

A46 Newark Bypass

Scheme Number: TR010065

**7.39 Final National Policy Statement
for National Networks (2024)
Accordance Tables**

APFP Regulation 5(2)(q)

Planning Act 2008

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The A46 Newark Bypass
Development Consent Order 202[x]

**7.39 Final National Policy Statement for National Networks
(2024) Accordance Tables**

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Introduction

- 1.1.1 This Accordance Table (this “Accordance Table”) relates to an application made by National Highways (the “Applicant”) to the Secretary of State for Transport via the Planning Inspectorate (the “Inspectorate”) under the Planning Act 2008 (the “2008 Act”) for a Development Consent Order (DCO). If made, the DCO would grant consent for the A46 Newark Bypass (the “Scheme”). A detailed description of the Scheme can be found in Chapter 2 (The Scheme) of the Environmental Statement (ES) [REP7-016].
- 1.1.2 The Scheme’s application for development consent was accepted for examination by the Examining Authority on 23 May 2024. The 2024 National Policy Statement for National Networks (NPS NN) was designated on 24 May 2024. As set out in the transitional provisions of the 2024 NPS NN (paragraphs 1.16 and 1.17), the 2015 National Policy Statement for National Networks has effect for any application for development consent accepted for examination prior to 24th May 2024 and will inform decisions made by the Secretary of State in relation to those applications.
- 1.1.3 Section 104(3) of the Planning Act 2008 requires that applications for development consent be decided in accordance with the relevant NPS. The assessment of the Scheme in relation to the 2015 NPS NN is set out in the National Policy Statement for National Networks Accordance Tables [REP6-016]. The Applicant also submitted an assessment against the then draft NPS NN in the Draft National Policy Statement for National Networks Accordance Tables [REP2-023]. In their Written Questions (Q1.0.2) the Examining Authority (ExA) requested an update of the Draft National Policy Statement for National Networks Accordance Tables [APP-192] to reflect the NPSNN 2024. This updated document has been prepared in response to that question and was submitted at Deadline 2 of the Examination [REP2-023], with further updates made for Deadline 5 of the Examination [REP5-032]. This document reflects the final updates to the 2024 NPSNN accordance tables to ensure alignment with discussions and agreements throughout the DCO Examination and has been submitted at Deadline 8 of the Examination. A final updated version of the 2015 NPSNN accordance tables has also been submitted at Deadline 8 of the Examination.
- 1.1.4 This NPSNN Accordance Table forms part of a suite of application documentation and is included in the application in compliance with Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the “APFP Regulations”) which require “any other documents considered necessary to support the application”. This Accordance Table provides an assessment of the Scheme’s strategic alignment and conformity

with the March 2024 NPSNN. The Accordance Table is set out as follows:

- Table 2.1: Scheme's Conformity with the NPSNN Chapter 4 – General policies and considerations; and
- Table 2.2: Scheme's Conformity with the NPSNN Chapter 5 – Generic Impacts.

1.1.5 Each relevant paragraph in the NPSNN is set out with commentary as to the extent of compliance by the Scheme with its terms.

1.1.6 This Accordance Table references other relevant documentation as part of the Application and provides a summary where appropriate. The following documents have been used to inform the completion of this draft Accordance Table:

- Draft Development Consent Order [REP7-006].
- Consents and Agreements Position Statement [REP7-010].
- Consultation Report [APP-028] and Appendices [APP-029 to APP-044].
- Environmental Statement (ES) (contained within Volume 6.1 of the DCO Application) (including Figures (contained within Volume 6.2 of the DCO Application) and Appendices (contained within Volume 6.3 of the DCO Application)).
- Environmental Statement Non-Technical summary [REP7-068].
- First Iteration Environmental Management Plan [REP6-012].
- Habitats Regulations Assessment [REP5-075].
- Statement Relating to Statutory Nuisances [REP7-070].
- Case for the Scheme [REP7-074].
- Transport Assessment Report [REP7-076].
- Scheme Design Report [REP7-078].

National Policy Statement for National Networks (March 2024) Accordance Tables

Table 2.1: Compliance with NPSNN (March 2024) Chapter 4

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
4.2	There is a presumption in favour of granting development consent for national networks Nationally Significant Infrastructure Projects (NSIPs) that fall within the need for infrastructure established in this National Policy Statement (NPS) and which comply with the policies in this NPS.	Chapter 3 and Chapter 4 of the Case for the Scheme [REP7-074] outlines the need for the Scheme. The A46 at Newark is a notable 'missing link' in the provision of a 143-kilometre high-quality dual carriageway route from Warwick to Lincoln, running along the A46, M69 and M1 around Leicester. The 6-kilometre single carriageway section at Newark acts as a bottleneck and causes congestion and delays, not only on the A46, but also on the A1 at its junction with the A46.
4.4	Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate requirements in the Development Consent Order. If development consent is granted for a proposal and at a later stage the applicant wishes, for technical or commercial reasons, to construct it in such a way that it is outside the terms of what has been consented (for example, because its extent will be greater than has been provided for in terms of the consent), it will be necessary to apply for a change to be made to the Development Consent Order. The application to change the consent should be in line with the government's guidance on the procedures for making a change to a Development Consent Order for NSIPs and may need to be accompanied by environmental information to supplement	The requirements of the draft Development Consent Order [REP7-006] make provision, where appropriate, for consideration of elements of the detailed design of the Scheme in accordance with the Works Plans [REP3-002] and Engineering Plans and Sections [AS-008].

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
	that which was included in the original environmental assessment.	
4.5	Early engagement both before and at the formal pre-application stage between the applicant and key stakeholders, and those likely to have an interest in the proposed application, is strongly encouraged in line with the government's pre-application guidance.	<p>The Consultation Report [APP-028] sets out how the Applicant has complied with the consultation requirements set out in the Planning Act 2008 and guidance on the pre-application process. The Applicant has consulted, as part of the statutory consultation held between 26 October and 12 December 2022, stakeholders with affected land interests, statutory consultees (such as Natural England), Local Planning Authorities, for example Newark and Sherwood District Council and specialist bodies. The engagement is detailed within the Consultation Report and the tables evidencing regard had to consultation responses is set out at Annex N of the Consultation Report Annexes [APP-044]</p> <p>Chapter 3 of the Consultation Report [APP-028] sets out the engagement with a range of stakeholders that has taken place on the Scheme outside of the advertised period of statutory consultation including early engagement.</p>
4.6	Applications for road and rail projects (with the exception of those for strategic rail freight interchanges, for which the position is covered in paragraph 4.10 below) will normally be supported by a business case prepared in accordance with Treasury Green Book principles and the Department's Transport Business Case guidance and Transport Analysis Guidance. Transport Appraisal Process assesses the costs, benefits, and risks of alternative ways to meet government objectives. It helps decision makers to understand the potential effects, trade-offs, and overall impact of options by providing an objective evidence base for decision making. The purpose of the economic dimension of the business case is to identify the proposal that delivers best public value to society, including wider social and environmental	<p>The business case has been prepared in accordance with the Department for Transport's guidance on the assessment of major transport investments and Transport Analysis Guidance (TAG) and is aligned with His Majesty's Treasury Green Book principles.</p> <p>Chapter 5 of the Case for the Scheme [REP7-074] presents the anticipated economic case. These impacts are monetised in order to estimate the Scheme's economic worth. Key figures are set out below:</p> <ul style="list-style-type: none"> The results of the economic appraisal indicate that the Scheme is forecast to generate transport user benefits of £248.5 million.

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
	<p>benefits. The business case provides, the basis for investment decisions, and the economic, environmental and social impacts of a development that underpin it will also be important for the consideration by the Examining Authority or the Secretary of State of the impacts and benefits of a proposal. However, the purpose of the business case is not to ascribe a monetary value to every factor in the planning balance. It should also be noted that the economic case is one of five cases that comprise the business case, and government decisions on funding are based on all five.</p>	<ul style="list-style-type: none"> • The greatest benefit relates to business users and providers, giving a benefit of £175.6 million. This is predominantly resulting from business users representing the highest proportion of trips benefiting from the improvements. • The Scheme will also lead to an increase in tax revenues, giving a benefit of £7.1 million. This is primarily due to an increase in fuel consumption as more vehicles move at a faster speed. • The Scheme will provide safety benefits equivalent to £29.3m over the 60-year appraisal period; translated into 8.6 fewer fatalities, 81.6 fewer serious accidents and 594.3 fewer slight injuries The Scheme results in journey time reliability benefits of £29.4 million over the 60-year appraisal period. • The Scheme is forecast to achieve wider economic benefits of £67.5 million. • The noise impacts are positive, with the Scheme providing benefits of £5.106 million. However, GHG and air quality impacts are negative, with the Scheme providing disbenefits of -£56.416 million and -£1.747 million respectively. • It should be noted this relates solely in relation to the economic assessment, in Environmental Impact Assessment (EIA) terms neither are anticipated to result in significant effects this is further set out in Chapter 5

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
		(Air Quality) and Chapter 14 (Climate and Carbon) of the Environmental Statement [REP7-020 and REP7-038].
4.7	The information provided on the economic, environmental and social impacts of a development that underpins the business case will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the benefits and impacts of a proposed development. It is expected that schemes brought forward through the Development Consent Order process by virtue of section 35 of the Planning Act 2008, should also meet this requirement.	<p>A business case has been prepared for the Scheme in line with the Treasury Green Book Principles and Department for Transport Business Case guidance and WebTAG guidance. The economic case for the Scheme considers the appraisal of economic, environmental and social impacts of the Scheme.</p> <p>Chapters 4 and 5 of the Case for the Scheme [REP7-074] set out the Transport and Economic Case for the Scheme. The economic appraisal of the Scheme has been prepared in accordance with the Green Book – Appraisal and Evaluation in Central Government (the Green Book). The economic appraisal undertaken by the Applicant is used to demonstrate whether the Scheme is likely to represent value for money. As set out in Chapter 5 of the Case for the Scheme [REP7-074], the appraisal estimates the monetised benefits and disbenefits of the Scheme and compares them to the cost of the Scheme. This is presented in terms of a Benefit to Cost Ratio (BCR). Benefits and disbenefits that cannot be monetized are also assessed and taken into account when determining the Scheme's overall value for money.</p> <p>These assessments provide all the information that is required when developing Nationally Significant Infrastructure Projects such as this Scheme and is considered proportionate to the Scheme.</p>
4.8	The Department's Transport Analysis Guidance is updated regularly. This is to allow the evidence used to inform decision-making to be up to date. Where updates are made during the course of preparing analytical work, the updated guidance is only expected to be used where it would be material to the investment decision and in proportion to the scale of the investment and its impacts.	The base model development process has been undertaken in line with the Department for Transport's guidance on the assessment of major transport investments and Transport Analysis Guidance (TAG).

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
4.9	<p>Applications for road and rail projects should be supported by a local transport model to provide sufficiently accurate detail of the impacts of a project. The modelling will usually include national level factors around the key drivers of transport demand such as economic growth, demographic change, travel costs and labour market participation, as well as local factors. The Examining Authority and the Secretary of State do not need to be concerned with the national methodology and national assumptions around key drivers of transport demand. An assessment of the benefits and costs of schemes under a range of scenarios should reflect future uncertainty, in addition to the core case. The modelling should be proportionate to the scale of the scheme and include appropriate sensitivity analysis to consider the impact of uncertainty on project impacts.</p>	<p>Chapter 6 of the Transport Assessment Report [REP7-076] provides a summary of the transport models and their development.</p> <p>The modelling used throughout the Scheme is based on the Midlands Regional Transport Model 2 (MRTM2). The MRTM2 is one of five Regional Transport Models (RTM's) developed by the Applicant.</p> <p>The model is referred to as the A46 Traffic Model (A46TM) and was originally developed at the early stages of the development of the Scheme to assess the options being considered to address the issues experienced on the A46 Model composition and software is based on the MRTM2 and keeps the same structure of a highway supply model built using Simulation and Assignment of Traffic to Urban Road Networks (SATURN) software and a variable demand model system which uses a combination of the DfT's Dynamic Integrated Assignment and Demand Modelling (DIADEM) Variable Demand Modelling software and a bespoke graphical user interface (GUI) known as the National Highways Integrated Demand Interface (HEIDI). ttThe traffic model has been developed to analyse the impact of the Scheme on traffic flows and journey times on the road network. The model has a focus on the area immediately affected by the Scheme, but it also covers the whole of Great Britain. It includes a representation of the road network and looks at where the demand for trips starts and ends, split into five user classes. ttUnderstanding patterns of travel for different user classes allows for the way the Scheme provides benefits to businesses and individuals to be assessed. The model is used to inform traffic forecasts in the operational phase of the Scheme for three modelled years: 2028, 2043 and 2061.ttThe forecast traffic</p>

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		<p>model years have been defined based on information provided for the Scheme's construction and data availability for predicting future demand: t2028 (the year the Scheme is open to traffic).</p> <ul style="list-style-type: none"> • 2043 (an intermediate year, representing fifteen years after Scheme opening). • 2061 (a horizon year – the last year for which National Trip End Model data is available which forecasts the growth in traffic). <p>The following forecasts have been produced for each forecast year:</p> <ul style="list-style-type: none"> • Do Minimum forecasts – these use forecast future year trip matrices and future transport networks that exclude the Scheme option along the A46 corridor. • Do Something forecasts – these replicate the Do Minimum forecasts, but also include the Scheme. • High and low growth scenarios have been modelled as sensitivity tests to consider the impact of uncertainty on the Scheme.
4.12	A key part of the environmental assessment is the consideration of cumulative effects. The applicant should provide information on how the effects of the proposal would combine and interact with the effects of other development, where relevant. For most practical purposes this means that the applicant should consider the impact of other existing and committed developments within an appropriate geographical area and assess the additional impact of their own development. Other evidence, for example, from a	Chapter 15 (Combined and Cumulative Effects) of the Environmental Statement [REP7-040] considers the cumulative effects of the Scheme. A Cumulative Effects Technical Note [REP2-021] further details the work that has been undertaken to identify and assess any new or approved developments that have come forward following the original assessment documented in the ES. Two types of cumulative effects have been considered:

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	<p>Transport Business Case, appraisals of sustainability of relevant NPSs or strategic environmental assessment or plan level Habitats Regulation Assessment of development plans, may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required. There is no single or agreed approach to assessing the cumulative impacts of environmental effects due to some effects being limited to a specific geographical boundary but others, such as the impact and effect of carbon emissions on climate change, not being geographically limited. For this reason, it may be necessary for different approaches to be taken to assess the cumulative impact of different environmental effects. The Secretary of State should consider how the accumulation of, and interrelationship between, effects identified in the environmental assessment might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place.</p>	<ul style="list-style-type: none"> • Cumulative effects – effects that occur either as a result of changes caused by other developments reasonably acting cumulatively with the effects of the Scheme; and • Combined effects – effects from the combined effect of several different impacts acting together on a single receptor, such that the combined effect would be more significant than the individual effects. <p>The approach to the cumulative effects assessment within the Environmental Statement aligns with the standards outlined in the DMRB LA 104 Environmental assessment and monitoring, and the Inspectorate Advice Note Seventeen: Cumulative Effects Assessment.</p> <p>The Habitat Regulations Assessment (HRA) [REP5-075] is included within the DCO application in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended), so that the competent authority can make an ‘Appropriate Assessment’ of the implications of the Scheme. The assessment includes an appraisal of the effects of any other plans or projects which, in-combination with the proposed development, have potential to have a significant effect on the European Sites detailed in Table 4-2 within the Habitats Regulations Assessment (HRA) [REP5-075]. Adverse Effects on Integrity of the European Sites associated with the Scheme, either alone or in-combination with any other projects or plans, can be ruled out. Therefore, there is no requirement to proceed to Stage 3 (Derogation).</p>
4.13	<p>In some instances, it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is</p>	<p>The Scheme design which forms the application for development consent allows a reasonable degree of flexibility to make minor deviations to the design in accordance with the draft Development</p>

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	<p>the case, the applicant should explain in their application which elements of the proposal have yet to be finalised, and the reasons why this is the case. Where some details are still to be finalised, applicants should set out, to the best of their knowledge, what the worst case scenario of the proposed development may be (for example in terms of site area) and assess the potential adverse effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.</p>	<p>Consent Order [REP7-006].</p> <p>The location and Order Limits of the Scheme are defined in the ES (contained within Volume 6.1 of the DCO Application). Detail of the Scheme design is shown on the Engineering Plans and Sections [AS-008 to AS-012] and is described in Chapter 2 (The Scheme) of the ES [REP7-016]. The draft Development Consent Order [REP7-006] provides at Article 10: Limits of Deviation both laterally and vertically. These limits have been included in the Scheme in order to allow a necessary, but proportionate, degree of flexibility to facilitate the further detailed design and construction phases of the Scheme. The limits of deviation have been considered when undertaking the environmental assessments in relation to the Scheme. This will minimise the need for the Applicant to seek a change to the made Development Consent Order. The Applicant recognises that, if such a change was required, there may be a need for this to be accompanied by further environmental information and assessments.</p> <p>Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048] sets out the assessment methodology and approach taken to prepare the environmental impact assessment. This includes detail of how the Scheme has been assessed where information was not available to inform the assessment. In addition, each of the environmental chapters gives a description of the assumptions made and the limitations of the assessment. The assessment has been based on the construction methodologies described in Section 2.6 of Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. Where uncertainties in construction practices have been highlighted in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016], the worst-case scenario has been assessed within Chapters 5 to 15 of the</p>

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		Environmental Statement.
4.14	Under the Habitats Regulations, the relevant competent authority, in this case the Secretary of State, must consider whether it is possible that a plan or project could likely have a significant effect (either alone or in combination with other plans or projects) on a protected site which forms part of the UK National Site Network (Special Areas of Conservation and Special Protection Areas) or on any site to which the same protection is applied as a matter of policy (i.e. listed or proposed Ramsar sites, potential Special Protection Areas, possible Special Areas of Conservation, and sites used to compensate for adverse effects on habitat sites). The term 'habitat sites' is used to refer collectively to such sites throughout this NPS. Such an assessment should be made with due regard to the conservation objectives of any relevant habitat site(s).	<p>The Habitats Regulations Assessment (HRA) [REP5-075] is included within the application. This considers whether the Scheme has the potential to result in significant effects on European sites which, in accordance with Regulation 3 of the Habitats Regulations, includes sites designated as part of Natura 2000, or European marine sites and European offshore marine sites for the purposes of any of the retained transposing regulations. For ease of expressions and in line with the Inspectorate's Advice Note 10¹, the terms 'European Site(s)' has also been used throughout the HRA when referring to Ramsar sites, Special Protection Areas (SPAs) and Special Areas of Conservation SAC).</p> <p>The Screening (Stage 1) assessment identified the potential for likely significant effects associated with the temporary semi-permeable barrier of lamprey migration routes (when a crane slews and the artificial lighting on the boom casts across the water before coming to rest on the beam lift) and the entrapment/isolation of lamprey individuals within the Farndon East floodplain compensation area (FCA) and Farndon West FCA, during flood events occurring within the lamprey migration and breeding period.</p> <p>An Appropriate Assessment (Stage 2) was undertaken with regards to the pathways with the potential to give rise to likely significant effects. Appropriate mitigation including more detailed control of</p>

1 Infrastructure Planning Commission (2022) Advice Note 10: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects [online] available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/> (last accessed June 2023).

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		<p>artificial lighting during night-time bridge works and the inclusion of fish escape passages within Farndon East FCA and Farndon West FCA are considered to prevent, or sufficiently reduce, the impact upon lamprey to achieve a negligible residual impact. No adverse impacts upon the integrity of the Humber Estuary SAC/Ramsar are therefore anticipated as a result of the Scheme.</p> <p>Embedded measures and essential mitigation measures detailed within the Stage 1 Screening and Stage 2 Appropriate Assessment respectively in the HRA [REP5-075] are considered to achieve an overall negligible residual effect upon lamprey. Likely significant effects associated within the Scheme, either alone or in-combination with any other projects or plans, can be ruled out. Therefore, there is no requirement to proceed to Stage 3 (Derogation).</p>
4.15	Where appropriate, assessments under the Habitats Regulations should be coordinated with other assessments.	Whilst the HRA [REP5-075], EIA and Water Framework Directive (WFD) assessment are separate assessments, all are integral to the application. The HRA [REP5-075] assessment has been coordinated with these other assessments and in some instances, there is a direct relationship between them. For example, the assessment of the impacts on fish is covered within the HRA [REP5-075] (specifically lamprey species a qualifying feature of the Humber Estuary SAC), Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] and the WFD assessment [REP7-062].
4.16	The applicant should seek early advice of the appropriate Statutory Nature Conservation Body and provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether or not the plan or project should proceed to the Appropriate Assessment stage of Habitats Regulation Assessment.	<p>See response to NPSNN paragraph 4.14 above.</p> <p>An Environmental Technical Working Group (TWG) was established early on in the development of the Scheme to support continued and collaborative engagement with the Environment Agency, Natural England, Nottinghamshire County Council and Newark & Sherwood District Council.</p>

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		<p>Details of the topics and dates on which Natural England and the Environment Agency have been engaged are detailed in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026], in the HRA [REP5-075], and in the Statement of Common Ground with Natural England [REP7-094] and in the Statement of Common Ground with the Environment Agency [REP7-091].</p>
4.17	<p>Where a proposed plan or project is considered likely to have a significant effect on a habitats site, the applicant must provide sufficient information with the application to enable the competent authority to make an appropriate assessment of these likely effects in view of the site's conservation objectives. The assessment may consider the effect of any mitigation measures and the Statutory Nature Conservation Body must be formally consulted on the assessment and its advice considered. The applicant should also consider agreeing an Evidence Plan with the Statutory Nature Conservation Body to help determine the information required.</p>	<p>The HRA [REP5-075] is included within the DCO application, in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended), so that the competent authority can make an 'Appropriate Assessment' of the implications of the Scheme.</p> <p>Please also see response to NPSNN paragraph 4.14 above.</p>
4.18	<p>Such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, in the case of a negative assessment, there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest. The applicant must demonstrate that they have sought advice from the Statutory Nature Conservation Body on whether any proposed compensation is appropriate to maintain the overall coherence of the National Sites Network. They must also show that the compensation is secured or provide an indication as to how it can be secured to maintain the overall coherence of the National Sites Network. Provision of such information will not be taken as an acceptance of adverse</p>	<p>See response to paragraph 4.16 above.</p> <p>Embedded mitigation measures are detailed within Chapter 2 (The Scheme) of the Environmental Statement [REP7-016], essential mitigation and compensation measures are detailed in Chapters 8 (Biodiversity) of the Environmental Statement [REP7-026]. These essential mitigation and compensation measures are included in the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012], to be developed into a Second Iteration Environmental Management Plan prior to construction commencing. The mitigation measures within the Second Iteration Environmental Management Plan are secured and committed under Requirement</p>

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
	effects on integrity and if an applicant disputes the likelihood of adverse effects, it can provide this information without prejudice to the Secretary of State's final decision on the effects of the potential development on the habitats site. If, in these circumstances, the applicant does not supply information required for the assessment of a potential derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination.	3 of the draft Development Consent Order [REP7-006]. Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan [REP7-042] is secured by Requirement 12 of the draft Development Consent Order [REP7-006].
4.19	During the pre-application stage, and without prejudice to the formal Habitats Regulations Assessment of the submitted plan or project, if the Statutory Nature Conservation Body gives an early indication that, irrespective of any anticipated mitigation measures, the proposed development is highly likely to lead to adverse effects on the integrity of one or more habitats sites, the applicant must include with their application such information required to assess a potential derogation under the Habitats Regulations	See response to paragraph 4.14. There is no requirement to proceed to Stage 3 (Derogation).
4.20	Applicants should comply with all legal requirements, and any policy requirements set out in this NPS, on the assessment of alternatives. For example, current requirements include: Where applicable, the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects;	Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] examines the complete suite of design variations of the Scheme design, including <i>"a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the Applicant, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects"</i> , in line with the Infrastructure Planning (Environmental Impact Regulations) 2017 (EIA Regulations). The Scheme development process has been informed by the requirements of legislation and policy (as detailed in Section 3.1) of

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	<p>There may also be other specific legal requirements for the consideration of alternatives, for example, under the Habitats Regulations and Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 .</p> <p>There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads, and Areas of Outstanding Natural Beauty (now known as National Landscapes) – where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered, in compliance with these requirements and in a proportionate manner.</p>	<p>Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018], consultation with stakeholders and the general public, and iterative environmental assessment.</p> <p>The Flood Risk Assessment (FRA) contained in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] has been undertaken because the majority of the Scheme is within Flood Zones 2 and 3. As the Scheme alignment passes through Flood Zone 3, the Scheme does not automatically pass the Sequential Test. Owing to the existing route of the A46, there is no alternative to the location of parts of the Scheme within Flood Zone 3. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during Options Selection of the Scheme. The Scheme is classed as Essential Infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be, and has been, assessed against the Exception Test. Further details are set out in the Flood Risk Assessment contained in Appendix 13.2 of the Environmental Statement Appendices [REP7-064]. The FRA has been updated and re-submitted at Deadline 6 of the Examination to reflect further work that has been undertaken by the Applicant to satisfy and confirm the Exception Test is met. The Statement of Common Ground between the Applicant and the Environment Agency has been updated and re-submitted at Deadline 6 to reflect agreement from the Environment Agency that the Scheme meets the second part of the Exception Test.</p> <p>The Scheme is not located within National Landscape, a National Park, or the Broads.</p>
4.21	National road or rail schemes that have been identified in relevant Road or Rail Investment Strategies will have been	The Department for Transport's (DfT) Road Investment Strategy 2 2020-2025 (RIS2) recognises <i>"the role of the A46 in connecting the</i>

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	<p>subject to an options appraisal process where relevant in line with existing Transport Analysis Guidance, and proportionate consideration of alternatives will have been undertaken as part of the investment decision making process. The options appraisal may include other viable options for achieving the objectives of the project, including (where appropriate) other modes of travel, regulation, or other ways of influencing behavior in line with Department for Transport guidance. The Examining Authority and the Secretary of State should satisfy themselves that the options appraisal process has been undertaken.</p>	<p><i>Midlands, running from Lincoln to Gloucestershire via Leicester and Coventry</i>” and states that “<i>much of this road is already high-quality dual carriageway, and by filling in key sections it would be possible to create a coast-to coast highway without the need for major new roadbuilding across open countryside. The single greatest gap in this route is the A46 at Newark</i>”. The Scheme has been through an options appraisal process in line with Transport Analysis Guidance and proportionate consideration of alternatives has been undertaken as part of the investment decision making process.</p> <p>Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] sets out the main alternatives considered by the Applicant and how the preferred option was determined through consideration of environmental effects at different stages in the design development process.</p> <p>An Alternative Transport Modes Assessment was carried out in 2021 by the Applicant, which confirmed that the existing public transport network does not generally offer comparable alternatives to car for most movements. Small traffic flows were distributed over a large area and therefore are not suited to be catered for by public transport. Local demand in aggregate accounts for a sizeable proportion of traffic using the A46 at Newark. Therefore, a review of the largest public transport flows (represented by local bus services) suggested that there was no obvious non-highways interventions that could cater to any substantial proportion of these flows.</p>
4.22	<p>Where an options appraisal process has been undertaken, it should not be necessary to consider alternatives except where para 4.20 applies or where the ‘exceptional circumstances’ test set out in case law is met. In those exceptional circumstances where alternatives might be</p>	<p>An options appraisal assessment has been undertaken. Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] examines the complete suite of design variations of the design and sets out the full options appraisal process.</p>

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	relevant, consideration of them should be proportionate. Where alternative schemes proposed are vague or inchoate, or have no real possibility of coming about, they are either irrelevant, or where relevant, will be given little or no weight, and the extent to which they are considered should be determined accordingly.	
4.23	Biodiversity net gain delivers measurable improvements for biodiversity by creating, enhancing, maintaining and monitoring habitats in association with developments. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations. In addition to providing net gains for biodiversity, applicants should also identify and deliver appropriate opportunities for nature recovery and wider environmental enhancements.	<p>The Scheme will achieve a numerical increase in habitat units within the Order Limits. However, it has not been possible to avoid impact to lowland meadow. Impacts to lowland meadow have been agreed separately with Natural England. Natural England considers the compensation proposed to be appropriate in principle, subject to appropriate ongoing management, but they do not consider a bespoke compensation agreement to be mandatory (as detailed in the Statement of Common Ground between the Applicant and Natural England [REP7-094]). Natural England acknowledged BNG is not mandatory for Nationally Significant Infrastructure Projects (NSIPs) until November 2025, therefore Natural England's comments at this stage should be considered as advisory only.. Impacts for lowland mixed deciduous woodland will be compensated in line with the biodiversity metric including through off-site measures. Whilst the Scheme will achieve a net gain in river units, compensation for impacts to river habitat will not fully meet trading rules within the biodiversity metric. A summary of how the Scheme follows the mitigation hierarchy is provided in Table 4-1 of Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056].</p> <p>Habitats created will be maintained and monitored through commitments to a Biodiversity Management and Monitoring Plan as set out in the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012].</p>

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		<p>The Scheme contributes to nature recovery by enhancing the network of wetland habitats in the Trent Valley as well as contributing to habitat connectivity more locally, this is described in Table 4-1 of Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056]. Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056].</p>
4.24	<p>Applicants are encouraged to use the latest version of the biodiversity metric to calculate their biodiversity baseline and inform their biodiversity net gain outcomes, and should present this data as part of their application.</p>	<p>To calculate the percentage change in 'habitat units' from the Scheme, the pre-development (baseline) and post-development (proposed) value of the habitats within the Scheme were entered into the Natural England Biodiversity Metric 3.1 calculation tool. Although Biodiversity Metric 4.0 was published on 19 April 2023, the Natural England webpage for Biodiversity Metric 4.0 states that users of Biodiversity Metric 3.1 should continue to use the 3.1 metric for the duration of the Scheme. This approach was agreed with Natural England recorded in the Statement of Common Ground with Natural England [REP7-094]), the Environment Agency (recorded in the Statement of Common Ground with the Environment Agency [REP7-091]) and the Nottinghamshire County Council (NCC) County Ecologist and is set out in the BNG Technical Report in Appendix 8.14 of the Environmental Statement Appendices [REP7-056].</p> <p>The Statutory Biodiversity Metric was published on 12 February 2024 mandating BNG for major developments, except for nationally significant infrastructure projects which is expected to come into force from November 2025. The same justification applies for the application of Biodiversity Metric 3.1, instead of a newer revision.</p>
4.25	<p>Biodiversity net gain can be delivered onsite or wholly or partially off-site and should also be set out within the</p>	<p>In addition to onsite habitat creation, compensation is currently anticipated to be provided offsite at Doddington Hall located</p>

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	<p>application for development consent. When delivering biodiversity net gain off-site, developments should do this in a manner that best contributes to the achievement of relevant wider strategic outcomes, for example by increasing habitat connectivity or enhancing other ecosystem service outcomes. Reference should be made to any local nature recovery strategies (which should be the primary reference point for those delivering biodiversity net gain off-site) and other relevant national and local plans and strategies, such as green infrastructure strategies, used to inform biodiversity net gain delivery.</p>	<p>approximately 13 kilometres north-east of the Scheme (or another suitable solution), as detailed in the Biodiversity Net Gain Technical Report in Appendix 8.14 of the Environmental Statement Appendices [REP7-056]. This would involve enhancement of an existing area of woodland. The specific type and amount of habitat required off site is hard to come by in a single land holding (i.e., without needing to enter numerous agreements with different landowners to achieve the requirements). The habitat enhancement described above would be secured through a legal agreement with the landowner. This would include the initial works to allow the habitat enhancement to commence as well as management over a 30 year timescale. The Applicant can confirm that the s253 legal agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion.</p> <p>The Government's Environmental Improvement Plan 2023 for England describes an ambition to halt the decline in our biodiversity so we can achieve thriving plants and wildlife. This ambition is supported by the National Planning Policy Framework (NPPF)² which makes general provisions for the delivery of BNG. The NPPF states that "<i>plans should...identify and pursue opportunities for securing measurable net gains for biodiversity</i>" although no numerical definition of "<i>net gains for biodiversity</i>" is provided. Local planning policy relevant to BNG</p>

2 Ministry of Housing, Communities and Local Government (December 2024) National Planning Policy Framework [online] available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf (last accessed March 2025)

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		<p>includes the Newark & Sherwood Amended Core Strategy (Adopted March 2019). Spatial Policy 9 includes the requirements that development should: Not impact on sites that are designated nationally or locally for their biodiversity and give preference to sites of lesser environmental value, avoid impact on biodiversity and provide net gains in biodiversity wherever possible. The Nottinghamshire Biodiversity Action Plan (BAP) outlines the approach to biodiversity in Nottinghamshire and sets out the habitats and species of conservation concern in the county. Habitat Action Plans and Species Action Plans are set out for these local priorities including targets for protection, enhancement and creation of habitats.</p> <p>There is currently no existing Local Nature Recovery Strategy (LNRS) which covers the area of the Scheme; however, the Scheme will be located within the Nottinghamshire and Nottingham LNRS when it is published (anticipated to be 2025). The following paragraph shows how the Applicant has contributed to the aforementioned goals.</p> <p>The proposed locations for woodland enhancement form part of a network of approx. 1.3ha of woodland within the Doddington Hall Estate. The proposals will increase habitat quality in two key locations within a continuous belt of woodland around the estate's southern perimeter. Enhancements in the locations selected will provide a strong benefit in increasing populations and strengthening habitat connectivity for woodland dependent species. In addition, there are aspirations from the Greater Lincolnshire Local Nature Partnership (LNP) to undertake habitat restoration in the area between Doddington Hall Estate and Whisby Nature Park, an area of high-quality habitats</p>

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		created from mineral site restoration to the south. The proposed woodland enhancement will support the goals of the LNP by improving habitat quality in an adjoining area thereby also contributing to habitat connectivity at a larger scale. The proposals also provide social benefit by improving the quality of the natural environment in areas that are accessible to the public through rights of way and cycle tracks. They are in close proximity to the urban center of Lincoln including the Birchwood area across the A46 and can be accessed by over 250,000 visitors per year to Doddington Hall.
4.26	The Environment Act 2021 contains provisions for a mandatory biodiversity net gain requirement for NSIPs. A government Biodiversity Gain Statement will set out the concept and policy requirements for Biodiversity net gain for NSIPs. When these provisions are commenced, the Secretary of State will need to be satisfied that the biodiversity gain objective in any relevant Biodiversity Gain Statement has been met.	Please refer to NPSNN paragraph 4.23 above
4.27	<p>Applicants should include design as an integral consideration from the outset of a proposal. Applying good design to national network projects should not be limited to general aesthetics. High quality and inclusive design extends far beyond aesthetic considerations. The National Infrastructure Commission have developed four Design Principles:</p> <ul style="list-style-type: none"> Climate – mitigate carbon emissions and adapt to climate change. It includes opportunities to enable decarbonisation, incorporates flexibility, and builds resilience against climate change. The functionality 	<p>The Applicant has prepared a Scheme Design Report [REP7-078] which summarises the design policy context and which discusses the overarching design principles to respond to the design objectives set out in the NPSNN, The Road to Good Design, Design Principles for National Infrastructure and Technical Design Standards for the Scheme. The Scheme Design Report [REP7-078] demonstrates how ‘good design’ was considered across the Scheme design and how this design minimises social and environmental impacts.</p> <p>The Scheme Design Report [REP7-078] explains that the design has been informed by the ten principles for good design as set out in the National Highways’ design document ‘The Road to Good Design’. The ten principles are:</p>

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	<p>of projects, including fitness for purpose, resilience and sustainability, is equally important.</p> <ul style="list-style-type: none"> • People – helping to improve the quality of life for local communities. It promotes inclusion, cohesion and increases accessibility. It creates safe spaces with clean air that improve health and wellbeing. • Places – well-designed infrastructure gives places a strong sense of identity, and through that forms part of our national cultural heritage. Creating a sense of place, connecting communities, addressing community severance and integrating into its surroundings. It makes a positive contribution to local landscapes within and beyond the project boundary. Good design enhances local culture and character and supports local ecology, delivering net biodiversity gain, while protecting wildlife corridors and irreplaceable natural assets and habitats. • Value - adding value by defining issues clearly from the outset. Good design also finds opportunities to add value beyond the main purpose of the infrastructure to consider the wider benefits savings on cost, the environment, materials and space. It is efficient in the use of natural resources, sustainable materials and energy used in construction. 	<ul style="list-style-type: none"> • Makes roads safe and useful. • Is inclusive. • Makes roads understandable. • Fits in context. • Is restrained. • Is environmentally sustainable. • Is thorough. • Is innovative. • Is collaborative. • Is long-lasting. <p>The ten design principles set out in the Road to Good Design align with the four design principles developed by the National Infrastructure Commission as they also relate to climate, people, places and value.</p> <p>Climate Measures which have been embedded within the design of the Scheme to reduce carbon emissions and reduce the vulnerability of the Scheme to future changes in climate are described in Section 14.10 of Chapter 14 (Climate) of the Environmental Statement [REP7-038].</p> <p>Design amendments to reduce carbon emissions are also set out in section 4.12 of the Scheme Design Report [REP7-078]. An Outline Carbon Management Plan has been produced which is contained in Appendix B.6 of the First Iteration Environmental Management Plan [REP6-012]. The Outline Carbon Management Plan is a live document that will be updated to a full Carbon Management Plan as part of the Second Iteration Environmental Management Plan as the Scheme progresses through detailed design. This will ensure the consideration of carbon reduction through all phases of the</p>

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		<p>lifecycle of the Scheme.</p> <p>People Table 3-11 of Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] also summarises the design developments that have taken place following the statutory consultation and the targeted consultation to produce the design which forms the application for development consent. Further information on how the Applicant has responded to the feedback received at statutory consultation is detailed in the Consultation Report [APP-028] and Annex N of the Consultation Report Annexes [APP-044]. Further information on engagement that has taken place, and areas of design refinement, are recorded within the Statements of Common Ground, which have been updated throughout the course of the Examination.</p> <p>Section 4.3 of the Scheme Design Report [REP7-078] sets out how the Scheme achieves an inclusive design and helps improve accessibility for both road users and pedestrians.</p> <p>Places Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] details the mitigation hierarchy implemented to protect habitats of ecological value and the wildlife they support, irreplaceable nature assets (e.g. lowland meadow habitat of principal importance (HPI)). Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] details the planting design for the continuous provision of wildlife corridors along the A46 carriageway, with enhancement to existing hedgerows to provide connectivity surrounding landscape, planting of attenuation ponds for biodiversity (including stepped-ledges along the water's edge), creation of wetland areas in Farndon West</p>

