

# A428 Black Cat to Caxton Gibbet improvements

TR010044

Volume 9

9.125 Update to the National Policy Statement for National  
Networks Accordance Table including additional signposting at the  
close of Examination

Planning Act 2008

Regulation 5(2)(q)

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

February 2022

Infrastructure Planning

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**The Infrastructure Planning  
(Applications: Prescribed Forms and  
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**A428 Black Cat to Caxton Gibbet  
improvements  
Development Consent Order 202[ ]**

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**9.125 Update to the National Policy Statement for National Networks  
Accordance Table including additional signposting at the close of  
Examination (clean)**

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# 1 Introduction

- 1.1.1 The A428 Black Cat to Caxton Gibbet Development Consent Order (DCO) application included a Case for the Scheme document containing National Policy Statement Accordance Tables (CftS) **[APP-240]**. Appendix A of the CftS included a National Policy Statement for National Networks (NPSNN) Accordance Table.
- 1.1.2 The application for development consent will be determined by the Secretary of State (SoS), informed by a recommendation provided by the Planning Inspectorate, as the Examining Authority (ExA) for the application. If made, the DCO would grant development consent for the Scheme. The purpose of the CftS **[APP-240]** is to assist decision-making by providing an appraisal of how the application performs when assessed against the criteria for determining DCO applications as set out in the Planning Act 2008.
- 1.1.3 The CftS **[APP-240]** was prepared in accordance with the requirements of Regulation 5(2)(q) of the APFP 2009 and Planning Inspectorate Advice Note 6 Preparation and Submission of Application Documents 2020 (Ref 1-8).
- 1.1.4 This document contains an updated NPSNN accordence table prepared by the Applicant for Deadline 10 of the Examination (15 February 2022). This consolidates and augments the policy review contained within Appendix A of **[APP-240]**, with signposting provided to relevant documents which were submitted during the Examination, where relevant. The tables do not contain any new or amended information that has not been submitted to the Examination at previous deadlines by the Applicant. The substantive update to the accordence table relates to paragraphs 4.28 to 4.35 of the NPSNN which addresses good design. The updated text set out in this document is also set out in the Scheme Design Approach and Design Principles document, which has been submitted into the Examination at Deadlines 3, 8 and 9 **[REP3-014]**, **[REP8-007]** and **[REP9-015]**.
- 1.1.5 It identifies further compliance with the NPSNN, as demonstrated by submissions during the Examination.
- 1.1.6 This document should be taken into account when considering the CftS NPSNN Accordance Table **[APP-240]**.

**Table 0-1: National Networks National Policy Statement Chapter 3**

NPSNN Paragraph Number	Requirement of the National Policy Statement for National Networks (NPSNN)	Compliance with the NPSNN including signposting at the close of Examination
<b>3</b>	<b>Wider Government Policy on the National Network</b>	
3.2 <b>(Environment and social impacts)</b>	The Government recognises that for development of the national road and rail networks to be sustainable these should be designed to minimise social and environmental impacts and improve quality of life.	<p>Some of the main objectives that the Scheme has been designed to meet is the improvement of connectivity, safety, accessibility and resilience of the road. It will cut congestion and journey times and will increase capacity and journey reliability by providing a free flowing network between Milton Keynes and Cambridge. By making improvements to the existing Black Cat roundabout and constructing the new dual carriageway, communities will be better connected, suffer less traffic and greater links will be made between communities and destinations, in addition to reducing driver delay and subsequently driver frustration. All these factors contribute to quality of life improvements.</p> <p>Measures have been designed into the Scheme to minimise adverse social and environmental impacts. The design of the Scheme is described in <b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement (ES) and measures that have been incorporated into the design to help minimise social and environmental impacts are described by the <b>Schedule of Mitigation [APP-235]</b>.</p> <p>In addition, the ES identifies that the Scheme will result in some specific environmental and social improvements in certain locations. These include improvements to noise at some sensitive receptors, a net gain in biodiversity, and improvements to walkers, cyclists and horse riders due to the alignment and integrated design features of the Scheme. These improvements will also contribute to improving the quality of life at these locations.</p>

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		<p>The Applicant has taken into consideration the principles of sustainable development set out in paragraph 8 of the National Planning Policy Framework (NPPF) in the design of the Scheme and mitigation measures proposed, as already explained in Section 5.3 of the <b>Case for the Scheme (CftS) [APP-240]</b>. Paragraph 6.1.7 of the <b>CftS [APP-240]</b> sets out the main benefits that will be delivered by the Scheme.</p>
3.3	<p>In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the Government’s planning guidance. Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes.</p>	<p>Care has been taken when developing the Scheme to avoid and minimise negative social and environmental impacts through careful scheme design. Some of the design measures incorporated into the Scheme to avoid negative impacts are referred to as ‘embedded mitigation’. Where it has not been practicable to avoid such impacts, mitigation measures are proposed to minimise the potential adverse effects of the Scheme. This is referred to as ‘essential mitigation’. Both embedded and essential mitigation included in the Scheme design are outlined in the <b>Schedule of Mitigation [APP-235]</b>.</p> <p>The Applicant has also considered reasonable opportunities to deliver environmental and social benefits as part of the Scheme, as explained throughout the <b>ES [APP-070 to APP-086]</b> within the ‘Design, mitigation and enhancement’ section of each of the technical chapters and as described by the <b>Schedule of Mitigation [APP-235]</b>. For example, care has been taken in the design of essential landscape mitigation to maximise the biodiversity value of any landscape mitigation planting, whilst also achieving the landscape mitigation objectives. This has contributed to the Scheme’s delivery of a net gain in biodiversity.</p>

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		<p>Social benefits will also result from the Scheme, for instance, several new footpaths, cycleways and bridleways will be implemented. Introduction of such Walkers, Cyclists and Horse rider routes can bring many benefits to local communities, including increased access to community facilities, improved safety whilst travelling, encouragement to take part in recreational activity and increased opportunity to travel using sustainable transport modes.</p>
<p>3.17 <b>(Sustainable transport)</b></p>	<p>There is a direct role for the national road network to play in helping pedestrians and cyclists. The Government expects applicants to use reasonable endeavours to address the needs of cyclists and pedestrians in the design of new schemes. The Government also expects applicants to identify opportunities to invest in infrastructure in locations where the national road network severs communities and acts as a barrier to cycling and walking, by correcting historic problems, retrofitting the latest solutions and ensuring that it is easy and safe for cyclists to use junctions.</p>	<p>The Scheme objectives include an objective to “<i>Ensure the safety of cyclists, walkers and horse riders and those who use public transport by improving the routes and connections between communities</i>”, as set out in Paragraph 1.2.1 of the <b>CftS [APP-240]</b>.</p> <p>Provision has been made within the Scheme to maintain existing Public Rights of Way (PRoW) where possible and deemed appropriate. Table 8-1 of the <b>Transport Assessment (TA) [APP-241]</b> describes how the Scheme addresses the instances where it will be necessary to sever a PRoW. This shows that affected PRoW will be diverted via new bridges, underpasses, or via new or existing paths. These proposals, as illustrated by <b>Appendix 8.3</b> of the <b>TA [APP-241]</b> seek to retain the function of the PRoW network.</p> <p>The Scheme makes enhancements to pedestrian and cyclist facilities in order to address historic severance issues. For example, the existing cycle route along Bedford Road terminates at the existing Black Cat roundabout, meaning that cyclists or walkers travelling between Roxton and Chawston would either have to traverse Black Cat and the A1 or travel via Roxton Road and Chawston Road. The Scheme creates a</p>

