



MetroWest+

Portishead Branch Line (MetroWest Phase 1)

TR040011

Applicant: North Somerset District Council
6.8, Environmental Statement, Volume 2, Chapter 5 Approach to the Environmental Statement
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, regulation 5(2)(a)
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CHAPTER 5

Approach to the Environmental Statement

5.1 The Environmental Impact Assessment Process

5.1.1 The application for the Portishead Branch Line (MetroWest Phase 1) Development Consent Order Scheme (“the DCO Scheme”) is subject to the process of environmental impact assessment (“EIA”). This is because the DCO Scheme is a type of development listed in Schedule 2 (10)(d) to The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and 2017 (as amended) (“the EIA Regulations”) that is likely to have significant effects on the environment by virtue of factors such as its nature, size, or location and North Somerset District Council (“NSDC”) by letter dated 23 June 2015 which notified the Planning Inspectorate under Regulation 6(1)(b) of the EIA Regulations 2009 of its intention to provide an environmental statement in support of the application for the DCO Scheme. As provided in Regulation 4(1) of the EIA Regulations 2009, this notification determined the status of the application for the DCO Scheme as EIA development.

5.1.2 Section 1.5 of Chapter 1 Introduction (DCO Document Reference 6.4) explains that although the scoping of the environmental statement (“ES”) for the DCO Scheme was undertaken under The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (“the EIA Regulations 2009”), NSDC has decided to submit the application for the DCO Scheme under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (“the EIA Regulations 2017”). This Chapter describes the approach to the preparation of the ES and the additional work undertaken to ensure compliance with the EIA Regulations 2017. To avoid confusion, the term “EIA Regulations” is used to refer to the EIA process set out in both sets of EIA Regulations, and reference is made to the year of a set of EIA Regulations only where this is material in the context of the scope of the ES or to the EIA process.

5.1.3 The EIA process is intended to ensure that development consent for public and private projects which are likely to have significant effects on the environment should be granted only after an assessment of the likely significant environmental effects of those projects has been carried out. The assessment should be conducted on the basis of the appropriate information supplied by the developer, which may be supplemented by the authorities and by the public likely to be concerned by the project in question. The decision-maker can refuse consent or grant consent conditionally or unconditionally.

5.1.4 The information that NSDC is required to provide in the ES submitted with the application for development consent is specified in Schedule 4 to the EIA Regulations. The process of identifying and assessing environmental effects is iterative and has been undertaken in parallel with the development of the engineering design. This approach has allowed the incorporation of measures into the project design to avoid or reduce adverse effects.

- 5.1.5 The general approach to identifying and assessing likely significant effects for the DCO Scheme is summarised below:
- Data review to draw together readily available information about the study area, the project and likely environmental effects;
 - Baseline data collection and specially commissioned surveys to characterise the existing conditions;
 - Consultation with the local authorities, the statutory environmental bodies, namely the Environment Agency, Natural England and Historic England, other consultee bodies and the general public, to request data, inform third parties of the proposals, and seek feedback on the scheme;
 - Identification and assessment of the magnitude of predicted impacts of the DCO Scheme on identified receptors to evaluate the significance of the predicted effects;
 - Consideration of measures to mitigate likely significant effects as well as any measures that could reduce or avoid effects that are not significant. Where these have led to changes in the description of the DCO Scheme or the way in which it will be constructed, operated or decommissioned, all such changes have been evaluated as part of the iterative process of EIA;
 - Assessment of significance of the residual effects of the mitigated DCO Scheme; and a conclusion reached as to whether there are likely significant effects for the purposes of the EIA Regulations;
 - Ensuring that all of the information required to be included in the ES, as specified in Schedule 4 to the EIA Regulations has been collated and presented in the ES and that this information is accompanied by a non-technical summary.

- 5.1.6 This ES presents the information required under the EIA Regulations to be provided by the applicant with its application for the DCO Scheme the ("DCO Application") to inform all stakeholders in the decision-making process , in particular the Secretary of State for Transport who will determine the Application the Examining Authority, statutory consultees and members of the public.

5.2 Standards and Guidance

- 5.2.1 The approach to the impact assessment is largely based on the Department for Transport's *Design Manual for Roads and Bridges* ("DMRB") Volume 11 Environmental Assessment and Volume 10 Environmental Design and Management. DMRB is currently being revised and reissued. The version of DMRB used in the environmental assessment is referenced in the relevant topic chapters. Although the DMRB is for highway schemes, it provides a useful basis for the environmental assessment of other linear transport

schemes including railways¹. The approach set out in DMRB is supplemented by advice in Highways England's² Interim Advice Notes ("IAN"), as well as other widely accepted methodologies published by British Standards ("BS") and professional organisations such as the Institute of Environmental Management and Assessment ("IEMA"), the Construction Industry Research Information Association ("CIRIA"), the Landscape Institute ("LI"), and the Institute of Ecology and Environmental Management ("IEEM"). The specific methodologies used are referenced in the topic assessment chapters 7 to 17 of the ES (DCO Document References 6.10 to 6.20).