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		<p>and East borrow pits with integrated fish escape passages to prevent fish entrapment. Section 4.3 and 11.2 of the Scheme Design Report [REP7-078] sets out how the Scheme provides better connections and addresses community severance for example where the alignment severs an existing public right of way, connectivity will be maintained wherever possible. This will be achieved with the reconnection of severed PRoWs with permanent diverted routes, for example, the provision of a 3.0m wide walking cycling route around Cattle Market junction and a route to Newark Showground entrance from Winthorpe and Newark-on-Trent where there is currently no provision from Winthorpe and a sub-standard route from Newark-on-Trent.</p> <p>Value</p> <p>The design of the Scheme is described in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] along with the mitigation embedded within it. Mitigation measures to minimise any resulting social and environmental impacts are presented in the Register of Environmental Actions and Commitments) which are within the First Iteration Environmental Management Plan [REP6-012]. Examples of embedded mitigation include:</p> <ul style="list-style-type: none"> • Visual appearance: Careful integration of earthworks into the landscape, shaping the new landform sympathetically to integrate the Scheme into the receiving landscape. • Functional: Access in and around the new junctions to accommodate WCH users as required. • Fitness for Purpose: Road restraint systems providing protection from features which may present a hazard, such as

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		<p>high embankments. Traffic signs at appropriate locations to provide route and destination information.</p> <ul style="list-style-type: none"> • Sustainable: Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to Local Wildlife Sites (LWSs) and priority habitats. • Cost: A Design for Resource Efficiency (D4RE) online workshop to identify opportunities to improve resource efficiency during the design stage. This workshop took place during preliminary design to ensure cost savings are maximised by considering waste minimisation initiatives and identifying opportunities to reduce, reuse or recycle waste materials and improve resource efficiency. For example, the following opportunities have been incorporated into the Scheme design: <ul style="list-style-type: none"> ○ Repair and reuse of drainage along the existing carriageway. ○ Retain as much soil as possible utilising soil restoration for carbon sequestration. ○ Recycle road pavement that is removed.
4.28	A good design should meet the principal objectives of the scheme by applying the mitigation hierarchy to avoid, mitigate or as a last resort compensate for the identified problems and existing adverse impacts, by improving operational conditions, simultaneously minimising adverse impacts and contributing to the conservation and	<p>See response to NPSNN paragraph 4.27 above.</p> <p>The Scheme Design Report [REP7-078] outlines how the Scheme design was an iterative process, undertaken by an integrated design team to adhere to the principles of the design and mitigation hierarchy outlined in DMRB LA104 Environmental Assessment and</p>

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	<p>enhancement of the natural, built and historic environment. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into account economic, social, and environmental impacts.</p>	<p>Monitoring. The first principle of the design and mitigation hierarchy outlined in DMRB LA 104 is to avoid potential adverse effects, if at all possible, before seeking to minimise or mitigate any unavoidable impacts through a well-developed mitigation strategy. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>In addition, the Scheme Design Report [REP7-078] outlines how the Scheme meets National Highways' ten principles of good road design, including good road design being long-lasting. For example, all structures have been designed with due regard to the long-term maintenance requirements and in accordance with DMRB CD350 'The design of highway structures'. All structures have been designed to a design life of 120 years.</p> <p>How the Scheme meets the key objectives of the Scheme is set out in Chapter 3, Table 3.1 of the Case for the Scheme [REP7-074], of which one of the key objectives is to deliver better environmental outcomes.</p>
4.29	<p>In light of this, scheme design will be a material consideration in decision making. The Secretary of State needs to be satisfied that national networks infrastructure projects are sustainable, having regard to appropriate industry good design guidance, and the applicant has considered, as far as possible, both functionality (including fitness for purpose and sustainability) and aesthetics (including the scheme's contribution to the quality of the area in which it would be located).</p>	<p>The Scheme Design Report [REP7-078] outlines in Annex A the Design Principles of the Scheme. The Report also outlines how the Scheme meets appropriate industry good design guidance and sets out how independent advice from Design: Midlands' Design Review service on the design aspects of the Scheme have been considered.</p> <p>The Applicant has considered, as far as possible functionality and aesthetics. The finish to new bridges and culverts would generally be similar to the existing adjacent structures and where possible wing walls would be formed with split block facing in a stretcher bond layout. At Cattle Market the split block facing would— have a</p>

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		<p>red coloured lower section to link in with the adjacent Smeaton red brick parapet walls with the introduction of local artwork to the walkway/cycleway route abutment wall being considered during the detailed design stage. Further details are set out Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] with the Design Principles set out in the Scheme Design Report [REP7-078]. Requirement 12(1)(c) of the draft DCO [REP7-006] requires the detailed design of the Scheme to accord with the Design Principles. The Design Principles are a certified document in Schedule 12 of the draft Development Consent Order [REP7-006].</p> <p>During the Examination, updates were made to Design Principle STR.06 Structures of the Scheme Design Report [REP7-078] that states “The detailed design for structures should seek to minimise their impact on the local environment. This should be achieved through use of a muted material palette and incorporating the structure into the local character context through earthworks and planting. At Cattle Market Junction the split block facing would use red bands along the retaining walls to link in with the adjacent Smeaton’s red brick parapet walls. The detailed design of the split block facing for the retaining walls that form Work Nos. 39A, 39B, 39C, 39D, 39E and 39F (as shown on sheet 3 of the Works Plans [REP3-002]) will be consulted on and approved by Nottinghamshire County Council and Newark and Sherwood District Council in accordance with Requirement 24 of the draft Development Consent Order [REP7-006].” The amended Design Principles (Annex A to the Scheme Design Report [REP7-078]) were submitted at Deadline 8 of the Examination.</p> <p>In addition, Requirement 24 has been added to the draft Development Consent Order [REP7-006] to ensure that the façade design of the split block facing of the structure at Cattle Market is</p>

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		<p>approved by Newark and Sherwood District Council and Nottinghamshire County Council before the construction of these works commences. The Requirement also states that the proposed design must accord with the Design Principles and not give rise to any materially new or materially different environmental effects in comparison with those reported in the Environmental Statement. The updated draft Development Consent Order was submitted at Deadline 8 of the Examination.</p>
4.30	<p>Applicants should have regard to appropriate guidance and plans such as: local nature recovery strategies, Local Air Quality Action Plans, the Green Infrastructure Design Guide, the purposes and Management Plans of National Parks, National Landscapes, the Broads and any local design codes. For road schemes, the Design Manual for Roads and Bridges contains design standards for motorway and all-purpose trunk road projects.</p>	<p>The application considers the Green Infrastructure Design Guide. The Scheme does not affect any national landscape designations including National Landscapes and the Broads.</p> <p>The Scheme Design Report [REP7-078] outlines consideration for national and local design policy including the National Planning Policy Framework design policies, National Policy Statement for National Networks design policies and the Newark and Sherwood LDF design policies. This is set out in Chapter 3 (Policy Context) of Scheme Design Report [REP7-078].</p> <p>The Scheme Design Report [REP7-078] also sets out how the standards in the Design Manual for Roads and Bridges have been considered.</p> <p>Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048] details the methodology for the environmental assessment. The environmental assessment has been undertaken in line with the general standards set out within the DMRB. The DMRB is the relevant standard to use for the design, assessment and operation of motorway and all-purpose trunk roads in the United Kingdom. The DMRB standards have therefore informed the environmental assessments contained</p>

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		<p>within the Environmental Statement.</p> <p>Section 8.3 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] outlines principal legislative and planning context for the assessment of the environmental effects of the Scheme on biodiversity, including local policy. There is currently no existing Local Nature Recovery Strategy (LNRS) which covers the area of the Scheme; however, the Scheme will be located within the Nottinghamshire and Nottingham LNRS when it is published (anticipated to be 2025). NPSNN paragraph 4.25 considers this further.</p> <p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] outlines principal legislative and planning context for the assessment of the environmental effects of the Scheme on air quality, including local policy and Defra's air quality action plans.</p>
4.31	<p>In their application, applicants should be able to demonstrate how the design process was conducted, effective engagement with communities and stakeholders and how the proposed design evolved to maximise design outcomes. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected with a clear articulation of its benefits. The Examining Authority and Secretary of State should consider the ultimate purpose of the infrastructure and the operational, safety and security requirements which the design must satisfy.</p>	<p>Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] examines the complete suite of design variations of the preferred option, including <i>"a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the Applicant, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects"</i>, in line with the EIA Regulations. This demonstrates the rationale and decisions made for the final preliminary design to be submitted as part of the application.</p> <p>Following the presentation of the Scheme at Statutory Consultation in October to December 2022, the Scheme design evolved as a result of the feedback received during Statutory Consultation and discussions held with consultees (including statutory and other</p>

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		<p>environmental bodies) as part of the Technical Working Groups.</p> <p>Details on how the Applicant has responded to the feedback received during the Statutory Consultation are in the Consultation Report [APP-028] and Annex N of the Consultation Report Annexes [APP-044].</p> <p>Table 3-11 of Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] also summarises the design developments that have taken place following the Statutory Consultation and the further targeted consultation to produce the design which forms the application for development consent. These design developments have been integrated into the current Scheme presented and therefore the design that has been assessed within the Environmental Statement.</p> <p>Detail on the design process and how it has evolved are also set out in the Scheme Design Report [REP7-078].</p>
4.32	<p>Applicants should consider taking independent professional advice on the design aspects of a proposal, from the earliest design stage. A project board level design champion could be appointed, and a representative design panel used to maximise the value provided by the infrastructure.</p> <p>Applicants should also commission an independent design review of their proposal prior to planning. The Design Council can provide or signpost recommendations for this service.</p>	<p>The Applicant sought independent advice on the design aspects of the Scheme from Design: Midlands, utilising their Design Review service. This was undertaken on 24 January 2023. The design presented represented the design for the statutory consultation and included a fixed highway alignment and junctions at that time. The Design: Midlands Panel comprises a wide range of experts from the built environment field, i.e., architects, urban designers, landscape architects, surveyors, sustainability experts, heritage experts etc. who provide expert, independent and impartial advice. The Design Review Panel was led by the Design Panel Manager and joined by representatives from the Applicant. Further details on this review are set out in section 6.3 of the Scheme Design Report [REP7-078].</p>

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		The scope of the design review was to look at the design of the Scheme and to provide views in the context of 'The Road to Good Design' ten principles of good road design.
4.35	Article 7 of the Paris Agreement establishes a global goal on adaption – of enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change in the context of the temperature goal of the Agreement. It aims to significantly strengthen national adaption efforts, including through support and international cooperation.	Section 14.3 of Chapter 14 (Climate) of the Environmental Statement [REP7-038] presents the principal legislation and planning context for the assessment of the environmental effects of the Scheme on climate and the vulnerability of the Scheme to climate change, covering the requirements of the Paris Agreement. The remainder of the chapter includes the methodology to assess, the assessment results and mitigation for the Scheme to improve the resilience of the Scheme.
4.36	To support planning decisions, the government produces a set of UK Climate Projections and has developed a statutory National Adaption Programme. In addition, the government's Adaption Reporting Power invites authorities (a defined list of public bodies and statutory undertakers, including National Highways, Network Rail and the Office for Rail and Road) to assess the risks presented by a changing climate, include policies and actions to address climate risk and set out progress made.	The assessment on the vulnerability of the Scheme to climate change has included the UK Climate Projections (UKCP18) and where appropriate, mitigation measures through the design have considered these projections. Details on the projections and the mitigation are presented in Chapter 14 (Climate) of the Environmental Statement [REP7-038]. Enhancement measures for resilience of the Scheme to climate change will further be considered as part of the detailed design development.
4.37	In certain circumstances, measures implemented to ensure a scheme can adapt to climate change may give rise to additional impacts. For example, as a result of protecting against flood risk, there may be consequential impacts on coastal change (see paragraphs 5.101 to 5.116). If this happens, the Secretary of State should consider the impact of the latter in relation to the application as a whole and the impacts guidance set out in chapter 5 of this NPS.	Measures to improve the resilience of the Scheme to climate change, are embedded into the design through consideration of future climate change in the critical aspects, for instance the drainage design has considered a 30% uplift to account for climate change. As these measures are embedded in the design they are inherently included in the environmental assessment and the measures specifically result in minor changes to design. Therefore, the measures implemented through the design to improve the resilience of the Scheme to climate change, as detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038], are not considered to result in additional impact due to the nature of the

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		measures being embedded in the design and the sensitivity of the surrounding area.
4.38	In preparing measures to support climate change adaptation, applicants should consider whether nature-based solutions could provide a basis for such adaptation. In addition to avoiding further carbon emissions when compared with some more traditional adaptation approaches, nature-based solutions can also result in biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere (see also paragraphs 5.179 to 5.203) on the role of green infrastructure).	The use of Sustainable Urban Drainage Systems (SuDS) is the key driver of the drainage and flood risk strategy, utilising nature based solutions to minimise flood risk and maximise additional benefits. Details of the drainage strategy are within the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179]. Further to the use of SuDS, the landscape design has provided additional habitat creation and enhancement which has resulted in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038]. Examples of nature based solutions detailed in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] include reinstatement of grass banks along Slough Dyke following its realignment (rather than hard infrastructure within the channel), provision of reedbeds and connected ponds within Farndon West and East FCAs and planting of attenuation basins for biodiversity.
4.39	New national networks infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the direct (e.g., flooding of road or rail infrastructure) and indirect (e.g., flooding of other parts of the road or rail network) impacts of climate change when planning the location, design, build, operation and maintenance. The Secretary of State will need information on how the proposal will take account of the projected impacts of climate change and remain resilient.	<p>The climate projections can be found within Chapter 14 (Climate) of the Environmental Statement [REP7-038].</p> <p>The future climate baseline for the Scheme has been derived from the Met Office United Kingdom Climate Projections 2018 (UKCP18) tool which provides projections for future climate change across the UK against a range of future climate scenarios.</p> <p>Given the 120-year design life of the Scheme, and using the approach described above, the following climate change scenarios for given time periods has been chosen for this assessment:</p>

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		<ul style="list-style-type: none"> ○ UKCP18 probabilistic projections, 1981-2000 baseline, RCP8.5, 10th, 50th and 90th percentile, 2040-2059 (2050s) and 2080-2099 (2090s). ○ UKCP18 probabilistic extreme projections, RCP8.5, 10th, 50th and 90th percentile, 1 in 20, 1 in 50 and 1 in 100-year return periods, 2055 and 2095. <p>The assessment concluded no significant effects are anticipated for the resilience of the Scheme to climate change, due to the embedded mitigation measures in the design and the sensitivity of the area. Mitigation measures include:</p> <ul style="list-style-type: none"> ○ Structural design in line with standards considering the impacts of future climate change on wind load and thermal action. ○ A 40% climate challenge allowance, or uplift to for the drainage design sensitivity checks. ○ A 30% increase in rainfall considered for the highway's drainage design. Further details on mitigation are set out within Chapter 14 (Climate) of the Environmental Statement [REP7-038].
4.40	The Secretary of State should be satisfied that applications for new national networks infrastructure have taken into account the potential direct and indirect impacts of climate change. This should include using the latest UK Climate Projections and associated research and expert guidance (such as the Environment Agency's Climate Change Allowances for Flood Risk Assessments) applicable at the	See response to NPSNN paragraphs 4.37 and 4.39 above.

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	<p>time the environmental assessment was prepared as part of their Development Consent Order application, to ensure they have identified mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure, with a high level of climate resilience built-in from the outset. The applicant should also be able to demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario. Should a revised set of UK Climate Projections or associated research be applicable after the preparation of the environmental assessment, the Examining Authority should consider whether they need to request further information from the applicant.</p>	
4.41	<p>The Secretary of State should be satisfied that there are no features of the design of new national networks infrastructure critical to its safety or operation which may be seriously affected by more radical changes to the climate. Beyond that projected in the latest set of UK climate projections and taking account of the latest credible scientific evidence on, for example, sea level rise. The Secretary of State should also be satisfied that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime.</p>	<p>The assessment in relation to climate change can be found within Chapter 14 (Climate) of the Environmental Statement [REP7-038]. This also sets out how there are no critical features of the design or new national networks infrastructure which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections, as such no further action is deemed necessary.</p> <p>The Principal Contractor is to engage the subcontractors and suppliers to support the development of the Carbon Management Plan on the provision of the following:</p> <ul style="list-style-type: none"> ○ Low/zero carbon solutions ○ Competency/training requirements ○ Reporting expectations

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		<ul style="list-style-type: none"> ○ Collaboration requirements <p>An Outline Carbon Management Plan has been produced which is contained in Appendix B.6 of the First Iteration Environmental Management Plan [REP6-012]. The Outline Carbon Management Plan is a live document that will be updated to a full Carbon Management Plan which will be completed as part of the Second Iteration Environmental Management Plan and will include the following topics:</p> <ul style="list-style-type: none"> ○ Assessment ○ Procurement ○ Materials and resource management on site ○ Change process for low/zero carbon solutions ○ Low/zero carbon plant and management ○ Construction techniques and competency ○ Training matrix. <p>The Scheme has been designed to ensure the lifetime operation is as efficient as possible, ensuring whole-life low carbon, supporting the Applicant's ambitions.</p> <p>Opportunities identified during the design and construction of the Scheme for during operation will be captured within the Opportunities Log which will be updated by the Principal Contractor and handed over to the maintenance provider to pursue as part of</p>

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		the Third Iteration Environmental Management Plan. The Third Iteration Environmental Management Plan will be developed from the Second Iteration Environmental Management Plan following completion of construction and will detail those commitments and measures to mitigate the impacts of the Scheme during operation, which are included in the First Iteration Environmental Management Plan [REP6-012]. The development and implementation of the Third Iteration Environmental Management Plan is secured by Requirement 4 of the draft Development Consent Order [REP7-006].
4.42	Any adaptation measures should be based on the latest set of UK Climate Projections, the government's latest UK Climate Change Risk Assessment, when available and in consultation with the Environment Agency's Climate Change Allowances for Flood Risk Assessments. Any adaptation measures must themselves also be assessed as part of any environmental assessment, which should set out how and where such measures are proposed to be secured.	Measures to improve the resilience of the Scheme to climate change, are embedded into the design through consideration of future climate change based on the future climate projections. For instance, the drainage design has considered a 30% uplift to account for climate change. The measures are embedded in the design and as such have been assessed as part of the environmental assessment of the design. The mitigation measures and assessment were based on the UKCP18 scenarios and are detailed within Chapter 14 (Climate) of the Environmental Statement [REP7-038].
4.43	Adaptation measures should be required to be implemented at the time of construction where necessary and appropriate to do so. However, where they are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (for example, coastal processes), the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (for example, reserving land for future extension or increasing the height of existing, or requiring	See response to NPSNN paragraph 4.37.

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	new, sea walls). In these circumstances, the applicant should make a case to justify implementing adaptation measures later, set out clearly how the design could be adapted and have mechanisms in place (such as Development Consent Order requirements) for monitoring and implementing of these future adaption measures.	
4.46	Issues relating to discharges, emissions or abstractions from a proposed project which lead to other direct and indirect impacts on air quality, water quality and land quality, or which include noise, light and vibration, may be subject to separate regulation, under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any activities within the development that are regulated under those regimes before the activities can be operated.	The Consents and Agreements Position Statement [REP7-010] details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.
4.47	Pollution from some facilities, such as industrial installations or waste management sites, is controlled through the Environmental Permitting (England and Wales) Regulations 2016 (the Environmental Permitting Regulations). Some projects covered by this NPS may be subject to the Environmental Permitting Regulations regime. When an applicant applies for an Environmental Permit, the relevant regulator (usually the Environment Agency but sometimes the local authority) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements.	<p>The Consents and Agreements Position Statement [REP7-010] details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.</p> <p>The Scheme is subject to the Environmental Permitting Regulations, as the Scheme is not seeking to disapply the requirement of a permit as part of the draft Development Consent Order [REP7-006], as requirements are largely dependent on the final detailed design, the detailed construction site set up and methodologies, and discussions with the consenting authorities from whom consents may be required. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the draft Development Consent Order [REP7-006]. Therefore, a number of Environmental Permits will be sought post consent under the Environmental Permitting (England and Wales) Regulations 2016, these are detailed in Appendix A of the Consents and Agreements Position</p>

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		<p>Statement [REP7-010].</p> <p>Discussions with the Environment Agency and Local Authority (where applicable) are currently ongoing during the DCO Examination, details of which are recorded in the Statements of Common Ground submitted during the DCO Examination. Discussions will continue in advance of construction works requiring such permits to confirm the need and requirements for these permits.</p>
4.48	<p>The Environmental Permitting Regulations regime requires industrial facilities to have an Environmental Permit and to meet the requirements of that permit to operate. These requirements include limits on allowable emissions to air, land and water, Best Available Techniques where available, and other requirements such as monitoring. In considering the impacts of the project, including residual impacts, the Secretary of State may wish to consult the regulator on any management plans that would be included in an Environmental Permit application. Applicants are encouraged to begin pre-application discussions with relevant regulators, such as the Environment Agency and the Marine Management Organisation, as early as possible. This is especially the case where applicants wish to parallel track Development Consent Order and Environmental Permit applications. This will help ensure the applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority.</p>	<p>The Applicant has engaged with statutory environmental bodies (the Environment Agency, Natural England and Historic England) throughout the development of the Scheme. Details on the engagement undertaken by the Applicant during the preliminary design stages up to DCO Application can be found in Chapter 3 (Table 3-2) of the Consultation Report [APP-028] as well as in each of the main chapters of the Environmental Statement (contained in Volume 6.1). Information on engagement that has taken place subsequent to the DCO Application and throughout the DCO Examination, and areas of agreement and disagreement identified with the relevant Consultees, have been recorded within the Statements of Common Ground, which have been submitted to the Examining Authority.</p> <p>The Consents and Agreements Position Statement [REP7-010] details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained including any permits required from the Environment Agency.</p> <p>There is no engagement with the Marine Management Organisation required - see response to NPSNN paragraph 4.49 below.</p>
4.49	Applicants must consult the Marine Management	The Scheme will not affect any relevant marine areas as defined by

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	<p>Organisation on national network NSIPs which could affect any relevant marine areas as defined in the Planning Act 2008 (as amended by section 23 of the Marine and Coastal Access Act 2009). Applicants are encouraged to consider the relevant marine plans in advance of consulting the Marine Management Organisation. The Secretary of State's consent may include a deemed marine licence and the MMO will advise on what conditions should apply to the deemed marine licence. The Secretary of State, the Examining Authority and the Marine Management Organisation should co-operate closely to ensure that national network NSIPs are licensed in accordance with legislation.</p>	<p>the Planning Act 2008 (as amended by section 23 of the Marine and Coastal Access Act 2009) and therefore the Applicant has not consulted the Marine Management Organisation.</p>
4.51	<p>The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies, such as the Marine Management Organisation, the Statutory Nature Conservation Bodies, Drainage Boards, and water and sewerage undertakers, before consenting any potentially polluting developments to ensure that:</p> <ul style="list-style-type: none"> the relevant regulator is satisfied that potential releases can be adequately regulated under the pollution control framework. the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added would make that 	<p>The Applicant has engaged with statutory environmental bodies (the Environment Agency, Natural England and Historic England) and there will be ongoing engagement as the Scheme progresses. Information on engagement that has taken place, and areas of agreement and disagreement identified during pre-application consultation with the Consultee, has been recorded within a Statement of Common Ground, which has been developed and submitted to the Examining Authority. Further details on the engagement undertaken can also be found in Chapter 3, Table 3.2 of the Consultation Report [APP-028].</p> <p>A number of meetings with the Environment Agency have been held, this is summarised in Section 13.4 of Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] to discuss the WFD Compliance assessment methodology and outcomes, and the proposed surface water quality monitoring strategy (as outlined in Appendix 13.5 (Surface Water Quality Monitoring Report (of the Environmental Statement appendices [APP-180]).</p>

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	development unacceptable, particularly in relation to statutory environmental quality limits.	<p>In addition, numerous Flood and Drainage Steering Group meetings have been held throughout 2022 and 2023. These are outlined in the overarching consultation set out in Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048]. These meetings include discussions on the development of the drainage strategy (including pollution controls) as outlined in Appendix 13.4 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-179], including discussions on pollution control measures. Proposals relating to locations, parameters and frequency of monitoring of water quality that has been agreed with stakeholders are outlined within Appendix 13.5 (Surface Water Quality Monitoring Report (of the Environmental Statement Appendices [APP-180].</p> <p>The First Iteration Environmental Management Plan [REP6-012] has been prepared for the Scheme. The First Iteration Environmental Management Plan [REP6-012] details mitigation measures required during construction and operation to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. The First Iteration Environmental Management Plan [REP6-012] includes requirements for the Contractor to develop a Pollution Prevention Plan (including an Incident Control Plan), Erosion and Sediment Management Plan, Invasive and Non-Native Species Management Plan, and an Emergency Response Plan for Flood Events.</p> <p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] concludes no significant adverse air quality effects are anticipated as a result of the Scheme.</p> <p>Cumulative effects are also considered in Chapter 15 (Assessment</p>

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		<p>of Combined and Cumulative Effects) of the Environmental Statement [REP7-040]. A Cumulative Effects Technical Note [REP2-021] further details the work that has been undertaken to identify and assess any new or approved developments that have come forward following the original assessment documented in the ES. No additional mitigation on top of the individual mitigation specified in Chapter 15 (Assessment of Combined and Cumulative Effects) of the Environmental Statement [REP7-040] is considered necessary, as no permanent Significant Adverse cumulative effects are predicted during operation. In terms of the residual combined effect, construction of the Scheme is anticipated to result in significant adverse combined effects for 3 receptors. These are significant but temporary in nature. For construction-related combined effects, no additional mitigation measures above those presented in the First Iteration Environmental Management Plan [REP6-012], relevant assessment chapters and described in Section 15.3 of Chapter 15 (Assessment of Combined and Cumulative Effects) of the Environmental Statement [REP7-040] are considered applicable or proportionate for short-term temporary combined effects. On that basis, no monitoring of significant effects is proposed.</p> <p>The Consents and Agreements Position Statement [REP7-010] details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.</p>
4.52	The Secretary of State should not refuse consent because of pollution impacts unless there is good reason to believe that any relevant necessary operational pollution control permits or licences, or other consents would not be granted.	<p>The majority of consents and all the powers required have been included, or addressed, within the draft Development Consent Order [REP7-006] as permitted by the provisions of the 2008Act.</p> <p>The permits, consents and agreements that may need to be sought separately from the draft Development Consent Order [REP7-006] are identified in Appendix A of the Consents and Agreements</p>

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		<p>Position Statement [REP7-010]. It is likely that a pollution permit will be required for the crushing and screening on site, but this will be applied for at a later stage.</p> <p>The content of Appendix A is largely dependent on the final detailed design, the detailed construction site set up and methodologies, and discussions with the consenting authorities from whom consents may be required. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the draft Development Consent Order [REP7-006].</p>
4.55	<p>It is very important that, during the examination of a nationally significant infrastructure project, possible sources of nuisance under section 79(1) of the 1990 Act, and how they might be mitigated or limited, are considered by the Examining Authority so that they can recommend appropriate requirements that the Secretary of State might include in any subsequent order granting development consent. More information on the consideration of possible sources of nuisance is at paragraphs 5.117 to 5.125.</p>	<p>The Statement Relating to Statutory Nuisances [REP7-070] has considered the potential for the Scheme to cause a statutory nuisance under section 79(1) of the of the Environmental Protection 1990 Act (EPA). With the essential mitigation measures set out in the First Iteration EMP [REP6-012] in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.</p>
4.57	<p>Highways developments provide an opportunity to make significant safety improvements and significant incident reduction benefits when they are well designed. Some developments may have safety as a key objective, but even where safety is not the main aim of a development, the opportunity should be taken to improve safety, including introducing the most modern and effective safety measures where proportionate. Consideration should also be given to wider transport objectives, including expanding active travel, creating safe and attractive walking, wheeling and cycling environments. In developing roads schemes, the applicant should have due regard to the needs of drivers and riders</p>	<p>The Case for the Scheme [REP7-074] provides an overview of the assessment of the impact of the Scheme on road safety, in accordance with Transport Appraisal Guidance (TAG). This assessment forecasts that over the 60-year assessment period the Scheme will provide an accident reduction benefit of £13.6 million, with a reduction in all types of accidents, including 8.6 fatal, 81.6 serious and 594.3 slight accidents saved.</p> <p>A key objective of the Scheme is to improve safety through Scheme design to reduce collisions for all users of the Scheme. The Scheme is subject to all safety governance processes including a Stage 1 Road Safety Audit (RSA). Stage 1 RSAs are</p>

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	<p>and the imperative to ensure road user safety. Schemes should be developed with a mindset that accounts for need for motorists to rest, particularly Heavy Goods Vehicle drivers who need safe and secure roadside facilities that also cater for their welfare needs including the appropriate provision of high-quality washrooms, a catering offer and access to alternative fuel and digital infrastructure.</p>	<p>undertaken at the completion of preliminary design and normally before planning consent is granted. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the Transport Assessment Report [REP7-076].</p> <p>The Scheme Design Report [REP7-078] outlines how the design of the junctions and new structures have been considered to create safe environments for both road users and those who will maintain these assets.</p> <p>Using the accident rates and traffic flows for each scenario, the Cost and Benefit to Accidents – Light Touch (COBALT) assessment set out in the Transport Assessment Report [REP7-076] forecasts the number of accidents and casualties in the Do Minimum (without the Scheme) and Do Something (with the Scheme) scenarios over a 60-year appraisal period. The number (and severity) of accidents and casualties is monetised by the software using default costs per accident and casualty specified in the DfT's Transport Analysis Guidance (TAG). By comparing the Do Minimum and Do Something results, the impact of the Scheme is identified, in terms of impacts on the number and severity of accidents and casualties as well as the economic costs.</p> <p>Overall, the results of the COBALT assessment indicate a forecast saving over the 60 year appraisal period of nearly 500 Personal Injury Accidents (PIAs), a reduction in casualties of all severities (including 8.6 fatal casualties) The overall impact is positive with a forecast reduction in both accidents and a reduction in casualties of all severities.</p>

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		<p>The analysis overall concludes that the Scheme will have a positive impact on road safety. Further details on the analysis undertaken into the impacts of the Scheme on road safety in the local area and further afield including the COBALT assessment can be found in Chapter 8 (Road Safety) of the Transport Assessment Report [REP7-076].</p> <p>As outlined within Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018], beside the function and form of the preferred option, the options considered during the early development of the Scheme were assessed against the safety of the user, the pedestrian/cyclist, the construction worker, and the general safety of the route. Throughout the design process, options were developed and screened to identify preferred solutions based on a comparison of the options performance against safety, environmental, engineering, transportation and economic criteria. This process was supplemented by feedback from consultation with stakeholders and the public.</p> <p>The Scheme provides an opportunity to improve conditions for walking, cycling and horse-riding (WCH) through the provision of new routes and improved crossings. Information relating to temporary diversions can be found in Appendix 12.2 (Population and Human Health Supplementary Information) of the Environmental Statement Appendices [REP3-018] while Section 7.2 of the Transport Assessment Report [REP7-076] sets out design improvements to the WCH design.</p> <p>It is considered no additional facilities are required for Heavy Goods Vehicles drivers. The A46 already has a lorry park with the facilities suggested at Cattle Market Junction, the Applicant does</p>

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		not consider that any further provisions are required.
4.58	<p>The applicant should undertake an objective assessment of the impact of the proposed development on safety including the impact of any mitigation measures. This should use the methodology outlined in the guidance from the Department for Transport's Transport Analysis Guidance and from National Highways. They should also put in place arrangements for undertaking the road safety audit process and ensuring their implementation. Road safety audits are a mandatory requirement for highway improvement schemes in the UK (including motorways). Road safety audits are intended to ensure that operational road safety experience is applied during the design and construction process so that the number and severity of collisions is as low as reasonably practicable.</p>	<p>The Scheme is subject to all safety governance processes including a Stage 1 Road Safety Audit, as set out in the DfT's Transport Analysis Guidance. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the Transport Assessment Report [REP7-076].</p> <p>Also, see response to NPSNN paragraph 4.57 above.</p>
4.59	<p>The applicant should be able to demonstrate that their scheme is consistent with government Road Safety policy and with the National Highways Safety Framework for the Strategic Road Network. Applicants must show that they have taken all steps that are reasonably required to minimise the risk of death and injury arising from their development, including:</p> <ul style="list-style-type: none"> • contributing to the overall reduction in road casualties. • contributing to the overall reduction in the number of unplanned incidents. • contributing to improvements in road safety for pedestrians and cyclists. 	<p>The Scheme was designed in accordance with the technical documents produced by the DfT and National Highways which include DMRB.</p> <p>The Scheme Design Report [REP7-078] outlines how the design of the junctions and new structures have been considerate to create safe environments for both road users and those who will maintain these assets.</p> <p>An assessment of accident impacts has been completed using COBALT, the assessment forecasted a reduction in accidents across the extent of the Scheme. Overall, the results of the COBALT assessment indicate a forecast saving over the 60 year appraisal period of nearly 500 Personal PIAs, a reduction in casualties of all severities (including 8.6 fatal casualties) and provides a monetised benefit of over £29 million. The overall impact is positive with a forecast reduction in both accidents and a</p>

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		<p>reduction in casualties of all severities. Further details on the analysis undertaken into the impacts of the Scheme on road safety in the local area and further afield including the COBALT assessment can be found in Chapter 8 (Road Safety) of the Transport Assessment Report [REP7-076].</p> <p>The Scheme incorporates new and improved WCH provision, as described in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. A Walking, Cycling and Horse-riding Assessment and Review (WCHAR) has been undertaken to consider the impacts of the Scheme on WCH facilities. The purpose of the WCHAR process is to facilitate the inclusion of all WCH modes in the Scheme design from the earliest stage, enabling opportunities for new/improved facilities and their integration within the local and national networks. A WCHAR was completed in June 2023 on the basis of the preliminary design for the Scheme and is available at Appendix C of the Transport Assessment Report [REP7-076]. A further WCHAR will follow at the detailed design stage to ensure that the needs of WCH continue to be considered as the design progresses.</p> <p>The Scheme is subject to all safety governance processes including a Stage 1 RSA. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further Road Safety Audits will be carried out as the design progresses in compliance with Highways England and DfT requirements. Details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the Transport Assessment Report [REP7-076].</p>
4.60	The applicant must also demonstrate that:	Safety considerations are set out in the Scheme Design Report [REP7-078], this also sets out the design progression and how

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	<ul style="list-style-type: none"> they have considered the safety implications of their projects from the outset. they are putting in place rigorous processes for monitoring and evaluating safety. 	<p>safety was and continues to be considered. Also see response to NPSNN paragraph 4.57 above.</p> <p>A Stage 1 road safety audit (RSA) was undertaken to assess the safety of the preliminary design. A Stage 2 RSA will be done during the detailed design and a Stage 3 RSA on site prior to opening. A Stage 4 will be done after the Scheme has been operating for 1 year to monitor and evaluate any safety issues once operational.</p>
4.61	<p>The Secretary of State should not grant development consent unless satisfied that all reasonable steps have been taken and will be taken to:</p> <ul style="list-style-type: none"> minimise the risk of road casualties arising from the scheme contribute to improvements in the safety of the strategic road network 	<p>The Case for the Scheme [REP7-074] provides an overview of the assessment of the impact of the Scheme on road safety, in accordance with Transport Analysis Guidance (TAG). This assessment forecasts that over the 60- year assessment period the Scheme will provide an accident reduction benefit of £13.6 million, with a reduction in all types of accidents, including 8.6 fatal, 81.6 serious and 594.3 slight accidents saved. A key objective of the Scheme is to improve safety through Scheme design to reduce collisions for all users of the Scheme. The Scheme is subject to all safety governance processes including a Stage 1 Road Safety Audit (RSA). A Stage 1 RSAs are undertaken at the completion of preliminary design and normally before planning consent is granted. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the Transport Assessment Report [REP7-076].</p> <p>Using the accident rates and traffic flows for each scenario, the Cost and Benefit to Accidents – Light Touch (COBALT) assessment set out in the Transport Assessment Report [REP7-076] forecasts the number of accidents and casualties in the Do Minimum (without the Scheme) and Do Something (with the</p>

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		<p>Scheme) scenarios over a 60-year appraisal period. The number (and severity) of accidents and casualties is monetised by the software using default costs per accident and casualty specified in the DfT's Transport Analysis Guidance (TAG). By comparing the Do Minimum and Do Something results, the impact of the Scheme is identified, in terms of impacts on the number and severity of accidents and casualties as well as the economic costs. Overall, the results of the COBALT assessment indicate a forecast saving over the 60-year appraisal period of nearly 500 Personal Injury Accidents (PIAs), a reduction in casualties of all severities (including 8.6 fatal casualties) The overall impact is positive with a forecast reduction in both accidents and a reduction in casualties of all severities.</p> <p>An enforced 50mph speed limit has been introduced between Cattle Market Roundabout and Winthorpe Roundabout to minimise the risk of accidents along this section due to the geometry of the Scheme which is restricted due to the alignment of the existing A46. Removal of small roundabouts and the reduction in traffic at the Brownhills Roundabout and Friendly Farmer Roundabout will improve safety on the Strategic Road Network.</p>
4.64	The applicant should be able to demonstrate that their scheme is consistent with all relevant regulations, industry guidance and regulatory guidance from the Office of Road and Rail, and that their safety assessment has considered the cost and safety implications during the construction, commissioning and operational phases of the development.	<p>The Scheme was designed in accordance with the technical documents produced by the DfT and National Highways which include DMRB.</p> <p>The Scheme Design Report [REP7-078] outlines how the design of the junctions and new structures have been considerate to create safe environments for both road users and those who will maintain these assets.</p> <p>The Scheme incorporates new and improved WCH provision, as described in Chapter 2 (The Scheme) of the Environmental</p>

