoride. In combination, these GHG emissions are commonly expressed in terms of 'carbon dioxide equivalents' (CO ₂ e) according to their relative global warming potential. For this reason, the shorthand 'carbon' may be used to refer to GHGs.
Groundwater Source Protection Zone	Source Protection Zones (SPZs), defined for 2000 groundwater sources such as wells, boreholes and springs used for public drinking water supply, show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The maps show three main zones (inner, outer and total catchment) and a fourth zone of special interest, which the Environment Agency occasionally apply, to a groundwater source.
Habitat	The environment in which populations or individual species live or grow.
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

Term	Definition
Habitats of Principal Importance	Habitats of Principal Importance are those that are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 for the conservation of biodiversity.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017, which implement the Habitats Directive.
Habitats Regulations Assessment (HRA)	<p>An appropriate assessment of the implications of a plan or project for a European site or a European offshore marine site in view of that site's conservation objectives. Such an assessment is required pursuant to the Habitats Regulations where a plan or project —</p> <p>(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and</p> <p>(b) is not directly connected with or necessary to the management of that site.</p>
Harm	Change for the worse, here primarily referring to the effect of inappropriate interventions on the heritage values of a Heritage Asset.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Heritage Asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Hydrology	The movement, distribution and quality of water throughout the earth.
Impact	A physical or measurable change to the environment attributable to the Scheme.

Term	Definition
Important Landscape Areas (ILAs)	A local landscape designation defined by Northumberland County Council.
Indices of Multiple Deprivation	The indices of deprivation measure relative deprivation in local authorities across England. The index of multiple deprivation is the most widely used of these indices.
Indirect impacts	Impacts that result indirectly from the proposed project, in this case the Scheme, as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.
Journey amenity	The relative pleasantness of a journey.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
L _{AE} (or SEL)	A noise level index. Equivalent to the L _{Aeq,T} condensed into a one second period. Typically used when dealing with noise events where the activity duration is not necessary the same as under the conditions the source data was obtained.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to, but not the same as, land use.
Land use	What land is used for, based on broad categories of functional land cover, such as urban and infrastructure use and the different types of agricultural and forestry.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.

Term	Definition
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape and Visual Impact Assessment	A tool used to identify and assess the likely significant effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another.
Landscape Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make a landscape distinctive. The process results in the production of a Landscape Character Assessment.
Landscape Character Types	These are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement patterns, and perceptual and aesthetic attributes.
Landscape Effects	Effects on the landscape as a resource in its own right.
Landscape Receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.

Term	Definition
Lead Local Flood Authority	The local authority responsible for taking the lead on local flood risk management as defined within the Flood and Water Management Act 2010.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
LiDAR	Light Detection and Ranging; a technique which uses light sensors to measure the distance between the sensor and the target object.
Likely significant effect	An effect is the consequence of an impact or change to the environment. Effects do not have quantifiable values (e.g. opening up of new views as a result of loss of trees/hedgerows), but have significance (e.g. major, moderate or minor). Those effects predicted to have a significance of moderate to major are classified as likely significant effects.
Lmax and Lmin	<p>The Lmax or Lmaximum represents the highest measured sound pressure level during a measurement period T.</p> <p>The Lmin or Lminimum represents the lowest measured sound pressure level during a measurement period T.</p>
Local Biodiversity Action Plan (LBAP)	A strategy and set of objectives aimed at conserving, monitoring and raising awareness of the fauna, flora and habitats- collectively referred to as biodiversity- usually along local authority boundary lines.
Local Development Plan (LDP)	The set of documents and plans that sets out the local authority's policies and proposals for the development and use of land in their area.
Local Nature Reserve (LNR)	A site of importance for wildlife, geology, education or public enjoyment. Some are also nationally important Sites of Special Scientific Interest. Local Nature Reserves must be controlled by