- 5.2.2 DMRB Volume 11, Section 2, Part 1, *General Principles and Guidance on Environmental Impact Assessment* identifies a phased, consequential approach to assessment - scoping, simple assessment and detailed assessment. The assessment only passes from one stage to the next if sufficient risk for significant effects is identified. Otherwise the topic is scoped out or completed at the simple stage. This approach is particularly relevant for air quality and noise.
- 5.2.3 The ES has been prepared in accordance with the requirements specified in Network Rail's procedures for the environmental assessment of rail infrastructure works and the demanding requirements of the Governance for Rail Investment Projects ("GRIP") procedures.

5.3 Screening and Scoping

- 5.3.1 In accordance with Regulation 8 of the then prevailing EIA Regulations 2009, NSDC notified the Planning Inspectorate of its intention to submit an ES in respect of the DCO Application. At the same time, NSDC requested that the Planning Inspectorate provide a scoping opinion on the information to be provided in the ES, pursuant to Regulation 8 of the EIA Regulations 2009. In support of this request and in accordance with the EIA Regulations 2009, NSDC provided a Scoping Report and a Baseline Report relating to the DCO Scheme. The Scoping Report identified the potential for environmental impacts on:

- Air quality and carbon
- Cultural heritage
- Ecology and nature conservation
- Geology, hydrogeology, ground conditions and contaminated land
- Landscape and views
- Materials and waste
- Noise and vibration

¹ The DfT's TAG Unit A3 *Environmental Impact Appraisal* paragraph 1.2.3 confirms that much of the guidance in DMRB is suitable for other transport modes and should be used unless more appropriate alternatives are available.

² On 1 April 2015 the Highways Agency became the Highways England Company Limited, to be known as "Highways England"

- Socio-economics and economic regeneration
 - Soils, agriculture, land use and assets
 - Transport, access and non-motorised users (pedestrians, cyclists and equestrians), and
 - Water resources, drainage and flood risk.
- 5.3.2 The Scoping Report provided an outline approach to the identification of potentially adverse and beneficial effects for each of the identified topics.
- 5.3.3 In formulating their response, the Planning Inspectorate liaised with 66 stakeholders, of whom 11 replied within the deadline and a further three after the deadline. These organisations are listed in Appendices 1 and 2 to the Scoping Opinion (DCO Document Reference 6.1). The Planning Inspectorate published their Scoping Opinion on 4 August 2015. A copy of the Scoping Opinion, together with the Scoping Report and Baseline Reports provided by the applicant, are available for inspection and can be download from the National Infrastructure Planning website at <https://infrastructure.planninginspectorate.gov.uk/projects/south-west/portishead-branch-line-metrowest-phase-1/?ipcsection=docs>. The comments from the Planning Inspectorate and statutory stakeholders have framed the scope of the EIA.
- 5.3.4 As section 1.5 of Chapter 1: Introduction (DCO Document Reference 6.4) explains, the scoping of the ES was undertaken in accordance with the EIA Regulations 2009. Although the EIA Regulations 2017 enabled the DCO Scheme to benefit from transitional provisions that would have enabled continued application of the EIA Regulations 2009, it was decided not to rely on the transitional provisions. Instead, the application for the DCO Scheme is submitted under the EIA Regulations 2017 and the ES and EIA process were reviewed to ensure compliance with the revised regulations. The EIA Regulations 2017 made a number of changes to the EIA process. Regulation 14(3)(a) provides that where a scoping opinion has been adopted, the ES must "*be based on the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)*". NSDC considered whether a new scoping opinion should be requested from the Secretary of State in light of the requirements of the EIA Regulations 2017 and evolutions in the design of the DCO Scheme. It was concluded that the Scoping Opinion issued on behalf of the Secretary of State in August 2015 continued to provide an appropriate basis for the ES for the following reasons:
- The effect of the changes to the description of the DCO Scheme has been to reduce the scale of the proposed development. Consequential changes to the nature and extent of environmental effects have remained within the scope of those considered in the Scoping Opinion (DCO Document Reference 6.1).
 - The additional information required to be included within the ES by the EIA Regulations 2017 was able to be incorporated in the ES Chapters as well as in dedicated appendices, as assessments had not been concluded. Risks to human health, cultural heritage or the environment have been addressed in Appendix 4.5 Major Accidents and Disasters

and the impact of the DCO Scheme on climate as well as the vulnerability of the DCO Scheme to climate change is addressed in Appendix 7.5 Climate (both DCO Document Reference 6.25).