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		new, more direct, route between Roxton and Chawston via the Roxton Link Road. This route is suitable for cyclists and pedestrians and is not severed by the existing Black Cat roundabout. A description of this and other new and improved WCH routes to be delivered by the Scheme is included in paragraph 8.3.3 of the <b>TA [APP-241]</b> .
3.21 <b>(Accessibility)</b>	Applicants are reminded of their duty to promote equality and to consider the needs of disabled people as part of their normal practice. Applicants are expected to comply with any obligations under the Equalities Act 2010.	The design of the Scheme has been developed in cognizance of the Equalities Act and the needs of disabled people. An <b>Equality Impact Assessment [APP-245]</b> has been undertaken in respect of the Scheme to demonstrate compliance with the obligations under the Equalities Act 2010.
3.22	Severance can be a problem in some locations. Where appropriate applicants should seek to deliver improvements that reduce community severance and improve accessibility.	<p>Provision has been made within the Scheme to maintain existing PRoWs where possible and deemed appropriate. Table 8-1 of the of the <b>TA [APP-241]</b> describes how the Scheme addresses the instances where it will be necessary to sever a PRoW. This shows that affected PRoW will be diverted via new bridges, underpasses, or via new or existing paths. These proposals, as illustrated by <b>Appendix 8.3</b> of the <b>TA [APP-241]</b>, seek to retain the function of the PRoW network and enable users to continue to make journeys between communities that would be affected by the Scheme once operational and help improve accessibility where deemed viable and necessary.</p> <p>The Scheme also makes enhancements to pedestrian and cyclist facilities in order to address historic severance issues. A description new and improved WCH routes to be delivered by the Scheme is included in paragraph 8.3.3 of the <b>TA [APP-241]</b>.</p>



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		In addition, the Scheme is to improve accessibility and connectivity between communities via the road network both by providing a new dual carriageway, improved Black Cat Junction and surrounding highway, and by helping to reduce 'rat-running' traffic on local roads enabling them to better serve local communities.

**Table 0-2: National Policy Statement for National Networks Chapter 4**

NPSNN Paragraph Number	Requirement of the National Policy Statement for National Networks (NPSNN)	Compliance with the NPSNN including signposting at the close of Examination
<b>4</b>	<b>Assessment Principles</b>	
<p>4.5 <b>(General principles of assessment – Business Case)</b></p>	<p>Applications for road and rail projects (with the exception of those for SRFls, for which the position is covered in paragraph 4.8 below) will normally be supported by a business case prepared in accordance with Treasury Green Book principles. This business case provides the basis for investment decisions on road and rail projects. The business case will normally be developed based on the Department’s Transport Business Case guidance and WebTAG guidance. The economic case prepared for a transport business case will assess the economic, environmental and social impacts of a development. The information provided will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State’s consideration of the adverse impacts and benefits of a proposed development. It is expected that NSIP 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>	<p>A business case has been prepared for the Scheme in line with the Treasury Green Book Principles and Department for Transport WebTAG guidance. This is presented in The Economic Assessment Report, submitted as Appendix D to the <b>Combined Modelling and Appraisal Report (ComMA) [APP-254]</b>, which describes the methodology and presents the results of the economic appraisal of the Scheme. It sets out that economic appraisal of the Scheme has been prepared in accordance with the Green Book - Appraisal and Evaluation in Central Government (the Green Book). At paragraph 5.1.3 it explains that the appraisal included economic, environmental and social impacts of the Scheme. In paragraphs 5.2.4 it concludes that, taking account of the wider impacts of the Scheme and journey time reliability benefits, the Scheme will deliver an adjusted benefit cost ratio (BCR) of 1.9. This means that for every £1 spent on the Scheme there will be £1.90 returned to society in benefits.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination which relate to the economic appraisal of the Scheme:</p> <ol style="list-style-type: none"> <li>a. Economic Sensitivity Technical Note <b>[REP1-027]</b>.</li> <li>b. Economic Sensitivity Test (November 2021 TAG Update) <b>[REP9-033]</b>.</li> </ol>

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4	<b>Assessment Principles</b>	
4.6 <b>(local transport model)</b>	<p>Applications for road and rail projects should usually 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 the key drivers of transport demand. We do encourage an assessment of the benefits and costs of schemes under high and low growth scenarios, 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>A local transport model has been developed and informs the <b>TA [APP-241]</b>. Details of the modelling and assessment findings are contained in the <b>TA [APP-241]</b> and the model has been developed so that it is proportionate to the scale of the Scheme. Fifteen local planning authorities and associated highway authorities were consulted to inform the development of the strategic forecast model and identify proposed and planned developments to be taken account of in the model. The transport model for the Scheme has taken into account key drivers of transport demand including both local and generic nationwide factors, considering a core growth scenario with sensitivity tests for low and high growth scenarios.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination which relate to the transport model:</p> <ol style="list-style-type: none"> <li>Junction Modelling Technical Note <b>[REP1-030]</b>.</li> <li>Scope of Junction Model Sensitivity Test <b>[REP3-029]</b>.</li> <li>Strategic Model Test at Girton <b>[REP4-040]</b>.</li> <li>Junction Model Sensitivity Test Results <b>[REP5-018]</b>.</li> <li>Results of additional VISSIM modelling at M11 Junction 13 <b>[REP8-019]</b>.</li> </ol>

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<b>4</b>	<b>Assessment Principles</b>	
4.15 <b>(Environmental Impact Assessment)</b>	<p>All proposals for projects that are subject to the European Union’s Environmental Impact Assessment Directive and are likely to have significant effects on the environment, must be accompanied by an environmental statement (ES), describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically requires an environmental impact assessment to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the environmental statement including a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project, and also the measures envisaged for avoiding or mitigating significant adverse effects. Further guidance can be found in the online planning portal. In this NPS, the terms ‘effects’, ‘impacts’ or ‘benefits’ should accordingly be understood to mean likely significant effects, impacts or benefits.</p>	<p>The Scheme is ‘EIA development’ as it falls within the description of paragraph 7(3) of Schedule 1 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations), being the construction of a new road of four lanes and of 10km or more in a continuous length. The Scheme is therefore subject to mandatory EIA procedures as set out in the EIA Regulations.</p> <p>In accordance with paragraph 4.15 of the NPSNN an EIA has been undertaken which describes and assesses the effects of the Scheme on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the <b>ES [APP-070 to APP-086]</b> which includes a description of the Scheme, the likely significant environmental effects of the Scheme, the measures to avoid, reduce or offset such effects and the alternatives considered.</p>

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<b>4</b>	<b>Assessment Principles</b>	
4.16	When considering significant cumulative effects, any environmental statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence).	<p>An assessment of Cumulative Effects is reported in <b>Chapter 15, Assessment of Cumulative Effects [APP-084]</b> of the ES. The assessment sets out how the effects of the Scheme would combine and interact with the effects of other development projects. The assessment has considered the effects resulting from impacts of the Scheme acting together with an impact or impacts associated with other planned development schemes on the same receptor.</p> <p>The cumulative effects assessment has been undertaken in accordance with the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment (published August 2019). The assessment has been carried out for both the construction and operation phases of the Scheme.</p>
4.18	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 the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.	<p>The Scheme design which forms the basis of the DCO submission is a 'preliminary design' which may be subject to some design refinement following approval of the DCO, subject to the Requirements in Schedule 2 of the <b>draft DCO [TR010044/APP/3.1v6]</b>. This is standard for Schemes of this nature to ensure there is a reasonable degree of flexibility to make minor design changes as the Scheme design is matured. Detail of the Scheme design is shown on the <b>Works Plans [APP-009 to APP-010]</b> and the <b>Engineering Section Drawings [APP-017 to APP-022]</b> and is described in <b>Chapter 2 The Scheme [APP-071]</b> of the ES.</p> <p>The <b>draft DCO [TR010044/APP/3.1v6]</b> provides the limits of deviation both laterally and vertically. These limits have been included in the Scheme design in order to allow a necessary, but proportionate, degree</p>