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		Statement [REP7-016]. A Walking, Cycling and Horse-riding Assessment and Review (WCHAR) has been undertaken to consider the impacts of the Scheme on WCH facilities. The purpose of the WCHAR process is to facilitate the inclusion of all WCH modes in the Scheme design from the earliest stage, enabling opportunities for new/improved facilities and their integration within the local and national networks. A WCHAR was completed in June 2023 on the basis of the preliminary design for the Scheme and is available at Appendix C of the Transport Assessment Report [REP7-076].
4.67	Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. Where applications for development consent for infrastructure covered by this NPS relate to potentially critical infrastructure, there may be national security considerations.	<p>The security considerations are set out in the Scheme Design Report [REP7-078].</p> <p>Fencing will be provided at the highway boundary for safety and security. With the exception of where alternatives have been agreed with neighbouring landowners or a noise barrier has been specified for environmental mitigation, timber post and rail fence will be provided in accordance with Manual of Contract Documents for Highway Works standard details.</p> <p>No national security implications have been identified.</p>
4.72	As described in the relevant sections of this NPS, where the proposed project has an effect on human beings, the applicant should assess these effects, identifying any potential adverse health impacts, and identify measures to avoid, mitigate or as a last resort compensate for adverse health impacts as appropriate. Enhancement opportunities should be identified by promoting local improvements for active travel and horse riders driven by the principles of good design to create safe and attractive routes to encourage health and wellbeing; this includes potential impacts on vulnerable groups within society i.e., those groups within	Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] sets out the assessment methodology used to examine the effects of the Scheme on human health. The assessment considers the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces and recreational areas and human health outcomes, and sets out the mitigation measures including the embedded mitigation that has been considered from the outset. This is summarised in section 12.10 of Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] including measures to avoid,

	<p>society which may be differently impacted by a development compared to wider society as a whole.</p>	<p>reduce or as a last resort compensate for health impacts as appropriate.</p> <p>The assessment concludes that during construction, the Scheme is likely to have an overall adverse impact on the development land and businesses, agricultural land, and WCH provision as a result of both permanent and temporary land take and reduced access during construction. However, once operational, the Scheme is expected to have a beneficial impact on access to private property and housing; development land and assets; green space, recreation and physical activity due to reduced congestion and improved journey times that the Scheme will deliver.</p> <p>Mitigation measures to be provided during construction are included within the First Iteration Environmental Management Plan [REP6-012], and include:</p> <ul style="list-style-type: none"> The implementation of a Traffic Management Plan to be developed from the Outline Traffic Management Plan [REP7-082] submitted with the application; An Outline Construction Communications Plan has been produced which is contained in Appendix B.4 of the First Iteration Environmental Management Plan [REP6-012]. The Outline Construction Communications Plan will be updated to a full Construction Communications Plan as part of the Second Iteration Environmental Management Plan to ensure that stakeholders and local people are kept up to date and informed during construction; and, Provision of appropriate signage for temporary WCH diversions, including wayfinding and information as to the duration of works. <p>Mitigation measures to be provided during operation include the following:</p> <ul style="list-style-type: none"> Provision of appropriate signage for new or permanently diverted WCH routes; and Access to all affected residential properties, agricultural land, businesses and areas of open space and recreation will be maintained. <p>In addition to the above mitigation, the following enhancement measures for the construction and operation of the Scheme have</p>
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		<p>been included in the design:</p> <ul style="list-style-type: none"> ○ Opportunities to rectify existing severance problems in the area and encourage greater use of WCH routes; and ○ Access in and around new junctions to accommodate walking, cycling and horse-riding as required. <p>The Equality Impact Assessment (EqIA) [REP7-080] sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development, including design, communication and consultation.</p>
4.74	<p>The government's strategy for achieving equal access for disabled people is set out in the Inclusive Transport Strategy. The government expects applicants to improve access, wherever possible, on and around the national networks by designing and delivering schemes that take account of the accessibility requirements of all those who use, or are affected by, national networks infrastructure, including disabled users.</p>	<p>The Scheme has been designed so that all new and relocated walking and cycling routes are in accordance with LTN 1/20, which caters for disabled users.</p> <p>The design and delivery of the Scheme has been developed in line with the Equality Act 2010 and the needs of disabled users, and all reasonable opportunities to deliver improvements in accessibility on and to the existing national road network have been taken where practicable.</p> <p>The Equality Impact Assessment (EqIA) [REP7-080] sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development, including design, communication and consultation. The EqIA [REP7-080] was informed by the Equality, Diversity and Inclusion Tool (EDIT); a sifting tool developed by the Applicant to support informed decision making on how equality, diversity and inclusion are relevant to the development and delivery of schemes. It identified key elements of the Scheme which could disproportionately affect vulnerable groups. These are as follows:</p> <ul style="list-style-type: none"> ○ The Scheme is located in:

		<ul style="list-style-type: none"> ○ an equality hotspot area (those parts with concentrations of all categories - people, equality groups and destinations); ○ an area with high population density (those parts with the largest numbers of people); ○ an area with large numbers of people from equality groups (those parts with the largest numbers of people from particular groups); ○ an area with high proportions of people from equality groups (those parts with the largest proportion of people from particular groups); and ○ an area with a large number of destinations used by members of equality groups. <p>The Scheme is likely to have an impact on Walkers, Cyclists and Horse-riders (WCH).</p> <p>The Scheme is likely to have impacts on people and communities during construction phase.</p> <p>Mitigation and enhancement measures to be provided to help address the identified inequalities are set out in Section D (Full Assessment) of the EqIA [REP7-080] and include measures such as those to reduce the impact of construction (for example the use of best practise construction measures (identified in the First Iteration Environmental Management Plan [REP6-012] which will be developed into the Second Iteration Environmental Management Plan prior to and for implementation during construction), and ongoing engagement with identified groups (including landowners and businesses impacted) and measures to reduce the impact on WCH, such as the use of signage for new and/or diverted WCH routes.</p>
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4.75-4.76	<p>Applicants must comply with any obligations under the Equality Act 2010. Public Authority applicants are reminded of their duty to promote equality and to consider the needs of disabled people as part of their normal practice. The Public Sector Equality Duty requires that public authorities have due regard to the need to:</p> <ul style="list-style-type: none"> eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act. advance equality of opportunity between people who share a protected characteristic and people who do not share it. foster good relationships between people who share a protected characteristic and people who do not share it. <p>All applicants are also reminded that the Secretary of State must have regard to the Public Sector Equality Duty when exercising their functions.</p>	<p>The Equality Impact Assessment (EqIA) [REP7-080] sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development, including design, communication and engagement strategy, and mitigation strategies.</p>
4.77	<p>As set out in paragraphs 4.6 to 4.7, applicants for road and rail projects (excluding SRFIs) will normally be supported by a business case prepared in accordance with Transport Business Case guidance. This includes distributional analysis, which can include information relevant to the Equality Act public sector equality duty.</p>	<p>An Equality Impact Assessment (EqIA) [REP7-080] has been undertaken for the Scheme using National Highway's Equality, Diversity and Inclusion sifting Tool (EDIT). This identified the potential for equality related impacts upon customers, staff and stakeholders based on the following categories:</p> <ul style="list-style-type: none"> ○ Age - specifically children and older people ○ Disability ○ Ethnicity and Traveller Communities ○ Pregnancy and Maternity ○ Religion and beliefs ○ Sex, Gender Identification and Sexual Orientation ○ Deprivation <p>An overall EDIT score of 77% was generated for the Scheme at preliminary design. This means that equality, diversity and</p>

		<p>inclusion issues are likely to be a factor in the effective delivery of the Scheme. Key provisional findings identified relating to the Protected Characteristic Groups (PCGs) considered in this EqIA were:</p> <ul style="list-style-type: none"> ○ Children and older people are more likely to be adversely affected by noise and air quality impacts arising from the construction and operation of the Scheme. These groups are more likely to be sensitive to visual stimuli resulting from changes in landscape. It is noted that several educational and community facilities used by these groups are within an affectable distance of the Scheme. ○ Changes in noise and air quality may adversely affect those with long term health problems or disabilities. Short-term changes to the local and strategic road network, particularly during the construction of the Scheme such as congestion and roadworks, could act as a barrier for disabled individuals to access certain services. ○ Gypsy, Roma and traveller (GRT) communities may be at increased risk of harmful health effects from noise due to the location of some communities situated close to the A46 (for example Tolney Lane and Old Stable Yard GRT communities). ○ Those who are pregnant living in areas with poor air quality are at risk of giving birth to a baby with a low birthweight. The current general fertility rate within Newark and Sherwood district is 57.3 live births per 1,000 females, which is in line with the rate of 55.3 for England as a whole. ○ Access to religious institutions may be impacted throughout the construction period.
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4.78	<p>Applicants should demonstrate the following where relevant:</p> <ul style="list-style-type: none"> ○ All reasonable opportunities to deliver improvements in accessibility on and to the existing national road network, should be taken, including improvements for non-motorised users. ○ Severance can be a problem in some locations; where appropriate, applicants should seek to deliver improvements that reduce community severance and improve accessibility. ○ National Network infrastructure should incorporate good design (which is inclusive by default), as expanded on in paragraphs 4.27 to 4.32 which includes delivering accessible infrastructure for users. 	<p>See response to NPSNN paragraphs 4.74, 4.75 and 4.76 above.</p> <p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] assesses the impact of the Scheme on community severance and social networks.</p> <p>The assessment considers the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces and recreational areas and human health outcomes.</p> <p>The operation of the Scheme is expected to have a beneficial impact on access to private property and housing; development land and businesses; community land and assets; green space, recreation and physical activity; and for WCHs due to the reduced congestion and improved journey times that the Scheme will deliver.</p> <p>Provisions have been included in the Scheme to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are used by pedestrians and cyclists, the objective being to ensure continued connectivity is provided for WCH between communities and routes within the wider PRoW network.</p> <p>For example, historically there was a PRoW that ran north to south between Winthorpe and the Newark Showground. This has been severed by the existing A46 with FP2 ending at the northern boundary of the A46 and FP3 ending at the southern boundary. The Scheme will reconnect these two PRoWs via a new footway/cycleway that links with FP2 to the north and runs parallel to the proposed dual carriageway before crossing beneath it alongside the A1. On the south side of the new dual carriageway, it will cross the existing A46 via a new signalised crossing and join the existing PRoW network that provides a connection with FP3.</p>
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Table 2.2: Compliance with NPSNN (March 2024) Chapter 5

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
5.2	Sufficient relevant information is crucial to good decision-taking, particularly where formal assessments are required (such as Environmental Impact Assessment, Habitats Regulation Assessment and Flood Risk Assessment). To avoid delay, applicants should discuss what information is needed with statutory environmental bodies as early as possible.	<p>The Applicant ensured sufficient relevant information was available to inform the documentation such as the Environmental Statement and associated supporting documents that informed the application for development consent. This was through continuous engagement with statutory environmental bodies throughout the development of the preliminary design and the iterative environmental impact assessment process, to ensure the most relevant information was being used to inform the assessments. Sources of data as well as site survey data (and plans for future site surveys) were set out in the Environmental Scoping Report which was reviewed by the statutory environmental bodies, and any comments raised in the Scoping Opinion [APP-189] taken on board for the development of the documents that make up the Environmental Statement.</p> <p>Protected species and habitat survey methodologies and findings were presented to Natural England throughout the environmental impact assessment process. The fish escape passage design (mitigation detailed in Stage 2 (Appropriate Assessment)) within the Habitat Regulations Assessment of the Environmental Statement [REP5-075] has been discussed with statutory environmental bodies, as detailed in the Statement of Common Ground with Natural England [REP1-026] and the Statement of Common Ground with the Environment Agency [REP7-091].</p> <p>Extensive consultation also took place with the heritage stakeholders (Historic England, Nottinghamshire County Council and Newark & Sherwood District Council) to discuss the non-intrusive and intrusive survey work required to inform the assessment contained in Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022]. The scope of surveys was</p>

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		<p>developed in consultation with these consultees and written schemes of investigation were reviewed and signed off prior to each survey taking place.</p> <p>Extensive engagement also took place for the Flood Risk Assessment [REP7-064], with a flood risk steering group formed including the relevant environmental statutory bodies.</p>
5.3	Applicants should engage with relevant and statutory bodies regarding their proposal at the pre-application stage.	<p>The Applicant has engaged with relevant and statutory bodies at the pre-application stage, as detailed in Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048]. These bodies include the Environment Agency, Natural England, Historic England, Newark & Sherwood District Council, Nottinghamshire County Council and Nottinghamshire Wildlife Trust. A summary of the meetings held following the preferred route announcement is provided in Table 1-1 within Appendix 4.3 (Record of Environmental Engagement) of the Environmental Statement Appendices [APP-127]. Environmental bodies were engaged through group meetings, telephone discussions and email channels. Environmental bodies were also engaged through the format of an Environmental Technical Working Group (TWG). The Environmental TWG was established to inform consultation bodies of the progress and timescales for the Scheme, and also to review and discuss specific Scheme issues, to consider appropriate design solutions and seek to agree statements of common ground (SoCGs) on environmental matters, namely the Statement of Common Ground with the Environment Agency [REP7-091], the Statement of Common Ground with Historic England [REP4-020] and the Statement of Common Ground with Natural England [REP7-094]. The Environmental TWG also provided a format for technical review of the Environmental Statement assessments such as Environmental Impact Assessment (EIA) methodology and</p>

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
		<p>documents supporting the Environmental Statement, and associated surveys, development, review and agreement of environmental design, mitigation requirements, and environmental opportunities and enhancements.</p> <p>The Applicant held a statutory consultation between October and December 2022, which allowed a period for seeking views, comments and feedback on the Scheme. A series of public events and invitation only meetings were held with key stakeholders, the local community and landowners. The Applicant was available at events to discuss the Scheme with members of the public.</p> <p>A Preliminary Environmental Information (PEI) report and a non-technical summary (NTS) of the PEI were published for the statutory consultation in 5.2 Consultation Report: Annex J: Section 47 Consultation Material Part 2 [APP-039] and were available for statutory consultees to comment on.</p>
5.5	<p>The government has set legally binding long-term targets for England under the Environment Act 2021, covering the areas of: air quality, water, biodiversity, resource efficiency and waste reduction, tree and woodland cover, and Marine Protected Areas. Meeting the legally binding targets will be a shared endeavour that will require a whole of government approach to delivery. In addition, the Secretary of State must have regard to the policies and interim targets set out in the government's Environmental Improvement Plan.</p>	<p>Each of the environmental disciplines covered in the Environmental Statement considered the relevant targets set out in the Environment Act 2021 and the interim targets set out in the Environmental Improvement Plan under the 'Legislative and policy framework' section of each of the topic chapters. Each of the topic chapters of the Environmental Statement (Chapters 5 to 15) detail any relevant Environment Act 2021 measures and targets and set out how they are relevant to the Scheme.</p>
5.6	<p>Applicants should look for opportunities to design infrastructure with a holistic approach to avoiding, or where adverse</p>	<p>As detailed in Section 4.3 (Mitigation measures and enhancements) of Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048], in accordance with DMRB</p>

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	<p>impacts are unavoidable, mitigating and, as a last resort, compensating for impacts on the natural, historic or built environment, on landscapes and on people by using nature-based solutions. Generic Impacts 58</p> <p>Nature-based solutions can deliver multiple benefits for climate, biodiversity, and people, and can therefore play a critical role in tackling these interrelated impacts in an integrated way. For example, trees planted to sequester carbon could offer benefits for flood management, soil health and stability, biodiversity and recreation. The relevant local nature recovery strategy will be a useful source of information for nature-based solutions, including green infrastructure (see also paragraphs 5.179 to 5.203 on the role of green infrastructure).</p>	<p>LA104 Environmental Assessment Methodology, the environmental assessment and design for the Scheme has considered mitigation measures using a hierarchical system as follows:</p> <ol style="list-style-type: none"> 1. Avoidance and prevention: design and mitigation measures to prevent the effect (e.g. alternative design options or avoidance of environmentally sensitive sites). 2. Reduction: where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects. 3. Remediation: where it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect. <p>Priority has been given to the avoidance of effects at source, whether through the redesign of the Scheme or by regulating the timing or location of activities. Where it has not been possible to avoid significant negative effects, opportunities have been sought to reduce the effects, ideally to the point where they are no longer significant through mitigation measures.</p> <p>This Environmental Statement reports on the following categories of mitigation, in accordance with DMRB LA104:</p> <ul style="list-style-type: none"> • Embedded mitigation: these are project design principles adopted to avoid or prevent adverse environmental effects. Embedded mitigation measures that are included as part of this Scheme are detailed in Section 2.5 of Chapter 2 (The Scheme) of this Environmental Statement [REP7-016]. • Essential mitigation: these are measures identified to reduce and if possible offset likely significant adverse environmental effects, in support of the reported significance of effects in the environmental assessment. Essential mitigation is reported within Chapters 5 to 15 of

NPSNN (March 2024) Paragraph No.	Requirement of the NPSNN (March 2024)	Compliance with the NPSNN (March 2024)
		<p>the Environmental Statement for both construction and operation. Mitigation measures are also documented within Table 3-2 Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [REP6-012] which also contains an Outline Site Waste Management Plan (Appendix B.1), an Outline Materials Management Plan (Appendix B.2) an Outline Soils Management Plan (Appendix B.3), an Outline Construction Communications Management Plan (OCCMP) (Appendix B.4), an Outline Air Quality and Dust Management Plan (OAQDMP) (Appendix B.5) and an Outline Carbon Management Plan (OCMP) (Appendix B.6).</p> <p>The key design rational for the environmental design is to create a green blue corridor along the length of the Scheme, bringing co-benefits to landscape, biodiversity and water quality. The Scheme has sought to limit impacts upon existing green infrastructure, limiting vegetation clearance wherever possible, and also proposing planting so that the Scheme ties in with surrounding green infrastructure and habitats. The drainage philosophy has been to maximise the use of sustainable drainage systems and integrating these with the landscaping provisions. Where possible water will be conveyed to attenuation areas via grass swales with trees and shrub planting integrated into the attenuation features. Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179] sets out the principles, design requirements and constraints for all drainage systems and features related to parts of the Scheme. The additional habitat planting created alongside the drainage systems also has biodiversity benefits. Habitat creation, including new grazing marsh, ponds and reedbed, within the Farndon West and Farndon East Floodplain</p>

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		<p>Compensation Areas has also been designed to provide multiple benefits and maximise ecological value.</p> <p>The Applicant confirms that the Local Nature Recovery Strategy for Nottinghamshire is not yet in place and is expected to be published in Summer 2025.</p>
5.12-5.13	<p>The applicant should undertake an assessment as part of their Development Consent Order application where the impacts of the project (both on and off-scheme) are likely to have significant air quality effects in relation to meeting environmental assessment requirements or affect the UK's ability to comply with the Air Quality Standards Regulations 2010 or impact the relevant local authority's ability to comply with The Air Quality (England) Regulations 2000. Applicants should also refer to the Environmental Assessment section in Chapter 4 and paragraph 5.4.</p> <p>The assessment should describe:</p> <ul style="list-style-type: none"> Existing air quality emissions and concentrations Forecasts of emissions and concentrations at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of the impact of the scheme any significant air quality effects, their mitigation and any residual 	<p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] addresses the requirement for the Applicant to undertake an assessment of the impacts of the Scheme on air quality.</p> <p>The baseline air quality conditions are presented in Section 5.8 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] whilst the baseline conditions at human health receptors and designated habitats in the opening year of the development, without the Scheme in place (Do Minimum scenario), are presented in Table 5-12 and 5-13 of Chapter 5 Air Quality of the Environmental Statement [REP7-020].</p> <p>A qualitative assessment of potential dust effects for the Scheme has been undertaken, based on a review of likely dust raising activities and identification of sensitive receptors within 200 metres of the study area. Potential dust impacts would be suitably controlled using the best practice mitigation measures set out within the First Iteration Environmental Management Plan [REP6-012] which will be developed into the Second Iteration Environmental Management Plan prior to and for implementation during construction and secured through Requirement 3 of the draft Development Consent Order [REP7-006]. A qualitative assessment of the impacts management measures has also been undertaken and concluded that due to the temporary nature of the measures, there are not expected to be significant air quality effects at nearby receptors during the construction phase.</p> <p>An assessment has been undertaken to assess the air quality</p>

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	<p>effects, distinguishing between the construction and operation stages, and taking account of the impact of any road traffic generated by the project</p> <ul style="list-style-type: none"> the predicted emissions, concentration change and absolute concentrations of the proposed project after mitigation methods have been applied any potential impacts on nearby designated habitats from air pollutants the proximity and nature of nearby receptors which could be impacted, including those more sensitive to poor air quality. 	<p>impact of changes in traffic associated with the Scheme during its operation, at sensitive receptors, using an atmospheric dispersion model. The model has been verified against air quality monitoring data and has been used to estimate the predicted pollutant concentrations at receptors with and without the Scheme in place.</p> <p>Concentrations across human health receptors are expected to be well below the NO₂, PM₁₀ and PM_{2.5} air quality objectives (40ug/m³ for NO₂ and PM₁₀, and 20ug/m³ for PM_{2.5}). As such, the Scheme complies with the Air Quality (England) Regulations 2000 (as amended) and Air Quality Strategy 2023, which set out the NO₂, PM₁₀ and PM_{2.5} air quality objectives. Therefore, in accordance with paragraph 2.90 of DMRB LA 105, Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] has concluded no likely significant effect for human health so no mitigation measures are proposed. In accordance with paragraph 2.80 of DMRB LA 105, Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] also concludes that the Scheme would not affect the UK's reported ability to comply with the Air Quality Directive (2008) in the shortest timescales possible. The relevant limit values in the Air Quality Directive (2008) and the Air Quality Standards Regulations (2010) are the same.</p> <p>Ecological receptors that have the potential to be adversely affected by changes in nitrogen deposition have been assessed and set out in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] which found that changes caused by the Scheme were not significant.</p> <p>The air quality assessment presented in Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] has considered the effects at worst-case sensitive human health receptors (residential properties, a school and a hospital) and designated sites for ecology within 200 metres of affected roads. The coordinates of the</p>

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		<p>sensitive receptors considered in the operational phase assessment have been provided in Appendix 5.1 (Air Quality Receptor Results) of the Environmental Statement Appendices [APP-128] and the sensitive human health receptors predicted to experience the greatest change in air quality or greatest concentration have been referred to in detail in Sections 5.11.26 to 5.11.30 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020], with their proximity to the emission source provided.</p> <p>The full assessment of the impacts of the Scheme has been presented in Sections 5.9 and 5.11 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020].</p> <p>The Statement Relating to Statutory Nuisances [REP7-070] has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the Environmental Protection Act 1990 (EPA). With the best practice mitigation measures set out in the First Iteration Environmental Management Plan [REP6-012] in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.</p> <p>The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and NCC [REP7-093] and the Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to air quality.</p>
5.14	In addition, applicants should consider The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 by following available Defra guidance,	The new long-term target PM _{2.5} set out in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 and the new interim target set out in Environmental Improvement Plan 2023 have been considered as part of the air quality assessment, as detailed in

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	including interim guidance.	<p>the final bullet point of paragraph 5.5.21 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020].</p> <p>The new annual mean PM_{2.5} target of 10µg/m³ by 2040 does not need to be met until 2040, which is after the Scheme opening year of 2028, and the interim annual mean PM_{2.5} target of 12µg/m³ by 2028 is not a legal threshold. Therefore, the targets are not applicable to the assessment and have not been considered further. Nonetheless, the final bullet point of paragraph 5.5.21 provides detail on why the Scheme would not have a significant effect on the ability to meet the future PM_{2.5} target of 10µg/m³.</p>
5.15	<p>Defra publishes future projections of UK air pollutant emissions based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. The applicant's assessment should be consistent with this approach but may include more detailed modelling to demonstrate local impacts. If an applicant believes they have robust additional supporting evidence, such as updated vehicle fleet data, that has not been incorporated into the Emissions Factor Toolkit and is likely to change the projected emissions, to the extent they could affect the conclusions of the assessment, they should include this in their representations to the Examining Authority along with the source of the evidence.</p>	<p>Predicted background pollutant concentrations published by Defra have been used in the assessment, which have been adjusted based on monitored background concentrations, to ensure they are representative of local background conditions.</p> <p>Road traffic emission factors used in the assessment have been derived from an update to the speed band emission factors published in DMRB LA 105. The speed band emission factors used in this assessment, v4.3, take account of Defra's Emission Factor Toolkit (EFT).</p> <p>Long-term trend gap analysis factors in accordance with DMRB LA105 have also been applied to uplift opening year concentrations in order to address the uncertainty relating to predictions of future emissions.</p> <p>Further details are set out in Chapter 5 (Air Quality) of the Environmental Statement [REP7-020].</p>
5.17	Mitigation measures may affect the project design, layout, construction, operation and/or may consist of measures to improve	Section 5.10 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] sets out the mitigation measures. These are

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	<p>air quality in pollution hotspots beyond the immediate locality of the Scheme. Measures could include, but are not limited to, changes to the route or design of the new Scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to better disperse emissions, and/or speed control.</p>	<p>summarised below:</p> <p>Mitigation measures – construction</p> <p>Construction works would be carried out in accordance with the best practicable means, as defined in Section 79(9) of the EPA, to reduce fumes or emissions which may impact upon air quality. As a minimum, the following measures are required to prevent significant effects during the construction phase. These measures are included within the First Iteration Environmental Management Plan [REP6-012] and would be implemented through the Second Iteration Environmental Management Plan secured through Requirement 3 of the draft Development Consent Order [REP7-006]</p> <ul style="list-style-type: none"> • Avoid double handling of materials. • Minimise height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. • Locate stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. • Ensure that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed. • Provide a means of removing mud and other debris from wheels and chassis of vehicles leaving the site. This may involve a simple coarse gravel running surface or jet wash, or in the case of a heavily used exit point, wheel washers.

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		<ul style="list-style-type: none"> • Maintain a low speed limit on site to prevent the generation of dust by fast moving vehicles. • Damp down surfaces in dry conditions. • Water to be sprayed during cutting/grinding operations. • All vehicle engines and plant motors to be switched off when not in use. • High dust generating activities within site compounds should be located as far away from nearby receptors as possible. <p>Mitigation measures – operation The results of the air quality assessment completed for this Scheme, presented in Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] demonstrate that the Scheme would not have a significant effect on air quality. This is because there will be no exceedances of the air quality objectives, no significant impacts at designated habitats or human health receptors and the Scheme would not affect reported compliance with the Air Quality Directive (2008) or the Air Quality Standards Regulations (2010). On the basis of these conclusions no design, mitigation or enhancement measures such as physical barriers and changes to the Scheme design and layout are required for impacts on air quality during operation.</p>
5.18	Where a project is likely to lead to a breach of any relevant statutory air quality limits, objectives and targets, the applicant should work with the relevant authorities to secure appropriate mitigation measures. Where a	The results of the air quality assessment completed for this Scheme for the operational phase are presented in Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] and demonstrate that there are no exceedances of the air quality objectives (40ug/m ³ for NO ₂ and PM ₁₀ , and 20ug/m ³ for PM _{2.5}). The Scheme would also not

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	<p>project is located within, or in close proximity to, an Air Quality Management Area or Clean Air Zone, applicants should engage with the relevant local authority to ensure the project is compatible with the Local Air Quality Action Plan.</p>	<p>affect the UK's reported ability to comply with the Air Quality Directive (2008) or the Air Quality Standards Regulations (2010) in the shortest timescales possible. No likely significant effects for human health are predicted so no mitigation measures are proposed.</p> <p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] also confirms that impacts from construction dust will be mitigated using best practicable means, such as wetting down and minimising the height of stockpiles, and effects are not predicted to be significant. The mitigation measures are set out in the Register of Environmental Actions and Commitments within the First Iteration Environmental Management Plan [REP6-012]. The First Iteration Environmental Management Plan [REP6-012] will be developed into a Second Iteration Environmental Management Plan to be implemented during construction of the Scheme and secured through Requirement 3 of the draft Development Consent Order [REP7-006].</p> <p>There are no Air Quality Management Areas or Clean Air Zones within or in close proximity to the Scheme</p>
5.19- 5.21	<p>With respect to all relevant statutory air quality limits, objectives and targets other than those set under The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023, all reasonable mitigation action should be taken. At a minimum, the proposed mitigation measures should ensure that the net impact of a project does not delay compliance with those objectives.</p>	<p>The results of the air quality assessment completed for this Scheme for the operational phase, presented in Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] demonstrate that the Scheme would not have a significant effect on air quality. This is because there will be no exceedances of the air quality objectives, no significant impacts at designated habitats or human health receptors and the Scheme would not affect reported compliance with the Air Quality Directive (2008) or the Air Quality Standards Regulations (2010). On this basis no design, mitigation or enhancement measures such as physical barriers and changes to the Scheme design and layout are required for impacts on air</p>

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	<p>With respect to The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023, the applicant should take all reasonable steps to reduce emissions of PM_{2.5} and its precursor pollutants in the construction and operational stage of the development by following available Defra guidance.</p> <p>Where a scheme is expected to lead to a deterioration of air quality the applicant should justify why the level of mitigation proposed is deemed to be reasonable.</p>	<p>quality during operation.</p> <p>The new long-term target PM_{2.5} set out in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 and the new interim target set out in Environmental Improvement Plan 2023 have been considered as part of the air quality assessment, as detailed in the final bullet point of paragraph 5.5.21 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020]. The new annual mean PM_{2.5} target of 10µg/m³ by 2040 does not need to be met until 2040, which is after the Scheme opening year of 2028, and the interim annual mean PM_{2.5} target of 12µg/m³ by 2028 is not a legal threshold. Therefore, the targets are not applicable to this assessment and have not been considered further. Nonetheless, the final bullet point of paragraph 5.5.21 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] provides detail on why the Scheme would not have a significant effect on the ability to meet the future PM_{2.5} target of 10µg/m³ set out in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023.</p> <p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] confirms that the implementation of dust control measures carried out in accordance with best practicable means will minimise the risk of construction dust effects so that they are unlikely to result in significant effects at nearby sensitive receptors, in accordance with DMRB LA 105.</p>
5.22	<p>In all cases the Secretary of State must take account of any relevant statutory air quality limits, objectives and targets. The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. In doing so the Secretary of State should have regard to relevant guidance including within the Air Quality Strategy or any successor to it,</p>	<p>Section 5.3 of Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] sets out the relevant air quality limits, objectives and targets applicable to the Scheme. Relevant legislation and policy such as the Air Quality Strategy 2023 and the Environmental Improvement Plan, and the requirements set out within Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 and guidance issued for Local Air Quality Management have been taken into account in the air quality assessment. The results presented in the air quality assessment</p>

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	Local Air Quality Management guidance and any relevant PM2.5 target guidance.	<p>demonstrate that the Scheme is consistent with national and local planning policy with respect to air quality whilst accounting for advice set out within Local Air Quality Management guidance.</p> <p>Detail on the mitigation measures that have been proposed is provided in the response to NPSNN paragraph 5.17 above.</p>
5.23	<p>Air quality considerations are likely to be particularly relevant where schemes are proposed:</p> <ul style="list-style-type: none"> • within or adjacent to Air Quality Management Areas; roads identified as being above Limit Values; and • where changes are sufficient to bring about the need for a new Air Quality Management Area or change the size of an existing Air Quality Management Area; or bring about changes to exceedances of the Limit Values 	<p>There are no Air Quality Management Areas within or adjacent to the Scheme and no roads identified as being above the limit values.</p> <p>The Scheme would not lead to any new Air Quality Management Areas being created or any existing Air Quality Management Areas being changed. The Scheme will also not result in any new exceedances of the limit values occurring.</p> <p>There are road links from the Pollution Climate Mapping (PCM) model (used by Defra to report limit value compliance) within the study area for the Scheme but none that intersect the affected road network (ARN) (see Figure 5.2 (Air Quality Constraints) of the ES Figures [AS-029]). The predicted concentrations for the closest PCM model link to the ARN are 16.1µg/m³ for 2022 (the assessment base year) and 12.0µg/m³ for 2028 (the assessment opening year), which are both below the annual mean limit value of 40µg/m³ for NO₂. This demonstrates that the Scheme would not affect the UK's reported ability to comply with the Air Quality Directive (2008) in the shortest timescales possible.</p> <p>Concentrations across human health receptors are also expected to be well below the NO₂, PM₁₀ and PM_{2.5} air quality objectives (40ug/m³ for NO₂ and PM₁₀, and 20ug/m³ for PM_{2.5}) with and without the Scheme in place in the Scheme's opening year.</p> <p>The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and NCC [REP7-093] and the</p>

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		<p>Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to air quality.</p> <p>Ecological receptors that have the potential to be adversely affected by changes in nitrogen deposition have been assessed by the competent expert for Biodiversity and set out in Chapter 8 (Biodiversity) of the ES [REP7-026] which found that changes caused by the Scheme were not significant.</p> <p>The Applicant has engaged with Natural England throughout the Scheme design and assessment process. A Statement of Common Ground has been developed between the Applicant and Natural England [REP7-094] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to air quality and the assessment of air quality impacts on ecological receptors.</p>
5.24	<p>The Secretary of State should give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to meeting environmental assessment requirements; or where they lead to a deterioration in air quality in a zone/agglomeration.</p>	<p>No significant effects are anticipated as a result of the Scheme, after taking into account mitigation, which is only required for potential construction dust effects. The Scheme will also not lead to a deterioration in air quality in a zone/agglomeration.</p>
5.25	<p>The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts resulting from the proposed scheme will either:</p> <ul style="list-style-type: none"> result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Standards Regulations 	<p>The Scheme would not affect the UK's reported ability to comply with the Air Quality Directive (2008) or the Air Quality Standards Regulations (2010). It would not cause a zone/agglomeration which is currently compliant to become non-compliant and would not affect the ability of a non-compliant area to achieve compliance in the shortest timescales possible. The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and</p>

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	<p>(2010) becoming non-compliant; or</p> <ul style="list-style-type: none"> • affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the Examining Authority at the examination. 	<p>NCC [REP7-093] and the Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to air quality.</p>
5.31	<p>Emissions occur across the lifecycle of a project, and assessing the Whole Life Carbon emissions throughout a project will identify areas for efficiency and potential carbon reductions. All proposals for national network infrastructure projects should include a whole life carbon assessment at critical stages in the project lifecycle, for example, the submission of a major business case.</p>	<p>The assessment, in Chapter 14 (Climate) of the Environmental Statement [REP7-038] follows DMRB LA 114 Climate as this is currently the relevant methodology for highways schemes on the strategic road network (SRN).</p> <p>The assessment considers the whole life carbon emissions through construction and operation of the Scheme. Construction includes emissions from materials, construction plant and transport to/from site. Operation includes emissions from road users, energy requirement, renewal and maintenance, and land use change (changes to habitat in line with the BNG and landscape design). As per DMRB LA 114 decommissioning is excluded from the assessment due to the length of the asset operational phase. Assessments were undertaken to determine a baseline at the time of the Preferred Route Announcement and through the design highlighting areas to focus the mitigation effort</p>
5.32	<p>Undertaking a Whole Life Carbon Assessment involves calculating the emissions from 'cradle to grave' of a project. This builds a comprehensive understanding of the emissions generated when building, operating, using, maintaining and discontinuing the infrastructure.</p>	<p>The assessment, in Chapter 14 (Climate) of the Environmental Statement [REP7-038] follows DMRB LA 114 Climate as this is currently the relevant methodology for highways schemes on the strategic road network (SRN).</p> <p>The assessment considers the whole life carbon emissions through construction and operation of the Scheme. Construction includes emissions from materials, construction plant and transport to/from site. Operation includes emissions from road users, energy requirements, renewal and maintenance, and land use change</p>

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		(changes to habitat in line with the BNG and landscape design). As per DMRB LA 114 decommissioning is excluded from the assessment due to the length of the asset operational phase. mitigation effort.
5.33	A Whole Life Carbon Assessment should be conducted according to the guidance, standards and methodologies set out in Transport Analysis Guidance Unit A3. Also refer to the Environmental Assessment at paragraph 4.12 of this NPS document for more information about cumulative assessment.	Please refer to NPSNN paragraph 5.31.
5.34	As referenced in Transport Analysis Guidance, the guiding principles of managing whole life carbon are established in PAS 2080: Carbon Management in Buildings and Infrastructure (2023). This demonstrates how the whole value chain can support infrastructure decarbonisation.	Chapter 14 (Climate) of the Environmental Statement [REP7-038] describes the assessment and the mitigation approach to the Scheme. The assessment and mitigation have been developed in line with PAS 2080:2023 Carbon Management in Buildings and Infrastructure. The mitigation has been developed with input across the value chain to support reducing the emissions associated with the Scheme. The carbon management and mitigation approach for the Scheme aligns with <i>PAS 2080</i> best practice, via an iterative system which repeatedly evaluates the Scheme, for example, the use of low carbon solutions or techniques that reduce resource consumption. The output is a Scheme which is optimised as far as reasonably practicable.
5.35	Having regard to current knowledge, a carbon management plan should be produced as part of the Development Consent Order submission and include: <ul style="list-style-type: none"> a Whole Life Carbon Assessment for the project 	Chapter 14 (Climate) of the Environmental Statement [REP7-038] assesses the greenhouse gas emissions associated with the Scheme together with the Scheme's vulnerability and resilience to climate change. In line with National Highways Carbon Management System, throughout the development of the Scheme there have been efforts to reduce carbon emissions. Mitigation measures and the assessment which includes the assessment of significance of the residual emissions by comparing these against the UK Carbon

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	<ul style="list-style-type: none"> an explanation of the steps that have been taken to drive down the carbon impacts of the project. how construction and operational emissions and, where applicable, emissions from maintenance activities, have been reduced as much as possible the carbon reduction hierarchy (e.g. as set out in PAS2080) (recognising that in the case of road projects while the developer can estimate the likely emissions from road traffic, it is not solely responsible for controlling them). whether and how any residual carbon emissions will be (voluntarily) offset or removed using a recognised framework (any offsetting of emissions should not be included in the Whole Life Carbon Assessment headline figures). Where there are residual emissions, the level of emissions and the impact of those on any relevant statutory carbon budgets. 	<p>Budgets are detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038]. Table 14-21 and Paragraph 14.11.12 of Chapter 14 (Climate) of the Environmental Statement [REP7-038] described the residual emissions impact on the statutory carbon budgets. There is no intention to offset the residual emissions in line with National Highways strategy.</p> <p>An Outline Carbon Management Plan has been produced which is contained within Appendix B.6 of the First Iteration Environmental Management Plan [REP6-012]. The Outline Carbon Management Plan sets out how whole carbon emissions have been assessed to date and how they will be assessed during the detailed design to further reduce Greenhouse Gas (GHG) emissions during construction and operation of the Scheme. The Outline Carbon Management Plan is designed to inform all relevant parties of how carbon reduction for the Scheme will be implemented and the requirements to support implementation of the Design Manual for Roads and Bridges (DMRB) LA114 during the design, construction and operation of the Scheme. The Outline Carbon Management Plan is a live document that will be updated to a full Carbon Management Plan as part of the Second Iteration Environmental Management Plan and is secured by Requirement 3 of the draft Development Consent Order [REP7-006].</p>
5.36	Applicants should look for opportunities within the design of the proposed development to embed nature-based or technological solutions to mitigate, capture or offset the emissions of construction	In line with National Highways Carbon Management System, through the development of the Scheme there have been efforts to reduce carbon emissions. Mitigation measures and the assessment which includes the details of the residual emissions are detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038]. There is no intention to offset the residual emissions in line with