- 5.3.5 Appendix 1.2 Compliance with the EIA Regulations 2017 Schedule 4 (DCO Document Reference 6.25) lists the information required to be provided in the ES and states where within the ES the required information is provided. Appendix 5.1 (DCO Document Reference 6.25) identifies generic requirements of the Scoping Opinion (DCO Document Reference 6.1) and explains where they have been considered within the ES. Appendix 5.2: Changes in scheme design since the Scoping Opinion (DCO Document Reference 6.25) explains the changes made to scheme design at particular stages in the evolution of the DCO Scheme and explains their implications for the Scoping Opinion. As these documents demonstrate, the ES has been based on the Scoping Opinion (DCO Document Reference 6.1) of August 2015 (DCO Document Reference 6.1). Where iterations in the description of the DCO Scheme have led to changes, these have either not led to the identification of any considerations that were not addressed in the Scoping Opinion or have led to a reduction or avoidance of likely significant effects within the envelope of development considered when the Scoping Opinion was issued. Therefore, the ES is considered to be based on the Scoping Opinion (DCO Document Reference 6.1).
- 5.3.6 The EIA Regulations 2017 added a requirement for the results of any relevant UK environmental assessment, which is reasonably available to the applicant with the view to avoiding duplication of assessment, to be taken into account in the ES. This requirement has been addressed in the ES Chapters 7-18 (DCO Document References 6.10 to 6.21). The EIA Regulations 2017 also require that the ES is prepared by competent experts and accompanied by a statement outlining the relevant expertise or qualifications of such experts. This Statement is provided at Appendix 1.1 (see Chapter 1 of the ES) (DCO Document Reference 6.25).
- 5.3.7 In addition to the topics set out above, the environmental studies have also included the following:
- Equality Impact Assessment (“EqIA”): under the Equalities Act 2010 local authorities and public bodies are required to identify and consider the potential adverse impacts of major developments, strategies and policies on equality of opportunity. Equality groups may be defined by the following protected characteristics: age, race, religion or belief, disability, pregnancy and maternity, gender, gender reassignment and sexual orientation. An EqIA has been undertaken for this DCO Scheme and is presented in Appendix 14.1 (DCO Document Reference 6.25).
 - Health Impact Assessment (“HIA”): the National Policy Statement for National Networks (“NPSNN”) notes in paragraph 4.79 that rail networks have the potential to affect the health, well-being and quality of life of the population, because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests. An HIA has been undertaken for this DCO Scheme and is presented in Appendix 14.2 (DCO Document Reference 6.25).
 - A Flood Risk Assessment: The NPSNN and the National Policy Planning Framework (“NPPF”) require applications for projects in flood zones to

be accompanied by a Flood Risk Assessment (“FRA”). A FRA has been undertaken for the DCO Scheme and is presented in Appendix 17.1 of the ES (DCO Document Reference 5.6).

- A Water Framework Directive (“WFD”) Assessment: The Water Framework Directive requires that environmental objectives are set for all surface waters and groundwaters, so that management measures are put in place to achieve Good Ecological Potential / Status by a defined date. A WFD assessment has been undertaken for the DCO Scheme and is presented in Appendix 17.2 (DCO Document Reference 6.25).

5.3.8 The following matters have been scoped out of the ES, as agreed with the Planning Inspectorate (see paragraph 3.28 of the Scoping Opinion):

- **Geology, Hydrogeology, Ground Conditions and Contaminated Land:** The impact of new and additional services on the railway lines on geology, as there will be no further significant impacts on the underlying ground conditions following construction.
- **Materials and Waste:** The use of materials and disposal of waste for the operations phase of the Portishead Branch Line. The volumes involved will be relatively small and will be handled in accordance with Network Rail's procedures, in the same way as all existing operational railways.
- **Soils, Agriculture, Land Use and Assets:** The risk of livestock straying onto the railway line. This risk will be mitigated through security fencing.

5.3.9 Further explanation of the reasons for scoping out the above matters is provided in the relevant topic assessment chapters 10, 12 and 15 respectively in this ES (DCO Document References 6.13, 6.15 and 6.18)

5.4 Study Area

5.4.1 The Order limits showing the extent of temporary and permanent land-take required for the DCO Scheme are shown by the red line boundary on the General Arrangement Plan (DCO Document Reference 2.4).

5.4.2 The study area for the collection of baseline data and the assessment of effects is based on the predicted limits of likely significant effects. This includes the DCO Scheme footprint as defined by the Order limits as well as land and assets lying outside the Order limits. The extent of the likely limits of effect vary according to the type of effects and the environmental or social receptor under consideration. Consequently there is no one single study area which is applicable to all the topic assessment areas.

5.4.3 The individual study areas for each environmental topic are described in the topic assessment Chapters 7 to 17 (DCO Document References 6.10 to 6.20). At the start of the EIA, for many topics the study area was taken as a corridor 0.5 km on either side of the centreline of the DCO Scheme, which was expected to be sufficient to cover the potential impacts of the DCO Scheme and the temporary land occupation for construction. As an understanding of the construction requirements developed, additional data collection was undertaken where temporary land occupation and access to construction sites extended beyond 0.5 km.