Term	Definition
	the local authority through ownership, lease or agreement with the owner.
Local Planning Authority (LPA)	The local authority or council that is empowered by law to exercise statutory town planning functions for a particular area of the United Kingdom.
Locally Important Landscape Areas	A local landscape designation defined by Northumberland County Council.
Lower Super Output Area (LSOA)	A geographic unit used for statistical purposes.
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected as a result of noise or vibration.
Made Ground	Areas where material is known to have been placed by people on the pre-existing (natural or artificial) land surface (including engineered fill).
Magnitude	A combination of the scale, extent and duration of an impact.
Main river	Main rivers are usually larger streams and rivers, but also include smaller watercourses of strategic drainage importance. A main river is defined as a watercourse shown as such on the Flood Map for Planning (Rivers and Sea) and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. Main rivers are under the jurisdiction of the Environment Agency who have powers to carry out flood defence works to main rivers.
Major Accident	In the context of the Scheme, an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to

Term	Definition
	an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Mitigation Hierarchy	The mitigation hierarchy is to first try to avoid, then prevent and then reduce likely significant adverse effects on the environment and, if possible, offset likely significant adverse effects on the environment.
Mitigation Measures	Actions proposed to avoid, reduce and where possible offset likely significant adverse effects arising from the whole or specific elements of a development.
Model adjustment	Following model verification, the process by which modelled results are amended. This corrects for systematic error.
Multi Agency Geographic Information for the Countryside (MAGIC)	Authoritative geographic information about the natural environment from across government.
National Nature Reserve (NNR)	Established to protect sensitive features and to provide 'outdoor laboratories' for research.
National Planning Policy Framework (NPPF)	A document that sets out government's planning policies for England and how these are expected to be applied.
National Policy Statement (NPS)	Overarching policy designated under the Planning Act 2008 concerning the planning and consenting of Nationally Significant Infrastructure Projects (NSIPs) in the UK.
Nationally Significant Infrastructure Project (NSIP)	A project meeting the criteria for a Nationally Significant Infrastructure Project set out in Part 3 of the Planning Act 2008, and therefore requiring authorisation under the Planning Act 2008 by way of a DCO.

Term	Definition
	<p>The Scheme constitutes a NSIP by virtue of Section 14(1)(a) and both Section 22(1)(a) and Section 22(1)(b) of the Planning Act 2008, as:</p> <ul style="list-style-type: none"> - It comprises the construction and alteration of a highway. - The highway to be constructed and altered is wholly within England. - The Applicant is the Strategic Highway Authority for the highway. - The speed limit on the highway is 50 mph or greater. - The area of the Order Limits is greater than the relevant threshold for an NSIP of 12.5 hectares.
NERC Act 2006	Natural Environment and Rural Communities Act (2006)
No Observed Effect Level (NOEL)	The level below which no effect from noise or vibration can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
Noise	A noise can be described as an unwanted sound. Noise can cause nuisance.
Noise Important Area	Hotspot locations identified by Defra where the 1% of the population who are affected by the highest noise levels are located, in order to identify areas which require potential action.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
Noise Sensitive Receptors	Any identified receptor likely to be affected by noise. These are generally human receptors, and may include residential dwellings, work places, schools, hospitals, community facilities,

Term	Definition
	places of worship, recreational spaces and ecological receptors.
NOMIS	Official labour market statistics provided by the Office for National Statistics (ONS).
Non-Designated Heritage Assets	Buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions and which could be locally listed, but which are not formally designated heritage assets.
Nuisance	The experiencing of a considerable degree of bother as a result of, for example, excessive noise and vibration.
Offline	A linear infrastructure scheme, or element of an infrastructure scheme, which is newly constructed away from its existing alignment (i.e. is not an upgrade of an existing route in its existing alignment).
Online	A scheme which is an upgrade to an existing route in its existing alignment.
Order Limits	All land (both temporary and permanent) over which powers are sought under the DCO as it is required to build and operate the Scheme.
Ordinary watercourse	An ordinary watercourse is every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows that does not form part of a main river. The Lead Local Flood Authority, or Internal Drainage Board where relevant, has powers for ordinary watercourses that are similar to those held by the Environment Agency for main rivers.
Ordnance Survey (OS)	Great Britain's national mapping agency.