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		<p>National Highways strategy. The landscape design has provided additional habitat creation and enhancement which has resulted in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038].</p>
5.37	<p>Steps taken to minimise, capture and offset emissions in design and construction, should be set out in the carbon management plan, secured under the Development Consent Order. This could include, for example, mitigation through woodland creation on or adjacent to the site, contributing to offsetting residual emissions. Applicants may wish to refer to the Institute of Environmental Management and Assessment Greenhouse Gas Management Hierarchy guidance when drafting their application.</p>	<p>Chapter 14 (Climate) of the Environmental Statement [REP7-038] outlines the steps taken to minimise emissions through design, and where the design will deliver increased sequestration to capture a small proportion of the operational emissions.</p> <p>An iterative design process has been undertaken to maximise reuse and refurbishment throughout the Scheme's life as well as to identify opportunities to manage ecological assets (retention, creation, and enhancement) to provide carbon sinks. Furthermore, additional opportunities are to be further investigated and explored during detailed design to reduce emissions further. Key opportunities for inclusion are:</p> <ul style="list-style-type: none"> • Detailed exploration of the reuse of existing office area as the site compound and the refurbishment to be in line with future uses for the site; • Confirmation of the level of inclusion of Hydrogenated Vegetable Oil and Electric Plant; • Maximise use of recycled aggregate including collaboration with other schemes in the area; • Ensure best practice construction processes followed for greatest durability;

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		<ul style="list-style-type: none"> Provision or procurement of renewable energy for the compound. <p>Mitigation measures to be implemented during construction are included within the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012], to be developed into a Second Iteration Environmental Management Plan prior to construction commencing. An Outline Carbon Management Plan has been produced which is contained within Appendix B.6 of the First Iteration Environmental Management Plan [REP6-012]. The Outline Carbon Management Plan sets out how whole carbon emissions have been assessed to date and how they will be assessed during the detailed design to further reduce Greenhouse Gas (GHG) emissions during construction and operation of the Scheme. The Outline Carbon Management Plan is designed to inform all relevant parties of how carbon reduction for the Scheme will be implemented and the requirements to support implementation of the Design Manual for Roads and Bridges (DMRB) LA114 during the design, construction and operation of the Scheme. The Outline Carbon Management Plan is a live document that will be updated to a full Carbon Management Plan as part of the Second Iteration Environmental Management Plan and is secured by Requirement 3 of the draft Development Consent Order [REP7-006].</p>
5.38	The Secretary of State must be satisfied that the applicant has as far as possible assessed the carbon emissions at all stages of the development. The Secretary of State for Energy Security and Net Zero regularly assesses whether the UK has sufficient policies and proposals overall to meet the UK carbon budgets, with a view	<p>Greenhouse gas (GHG) emissions have been considered as part of the development of the Scheme. Chapter 14 (Climate) of the Environmental Statement [REP7-038] assesses GHG emissions during the construction and operation of the Scheme. As per DMRB LA 114 decommissioning is excluded from the assessment due to the length of the asset operational phase.</p> <p>The construction and operation of the Scheme is anticipated to</p>

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	to meeting the net zero target, in line with the duties under section 13 of the Climate Change Act 2008. It would not be feasible or sensible for such an assessment to be done at the time of taking individual development decisions, and there is no legal requirement to do so.	result in an overall increase of 683,200 tCO ₂ e in GHG emissions. However, the contribution of the Scheme to the UK's carbon budget for the relevant carbon budget periods is less than 0.007%, and therefore it can be concluded that the Scheme would not have a material impact on the UK Government in meeting its legally binding carbon reduction targets, and so no significant effect is anticipated in line with DMRB LA 114.
5.39	S.1(1) of the Climate Change Act 2008 reflects and puts into effect the net zero target set in light of the temperature goal of the Paris Agreement. The target was increased from 80% emission reductions by 2050 to 100% emission reductions by 2050 in June 2019. Carbon budgets 1 to 5 were set to meet the 80% emission reduction target, but carbon budget 6 (2033-2037) has been set to meet the 2050 net zero target, so it is more stretching. The UK's current Nationally Determined Contribution (set in line with Article 4 of the Paris Agreement) commits to reducing economy-wide greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels, so it is more stretching than carbon budget 5. The UK's Nationally Determined Contribution is on the pathway to the 2050 net zero target. Where it provides useful context, applicants may wish to compare their scheme emissions against carbon budgets, net zero and the UK Nationally Determined Contribution. Where an applicant assesses the carbon impacts of its scheme against	<p>The assessment of significance, in Chapter 14 (Climate) of the Environmental Statement [REP7-038] follows DMRB LA 114 Climate as this is currently the relevant methodology for highways schemes on the strategic road network (SRN). This includes contextualising the emissions against the UK Government's Carbon Budgets.</p> <p>The construction and operation of the Scheme is anticipated to result in an overall increase of 683,200 tCO₂e in GHG emissions, split across the periods of carbon budget 4, 5 and 6. However, the contribution of the Scheme to the UK's carbon budget for the relevant carbon budget periods is less than 0.007%, and therefore it can be concluded that the Scheme would not have a material impact on the UK Government in meeting its legally binding carbon reduction targets, and so no significant effect is anticipated in line with DMRB LA 114.</p>

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	carbon budget 6, and later carbon budgets, it is to be taken also to have assessed the carbon impacts of the scheme against the net zero target in the Climate Change Act 2008, as they are in line with this target.	
5.40	The Secretary of State should be content that the applicant has taken all reasonable steps to reduce the total carbon emissions at all stages of development. The Secretary of State should also give positive weight to projects that embed nature-based or technological processes to mitigate or offset the emissions of construction and within the proposed development. However, given the important role national network infrastructure plays in supporting the process of economy wide decarbonisation, the Secretary of State accepts that there are likely to be some residual emissions from construction of national network infrastructure.	<p>Chapter 14 (Climate) of the Environmental Statement [REP7-038] provides an estimated whole life carbon assessment of the Scheme and outlines the consideration of carbon reduction through all phases of the Scheme.</p> <p>The landscape design would provide additional habitat creation and enhancement which would result in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the Environmental Statement [REP7-038].</p> <p>Chapter 14 (Climate) of the Environmental Statement [REP7-038] reports a 44% reduction in emissions compared to the initial baseline assessment presented in the <i>Preliminary Environmental Information Report, Annex J10 of the Consultation Report [APP-039]</i>. No significant effects on climate are anticipated.</p> <p>This reduction is the result of significant efforts to minimise the greenhouse gas emissions associated with the Scheme design and identify opportunities to improve resource efficiency and reduce carbon, such as reuse of existing carriageway infrastructure, use of precast materials where possible and provision of renewable energy for the site compound. The carbon management and mitigation approach for the Scheme aligns with <i>PAS 2080</i> best practice, via an iterative system which repeatedly evaluates the Scheme, for example, the use of low carbon solutions or techniques that reduce</p>

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		resource consumption. The output is a Scheme which is optimised as far as reasonably practicable.
5.41-5.42	<p>Operational carbon emissions from some types of national network infrastructure cannot be totally avoided. Given the range of non-planning policies aimed at decarbonising the transport system, government has determined that net increase in operational carbon emissions is not, of itself, reason to prohibit the consenting of national network projects or to impose more restrictions on them in the planning policy framework.</p> <p>Any carbon assessment will include an assessment of operational carbon emissions, but the policies set out in chapter 2 of this NPS, apply to these emissions. Operational emissions will be addressed in a managed, economy wide manner, to ensure consistency with carbon budgets, net zero and our international climate commitments. Therefore, approval of schemes with residual carbon emissions is allowable and can be consistent with meeting net zero and our international climate commitments. Therefore, approval of schemes with residual carbon emissions is allowable and can be consistent with meeting net zero. However, where the increase in carbon emissions resulting from the proposed scheme are so</p>	<p>The assessment, as presented in Chapter 14 (Climate) of the Environmental Statement [REP7-038], includes operational emissions encompassing emissions from road users, energy requirement, renewal and maintenance, and land use change (changes to habitat in line with the BNG and landscape design).</p> <p>DMRB LA 114 states that <i>'projects shall only report significant effects where increases in GHG emissions will have a material impact on the ability of Government to meet its carbon reduction targets'</i>.</p> <p>The assessment includes a comparison of estimated GHG emissions arising from the Scheme with UK carbon budgets in line with DMRB LA 114. The results of this comparison are presented in Table 14.21 of the Chapter 14 (Climate) of the Environmental Statement [REP7-038], following the format of Table 3.18 in DMRB LA 114.</p> <p>The construction and operation of the Scheme would result in an overall increase of 683,200 tCO₂e in the greenhouse gas emissions as outlined above. However, the contributions of the Scheme to the United Kingdom UK's carbon budget for the relevant carbon budget periods are not significant, less than 0.007%, and therefore it can be concluded that the greenhouse gas emissions impact of the Scheme would not have any material impact on the United Kingdom Government meeting its legally binding carbon reduction targets.</p>

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	significant that it would have a material impact on the ability of government to achieve its statutory carbon budgets, the Secretary of State should refuse consent.	
5.46	The applicant should consider the potential direct and indirect impacts on ecosystems including the impacts on habitats and protected species and the interactions between these, and provide essential information proportionate to the likely impacts of the infrastructure on biodiversity and nature.	<p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] considers the likely significant effects of the Scheme on internationally, nationally and locally designated sites of ecological importance, on protected species, and on habitats and other species identified as being of principal importance for the conservation of biodiversity.</p> <p>The assessment concludes the following:</p> <ul style="list-style-type: none"> • It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC and Ramsar during construction. • A Moderate Adverse effect is anticipated on Great North Road Grasslands LWS during construction. • A Slight Adverse effect is anticipated on Dairy Farm Railway Strip, Newark LWS, Newark (Beet Factory) Dismantled LWS, Old Trent Dyke LWS and Newark Trent Grassland LWS during construction. • A Slight Adverse effect is anticipated on HPI and non HPI during construction. • A Slight Adverse effect is anticipated on three veteran trees during construction. • The Scheme is anticipated to have a Slight Adverse effect during construction on badger, bats, breeding and wintering

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		<p>birds, fish, reverting to Neutral once operational.</p> <ul style="list-style-type: none"> • The Scheme is anticipated to have a Slight Adverse effect on barn owls during construction and operation. • The Scheme is anticipated to have a Slight Adverse effect during construction on invertebrates (aquatic and terrestrial) and water vole. • The Scheme is anticipated to have a Slight Beneficial effect on reptiles during construction. • The Scheme is anticipated to have a Neutral effect on otter during construction and operation. <p>With mitigation, no significant effects upon biodiversity are likely during construction and operation.</p> <p>Chapter 9 (Geology and Soils) of the Environmental Statement [REP7-028] considers the likely significant effects of the Scheme on designated areas of geological importance.</p>
5.47	The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geographical conservation interests as well as consider how their proposal will deliver Biodiversity net gain in line with the requirements in a Biodiversity Gain Statement as set out in paragraphs 4.23 to 4.26 above.	<p>The Scheme has taken into account the locations of valuable and priority habitats, including important connective habitats (i.e., hedgerows, watercourses and treelines) and the location of any protected species. The mitigation hierarchy has been followed to modify the design to avoid impacts to these features where practicable.</p> <p>Whilst the Scheme will achieve an overall numerical increase in habitat units within the Order Limits there is an exception to this regarding the areas of impact and compensation for lowland meadow. In the case of lowland meadow, a compensation strategy has been designed to address unavoidable losses to this very high distinctiveness habitat (as detailed in the Biodiversity Net Gain</p>

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		<p>Technical Report Appendix 8.14 of the ES Appendices [REP7-056] and the First Iteration EMP [REP5-025]. Natural England considers the compensation proposed to be appropriate in principle, subject to appropriate ongoing management, but they do not consider a bespoke compensation agreement to be mandatory (as detailed in the Statement of Common Ground between the Applicant and Natural England [REP7-094]). Natural England acknowledged BNG is not mandatory for Nationally Significant Infrastructure Projects (NSIPs) until November 2025, therefore Natural England's comments at this stage should be considered as advisory only. Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056].</p>
5.48	<p>To avoid direct and indirect harm or disturbance in line with the mitigation hierarchy the applicant should demonstrate:</p> <ul style="list-style-type: none"> • developments are designed to avoid the risk of harm, for example by minimising the footprint of the development and/or retaining the site's important habitat features. • developments are designed and landscaped to provide green corridors and minimise habitat fragmentation (for example using underpasses or green bridges to link habitats). • during construction, they will seek to ensure that activities will be confined 	<p>The Scheme has taken into account the locations of valuable and priority habitats, including important connective habitats (i.e., hedgerows, watercourses and treelines) and the location of any protected species. The mitigation hierarchy has been followed to modify the design to avoid impacts to these features where practicable. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] and includes:</p> <ul style="list-style-type: none"> • The Scheme has been designed to minimise habitat loss with a focus on avoiding high value and/or irreplaceable habitat present. All veteran trees within or in close proximity to the Order Limits have been retained. Habitats of principle importance and habitats of high distinctiveness (condition assessment for BNG) have been retained wherever possible. For example, attenuation ponds have been positioned to maximise retention of mature trees, hedgerows and habitat of principal importance.

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	<p>to the minimum areas required for the works.</p> <p>during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species and habitats follow the mitigation hierarchy (including as a consequence of transport access arrangements). For example, plan for construction work to be carried out at specific times to avoid sensitive times and location, such as breeding season for wild birds and lifecycles for migratory fish.</p>	<ul style="list-style-type: none"> Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to Local Wildlife Sites (LWSs) and priority habitats. Where possible, the design has incorporated drainage into existing infrastructure such as outfalls, swales/ditches and culverted pipes. This has helped to minimise the loss and damage to riparian and aquatic habitat, including disturbance of sediments and therefore reduce impacts to spawning fish. <p>Mitigation measures during construction and operation are described within Section 8.10 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026].</p> <p>These mitigation measures are included in the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012] which would be developed into a Second Iteration Environmental Management Plan for implementation during construction in accordance with requirement 3 of the draft Development Consent Order [REP7-006]. The Second Iteration Environmental Management Plan must substantially accord with the First Iteration Environmental Management Plan [REP6-012]. Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan [REP7-042] is secured by Requirement 12 of the draft Development Consent Order [REP7-006].</p>
5.49	If avoidance or reduction of harm is not possible, applicants should include	The mitigation hierarchy has been followed to modify the design to avoid impacts to features where practicable. Embedded mitigation

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	appropriate mitigation measures, in line with the mitigation hierarchy, as an integral part of their proposed development, including identifying where and how these will be secured in the long term.	<p>incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] summarises the mitigation measures required during the construction and operation.</p> <p>These mitigation measures are included in the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012]. In accordance with requirement 3 of the draft Development Consent Order [REP7-006] a Second Iteration Environmental Management Plan would be developed and implemented prior to construction commencing. The Second Iteration Environmental Management Plan must substantially accord with the First Iteration Environmental Management Plan [REP6-012] Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan is secured by Requirement 12 of the draft Development Consent Order [REP7-006].</p>
5.50	If avoidance or bespoke mitigation measures are insufficient or not possible, as a last resort, appropriate compensation measures should be sought and implemented.	<p>Any compensation measures required during construction and operation are outlined in Section 8.10 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026].</p> <p>To compensate for the loss of approximately 11,290 square metres of lowland mixed deciduous woodland habitat of principal importance (HPI), including those located within a Local Wildlife Site (LWS), approximately 20,800 square metres of deciduous woodland will be planted Scheme wide. Where possible, creation of habitats has been prioritised in areas connected and adjacent to areas of the equivalent HPI lost. Where this cannot be achieved within the Order Limits, compensation will be delivered offsite. This is the case for</p>

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		<p>lowland mixed deciduous woodland HPI, where approximately a further 13,000 square metres of woodland will be subject to enhancement to a higher quality lowland mixed deciduous woodland at Doddington Hall. The offsite compensation at Doddington Hall is being provided by way of an agreement under s.253 of the Highways Act 1980 (HA 1980). That agreement will be legally binding on the owners of Doddington Hall and, pursuant to s.253(3) of the HA 1980, on its successors in title. By the provisions of s.253(4) of the Highways Act 1980 the agreement will also constitute a local land charge. The Applicant can confirm that the s253 agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion.</p> <p>As the Scheme is not subject to mandatory BNG there are no requirements for offsite provision to be registered in any way. Further details are provided in the First Iteration Environmental Management Plan [REP6-012]. This is based on a BNG metric ratio 1:1.5 for habitat enhancement of lowland mixed deciduous woodland HPI.</p>
5.51	<p>The applicant should not just look to mitigate direct harms but should show how the project has taken advantage of opportunities to conserve and enhance biodiversity, having due regard to any relevant local nature recovery strategies and species conservation strategies. Opportunities will be taken to enhance, expand existing habitats and create new habitats in accordance with biodiversity net gain requirements. Habitat creation, enhancement and management proposals</p>	<p>Refer to NPSNN paragraphs 4.25, 5.47 and 5.149.</p> <p>It is anticipated that the Nottinghamshire and Nottingham Nature Recovery Strategy will be published in 2025.</p> <p>Farndon West FCA design considers the appropriate location of hibernacula (log and brash piles provision from retained felled trees) in species rich grassland with areas of scrub with regard to flooding events (frequency and severity). Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] details a climate resilient planting design, which has considered the following: diverse mix of native species of local provenance</p>

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	should include measures for climate resilience, including appropriate species selection. Maintaining habitat connectivity is important for climate resilience and the biodiversity of ecological networks.	(avoiding homogenous planting, prone to spread of disease), soil composition for habitat creation (e.g. identified suitable areas for lowland meadow creation), an overall gain in habitats that provide carbon sequestration (reedbeds and woodland), maintaining and enhancing habitat connectivity facilitating the movement of wildlife, designed to be maintained for the lifetime of the Scheme as prescribed in the First Iteration Environmental Management Plan [REP6-012] and Second Iteration Environmental Management Plan. Climate resilience was considered within the BNG assessment (Appendix 8.14 Biodiversity Net Gain Technical Report of the Environmental Statement Appendices [REP7-056] to support the initial and long-term feasibility of the planting design. Strategic Significance also informed the planting design; prioritising the creation of habitats in locations which are ecologically important (with reference to local policy or strategy, or for creating or enhancing connective corridors).
5.52	Wider ecosystem services and benefits of natural capital should also be considered when designing enhancement measures in order to maximise multi-functional benefits whilst minimising land take. For example, this can be achieved through integration of Biodiversity features within a sustainable drainage system; the use of green roofs and walls to harvest rainwater and ameliorate urban heating; or the restoration of rivers to reduce flood risk and provide attractive amenity areas.	<p>The Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179] details the incorporation of Sustainable Drainage Systems (SuDS) within the drainage of the Scheme.</p> <p>The use of SuDS is the key driver of the drainage and flood risk strategy, utilising nature-based solutions to minimise flood risk and maximise additional benefits.</p>
5.53	The Secretary of State should consider the ten goals of the government's Environmental Improvement Plan, the United Nations Environmental Programme Convention on Biological Diversity of 1992	The Scheme is required to implement national legislation to achieve UK commitments of international nature obligations (this includes the United Nations Environmental Programme Convention on Biological Diversity of 1992). Section 8.3 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] sets out the principal

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	<p>and any relevant measures and targets, such as the Environment Act 2021 targets. In doing so, the Secretary of State should also take account of the context of the challenge of climate change; failure to address this challenge will result in significant adverse impacts to biodiversity. The benefits of nationally significant low carbon transport infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh the harm to those interests. However, mitigation hierarchy will still need to be applied.</p>	<p>legislation and planning context for the assessment of the environmental effects of the Scheme on biodiversity. The relevant legislation and policies have been taken into account in the assessment and this includes the government's 25 year Environment Plan and the Environment Act 2021. This plan is the Government's vision for biodiversity improvements in England and identifies the need to explore 'net gain' within the planning system. The Scheme has considered biodiversity net gain. The Applicant has submitted a Biodiversity Net Gain (BNG) Technical Report in Appendix 8.14 of the Environmental Statement Appendices [REP7-056] which outlines the Scheme's net gain in biodiversity. The UK Biodiversity Action Plan (BAP), now superseded by documents that have expired, provided lists of BAP Priority Habitats and Species. Those that occur in England are now identified as habitats and species of principal importance for the conservation of biodiversity under section 41 of The Natural Environment and Rural Communities (NERC) Act 2006. Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] considers the likely significant effects of the Scheme on internationally, nationally and locally designated sites of ecological importance, on protected species, and on habitats and other species identified as being of principal importance for the conservation of biodiversity.</p>
5.54	<p>The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into, to ensure that any necessary mitigation and compensatory measures are secured, delivered, managed and if necessary enforced, and that biodiversity improvements are registered in accordance with biodiversity net gain requirements.</p>	<p>Proposed biodiversity improvements that contribute to the BNG assessment (Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056]) would be secured by Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] as well as the Landscape and Ecology Management Plan, the BNG Management and Monitoring Plan and the BNG Audit Report detailed in the First Iteration Environmental Management Plan . These are all secured through Requirement 3 of the draft Development Consent Order [REP7-006].</p>

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		<p>The offsite compensation at Doddington Hall is being provided by way of an agreement under s.253 of the Highways Act 1980 (HA 1980). That agreement will be legally binding on the owners of Doddington Hall and, pursuant to s.253(3) of the HA 1980, on its successors in title. By the provisions of s.253(4) of the Highways Act 1980 the agreement will also constitute a local land charge. The Applicant can confirm that the s253 agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion. As the Scheme is not subject to mandatory BNG there are no requirements for offsite provision to be registered in any way.</p>
5.55	<p>As a general principle, and subject to the specific policies below, development should, at first avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives. If avoidance is not possible, mitigation needs to be considered (as set out in paragraphs 5.48 to 5.52 above). Where significant harm cannot be avoided or mitigated it should be compensated for as a last resort, with on-site mitigation being considered prior to off-site. The Secretary of State will give significant weight to any residual harm.</p>	<p>Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] sets out the main alternatives considered by the Applicant and how the preferred option was determined through consideration of environmental effects at different stages in the design development process.</p> <p>The mitigation hierarchy has been followed to modify the design to avoid impacts to features where practicable. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>Chapter 8 (Biodiversity) [REP7-026] and Chapter 9 (Geology and Soils) [REP7-028] of the Environmental Statement summarises the mitigation measures required during the construction and operation.</p> <p>These mitigation measures are included in the Register of Environmental Actions and Commitments which forms part of the First Iteration Environmental Management Plan [REP6-012]. In accordance with requirement 3 of the draft Development Consent Order [REP7-006] a Second Iteration Environmental Management Plan would be developed for implementation during construction.</p>

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		<p>The Second Iteration Environmental Management Plan must substantially accord with the First Iteration Environmental Management Plan [REP6-012]. Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan [REP7-042] is secured by Requirement 12 of the draft Development Consent Order [REP7-006].</p>
5.57	<p>The Secretary of State will need to take account of the advice provided to the applicant by Natural England and/or the Marine Management Organisation, as regards any necessary mitigation measures and whether these organisations have granted or refused, or intends to grant or refuse, any relevant licences or permit, including protected species mitigation licences. In advance of formal submission, applicants are encouraged to use Natural England's Letter of No Impediment Approach and engage with Natural England.</p>	<p>The Statement of Common Ground with Natural England [REP7-094] details that all biodiversity issues raised by Natural England have now been 'Agreed' between Natural England and the Applicant. This included the following:</p> <ul style="list-style-type: none"> • A mitigation licence to allow for derogation from legislation and therefore the lawful destruction of a bat roost (F004). A full draft mitigation licence for bats (A13) has been provided to Natural England and a Letter of No Impediment (LONI) has been issued (recorded in Appendix A within a Statement of Common Ground with Natural England [REP7-094]. • Assessment methodology including affected road network (ARN), impacts, embedded and essential mitigation, in-combination effects, detailed in the Habitat Regulations Assessment [REP5-075]. Agreement included that proposed embedded mitigation is not necessary to avoid or reduce adverse significant effects of the proposed development on the Humber Estuary Ramsar and SAC; and • Mitigation and enhancement with regard to biodiversity net gain. <p>Natural England agrees with the conclusion of no likely significant effects on international designated sites regarding reduction in habitat area, changes to key elements of the site, and fragmentation, disruption and disturbance of the Humber Estuary SAC or the Ramsar sites.</p>

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5.58	<p>The most important sites for biodiversity in the UK are those afforded special protection by the Habitats Regulations. These sites are designated as Special Areas of Conservation and Special Protection Areas and are collectively known as habitats sites. The following should be given the same protection as sites legally protected by the Habitats Regulations: potential Special Protection Areas and possible Special Areas of Conservation, listed or proposed Wetlands of International Importance (Ramsar sites), and sites identified, or required, as compensatory measures for adverse effects on habitat sites.</p>	<p>There are no designated sites of international importance (National Site Network or Ramsar sites) within 2 kilometres of the Scheme or within 200 metres of the ARN. There are no sites within the National Site Network where bats are a qualifying feature, within 30 kilometres of the Scheme.</p> <p>Section 8.8 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] outlines that the Humber Estuary Ramsar and SAC are hydrologically connected to the Scheme, downstream of the River Trent approximately 53 kilometres directly from the Order Limits and 75 kilometres via the River Trent. Given the distance of the SPA from the Order Limits and the nature of the qualifying feature for this designation (various bird species and the non-breeding waterfowl assemblage), the Scheme will not impact this designated site and so it has been scoped out of further assessment. The SAC is also of international importance for Annex I habitats present. These receptors will not be affected by the Scheme due to the distance from the source of potential impacts and so habitats within the SAC are scoped out of further assessment. River lamprey <i>Lampetra fluviatilis</i> and sea lamprey <i>Petromyzon marinus</i> (qualifying features of the Humber Estuary Ramsar and SAC) migrate up rivers to spawn and therefore the River Trent may serve as a migratory route or habitat for lamprey species. The Humber Estuary Ramsar and SAC are included in the baseline for this reason. No significant areas of gravel substrate suitable for lamprey spawning have been identified within the Order Limits or within 2 kilometres downstream within the River Trent.</p> <p>It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC and Ramsar during construction. Essential mitigation is set out in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026]. This includes the following:</p>

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		<ul style="list-style-type: none"> • The use of bubble curtains and floating oil booms. • ECoW monitoring of silt curtains to mitigate sediment disturbance and smothering of gravels. • In addition to embedded mitigation (e.g., directional lighting), the use of task lighting with cowls will be used. • Use of low noise/vibration piling set-up and a slow start-up, where possible, for all night works and sheet piling adjacent to the River Trent. <p>All essential mitigation is secured within the First Iteration Environmental Management Plan [REP6-012] and shown on Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] where relevant.</p>
5.59	The Habitats Regulations set out a specific process (see paragraphs 4.14 to 4.18) to assess the likely implications for these sites from a proposed plan or project, To maintain the overall cohesion of the National Site Network, such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, in the case of a negative assessment, if there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest with the necessary compensatory measures secured.	See response to NPSNN paragraph 5.58 above.
5.61	Where a proposed development on land	There are no Sites of Special Scientific Interest located within 2

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	<p>within or outside of a Site of Special Scientific Interest is likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) development consent should not normally be granted. An exception should only be made where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest. The Secretary of State should ensure that the applicant's proposals to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest, are acceptable. The Secretary of State is bound by the duty placed on all public bodies in section 28G of the Wildlife and Countryside Act 1981 to take reasonable steps, consistent with the proper exercise of their functions, to further conservation and enhancement of the features by reason of which a site is of special scientific interest.</p>	<p>kilometres of the Scheme.</p>
5.62	<p>Ancient woodland and ancient and veteran trees are irreplaceable habitats. England's ancient woodlands and ancient and veteran trees support high levels of biodiversity. They are home to a quarter or</p>	<p>Section 8.8 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] states that a Slight Adverse effect is anticipated on three veteran trees during construction.</p> <p>The Scheme will result in the direct partial impact of the root</p>

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	<p>England's priority species for conservation and once lost they cannot be recreated. They also deliver many ecosystem services including clean water and healthy soils, carbon storage, support for people's wellbeing and their long-standing cultural values. The Keepers of Time published in 2022 updates government's policy for ancient and native trees and woodlands in England, sets out the government's policy to recognize the value of England's ancient and native woodlands and ancient and veteran trees. It restates the government's commitment to evaluate the threats facing these habitats and sets out updated principles and objectives to protect and improve these habitats for future generations.</p>	<p>protection areas (RPA) of three veteran trees (T038, T136, T139). This will be caused by construction of a maintenance track and earthworks, including drainage pipe installation.</p> <p>The Applicant can confirm the design process has carefully considered the construction requirements in proximity to these trees.</p> <p>With regards to trees T136 and T139, the design has been developed to limit incursions as far as practicable, steepening proposed earthworks to limit the footprint of the Scheme with the provision of 70-degree slopes to the widened embankment to reduce the neighbouring access track corridor from 5.0 metres to 3.0 metres in order to avoid removal of the trees. Unfortunately, there is no scope to reduce this further.</p> <p>In relation to tree T038, the Scheme elements that infringe on the edge of the RPA of this tree in the current design proposals will be reviewed at the detailed design stage. It is anticipated that the initial gradient of the proposed earth bund to the west of the tree as presented in the Complete Tree Protection Plans - Part 2 [AS-020] can potentially be revised during detailed design, locally steepening the slope profile to 1:2 to reduce the footprint of the bund. The alignment of the access road and swale to the west/southwest of the tree will be further reviewed with the objective of removing the minor incursion into the RPA if possible. Similarly, it is anticipated that the footprint of the headwall to the north of the tree can be adapted during detailed design to remove the minor incursion into the section of the RPA currently identified.</p> <p>The mitigation measures suggested in the Arboricultural Impact Assessment [REP7-054] are to further decrease the impact on these trees, primarily through the application of "no-dig" construction methods and cellular confinement systems such as CellWeb.</p>

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		<p>In accordance with commitment L2 contained in Table 3-2 Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [REP6-012], regular inspections of protection measures and supervision of any works within the RPA is to take place by a qualified arboriculturist during construction, and results of inspections and supervision works are to be made available to the Local Authority. The exact specifications will be included in the more detailed Arboricultural Method Statement to be prepared as part of the Second Iteration Environmental Management Plan developed from the First Iteration Environmental Management Plan [REP6-012] for implementation during construction and secured through Requirement 3 of the draft Development Consent Order [REP4-002].</p> <p>It is anticipated that, with arboricultural supervision to ensure works are undertaken in line with best practice, the level of disturbance stated above can be tolerated by these trees. It is difficult to predict this with certainty and therefore ongoing monitoring is proposed to inform any remedial action. The need for management of the retained veteran tree crown (for clearance of maintenance vehicles) would be assessed during the annual monitoring surveys of the veteran tree health (as detailed in the First Iteration EMP [REP6-012]).</p> <p>Following the implementation of this mitigation, a minor adverse impact is anticipated, resulting in a Slight Adverse effect during construction that is not significant.</p> <p>No ancient woodlands have been identified within 1 kilometre of the Order Limits.</p>
5.63	The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient	The Scheme will not result in the loss of ancient woodland and ancient trees, although there will be impact on three veteran trees as set out in the response to NPSNN paragraph 5.62 above.

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	<p>woodland and ancient or veteran trees unless there are wholly exceptional reasons (for example, where a public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.</p>	<p>Whilst the objective is to retain all veteran trees on site the Arboricultural Impact Assessment [REP7-054] transparently notes the RPA infringements and Section 8.11.12 Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] notes, “there will be an unavoidable permanent adverse impact to three veteran trees due to the direct partial impact to their RPAs.... It is very unlikely that this would result in a slow decline in tree health or accelerate the death of the tree and therefore the integrity of this resource will not be affected. It is anticipated that, with arboricultural supervision to ensure works are undertaken in line with best practice, the level of disturbance stated above can be tolerated by these trees. It is difficult to predict this with certainty and therefore ongoing monitoring is proposed to inform any remedial action. Following the implementation of this mitigation, a minor adverse impact on an irreplaceable resource of national importance is anticipated, resulting in a Slight Adverse effect during construction that is not significant.”.</p>
5.64	<p>Marine Conservation Zones, introduced under the Marine and Coastal Access Act 2009, have been designated for the purpose of conserving marine flora or fauna, marine habitats or types of marine habitat or features of geological or geomorphological interest. Marine Conservation Zones form part of the Marine Protected Areas network together with Special Areas of Conservation and Special Protection Areas. The protected feature or features and the conservation objective for the Marine Conservation Zones are stated in the designation order for the Marine Conservation Zones, which</p>	<p>The Scheme is not located in any Marine Conservation Zones.</p>

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	provides statutory protection for these areas. Measures to restrict damaging activities are being implemented by the Marine Management Organisation and other relevant organisations. As a public authority, the Secretary of State is bound by the duties in relation to Marine Conservation Zones imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.	
5.65	Sites of regional and local biodiversity and geological interest, which include Local Geological Sites, Local Nature Reserves, and Local Wildlife Sites and Nature Improvement Areas, are areas of substantive nature conservation value and make an important contribution to ecological networks and nature's recovery. They can also provide wider benefits including contributing to the quality of life and wellbeing of the community and in supporting research and education. The Secretary of State should give due consideration to any such harm to the detriment of biodiversity and geological features of regional or local importance which s/he considers may result from the proposed development. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent, nevertheless the mitigation hierarchy applies to these sites.	<p>Section 8.8 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] identifies 43 non-statutory designated sites of county importance are located within 1 kilometre of the Scheme and/or within 200 metres of the ARN (which are considered to support habitats sensitive to nitrogen deposition).</p> <p>Section 8.13 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] outlines the impact of the Scheme on regional and local sites. The assessment concludes:</p> <ul style="list-style-type: none"> • A Moderate Adverse effect is anticipated on Great North Road Grasslands LWS during construction. • A Slight Adverse effect is anticipated on Dairy Farm Railway Strip, Newark LWS, Newark (Beet Factory) Dismantled LWS, Old Trent Dyke LWS and Newark Trent Grassland LWS during construction. • No effects are anticipated on the remaining LWS during construction and operation. These include Kelham Hall Shingle Bank LWS, Kelham Road Grassland LWS, Kelham Road Grassland II LWS, Newark Dismantled Railway LWS, Railway LWS, Newark Grassland LWS, Redoubt Grassland LWS, River Trent – Kelham LWS,

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		<p>River Trent, Staythorpe LWS, Trent Banks/Wharves, Newark LWS and Valley Farm Grassland LWS.</p> <p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] sets out the mitigation and compensation measures. Due to the proximity of LWS immediately adjacent to the existing road network, an air quality barrier would not be feasible as it would result in the direct loss of habitat along the edge of the LWS for installation, whilst maintaining sight lines of road users and the working area of Vehicle Restraint Systems (VRS). Where possible, habitats within LWS in poor condition will be enhanced to compensate for increased nitrogen deposition during operation which cannot be mitigated. As planting along the A46 carriageway corridor establishes, over time it will act as more of a buffer to adjacent grassland shown in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].</p> <p>Mitigation measures to minimise the impacts of the Scheme during construction are included within the First Iteration Environmental Management Plan [REP6-012].</p> <p>There are no designated or non-designated geological sites/features of interest within 500 metres of the Scheme. Therefore, no significant adverse effects on geological conservation are anticipated during the construction and operation of the Scheme. Chapter 9 (Geology and Soils) of the ES [REP7-028] considers the likely significant effects of the Scheme on designated areas of geological importance.</p>
5.66	Development proposals provide many opportunities for incorporating beneficial biodiversity or geological features as part of good design. Nature contributes to the quality of a place, to people's quality of life,	Chapter 11 of the Scheme Design Report [REP7-078] sets out the environmental considerations that have influenced the design of the Scheme including incorporating opportunities for beneficial biodiversity. The chapter sets out the embedded mitigation measures that have been incorporated into the design from the

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	<p>the attractiveness of active travel routes and movements, and it is a critical component of well-designed development. Road and rail projects can also play a part in meeting government tree planting and nature recovery targets through partnership working with adjoining landowners, delivery biodiversity, carbon offsetting and social benefits.</p>	<p>outset. For example, the landscape design objectives include retaining notable extents of existing planting and providing new planting to replicate existing features and establish visual screening. The environmental mitigation strategy also seeks to reinstate landscape features lost as a result of the Scheme and enhance the landscape context wherever possible. Examples include reinstatement of linear belts of trees and shrubs, woodland, grassland and hedgerows, as shown on the First Iteration Environmental Masterplan [REP6-012] presented in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].</p> <p>A range of beneficial features, in addition to those which contribute to compensation for habitat losses, were included in the design. Opportunities for integrating such biodiversity enhancements were fully explored during the design process and taken whenever possible, subject to being compatible with operational requirements of the Scheme. Examples of these are described below and further detail can be seen on Figure 2.3 Environmental Masterplan of the Environmental Statement Figures [REP7-042].</p> <p>Ponds within the Scheme site drainage have been designed to be of greater biodiversity value than would be provided by a purely engineering specification. They have gently sloping sides giving shallow water zones that benefit freshwater invertebrates and allows aquatic plants to establish. Ponds would be planted with aquatic vegetation including submerged, floating and emergent species. They would be surrounded by areas planted as reedbed which forms a habitat of high biodiversity value used by a range of breeding bird species as well as mammals and wetland invertebrates. These habitats would then be complimented by planting of scattered individual trees within and around their surrounding wetlands. These would include species appropriate for</p>

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		<p>wetland species such as alder and willows. A combination of different wetland habitats within a single area is highly beneficial for meeting the ecological requirements of many species which need different resourcing for breeding and completing their life cycles. Although forming part of the highway drainage these ponds and associated wetlands would benefit from water quality treatment of runoff through the swale network before it enters them. Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042] shows approximately 30 drainage ponds and associated wetland areas.</p> <p>A range of waterbodies would also be created within the Floodplain Compensation Areas (FCA) at Farndon. In the Farndon FCA west of the A46 a network of ponds would be created. These would not be connected to the highway drainage but instead their water supply would be from ground water and periodically from flooding. As with the drainage ponds these would be designed with a range of water depths and planted with a variety of aquatic plants. The inclusion of the ponds in the Scheme has taken advantage of the need for ground lowering which makes conditions suitable and they would form a significant biodiversity enhancement. In the Farndon FCA east of the A46 a larger waterbody would be created through working of a borrow pit. This would form a habitat of high biodiversity value and would be used by both over-wintering and breeding wildfowl as well as providing habitat for other aquatic species such as fish. The decision to retain the borrow pit as a waterbody rather than return it to its pre-development use provides a significant biodiversity benefit from the Scheme. Both of these areas would benefit from planting of scattered individual trees and of species suitable for wetlands, which would complement the aquatic habitats to be provided.</p> <p>Habitat connectivity to the wider landscape has been maintained</p>

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		<p>and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to LWSs and priority habitats as well as through enhancement and creation of hedgerows. The Scheme would involve both the enhancement of retained hedgerows as well as new hedgerow planting. Existing hedgerows would have any gaps filled through new planting and structure improved through coppicing or hedge laying to maintain dense growth and extend their lifespans. There would be an overall increase in the length of hedgerow within the Order limits, taking into account hedgerows removed, and the majority of the new hedgerows planted would also include trees within them.</p>
5.67	<p>Consideration should be given to the impacts on, and improvements to, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, relevant to the local area and communities. The value of linear infrastructure and its footprint in supporting biodiversity and connecting habitats ecosystems should also be taken into account. Local Nature Recovery Strategies will identify opportunities to create or enhance habitat likely to have greatest benefit to biodiversity and wider environmental improvement. Consideration should also be given to national priorities and targets, such as reduced flood risk, improved air or water quality, and increased access to natural greenspace, or tree planting, woodland creation and protecting long established woodlands.</p>	<p>Impacts on habitats and species have been considered in the context of maintaining connectivity, maximising biodiversity delivery and the retention of sensitive ecological features. The importance of linear infrastructure is acknowledged throughout the assessment.</p> <p>Chapter 7 (Landscape and Visual Effects) of the Environmental Statement [REP7-024] refers to the retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include, but not limited to, areas of species rich grassland, hedgerows, hedgerows with trees, linear belts of shrubs and trees and woodland, as well as wetland planting of drainage features and habitat creation at Farndon East and West Floodplain Compensation Areas (FCAs). The Scheme will achieve a net gain in habitat units within the Order Limits of the Scheme, further details are set out in Appendix 8.14 (Biodiversity Net Gain (BNG) Technical Report) of the Environmental Statement Appendices [REP7-056].</p>

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		It is anticipated that the Nottinghamshire and Nottingham Nature Recovery Strategy will be published in 2025.
5.68	When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities and enhancement of wider biodiversity, in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered, and ongoing management and maintenance secured.	<p>Chapter 11 of the Scheme Design Report [REP7-078] sets out the environmental considerations that have influenced the design of the Scheme including incorporating opportunities for beneficial biodiversity. The chapter sets out the embedded mitigation measures that have been incorporated into the design from the outset.</p> <p>Also see response to NPSNN paragraph 5.62 above.</p> <p>Habitat surveys have been undertaken to understand the existing ecological conditions. A desk study and further ecological surveys have been undertaken to gather baseline information on protected and notable species in the vicinity of the Scheme. This includes surveys for barn owls, bats, badgers, wintering birds, breeding birds, reptiles, great crested newt, fish and water voles. The outcomes of the surveys undertaken are summarised in Section 8.5 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026]. The assessments conclude the following:</p> <ul style="list-style-type: none"> • The Scheme is anticipated to have a Slight Adverse effect during construction on badger, bats, breeding and wintering birds, fish, reverting to Neutral once operational. • The Scheme is anticipated to have a Slight Adverse effect on barn owls during construction and operation.