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4	Assessment Principles	
		<p>of flexibility to facilitate the detailed design and construction stages of the Scheme. The limits of deviation have been considered when undertaking all technical assessments in relation to the Scheme.</p> <p><b>Chapter 4, Environmental Assessment Methodology [APP-073]</b> of the ES sets out the assessment methodology and approach taken to prepare the EIA. This chapter of the ES includes details of how the Scheme has been assessed where information was not available to inform the assessment.</p>
4.19	Where some details are still to be finalised, applicants are advised to set out in the environmental statement, to the best of their knowledge, what the maximum extent 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.	The maximum design parameters referenced in the draft DCO have been environmentally assessed, and the realistic worst case scenario has been considered in relation to potential impacts which may not be significant on their own, but could become significant when they inter-relate with other impacts of the Scheme or cumulatively with impacts from other development, where applicable within the EIA. Further details on the Applicant's approach to the Rochdale Envelope is set out within <b>Chapter 4, Environmental Assessment Methodology [APP-073]</b> of the ES.
4.21	In cases where the EIA Directive does not apply to a project, and an environmental statement is not therefore required, the applicant should instead provide information proportionate to the project on the likely environmental, social and economic effects	Not applicable as an EIA is required for the Scheme.

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4	<b>Assessment Principles</b>	
4.22 <b>(Habitats Regulations Assessment)</b>	The applicant should seek the advice of Natural England and, where appropriate, for cross-boundary impacts, Natural Resources Wales and Scottish Natural Heritage to ensure that impacts on European sites in Wales and Scotland are adequately considered.	<p>The Applicant has engaged and consulted with Natural England in relation to the Scheme. A Habitats Regulations Assessment (HRA) screening exercise has been undertaken to identify the potential for cross-boundary impacts. This is reported in the <b>Habitats Regulations Assessment: No Significant Effects Report</b> (HRA Report) [APP-233] and confirms that there is no potential for impacts to occur as a result of construction, operation or maintenance of the Scheme (either alone or in combination with other identified plans or projects) on European sites. It also concludes that as no likely significant effects have been identified on European sites resulting from the Scheme, acting alone or in-combination with other plans and projects, appropriate assessment is not required by the competent authority.</p> <p>The Applicant has also assessed the transboundary effects beyond that which has been included in the Habitats Regulations Assessment. The findings and conclusions of this are set out in <b>Appendix 4.1, Transboundary Effects Screening [APP-155]</b>, of the ES.</p> <p>Due to the location of the Scheme, it has not been necessary to consult with Natural Resources Wales or Scottish Natural Heritage.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination which relate to Habitats Regulations Assessment:</p> <ol style="list-style-type: none"> <li>a. Appropriate Assessment Note [REP6-052].</li> </ol>

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4	<b>Assessment Principles</b>	
		<ul style="list-style-type: none"> <li>b. Habitats Regulations Assessment: Report to Inform Appropriate Assessment [REP8-016].</li> <li>c. Habitats Regulations Assessment: Report to Inform Appropriate Assessment [TR010044/EXAM/9.99v2].</li> </ul>
4.23	<p>Applicants are required to provide sufficient information with their applications for development consent to enable the Secretary of State to carry out an Appropriate Assessment if required. This information should include details of any measures that are proposed to minimise or avoid any likely significant effects on a European site. The information provided may also assist the Secretary of State in concluding that an appropriate assessment is not required because significant effects on European sites are sufficiently unlikely that they can be excluded.</p>	<p>An <b>HRA Report [APP-233]</b> is included within the application. This considers whether the Scheme has the potential to result in significant effects on European Sites of biodiversity interest. The <b>HRA Report [APP-233]</b> concludes that there is no potential for impacts on European sites to occur as a result of construction, operation or maintenance of the Scheme (either alone or in combination with other identified plans or projects) and as such an Appropriate Assessment is not required.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination which relate to Habitats Regulations Assessment:</p> <ul style="list-style-type: none"> <li>a. Appropriate Assessment Note [REP6-052].</li> <li>b. Habitats Regulations Assessment: Report to Inform Appropriate Assessment [REP8-016].</li> <li>c. Habitats Regulations Assessment: Report to Inform Appropriate Assessment [TR010044/EXAM/9.99v2].</li> </ul>



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<b>4</b>	<b>Assessment Principles</b>	
4.26 <b>(Alternatives)</b>	<p>Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:</p> <ul style="list-style-type: none"> <li>a) The EIA Directive 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.</li> <li>b) There may also be other specific legal requirements for the consideration of alternatives, for example, under the Habitats and Water Framework Directives.</li> <li>c) 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 (AONB).</li> </ul>	<p><b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES 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><b>Chapter 2, The Scheme [APP-071]</b> of the ES describes the design of the Scheme that has been subject to formal EIA procedures, as developed from the consideration of reasonable alternatives relating to design, technology, location, size, scale and construction.</p> <p>In relation to the requirements set out in the NPSNN, a flood risk sequential test has been undertaken in respect of the Scheme and is reported within the Flood Risk Assessment which is presented in <b>Appendix 13.4 [APP-220]</b> of the ES.</p> <p>The Scheme is not located within or near any National Park or Area of Outstanding Natural Beauty (AONB). Therefore, no alternatives assessment relating to these features is required.</p>
4.27	<p>All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of the paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other</p>	<p>The Scheme is identified in the Roads Investment Strategy 2: 2020-2025. In accordance with paragraph 4.27 of the NPSNN, option testing need not be considered by the Examining Authority or the decision maker because this assessment has already been undertaken.</p>

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4	<b>Assessment Principles</b>	
	<p>appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker. For national road and rail schemes, proportionate option consideration of alternatives will have been undertaken as part of the investment decision making process. It is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken.</p>	<p>Design options considered and appraised as part of the Scheme's development are presented in <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES.</p>
<p>4.28 - 4.29 <b>(Criteria for "good design" for national network Infrastructure)</b></p>	<p>Applicants should include design as an integral consideration from the outset of a proposal.</p> <p>Visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Applying "good design" to national network projects should therefore produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible.</p>	<p>The Scheme has been the subject of an iterative design process, informed by analysis of landscape and visual constraints, iterative impact assessments and mitigation proposals, and taking account of stakeholder input. Design, mitigation and enhancement measures incorporated into the Scheme design and planned construction are described in detail in <b>Chapter 2, The Scheme [APP-071]</b> and Section 7.8 in <b>Chapter 7, Landscape and Visual Effects [APP-076]</b> of the Environmental Statement (ES). The Environmental Masterplan which is included in the application as Figure 2.4 <b>[REP9-037]</b> of the ES shows how the commitments to Scheme design are being implemented to minimise environmental impacts.</p> <p>The above documents demonstrate that the Scheme has been designed, as far as possible, to avoid and minimise impacts and effects on landscape character and visual receptors. This includes landform modelling such as cuttings and planting of woodland, trees and shrubs along the route corridor to filter views and integrate the Scheme with the landscape. In particular, measures that have been integrated into the</p>