Term	Definition
2008 Act	The Planning Act 2008 (as amended) which is the legislation in relation to applications for NSIPs, including pre-application consultation and publicity, the examination of applications and decision making by the Secretary of State.
Parameters	A limit or boundary which defines the scope of a particular process or activity.
Part A	That part of the Scheme which is proposed to be constructed between Morpeth and Felton, referred to as Part A: Morpeth to Felton (Part A).
Part B	That part of the Scheme which is proposed to be constructed between Alnwick to Ellingham, referred to as Part B: Alnwick to Ellingham (Part B).
Particulate Matter	Solid and liquid particles suspended in the air.
Phase 1 Habitat Survey	An ecological survey technique that provides a standardised system to record vegetation and wildlife habitats. It enables a basic assessment of habitat type and its potential importance for nature conservation.
Photomontage	A visualisation which superimposes an image of a proposed development upon a photograph or series of photographs.
Planning Inspectorate (PINS)	The government agency responsible for administering and examining applications for development consent for NSIPs under the Planning Act 2008 on behalf of the SoS.
Potential roost site / feature	Any feature within a building or tree that has potential for a bat to roost in.
Preliminary Ecological Appraisal (PEA)	Preliminary ecological surveys have a range of purposes; one key use is to gather data on existing conditions, often with the intention of conducting a preliminary assessment of likely impacts of development schemes or establishing the baseline

Term	Definition
	for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for notable species or habitats, identification of potential constraints to proposed development schemes and recommendations for mitigation.
Preliminary Environmental Information Report (PEIR)	A report provided to the public, stakeholders and consultees (both specialist and non-specialist) to understand the likely environmental effects of a NSIP and to inform their consultation responses during the pre-application stage.
Preliminary Roost Assessment	A detailed inspection of the exterior of the tree from ground level to look for features that bats could use for roosting. The aim of this survey is to determine the actual or potential presence of bats and the need for further survey and/or mitigation.
Principal Aquifer	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, Principal Aquifers are aquifers previously designated as major aquifer.
Ramsar Site	Wetlands of international importance, designated under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat adopted 1971 (known as the Ramsar Convention).
Receptor	A component of the natural, created or built environment such as a human being, water, air, a building, or a plant that has the potential to be affected by the Scheme.
Residual Effects	Those effects of a development that cannot be mitigated following implementation of mitigation proposals.

Term	Definition
Riparian	Relating to the bank of a natural river.
Risk	The likelihood of an impact occurring combined with effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the Scheme and has the potential to be a Major Accident or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental receptor.
Road link	A length of road which is considered to have the same flow of traffic along it. Usually, a link is the road from one junction to the next.
The Scheme	A1 in Northumberland: Morpeth to Ellingham.
Scoping	An exercise undertaken pursuant to regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 to determine the topics to be addressed within the Environmental Statement.
Scoping Opinion	A written statement by the Secretary of State as to the information to be provided in the Environmental Statement. As the Scheme was originally being progressed through two separate applications for DCOs (which have now been combined into the current single Scheme), there are separate Scoping Opinions for each of Part A and Part B. The EIA for the Scheme has been carried out in accordance with both scoping opinions.
Screening (EIA)	The process of determining whether a project is likely to have a significant effect on the environment and therefore requires an EIA to be undertaken.
Screening Opinion	The Local Planning Authority's determination of whether an EIA is required as part of the planning application.

Term	Definition
	<p>No screening opinions were obtained in relation to the Scheme as the Applicant was satisfied that each qualified as EIA development in any case.</p>
<p>Secondary Aquifer</p>	<p>These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. Secondary Aquifers are subdivided into two types:</p> <p>Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers;</p> <p>Secondary B - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.</p> <p>The term “Secondary Undifferentiated” is also used in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</p>
<p>Sensitivity</p>	<p>A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.</p>
<p>Sequential</p>	<p>Where two or more features are not present in views from the same point on a route and cannot therefore ever be seen at the same time even if the arc of view experienced by the observer changes. The observer must move to another point along the same route to see the second or more of them and then they appear in a sequence. Sequential views often occur when moving along a linear route as the observer moves from one point to another and may occur in both directions.</p>