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		<ul style="list-style-type: none"> The Scheme is anticipated to have a Slight Adverse effect during construction on invertebrates (aquatic and terrestrial) and water vole. <p>The Scheme is anticipated to have a Slight Beneficial effect on reptiles during construction.</p>
5.69	<p>Many individual wildlife species receive statutory protection under a range of legislative provisions. Some species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and therefore requiring conservation action. As a public authority, the Secretary of State is bound by the duty in section 40 of the Natural Environment and Rural Communities Act 2006 (as amended by section 102 of the Environment Act 2021) to periodically consider what action the authority can take, consistent with the exercise of its functions, to further the conservation and enhancement of biodiversity. In doing so, the Secretary of State may consider the impact on species and habitats listed under section 41 of the Act. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of the development by using requirements, planning obligations, or licence conditions. The Secretary of State should refuse</p>	<p>Habitat surveys have been undertaken to understand the existing ecological conditions. A desk study and further ecological surveys have been undertaken to gather baseline information on protected and notable species in the vicinity of the Scheme. This includes surveys for barn owls, bats, badgers, wintering birds, breeding birds, reptiles, great crested newt, fish and water voles. The outcomes of the surveys undertaken are summarised in Section 8.5 of Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026]. The assessments conclude the following:</p> <ul style="list-style-type: none"> The Scheme is anticipated to have a Slight Adverse effect during construction on badger, bats, breeding and wintering birds, fish, reverting to Neutral once operational. The Scheme is anticipated to have a Slight Adverse effect on barn owls during construction and operation. The Scheme is anticipated to have a Slight Adverse effect during construction on invertebrates (aquatic and terrestrial) and water vole. The Scheme is anticipated to have a Slight Beneficial effect on reptiles during construction. The Scheme is anticipated to have a Neutral effect on otter during construction and operation. <p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] sets out the compensation measures for such species during construction and operation, and the overall mitigation, including</p>

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	<p>consent where harm to habitats or species and their habitats would result, unless the benefits of the development (including need) clearly outweigh that harm.</p>	<p>embedded mitigation.</p> <p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026] identifies opportunities for Biodiversity Net Gain (BNG) and enhancement of biodiversity resources. The potential for the Scheme to deliver biodiversity net gains has been considered as part of the design-development and assessment processes. Loss of any habitat of conservation value will be replaced like-for-like (in condition) as a minimum requirement providing a greater area than was lost. When habitat planting has established, including offsite compensation once secured, there will be a net gain of habitats equivalent to habitats of principal importance (HPI) lost to construction. The habitat strategy is based on the principles of no net loss and has also achieved an overall net gain in habitats of biodiversity value which are of benefit to a wide range of protected species.</p> <p>With regard to habitat networks one particularly notable feature of the design is the creation of new wetland habitat at the Farndon Floodplain Compensation Areas (see Figure 2.3 (Environmental Masterplan) of the ES Figures [REP7-042]). The combination of wetland habitats including ponds, reedbeds, grazing marsh, wet grassland and a lake will complement one another by meeting the needs of wetland species at different stages of their lives. With a combined area of approximately 30ha this area will form a significant stepping stone for wetland wildlife allowing species to move between different wetland sites in the Trent Valley.</p> <p>With regard to Lowland Mixed Deciduous Woodland Habitat of Principal Importance (HPI), both the onsite creation and that offsite at Doddington Hall will ensure the habitat network is maintained at a landscape scale. Both the Scheme and the offsite habitat compensation at Doddington Hall are within the same National Character Area - Trent and Belvoir Vales (National Character Area</p>

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		<p>48). Within this landscape woodland is found in scattered parcels which form a habitat network of stepping stones, allowing species to disperse across the area. Both the lowland mixed deciduous woodland to be provided at Doddington Hall and that to be created within the Scheme will maintain the integrity of this habitat network. This will ensure that populations of species which rely on lowland mixed deciduous woodland will be maintained within this landscape including within the proposed development area. The Applicant can confirm that the s253 agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion.</p> <p>Whilst the Scheme will achieve an overall net gain in habitat units within the Order Limits there is an exception to this regarding the areas of impact and compensation for lowland meadow. In the case of lowland meadow, a compensation strategy has been designed to address unavoidable losses to this very high distinctiveness habitat (as detailed in the Biodiversity Net Gain Technical Report Appendix 8.14 of the ES Appendices [REP7-056] and the First Iteration EMP [REP5-025]. Natural England considers the compensation proposed to be appropriate in principle, subject to appropriate ongoing management, but they do not consider a bespoke compensation agreement to be mandatory (as detailed in the Statement of Common Ground between the Applicant and Natural England [REP7-094]). Natural England acknowledged BNG is not mandatory for Nationally Significant Infrastructure Projects (NSIPs) until November 2025, therefore Natural England's comments at this stage should be considered as advisory only.</p> <p>Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056].</p>

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		<p>A five-year aftercare period would follow completion of the construction works. During this time, maintenance activities will be undertaken to ensure the successful establishment of planting and provision of new functioning habitats. Maintenance and monitoring tasks are prescribed in the First Iteration Environmental Management Plan [REP6-012] and so would also be included in the Second Iteration Environmental Management Plan. This would include the replacement of failed or defective plants. The Second Iteration Environmental Management Plan will include a Landscape and Ecological Management Plan (LEMP). The LEMP will outline management and monitoring requirements for landscape and ecology aspects for the Scheme to ensure the successful establishment of essential mitigation.</p>
5.71	<p>The applicant should demonstrate that they will adhere to the waste hierarchy, preventing and reducing waste produced in the first place and maximising preparation for reuse and recycling for waste that cannot be prevented. Where possible, applicants are encouraged to use existing materials first, then low carbon materials, sustainable sources and local suppliers. Consideration should be given to circular economy principles wherever practicable, for example, by using longer lasting materials efficiently, optimising the use of secondary materials and how the development will be maintained and decommissioned. Applicants should consider and take into account emerging government policy including Maximising Resources, Minimising Waste, constituting the new Waste Prevention Programme for</p>	<p>Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030] provides an assessment of the likely significant effects of the Scheme on the use of primary, secondary, recycled and manufactured materials, and the generation and management of waste.</p> <p>Locally sourced materials and suppliers, ideally within 10 kilometres, will be identified and used, where possible as stated in paragraph 10.10.3 of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030]. It has been stated in Table 10-18 of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030] that the Scheme is expected to meet the regional target plan for use of recycled and secondary aggregates and is likely to use materials with high proportion of sustainable features and benefits compared to industry-standard materials where it is technically appropriate and economically feasible to do so.</p> <p>The design and mitigation measures outlined in Chapter 10</p>

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	<p>England and Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, which provides practical guidance on how to improve appropriate soil reuse on construction sites and reducing the volume that is sent to landfill.</p>	<p>(Material Assets and Waste) of the Environmental Statement [REP7-030] would ensure the efficient use of material assets on site, and that the reuse of material is made a priority and recycled, or secondary material is used wherever technically appropriate and economically feasible.</p> <p>Opportunities for implementation of waste hierarchy and circular economy principles throughout the construction phase to minimise disposal and maximise reuse and recycling of waste arisings has been stated in paragraph 10.10.4 of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].</p> <p>In advance of the construction phase of the Scheme, a Site Waste Management Plan (SWMP) would be implemented to co-ordinate the removal and treatment of the produced waste. Also, a waste hierarchy will be implemented to minimise the production of waste material, with the operational phase to produce no additional waste. An Outline SWMP has been produced and is contained within Appendix B of the First Iteration Environmental Management Plan [REP6-012] and will be developed into a full SWMP as part of the development of the Second Iteration Environmental Management Plan prior to construction. The assessment in Chapter 10 (Materials Assets and Waste) of the Environmental Statement [REP7-030] together with the Outline SWMP takes into account the waste hierarchy. Waste management options would be as high up in the waste hierarchy as is technically and economically feasible.</p> <p>Where appropriate, detriment associated with waste will be mitigated through the delivery of material 'as required', the reuse of excavated material for landscaping purposes, and the use of pre-cast material to avoid waste from off-cuts.</p>

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		<p>The Waste Prevention Programme for England and Defra's Construction Code of Practice for Sustainable use of Soils on Construction sites have been considered within Section 10.3 (Policy and Legislative Framework) of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].</p>
5.72	<p>A circular approach to waste management is encouraged from the offset, for example, green and sustainable procurement exercises or using sustainably sourced materials from local suppliers.</p>	<p>The waste hierarchy and circular economy principles will be implemented throughout the construction phase to minimise disposal and maximise reuse and recycling of waste arising. This has been set out in Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].</p> <p>Locally sourced materials and suppliers, ideally within 10 kilometres, would be identified and used, where possible. This has been stated in paragraph 10.10.3 of the Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].</p>
5.73	<p>Sustainable waste management is implemented through the waste hierarchy:</p> <ul style="list-style-type: none"> • prevention • preparing for reuse • recycling • other recovery, including energy recovery • disposal 	<p>See response to NPSNN paragraph 5.71 above.</p> <p>In advance of the construction phase of the Scheme, a SWMP will be implemented to co-ordinate the removal and treatment of the produced waste. Also, a waste hierarchy will be implemented to minimise the production of waste material during construction, and the operational phase will produce no additional waste. An Outline SWMP is provided at Appendix B of the First Iteration Environmental Management Plan [REP5-025]. Where appropriate, detriment associated with waste would be mitigated through the delivery of material 'as required', the reuse of excavated material for landscaping purposes, and the use of pre-cast material to avoid waste from off-cuts.</p> <p>The waste hierarchy and circular economy principles would be implemented throughout the construction phase to minimise disposal and maximise reuse and recycling of waste arising. Opportunities for reuse and recycling of waste include (but are not</p>

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		<p>limited to):</p> <ul style="list-style-type: none"> • Reusing excavated soils that includes stored topsoil on site in the landscaping features of the A46 or in flood compensation areas. Excavated materials would also be considered to create flood bund when possible. Surplus soils would be offered to projects in close proximity to the Scheme for reuse on land, whenever possible. • Chipping green waste on site for use in the landscaping for the Scheme. • Composting of green waste. • Recycling inert materials by crushing, blending and subsequent reuse, as an aggregate. • Reusing waste on other nearby schemes, which includes reuse of Construction & Demolition waste from bitumen road surfaces, existing footway, tar products, highway kerb stone, concrete, mortar, drainage pipes, rock, steel, asphalt. • Reusing waste for uses with clear benefits to the environment, for example in the remodelling of agricultural land or in the restoration of nearby quarries or other excavation sites. • Providing on site facilities to separate out waste enable the recovery of material through recycling. <p>Where waste must be taken to a recycling or disposal site, the Principal Contractor will ensure that the site has the appropriate permits. In addition, the suitable facility will be located as close to the works as possible to minimise the impacts of transportation, in particular the release of carbon emissions. The Principal Contractor will identify the closest and relevant treatment and disposal sites. Further details are set out in the Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030]. The opportunities will be set out in the OSWMP which has been produced and is contained within Appendix B of the First Iteration</p>

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		Environmental Management Plan [REP6-012] and will be developed into a full SWMP prior to construction.
5.74	Large infrastructure projects may generate hazardous and non-hazardous waste during construction and operation. Projects need to comply with the relevant regulatory waste regimes. The Environmental Permitting regime, regulated by the Environment Agency in England, incorporates operational waste management requirements for certain activities. Applicants should therefore give consideration to how waste regulations apply to their development, including the Environmental Permitting regime.	Section 10.3 of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030] outlines relevant national legislation, including the Environmental Permitting regime, and how this has been taken into account. Waste would be managed in appropriate and permitted facilities, and the Scheme's activities would adhere to these Regulations, if required, for waste storage, use or disposal. The Applicant has considered the Environmental Permitting regime, further details are set out in Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].
5.75	Infrastructure projects should look to use Modern Methods of Construction, such as legal and sustainable timber and low carbon concrete and other sustainable design practices, where possible.	The Scheme would as far as possible look to use modern methods of construction. Construction mitigation measures are set out in Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030].
5.76	The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure safe and effective management of waste arising from the construction and operation of the proposed development. It is advised that this is detailed in the dedicated plans summarising the sustainable use of resources and waste for both construction and operation as part of the application documentation. The Secretary of State should be satisfied that the process sets out:	<p>In advance of the construction phase for the development of the Scheme, a SWMP will be implemented to co-ordinate the removal and treatment of the produced waste. Also, a waste hierarchy will be implemented to minimise the production of waste material during construction, and the operational phase will produce no additional waste. As part of the submission an Outline SWMP is provided at Appendix B of the First Iteration Environmental Management Plan [REP6-012].</p> <p>Where appropriate, detriment associated with waste would be mitigated through the delivery of material 'as required', the reuse of excavated material for landscaping purposes, and the use of pre-cast material to avoid waste from off-cuts.</p>

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	<ul style="list-style-type: none"> • Adequate steps have been taken to minimise the volume of waste arising and maximise opportunities for reuse and recycling • how waste will be managed, both on-site and off-site • that consideration has been given to available waste management infrastructure capacity to manage wastes arising from the development 	<p>The waste hierarchy and circular economy principles would be implemented throughout the construction phase to minimise disposal and maximise reuse and recycling of waste arising. Opportunities for reuse and recycling of waste include (but are not limited to):</p> <ul style="list-style-type: none"> • Reusing excavated soils that includes stored topsoil on site in the landscaping features of the A46 or in flood compensation areas. Excavated materials will also be considered to create flood bund when possible. Surplus soils would be offered to projects in close proximity to the Scheme for reuse on land, whenever possible. • Chipping green waste on site for use in the landscaping for the Scheme. • Composting of green waste. • Recycling inert materials by crushing, blending and subsequent reuse, as an aggregate. • Reusing waste on other nearby Schemes, which includes reuse of Construction & Demolition waste from bitumen road surfaces, existing footway, tar products, highway kerb stone, concrete, mortar, drainage pipes, rock, steel, asphalt. • Reusing waste for uses with clear benefits to the environment, for example in the remodelling of agricultural land or in the restoration of nearby quarries or other excavation sites. • Providing on site facilities to separate out waste enable the recovery of material through recycling. • Where waste must be taken to a recycling or disposal site, the Principal Contractor would ensure that the site has the appropriate permits. In addition, the suitable facility would be located as close to the works as possible to minimise the impacts of transportation, in particular the release of carbon

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		<p>emissions. The Principal Contractor would identify the closest and relevant treatment and disposal sites.</p> <p>Baseline information for waste management facilities has been stated in the Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030] and includes information for available landfill void capacities within the region and permitted waste management facilities within 10 kilometres of the Scheme that may be available to manage waste arisings from the Scheme.</p> <p>Further details are set out in the Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030]. The opportunities will also be set out in the OSWMP which has been produced and is contained within Appendix B of the First Iteration Environmental Management Plan [REP6-012] and will be developed into a full SWMP prior to construction.</p>
5.120-5.121	<p>The applicant should assess the potential for emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity.</p> <p>In particular, the assessment provided by the applicant should describe:</p> <ul style="list-style-type: none"> the type and quantity of emissions aspects of the development which may give rise to emissions during construction, operation and decommissioning premises, locations or species that may be affected by the emission 	<p>In respect of emissions of odour, smoke and steam, these have not been assessed in the Environmental Statement and have been scoped out.</p> <p>As part of the EIA process, all effects, including indirect effects, were identified during the scoping stage of EIA. All likely significant effects, including indirect effects, have been carried forward to the detailed assessment stage, the results of which are presented within the Environmental Statement. However, following the judgement in Finch and question 4.0.11 raised in the Examining Authority's first round of written questions [PD-007], a review of all possible indirect effects from the Scheme was undertaken to ensure that all likely significant indirect effects are reported, and none were omitted during the EIA Scoping stage or from the Environmental Statement. This review is contained within 'Information to Support the Applicant's Response to the Examining Authority's Written</p>

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	<ul style="list-style-type: none"> • effects of the emission on identified premises or locations • measures to be employed in preventing or mitigating emissions 	<p>Questions (ExQ1) on the Finch Judgement' [REP4-036] which was submitted at Deadline 4. The review concluded that there are no additional likely indirect effects which are considered to be significant that have not already been captured by the existing EIA for the Scheme.</p> <p>Regulation 14(3) of the EIA Regulations requires the Environmental Statement to be based on the most recent Scoping Opinion adopted. The Environmental Statement is based on the EIA Scoping Opinion [APP-189] received from the Secretary of State in October 2022.</p> <p>The following Environmental Statement chapters assess the likely significant effect from emissions of, dust and artificial light:</p> <ul style="list-style-type: none"> • Chapter 5: Air Quality [REP7-020] • Chapter 7: Landscape and Visual Effects [REP7-024] • Chapter 12: Population and Human Health [REP7-034] <p>Chapter 5 (Air Quality) of the Environmental Statement [REP7-020] includes a qualitative assessment of potential dust effects for the Scheme, based on a review of likely dust raising activities and identification of sensitive receptors within 200 metres of the study area. It concludes potential dust impacts would be suitably controlled using the best practice mitigation measures set out within the First Iteration Environmental Management Plan [REP6-012] which will be developed into the Second Iteration Environmental Management Plan prior to and for implementation during construction and secured through Requirement 3 of the draft Development Consent Order [REP3-</p>

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		<p>003].</p> <p>Chapter 7 (Landscape and Visual Effects) of the Environmental Statement [REP7-024] considers the visual receptors that could experience potential adverse effects during construction and operation of the Scheme as a result of increase in light pollution from vehicles and artificial lighting at construction compounds at night or lighting associated with night time construction activities.</p> <p>Mitigation measures, of relevance to dust and artificial light, set out in the First Iteration EMP [REP7-006] include:</p> <ul style="list-style-type: none"> • Minimising height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. • Locating stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. • Ensuring that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed. • Limiting works to daylight hours in the most part, with any night works to be kept to a minimum where practicable. • During construction lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors. <p>The requirements for road lighting during operation has been determined based on increasing safety for all road users, the</p>

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		<p>design of which has sought to minimise adverse impacts and effects on the following:</p> <ul style="list-style-type: none"> • Nocturnal species (for example bats) • The existing landscape and visibility from nearby properties and dwellings after dark • The setting of features associated with the historic environment (for example listed buildings). <p>Further details are set out in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p>
5.122	The applicant is advised to consult the relevant local environmental health team, and where appropriate, the Environment Agency about the scope and methodology of the assessment.	The Applicant has engaged with the Environment Agency and the environmental health teams within the Local Planning Authorities, throughout the EIA. Details of engagement with these consultees on assessments is set out in Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048] and Table 3.2 of the Consultation Report [APP-028]. Further details on engagement that has taken place, and areas of agreement, have been recorded within Statements of Common Ground submitted throughout the Examination. The updated Statement of Common Ground between the Applicant and the Environment Agency submitted at Deadline 8 records agreement that all issues raised by the Environment Agency have been resolved.
5.123	The Secretary of State should ensure the applicant has provided sufficient information to show any necessary mitigation will be put in place. In particular, the Secretary of State should consider whether to require the applicant to abide by a Scheme of management and mitigation concerning emissions of odour, dust, steam, smoke, artificial light from the	<p>In respect of emissions of odour, smoke and steam, these have not been assessed in the Environmental Statement and have been scoped out.</p> <p>The following Environmental Statement chapters outline mitigation measures of relevance in relation to emissions of dust, and artificial light:</p> <ul style="list-style-type: none"> • Chapter 5: Air Quality [REP7-020]

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	development to reduce any loss of amenity which might arise during construction and operation of the development. This should be detailed within a Statement Relating to Statutory Nuisance.	<ul style="list-style-type: none"> Chapter 7: Landscape and Visual [REP7-024] Chapter 12: Population and Health [REP7-034] <p>The Statement Relating to Statutory Nuisances [REP7-070] has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the Environmental Protection 1990 Act (EPA). With the proposed mitigation measures set out in the First Iteration EMP [REP6-012] in place, none of the relevant statutory nuisances identified under section 79(1) of the EPA (dust, artificial lighting and noise) are predicted to arise during the construction or operation of the Scheme. For that reason, the Applicant does not consider that a further scheme of management is required.</p>
5.124	The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of odour, dust, steam, smoke and artificial light. This includes the impact of light pollution from artificial light on local amenity, landscapes and protected species and habitats, using directed light when necessary.	See response to NPSNN paragraph 5.123 above.
5.126	The National Planning Policy Framework is clear that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary, it should be made safe without increasing flood risk elsewhere.	Please see response to NPSNN paragraph 5.131.
5.127	The Sequential Test ensures that a	The Applicant confirms that section 4.3 and section 10 of Appendix

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	<p>sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding from any source. All projects should apply the sequential approach to locating development within the site.</p>	<p>13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [REP7-064], discusses the Sequential Test.</p> <p>The Sequential Test is intended to steer new development to areas with the lowest risk of flooding from any source. The National Planning Policy Framework states that if it is not possible for development to be located in areas with a lower risk of flooding, the Exception Test should be applied. The NPSNN likewise applies the same tests.</p> <p>Section 3.2. in Chapter 3 (Assessment of Alternatives) of the Environmental Statement [REP7-018] outlines the methodology for the assessment of alternative Scheme options. In total, five potential corridor options were assessed. A qualitative assessment of the impact of the five Scheme options was undertaken. Although there were route options that performed best on flood risk criteria (Options D and B), the selected route option (Option C) was the best scoring with the application of the Scheme objectives and the National Policy Statement for National Networks and Early Assessment and Sifting Tool assessment methodology.</p> <p>Taking into account wider sustainability objectives, there are no reasonably available alternatives to locate the Scheme in areas of lower flood risk. Therefore, the Applicant considers that the Sequential Test has been passed and the Exception Test must be applied. The Local Impact Report [REP1-038] submitted by the Lead Local Flood Authority (Nottinghamshire County Council) also considers that the Scheme may pass the Sequential Test.</p> <p>The FRA has been updated and re-submitted at Deadline 7 of the Examination to reflect further work that has been undertaken by the Applicant to satisfy and confirm the Exception Test is met [REP7-064]. The Statement of Common Ground between the Applicant and the Environment Agency has been updated and re-submitted at Deadline 7 to reflect agreement from the Environment Agency that</p>

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		the Scheme meets the second part of the Exception Test. The updated Statement of Common Ground submitted at Deadline 8 also records agreement that all other flood risk issues raised by the Environment Agency have been resolved.
5.128	<p>The Exception Test provides a method of allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available. It assesses the safety of a site, including whether the proposed development will be safe from flooding for its lifetime. The Exception Test should only be applied if, once the Sequential Test has been satisfactorily applied, it has not proved possible for the development to be located in areas with a lower risk of flooding, the Exception Test can be applied. For the Exception Test to be passed:</p> <ul style="list-style-type: none"> • it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk • a Flood Risk Assessment must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall 	<p>The Scheme alignment passes through Flood Zone 3, and therefore does not automatically pass the Sequential Test. Owing to the existing route of the A46, there is no alternative to the location of parts of the Scheme within Flood Zone 3. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during the Options Selection stage of the Scheme. The Scheme is classed as Essential Infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be assessed against the Exception Test.</p> <p>To satisfy the Exception Test, hydraulic modelling has been developed to assess the flood risk to and from the Scheme where it resides in Flood Zone 3. The modelling results demonstrate that the Scheme would be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, would reduce flood risk overall.</p> <p>Further details are set out in the FRA in Appendix 13.2 of the ES Appendices [REP7-062]. The FRA has been updated and re-submitted at Deadline 7 of the Examination to reflect further work that has been undertaken by the Applicant to satisfy and confirm the Exception Test is met. The Statement of Common Ground between the Applicant and the Environment Agency has been updated and re-submitted at Deadline 7 to reflect agreement from the Environment Agency that the Scheme meets the second part of the Exception Test. The updated Statement of Common Ground submitted at Deadline 8 also records agreement that all other flood risk issues raised by the Environment Agency have been resolved.</p>

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5.131	<p>Applications for projects in the following locations should be accompanied by a Flood Risk Assessment:</p> <ul style="list-style-type: none"> • applications in Flood Zones 2 and 3, which represent a medium and high probability of river and sea flooding <p>applications in Flood Zone 1 (a low probability of river and sea flooding) involving sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.</p>	<p>Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] confirms that the Scheme is suitable and appropriate in terms of flood risk.</p> <p>The Flood Risk Assessment in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] has been undertaken because the majority of the Scheme is within Flood Zones 2 and 3 and over 1 hectare in size.</p> <p>The Flood Risk Assessment in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] concludes that, through appropriate drainage mitigation (as outlined within the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179]), surface water flood risk to sensitive receptors is not increased as a result of the Scheme. Therefore, the magnitude of flood risk on the surface waterbodies is considered to be negligible.</p>
5.132	<p>The Flood Risk Assessment should identify and assess the risks of all forms of flooding and coastal erosion to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.</p>	<p>The FRA in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] has been produced as the Scheme will be, for the most part, located within Flood Zone 2 and Flood Zone 3, furthermore this is also reviewed in Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] to assess the Scheme against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial) or sewer sources. The Flood Risk Assessment [REP7-064] also assesses the risk of flooding elsewhere as a consequence of the Scheme. The assessment also takes into account climate change. This assessment determines how mitigation has been implemented into the design and how any residual risks would be managed.</p>
5.133	<p>In preparing the Flood Risk Assessment, the applicant should:</p>	<p>Design considerations, mitigation measures and residual risks are described in Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036], the Flood Risk</p>

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	<ul style="list-style-type: none"> consider the risk of all sources of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the project, and demonstrate how these risks will be managed, and where relevant, mitigated, so that the development remains safe throughout its lifetime take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made demonstrate how residual risks from reservoirs will be safely managed and/or mitigated consider the vulnerability of those using the infrastructure including arrangements for safe access and escape include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that these risks can be safely managed consider if there is a need to remain operational during a worst-case flood event over the development's lifetime provide the rationale for the Secretary of State on application of 	<p>Assessment in Appendix 13.2 and the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179]. These documents demonstrate that the Scheme meets this requirement of the NPSNN.</p> <p>The main flood risk sources within the study area are fluvial, surface water and groundwater. The risk from sewer flooding is minimal given the Scheme will not interact with sewer networks, and a lack of historical sewer flooding has been recorded in the vicinity of the Scheme. The risk of artificial flooding is similarly low, as the reservoirs in the area are regularly inspected. Additionally, the Floodplain Compensation Areas (FCA) are free draining so do not increase the risk of artificial flooding due to a burst pipe. A summary of flood risk is outlined in Section 10 of the Flood Risk Assessment (Appendix 13.2 of the Environmental Statement Appendices) [REP7-064]. The Flood Risk Assessment [REP7-064] outlines that the risk of flooding to and from the Scheme from fluvial, surface water and groundwater is low.</p> <p>To minimise flood risk, the Scheme's design incorporates current design standards and climate change allowances for drainage and fluvial modelling, described in Chapter 4 and Chapter 7 of the Flood Risk Assessment in Appendix 13.2 of the Environmental Statement Appendices [REP7-064].</p> <p>The new dual carriageway is designed to minimise the risk of flooding by incorporating current design standards and future climate change allowance to improve its resilience using sustainable drainage techniques. Where surface water flow paths cross the Scheme, sufficient drainage would be maintained to ensure there is no increased flood risk to the Scheme.</p> <p>Along the new sections of the A46, the existing drainage regime would be updated like for like. This would ensure that there is no net loss in drainage and therefore no increased surface water flood risk</p>

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	the Sequential Test and Exception Test, as appropriate.	<p>to the new highway. From ground investigation surveys it was discovered that the groundwater level is close to the surface and therefore infiltration techniques to manage surface water are unsuitable. It is consequently proposed to discharge surface water from the Scheme into local drainage channels and the River Trent. For more information on the features used to sustainably manage and discharge surface water away from the Scheme, ensuring the highway remains safe throughout its lifetime, please refer to the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement and Appendices [APP-179].</p> <p>With the designed mitigation in place, the risk to the Scheme from surface water flooding is considered to be low.</p> <p>The Scheme alignment passes through Flood Zone 3, and therefore does not automatically pass the Sequential Test. Owing to the existing route of the A46, there is no alternative to the location of parts of the Scheme within Flood Zone 3. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during Options Selection of the Scheme. The Scheme is classed as essential infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be assessed against the Exception Test.</p> <p>To satisfy the Exception Test, hydraulic modelling has been developed to assess the flood risk to and from the Scheme where it resides in Flood Zone 3. The modelling results demonstrate that the Scheme would be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, would reduce flood risk overall. Further details are set out in the FRA in Appendix 13.2 of the ES Appendices [REP7-062]. The FRA has been updated and re-submitted during Examination to reflect further work that has been undertaken by the</p>

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		<p>Applicant to satisfy and confirm the Exception Test is met [REF]. The Statement of Common Ground between the Applicant and the Environment Agency has been updated to reflect agreement from the Environment Agency that the Scheme meets the second part of the Exception Test [REP7-104]. The updated Statement of Common Ground submitted at Deadline 8 also records agreement that all other flood risk issues raised by the Environment Agency have been resolved.</p>
5.134	<p>Applicants for projects which may be affected by, or may add to, flood risk should seek sufficiently early pre-application discussions, before the official pre-application stage of the NSIP process with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers and highways authorities. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the Flood Risk Assessment, and identify the information that will be required by the Secretary of State to reach a decision on the application once it has been submitted and examined. If the Environment Agency has concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which</p>	<p>Section 4.7 of the Flood Risk Assessment in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] outlines the consultation undertaken with the following parties:</p> <ul style="list-style-type: none"> • Environment Agency • Trent Valley Internal Drainage Board • Nottinghamshire County Council – Lead Local Flood Authority (LLFA) • Newark and Sherwood District Council • Severn Trent Water • Canal and River Trust <p>The Applicant has engaged with the Environment Agency throughout the Scheme design and Examination stage and there will be ongoing engagement as the Scheme progresses. Further information on the engagement undertaken during statutory consultation can be found in Chapter 3 of the Consultation Report [APP-028]. Engagement with the Environment Agency continued during the course of the DCO Examination; details of this</p>

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	would satisfy the Environment Agency's concerns, before the application for development consent is submitted.	engagement, as well as a record of all items that have been agreed with the Environment Agency, is recorded within the Statement of Common Ground between the Applicant and the Environment Agency. There are no items that are either 'not agreed' or 'under discussion' remaining at the point of Examination closure.
5.135	For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in Flood Risk Assessments. Surface water flood issues need to be understood and then account of these issues can be taken, for example, flow routes should be clearly identified and managed.	<p>The Flood Risk Assessment [REP7-064] records the information on local flood risk that was taken into consideration in its preparation. This included the Nottinghamshire Local Flood Risk Management Strategy (LFRMS) from 2015. That has since been updated to cover the period to 2027 but does not change the approach taken in the Flood Risk Assessment.</p> <p>The Applicant has engaged with Nottinghamshire County Council throughout the Scheme development. A Statement of Common Ground has been developed between the Applicant and Nottinghamshire County Council. Issue number 31 of the Statement of Common Ground [REP7-093] confirms agreement in relation to the Flood Risk Assessment.</p> <p>Surface water flooding at present occurs during heavy rainfall events from the Old Trent Dyke that meanders along the western side of the A46 corridor. The design of the two Farndon floodplain compensation areas has allowed for additional storage to reduce the water level in the Old Tent Dyke and create capacity along its length for the Scheme to discharge from the attenuation ponds during a rainfall event >1:30 plus climate change without increasing flood risk or frequency of flooding.</p>
5.136	Proposals should prioritise the use of sustainable drainage systems unless there is clear evidence that this would be inappropriate. A drainage strategy should be produced and submitted as part of the	As outlined in the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179], soft-engineering methods for drainage will be implemented where feasible, using Sustainable Drainage Systems (SuDS) as a primary principle to drain, treat and attenuate runoff, with nature-based solutions

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	Flood Risk Assessment.	incorporated where achievable.
5.137	<p>The term Sustainable Drainage Systems is taken to cover the whole range of sustainable approaches to surface water drainage management including:</p> <ul style="list-style-type: none"> • source control measures including rainwater recycling and drainage • use of Sustainable Drainage Systems Management Trains to improve water quality • infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities • filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns • filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed • basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding <p>flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding</p>	<p>As outlined in the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179], soft-engineering methods for drainage would be implemented where feasible, using SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable.</p> <p>Rainwater recycling is not feasible due to highway run-off being silty prior to treatment.</p> <p>The principle of system management trains has been included whereby highway run-off if first treated through a catchpit to remove solids, it then passes through swales with check dams which treat and clean the water and finally enter the detention ponds which undertake the final cleaning of the water prior to controlled discharge to water courses. Infiltration is considered feasible due to high groundwater across a large part of the Scheme. To the north away from the floodplain soil geology is unsuitable for infiltration.</p> <p>Soft SuDS (vegetated features such as swales and ponds), have been prioritised across the Scheme to manage run-off volume water quality and biodiversity. These incorporate vegetated swales with check dams to mimic natural drainage patterns.</p> <p>Filter drains are not possible to high water table and porous paving have short and long term maintenance issues and the surface of the</p>

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		<p>porous paving is noisy when trafficked and will create more noise nuisance to residents adjacent to the Scheme.</p> <p>The impact of severe rainfall flooding up to a 1:100 plus climate change event is managed through storing water within the flood compensation areas and the detention ponds.</p>
5.138	To satisfactorily manage flood risk and the impact of natural water cycle on people, property and ecosystems, good design and infrastructure may need to be secured using requirements or planning obligations. This may include the use of Sustainable Drainage Systems, but could also include vegetation to help slow runoff, hold back peak flows and make landscapes more able to absorb the impact of severe weather events.	As outlined in the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179], soft-engineering methods for drainage would be implemented where feasible, using SuDS as a primary principle to control and treat runoff. Check-dams and planting will encourage run-off retention and absorption. Mitigation measures of relevance are set out within the Register of Environmental Actions and Commitments in the First Iteration Environmental Management Plan [REP6-012] The First Iteration Environmental Management Plan [REP6-012] will be developed into the Second Iteration Environmental Management Plan for implementation during construction and secured through Requirement 3 of the draft Development Consent Order [REP7-006]. Requirement 14 of the draft Development Consent Order [REP7-006] sets out how the detailed plans for FCAs are to be approved prior to the commencement of works.
5.139	Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.	The FRA in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] concludes that through appropriate drainage mitigation (as outlined within the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179], surface water flood risk to sensitive receptors is not increased as a result of the Scheme. Exceedance flows from basins would be managed and controlled via the use of engineering spillways and formalised flowpaths which would convey said exceedance to the receiving watercourses whilst minimising adverse impacts.
5.140	The surface water drainage arrangements	Attenuation basins have been designed to discharge to greenfield

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	for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project unless specific off-site arrangements are made and result in the same net effect.	<p>run-off rates. High groundwater levels and low soil permeability mean that infiltration of run-off is unfeasible across the vast majority of the Scheme. Above-ground sustainable drainage devices with check-dams and planting have been used wherever possible to improve retention and percolation of run-off. Surface water leaving the site from a rainfall event up to a 1:100 plus climate change will not exceed current rates.</p> <p>See response to NPSNN paragraph 5.139 above.</p>
5.141	If there are no viable Sustainable Drainage Systems options available, it may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside of the project site, if necessary, through the use of a planning obligation.	<p>See response to NPSNN paragraphs 5.136 and 5.140 above.</p> <p>No attenuation / storage is required outside of the Scheme site.</p>
5.142	The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located in parts of the site at lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using Sustainable Drainage Systems.	<p>As outlined in the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179], soft-engineering methods for drainage would be implemented where feasible, using SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable. The sequential approach has been applied as reasonably practicable.</p> <p>The Scheme is classified as Essential Infrastructure, as defined in National Planning Policy Framework - Annex 3: Flood risk vulnerability classification.</p> <p>The Scheme is elevated above the floodplain, except where it is essential for the Scheme to interface with the existing road network which is at a much lower existing road level. As such, as much of</p>

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		<p>the Scheme as possible has been located above the floodplain at a lower probability and residual risk of flooding. Please refer to 5.127 and 5.128 for responses relating to the Sequential and Exception tests.</p> <p>Attenuation features have been designed to maximise wildlife habitat and biodiversity factors.</p>
5.143	<p>Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:</p> <ul style="list-style-type: none"> the application is supported by an appropriate Flood Risk Assessment the Sequential Test has been satisfactorily applied as part of the site selection and, if required, the Exception Test. 	See responses to NPSNN paragraphs 5.131, 5.127, 5.128, 5.137 and 5.138 above.
5.144	The Secretary of State should not consent development in flood risk areas (including flood zones 2 and 3 and locations at risk of flooding from local watercourses, surface water, groundwater or reservoirs) accounting for the predicted impacts of climate change unless they are satisfied that the sequential test requirements have been met. In addition, the Secretary of State should not consent development in Flood Zone 3 unless they are satisfied that both the Sequential and Exception Test requirements have been met.	See response to NPSNN paragraph 5.145.
5.145	When determining an application, the Secretary of State should be satisfied that	See responses to NPSNN paragraphs 5.128, 5.131 and 5.133 above.