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<b>4</b>	<b>Assessment Principles</b>	
		<p>Scheme to minimise effects on landscape character and visual amenity include the features listed below.</p> <ul style="list-style-type: none"> <li>a. Optimising the horizontal and vertical alignment of the new dual carriageway in a way that seeks to minimise impacts associated with crossing valleys and landforms within the landscape.</li> <li>b. The positioning of sections of the new dual carriageway in earthwork cuttings to visually contain much of the carriageway and its associated infrastructure and traffic movements from existing views available from receptors in close range and more distant views.</li> <li>c. Designing earthwork slopes to gradients that soften their appearance and achieve good integration with the rural landscape.</li> <li>d. Confining lighting on new and improved sections of road within the Scheme to locations where road safety is a priority, to minimise the potential for light spill in night-time views.</li> <li>e. Optimising the proposed internal layouts of construction compounds to minimise their temporary impact in the landscape and in available views.</li> <li>f. The designing of permanent structures, such as footbridges, in a way that minimises their visual impact in the landscape.</li> </ul> <p>In addition, the height of the proposed three-tier Black Cat junction has been minimised in the design process by lowering the level of the A1,</p>

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4	<b>Assessment Principles</b>	<p>which will form the bottom tier of the junction, to 12.5m below existing ground level.</p> <p><b>Chapter 2, The Scheme</b> of the ES [APP-071] explains that the Scheme has been designed in accordance with the prevailing standards and good design practice as set out in Design Manual for Roads and Bridges (DMRB). Compliance with the relevant standards will ensure that the Scheme is fit for purpose and is functional. In addition to this, the Scheme has been developed so that it complies with National Highways safety governance procedures in order to ensure operational risks were identified and mitigated</p> <p>In addition, <b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement also explains that design-development of the Scheme and approach to Scheme construction has been informed by the ten principles for good road design as set out in National Highways' guide, The Road to Good Design. For instance, the Scheme aims to achieve an earthworks balance where possible, in order to minimise importing or exporting earthworks materials. Where this has not been possible, the design has sought to acquire construction materials from identified borrow pits adjacent to the Scheme rather than offsite sources. Consideration has also been given to the construction methods and operations of the Scheme to ensure that construction can be undertaken in phases as safely as possible, whilst recognising potential disruption to residents, businesses, landowners and users of PRoW and road networks. Further information on the principles through which the Scheme has been developed are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement.</p>

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		<p>The approach described above which demonstrates how design has been an integral consideration in development of the Scheme was put in place from the outset of the proposal. The design process included various options for the Scheme which were considered and assessed against certain criteria to ensure the most sustainable outcome. These criteria included the engineering impact, environmental impact, buildability impact and traffic impact. <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the Environmental Statement describes the design- based alternatives considered as part of the design- development process, including considerations relating to the visual/aesthetic appearance of the Scheme in views, and its potential noise impacts at noise sensitive locations. The process resulted in some impacts being avoided or reduced through the application of good design principles.</p>
4.30	<p>It is acknowledged however, that given the nature of much national network infrastructure development, particularly SRFIs, there may be a limit on the extent to which it can contribute to the enhancement of the quality of the area.</p>	<p>Paragraph 2.1.3 of the Scheme Design Approach and Design Principles <b>[REP9-015]</b> recognises this point.</p>
4.31	<p>A good design should meet the principal objectives of the scheme by eliminating or substantially mitigating the identified problems by improving operational conditions and simultaneously minimising adverse impacts. It should also mitigate any existing adverse impacts wherever possible, for example, in relation to safety or the environment. A good design will also be one that sustains</p>	<p><b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement explains that the identified key problems associated with the existing A428 include:</p> <ul style="list-style-type: none"> <li>a. There is a lack of viable alternative east-west routes between Cambridge and other economic centres such as Milton Keynes, Northampton and Bedford.</li> </ul>

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	<p>the improvements to operational efficiency for as many years as is practicable, taking into account capital cost, economics and environmental impacts.</p>	<ul style="list-style-type: none"> <li>b. There is poor non-motorised user provision along the corridor.</li> <li>c. A number of junctions along the corridor operate close to, or at capacity.</li> <li>d. Peak hour speeds along the corridor are significantly slower than the rest of the day.</li> <li>e. Speeds on the single carriageway sections of the corridor are significantly lower than those that are dualled.</li> <li>f. There is a high degree of journey time variability along the corridor, making it difficult for users to plan their journey with confidence.</li> <li>g. Safety and maintenance issues along the corridor.</li> <li>h. There is low resilience against accidents and incidents.</li> <li>i. There is a lack of driver information along the corridor.</li> <li>j. 'Rat-running' on local roads through villages (resulting from drivers seeking alternative routes to avoid the existing A428).</li> <li>k. The above problems constrain economic growth along the corridor.</li> </ul> <p><b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement, paragraph 2.2.1 explains that the purpose of the Scheme is to address the problems of congestion, poor journey time reliability and poor resilience against incidents between the Black Cat and Caxton Gibbet roundabouts.</p> <p>The Scheme has been designed in order to minimise environmental effects, through embedding mitigation measures that have influenced</p>

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		<p>and/or been incorporated into, the preliminary design for the purpose for avoiding, preventing, and reducing the environmental effects. Table 2-1 in <b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement provides details of the embedded mitigation. In addition, a full schedule of mitigation is provided <b>[APP-235]</b>. This includes measures included in relation to both safety and the environment.</p> <p>In terms of the Scheme sustaining operational efficiency for many years it should be noted that the Scheme has been designed to be resilient to climate change taking into account future climate change scenarios with consideration for flood risk, drainage design and use of materials for construction. As set out in <b>Chapter 2, The Scheme [APP-071]</b>, future maintenance would be undertaken on a routine basis and following any major incidents or extreme weather events. Periodic maintenance operations, similar to those being undertaken elsewhere on the strategic and local road networks, would also be carried out.</p> <p>The Scheme and its elements have been designed to ensure minimal future maintenance requirements. This will be achieved through the use of low maintenance equipment and features that would reduce the number of repairs required.</p> <p>Many of the structures within the Scheme have been designed to achieve a 120 year life span, in accordance with relevant DMRB design standards. By incorporating low maintenance equipment and features that reduce the number of repairs required, and the co-location of equipment to facilitate access for routine inspections, the frequency of future interventions has been reduced. As such, no significant</p>

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		<p>maintenance activities are likely to be required within the first five years of the Scheme being operational.</p> <p>Repair activities would be required as part of any unplanned, emergency works, for example to repair damage following road traffic incidents.</p>						
4.32	<p>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 and as aesthetically sensitive, durable, adaptable and resilient as they can reasonably be (having regard to regulatory and other constraints and including accounting for natural hazards such as flooding).</p>	<p>Appendix B of the Scheme Design Approach and Design Principles <b>[REP9-015]</b> sets out the Scheme response to the principles in the Road to Good Design and the ways in which the Scheme is sustainable, aesthetically sensitive, durable, adaptable and resilient. See the table below for relevant principles from the Road to Good Design in relation to these factors and see Appendix B of the Scheme Design Approach and Design Principles <b>[REP9-015]</b> for further information.</p> <table border="1" data-bbox="1167 938 1995 1318"> <thead> <tr> <th data-bbox="1167 938 1373 1010">Factor</th> <th data-bbox="1373 938 1995 1010">Road to Good Design Principle</th> </tr> </thead> <tbody> <tr> <td data-bbox="1167 1010 1373 1206">Sustainable</td> <td data-bbox="1373 1010 1995 1206">                     5. Good road design is restrained                      6. Good road design is environmentally sustainable                      9. Good road design is collaborative                 </td> </tr> <tr> <td data-bbox="1167 1206 1373 1318">Aesthetically sensitive</td> <td data-bbox="1373 1206 1995 1318">                     4. good road design fits in context                      5. good road design is restrained                 </td> </tr> </tbody> </table>	Factor	Road to Good Design Principle	Sustainable	5. Good road design is restrained 6. Good road design is environmentally sustainable 9. Good road design is collaborative	Aesthetically sensitive	4. good road design fits in context 5. good road design is restrained
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		Durable	7. Good road design is thorough 10. Good road design is long lasting
		Adaptable	8. Good road design is innovative
		Resilient	1. Good road design makes roads safe and useful 2. Good road design is inclusive 3. Good road design makes roads understandable
		<p>In relation to natural hazards such as flooding, a Flood Risk Assessment (FRA) has been carried out in respect of the Scheme and is included as <b>Appendix 13.4 [APP-220]</b> of the Environmental Statement. The methodology and findings of the FRA are also presented in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the Environmental Statement. The FRA identifies and assesses the risks from all forms of flooding to and from the Scheme and demonstrates how these will be managed, taking account of climate change. The FRA concludes that that there is no detrimental impact on flooding to or from the Scheme.</p> <p>The Scheme is considered by the Applicant to be a necessary development and subject to the Exception Test. The Scheme underwent a detailed optioneering process in order to identify the most appropriate option. The Scheme is required to provide a dual carriageway road link between the existing Black Cat and Caxton Gibbet roundabouts. There</p>	