Term	Definition
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic. An effect predicted to be of ‘moderate’ significance or above is deemed to be significant in EIA terms.
Significant Observed Adverse Effect Level (SOAEL)	The level above which significant adverse effects on health and quality of life occur as a result of noise or vibration.
Site of Importance for Nature Conservation	Sites of Importance for Nature Conservation are usually selected within a local authority area and support both locally and nationally threatened wildlife. Many sites will contain habitats and species that are priorities under the county or UK Biodiversity Action Plans (BAP).
Site of Special Scientific Interest (SSSI)	A site statutorily notified under the Wildlife and Countryside Act 1981 (as amended) as being of special nature conservation or geological interest. SSSIs include wildlife habitats, geological features and landforms.
Sound Power Level	<p>The Sound Power Level defines the rate at which sound energy is emitted by a source and is also expressed in dB. It is defined as follows:</p> $SWL \text{ (dB)} = 10 \text{ Log}_{10}(W/W_{ref})$ <p>Where:</p> <p>W = Sound Power (in Watts)</p> <p>Wref = Reference Power 1 picoWat</p> <p>A few approximate examples of point source SWL are provided as follows;</p> <p>A very quiet ticking watch: 30 dBw</p> <p>Quiet communication in a library: 50 dBw</p> <p>An alarm clock: 70 dBw</p> <p>Loud shouting: 90 dBw</p>

Term	Definition
	A jackhammer: 130 dBw
Sound Pressure Level	<p>The Sound Pressure Level has units of decibels and compares the level of a sound to the smallest sound pressure generally perceptible by the human ear, or the reference pressure. It is defined as follows:</p> $\text{SPL (dB)} = 10 \text{ Log}_{10}(\text{P}/\text{Pref})^2$ <p>where:</p> <p>P = RMS Sound Pressure (in Pa)</p> <p>Pref = Reference Pressure 2×10^{-5} Pa</p> <p>An SPL of 0 dB suggests the Sound Pressure of a sound is equal to the reference pressure. This is known as the threshold of hearing. An SPL of 140 dB represents the threshold of pain.</p>
Source Protection Zone (SPZ)	Designated zones around public water supply abstractions and other sensitive receptors that sign there are particular risks to the groundwater source they protect.
Special Area of Conservation (SAC)	Areas of protected habitats and species as defined in the Habitats Directive (92/43/EEC).
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the Birds Directive (79/409/EEC). They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory species.
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.
Statement of Common Ground (SoCG)	A Statement of Common Ground is a means of capturing the areas of agreement and material differences between the Applicant and third parties.

Term	Definition
Statement of Community Consultation (SoCC)	The Planning Act 2008 requires the Applicant to undertake public consultation in advance of submitting the DCO Application to the SoS. A Statement of Community Consultation must be prepared, setting out how the Applicant proposes to consult people living in the vicinity of the Scheme.
Statutory	Relating to statute; legally binding.
Study Area	The area within which impacts on the environment are measured. Varies for each technical study in line with guidance and best practice.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the Scheme without undue negative consequences.
Sustainable development	<p>“Development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Report, 1987).</p> <p>Also relates to the requirement in the NPPF that there will be a presumption in favour of sustainable development, in terms of economic, social and environmental objectives.</p>
Threshold	A legislated concentration of pollutant in ambient air.
Townscape	The character and composition of the built environment including the buildings and the relationships between them, the different types of open urban space, including green spaces, and the relationship between buildings and open spaces.
Trial trenching	Archaeological intrusive evaluative technique.
Verification (modelling)	Comparison of modelled results versus any local monitoring data at relevant locations.
Vibration	Vibration is defined as a repetitive oscillatory motion.

Term	Definition
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through the area.
Visual Effects	Effects on specific views and on the general visual amenity experienced by people.
Visual Receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Vulnerability	In the context of the 2014 EU Directive, the term refers to the 'exposure and resilience' of the Scheme to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.
Waste Hierarchy	Sets out the priorities that must be applied when managing waste.
Water Framework Directive	European Union directive 2000/60/EC, establishing a framework for community action in the field of water policy which commits member states to achieve good qualitative status of all water bodies.
Wildlife and Countryside Rights of Way Act 1981 (as amended)	The principal piece of UK legislation relating to the protection of wildlife.
Within Topic combined effects	Impacts that arise from Part A and Part B acting on the same common sensitive receptor within an individual environmental topic. For example, there may be beneficial effects on economic receptors due to the generation of jobs from both Part A and Part B when considered together.