5.5 Baseline Data Collection and Interpretation

- 5.5.1 Existing baseline data have been collected from various sources including NSDC and other local authorities, Network Rail, the statutory environmental bodies, the Historic Environment Records ("HER"), the Bristol Regional Environmental Records Centre ("BRERC"), and other organisations with an interest in the study area, as identified in the relevant topic assessment chapters.
- 5.5.2 Specially commissioned surveys were undertaken to identify land use, farm management, remaining heritage assets within the railway, habitats and species of flora and fauna, landscape, views of the DCO Scheme, and noise levels.
- 5.5.3 Network Rail and their consultants have undertaken a large number of surveys of the existing route and associated assets to inform the design. These include asset condition surveys of the railway lines and structures, geotechnical and contamination investigations, trackbed investigations and drainage.
- 5.5.4 The existing environmental baseline, including on-going trends that may affect future baseline without the DCO Scheme, is described in each of the technical topic chapters. Where appropriate, ongoing railway maintenance and the associated effects on the environment are also described.

5.6 Assessment of Effects

Defining Assessment Years and Scenarios

- 5.6.1 The assessment of effects is concerned with evaluating the impact of the DCO Scheme (Do Something scenario) on the environment compared to the conditions without the DCO Scheme (Do Nothing scenario) during construction and operations. The assessment has been undertaken for the following scenarios:
- during the construction period (currently programmed to be spring 2022 to winter 2023/24),
 - the year of opening (winter 2023/24), and
 - the future assessment year, 15 years from project opening for example for the noise and landscape and visual assessment and 60 years for the FRA.
- 5.6.2 The noise study, completed before the change in the DCO Scheme from a half hourly to an hourly scheme, is based on an opening year of 2020 and future year of 2035. A review of the difference in traffic flows and noise levels indicated that the incremental increase in noise for the later opening year would be very small. It was decided to present the assessment in this ES, which represents a worse case than the updated assessment for the later opening year. Similarly the air quality assessment is based on a first full opening year of 2021 and it was decided not to update the assessment for the revised opening year as the difference in the results would be small, and the present assessment presents a more conservative (worse) case as models assume that ambient air quality improves over time due to technological improvements in the UK fleet.

- 5.6.3 The Scoping Opinion (DCO Document Reference 6.1) stated that the ES should consider the decommissioning phase of the DCO Scheme. This was on the basis that whole life considerations could lead to different choices in the design, for example in the selection of materials and construction strategy which would aid dismantling of valuable assets in the future.
- 5.6.4 No specific plans have been formulated for the decommissioning phase of the Portishead Branch Line. It is expected that the services will continue for as long as there is a business case for doing so. Closure of railways is a regulated process, overseen by the Office of Rail and Road. Disposal of railway assets is also regulated by the Office of Rail and Road under the terms of Network Rail's licence.
- 5.6.5 Railways are not designed to be decommissioned, although in accordance with paragraph 5.85 of the NPSNN, development plan policies and Network Rail's Sustainable Development Strategy, consideration will be given to the sustainability of materials used in construction, including their embodied carbon content, where choice is available and some information on this is provided in Chapter 12 Materials and Waste (DCO Document Reference 6.15). For the DCO Scheme, in the event that the train operating company decides to cease services on the Portishead Branch Line, it is likely that the railway assets will remain in place, as occurred after traffic ceased in the 1980s. Previous practice following railway closures suggests that the railway formation will remain available either for re-development over time or finding an alternative transport use such as a guided busway or a cycle path. Such proposals would be subject to their own assessment including consideration of environmental effects. As such proposals are not reasonably foreseeable, the likely impacts cannot be assessed.
- 5.6.6 For any abandoned part of the railway track bed, vegetation would gradually encroach upon the railway line, with herbaceous plants, shrubs and trees gradually recolonising the railway corridor. The assets comprising the trackbed would gradually fall into disrepair due to the action of erosion and corrosion from rain, plants and animals. As the railway to be authorised by the DCO is largely laid at surface level between Portishead and Pill it is not anticipated that there would be significant need for ongoing maintenance work for embankments or cuttings. Ongoing maintenance of the cuttings and embankments would still be required along the operational railway from the Port to the main line. Network Rail would probably recover (and ideally re-use) items of value such as wiring, signalling equipment and principal supply points ("PSP") for signalling equipment.
- 5.6.7 Remaining assets such as fencing would continue to be maintained. The bridges carrying highways over the DCO Scheme and public rights of way would continue to be maintained to standards appropriate for the public use, as a result of the obligations of NSDC as local highway authority.
- 5.6.8 It is anticipated that the line between Royal Portbury Dock and Parson Street would remain open for services to the Port. The currently operational railway would remain open for freight traffic even if passenger services ceased and any decision regarding the cessation of freight services would be one for the Freight Operating Companies and Bristol Port Company, so decommissioning the operational railway is not considered relevant or

foreseeable for assessing the DCO Scheme. Were any decommissioning of all or part of the operational railway to be proposed in the future, a separate project would be developed, which would be accompanied by a specific assessment of the implications for the Avon Gorge Woodlands Special Area of Conservation ("SAC").