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4	<b>Assessment Principles</b>	<p>is no potential route between these points that would avoid the need to cross the River Great Ouse, its associated floodplain and other water courses. Flood modelling and flood risk assessments have been undertaken for each of the watercourses affected to demonstrate the potential impacts of the Scheme and identify and design appropriate mitigation measures to ensure that flood risk to people and property would be managed satisfactorily.</p> <p>Parts of the Scheme cross Flood Zones 2 and 3, including where it crosses the River Great Ouse and Hen Brook, although the majority of the Scheme is within Flood Zone 1.</p> <p>The Sequential Test has been applied to the Scheme. The development cannot be directed to an area with lowest probability of flooding and is classed as 'Critical Infrastructure'. The Scheme is therefore subject to the Exception Test. The Scheme ensures that flood risk to people and property is not increased. Flood risk mitigation measures have been developed as part of the EIA and are described within <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the Environmental Statement, the <b>Schedule of Mitigation [APP-235]</b>, and in the FRA included within <b>Appendix 13.4 [APP-220]</b> of the Environmental Statement.</p> <p>Drainage features incorporated into the design of the Scheme include ponds, reedbeds and swales.</p> <p>The Drainage Strategy Report provided in <b>Appendix 13.3 [APP-219]</b> of the Environmental Statement identifies that the drainage has been designed according to national SuDS best practice. These include the</p>

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		<p>principles of DEFRA (2015) Sustainable Drainage Systems, Non-statutory technical standards for SuDS and the DMRB. The Environmental Masterplan which is included in the application as Figure 2.4 [REP9-037] of the Environmental Statement shows attenuation basins that will also form marsh and wet grassland, contributing to wetland enhancement, as reported in Section 8.8 of <b>Chapter 8, Biodiversity [APP-077]</b> of the Environmental Statement.</p>				
4.33	<p>The applicant should therefore take into account, 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). Applicants will want to consider the role of technology in delivering new national networks projects. The use of professional, independent advice on the design aspects of a proposal should be considered, to ensure good design principles are embedded into infrastructure proposals.</p>	<p>Functional requirements of the Scheme, as a highways infrastructure project, are led by technical documents setting out parameters for new road design, such as DMRB and supporting Highway Design Standards for infrastructure. Compliance with these requirements will ensure the Scheme is fit for purpose.</p> <p>The table in <b>Appendix B</b> of the Scheme Design Approach and Design Principles [REP9-015] sets out the Scheme response to the principles in the Road to Good Design and the ways in which the Scheme is sustainable and contributes to the quality of the area in which it is located. See the table below for relevant principles from the Road to Good Design in relation to these factors and see <b>Appendix B</b> of the Scheme Design Approach and Design Principles [REP9-015] for further information.</p> <table border="1" data-bbox="1167 1193 1995 1327"> <thead> <tr> <th data-bbox="1167 1193 1373 1257">Factor</th> <th data-bbox="1373 1193 1995 1257">Road to Good Design Principle</th> </tr> </thead> <tbody> <tr> <td data-bbox="1167 1257 1373 1327">Sustainable</td> <td data-bbox="1373 1257 1995 1327">5. Good road design is restrained</td> </tr> </tbody> </table>	Factor	Road to Good Design Principle	Sustainable	5. Good road design is restrained
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			6. Good road design is environmentally sustainable 9. Good road design is collaborative
		Aesthetically sensitive	4. Good road design fits in context 5. Good road design is restrained
		<p>The Scheme proposals include the use of technological equipment including Closed Circuit Television (CCTV) coverage to monitor Black Cat, Cambridge Road and Caxton Gibbet junctions and emergency telephones installed at several lay-bys along the new dual carriageway. Variable message signs to provide information to drivers may also be included although it should be noted that subsequent to their inclusion in the Scheme and their assessment within the environmental impact assessment, the ongoing development and review of the design has yet to conclude that they would be required as part of the Scheme.</p> <p>An independent design review of the Scheme has not been undertaken. However, a comprehensive design development process has been undertaken, taking into account the principles set out in the Design Manual for Roads and Bridges and notably the National Highways publication "Road to Good Design". This has also included feedback from consultation which led to design changes such as the lowering of the A1 below the Black Cat Junction to reduce visual impact.</p>	

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4.34	<p>Whilst the applicant may only have limited choice in the physical appearance of some national networks infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.</p>	<p><b>Chapter 2, The Scheme [APP-071]</b> of the Environmental Statement and the Schedule of Mitigation <b>[APP-235]</b> identify and describe the key features of embedded mitigation that have been incorporated into the design of the Scheme to avoid adverse environmental impacts.</p> <p>The Scheme has also been subject to an iterative process of design development, as described by <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the Environmental Statement, with account taken of the views of stakeholders throughout this process. Sections 4 and 5 of the <b>Consultation Report [APP-033]</b> identifies comments made by stakeholders at statutory consultation and how these have been taken account of during the process of design development. Section 6 and 7 of the <b>Consultation Report [APP-033]</b> summarises the responses to the non-statutory supplementary consultation and how the Applicant has had regard to the matters raised in the responses and incorporated these into the Scheme design.</p> <p>In terms of siting and design measures in relation to landscape, as explained in the table in <b>Appendix B</b> of the Scheme Design Approach and Design Principles <b>[REP9-015]</b>, the Scheme has been designed to minimise its impact on the landscape and to preserve the historic character of the landscape where possible. A number of environmental and design measures have been incorporated to ensure this, including: development of a comprehensive planting strategy, including aligning the Scheme to make use of existing vegetation to help integrate the new dual carriageway into the landscape and maintain historic patterns; positioning of sections of the new dual carriageway below existing ground level within earthwork cuttings to screen views of the new</p>

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		infrastructure; and limiting the land required to construct, operate and maintain the Scheme to avoid unnecessary disturbance to buried archaeology.
4.35	Applicants should be able to demonstrate in their application how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected.	<p><b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the Environmental Statement provides an overview of how the design for the Scheme developed, the options that were considered and the reasons for selecting the design that is the subject of this DCO application. In addition, the Black Cat Junction <b>Design Options Report [APP-247]</b> sets out how the design of the proposed Black Cat Junction, an integral element of the Scheme, has developed over time.</p> <p>The Scheme has been designed in accordance with the technical standards specified in the DMRB. The evolution in the design from a series of options down to the Scheme as proposed has been determined based on guidance specified by the Department for Transport's Transport Analysis Guidance criteria, through the EIA process, through stakeholder engagement, and taking account of relevant design standards.</p> <p>The Applicant's <b>Case for the Scheme [APP-240]</b>, Appendix A, rows 4.60 to 4.65 explain, in summary, how the Scheme addresses safety issues. For example, row 4.64 explains that the Scheme was designed in accordance with technical documents produced by the Department for Transport (DfT) and National Highways which include the DMRB and Manual for Contract of Highway Works (MCHW). Compliance with National Highways' safety governance procedures including consultation with Operations Technical Leadership group and</p>