ABBREVIATIONS

Acronym	Definition
A1MMS	A1 Multi-Modal Study
AA	Agricultural Assessment
AADT	Annual Average Daily Traffic
AD	Anno Domini
AAWT	Annual Average Weekly Traffic
ADMS	Advanced Dispersion Modelling System
AEP	Annual Exceedance Probability
AGI	Above Ground Installation
AGS	Amenity Green Space
AHA	Agricultural Holdings Act
AHLV	Area of High Landscape Value
ALARP	As low as reasonably practicable
ALC	Agricultural Land Classification
AM	Ante meridiem (morning)
AMAA	Ancient Monuments and Archaeological Areas Act 1979
ANPR	Automatic Number Plate Recognition
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
APIS	Air Pollution Information System
APP	Appendix

Acronym	Definition
AQ	Air Quality
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ARN	Affected Road Network
ASNW	Ancient Semi Natural Woodland
ASR	Annual Status Report
ATI	Ancient Tree Inventory
AW	Ancient Woodland
BA	Bachelor of Arts
BAP	Biodiversity Action Plan
BBS	Breeding Bird Survey
BCT	Bat Conservation Trust
bgl	Below ground level
BGS	British Geological Survey
BMCL	Bat Mitigation Class License
BMV	Best and Most Versatile
BNL	Basic Noise Level
BoCC	Birds of Conservation Concern
BoQ	Bill of Quantities
BPM	Best Practicable Means
BS	British Standards
BSc	Bachelor of Science

Acronym	Definition
BSI	British Standards Institute
BTO	British Trust for Ornithology
CA	Coal Authority
CBC	Common Bird Census
CCTV	Closed Circuit Television
CDE	Construction, Demolition and Excavation
CDM	Construction Design and Management
CEDA	Centre for Environmental Data Analysis
CEH	Centre for Ecology and Hydrology
CEMP	Construction Environmental Management Plan
CEnv	Chartered Environmentalist
Ch	Chainage
CIEEM	Chartered Institute of Ecology and Environmental Management
CiFA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CIWEM	Chartered Institution of Water and Environmental Management
CO ₂	Carbon Dioxide; commonly closely related to the global climate change phenomenon.
CKD	Combined Kerb and Drainage
CKDU	Combined Kerb and Drainage Units
CL:AIRE	Contaminated Land: Applications in Real Environments
CMLI	Chartered Members of the Landscape Institute

Acronym	Definition
CMRA	Coal Mining Risk Assessment
ComMA	Combined Modelling and Appraisal
CoPA	Control of Pollution Act 1974
CRoW	Countryside and Rights of Way Act 2000
CRTN	Calculation of Road Traffic Noise
CTMP	Construction Traffic Management Plan
dB	Decibels
DBA	Desk Based Assessment
DCO	Development Consent Order
DCLG	Department for Communities and Local Government
DECC	Department for Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DM	Do Minimum
DMRB	Design Manual for Roads and Bridges
DNA	Deoxyribonucleic acid
DS	Do Something
DTM	Digital Terrain Model
DWP	Diffuse Water Pollution
EA	Environment Agency
EAR	Environmental Assessment Report
EC	European Commission

Acronym	Definition
ECoW	Ecological Clerk of Work
eDNA	Environmental DNA
EEA	European Economic Area
EEC	European Economic Community
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
EMF	Electric and Magnetic Fields
EMS	Environmental Management System
END	Environmental Noise Directive
EPDs	Environmental Product Declarations
EPS	European Protected Species
EQR	Ecological Quality Ratio
EQS	Environmental Quality Standard
ERIC	Environmental Records Information Centre
ERS	Expose Riverine Sediment
ES	Environmental Statement
EU	European Union
EZI	Ecological Zone of Influence
FBT	Farm Business Tenancy
FRA	Flood Risk Assessment
FRAP	Flood Risk Activities Permit

Acronym	Definition
FRGS	Fellowship of the Royal Geographical Society
FUL	Full (planning permission)
GA	General Arrangement
GAC	Generic Assessment Criteria
GCSE	General Certificate of Secondary Education
GCN	Great crested newt
GHG	Greenhouse Gas
GI	Ground Investigation
GIR	Ground Investigation Report
GIS	Geographical Information Systems
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPP	Guidance for Pollution Prevention
ha	Hectare(s)
HADDMS	Highways Agency Drainage Data Management System
HAPMS	Highways England Pavement Management System
HAWRAT	Highways Agency Water Risk Assessment Tool
HDV	Heavy Duty Vehicle
HE	Highways England
HEDBA	Historic Environment Desk Based Assessment
HEMP	Handover Environmental Management Plan
HER	Historic Environment Record
HGV	Heavy Goods Vehicle