- 5.6.9 It is not anticipated that the associated development comprising highway works or car parks at Portishead would be altered as a result of the cessation of rail passenger services between Portishead and Bristol. Similarly it is anticipated that the car parks at Pill would remain as car parks. If development proposals come forward in the future, the proposals would be assessed for their planning impacts and any environmental effects for the local planning authority to consider. Changes to the UK's use of fuel for transport mean that the nature of emissions from vehicles undertaking any removal of items could only be a matter of speculation.
- 5.6.10 For the reasons set out above, it is not possible to identify realistic options for decommissioning for assessment and no basis on which to consider that there would be reasonably foreseeable significant environmental impacts resulting from decommissioning.
- 5.6.11 The design life of different components of the DCO Scheme will vary from a few years to decades and components will be replaced as and when required during the operational phase. These works would be done under Network Rail's permitted development rights and following Network Rail's own requirements for environmental appraisal and management.
- 5.6.12 Further details on the assessment scenarios are presented in the topic assessment chapters.

Identifying Potential Effects

- 5.6.13 Schedule 4 of the EIA Regulations 2017 requires a description of the likely significant effects of the development on the environment resulting from:
- the construction and existence of the development, including, where relevant, demolition works;
 - the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
 - the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
 - the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
 - the cumulation of effects with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
 - the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; and
 - the technologies and the substances used.

- 5.6.14 The description of the likely significant effects should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development,
- 5.6.15 The technical specialists have identified the potential effects of the DCO Scheme for assessment based on their understanding of the construction and operation of the scheme in consultation with Network Rail and the characteristics of the surrounding environment.

Assessing Significance

- 5.6.16 Where suitable, the assessment of the significance of effects follows the approach in DMRB. This is a three-stage process, which requires setting a value or sensitivity on the environmental receptor, evaluating the magnitude of the change on the environment brought about by the DCO Scheme, and then assessing the significance of the effect based on a combination of the value of the resource and the magnitude of the impact.
- 5.6.17 Tables 5.1 to 5.3 provide generic descriptions of the value of the receptor, the magnitude of impact, and the significance of the effect. Where appropriate, these definitions have been refined to reflect the assessment topics in Chapters 7 to 17 (DCO Document References 6.10 to 6.20).

Table 5.1: Value of Environmental Receptors

Value (Sensitivity)	Typical Descriptors
Very high	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low (or lower)	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Source: DMRB, Volume 11, Section 2, Part 5, HA 205/08, Table 2.1

Table 5.2: Magnitude of the Impact

Magnitude	Typical Descriptors
Major	<ul style="list-style-type: none"> Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse). Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	<ul style="list-style-type: none"> Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse). Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Minor	<ul style="list-style-type: none"> Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse). Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	<ul style="list-style-type: none"> Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse). Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).
No Change	<ul style="list-style-type: none"> No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Source: DMRB, Volume 11, Section 2, Part 5, HA 205/08, Table 2.2

Table 5.3: Significance of Effects

Magnitude of Change	Value/Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Major	Very Large	Large/ Very Large	Moderate /Large	Moderate	Slight
Moderate	Large/ Very Large	Moderate/ Large	Moderate	Slight	Neutral
Minor	Moderate /Large	Moderate	Slight	Neutral	Neutral
Negligible	Slight	Slight	Neutral	Neutral	Neutral
No Change	Neutral	Neutral	Neutral	Neutral	Neutral

Source: DMRB, Volume 11, Section 2, Part 5, HA 205/08, Table 2.4

5.6.18 DMRB also provides definitions for the significance criteria which are provided in Table 5.4 below.

Table 5.4: Definition of the Significance Categories

Significance Category	Typical Descriptors of Effect
Very large	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Large	These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
Moderate	These beneficial or adverse effects may be important, but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Slight	These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Source: DMRB, Volume 11, Section 2, Part 5, HA 205/08, Table 2.3

5.6.19 A likely significant effect for the purposes of the EIA Regulations, is taken to mean an adverse or beneficial effect of moderate, large, or very large significance of effect.

5.6.20 Not all environmental topics follow this three-staged process and further details of the proposed assessment approach are presented in the topic assessment chapters.

Transboundary Effects

5.6.21 The DCO Scheme is located between Portishead and the outskirts of Bristol, in south west England. The environmental impact assessment demonstrates that there are no transboundary effects arising from the construction and operation of the DCO Scheme.