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4	<b>Assessment Principles</b>	<p>production of Operational Safety documents was a mandatory aspect of the Scheme design management process to ensure operational risks were identified and mitigated.</p> <p>The Construction, Design and Management (CDM) regulations 2015 require due consideration for health and safety of all stakeholders through the project life which has been applied to the Scheme development process.</p> <p>The <b>Case for the Scheme [APP-240]</b>, Appendix A, Row 4.62 also explains:</p> <p>A Stage 1 Road Safety Audit (RSA) has been carried out for the Scheme. This is described in Section 7.2 of the <b>Transport Assessment [APP-241]</b>.</p> <p>Additional Road Safety Audits will be conducted in accordance with DfT and National Highways guidance as the design progresses. Further road safety audits will be carried out after stage 5 (construction) of the Scheme, as soon as reasonably practicable after the Scheme opens to traffic in order to observe road user behaviour.</p> <p>The <b>Case for the Scheme [APP-240]</b>, Appendix A, row 4.76-4.77 explains that no national security implications have been identified for the Scheme.</p>

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4.40 <b>(Climate change adaptation)</b>	<p>New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning g location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.</p>	<p>The potential impact of climate change on the construction and operation of the Scheme has been considered in the Scheme design and optioneering process and appropriately assessed with the methodology and findings set out in <b>Chapter 14, Climate [APP-083]</b> of the ES.</p> <p>The UK Climate Projections 2018 (UKCP18) for temperature and precipitation variables have been obtained and analysed for the Scheme.</p> <p>Future projections for the area associated with the Scheme identify likely increases in annual temperatures and increased seasonality in rainfall, with wetter winters and drier summers expected. Climate change has been taken into account in the design of the Scheme and through mitigation measures, such as the sizing of sustainable drainage systems to accommodate the impacts of climate projections, and the use of highways equipment capable of withstanding high temperatures. The UKCP18 variables referenced in the climate assessment, are summarised in <b>Chapter 14, Climate [APP-083]</b> within the ES.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination which relate to climate change:</p> <ol style="list-style-type: none"> <li>a. Construction Phase Greenhouse Gas Emissions <b>[[REP9-017]</b>.</li> <li>b. Land Use Carbon Calculations <b>[REP9-038]</b>.</li> </ol>



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		c. Cumulative Effects of Greenhouse Gas Emissions from the Proposed Development [REP9-029].
4.41	Where transport infrastructure has safety-critical elements and the design life of the asset is 60 years or greater, the applicant should apply the UK Climate Projections 2009 (UKCP09) high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level.	<p>Refer to response to paragraph 4.40 in this table.</p> <p>Since publication of the National Policy Statement for National Networks, the UKCP09 has been updated to UKCP18, which has been applied in the assessment of likely impacts and effects on climate as part of the EIA process. The</p> <p><b>Chapter 14, Climate [APP-083]</b> of the ES sets out that the assessment has included all infrastructure and assets associated with the Scheme and has assessed resilience against both gradual climate change and the risks associated with an increased frequency of extreme weather events, referencing <i>UKCP18</i> data, Representative Concentration Pathways (RCP) 8.5, 50<sup>th</sup> Percentile for the 2020s and 2080s.</p> <p><b>Appendix 14.1, Climate Change Resilience and In-combination Climate Change Impacts Baseline, [APP-227]</b> of the ES explains at paragraph 1.2.3 that RCP8.5 is the closest to the UKCP09 high emissions scenario previously used as best-practice for climate assessment.</p> <p>The proposed use of UKCP18 data was described in the Environmental Scoping Report and no objection was raised by the ExA or consultees in the <b>Scoping Opinion [APP-231]</b>.</p>

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4.42	The applicant should take into account the potential impacts of climate change using the latest UK Climate Projections available at the time and ensure any environment statement that is prepared identifies appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure.	Refer to response to paragraph 4.41 in this table. The assessments included in the ES have taken into account the potential impacts of climate change using the latest UK Climate Projections at the time when the assessments were carried out. The proposed use of the latest climate projection data was described in the Environmental Scoping Report and no objection was raised by the ExA or consultees in the <b>Scoping Opinion [APP-231]</b> .  Appropriate mitigation and adaptation measures have been incorporated into the Scheme design and are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the ES.
4.43	The applicant should demonstrate that there are no critical features of the design of 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. Any potential critical features should be assessed taking account of the latest credible scientific evidence on, for example, sea level rise (e.g. by referring to additional maximum credible scenarios such as from the Intergovernmental Panel on Climate Change or Environment Agency) and on the basis that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime through potential further mitigation or adaptation.	<b>Chapter 14, Climate [APP-083]</b> of the ES demonstrates that the Scheme has been designed to be resilient to impacts from weather events and climatic conditions and designed in accordance with current planning, design and engineering practice and codes.  The climate assessment set out in <b>Chapter 14, Climate [APP-083]</b> of the ES concludes that, with the mitigation built into the design of the Scheme no significant effects would occur to the Scheme in respect of climate change.

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4.44	<p>Any adaptation measures should be based on the latest set of UK Climate Projections, the Government’s national Climate Change Risk Assessment and consultation with statutory consultation bodies. Any adaptation measures must themselves also be assessed as part of any environmental impact assessment and included in the environment statement, which should set out how and where such measures are proposed to be secured.</p>	<p>The climate assessments carried out for the Scheme and associated adaptation measures included in the Scheme design are based on the UKCP18 climate change projections, the Government’s National Climate Change Risk Assessment and consultation with statutory consultation bodies, including with the Environment Agency, which has shaped and influenced the drainage design which includes an allowance for the effects of climate change.</p> <p>The Scheme has been designed, as far as possible, to reduce the effects on carbon emissions and provide climate change resilience through option identification, appraisal, selection and refinement, as described in <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES. These measures are incorporated into the design to be constructed and are assessed within the <b>ES [APP-070 to APP-086]</b>. Since the measures are embedded in the design, it is not necessary for the DCO to include means of securing future adaption measures. Some of the measures incorporated into the Scheme include:</p> <ol style="list-style-type: none"> <li>a. The incorporation of Sustainable Drainage Systems (SuDS) to handle road runoff and provide resilience against potential future flood events associated with climate change.</li> <li>b. The planting of trees, shrubs and hedgerows planted as part of the landscape design which would offset some of the carbon emissions associated with land use change and subsequent loss of carbon sink.</li> </ol>

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<b>4</b>	<b>Assessment Principles</b>	<ul style="list-style-type: none"> <li>c. The use of energy efficient road lighting to reduce energy consumption during operation of the Scheme.</li> <li>d. The facility to incorporate variable messaging systems (VMS) to provide resilience during severe weather events<sup>1</sup>.</li> <li>e. The specification and installation of highway equipment capable of withstanding high temperatures (including electrical equipment comprising information and communication systems, bridge joints and paved surfaces) arising from severe weather events.</li> <li>f. The retention where possible of existing highway infrastructure within the Scheme design to reduce GHG emissions associated with demolition activities and the transportation of associated arisings off-site.</li> <li>g. The inclusion of borrow pits within the Scheme for suitable construction material for the Scheme (particularly at Black Cat roundabout) and the reduction of import material this would result in and the associated traffic movements.</li> <li>h. The reuse, where possible, of materials arisings generated from construction works, to minimise GHG emissions associated with their transportation both on and off site.</li> <li>i. Implementation of emergency systems and response plans, including the identification of suitable network redundancies and</li> </ul>

<sup>1</sup> The potential requirement for gantries and VMS was identified early in the design-development process as a means of providing information to drivers on the approaches to Black Cat junction. Subsequent to their inclusion in the Scheme and their assessment within the EIA, the ongoing development and review of the design has yet to conclude that they would be required to be delivered as part of the Scheme.