Acronym	Definition
HLC	Historic Landscape Characterization
HLT	Historic Landscape Type
HM	Her Majesty's
HMSO	Her Majesty's Stationary Office
HP	High Pressure
HPGM	High Pressure Gas Main
HPI	Habitats of Principal Importance
HRA	Habitats Regulation Assessment
HRA	Hot Rolled Asphalt
H&S	Health & Safety
HSE	Health and Safety Executive
HSI	Habitat Suitability Index
IAN	Interim Advice Note
IAQM	Institute of Air Quality Management
ICE	Institute of Chartered Engineers
ICG	Internal Condition Grade
ICM	Integrated Catchment Modelling
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ID	Identifier
IEMA	Institute of Environmental Management and Assessment
ILM	Incremental Launching Method
IMD	Indices of Multiple Deprivation

Acronym	Definition
IP	Intermediate Pressure
IPCC	International Panel on Climate Change
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
JNSA	Joint Strategic Needs Assessment
kg	kilogram
kgCO ₂ e	Kilogram of carbon dioxide equivalent
KPI	Key Performance Indicators
kTCO ₂ e	Kilo-tonne of carbon dioxide equivalent
kV	Kilovolt
LAQM	Local Air Quality Management
LAQM.TG	Local Air Quality Management Technical Guidance
LBAP	Local Biodiversity Action Plan
LCA	Landscape Character Area
LCT	Landscape Character Type
LED	Light Emitting Diode
LFRMS	Local Flood Risk Management Strategy
LiDAR	Light Detection and Ranging
LLB	Bachelor of Law
LLFA	Lead Local Flood Authority
LMP	Landscape Mitigation Masterplan
LNR	Local Nature Reserve

Acronym	Definition
LNS	Low Noise Surface
LOAEL	Lowest Observed Adverse Effect Level
LoD	Limits of Deviation
LP	Low Pressure
LPA	Local Planning Authority
LRM	Local Relief Model
LSOA	Lower-layer Super Output Area
LTP	Local Transport Plan
LTT _{E6}	The Long-Term Trends for projecting annual mean NO ₂ and NO _x concentrations at the roadside, including the impact of Euro 6 and Euro VI emissions standards
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MA	Master of Arts
MAD	Major Accidents and Disasters
MAGIC	Multi Agency Geographic Information for the Countryside
MCHW	Manual of Contract Documents for Highway Works
MCIEEM	Member of CIEEM
MCIWEM	Member of CIWEM
MICE	Member of Institute of Chartered Engineers
MIOA	Member of the Institute of Acoustics
MMP	Material Management Plan
MP	Medium Pressure

Acronym	Definition
MRSS	Maintenance and Repair Strategy Statement
MS	Microsoft
MSA	Mineral Safeguarding Area
MSc	Master of Science
MSP	Maintenance Service Provider
Mt	Million tonnes
MW	Megawatt
N/A	Not Applicable
NBN	National Biodiversity Network
NCA	National Character Area
NCC	Northumberland County Council
NE	North East
NERC	Natural Environment and Rural Communities
NERRF	North East Regional Research Framework
NGN	Northern Gas Networks
NHBC	National House-Building Council
NHL	National Heritage List
NIA	Noise Important Area
NIR	Noise Insulation Regulations 1975
NMR	National Monument Record
NMP	National Mapping Programme
NMU	Non-Motorised User

Acronym	Definition
NNR	National Nature Reserve
NO	Nitrogen Oxide
NO ₂	Nitrogen Dioxide
NOEL	No Observed Effect Level
NO _x	Oxides of Nitrogen
NPG	Northern Powergrid
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NPSE	Noise Policy Statement for England (published March 2010)
NPS NN	National Policy Statement for National Networks
NRMM	Non-Road Mobile Machinery
NRPB	National Radiological Protection Board
NSIP	Nationally Significant Infrastructure Project
NTCC	National Traffic Control Centre
NTBC	Northumberland and Tyneside Bird Club
NTS	Non-Technical Summary
NVC	National Vegetation Classification
NVMP	Noise and Vibration Management Plan
NVQ	National Vocational Qualification
OD	Ordnance Datum
ODMP	Office of the Deputy Prime Minister
ONS	Office for National Statistics