5.7 Development of Mitigation, Enhancements and Residual Effects

- 5.7.1 As the likely significant environmental impacts were identified, options for mitigation were developed. The ES has been undertaken on the basis that a number of measures are included as part of the project design in order to minimise certain environmental effects. These include:
- careful designing of the project to ensure key receptors are avoided where possible;
 - construction adopting best practice techniques, comprising overarching principals which are set out in the Code of Construction Practice ("CoCP") and interpreted in detail in the Master Construction Environmental Management Plan ("CEMP") which are presented in Appendices 4.1 and 4.2 (DCO Document Reference 8.15 and 8.14) respectively; and
 - compliance with regulatory and legislative regimes as required by law.
- 5.7.2 The embedded mitigation measures are described in Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7) and within each of the topic chapters. These measures have been approved by NSDC and Network Rail.
- 5.7.3 The proposals for mitigation follow the mitigation hierarchy of avoid, reduce, remedy, compensate and offset. Consideration has been given to the potential for enhancements where possible, although enhancements have not been considered as part of the assessment process to avoid obscuring the potential effects of the scheme.
- 5.7.4 The ES presents the residual effects, taking into account measures incorporated into the DCO Scheme and mitigation measures.

5.8 Assessment of In-combination and Cumulative Effects

- 5.8.1 The EIA Regulations require the assessment of cumulative effects. Two types of effects are recognised, in-combination and the cumulative effects, which are defined by the Institute of Environmental Management and Assessment (IEMA, 2011, page 63) as follows.
- In-combination effects: *"These effects occur between different environmental topics within the same proposal, as a result of that development's direct effects."*
 - Cumulative effects: *"This form of cumulative effect occurs as a result of the likely impacts of the proposed development interacting with the impacts of other developments in the vicinity."*
- 5.8.2 The in-combination effects have been identified by reviewing the assessments presented in the assessment topic Chapters 7 to 17 (DCO Document Reference 6.10 to 6.20) and identifying those receptors affected by two or more types of effects.

- 5.8.3 The approach to the assessment of cumulative effects with other projects follows the Planning Inspectorate’s Advice note seventeen *Cumulative effects assessment relevant to nationally significant infrastructure projects*. This sets out a four-stage approach, to identify a long list of possible developments within the wider area, from this develop a short list of projects to be considered, collate information for the short listed projects and then assess the cumulative impacts.
- 5.8.4 The Planning Inspectorate recognises that the amount of information available on development proposals decreases with the stage of the project as illustrated in Table 5.5.

Table 5.5: Summary of other development to be included in the assessment

Tier 1	<p>Under construction</p> <hr/> <p>Permitted application(s), whether under the Planning Act 2008 or other regimes, but not yet implemented.</p> <hr/> <p>Submitted applications(s), whether under the Planning Act 2008 or other regimes, but not yet determined.</p>	<p>Decreasing level of detail likely to be available</p> 
Tier 2	<p>Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has been submitted.</p>	
Tier 3	<p>Projects on the Planning Inspectorate’s Programme of Projects where a scoping report has not been submitted.</p> <hr/> <p>Identified in the relevant Development Plan (and emerging Development Plans - with appropriate weight being given as they move close to adoption) recognising that much information on any relevant proposals will be limited.</p> <hr/> <p>Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.</p>	

Source: The Planning Inspectorate Advice note 17

- 5.8.5 Following the Planning Inspectorate Guidance, a long list of other projects was prepared and screened for further assessment (see the ES Appendix 18.1, DCO Document Reference 6.25) based on the following criteria.
- Nationally significant infrastructure projects (“NSIP”) within a 10 km radius of the DCO Scheme
 - Committed and reasonably foreseeable developments within approximately 0.5 km of the DCO Scheme centreline identified from the local planning authorities’ planning portals

- Network Rail projects to be undertaken under permitted development rights include:
 - Great Western Mainline Electrification
 - Bristol East Junction
 - Other works for MetroWest Phase 1
 - Parson Street Junction including Liberty Lane Sidings
 - Bedminster Down Relief Line
 - Bathampton Turnback
 - Avonmouth / Severn Beach Signalling.
- 5.8.6 The short-list of other projects selected for the cumulative impacts assessment was discussed and agreed with NSDC and Bristol City Council and is presented in the ES Appendix 18.2 (DCO Document Reference 6.25).
- 5.8.7 The Greater Bristol Area Transport Model (“GBATS4”) traffic model is a strategic transport demand model which has been used to assess the impact of the scheme on road traffic including the potential modal shift from road transport to the railway. This model includes foreseeable development within the Greater Bristol area which has been agreed among the West of England Authorities to model future traffic flows. As such the GBATS4 traffic model includes different developments from those identified for the cumulative impacts assessment. Output from GBATS4 has been used in the baseline and the future scenarios for the air quality and noise impact assessments. Consequently, the air quality and noise assessments incorporate the cumulative effect of future development.
- 5.8.8 A discussion of the cumulative effects of the DCO Scheme is provided within each technical chapter, while Chapter 18 (DCO Document Reference 6.21) presents a comprehensive assessment of the in-combination and cumulative effects of the DCO Scheme.