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	<p>flood risk will not be increased elsewhere and only consider development appropriate in areas at risk of flooding where (informed by a Flood Risk Assessment, following the Sequential Test and, if required, the Exception Test), it can be demonstrated that:</p> <ul style="list-style-type: none"> • within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location • development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and priority is given to the use of Sustainable Drainage Systems. 	
5.146	<p>In addition, any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Flood Zone 3b should result in no net loss of floodplain storage and not impede water flows.</p>	<p>See response to NPSNN paragraph 5.133, 5.138 and 5.150 above.</p> <p>As the Scheme passes through Flood Zone 3 it is within a potentially vulnerable area. The Scheme is part of the national highway network, the need for upgrading of which is set out in the Case for the Scheme [REP7-074]. Accordingly, the Scheme is considered to be essential transport infrastructure that has to cross the area(s) at risk.</p>
5.147	<p>If the Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of</p>	<p>The Applicant has engaged with the Environment Agency throughout the Scheme design and Examination stage and there will be ongoing engagement as the Scheme progresses. Further</p>

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	flood risk, the Secretary of State can grant consent, but would need to be satisfied before deciding whether or not do so that all reasonable steps have been taken by the applicant and the Environment Agency to try and resolve the concerns.	information on the engagement undertaken during statutory consultation can be found in Chapter 3 of the Consultation Report [APP-028]. Details on engagement that has taken place, and areas of agreement with the Consultee, are recorded within a Statement of Common Ground between the Applicant and the Environment Agency [REP7-091]. The updated Statement of Common Ground submitted at Deadline 8 records agreement that all issues raised by the Environment Agency have been resolved..
5.148	<p>The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of flooding to the proposed infrastructure and others. However, the nature of linear infrastructure means that there will be cases where:</p> <ul style="list-style-type: none"> • upgrades are made to existing infrastructure in an area at risk of flooding • infrastructure in a flood risk area is being replaced • infrastructure is being provided to serve a flood risk area <p>infrastructure is being provided connecting two points that are not in flood risk areas, but where the most viable route between the two passes through such an area.</p>	The Scheme alignment passes through Flood Zone 3. Owing to the existing route of the A46, there is no alternative to the location of parts of the Scheme within Flood Zone 3. In order to extend the A46, the River Trent and other watercourses must be crossed. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during the Options Selection stage of the Scheme. See Chapter 3 of the Environmental Statement [REP7-018] (The Assessment of Alternatives) for further information. Taking into account wider sustainability objectives, there are no reasonably available alternatives to locate the Scheme in areas of lower flood risk.
5.149	The design of linear infrastructure and the use of embankments in particular, may mean that linear infrastructure can reduce the risk of flooding for the surrounding area	Section 13.10 of the FRA in Appendix 13.2 of the Environmental Statement Appendices [REP7-064] assesses the Scheme against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial) or sewer sources. It also assesses the risk of

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	while also offering opportunities to enhance biodiversity. It should be demonstrated that there is no increase in flood risk elsewhere. In such cases the Secretary of State should take account of any positive benefit to placing linear infrastructure in a flood-risk area.	<p>flooding elsewhere as a consequence of the Scheme. The FRA [REP7-064] outlines that the risk of flooding to and from the Scheme from fluvial, surface water and groundwater is low.</p> <p>The mitigation incorporated includes three floodplain compensation areas ('Kelham and Averham', 'Farndon East FCA' and 'Farndon West FCA') within the design to compensate for the loss of floodplain storage as a result of the Scheme and create high distinctive habitats that complement local biodiversity. Farndon East FCA and Farndon West FCA would be designated and landscaped. A wetland area would be created 10 metres from the River Trent as part of Farndon East FCA, in addition to the provision of log and brash piles from retained felled trees, in species rich grassland with areas of scrub. This area would comprise residual ponds formed in post-borrow pit excavations with a total of approximately 97,000 square metres of reedbeds. Farndon West FCA would comprise an area of floodplain grazing marsh designed to provide wet conditions throughout and would include a network of scrapes, drains and ditches. See First Iteration Environmental Masterplan REP6-012] and Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [REP7-056] for more details.</p>
5.150	Where linear infrastructure has been proposed in a flood risk area, the Secretary of State should expect reasonable mitigation measures to have been made, to ensure that the infrastructure remains functional in the event of predicted flooding.	The infrastructure is raised, where possible, above the design flood event elevation. This is outlined further in the Flood Risk Assessment [REP7-064].
5.151	For construction work which has drainage implications approval for the project's drainage system will form part of the development consent issued by the	The Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179] details the design standards applied, incorporation of SuDs and maintenance of the

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	<p>Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with Technical Standards published by Ministers. In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems, including any necessary access rights to property. Sustainable Drainage Systems should deliver multifunctional benefits and help to achieve Biodiversity net gain. The Secretary of State should be satisfied that the most appropriate body is being given the responsibility for maintaining any Sustainable Drainage Systems, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority and the relevant Sustainable Drainage Systems Approval Body or another body such as the Internal Drainage Board. Where infiltration type Sustainable Drainage Systems are proposed, pre-applications with the Environment Agency are recommended to ensure they do not cause pollution to surface and groundwater quality and applicants should consider the role of Sustainable Drainage Systems management trains to control and treat</p>	<p>drainage of the Scheme.</p> <p>Nature based solutions and SuDS have been prioritised as overarching principles in the design of the drainage strategy in line with the SuDS hierarchy. This entails the integration of SuDS with other environmental and landscaping features to bring about additional complimentary benefits such as ease of inspection and maintenance.</p> <p>Chapter 5 of the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179] details responsibility for maintaining assets. Maintenance would be shared between the Applicant, the Environment Agency, the Trent Valley Internal Drainage Board and Newark and Sherwood District Council.</p>

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	run-off.	
5.154	Where necessary, land contamination and instability should be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land contamination or instability. If land stability and/or land contamination may be an issue, applicants should seek appropriate technical and environmental expert advice from a competent person to prepare and carry out the appropriate assessments. Applicants should consult with the Coal Authority, Environment Agency and Local Authority, if necessary.	<p>The Applicant has considered land contamination and instability in respect of the new development. The potential contamination impacts of the Scheme are described in Section 9.9 of Chapter 9 (Geology and Soils) of the Environmental Statement Environmental Statement [REP7-028]. Land contamination has been assessed by a competent expert in the Contaminated Land Risk Assessment (Parts 1 to 6) (CLRA) in Appendix 9.2 of the Environmental Statement Appendices [APP-164 to APP-169]. The Applicant has undertaken further assessment in the form of a controlled waters detailed quantitative risk assessment (DQRA), in line with the Environment Agency Land Contamination Risk Management guidance, in relation to the hotspot of contamination identified in the vicinity of WS46. The DQRA was agreed with the Environment Agency and submitted into the Examination [REP5-057].</p> <p>Risks associated with geotechnical hazards and land stability are assessed in accordance with (DMRB) LA 109 Geology and Soils and CD 622 Managing geotechnical risk.</p> <p>The potential ground stability hazards for the Scheme are described in Section 3.23 of the Preliminary Sources Study Report in Appendix 9.1 of the Environmental Statement Appendices [APP-161 to APP-163]. Land instability has been assessed by a competent expert in Section 6 of the Preliminary Sources Study Report in Appendix 9.1 of the Environmental Statement Appendices [APP-161 to APP-163].</p> <p>Subsequent to intrusive Ground Investigation, the Ground Investigation Report contained in the Contaminated Land Risk Assessment (CLRA) in Appendix 9.2 of the Environmental Statement Appendices [APP-164 to APP-169], includes a revised assessment for ground stability risks. Table 30 of Appendix 9.2 [APP-164 to APP-169] provides a Geotechnical Risk Register and outlines the land instability risks and mitigation measures. The</p>

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		<p>Scheme is not in a 'Development High Risk Area', is not in a 'Coal Mining Reporting Area' and is not in an area with a history of natural subsidence such as karstic limestone, chalk or gypsum dissolution. Therefore, the risk of subsidence from the Scheme is considered to be low.</p> <p>The Applicant considers that the Scheme proposals are appropriate for the location and prevent unacceptable risks from land contamination or instability.</p> <p>The Coal Authority, Environment Agency and Local Authorities have all been consulted at various stages of the Scheme development and consulted as part of the Statutory Consultation. Details of how the Applicant has had regard to the responses received during statutory consultation are provided in Annex N of the Consultation Report Annexes [APP-044].</p> <p>Details on engagement that has taken place, and areas of agreement with these Consultees are recorded within Statements of Common Ground submitted throughout the DCO Examination.</p>
5.155-5.156	<p>For developments on previously developed land, applicants should ensure and demonstrate that they have considered the risks posed by land contamination in accordance with Land Contamination Risk Management guidance. A preliminary assessment of land contamination and/or ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared.</p> <p>Applicants should ensure that any</p>	<p>The Applicant has considered the risks posed by land contamination in accordance with the Environment Agency Land Contamination Risk Management guidance.</p> <p>The Preliminary Sources Study Report in Appendix 9.1 of the Environmental Statement Appendices [APP-161 to APP-163] was undertaken at an early stage in 2018 (before the detailed application for development consent was prepared) and describes the potential ground stability hazards for the Scheme.</p> <p>Subsequent to intrusive ground investigations, the Ground Investigation Report contained in the CLRA in Appendix 9.2 of the Environmental Statement Appendices [APP-164 to APP-169], includes a revised assessment for ground stability risks. Table 30</p>

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	<p>necessary investigations are undertaken, in accordance with Land Contamination Risk Mitigation guidance, to ascertain the risk from contamination and identify sensitive receptors and that their sites are, and will, remain stable or can be made so as part of the development. The site needs to be assessed in the context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.</p>	<p>Geotechnical Risk Register outlines the land instability risks and mitigation measures.</p> <p>Impacts relating to major accidents and natural disasters are considered in Appendix 4.1 Assessment of Major Accidents and Natural Disasters of the Environmental Statement Appendices [REP7-045]. This assessment concludes that the identified risks would not result in major accidents, during either construction or operation of the Scheme, with risk mitigation measures in place, these measures are included and secured within the First Iteration Environmental Management Plan [REP6-012].</p> <p>A Phase 2 Contaminated Land Generic Quantitative Risk Assessment has been undertaken for the Scheme. This is provided in Appendix 9.2 (Contaminated Land Risk Assessment) of Environmental Statement Appendices [APP-164 to APP-169]. This identified a pocket of contamination (or 'hotspot'), near Nether Lock. Consultation with Newark & Sherwood District Council's Environmental Health Technical Officer (EHTO) and the Environment Agency has taken place regarding the identified hotspot. The EHTO agreed with the Applicant's proposal of leaving the identified contamination in-situ from a human health perspective, as the contamination is located at a depth which presents a low risk to any potential maintenance workers or other occasional land users from direct exposure. The Environment Agency requested additional assessment in the form of a detailed quantitative risk assessment (DQRA) in relation to the hotspot of contamination identified in the vicinity of WS46. The DQRA was submitted into the Examination at Deadline 4 [REP4-038] and has subsequently been updated and agreed with the Environment Agency, as detailed in Item 31 of the Statement of Common Ground [REP6-028]. A final version of the DQRA [REP5-057] was submitted into the Examination at Deadline 5.</p>

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5.157	<p>Applicants have a range of mechanisms available to mitigate and minimise risks of land instability. These include:</p> <ul style="list-style-type: none"> • Establishing the principle and layout of new development, for example avoiding mine entries and other hazards • Ensuring proper design of structures to cope with any movement expected, and other hazards such as mine and/or ground gases • Requiring ground improvement techniques, usually involving the removal of poor material and its replacement with suitable inert and stable material, for development on land previously affected by mining activity, this may mean prior extraction of any remaining mineral resource 	<p>Mitigation measures of relevance are included and secured within the First Iteration Environmental Management Plan [REP6-012].</p>
5.159	<p>Applicants have a range of options available to mitigate and minimise risks of land and groundwater contamination: • these options should include sustainable remediation, sustainable remediation can provide the opportunity to manage unacceptable risks to human health and the environment, it can help to ensure that the benefit of doing the remediation is greater than its impact in accordance with the Environmental Improvement Plan, disposal of soils to landfill should be minimised</p>	<p>Mitigation measures of relevance are included and secured within the First Iteration Environmental Management Plan [REP6-012]. Contamination mitigation measures for the protection of groundwater would be secured through commitments in references GS3 and GS4, included in Table 3-2 Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [REP6-012].</p> <p>The Outline Materials Management Plan (OMMP) Appendix B.2 of the</p> <p>First Iteration Environmental Management Plan [REP6-012] outlines the Scheme's commitment to minimising waste generation. This is achieved by seeking ways to reuse site-won / excavated materials within the construction of the Scheme, provided it meets the requirements of the CL:AIRE Definition of Waste Code of Practice</p>

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		(DoW CoP).
5.161	<p>The applicant should carry out a landscape and visual impact assessment. A number of guides have been produced to assist in addressing landscape issues, for example, the third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3) published by the Landscape Institute. The landscape and visual assessment for the proposed project should include the impacts during construction and operation, and reference to any landscape character assessments. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England. For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them.</p>	<p>Chapter 7 (Landscape and Visual) of the Environmental Statement [REP7-024] considers the likely significant effect of the Scheme on landscape character and visual amenity during both construction and operation. This landscape and visual assessment (LVIA) has been undertaken in accordance with DMRB assessment LA107 Landscape and Visual Effects which is based on the Guidelines for Landscape and Visual Impact Assessment 3 as published by the Landscape Institute (LI) and Institute for Environmental Management and Assessment (IEMA).</p> <p>Section 7.3 of Chapter 7 (Landscape and Visual) of the Environmental Statement [REP7-024] sets out the principal legislation and planning context for the assessment of the environmental effects of the Scheme on landscape character and visual amenity. The relevant legislation and policies listed below have been taken into account as part of the assessment and subsequent mitigation proposals:</p> <ul style="list-style-type: none"> • European Landscape Convention • Environment Act • Countryside and Rights of Way Act 2000 • Natural Environment and Rural Communities Act 2006 • The Hedgerow Regulations 1997 • National Policy (including the NPSNN, the NPPF, 25 Year Environment Plan) • Local Policy including Newark & Sherwood Plan Review – Amended Core Strategy Development Plan Document and Newark & Sherwood Local Development Framework – Allocations & Development Management DPD, Newark and Sherwood Landscape Character Assessment Supplementary Planning Document and A Green Infrastructure Strategy for Newark & Sherwood

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		<ul style="list-style-type: none"> National Highways' Environment Strategy National Highways' 'People, places and processes: A guide to good design at National Highways' (2022) which has been considered in the development of the Environmental Masterplan (see Figure 2.3 of the Environmental Statement Figures [REP7-042]). <p>Policy and guidance recognises that not all impacts are able to be resolved in largescale Schemes and the above residual effects will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme [REP7-074].</p> <p>The potential impacts upon visual amenity were captured through the assessment of 63 receptors identified within the visual envelope of the Scheme.</p> <p>Of those 63 receptors, 15 receptors would experience significant adverse effects during construction of the Scheme, reducing to six receptors in year 1 of operation. When considering the establishment of mitigation planting by year 15 of operation, two visual receptors (No.24 being residential properties at Sandhills Park and No.40 users of the Trent Valley Way and NCN route 64 on Winthorpe Road), were considered to have a residual significant effect as a result of the Scheme.</p> <p>The potential impact upon seven Landscape Character Areas (LCAs) was assessed as part of the LVIA. Of the seven identified, two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) would experience temporary significant adverse effects during the construction of the Scheme. Two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) are likely to experience significant adverse effects in year 1 of</p>

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		<p>operation. When considering the establishment of mitigation planting by year 15, only one LCA (LCA 2 Winthorpe Village and Farmlands LCA) is considered to have a residual significant adverse effect as a result of the Scheme.¹¹ The policies at a district level have a common thread of aiming to conserve, enhance and protect the landscape, and basing the design of development upon an understanding of the existing landscape context supported by the use of landscape character assessments. Similarly, these policies require that adverse impacts must be mitigated by sensitive landscape measures which respond to their context. This has been addressed in the study of the baseline landscape character and visual amenity of the area, assessment of impacts and development of mitigation as presented in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].</p>
5.162	<p>The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of a project, potential impacts on views (including protected views) and visual amenity. This should include any noise and/or light pollution effects, including on local amenity, dark skies, tranquility and nature conservation. The assessment should also demonstrate how noise and/or light pollution from construction and operational activities on residential amenity, sensitive locations and other receptors will be minimised. The assessment should also consider identified special qualities for National Parks, the Broads and Areas of Outstanding Natural Beauty (now known as National Landscapes) (as set out in the</p>	<p>Chapter 7 (Landscape and Visual) of the Environmental Statement [REP7-024] considers the likely significant effects of the Scheme on both landscape character and visual amenity, considering impacts and resulting effects during construction and operational phases including night works. Tranquility is included within the LVIA, whilst broader impacts upon nature conservation are covered in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026]. The impact of noise upon local receptors is addressed in Chapter 11 (Noise and Vibrations) of the Environmental Statement [REP7-032]. In order to minimise environmental impacts each relevant environmental discipline sets out necessary mitigation measures within their respective chapters. Mitigation measures of relevance are included and secured within the First Iteration Environmental Management Plan [REP6-012]) and Table 3.2 Register of Environmental Actions and Commitments contained within it as well as Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].</p> <p>Lighting would be kept to the minimum luminosity necessary and</p>

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	management plans for these designations).	<p>use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors. Construction lighting arrangements are further detailed in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>The Scheme is not located within a National Landscape, National Park, or the Broads.</p>
5.163	Any statutory undertaker commissioning or undertaking works in relation to, or so as to affect land in England's National Parks and the Broads, or National Landscapes, must comply with the duties in section 11A of the National Parks and Access to Countryside Act 1949, Section 17A of the Norfolk and Suffolk Broads Act 1988 and Section 85 of the Countryside and Rights of Way Act 2000, as amended by Section 245 of the Levelling Up and Regeneration Act 2023. Government planning policy advises that major development should not take place within these areas unless exceptional circumstances apply.	<p>The Scheme is not located within a National Landscape, a National Park, or the Broads.</p> <p>As the Scheme is not within or in close proximity to a National Park or National Landscape and does not affect land within or in close proximity to a National Park or National Landscape, the duties placed on planning authorities under section 245 of the Levelling Up and Regeneration Act 2023 are not relevant.</p>
5.164-5.165	The project should be designed, and the scale minimized, to avoid or where unavoidable, mitigate the visual and landscape effects, during construction and operation, so far as possible while	The development of the Scheme design has been an iterative process, undertaken by an integrated design team. The design adheres to the principles of the design and mitigation hierarchy outlined in DMRB LA 104. The first principle being to avoid potential adverse effects where possible, before seeking to minimise or

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	<p>maintaining the operational requirements of the Scheme. In exceptional circumstances a reduction in operational requirements might be warranted, and the Secretary of State may decide that the benefits to reduce the landscape effects outweigh the marginal loss of scale or function.</p> <p>Projects need to be designed carefully, taking account of the potential impact on the landscape. For projects with the potential to affect nationally designated landscapes the relevant management plan(s) for these areas should be referred to for information to assist with the design of the scheme.</p>	<p>mitigate any unavoidable impacts. This has formed a well-developed essential mitigation strategy. The landscape design strategy for the Scheme seeks to respond to the local landscape character and physical topography of the area, aiding the settlement of the Scheme within the receiving environment. It also seeks to limit visual clutter and detracting features as far as possible, whilst mitigating impacts and enhancing biodiversity as part of a holistic design approach. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016], with the Environmental Masterplan shown in Figure 2.3 of the Environmental Statement Figures [REP7-042].</p> <p>Mitigation – Construction</p> <p>Mitigation measures during construction are included within the First Iteration Environmental Management Plan [REP6-012]). The First Iteration Environmental Management [REP6-012] will be developed into the Second Iteration Environmental Management Plan for implementation during construction and secured through Requirement 3 of the draft Development Consent Order [REP7-006]. Those mitigation measures of relevance to landscape and visual amenity include the following:</p> <ul style="list-style-type: none"> • Keeping a well ordered and tidy site, including keeping stockpiles to a minimum, with delivery of goods on an as needed basis. • Limiting works to daylight hours in the most part, with any night works to be kept to a minimum where practicable. • Retention and avoidance of impact upon existing trees and vegetation wherever possible, including the sensitive consideration of priority habitats, trees protected by TPOs and

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		<p>other veteran and notable trees within and adjacent to the works boundary.</p> <ul style="list-style-type: none"> • Protecting existing trees and vegetation to be retained with protective fencing, where deemed necessary, in accordance with BS 5837:2012. • Restoration of land used temporarily to construct the Scheme, as soon as practicable. • Constructing screening mounds, where they are proposed as part of the permanent works, as early as is practicable to provide screening to the construction work. • Temporary offices and welfare facilities would be a recessive colour to blend in with the local surroundings. This is particularly the case in more rural areas away from the urban edge of Newark. • Lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors. Construction lighting arrangements are further detailed in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. • An indicative Arboricultural Method Statement (AMS) and mitigation in relation to trees is detailed in the Arboricultural Impact Assessment (AIA) in Appendix 7.4 of the Environmental Statement Appendices [REP7-054 and AS-086 to AS-089]. The AMS [REP7-054] would be further developed

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		<p>and form part of the Second Iteration EMP which would detail and secure mitigation during the construction period.</p> <p>Mitigation – Operation</p> <p>The following mitigation measures during operation are included within the First Iteration Environmental Management Plan [REP6-012]:</p> <ul style="list-style-type: none"> • New and replacement native planting which takes into account climate change resilience and reflects the local landscape character, including those species listed in the Newark and Sherwood Landscape Character Assessment Supplementary Planning Document (SPD). Over time, this vegetation would mature to offer effective screening where required as well as general landscape integration and softening of built features. • Retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include areas of species rich grassland, scrub planting, hedgerows, hedgerows with trees, linear belts of tree and shrub planting and woodland, as well as wetland planting of drainage features. Where drainage ditches, balancing ponds and attenuation areas are required, opportunities for habitat creation have been incorporated into the environmental design with an aim to increase biodiversity. The AIA in Appendix 7.4 of the Environmental Statement Appendices [REP7-054 and AS-086 to AS-089] details specific mitigation

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		in relation to potential remediation measures following construction with respect to trees.
5.166	<p>Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and topographical interventions (for example, creation of bunds or lowering of ground level). Also, landscaping Schemes (including screening options and design elements that soften the built form such as green bridges), depending on the size and type of the proposed project. Materials and designs for infrastructure should always be given careful consideration in terms of environmental standards.</p>	<p>The evolution of the Scheme design is described in the Scheme Design Report [REP7-078]. Consideration has been given to the landscape and visual impacts of the design and aided the evolution of the engineering of the Scheme. This has included siting of infrastructure as well as the design or structures and associated finishes. Landscape bunds have been included where appropriate to aid screening of the Scheme. The landscape design has sought to integrate the Scheme with surrounding landscape character. The design objectives included retaining notable extents of existing planting and proposing new planting to replicate existing features and establish visual screening. The environmental mitigation strategy also seeks to reinstate landscape features lost as a result of the Scheme, as well as a general enhancement of the landscape context wherever possible.</p> <p>The design seeks to integrate the Scheme with the existing landscape by:</p> <ul style="list-style-type: none"> • making it environmentally sustainable and retaining the sense of openness where this is consistent with a balanced preference for visual screening; • integrating Scheme infrastructure (notably overbridges) through appropriate use of planting to contribute to visual screening; • selecting plant and grass species appropriate to the locality to maintain consistency with the appearance of the area.

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		Mitigation measures during operation, are included within the First Iteration Environmental Management Plan [REP6-012] and shown on Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042]
5.167	Depending on the topography of the surrounding terrain and areas of population, it may be appropriate to undertake landscaping off-site, although if such landscaping was proposed to be consented by the Development Consent Order, it would have to be included in the order limits for that application. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista.	See response to NPSNN paragraphs 5.165 and 5.166 above.
5.168	Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality and can reinforce or enhance landscape features and character.	Enhancement measures seek to improve and/or restore local landscape character and visual amenity where possible, aligning with the Landscape Actions specified for the relevant policy zones established by the Newark and Sherwood Landscape Character Assessment SPD. Details are presented within Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].

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5.169	<p>Landscape effects of the project depend on the existing character of the local landscape, its capacity to accommodate change and nature of the effect likely to occur. All of these factors need to be considered in judging the impact of a project on landscape. Projects need to have regard to siting, orientation, height operational and other relevant constraints. The aim should be to avoid or minimise harm to the landscape, where adverse impacts are unavoidable providing reasonable mitigation and deliver landscape enhancement where possible and appropriate.</p>	<p>The development of the Scheme design has been an iterative process, undertaken as part of an integrated design team. The design adheres to the principles of the design and mitigation hierarchy outlined in DMRB LA 104. The first principle being to avoid potential adverse effects where possible, before seeking to minimise or mitigate any unavoidable adverse impacts. This has formed a well-developed essential mitigation strategy. The landscape design strategy for the Scheme seeks to respond to the local landscape character and physical topography of the area, aiding the settlement of the Scheme within the receiving environment. It also seeks to limit visual clutter and detracting features as far as possible, whilst mitigating impacts and enhancing biodiversity as part of a holistic design approach. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p>
5.170	<p>England's National Parks, the Broads and National Landscapes have been confirmed by the government as having the highest status of protection in relation to landscape and natural beauty. Each of these designated areas has specific statutory purposes. The conservation and enhancement of the natural beauty of the landscape and countryside should be given great weight by the Secretary of State in deciding on applications for development consent in these areas.</p> <p>The Secretary of State should be satisfied that the scheme's design and delivery complies with the duty as revised by</p>	<p>The Scheme is not located within a National Landscape, National Park, or the Broads.</p>

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	section 245 of the Levelling Up and Regeneration Act 2023 and any regulations making provision about how the duty is to be complied with. Regard should also be had to any relevant Defra guidance.	
5.171-5.172	<p>The Secretary of State should refuse development consent in England's National Parks, the Broads and National Landscapes unless there are exceptional circumstances, where the benefits outweigh the harm and where it can be demonstrated that is in the public interest. Consideration of such applications should include an assessment of:</p> <ul style="list-style-type: none"> the need for the development, including any national considerations and the impact of consenting, or not consenting it, upon the local economy the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it, some other way, taking account of policy on alternatives set out in paragraphs 4.20 to 4.22 any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated 	The Scheme is not located within a National Landscape, National Park, or the Broads.

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	<p>There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and National Landscapes, unless it can be shown there are exceptional circumstances for the new or enhanced capacity and with any benefits significantly outweighing the harm. Planning of the Strategic Road Network should encourage routes that avoid impacts to National Parks, the Broads and National Landscapes.</p>	
5.174	<p>The duty to seek to further the purposes of nationally designated landscapes also applies when considering applications for projects outside the boundaries of these areas (in their 'setting') which may have impacts within them. The aim should be to avoid harming the purposes of designation and such projects should be located and designed sensitively, to avoid or minimise impacts. This should include projects in England which may have impacts on designated areas in Wales or on National Scenic Areas in Scotland. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.</p>	<p>The Scheme is not located within or within the setting of a National Landscape, National Park, or the Broads.</p>
5.175	<p>Outside nationally designated landscapes, there are landscapes that may be valued locally and protected by local policy. Where a local development plan in England has</p>	<p>The Newark & Sherwood Landscape Character Assessment helped inform the landscape character baseline including the attribution of value described in Chapter 7 (Landscape and Visual Effects) of the Environmental Statement [REP7-024]. The key actions presented</p>

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	policies based on landscape character assessment, and has identified landscapes of local value, these should be given particular consideration. However, such areas should not be used in and of themselves as reasons to refuse consent, as this may unduly restrict acceptable development.	<p>within the Newark & Sherwood Landscape Character Assessment have also informed the development of the environmental design, ensuring the design responds appropriately to the local sense of place.</p> <p>Policy and guidance recognises that not all impacts are able to be resolved in largescale Schemes and the above residual impacts would be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme [REP7-074].</p>
5.176	Within areas defined as Heritage Coast that are not already within one of the nationally designated landscape areas, planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate unless it is compatible with its special character.	The Scheme is not located within an area defined as Heritage Coast.
5.177	In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by appropriate mitigation.	<p>Section 7.10 of Chapter 7 (Landscape and Visual) of the Environmental Statement [REP7-024] outlines the construction and operation mitigation measures to be provided for the Scheme. These mitigation and monitoring measures are secured in the REAC which is appended to the First Iteration Environmental Management Plan [REP6-012].</p> <p>The Scheme has been carefully designed, as described in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. The careful design and mitigation has minimised the landscape and visual impact of the Scheme wherever possible.</p>
5.184	The applicant should identify existing and proposed land uses near the project, any	Chapter 3 of the Case for the Scheme [REP7-074] identifies the main existing land uses within the Order Limits. Much of the land to

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	<p>effects of replacing an existing development or use on the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate.</p>	<p>the west of the existing A46 is low lying floodplain, with road infrastructure forming the dominant land use to the east and agricultural land to the north, interspersed with small-scale settlements.</p> <p>Chapter 6 of the Case for the Scheme [REP7-074] identifies the Development Plan allocations within Order Limits. No impacts on the delivery or integrity of any Development Plan allocations have been identified.</p> <p>Chapter 12 (Population and Health) of the Environmental Statement [REP7-034] assesses the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces and recreational areas and human health outcomes.</p> <p>The construction of the Scheme is likely to have an overall residual adverse impact on development land and businesses, agricultural land, and WCH provision as a result of both permanent and temporary land take and reduced access during construction. Where applicable, compensation would be provided to land and business owners if considered due under the Compensation Code.</p> <p>The operation of the Scheme is expected to have a significant beneficial impact on access to private property and housing; development land and businesses; community land and assets; green space, recreation and physical activity; due to the reduced congestion and improved journey times that the Scheme will deliver.</p>
5.185	Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced	Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] reviews any impact of the Scheme on open space, sports and recreational buildings, and includes an outline of mitigation measures associated with maintaining access to all

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	<p>by equivalent or better provision in terms of quantity, quality and functionality in a suitable and accessible location.</p> <p>Applicants considering proposals which would involve developing such land should have regard to any local authority's assessment of need for such types of land and buildings.</p>	<p>affected residential properties, businesses and areas of open space and recreation.</p> <p>Table 12.15 of Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] sets out changes in access to green space, recreation and physical activities during construction and associated mitigation measures.</p> <p>Other than some permanent rights, which are compatible with the current open space use, the Scheme will not result in the loss of land that comprises existing open space, sports or recreational buildings. Further details on land requirements (both temporary and permanent) and powers being sought under the draft DCO [REP7-006] can be found in the Statement of Reasons [APP-025].</p>
5.186	<p>The applicant should engage in pre-application discussions with the local planning authority and other regulatory bodies at the earliest opportunity. It is essential that engagement is meaningful and supported where necessary by Statements of Common Ground.</p> <p>Discussions will cover a range of potential local impacts and issues, and the local planning authority should identify any concerns it has about impacts of the application on land-use, having regard to the development plan and relevant applications. This includes, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements. These are also matters that local authorities may wish to include in</p>	<p>Details on engagement with the Local Planning Authorities including Nottinghamshire County Council and Newark and Sherwood District Council is set out in Table 3.2 of the Consultation Report [APP-028]. Details on engagement with the Local Planning Authorities is also set out in Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048].</p> <p>Furthermore, a Statement of Common Ground has been developed between the Applicant and Nottinghamshire County Council [REP7-102], and the Applicant and Newark and Sherwood District Council [REP7-103] during the course of the DCO Examination. There are no areas of disagreement in either of the Statements of Common Ground relating to land-use.</p>

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	their Local Impact Report which is submitted during examination and after an application for development consent has been accepted.	
5.187	The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt policy. Metropolitan Open Land, and land designated as Local Green Space in a local or neighbourhood plan, are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances.	The Scheme is not located within the Green Belt.
5.188	Linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and, as far as possible, of the need to contribute to the achievements of objectives for the use of the land in Green Belts.	The Scheme is not located within the Green Belt.

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5.189	<p>Applicants should take into account the economic and other benefits of the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification). Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil health and protect and improve soils, taking into account any mitigation measures proposed. Soil is an important natural capital resource, providing many essential services such as storing carbon (also known as a carbon sink), reducing the risk of flooding, providing wildlife habitats and delivering global food supplies. Guidance on sustainable soil management can be found in Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. As a first principle, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value (see paragraphs 5.152 to 5.159).</p>	<p>Chapter 9 (Geology and Soils) of the Environmental Statement [REP7-028] assesses the effects of the loss of temporary and permanent agricultural land. For agricultural land and soils, it is considered that even with the inclusion of appropriate mitigation as detailed in the Outline Soils Management Plan (SMP) (Appendix C of the First Iteration Environmental Management Plan [REP6-012], there would still be significant adverse effects during the construction phase (associated with temporary and permanent land take). Significant effects are associated with temporary loss of ALC grade 2 (considered to be Moderate Adverse), and permanent loss of ALC grade 3a (considered to be Moderate Adverse) and ALC grade 3b (considered to be Large Adverse).</p> <p>The Outline SMP (Appendix C of the First Iteration Environmental Management Plan [REP6-012]) details the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling.</p> <p>There will be no effects of loss of agricultural land during the operational phase of the Scheme as land lost permanently from agriculture will already be removed in the construction phase.</p> <p>The minimisation of the area of permanent and temporary land take of agricultural land within the Order Limits has been a fundamental consideration throughout the design of the Scheme.</p> <p>Given the fixed location of the existing highway infrastructure that represents the start and end points of the Scheme there are no opportunities to deliver the Scheme avoiding the development of any agricultural land. The use of some agricultural land is therefore necessary.</p>

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		<p>Policy and guidance recognises that not all impacts are able to be resolved in largescale Schemes and the above residual impacts would be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme [REP7-074].</p> <p>In accordance with the Environment Agency's Land contamination risk management (LCRM) guidance, a preliminary contamination risk assessment has been undertaken for the Scheme within the Preliminary Sources Study Report in Appendix 9.1 of the ES Appendices [APP-160 –163]. Subsequently, a series of Ground Investigations (GI) have been undertaken. Following GI, the contamination risks have been assessed in the Phase 2 Contaminated Land Generic Quantitative Risk Assessment. This is provided in Appendix 9.2 (Contaminated Land Risk Assessment) of ES Appendices [APP 164 – 169]. Additional risk assessment has been undertaken for one isolated area of the Scheme where soil contamination was identified (WS46 and S3BH05) and has been reported in the Detailed Quantitative Risk Assessment (DQRA) - Rev 2 [REP5-057]. The DQRA was submitted into the Examination at Deadline 4 [REP4-038] and has subsequently been updated and agreed with the Environment Agency, as detailed in Item 31 of the Statement of Common Ground [REP6-028]. A final version of the DQRA [REP5-057] was submitted into the Examination at Deadline 5.</p>
5.190	The Agricultural Land Classification is the only approved system for grading agricultural quality in England and Wales. If necessary, field surveys should be used to establish the Agricultural Land Classification grades in accordance with the current grading criteria, or any	See response to NPSNN paragraph 5.189 above.