Acronym	Definition
OS	Ordnance Survey
OUT	Outline (planning permission)
PAWS	Plantations on Ancient Woodland Sites
PCBs	Polychlorinated Biphenyls
PCF	Project Control Framework
PCM	Pollution Climate Mapping
PDR	Project Design Report
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report
PGCert	Postgraduate Certificate
PhD	Doctor of Philosophy
PHE	Public Health England
PIEMA	Practitioner grade IEMA membership
PINS	Planning Inspectorate
PM	Post meridian (afternoon)
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PM _{2.5}	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
PMA	Private Means of Access
PNL	Prevailing Noise Levels
PPE	Personal Protective Equipment

Acronym	Definition
PPG	Planning Practice Guidance
PPGs	Pollution Prevention Guidelines
PPS	Planning Policy Statements
PPV	Peak Particle Velocity
PRA	Preliminary Risk Assessment
PRoW	Public Right of Way
PSSR	Preliminary Sources Study Report
PSV	Polished Stone Values
PSYM	Predictive System for Multimetrics
PWM	Precautionary Working Method
PWMS	Precautionary Working Method Statement
R&D	Research and Development
RAF	Royal Air Force
RAMS	Risk Assessments and Method Statements
Ramsar	Wetland site designated to be of international importance under the Ramsar convention.
RBMP	River Basin Management Plan
REAC	Register of Environmental Actions and Commitments
REM	Reserved matters (planning permission)
RHS	River Habitat Survey
RIGS	Regionally Important Geological Site
RIS	Road Investment Strategy

Acronym	Definition
RNL	Relevant Noise Level
RPA	Root Protection Area
RPE	Respiratory Protective Equipment
RSPB	Royal Society for the Protection of Birds
RSE	Road Safety Engineers
RWSC	Routine and Winter Service Code
SAC	Special Area of Conservation
SEE	Suitably experienced ecologist
SFRA	Strategic Flood Risk Assessment
SGAR	Stage Gate Assessment Review
SLR	Single Lens Reflex
SM	Scheduled monument
SMS	Soil Management Strategy
SNCI	Site of Nature Conservation Importance
SNRHW	Stable Non-Reactive Hazardous Waste
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SoCG	Statement of Common Ground
SOP	Standard Operating Procedure
SPA	Special Protection Area
SPD	Supplementary Planning Documents
SPHN	Statutory Plant Health Notice

Acronym	Definition
SPI	Species of Principal Importance
SPZ	Source Protection Zone
SQPV	Squirrel Pox Virus
SRG	Stakeholder Reference Group
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Drainage System
SW	Southwest
SWMP	Site Waste Management Plan
t	tonnes
TA	Transport Assessment
TAG	Transport and Analysis Guidance
TCPO	The Town and Country Planning (Development Management Procedure) (England) Order 2015
TM	Traffic Management
TMP	Traffic Management Plan
TMU	Traffic Monitoring Unit
TPO	Tree Protection Order
TRA	Traffic Reliability Area
TSCS	Thin Surface Course System
TTMP	Traffic and Transport Management Plan
TVCB	Temporary Vertical Concrete Barrier

Acronym	Definition
UDP	Unitary Development Plan
UK	United Kingdom
UKCP	United Kingdom Climate Projections Programme
URC	United Reform Church
UV	Ultraviolet
UXO	Unexploded Ordnance
VES	Visual Effects Schedules
VLR	Variable Lighting Regime
VOC	Volatile Organic Compound
VRS	Vehicle Restraint System
WCA	Wildlife and Countryside Act 1981
WCC	Woodland Carbon Code
WCH	Walking, Cycling and Horse Riding
WCHAR	Walking, Cycling and Horse Riding Assessment and Review
WFD	Water Framework Directive
WHO	World Health Organisation
WRAP	Waste and Resources Action Programme
WSI	Written Scheme of Investigation
WWII	World War Two
Zol	Zone of Influence
ZTV	Zone of Theoretical Visibility

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