5.9 Limits of Deviation

- 5.9.1 The description of the DCO Scheme is set out in Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7). Chapter 4 also explains the process for the procurement of the main contracts and institutional processes, including the management and control process used by Network Rail to deliver projects that enhance or renew the operational railway, GRIP, which is described in Section 4.9. For the DCO Scheme GRIP Stage 3 – Option Selection and GRIP Stage 4 – Single Option Development have been completed. GRIP Stage 5 – Detailed Design will be undertaken between autumn 2020 and autumn 2021 and should be completed before the Secretary of State makes a decision on the DCO Scheme currently programmed for Spring 2021. For the GRIP Stage 5 design, work is principally on technical aspects of the design rather than features that give rise to potential for land use implications that have not already been addressed in the DCO process. The nature of variations is restricted to those described below.
- 5.9.2 The DCO process provides a power of deviation, which allows for variations in the DCO Scheme within strictly controlled parameters specified in the

DCO Part 2 Principal powers. Variations may include changes to the position of features such as signals or telecommunications mast, railway junctions, minor changes in alignment of the railway, or changes to the dimensions of new structures. Where deviations are identified, the ES presents information on the environmental impact of the relevant feature within the volume or locations defined by the deviation. This ensures that the realistic worst case scenario has been assessed within the technical topic chapters. In the event that any such aspects of the DCO Scheme change in the future, provided that the worst case has been assessed, any revised impact would be of a magnitude that is lower or no greater than the environmental information taken into account by the Secretary of State in the determination of the DCO Application.

5.10 Consultation and Engagement

- 5.10.1 The Planning Act 2008 requires extensive consultation with the local authorities, persons with an interest in the land and affected communities.
- 5.10.2 To date considerable non-statutory consultations have been undertaken, including:
- Public exhibitions in 2014 on options for the location of Portishead station.
 - Public exhibitions in 2015 focusing on initial proposals for the railway between Portishead and Pill.
 - Micro-consultations held in Pill and Ashton Gate in March 2016.
 - Micro-consultation at Ashton Gate in November / December 2016.
- 5.10.3 Furthermore considerable engagement with specific organisations has taken place, including:
- Land owners directly affected by temporary and permanent land-take, including the Bristol Port Company.
 - Environmental and planning organisations, including NSDC (Local Planning Authority), Bristol City Council (Local Planning Authority), Environment Agency, Highways England, Inland Drainage Boards, and Natural England.
 - Utility companies.
- 5.10.4 A summary of issues arising out of engagement with various parties, including the Environmental Scoping Opinion process, and how these concerns are being addressed is provided in each of the assessment topic chapters.
- 5.10.5 Under the Planning Act 2008, the applicant has a general duty to consult (Section 42), and to consult the local authorities (Section 43), persons with an interest in the land (Section 44) and local communities (Section 47). The applicant must provide consultation documents to the persons and organisations being consulted, including a report providing preliminary environmental information on the scheme.
- 5.10.6 Statutory consultation with Section 47 consultees was undertaken in two stages: Stage 1 consultation took place between 22 June 2015 and 3

August 2015; and Stage 2 consultation ran between 23 October 2017 and 4 December 2017, both in accordance with the Planning Inspectorate's Advice Note Fourteen: *Compiling the Consultation report* and Guidance note *Planning Act 2008: guidance on the pre application process (DCLG March 2015)*. Both stages of Section 47 consultation were undertaken in accordance with Statements of Community Consultation ("SoCC") which NSDC prepared and consulted with the LPAs on prior to starting the consultation process. The Stage 1 SoCC of 18 June 2015, and the Stage 2 SoCC of 14 September 2017 set out how NSDC proposed to consult with local communities, which was incorporated into the Consultation Report submitted to the Inspectorate as part of the DCO application (DCO Document Reference 5.1).

- 5.10.7 Statutory consultation with Section 42 consultees was undertaken in one stage which ran in parallel to Stage 2 of the Section 47 consultation between 23 October 2017 and 4 December 2017 ("Stage 2 Consultation"). Following the Stage 2 Consultation, ongoing consideration and evolution of project proposals gave rise to the identification of further consultees to consult during "Additional Stage 2 Consultation" periods. At each of these periods, consultees were consulted as they had been for the Stage 2 Consultation, including giving consultees at least 28 days in which to respond to the consultation documents. There were 14 additional consultation periods, the final one ending on 19 August 2019.
- 5.10.8 In tandem there has also been extensive informal consultation as the DCO Scheme has evolved. Issues raised from this engagement have been captured in the Consultation Report (DCO Document Reference 5.1), which details how the issue has been considered for possible inclusion within the DCO Scheme.
- 5.10.9 The issues coming out of the consultation relating to the people, communities and the environment have been considered and the findings are presented in the relevant ES chapters setting out the key issues, how they were assessed, and the outcome of the assessment.