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	successor to it and identify the soil types to inform soil management at the construction, operation and decommissioning phases in line with the Defra Construction Code. Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This is to be in line with the ambition set out in the Environmental Improvement Plan for sustainable management of agricultural soils.	
5.191	Applicants should safeguard any mineral resources on the proposed site as far as possible. Taking into account the policies of the Minerals Planning Authority, applicants should consider whether prior extraction of the minerals would be appropriate.	<p>The Policies of the Minerals Planning Authority are considered in the Case for the Scheme [REP7-074] and Chapter 9 (Geology and Soils) of the Environmental Statement [REP7-028].</p> <p>Prior extraction of minerals would not be appropriate, for the reasons set out in the response to NPSNN paragraph 5.196.</p>
5.192	Applicants can avoid, or minimise, the direct effects of a project on the existing use of the proposed site or proposed uses near the site, by the application of good design principles, including the layout of the project and the protection of soils during construction.	<p>The Outline SMP in Appendix C of the First Iteration Environmental Management Plan [REP6-012] details the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling.</p> <p>The Outline SMP in Appendix C of the First Iteration Environmental Management Plan [REP6-012] provides guidance on the best practices surrounding excavation (more details in the Outline SMP; including:</p> <ul style="list-style-type: none"> • Pre-construction planning,

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		<ul style="list-style-type: none"> • Soil handling constraints • Appropriate weather and ground condition • Soil stripping (topsoil and sub-soil) • Soil stockpiling and stockpile formation and maintenance • Soil reinstatement and reuse • Soil placement • After care and monitoring <p>The Outline SMP incorporates the hierarchical system of avoidance, reduction and remediation, following DRMB LA104 guidance.</p> <p>Annex A of the Scheme Design Report [REP7-078] sets out the Design Principles of the Scheme.</p>
5.193	Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to avoid or mitigate any adverse impact. Applicants should endeavor to improve networks green infrastructure and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of ways.	Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] reviews any impact of the Scheme on open space, sports and recreational buildings, and includes an outline of mitigation measures associated with maintaining access to all affected residential properties, businesses and areas of open space and recreation, including public rights of ways (PRoWs). Provisions have been included in the Scheme to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are used by pedestrians and cyclists. Moreover, new pedestrian and cycle routes are being delivered as part of the Scheme, the objective being to ensure continued connectivity is provided for WCH between communities and routes within the wider PRoW network. The key design rational for the environmental design is to create a green blue corridor along the length of the Scheme, enabling co-benefits to landscape, biodiversity and water quality. The Scheme has sought to limit impacts upon existing green infrastructure, limiting vegetation clearance wherever possible, and also proposing planting so that the Scheme ties in with surrounding green infrastructure and habitats. The Scheme does not affect

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		access to new coastal access routes or National Trails.
5.195	<p>Existing trees and woodlands should be retained where possible. The applicant should assess the impacts on, and the loss of, all trees and woodlands within the project boundary and avoid and mitigate for any direct and indirect effects and any risk of net deforestation as a result of the Scheme (Irreplaceable Habitats require separate consideration 5.57-5.58). Mitigation may include the use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured. Opportunities for tree planting and woodland creation should be maximised.</p>	<p>The development of the Scheme design has been an iterative process undertaken by an integrated design team to adhere to the principles of the design and mitigation hierarchy outlined in DMRB LA 104; the first principle being to avoid potential adverse effects if at all possible before seeking to minimise or mitigate any unavoidable impacts. The Applicant has assessed the impacts on, and the loss of, any trees and woodland within the Scheme boundary, and suitable measures to avoid and mitigate direct and indirect effects have been incorporated including embedded mitigation and essential mitigation. For example, the Scheme design evolved to provide a steeper embankment gradient along the eastbound A46 carriageway, east of Cattle Market junction, to attempt to avoid direct loss of veteran trees. Whilst this design iteration will result in retention of all veteran trees, there will be an unavoidable permanent adverse impact to three veteran trees due to the direct partial impact to their RPAs and the proximity of one of these veteran trees to the Order Limits, which will require a minor crown lift (<0.5 metres). It is very unlikely that this would result in a slow decline in tree health or accelerate the death of the tree and therefore the integrity of this resource will not be affected (as detailed in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026]).</p> <p>For example, where possible habitats of principal importance (HPI) in poor condition and habitats of low ecological value would be enhanced to compensate for the loss of HPis, for example, planting of native tree species of local provenance. Where this cannot be achieved within the Order Limits, compensation would be delivered offsite, for example planting or enhancement of lowland mixed deciduous woodland at Doddington Hall. The offsite compensation at Doddington Hall is being provided by way of an agreement under s.253 of the Highways Act 1980 (HA 1980). The Applicant can</p>

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		<p>confirm that the s253 agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion.</p> <p>Any other compensation measures required during construction and operation can be found in Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026].</p> <p>The Scheme would retain existing trees and woodland where possible.</p>
5.196	Where a proposed development has an impact on a Mineral Safeguarding Area, the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.	<p>Data and information in the baseline study in Section 10.8 of Chapter 10 (Materials and Waste) of the Environmental Statement [REP7-030] has indicated that there is one Minerals Safeguarding Area (MSA) for sand and gravel within the study area; and there are no peat resources.</p> <p>The Scheme is not likely to represent a risk to the MSA and prior extraction from the MSA may not be appropriate. Taking into consideration the below points,</p> <ul style="list-style-type: none"> • The Scheme is not a new development in an open countryside area, as the works at the Scheme are related to the improvement and widening of a section of the existing A46 road and is in close proximity of residential area. • The A46 forms part of the strategic Trans-Midlands Trade Corridor between the M5 in the south-west and the Humber Ports in the north-east. • The improvements to the A46 corridor are detailed within the RIS 2 as a mechanism for underpinning the wider economic transformation of the country. • The size of the MSA is significantly greater than the size of the Scheme (refer Figure 10.2 (Material Assets and Waste Management Second Study Area) in the Environmental

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		<p>Statement Figures [AS-054]. The Scheme is spread across relatively small land take of irregular shape and has been shown on Figure 10.1 (Material Assets and Waste Management First Study Area) of the Environmental Statement Figures [REP2-008]. The total area for the sand and gravel MSA within Nottinghamshire is over 377 square kilometres, while the total area of the Scheme within the MSA is approximately 1.8 square kilometre; which represents approximately 0.48 percent of the MSA area.</p> <ul style="list-style-type: none"> It has been stated in paragraph 10.10.14 of Chapter 10 (Material Assets and Waste) of the Environmental Statement [REP7-030], that the Applicant will consider the potential use of site won materials that includes minerals derived from excavation activities within the Scheme. So, there is a potential that some of the minerals present within the MSA that lie within the Scheme Order Limits will be extracted and utilised within the Scheme and would not be subject to sterilisation. <p>Due to the reasons outlined, and as the Scheme only covers approximately 0.48% of the total MSA area, the Scheme is unlikely to represent a risk to the MSA. Therefore, it is considered that the Scheme is unlikely to sterilise MSA and/or peat resources.</p>
5.198	<p>Public rights of way, National Trails, and other rights of access to land (for example, open access land) are important recreational facilities for pedestrians, wheelers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other public rights of way and open access land, and to consider</p>	<p>The impact of the Scheme on existing PRoWs has been assessed. Provision has been made within the Scheme to maintain existing PRoWs where practicable and deemed appropriate on safety grounds. This assessment is set out in Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034].</p> <p>Along the route, there would be one permanently stopped up PRoW, FP14, however the Scheme would provide new and improved facilities around the east side of Cattle Market Roundabout which would be available as an alternative route. Other routes would be</p>

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	<p>what opportunities there may be to improve access and connectivity. In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether mitigation measures put forward by an applicant are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent.</p>	<p>impacted slightly due to the Scheme. Provision has been included in the design to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are used by pedestrians and cyclists. The objective of this is to ensure continued connectivity is provided for WCH users between communities and routes within the wider PRoW network.^{tt}The General Arrangements Plans [AS-007] and the Streets Rights of Way and Access Plans [AS-006] illustrate the locations of:^tThe existing PRoW network within and surrounding the Order Limits;^tPRoW that would be permanently closed (referred to as being ‘stopped up’);^tNew and improved footpaths, cycle tracks and PRoW that would be delivered as part of the Scheme.^tThe new routes and those impacted by the Scheme are listed below and detailed in full in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]:^tFootpath FP14</p> <ul style="list-style-type: none"> • Footway/Cycle track at Cattle Market • Footway/Cycle track at Brownhills Junction • Footway east of the A1 • Footpaths FP2 and FP3 • Footpaths/Cycle track at Winthorpe Roundabout <p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] concludes that the construction of the Scheme is likely to have a temporary Moderate Adverse (significant) effect on WCH provision as a result of both permanent and temporary land take and reduced access during construction.</p> <p>Mitigation measures during construction are included or referenced within the First Iteration Environmental Management Plan [REP6-012]. Mitigation measures in relation to population and human health during construction include provision of appropriate signage</p>

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		for temporary WCH diversions, including wayfinding and duration of works.
5.199	Public rights of way can be extinguished under section 136 of the Planning Act if the Secretary of State is satisfied that an alternative has been or will be provided or is not required.	<p>Along the route, there would be one permanently stopped up PRoW, FP14, however the Scheme would provide new and improved facilities around the east side of Cattle Market Roundabout which would be available as an alternative route.</p> <p>The new routes and those impacted by the Scheme are detailed in full in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p>
5.200	The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements, or the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account the positive proposals made by the applicant to provide new, improved or compensatory land or facilities.	Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] outlines that access would be maintained and there would be no quality implications to the use of recreational open spaces.
5.201	Where networks of green infrastructure have been identified in development plans, they should be protected from development, and, where possible, strengthened. The environmental and visual value of linear infrastructure and its footprint in supporting biodiversity and ecosystems should also be taken into	<p>Section 6.15 of the Case for the Scheme [REP7-074] outlines the Scheme's conformity with local planning policy, including the Green Infrastructure Strategy for Newark and Sherwood. The aim of the Strategy is to <i>"allow for the expansion of settlements whilst ensuring that the District, its assets and landscapes suffer no negative effects and instead prosper from new development"</i>.</p> <p>Chapter 8 (Biodiversity) of the Environmental Statement [REP7-</p>

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	<p>account, including the creation of new green infrastructure, when assessing the impact on green infrastructure. The value of the development in improving connectivity, particularly through active travel links and recreation should also be taken into account when assessing the impact on green infrastructure.</p>	<p>026] considers the effects of the Scheme on biodiversity and Section 8.10 outlines measures to mitigate any impacts. Embedded mitigation incorporated into the Scheme design development is also outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. For example, mitigation measures include:</p> <ul style="list-style-type: none"> • The Scheme has been designed to minimise habitat loss with a focus on avoiding high value and/or irreplaceable habitat present. All veteran trees within or in close proximity to the Order Limits have been retained. Habitats of principle importance and habitats of high distinctiveness (condition assessment for BNG) have been retained wherever possible. For example, attenuation ponds have been positioned to maximise retention of mature trees, hedgerows and habitat of principal importance. • Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to LWSs and priority habitats. <p>The Biodiversity Net Gain (BNG) Technical Report in Appendix 8.14 of the Environmental Statement Appendices [REP7-056] assesses that the Scheme would result in a predicted numerical increase in biodiversity. The Strategic Significance of habitats (the local significance of a habitat based on its location and habitat type, with reference to local strategy and policy) has been considered within the BNG assessment, with opportunities sought to protect, create and enhancement habitats of greater Strategic Significance, wherever possible. In addition to onsite habitat creation, compensation is anticipated to be provided offsite comprising of woodland enhancement at Doddington Hall. The offsite compensation at Doddington Hall will be provided by way of an agreement under s.253 of the Highways Act 1980 (HA80). That</p>

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		<p>agreement will be legally binding on the owners of Doddington Hall and, pursuant to s.253(3) of the HA80, on its successors in title. By the provisions of s.253(4) of the HA80 the agreement will also constitute a local land charge. This would provide increased value for biodiversity and landscape connectivity. The Applicant can confirm that the s253 agreement is now agreed between it and the Doddington Hall landowner and the parties are in the process of executing and completing the document. A copy of the completed agreement will be shared with the ExA following its completion.</p> <p>The Habitat Regulations Assessment [REP5-075] is included within the application. This considers whether the Scheme would result in significant effects on European sites of biodiversity interest. It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC during construction. This is not considered to be a significant effect.</p> <p>Furthermore Chapter 7 (Landscape and Visual) of the Environmental Statement [REP7-024] sets out the mitigation that promotes green infrastructure. For example, mitigation measures include:</p> <ul style="list-style-type: none"> • New and replacement native planting which takes into account climate change resilience and reflects the local landscape character, including those species listed in the Newark and Sherwood Landscape Character Assessment SPD. Over time, this vegetation would mature to offer effective screening where required as well as general landscape integration and softening of built features. <p>Retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure</p>

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		<p>that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include areas of species rich grassland, scrub planting, hedgerows, hedgerows with trees, linear belts of tree and shrub planting and woodland, as well as wetland planting of drainage features. nnWhere drainage ditches, balancing ponds and attenuation areas are required, opportunities for habitat creation have been incorporated into the environmental design with an aim to increase biodiversity.</p>
5.202	<p>The Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise the impact on soils or soil resources.</p>	<p>Given the fixed location of the existing highway infrastructure that represents the start and end points of the Scheme there are limited opportunities to deliver the Scheme avoiding the development of any agricultural land. The use of some agricultural land is therefore necessary. However, the minimisation of the area of permanent and temporary land take of agricultural land within the Order Limits has been a fundamental consideration throughout the design of the Scheme. An assessment of the impact of the Scheme on agricultural land is provided in Chapter 9 (Geology and Soils) of the Environmental Statement [REP7-028].</p> <p>The Outline Soils Management Plan in Appendix C of the First Iteration Environmental Management Plan [REP6-012] details the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP guidance is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling.</p> <p>Policy and guidance recognise that not all impacts are able to be resolved in largescale schemes and these impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the</p>

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		<p>Case for the Scheme [REP7-074].</p> <p>The Outline SMP will be developed into a detailed Soil Management Plan in accordance with Requirement 3 of the draft Development Consent Order [REP7-006].</p>
5.203	<p>Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any Development Consent Order, the Examining Authority and the Secretary of State should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations. When located in the Green Belt, elements of many national networks infrastructure projects will comprise inappropriate development. In such cases, scheme promoters will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the safety benefits associated with improvements to the relevant section of the national network.</p>	<p>The Scheme is not located in the Green Belt.</p>
5.208	<p>Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for</p>	<p>There are no non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments that will be impacted by the Scheme.</p>

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	designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.	
5.209	The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision-making process), on the basis of clear evidence that the assets have a significance that merit consideration in that process	<p>An assessment of the potential for direct physical impacts and changes to the setting of each individual non-designated asset was undertaken to inform Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022]. The results of this assessment are contained within Appendix C of the Cultural Heritage DBA, which itself forms Appendix 6.1 of the Environmental Statement Appendices [REP7-050].</p> <p>Non-designated assets identified as having the potential to be impacted during the construction and operation of the Scheme are detailed further within Appendix 6.3 [APP-134] and 6.4 [APP-135] of the Environmental Statement [REP7-022] and Table 6.6 in Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022].</p>
5.210	The applicant should undertake an assessment of any significant heritage impacts of the proposed project and should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes, heritage assets with archaeological interest, the applicant	<p>An assessment of the value/sensitivity (significance) of heritage assets has been carried out in accordance with criteria with the standards outlined in the DMRB LA 104 Environmental assessment and monitoring, and the Inspectorate Advice Note Seventeen: Cumulative Effects Assessment, with the criteria set out in Table 6.1 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022].</p> <p>The assessment of value/sensitivity (significance) of heritage assets with the potential to be impacted by the Scheme is contained within Appendix 6.3 of the Environmental Statement [APP-133].</p> <p>For the purpose of the assessment, designated cultural heritage asset data is taken from the National Heritage List for England (NHLE) as maintained by Historic England. Non-designated cultural heritage asset data is taken from Nottinghamshire Historic Environment Record (HER). A continuous process of stakeholder</p>

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	<p>should include an appropriate desk-based assessment and, where necessary, a field evaluation.</p>	<p>consultation has been undertaken which has highlighted additional archaeological assets and survey work.</p> <p>The following steps have been undertaken to develop an understanding of the heritage assets within the Order Limits of the Scheme and the surrounding study area, and the impacts upon them during both construction and operation:</p> <ul style="list-style-type: none"> • Production of a detailed cultural heritage Desk-Based Assessment (DBA) in line with DMRB LA 106, Paragraphs 3.8 to 3.91, to determine the nature, extent, and significance of the historic environment within an appropriate study area. The study areas for the Scheme are defined in Section 6.7 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] and the DBA is presented within Appendix 6.1 Cultural Heritage DBA of the Environmental Statement Appendices [REP7-050]. • Undertaking of a site walkover survey to ground truth above ground features identified through the DBA, and to understand the setting of the key heritage assets along the route. The results of this walkover are presented Appendix 6.1 (Cultural Heritage DBA) of the Environmental Statement Appendices [REP7-050]. • Undertaking of preliminary archaeological surveys and evaluation to further determine the potential for and extent of any unknown archaeological features and palaeoenvironmental deposits. These include metal detector, fieldwalking and geophysical surveys, a programme of geoarchaeological assessment in the form of coring and test pitting, archaeological monitoring undertaken during Ground Investigations at the Kelham and Averham Floodplain Compensation Area and trial trenching across the Order Limits of the Scheme. The technical reports produced for these surveys are presented within Appendices D to K of

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		<p>Appendix 6.1 (Cultural Heritage DBA) of the Environmental Statement Appendices [REP7-050] and Appendix H of the Archaeological Management Plan [REP5-026].</p> <ul style="list-style-type: none"> Further in-depth analysis of the design of the Scheme has been undertaken in order to understand the potential impacts on archaeological remains, historic buildings and historic landscapes throughout the development of the preliminary design. This has included quarterly Environmental Technical Working Group sessions with stakeholders, weekly internal project team environmental design calls, and focused, internal topic specific workshops, consulting the landscape, road drainage and water environment, biodiversity and noise teams to ensure that the construction of the Scheme does not cause adverse impact or effect on heritage assets. Outcomes included the relocation of the Farndon compound to avoid impacts to significant non-designated Late Upper Palaeolithic archaeological remains (MM503) located south of Farndon Roundabout, reduction and relocation of Flood Compensation Areas and the Scheme Order Limits to avoid archaeologically sensitive areas at Kelham, Averham and Winthorpe, improved planting to the west of Lowwood (MM053) and Winthorpe Conservation Area (MM432), an understanding of the approach of the field drain so as not to impact on the curtilage wall to the Church of St Wilfrid, Kelham (MM024) and discussions and understanding on noise assessments and need for noise mitigation at Lowwood (MM053) and Winthorpe Conservation Area (MM32) in particular. Further details are contained within Section 2.5 of Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. <p>As a result of the steps taken above an Archaeological Mitigation Strategy has been produced in consultation with heritage stakeholders which details the scope of archaeological</p>

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		<p>investigations, protection measures and community engagement required ahead of and during the pre-commencement and construction stages of the Scheme. This strategy is contained within Chapter 6 of the Archaeological Management Plan [REP5-026].</p> <p>This strategy has been agreed by all heritage stakeholders as detailed within the Statements of Common Ground for Historic England [REP5-049], Nottinghamshire County Council [REP7-102] and Newark and Sherwood County Council [REP7-103].</p>
5.211	The discovery of heritage assets has potential to have a significant delay on scheme development, and applicants should ensure that protection of the historic environment is considered early in the development process.	<p>Where possible the iterative development of the Scheme design has taken into account cultural heritage assets identified through the assessment to date, including design adjustments to preserve these assets and their setting where possible (further details are contained in Section 2.5 of Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>Measures to identify the presence of heritage assets at risk of harm from construction or operation of the Scheme have included desk-based assessments, mapping studies, field walking, metal detector surveys, geophysical surveys, archaeological monitoring and trial trenching to identify archaeological remains, and geoarchaeological assessment to identify deposits with the potential to contain Palaeolithic archaeological remains and paleoenvironmental deposits. The risk that unexpectedly complex or significant heritage assets could be identified during construction of the Scheme has been accounted for and measures already taken provide confidence that such remains are unlikely to be encountered.</p>
5.213	Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance	Construction of the Scheme is likely to result in permanent significant adverse effects on the heritage value of two high value built heritage assets and 21 low to medium value archaeological remains as detailed in Table 6-7 and Section 6.13 of Chapter 6

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	<p>understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of this requirement should be proportionate to the importance and impact. Applicants should be required to deposit copies of the report with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.</p>	<p>(Cultural Heritage) of the Environmental Statement [REP7-022]. Direct physical impacts associated with works required for the construction of new road infrastructure and/or floodplain compensation areas will result in the total loss or partial removal of historic fabric and below ground archaeological remains associated with these assets which would constitute a significant adverse effect. However, archaeological excavation and recording undertaken before the physical loss of the asset will advance our understanding of the significance of the asset and this retained information will form part of our collective cultural heritage that can be studied and enjoyed in the future. This would be secured through the Archaeological Management Plan [REP5-026] in accordance with Requirement 9 of the draft Development Consent Order [REP7-006]].</p> <p>Section 6.10 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] provides opportunities for additional enhancements and increased social value that would be considered during the detailed design ongoing development of the Scheme design and the development of the heritage assessment and associated works, including:</p> <ul style="list-style-type: none"> • The production of appropriate academic Monograph and/or other popular publications. • The dissemination of results to the public through the creation of information panels or digital methods such as project blog. • Public outreach through various in person and/or online activities such as workshops/talks/educational activities. Public open days either as active participation or live demonstration and presentation. • Enhancement of the HER with the submission of the project survey data, which would otherwise have been undiscovered.

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5.216	<p>In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset). The Secretary of State should take account of the available evidence and any necessary expertise from:</p> <ul style="list-style-type: none"> • relevant information provided with the application and, where applicable, relevant information submitted during the examination of the application • any designated records • the relevant Historic Environment Record(s), and similar sources of information • representations made by interested parties during the examination • expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it 	<p>An assessment of the value/sensitivity (significance) of heritage assets has been carried out in accordance with criteria set out in Table 6.1 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] this also includes an assessment on impacts on any designated heritage assets including the mitigation measures proposed. The assessment of value/sensitivity (significance) of heritage assets with the potential to be impacted by the Scheme is contained within Appendix 6.3 of the Environmental Statement [APP-133]. For the purpose of the assessment, designated cultural heritage asset data is taken from the National Heritage List for England (NHLE) as maintained by Historic England. Non-designated cultural heritage asset data is taken from Nottinghamshire Historic Environment Record (HER).</p> <p>A total of eight designated built heritage assets are identified as likely to experience significant adverse effects as a result of the construction of the Scheme due to changes to their setting, including visual or noise intrusions, or from the potential for direct impact as a result of vibration or ground settlement during construction. Further details are contained in paragraph 6.13.1 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022].</p> <p>A total of 21 non-designated archaeological assets are identified as likely to experience significant adverse effects as a result of the construction of the Scheme, following archaeological excavation and recording. These are listed in paragraph 6.13.10 of Chapter 6 (Cultural Heritage) of the ES [REP7-022].</p> <p>Where possible the iterative development of the Scheme design has taken into account heritage assets identified through the assessment, including design adjustments to preserve and/or minimise impacts to these assets and their setting where</p>

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		<p>possible.REP7-016</p> <p>Those assets which have the potential to be impacted structurally during the construction phase have been noted. Monitoring of vibration on these assets would determine if there are any structural impacts arising, requiring mitigation through remedial repairs, and these monitoring requirements are secured through the First Iteration EMP [REP6-012] and detailed within Chapter 6 of the Archaeological Management Plan [REP5-026]. Other temporary impacts are mitigated against through embedded design to minimise those impacts arising from the construction phase, details on this are set out in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016].</p> <p>Policy and guidance recognise that not all impacts are able to be resolved in largescale schemes and any residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme [REP7-074].</p> <p>Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] Section 6.10 sets out in detail the mitigation measures including embedded mitigation, considered through the design process. Embedded mitigation is further set out Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. Mitigation measures during construction are included within the First Iteration Environmental Management Plan [REP6-012].</p> <p>The First Iteration Environmental Management Plan [REP6-012] will be developed into the Second Iteration Management Plan for implementation during construction and secured through Requirement 3 of the draft Development Consent Order, [REP7-006] is provided within section 4.4 of Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-</p>

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		<p>048]. The likely significant effects and mitigation requirements during construction of the Scheme are summarised in Table 6-7 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022].</p> <p>The Scheme has been carefully designed which has minimised the heritage impact of the Scheme. For this reason, it is considered that the benefits of the Scheme outweigh these effects.</p>
5.217	<p>In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset, and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.</p>	<p>See response to NPSNN paragraph 5.216 above.</p>
5.218	<p>The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).</p>	<p>Section 6.10 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] outlines that there are opportunities for additional enhancements and increased social value that will be considered during the detailed design ongoing development of the Scheme design and the development of the heritage assessment and associated works. These may include:</p> <ul style="list-style-type: none"> • Use of minimal or sympathetic design to reduce changes within the settings of heritage assets. • Use of additional noise mitigation measures to enhance the setting of impacted heritage assets

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5.219	<p>When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost, heritage assets cannot be replaced, and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, harm or loss affecting any designated heritage asset should require clear and convincing justification.</p> <p>Substantial harm to or loss of a grade II Listed Building, or a grade II Registered Park or Garden should be exceptional. Substantial harm to, or loss of, designated assets of highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.</p>	See response to NPSNN paragraph 5.216 above.
5.220	Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.	<p>See response to NPSNN paragraph 5.216 above.</p> <p>Policy and guidance recognises that not all impacts are able to be resolved in largescale schemes and the heritage impacts described in response to the NPSNN paragraph 5.216 will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the</p>

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		Scheme [REP7-074]. It is considered the public benefit of the Scheme outweighs the harm.
5.221	<p>Where the proposed development will lead to substantial harm to, or total loss of, significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that it is necessary to deliver substantial public benefits that outweigh that loss or harm. Alternatively, that all of the following apply:</p> <ul style="list-style-type: none"> the nature of heritage asset prevents all reasonable uses of the site no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible the harm or loss is outweighed by the benefit of bringing the site back into use 	There will be no total loss of a designated asset or substantial harm. For further information please refer to Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022].
5.222	Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.	Not all impacts are able to be resolved in large-scale Schemes and any heritage impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme [REP7-074]. It is considered the public benefits of Scheme outweigh the harm.
5.223	Not all elements of a World Heritage Site or Conservation Area will necessarily	Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] outlines that there are no known world heritage sites

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	<p>contribute towards its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less than substantial harm, as appropriate. This should take into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.</p>	<p>within its study area.</p> <p>Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] outlines that there are five Conservation Areas within its study area. Of these, Winthorpe Conservation Area is the only one identified as likely to experience a temporary significant effect.</p> <p>Winthorpe Conservation Area lies immediately adjacent to the Order Limits of the Scheme. The presence of construction machinery close to the asset would increase the level of noise and alter the agricultural setting of the asset and reduce the ability to appreciate the heritage value of the asset. This would result in a temporary Moderate Adverse effect on the heritage value of the asset. The widening of the A46 along the south boundary of the conservation area, and the construction of noise bunds would erode the buffer zone to the A46 provided by this part of the conservation area. Though the bunds are intended to mitigate against noise, they would be visually incongruous. However, planting in keeping with the character of this part of the conservation area would soften this impact as it matures and therefore result in a permanent Slight Adverse, less than significant effect on the conservation area. Due to the temporary and minor permanent change to setting this is considered to result in less than substantial harm.</p> <p>Both construction and operational impacts arising from the Scheme are somewhat diluted in that they would affect only part of the conservation area and its setting and not the whole. Therefore, actions or commitments such as limits on working hours to reduce the impacts of removal and installation of structures near Winthorpe Conservation Area would reduce the level of effect across the whole asset.</p>
5.225-5.226	Applicants should look for opportunities for new development within Conservation	Section 6.10 of Chapter 6 (Cultural Heritage) of the Environmental Statement [REP7-022] outlines that there are opportunities for

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	<p>Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to, or better reveal, the significance of the asset should be treated favourably.</p> <p>Where there is evidence of deliberate neglect of, or damage to, a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.</p>	<p>additional enhancements and increased social value that would be considered during the detailed design, ongoing development of the Scheme design and the development of the heritage assessment and associated works. These may include:</p> <ul style="list-style-type: none"> • Use of minimal or sympathetic design to reduce changes within the settings of heritage assets. • Use of additional noise mitigation measures to enhance the setting of impacted heritage assets
5.228	<p>Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed in accordance with the Biodiversity and Nature Conservation section of this NPS.</p>	<p>Any potential noise and vibration impacts on protected species and wildlife are assessed within Section 8.9 Potential Impacts and Section 8.11 Assessment of Likely Significant Effects within Chapter 8 (Biodiversity) of the Environmental Statement [REP7-026].</p>
5.230	<p>Where noise impacts are likely to arise from the proposed development, the applicant should include the following in its noise assessment:</p> <ul style="list-style-type: none"> • a description of the noise sources including the likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, 	<p>Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] considers the likely significant effects of the Scheme from noise and covers the areas of assessment outlined in this NPSNN paragraph.</p> <p>The Baseline Noise Survey in Appendix 11.2 of the Environmental Statement Appendices [APP-173] documents the findings of the baseline noise monitoring undertaken for the Scheme used to inform Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032]. Further details are also set out in the noise assessment methodology in Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] which shows compliance with</p>

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	<p>impulsive or low frequency characteristics of the noise</p> <ul style="list-style-type: none"> • identification of noise sensitive premises and noise sensitive areas that may be affected • the characteristics of the existing noise environment • a prediction on how the noise environment will change with the proposed development: <ul style="list-style-type: none"> ○ in the shorter term such as during the construction period ○ in the longer term during the operating life of the infrastructure ○ at particular times of the day, evening and night (and weekends) as appropriate • an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas, including identifying whether any particular groups are more likely to be affected • measures to be employed in mitigating the effects of noise applicants should consider using the best available techniques to reduce noise impacts. 	<p>this paragraph.</p> <p>The assessment of construction noise shows:</p> <ul style="list-style-type: none"> • Pre-commencement works / Earthworks and floodplain compensation/ Ground improvement/ Bridge structures/ Drainage/ Roadworks/ and Construction compounds/ construction phases, each have the potential to result in significant adverse effects during the daytime. • Pre-commencement works/ Bridge structures/ and Roadworks construction phases each have the potential to result in significant adverse effects during the night-time. • Suitable mitigation measures to avoid significant adverse effects are described within Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] and are secured within the First Iteration Environmental Management Plan [REP6-012]. <p>A Section 61 application process (whereby the Principal Contractor consults with the local authority and provides an application prior to construction works commencing to obtain approval for the methods to be used and the steps proposed to minimise noise and vibration resulting from the works) may apply between the Principal Contractor and the Local Authority in advance of the works and would ensure potential cumulative levels and relevant mitigation measures are adopted to avoid significant adverse effects.</p> <p>Embedded mitigation measures incorporated in the Scheme design such as landscape earthworks, noise barriers and bridge parapets are shown on Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042].</p> <p>The assessment of operational noise shows:</p>

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		<ul style="list-style-type: none"> No residual significant adverse effects have been identified as a result of the Scheme with mitigation in place (as described within Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] under the 'Design measures' heading and secured via the First Iteration Environmental Management Plan [REP6-012]. <p>The Statement Relating to Statutory Nuisances [REP7-070] has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the Environmental Protection 1990 Act (EPA). With the essential mitigation measures set out in the First Iteration Environmental Management Plan [REP6-012] in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.</p> <p>The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and NCC [REP7-093] and the Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to noise and vibration.</p>
5.232	The potential noise impact elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on national networks, should be considered as appropriate.	<p>Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] describes how the study area has been defined for the noise assessment. This includes the following: beyond 600 metres, the area within 50 metres of other road links with potential to experience a short-term Basic Noise Level change of more than 1.0 dB(A), as a result of the Scheme.</p> <p>Therefore, traffic flow changes in areas further away from the Scheme have been included in the assessment and the resultant impacts have been included within the DMRB LA 111 style impact tables, which can be found in the assessment of likely significant</p>

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		<p>effects, operational noise section of the Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032].</p> <p>The DMRB LA 111 'Noise and Vibration' provides the assessment requirements for highway schemes in the UK and reflects Environmental Impact Assessment (EIA) methodology as applied to highways. It includes requirements for the classification of magnitude of impact, assessment of both long and short-term effects and determination of significance for both construction and operational phases.</p>
5.233	<p>Operational noise, with respect to human and structural receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise (Department for Transport 1988) or any official published succession to this methodology. The prediction of noise from new railways should be based on the method described in the Calculation of Railway Noise (Department for Transport 1995) or any official published succession to this methodology. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also gives examples of mitigation strategies.</p>	<p>Section 11.3 of Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] outlines relevant legislation and policies listed taken account of in the assessment, including British Standards 5228 parts 1 and 2. The assessment has been undertaken in accordance with the DMRB LA 111 Noise and Vibration (National Highways, 2020) which stipulates the use of Calculation of Road Traffic Noise (CRTN) rather than CNOSSOS.</p> <p>Section 11.11 of Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] sets out the assessment methodology which applies to human and structural receptors, demonstrating compliance with this paragraph.</p> <p>The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and NCC [REP7-093] and the Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to noise and vibration.</p>
5.234	The applicant should consult Natural	Section 8.4 of Chapter 8 (Biodiversity) of the Environmental

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	<p>England with regard to assessment of noise on designated nature conservation sites, protected landscapes, protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.</p>	<p>Statement [REP7-026] outlines the consultation undertaken to inform the assessment methodology.</p> <p>The Applicant has engaged with Natural England. Details of engagement with Natural England during the design development for the DCO application can be found in Table 1-2 within Appendix 4.3 (Record of Environmental Engagement) of the Environmental Statement Appendices [APP-127]. Further relevant details of discussions are also provided within Chapters 5 to 15 of this ES. Details of the engagement undertaken can also be found in Table 3.2 of Chapter 3 of the Consultation Report [APP-028].</p> <p>Furthermore, a Statement of Common Ground has been developed between the Applicant and Natural England during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to designated nature conservation sites, protected landscapes, protected species or other wildlife [REP7-094]. There are no areas of disagreement within the Statement of Common Ground between the Applicant and Natural England. .</p>
5.236	<p>Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:</p> <ul style="list-style-type: none"> • engineering: containment of noise generated • materials: use of materials that reduce noise, (for example, low noise road surfacing) • lay-out: adequate distance between source and noise-sensitive receptors • incorporating good design: to minimise noise transmission through landscaping and screening by natural 	<p>Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] provides details of the embedded mitigation measure incorporated into the Scheme design, including the following measures for noise:</p> <ul style="list-style-type: none"> • Retention of the existing dual carriageway between Friendly Farmer and Winthorpe and building a new link to the south which would move the A46 away from Winthorpe (when compared with the Scheme design for the preferred route announcement). • The use of thin surface courses on new carriageways to provide a reduction in road surface noise compared to hot rolled asphalt or concrete.