5.11 Habitats Regulations Assessment

- 5.11.1 Directive 92/43/EEC on the *Conservation of Natural Habitats and Wild Flora and Fauna* ("the Habitats Directive") provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of interest to the EU in a favourable condition. This is implemented through a network of protected areas referred to as Natura 2000 sites.
- 5.11.2 Articles 6(3) and 6(4) of the Habitats Directive requires "*appropriate assessment*" of plans and projects likely to have a significant effect on a European site. This means that the effects of such plans/projects on Natura 2000 sites need to be assessed to ensure that the integrity of these sites is maintained.
- 5.11.3 The Natura 2000 sites comprise SAC and Special Protection Areas ("SPA"). Each Natura 2000 site has a number of qualifying features, for which conservation objectives have been developed. It is Government policy to afford to Ramsar sites (which support internationally important wetland habitats and are listed under the Convention on Wetlands of International

Importance) the same level of protection as that afforded to Natura 2000 sites. Accordingly, Ramsar sites are included within a Habitats Regulations Assessment (“HRA”).

- 5.11.4 The purpose of the HRA is to ensure the maintenance of the overall coherence of a European site or the integrity of the European site network when applications for development consent are proposed. The scope of the HRA is dependent on the location, size and significance of the proposed plan or project. The outcome of a stage in the HRA process will determine whether it is necessary to proceed to the next stage of the HRA process.
- 5.11.5 The main stages of the HRA process are as follows.
- Stage 1 - Screening. This stage identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans and considers whether these impacts are likely to be significant. A conclusion that there are no “likely significant effects” completes the HRA and the decision-maker is not required to undertake any further stage.
 - Stage 2 - Appropriate Assessment. Where there are likely significant effects, this stage considers the impacts of the plan or project on the integrity of the relevant European sites, either alone or in combination with other projects or plans, with respect to the structure and function of the site and the conservation objectives. Where there are adverse impacts, it also includes an assessment of potential mitigation for those impacts.
 - Stage 3 - Assessment of alternative solutions. Where adverse impacts are predicted, this stage examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of European sites.
 - Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain. This stage assesses compensatory measures where it is deemed that the project or plan should proceed for imperative reasons of overriding public interest.
- 5.11.6 The DCO Scheme crosses the Avon Gorge Woodlands SAC, passes within 80 m of the Severn Estuary SPA, SAC, and Ramsar site, and there are six SACs within 30 km of the DCO Scheme with bats as a qualifying feature.
- 5.11.7 A HRA report has been prepared in respect of the DCO Scheme. As it was not possible to exclude the possibility of a likely significant effect in Stage 1, the HRA Report presents information to assist the Secretary of State in considering the impacts of the DCO Scheme on the integrity of relevant European sites. The HRA Report goes on to present the information necessary for the Secretary of State to undertake an evaluation of the DCO Scheme at Stages 3 and 4. The HRA Report has been prepared in accordance with the Planning Inspectorate’s Advice note ten: *Habitats Regulations Assessment relevant to nationally significant infrastructure projects* and is provided in Appendix 9.12 to this ES (DCO Document Reference 5.5).

5.12 Drafting the Environmental Statement

- 5.12.1 The ES presents information on the likely significant environmental effects of the DCO Scheme, based on the feasibility designs prepared by NSDC and Network Rail on the highway and railway works respectively. The ES has been submitted to the Planning Inspectorate as part of the DCO Application and is publicly available via the Inspectorate's website.

5.13 References

Department for Transport. Design Manual for Roads and Bridges, Volume 10. Environmental Design and Management.

Department for Transport. Design Manual for Roads and Bridges, Volume 11. Environmental Assessment.

IEMA, 2011. The State of Environmental Impact Assessment Practice in the UK. Special Report. 98pp.

Planning Inspectorate Advice note nine *Rochdale Envelope*.

Planning Inspectorate, Advice note ten: *Habitats Regulations Assessment relevant to nationally significant infrastructure projects*.

Planning Inspectorate, Advice note fourteen: *Consultation report*.

Planning Inspectorate, Advice note sixteen: *The developer's pre-application consultation, publicity and notification duties*.

Planning Inspectorate, Advice note seventeen: *Cumulative effects assessment relevant to nationally significant infrastructure projects*.

5.14 Abbreviations

BRERC	Bristol Regional Environmental Records Centre
BS	British Standard
CEMP	Construction Environmental Management Plan
CIRIA	Construction Industry Research Information Association
CoCP	Code of Construction Practice
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
EIA	Environmental impact assessment
EqIA	Equality impact assessment
ES	Environmental Statement
FRA	Flood risk assessment
GBATS4	Greater Bristol Area Transport Model version 4
GRIP	Governance for Rail Investment Projects
HER	Historic Environment Records
HIA	Health Impact Assessment

HRA	Habitats Regulations Assessment
IAN	Interim Advice Notes (prepared by Highways England – formally the Highways Agency)
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management and Assessment
LI	Landscape Institute
NPPF	National Policy Planning Framework
NPSNN	National Policy Statement for National Networks
NSDC	North Somerset District Council
NSIP	Nationally significant infrastructure project
PSP	Principal supply points (for signalling equipment)
SAC	Special Area of Conservation
SoCC	Statement of Community Consultation
SPA	Special Protection Area
WFD	Water Framework Directive

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