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	<p>or purpose-built barriers including topographical changes</p> <ul style="list-style-type: none"> administration: specifying acceptable noise criteria or times of use (for example, in the case of railway station public address systems) 	<ul style="list-style-type: none"> The provision of noise bunds integrated as part of the landscape design to reduce adverse effects to noise receptors where required. <p>These features are shown on Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042]. Mitigation measures during construction are included within the First Iteration Environmental Management Plan [REP6-012] which will be developed into a Second Iteration Environmental Management Plan for implementation during construction of the Scheme and secured through Requirement 3 of the draft Development Consent Order [REP7-006].</p> <p>Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] details the approach of the noise vibration assessment and proposed mitigation measures.</p>
5.237	<p>For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on, and provide powers to, the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with both construction and operational noise. An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the applicant may consider it appropriate to provide noise mitigation, through compulsory acquisition of affected properties in order to gain consent for what might otherwise be an unacceptable development. Where mitigation is</p>	<p>Appropriate mitigation measures have been set out in Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] and are secured within the Register of Environmental Actions and Commitments in the First Iteration Environmental Management Plan [REP6-012].</p> <p>Mitigation through improved sound insulation is not required, under the Noise Insulation Regulations 1975 (amended 1988).</p> <p>In general, mitigation has been designed to reduce noise at source and because there are no residual significant effects, sound insulation has not been employed as part of the operational noise mitigation strategy.</p> <p>No construction related residual significant effects/ receptors eligible for sound insulation have been identified at the Environmental</p>

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	proposed to be dealt with through the compulsory acquisition of affected properties in order to gain consent for what might otherwise be unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the Development Consent Order land in relation to which compulsory acquisition powers are being sought.	Statement stage.
5.238	Applicants should consider opportunities to address the noise issues associated with Important Areas as identified through the noise action planning process.	<p>This requirement has been addressed in Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032].</p> <p>Several highways Noise Important Areas (NIAs) are located in the vicinity of the Scheme, as presented in Figure 11.3 (Noise Important Areas) of the Environmental Statement Figures [AS-057] eleven of which are within the study area.</p> <p>Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] includes a summary of the short-term noise impact at relevant NIAs, which are either negligible or minor beneficial impacts.</p>
5.239	Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the government's associated planning guidance on noise.	<p>The Noise Policy Statement for England (NPSE) purpose is to promote "good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development." The three main aims are to:</p> <ul style="list-style-type: none"> • Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development. • Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood

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		<p>noise within the context of Government policy on sustainable development.</p> <ul style="list-style-type: none"> Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development. <p>NPPF Paragraph 198 (a) reiterates the first two of the above NPSE aims.</p> <p>On this basis, Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] considers the following concepts in the assessment of noise impact:</p> <ul style="list-style-type: none"> Lowest Observed Adverse Effect Level (LOAEL): this is the level above which adverse effects on health and quality of life can be detected. Significant Observed Adverse Effect Level (SOAEL): this is the level above which significant adverse effects on health and quality of life occur. <p>Section 11.3 of Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] outlines relevant legislation and policies taken into account in the assessment, including the Noise Policy Statement for England, the NPPF and relevant Planning Practice Guidance.</p> <p>These requirements have also been addressed in Chapter 11 (Noise and Vibration) of the Environmental Statement [REP7-032] in Section 11.5 where the assessment methodology is described, Section 11.10, where mitigation measures are described, and Section 11.11 where the assessment results are presented.</p>

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		<p>The Applicant has engaged with the Environmental Health officers at both NCC and NSDC. A Statement of Common Ground has been developed between the Applicant and NCC [REP7-093] and the Applicant and NSDC [REP7-096] during the course of the DCO Examination, with all issues being marked as 'agreed' in relation to noise and vibration.</p>
5.240	<p>The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where practicable and sustainable, the use of landscaping, bunds or noise barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to government policy.</p>	<p>The Scheme Design Report [REP7-078] outlines the Applicant's commitment to good design and provides details on how the design has evolved.</p> <p>Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] provides details of the embedded mitigation measure incorporated into the Scheme design, including the following measures for noise and vibration:</p> <ul style="list-style-type: none"> • Retention of the existing dual carriageway between Friendly Farmer and Winthorpe and building a new link to the south which would move the A46 away from Winthorpe (when compared with the Scheme design for the preferred route announcement). • The use of thin surface courses on new carriageways to provide a reduction in road surface noise compared to hot rolled asphalt or concrete. • The provision of noise bunds integrated as part of the landscape design to reduce adverse effects to noise receptors where required. The locations are shown on Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [REP7-042]. <p>There are no impacts elsewhere on the network, therefore there is no need for mitigation of impacts elsewhere.</p>

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5.241	<p>The Secretary of State should not grant development consent unless satisfied that the proposals will meet the following aims, within the context of government policy on sustainable development:</p> <ul style="list-style-type: none"> • avoid significant adverse impacts on health and quality of life from noise as a result of the new development • mitigate and minimise other adverse impacts on health and quality of life from noise from the new development • contribute to improvements to health and quality of life through the effective management and control of noise, where possible. 	See response to NPSNN paragraphs 5.239 above.
5.242	In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based.	See response to NPSNN paragraph 5.230 to 5.240.
5.243	The construction and operation of nationally significant infrastructure projects may have short or longer term economic and social impacts on local communities, businesses or services. The construction period for significant projects can be	<p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] provides an assessment of the likely significant effects on population and human health.</p> <p>The assessment concludes that, during construction, there is likely to be a beneficial impact on the economy through both new and existing contracts entered into with local companies across the</p>

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	lengthy; however, this can generate employment through the construction period and benefit the local economy. Applicants should look to maximise local employment opportunities during construction and operational phases.	<p>Wider Impact Area (Figure 12.2 (Wider Impact Area) of the Environmental Statement Figures [AS-067]. This is likely to be beneficial for employment opportunities associated with direct employment from the construction activity, as well as for local businesses through indirect spend, during the four-year construction period. Details on this are further set out in Table 12.14 in Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034].</p> <p>The Equality Impact Assessment (EqIA) [REP7-080] is also relevant in that it presents the findings of the assessment of likely effects of the construction and operation of the Scheme on human health and equality including job creation, skills and training opportunities and impacts on the wider supply chain. The EqIA [REP7-080] reports an overall positive effect in terms of potential generation of employment. The Scheme has the potential to bring new employment opportunities during the construction phase. A construction workforce will be required to deliver the infrastructure necessary for the Scheme.</p>
5.244	Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts.	See response to NPSNN paragraph 5.243 above.
5.245	<p>This assessment should consider all relevant socio-economic impacts which may include:</p> <ul style="list-style-type: none"> the creation of jobs and training opportunities. Applicants may wish to provide information on the sustainability of the jobs created, including where they will help to 	<p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] considers the impact of the Scheme on the local population and human health receptors.</p> <p>The assessment takes into consideration accessibility, land requirement implications and effects on amenity. Socio- economic impacts are considered in the human health part of the assessment, which considers a range of personal, social, economic, and environmental factors that influence human health status. This</p>

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	<p>develop the skills needed for the UK's transition to net zero</p> <ul style="list-style-type: none"> the value of increased connectivity on productivity and access to jobs, services and housing the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities, applicants should engage with local businesses and the local community at the pre-construction phase to understand the opportunities for businesses and the community throughout construction, such as employment or educational programmes any indirect beneficial impacts for the region hosting the infrastructure, particularly in relation to the use of local support services and supply chains effects on tourism cumulative effects – if development consent were to be granted to for a number of projects within a region and these are developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the 	<p>includes neighborhood quality, access to services, health and social care, social capital, employment and income and access to green space and recreation.</p> <p>The chapter outlines the potential impacts from the Scheme for both construction and operation stages, including:</p> <p>Construction</p> <ul style="list-style-type: none"> Temporary creation of jobs necessary to deliver the Scheme will have direct and indirect beneficial employment-related health impacts in the Wider Impact Area. <p>Operation</p> <ul style="list-style-type: none"> The Scheme has the potential to improve the provision of infrastructure that encourages active travel modes, supports a potential reduction in pollutants and offers access to employment with the potential for positive health impacts. The operation of the Scheme is anticipated to reduce congestion, improve journey time reliability and improve safety, improving the access to employment for people living within the LIA and supporting the future economic growth of the region. <p>However, overall, the assessment finds no significant socio-economic impacts as part of the Population and Human Health Assessment.</p> <p>Chapter 15 (Cumulative Effects) of the Environmental Statement [REP7-040] considers the cumulative effects of the Scheme. A Cumulative Effects Technical Note [REP2-021] further details the work that has been undertaken to identify and assess any new or approved developments that have come forward following the</p>

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	needs of other industries and major projects within the region	<p>original assessment documented in the ES. Two types of cumulative effects have been considered:</p> <ul style="list-style-type: none"> • Cumulative effects – effects that occur either as a result of changes caused by other developments reasonably acting cumulatively with the effects of the Scheme; and • Combined effects – effects from the combined effect of several different impacts acting together on a single receptor, such that the combined effect would be more significant than the individual effects. <p>The EqIA [REP7-080] is also relevant in that it presents the findings of the assessment of likely effects of the construction and operation of the Scheme on human health and equality including job creation, skills and training opportunities and impacts on the wider supply chain. The EqIA [REP7-080] reports an overall positive effect in terms of potential generation of employment. The Scheme has the potential to bring new employment opportunities during the construction phase. A construction workforce will be required to deliver the infrastructure necessary for the Scheme.</p>
5.246	Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio-economic impacts correlate with local planning policies.	<p>Section 12.8 of Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] outlines the baseline conditions for the assessment, including socio-economic conditions. This includes population and demographic data, employment data, and information on local businesses in the LIA.</p> <p>The chapter also sets out the principal legislation and planning context for the assessment of the Scheme and identifies how the assessment has taken each into consideration. Local planning policies, such as the Local Development Framework and Newark and Sherwood District Council Economic Growth Strategy Plan, are highlighted and the assessment considers how the Scheme will</p>

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		impact upon employment, income, business and housing in the local area.
5.248	The Secretary of State should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development. For example, high quality design can improve the visual and environmental experience for visitors and the local community alike.	<p>The Applicant has prepared a Scheme Design Report [REP7-078] which summarises the design policy context and which discusses the overarching design principles to respond to the design objectives set out in the NPSNN, The Road to Good Design, Design Principles for National Infrastructure, Technical Design Standards for the Scheme. The Scheme Design Report [REP7-078] demonstrates how ‘good design’ was considered across the Scheme design and how this design minimises social and environmental impacts.</p> <p>Measures have been designed into the Scheme to minimise adverse social impacts. The design of the Scheme is described in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016] along with the mitigation embedded within it. Examples of embedded mitigation include:</p> <ul style="list-style-type: none"> • Visual appearance: Careful integration of earthworks into the landscape, shaping the proposed new landform sympathetically to integrate the Scheme into the receiving landscape. • Functional: Access in and around the new junctions to accommodate WCH users as required. • Fitness for Purpose: Road restraint systems providing protection from features which may present a hazard, such as high embankments. • Traffic signs at appropriate locations to provide route and destination information. • Sustainable: Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits,

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		<p>particularly in respect to Local Wildlife Sites (LWSs) and priority habitats.</p> <ul style="list-style-type: none"> • Cost: A Design for Resource Efficiency (D4RE) online workshop to identify opportunities to improve resource efficiency during the design stage. This would ensure cost savings are maximised by considering waste minimisation initiatives and identifying opportunities to reduce, reuse or recycle waste materials and improve resource efficiency. For example, the following opportunities have been incorporated into the Scheme design: <ul style="list-style-type: none"> ○ Repair and reuse of drainage along the existing carriageway. ○ Retain as much soil as possible utilising soil restoration for carbon sequestration. ○ Recycle of road pavement that is removed. <p>Mitigation measures to minimise any resulting social and environmental impacts are presented in the Register of Environmental Actions and Commitments within the First Iteration Environmental Management Plan [REP6-012].</p>
5.253	<p>The planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, water pollution. The government has issued guidance on water supply, wastewater and water quality considerations in the planning system. Where applicable, an application for a</p>	<p>Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [REP7-036] identifies the guidance and methodology used to assess the potential impacts of the Scheme on the water environment. The guidance followed includes DMRB LA113 – Road drainage and the water environment, The Planning Inspectorate’s Advice Note Eighteen ‘The Water Framework Directive’, Planning Practice Guidance: Flood Risk and coastal change, and the Environment Agency’s groundwater protection guides.</p> <p>In addition as part of this chapter, different assessments have been</p>

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	<p>Development Consent Order has to have regard to the water body objectives of the River Basin Management Plan where the project is located and avoid or mitigate deterioration of water bodies in the area.</p>	<p>carried out including a Water Framework Directive (WFD) Compliance Assessment (Appendix 13.1 of the Environmental Statement Appendices [REP7-062]), Flood Risk Assessment (Appendix 13.2 of the Environmental Statement Appendices [APP-053]), Drainage Strategy Report (Appendix 13.4 of the Environmental Statement Appendices [APP-179]) and Surface Water Quality Monitoring Report (Appendix 13.5 of the Environmental Statement Appendices [APP-180]).</p> <p>A First Iteration Environmental Management Plan [REP6-012] has been prepared for the Scheme and forms part of the application for development consent. The First Iteration Environmental Management Plan [REP6-012] acts as a mechanism to aid the delivery for the mitigation measures required during construction including to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. These mitigation measures are known to be effective in managing the risk of pollution. This will be developed into a Second Iteration Environmental Management Plan for implementation during construction and is secured by Requirement 3 of the draft Development Consent Order [REP7-006].</p> <p>Rigorous groundwater protection measures, which are standard practice to prevent contamination, and as specified in the First Iteration Environmental Management Plan [REP6-012], would be implemented during construction. Such measures would mitigate the mobilisation of contaminants through accidental spillage or direct contact with construction materials, as discussed in Chapter 9 (Geology and Soils) of this Environmental Statement [REP7-028].</p> <p>Construction activities will be managed by best practice measures in accordance with Construction Industry Research and Information Association (CIRIA) Guidelines, including the following:</p>

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		<ul style="list-style-type: none"> • CIRIA's 'Environmental good practice on site' • CIRIA's 'Control of water pollution from linear construction projects; Technical Guidance' Environment Agency's 'Protect groundwater and prevent groundwater pollution' • Environment Agency's Pollution Prevention Guidelines PPG5 'Works and maintenance in or near water', PPG6 'Working at Construction and Demolition Sites', PPG7 'The safe operation of refueling facilities', and PPG13 'Vehicle washing and cleaning.' <p>In regard to the River Basin Management Plan (RBMP), Chapter 13 identifies the waterbodies and references the Humber RBMP. The assessment found in Appendix 13.1 Water Framework Directive (WFD) Compliance Assessment of the Environmental Statement Appendices [REP7-062] identifies the mitigation measures and objectives applicable from the Humber RBMP and concludes the Scheme would not result in a deterioration of waterbody status.</p>
5.254	Applicants should make early contact with the relevant regulators, including the Environment Agency, for abstraction licensing or water quality activity or groundwater activity permits, and with relevant water undertakers. Where development is likely to have adverse effects on the water environment, the applicant should undertake an assessment of the existing status and impacts of the proposed project on water quality, water resources and physical characteristics of the water environment as part of the Environmental Statement or equivalent.	<p>An introductory meeting was held with the Environment Agency on 30 March 2022 to introduce the Scheme and in particular water quality and flood management issues.</p> <p>Further meetings were held with the Environment Agency including on 13 June 2022 to agree proposals for water quality monitoring for the Scheme, both pre-construction (to inform the Environmental Impact Assessment (EIA)) and during construction. During this meeting, the proposals outlined within Appendix 13.5 (Surface Water Quality Monitoring Report) of the Environmental Statement Appendices [APP-180] (locations, parameters and frequency) were agreed with the stakeholders (see Section 13.5 of Chapter 13 (Road Drainage and Water Environment of the Environmental Statement [REP7-036])). It was also discussed that the frequency of monitoring</p>

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	<p>The assessment should also include how this might change due to the impact of climate change on rainfall patterns and consequently water availability across the water environment (see paragraphs 4.33 to 4.44).</p>	<p>during construction may change, however, this would be agreed following consultation with the Environment Agency.</p> <p>An Environment Agency technical meeting was held on the 22 July 2022 to provide an update on the river channel surveys and wider topographical surveys, review the hydraulic modelling approach, discuss floodplain compensation and agree future engagement.</p> <p>On 8 September 2022, a meeting was held with the Canal and River Trust to discuss the proposed hydroelectric plants along the River Trent. This provided an understanding of whether the baseline fluvial hydraulic model would need to be updated.</p> <p>A Steering Group meeting was held on the 30 November 2022 during which the proposal to scope out the Farndon Ponds and Devon Park Pastures Local Nature Reserves (LNRs) was discussed. However, it was decided that the two LNRs would remain scoped-in. Numerous Flood and Drainage Steering Group meetings have been held throughout 2022 and 2023. These are outlined in the overarching consultation for the Environmental Statement in Chapter 4 (Environmental Assessment Methodology) of the Environmental Statement [APP-048].</p> <p>On 13 April 2023, a meeting with the Environment Agency was held to discuss the methodology and outcomes of Appendix 13.1 (Water Framework Directive Compliance Assessment) of the Environmental Statement Appendices [REP7-062]. Following potential changes to the design, a meeting was held with the Environment Agency and Trent Valley Internal Drainage Board on the 20 June 2023 to discuss the potential changes to the design and the implications for the WFD assessment. These potential design changes were not carried forward and therefore no changes were made to the WFD assessment.</p>

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		<p>On the 25 May 2023 groundwater levels were presented to the Environment Agency within the Steering Group Meeting.</p> <p>A meeting was held with the Environment Agency on 20 June 2023 to discuss consenting requirements for the Scheme and to confirm the approach, lead times and information required. Another meeting was held on 24 September 2024 to discuss consents further and the Environment Agency indicated that they were encouraged by the Scheme's approach. Consultations have continued and are recorded in the Statement of Common Ground with the Environment Agency [REP7-091]. The Environment Agency has confirmed that they are content that all necessary permits and consents have been captured in the Consents and Agreements Position Statement [REP7-010]. The Applicant will continue to engage with the Environment Agency on the development of the Scheme.</p> <p>The Environment Agency, Lead Local Flood Authority, Canal & River Trust and the Trent Valley Internal Drainage Board have been consulted throughout the development of the Scheme to ensure the assessment of the flood risk is appropriate for the nature and scale of the Scheme. This is outlined in Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [REP7-064].</p> <p>Details on engagement with the relevant bodies during the development of the DCO application is set out in Table 3.2 of the Consultation Report [APP-028]. Details on engagement are also set out in Chapter 4 (Environmental Assessment Methodology) of the ES [APP-048]. Furthermore, a Statement of Common Ground has been developed between the Applicant and the Environment Agency [REP5-048], the Applicant and Nottinghamshire County Council [REP7-102], the Applicant and Newark and Sherwood District Council [REP7-103], and the Applicant and the Trent Valley Internal Drainage Board [REP5-055] during the course of the DCO</p>

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		<p>Examination. All matters in relation to flood risk have been agreed within these Statements of Common Ground. Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] assesses the potential impacts from the Scheme on the water environment (including water quality, water resources, and physical characteristics). Chapter 14 (Climate) of the Environmental Statement [REP7-038] assesses the potential impacts from the Scheme on climate (including rainfall patterns and water availability).</p>
5.255	<p>For those projects that are improving the existing infrastructure, such as road widening, opportunities should be taken, where feasible, to improve the quality of existing discharges where these are identified and shown to contribute towards water body quality failures under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (“Water Framework Directive Regulations”) commitments. A permit under the Environmental Permitting Regulations may also be required where improvements are being made to existing infrastructure, for example, the discharge of contaminated water from roads.</p>	<p>The assessment of water quality impacts has been based upon the methodology provided in DMRB LA 113, as outlined in Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036]. and assessed using Highways England Water Risk Assessment Tool (HEWRAT) (as outlined within Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178]. The design for Farndon East FCA is exploring opportunities to incorporate wetland features, including the use of the pits as ponds, and wetland vegetation to be planted throughout. These opportunities have the potential to promote nature-based water treatment and improve the water quality of surface water run-off..</p> <p>A WFD Compliance Assessment is contained in Appendix 13.1 of the Environmental Statement Appendices [REP7-062]. This concludes that no significant adverse impacts to the WFD relevant water bodies would occur with mitigation measures in place as secured by the First Iteration Environmental Management Plan [REP6-012] and the Scheme is compliant with the WFD objectives for all relevant WFD water bodies.</p> <p>A meeting was held with the Environment Agency on 20 June 2023 to discuss consenting requirements for the Scheme and to confirm</p>

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		<p>the approach, lead times and information required. Another meeting was held on 24 September 2024 to discuss consents further and the Environment Agency indicated that they were encouraged by the Scheme's approach. Consultations have continued and are recorded in the Statement of Common Ground with the Environment Agency [REP7-091]. The Environment Agency has confirmed that they are content that all necessary permits and consents have been captured in the Consents and Agreements Position Statement [REP7-010]. The Applicant will continue to engage with the Environment Agency on the consenting requirements throughout the development of the Scheme.</p>
5.256	<p>Under Environmental Permitting Regulations, applicants are required to manage surface water during construction by treating surface water runoff from exposed topsoil prior to discharging and to limit the discharge of suspended solids. For example, from car parks or other areas of hard standing, during operation. Consent may be required for working near to a river from the Environment Agency and a pollution incident response plan is recommended.</p>	<p>The management of surface water during construction is detailed in Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179] and covers the potential for pollution and silting and flooding. Mitigation measures include the use of swales, ponds and basins in their end state to perform the role of the management of surface water during temporary works and construction.</p> <p>The Consents and Agreements Position Statement [REP7-010] details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained. Flood Risk Activity Permits are required for works within 8 metres of a main river or flood defences. Flood Risk Activity Permits will be obtained from the Environment Agency prior to construction.</p> <p>A Pollution Prevention Plan will be prepared as detailed in commitments RDWE2 and RDWE3 of the First Iteration Environmental Management Plan [REP6-012], and will include pollution prevention measures, and emergency spill procedures.</p>
5.257	Applicants should consider protective measures to control the risk of pollution to	Section 13.10 of Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [REP7-036] outlines

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	groundwater; this could include, for example, the use of protective barriers.	<p>the mitigation measures during construction to manage potential effects of the Scheme on water resources.</p> <p>A First Iteration Environmental Management Plan [REP6-012] has been prepared for the Scheme and forms part of the application for development consent. The First Iteration Environmental Management Plan [REP6-012] acts as a mechanism to aid the delivery for the mitigation measures required during construction including to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. These mitigation measures are known to be effective in managing the risk of pollution. This will be developed into a Second Iteration Environmental Management for implementation during construction and is secured by Requirement 3 of the draft Development Consent Order [REP7-006].</p> <p>Rigorous groundwater protection measures, which are standard practice to prevent contamination, and as specified in the First Iteration Environmental Management Plan [REP6-012], would be implemented during construction. Such measures would mitigate the mobilisation of contaminants through accidental spillage or direct contact with construction materials, as discussed in Chapter 9 (Geology and Soils) of this Environmental Statement [REP7-028].</p>
5.258	<p>Any assessment for both the construction and operational phases of the development should describe:</p> <ul style="list-style-type: none"> the existing quality of waters affected by the proposed project, and how climate change will impact on this existing water resources affected by the proposed project, the impacts of the proposed project on water 	<p>Water quality and impacts of the Scheme upon them are described and assessed within Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [REP7-036] and Appendix 13.5 (Surface Water Quality Monitoring Report) of the Environmental Statement Appendices [APP-180] . Issues relating to the Water Framework Directive (WFD) are addressed within the WFD Compliance Assessment in Appendix 13.1 of the Environmental Statement Appendices [REP7-062] . Groundwater issues are further discussed within Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [REP7-036]. Cumulative effects are discussed within Chapter 15</p>

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	<p>resources, and how climate change will impact on this</p> <ul style="list-style-type: none"> existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics any impacts of the proposed project on water bodies or protected areas under the Water Framework Regulations and source protection zones around potable groundwater abstractions; and how climate change will impact on this any cumulative effects 	<p>(Combined and Cumulative Effects) of the Environmental Statement [REP7-040]. A Cumulative Effects Technical Note [REP2-021] further details the work that has been undertaken to identify and assess any new or approved developments that have come forward following the original assessment documented in the ES.</p>
5.259	<p>The assessment should also identify protected areas and other water usages within the vicinity of any discharge, such as bathing waters, abstractions and fisheries at risk from proposed works and the permits/consents required. It should also identify opportunities, such as those included in the relevant local nature recovery strategy or catchment plan to improve water quality, for example, through nature-based approaches or solutions.</p>	<p>Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] identifies the potential receptors and the potential impacts on these receptors from the Scheme, including protected areas, watercourses, and designated sites. This has been informed by the WFD Compliance Assessment (Appendix 13.1 of the Environmental Statement Appendices [REP7-062] and the HEWRAT assessment (Appendix 13.3 of the Environmental Statement Appendices [APP-178]).</p> <p>A Drainage Strategy Report (Appendix 13.4 of the Environmental Statement Appendices [APP-179]) has been developed to outline the drainage design and mitigation measures incorporated within the Scheme. This includes the incorporation of nature-based Sustainable Drainage Systems (SuDS) in the form of a network of swales, ponds, reedbeds, and wet grassland areas.</p>

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		<p>The Scheme has identified the need for abstraction licences which has been discussed at meetings with the Environment Agency on 20 June 2023 and 24 September 2024. The Environment Agency has indicated that they were encouraged by the Scheme's approach. Consultations have continued and are recorded in the Statement of Common Ground with the Environment Agency [REP7-091]. The Environment Agency has confirmed that they are content that all necessary permits and consents have been captured in the Consents and Agreements Position Statement [REP7-010] The Applicant will continue to engage with the Environment Agency on the consenting requirements throughout the development of the Scheme.</p>
5.261	<p>The Secretary of State should consider whether the mitigation measures put forward by the applicant which are needed for operation and construction (and which are over and above any which may form part of the project application) are acceptable. A construction management plan may help codify mitigation.</p>	<p>The Register of Environmental Actions and Commitments within the First Iteration of the Environmental Management Plan [REP6-012] provides details of all the environmental actions and commitments required to manage and minimise the environmental effects of the Scheme. The First Iteration Environmental Management Plan [REP6-012] will be developed into a Second Iteration Environmental Management Plan for implementation during construction under Requirement 3 of the draft Development Consent Order [REP14-003]. The Second Iteration Environmental Management Plan (which the draft Development Consent Order [REP7-006] provides must be substantially in accordance with the First Iteration Environmental Management Plan [REP6-012] would include control measures for environmental impacts arising during construction, in addition to more detailed management plans and methodologies on the design and construction of the Scheme.</p> <p>Requirement 3 of the draft Development Consent Order [REP7-006] details that the construction of the Scheme must be carried out in accordance with the approved Second Iteration Environmental Management Plan. On completion of construction, a final version of the Environmental Management Plan (Third Iteration Environmental Management Plan) relating to the operational and maintenance</p>

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		phase of the Scheme will be prepared. Overall, the iterative Environmental Management Plan process would enable the Secretary of State to identify and consider all the mitigation measures within the Scheme and ascertain how these would be secured, implemented and maintained.
5.262	The project should adhere to any National Standards for Sustainable Drainage Systems. The Sustainable Drainage Systems Technical Standards introduced a hierarchical approach to drainage design that promotes the most sustainable approach but recognises feasibility and use of conventional drainage systems as part of a sustainable solution for any given site given its constraints.	The Scheme will adhere to any National Standards for Sustainable Drainage Systems as outlined in the Drainage Strategy Report in Appendix 13.4 of the Environmental Statement Appendices [APP-179]. Soft-engineering methods for drainage will be implemented where feasible, using Sustainable Drainage Systems as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable. This is secured by Requirement 13 of the draft Development Consent Order [REP7-006]. The mitigation measures are included within Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036].
5.263	The project should identify opportunities and secure measures to protect and improve water quality and resources through green and blue infrastructure and sustainable drainage. This will help to achieve Environmental Improvement Plan objectives and potentially provide greater capacity to support infrastructure needs.	<p>The assessment of water quality impacts has been carried out in accordance with methodology outlined in DMRB LA 113 – Road drainage and water environment.</p> <p>Appendix 13.4 (Drainage Strategy) of the Environmental Statement Appendices [APP-179] has been developed for the Scheme which outlines the use of sustainable drainage.</p> <p>Farndon East FCA would be designed and landscaped to be a permanent lake with planting around the edges where possible, which drains into the Old Trent Dyke. Farndon West FCA would be designed to comprise of residual ponds formed in post-borrow pit excavations with floodplain grazing marsh created in the northern extent of the FCA. The FCAs would incorporate fish escape passages to mitigate the risk of fish entrapment as flood water recedes. Following continued consultation with the Environment Agency, the specific number, location and design of fish escape</p>

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		<p>passages would be finalised during detailed design. These opportunities have the potential to promote nature-based water treatment and improve the water quality of surface water run-off. If this is included within the Scheme, it could help to reduce the levels of phosphate in waterbody, which may in turn aide in improving the 'Trent from Soar to Beck' WFD chemical status.</p>
5.264	<p>The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated areas for storage and unloading, with appropriate drainage facilities, should be marked clearly. This may also include the need for treatment of water, which may need a permit under the Environmental Permitting Regulations.</p>	<p>Through good design and mitigation measures outlined within the First Iteration Environmental Management Plan [REP6-012], the Scheme has avoided or minimised any impacts on watercourses and the Scheme would not contribute to unacceptable levels of water pollution.</p> <p>During temporary construction works the Applicant has identified the need for treatment of surface waters and groundwaters only and details will be included in any applications for discharge permits. No other water sources requiring treatment during construction have been identified.</p> <p>Where treatment of water for new permanent assets and improved existing assets is required, this will be incorporated into the design in consultation with the Environmental Agency, Internal Drainage Board or Lead Local Flood Authority where required, and permits will be sought where necessary. Please see the Consents and Agreements Position Statement [REP7-010] for further details of the permits likely to be required for the Scheme.</p>
5.265	<p>Activities that discharge to the water environment are subject to pollution control and potentially the Environmental Permitting Regulations. The considerations set out in paragraphs 4.44 to 4.51 on the interface between planning and pollution control therefore apply. These considerations will also apply in an</p>	<p>There will be a need to discharge to the water environment due to removal of surface water and groundwater, and these activities will be undertaken in accordance with the Environmental Permitting Regulations. Please refer to the Consents and Agreements Position Statement [REP7-010] for further details.</p> <p>Pollution controls for discharge will be agreed with the Environment Agency and secured within a Dewatering Management Plan which</p>

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	analogous way to the abstraction licensing regime regulating activities that take water from the water environment, and to the control regimes relating to works to, and structures in, on, or under a controlled water.	<p>will be prepared as part of the Second Iteration Environmental Management Plan. The Dewatering Management Plan has been added to the list of management plans in requirement 3(2) in the draft Development Consent Order [REP7-006] submitted at Deadline 2 of the Examination.</p> <p>The assessment of water quality impacts has been based upon the methodology provided in DMRB LA 113 and assessed using Highways England Water Risk Assessment Tool (HEWRAT). This assessment is detailed in Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178] and has demonstrated that the Scheme would not cause a deterioration in water quality.</p>
5.266	The Secretary of State will generally need to give impacts on the water environment more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive Regulations.	<p>The Scheme has been assessed against the Water Environment (Water Framework Directive) Regulations as set out in the Appendix 13.1 (Water Framework Directive Compliance Assessment) of the Environmental Statement Appendices [REP7-062] .</p> <p>The Water Framework Directive Compliance Assessment concludes that the Scheme is not anticipated to cause deterioration of the current WFD status of the waterbodies within the study area. Instead, there is a potential minor benefit for the Slough Dyke (tributary of the Trent). However, as the baseline conditions for the surface waterbodies within the study area are below that of the desired 'Good' status, proposed mitigation is recommended to be followed so as to not further risk WFD deterioration.</p> <p>The Scheme would not prevent any water bodies within the study area from reaching their target 'Good' status in the future, as potential impacts resulting from various elements of the Scheme are expected to have only small-scale, localised impacts. There is opportunity for the Scheme to contribute to improvements in the waterbody status of the Trent from Soar to Beck waterbody</p>

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		(GB104028053110) through the permanent lake proposed to be created in the Farndon East FCA.
5.267	The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of the Water Framework Directive Regulations. The specific objectives for water bodies in particular river basins are set out in River Basin Management Plans. In terms of Water Framework Directive Regulations compliance, the overall aim of projects should be to meet the environmental objectives under regulation 13 or if appropriate meet the exemption of overriding public interest by use of regulation 19 of the Water Framework Directive Regulations 2017. The Secretary of State should also consider the interactions of the proposed project with other plans such as Water Resources Management Plans, Shoreline or Estuary Management Plans and Marine Plans.	<p>The Scheme has been assessed against the Water Environment (Water Framework Directive) Regulations as set out in the WFD Compliance Assessment in Appendix 13.1 of the Environmental Statement Appendices [REP7-062].</p> <p>As part of the WFD Compliance Assessment, found in Appendix 13.1 of the Environmental Statement Appendices [REP7-062], the objectives and mitigation measures of the Humber River Basin Management Plans were reviewed, and relevant measures highlighted within the assessment.</p> <p>It was concluded that the Scheme would not cause deterioration of the current WFD status of the waterbodies within the study area, with a potential to result in a minor beneficial effect for the Slough Dyke (tributary of Trent).</p> <p>The Scheme is not anticipated to prevent any waterbodies within the study area from reaching their target 'Good' status in the future, as potential impacts resulting from various elements of the Scheme are expected to have only small-scale, localised impacts.</p>
5.268	The Secretary of State should consider whether appropriate requirements should be attached to any development consent and/or planning obligations to mitigate adverse effects on the water environment. This should involve discussions with the Environment Agency	The draft Development Consent Order [REP7-006] includes appropriate requirements to secure the mitigation identified in Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [REP7-036] and the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [REP6-012].
5.271	Applicants should consult the relevant highway and transport authorities, local	Nottinghamshire County Council (the relevant Highway Authority) have been consulted on the Transport assessment [REP7-076],

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	<p>planning authority, and Network Rail, as appropriate, on the assessment of transport impacts. This should include having appropriate regard to policies outlined in existing or emerging local plans, Local Transport Plans, Local Cycling and Walking Infrastructure Plans and Rights of Way Improvement Plans where appropriate and applicants should set out agreement on alignment of development proposals to these policies and plans.</p>	<p>including an introductory meeting to discuss the scope of the Transport Assessment [REP7-076], meetings with relevant officers to discuss certain disciplines such as public transport and public rights of way, and a meeting to discuss details on the construction impacts of the Scheme and the modelling outputs. A meeting with NSDC, the local planning authority, was also undertaken. Details on the engagement with these stakeholders is set out in Chapter 3 of the Consultation Report [APP-028]. Furthermore, a Statement of Common Ground has been developed between the Applicant and Nottinghamshire County Council [REP7-102] during the course of the DCO Examination. All traffic items in the Statement of Common Ground have been agreed.</p> <p>Network Rail has not been consulted on transport impacts as the Scheme does not impact on the rail network in traffic terms, though Network Rail has been consulted on other aspect of the scheme. There are no other relevant transport authorities to consult.</p>
5.272-5.273	<p>Different transport networks may need to share space within an area, even whilst serving different travel needs. For example, bus lanes, shared cycle lanes, green lanes, or bus and rail routes on the same corridor.</p> <p>Applicants should seek to offer an integrated transport outcome, significantly considering opportunities to support other sustainable transport modes, as well as improving local connectivity and accessibility in developing infrastructure. The needs of pedestrian and other vulnerable road users should be</p>	<p>The impact of the Scheme on existing PRoWs has been assessed, further details are set out in The Transport Assessment [REP7-076]. Provision has been made within the Scheme to maintain existing PRoWs where practicable and deemed appropriate.</p> <p>An overview of travel in the vicinity of the Scheme by sustainable modes of transport, including WCH and public transport is provided in Chapter 7 (Sustainable Transport) of the Transport Assessment [REP7-076]. This chapter also identifies the improvements and enhancements which would be delivered as part of the Scheme.</p>

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	considered, where appropriate, in line with the principles of the road user hierarchy.	
5.274	The applicant should provide evidence that as part of the project they have addressed any new or existing severance issues and/or safety concerns that act as a barrier to non-motorised users, unless it is unsafe or unviable to do so.	<p>As outlined within Chapter 4 of the Case for the Scheme [REP7-074], the Scheme incorporates new and improved WCH provision. Some of the improvements that would be provided by the Scheme are detailed below:</p> <p>Footway/Cycle track at Cattle Market - The existing footway/cycle track around Cattle Market provides a link between the walking and cycling facilities present on the A617, A616 and Great North Road. A signalised crossing would be provided for users to cross the northern A616 arm of Cattle Market and two signalised crossings provided for them to cross the eastern A46 arms. This route forms part of the 'Trent Valley Way' long distance walking route. Signalised crossings would be provided as part of the Scheme around the enlarged Cattle Market gyratory to maintain/improve these links.</p> <p>Footway east of the A1 - There is an existing footway that runs alongside the south side of the existing A46 between Winthorpe roundabout and Friendly Farmer roundabout. The route crosses the A46 in four locations via uncontrolled crossings across the existing dual carriageway which connect to provide a link between Newark-on-Trent and the Newark Showground. These crossings are considered unsafe, and they would not be retained as part of the Scheme. Instead, a new signalised crossing would be provided across the existing A46 between Friendly Farmer roundabout and the A1 crossing to link with the existing route that crosses the A1 slip roads and the A17. A new footway/cycle track link would be provided from the A17 crossing point through land to the south of the showground and</p>

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		<p>alongside the south side of the new Friendly Farmer Link to Winthorpe roundabout and the first showground entrance on Drove Lane. rrFootpaths FP2 and FP3 - Historically there was a PRoW that ran north to south between Winthorpe village and the Newark Showground. This has been severed by the existing A46 with FP2 ending at the northern boundary of the A46 and FP3 ending at the southern boundary. The Scheme would reconnect these two PRoWs via a new footway/cycle track that links with FP2 to the north and runs parallel to the new dual carriageway before crossing beneath it alongside the A1. On the south side of the new dual carriageway, it will cross the existing A46 via a new signalised crossing and join the existing PRoW network that provides a connection with FP3. The ends of FP2 and FP3 will be permanently stopped up where they would result in a 'dead end'.</p> <p>ttFootpaths/Cycle track at Winthorpe roundabout - Currently there is no walking or cycling provision around Winthorpe roundabout. The Scheme would address this by providing a new walking/cycling link between Hargon Lane and Drove Lane that passes around the north and east sides via new crossings over Winthorpe roundabout. This would provide a link between Winthorpe and the Newark Showground.</p> <p>mmTogether, the General Arrangements Plans [APP-007] and the Streets, Rights of Way and Access Plans [REP4-002] illustrate the locations of walking and cycling routes that would be delivered as part of the Scheme. Further details are also set out in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016]. A Walking, Cycling and Horse Riding Assessment and Review (WCHAR) was completed in June 2023 on the basis of the preliminary design and is available at Appendix C of the Transport</p>

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		Assessment [REP7-076]. A further WCHAR would follow at the detailed design stage to ensure that the needs of WCH users continue to be considered as the design progresses.
5.275	For road and rail developments, the applicant's assessment should include an assessment of the transport impacts on other networks as part of the application, based on discussions with the Local Highway Authority/ Local Transport Authority/ Local Planning Authority.	The Transport Assessment [REP7-076] assesses the likely impacts of the Scheme on the SRN; local road network; road safety; WCH and public transport users. Engagement has taken place with Nottinghamshire County Council as local highway authority and also Newark and Sherwood District Council. The Applicant is not aware of a relevant Local Transport Authority for the Scheme. The assessment considers the impacts on other networks.
5.281	Mitigation measures for Schemes should be proportionate and reasonable, focused on facilitating journeys by active travel, public transport, shared transport and cleaner fuels.	<p>Embedded mitigation, incorporated throughout the development of the Scheme design to date, is outlined in Chapter 2 (The Scheme) of the Environmental Statement [REP7-016], for example:</p> <ul style="list-style-type: none"> • Access in and around junctions to accommodate walking, cycling and horse riding WCH as required. • Where the new alignment severs an existing PRoW, connectivity would be maintained wherever possible. This would be achieved with the reconnection of severed PRoWs with permanent diverted routes. • Providing appropriate signage for temporary WCH diversions to direct users during construction and support access to community and recreational facilities using footpaths and cycleways. • Integrating WCH infrastructure into the Scheme construction strategy, which includes the provision and locations for diversions of existing WCH routes, new crossings, new WCH routes, as well as ensuring access for key WCH routes is maintained. • Mitigation to maintain access to all affected residential properties, businesses and areas of open space and recreation.

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		<p>No specific mitigation is proposed as part of the Scheme in relation to public transport, shared transport and cleaner fuels as these aspects are not directly impacted by the proposed Scheme. It is noted, however, that the Scheme is forecast to facilitate improvements to transport conditions generally within Newark-on-Trent through the alleviation of through-traffic from the town centre. Reductions in traffic in the town centre would allow bus operators to be able to deliver more efficient and reliable services and help to support the encouragement of walking and cycling within Newark-on-Trent.</p>
5.282-5.283	<p>Where development would worsen accessibility, there is a strong expectation that such impacts should be mitigated. Where impacts cannot be mitigated, the applicant is required to provide reasoning as to why impacts cannot be mitigated.</p> <p>The applicant should provide evidence that the development improves the operation of the network and assists with capacity issues.</p>	<p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] outlines mitigation measures of relevance to accessibility during construction, including:</p> <ul style="list-style-type: none"> • A Traffic Management Plan would be implemented during the construction phase of the Scheme, to ensure that access is maintained, and disruption is minimised as far as possible. The Traffic Management Plan will be developed from the Outline Traffic Management Plan [REP7-082] for implementation during construction and secured through requirement 11 of the draft Development Consent Order [REP7-006]. • Provision of appropriate signage for temporary WCH diversions. <p>Chapter 12 (Population and Human Health) of the Environmental Statement [REP7-034] provides consideration of the potential for both adverse and beneficial effects with regard to accessibility including during operation. The Scheme would improve the operation of the network and assist with capacity issues, this is set out in the Transport Assessment [REP7-076] and Chapter 4 of the</p>

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		Case for the Scheme [REP7-074].
5.286-5.287	<p>The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in existing and emerging local plans and Local Transport Plans, during both construction and operation.</p> <p>Consideration should also be given to whether the applicant has maximised opportunities to allow for journeys associated with the development to be undertaken via sustainable modes.</p>	<p>The Case for the Scheme [REP7-074] assesses the Scheme's conformity with the Local Plan and Local Transport Plans (the Nottinghamshire Local Transport Plan.). Further details on impacts to local transport networks and consideration of the local policy is also set out in the Transport Assessment [REP7-076].</p>
5.288	<p>Schemes should be developed, and options considered, in the light of relevant policies and plans, both national and local, taking into account local models where appropriate.</p>	<p>The Scheme has been developed in light of relevant policies and plans. Chapter 6 of the Case for the Scheme [REP7-074] assesses the Scheme's conformity with the Local Plan and Local Transport Plans, this includes the Nottinghamshire Local Transport Plan.</p>