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		diversion routes, to respond to severe weather events which further increase the resilience of the Scheme to extreme weather conditions.
4.52 <b>(Pollution control and other environmental protection Regimes)</b>	There is a statutory duty on applicants to consult the Marine Management Organisation (MMO) on nationally significant projects which would affect, or would be likely to affect, any relevant marine areas as defined in the Planning Act (as amended by section 23 of the Marine and Coastal Access Act 2009).	The Scheme would not affect any relevant marine areas and it is therefore not necessary to consult the Marine Management Organisation.
4.53	When an applicant applies for an Environmental Permit, the relevant regulator (the Environment Agency) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements.	The <b>Consents and Agreements Position Statement [TR010044/APP/3.3v4]</b> sets out the permits, licences and agreements required separately to the DCO. Where it is intended to include such consents within the DCO and seek dis-application in accordance with section 150 of the PA 2008, consent from the relevant regulator is being sought on the basis that all relevant requirements will be met.
4.54	Applicants are encouraged to begin pre-application discussions with the Environment Agency as early as possible. It is however expected that an applicant will have first thought through the requirements as a starting point for discussion. Some consents require a significant amount of preparation; as an example, the Environment Agency suggests that applicants should start work towards	The Applicant has engaged with the Environment Agency throughout the preparation of the DCO application on a number of matters, including the requirement of any environmental permits. Details of additional consent requirements for the Scheme are included in the <b>Consents and Agreements Position Statement [TR010044/APP/3.3v4]</b> .

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<b>4</b>	<b>Assessment Principles</b>	
	submitting the permit application at least 6 months prior to the submission of an application for a Development Consent Order, where they wish to parallel track the applications. This will help ensure that 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.	
4.61 <b>(Safety)</b>	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 DfT (WebTAG) and from the Highways Agency.	<p>The Scheme has been designed in accordance with the current standards, advice notes and other documents set out in DMRB in order to ensure that the Scheme is safe for users of the Strategic Road Network and accords with Highways England practices.</p> <p>As described in Section 7 of the <b>TA [APP-241]</b>, an assessment of accident impacts has been completed using COBALT (COst and Benefit to Accidents – Light Touch) and a separate Safety Risk Assessment (SRA) was also undertaken.</p> <p>The assessment followed DfT WebTAG guidance and Highways England’s safety governance procedures.</p>

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4.62	They should also put in place arrangements for undertaking the road safety audit process. Road safety audits are a mandatory requirement for all trunk road highway improvement schemes in the UK (including motorways).	A Stage 1 Road Safety Audit (RSA) has been carried out for the Scheme. This is described in Section 7.2 of the TA [APP-241].  Additional Road Safety Audits will be conducted in accordance with DfT and Highways England guidance as the design progresses. Further road safety audits will be carried out after stage 5 (construction) of the Scheme, as soon as reasonably practicable after the Scheme opens to traffic in order to observe road user behaviour.
4.64	The applicant should be able to demonstrate that their scheme is consistent with the Highways Agency's Safety Framework for the Strategic Road Network and with the national Strategic Framework for Road Safety. Applicants will wish to show that they have taken all steps that are reasonably required to: <ul style="list-style-type: none"> <li>a. Minimise the risk of death and injury arising from their development.</li> <li>b. Contribute to an overall reduction in road casualties.</li> <li>c. Contribute to an overall reduction in the number of unplanned incidents.</li> <li>d. Contribute to improvements in road safety for walkers and cyclists.</li> </ul>	The Scheme was designed in accordance with technical documents produced by the DfT and Highways England which include the DMRB and Manual for Contract of Highway Works (MCHW). Compliance with Highways England's safety governance procedures including consultation with Operations Technical Leadership group and production of Operational Safety documents was a mandatory aspect of the Scheme design management process to ensure operational risks were identified and mitigated.  The Construction, Design and Management (CDM) regulations 2015 require due consideration for health and safety of all stakeholders through the project life which has been applied to the Scheme development process.  An assessment of accident impacts has been completed using COBALT, the assessment forecasted a reduction in accidents across the extent of the Scheme. This shows that the Scheme is forecast to save eight fatal, 116 serious and 805 slight casualties over a 60 year period, as reported by Table 7-6 of the TA [APP-241].

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		<p>Provision has been made within the Scheme to maintain and enhance pedestrian and cycle facilities where possible and appropriate, including on PRoW by incorporating new bridges or underpasses in the Scheme or diverting routes via new or existing paths, as described by Table 8-1 of the of the TA [APP-241]. The Scheme will also enhance the suitability of the existing A428 for cyclists by reducing traffic flow on this section.</p> <p>A Stage 1 Road Safety Audit has been carried out. Further Road Safety Audits will be carried out as the design progresses in compliance with Highways England and DfT requirements. Further road safety audits will be carried out after stage 5 (construction) of the DCO, as soon as reasonably practicable after the Scheme opens to traffic in order to observe road user behaviour.</p>
4.65	<p>They will also wish to demonstrate that:</p> <ul style="list-style-type: none"> <li>a. They have considered the safety implications of their project from the outset.</li> <li>b. They are putting in place rigorous processes for monitoring and evaluating safety.</li> </ul>	<p>Please refer to the response to paragraph 4.64.</p> <p>The CDM regulations 2015 require due consideration for health and safety of all stakeholders through the project life which has been applied to the Scheme development process.</p> <p>A Stage 1 Road Safety Audit has been carried out. Further Road Safety Audits will be carried out as the design progresses in compliance with Highways England and DfT requirements.</p> <p>The safety impact of the Scheme has been considered in Section 7.2 of the TA [APP-241].</p>



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4	Assessment Principles	
4.76 - 4.77 <b>(Security considerations)</b>	<p>Where national security implications have been identified, the applicant should consult with relevant security experts from CPNI [Centre for the Protection of National Infrastructure] and the Department for Transport, to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks. If CPNI and the Department for Transport (as appropriate) are satisfied that security issues have been adequately addressed in the project when the application is submitted, they will provide confirmation of this to the Secretary of State, and the Examining Authority should not need to give any further consideration to the details of the security measures during the examination.</p> <p>The applicant should only include such information in the application as is necessary to enable the Examining Authority to examine the development consent issues and make a properly informed recommendation on the application.</p>	No national security implications have been identified for the Scheme.
4.81 - 4.82 <b>(Health)</b>	As described in the relevant sections of this NPS, where the proposed project has likely significant environmental impacts that would have an effect on human beings, any environmental statement should identify and set out the assessment of any likely significant adverse health	An assessment of the effects of the Scheme on health has been undertaken, the outcomes of which are reported within <b>Chapter 12, Population and Human Health</b> of the ES [APP-081]. The assessment considers the potential impacts and the health outcomes resulting from impacts related to matters including those listed below:

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	<p>impacts.</p> <p>The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health.</p>	<ul style="list-style-type: none"> <li>a. Land use and accessibility (including property and housing, community land and assets, businesses and agricultural holdings).</li> <li>b. Walkers, cyclists and horse riders.</li> <li>c. Air Quality.</li> <li>d. Noise and vibration.</li> <li>e. Road safety.</li> </ul> <p>The assessment methodology follows the guidance in the DMRB Volume 11 LA112 Population and Human Health.</p> <p>The assessment draws upon information and conclusions reported within other chapters of the <b>ES [APP-070 to APP-086]</b>, including Air Quality, Landscape and Visual Effects, Noise and Vibration and Climate. It also considers the findings of other reports such as the <b>TA [APP-241]</b>, and the impact of the Scheme on land uses.</p> <p>Mitigation measures have been identified in the assessment to avoid completely or further reduce potential adverse effects. For instance, the implementation of Environmental Management Plans and Traffic Management Plans will help to ensure potential adverse impacts are minimised and mitigated. Additionally, the careful management and scheduling of the construction programme will help to minimise health impacts during the construction period and will minimise the need to stop up and divert rights of way.</p>

**Table 0-3: National Policy Statement for National Networks Chapter 5**

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<b>5</b>	<b>Generic Impacts</b>	
5.6 - 5.9 <b>(Air quality)</b>	<p>Where the impacts of the project (both on and off-scheme) are likely to have significant air quality effects in relation to meeting EIA requirements and/or affect the UK's ability to comply with the Air Quality Directive, the applicant should undertake an assessment of the impacts of the proposed project as part of the environmental statement.</p> <p>The environmental statement should describe:</p> <ol style="list-style-type: none"> <li>Existing air quality levels.</li> <li>Forecasts of air quality at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of the impact of the scheme.</li> <li>Any significant air quality effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project.</li> <li>Defra publishes future national projections of air quality based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. Applicant's assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts.</li> </ol>	<p>A detailed air quality assessment has been undertaken as part of the EIA, the outcomes of which are reported in <b>Chapter 5, Air Quality [APP-074]</b> of the ES.</p> <p>The assessment recorded the findings of monitoring undertaken at representative locations to establish existing pollutant levels in the areas surrounding the Scheme, and predicted the existing and future air quality conditions for both the Do-Minimum (without scheme) and Do-Something (with Scheme) scenarios, using traffic forecasts and projections to model and predict the pollutant levels arising from vehicle emissions and other sources at the local and regional level.</p> <p>Both construction and operational effects have been considered in the assessment, the findings of which have been used to determine whether the Scheme complies with the EU Air Quality Directive. The conclusion of the compliance risk assessment is that the Scheme would not affect the UK's reported ability to comply with the Air Quality Directive (Ref 5-1) in the shortest timescale possible due to either the construction or the operation of the Scheme.</p> <p>The conclusion of the construction local air quality assessment and construction dust assessment is that there is no likely</p>

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	<p>e. In addition to information on the likely significant effects of a project in relation to EIA, the Secretary of State must be provided with a judgement on the risk as to whether the project would affect the UK's ability to comply with the Air Quality Directive.</p>	<p>significant air quality effect for human health or designated habitats during the construction of the Scheme.</p> <p>The conclusion of the operational local air quality assessment is that there is no likely significant air quality effect for human health or designated habitats during the operation of the Scheme.</p>
5.13	<p>The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:</p> <ul style="list-style-type: none"> <li>a. Result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant.</li> <li>b. Affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.</li> </ul>	<p>A detailed air quality assessment has been undertaken as part of the EIA, the outcomes of which are reported in <b>Chapter 5, Air Quality [APP-074]</b> of the ES. The assessment identifies that the Scheme falls into the Eastern non-agglomeration zone (the Zone) of the UK for consideration of compliance with the Air Quality Directive and concludes that the Scheme would result in no risk to the reported date of compliance of the Zone with the Air Quality Directive.</p>
5.14 - 5.15	<p>The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage. The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales. Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots</p>	<p>A detailed air quality assessment has been undertaken as part of the EIA, the outcomes of which are reported in <b>Chapter 5, Air Quality [APP-074]</b> of the ES.</p> <p>The assessment identified that no specific mitigation measures are necessary during the operation of the Scheme.</p> <p>The <b>First Iteration Environment Management Plan (EMP) [TR010044/APP/6.8v4]</b> and the <b>Schedule of Mitigation</b></p>

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	<p>beyond the immediate locality of the scheme. Measures could include, but are not limited to, changes to the route of the new scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control. The implementation of mitigation measures may require working with partners to support their delivery.</p>	<p><b>[APP-235]</b> presents the mitigation measures identified as required to manage construction-related air quality effects, and details who would be responsible for their implementation and any associated monitoring requirements.</p> <p>Air quality mitigation measures have been embedded into the Scheme design which include details of how the Scheme has been designed to maintain or increase the distance between properties and traffic, where possible, thus reducing the risks of air quality impacts. These measures also set out how the Scheme has been designed to maintain traffic flows on the A1, A421 and A428 through Black Cat junction and the surrounding road network and remove traffic from the existing A428 onto the new dual carriageway. It is expected that the Scheme would reduce congestion and the occurrence of idling vehicles at these locations with resultant air quality benefits close to these junctions. Further details of these measures are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the ES.</p> <p>The <b>First Iteration EMP [TR010044/APP/6.8v4]</b> includes essential mitigation measures to be implemented by the Principal Contractor to reduce the impacts and effects that construction of the Scheme is likely to have on air quality.</p>
5.17 <b>(Carbon emissions)</b>	<p>Carbon impacts will be considered as part of the appraisal of scheme options (in the business case), prior to the submission of an application for DCO. Where the development is subject to EIA, any Environmental Statement will need to describe an</p>	<p>In accordance with Paragraph 5.17 of the NPSNN, a carbon impact assessment of greenhouse gas (GHG) emissions was undertaken as part of the appraisal of route alignment options and GHG emissions from construction have been calculated</p>

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	<p>assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets. However, for road projects applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets.</p>	<p>using Highways England's Carbon Tool which aligns with the World Business Council for Sustainable Development/World Resources Institute Greenhouse Gas Protocol Corporate Accounting and Reporting Standard supplemented by the use of Highways England's Carbon Reporting Tool. The study area for the assessment of operational GHG emissions includes both direct emissions arising from energy use within the Order Limits as well as emissions from road users on the road network within and beyond the Order Limits, based on the extents of the Scheme's traffic model contained in the <b>TA [APP-241]. Table 14-11 in Chapter 14, Climate [APP-083]</b> of the ES provides an assessment of the Scheme's GHG emissions impact against the UK Government's five-year carbon budgets. A summary of the assessment is included in <b>Chapter 14, Climate [APP-083]</b> of the ES.</p> <p>The assessment of climate effects reported in <b>Chapter 14, Climate [APP-083]</b> of the ES presents the assessment of greenhouse gas emissions arising from the construction and operation of the Scheme. This identifies the national level carbon budgets at different project stages and concludes at paragraph 14.9.27 that the greenhouse gas emissions associated with the Scheme would not have a material impact on the UK Government's ability to meet its legally binding carbon reduction targets.</p> <p><u>Additional signposting at the End of the Examination:</u></p>

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		<p>The Applicant submitted the following documents during the Examination which relate to climate change:</p> <ul style="list-style-type: none"> <li>a. Construction Phase Greenhouse Gas Emissions <b>[[REP9-017]</b>.</li> <li>b. Land Use Carbon Calculations <b>[REP9-038]</b>.</li> <li>c. Cumulative Effects of Greenhouse Gas Emissions from the Proposed Development <b>[REP9-029]</b>.</li> </ul>
5.19	<p>Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout, and use of materials) in both design and construction should be presented. The Secretary of State will consider the effectiveness of such mitigation measures in order to ensure that, in relation to design and construction, the carbon footprint is not unnecessarily high. The Secretary of State’s view of the adequacy of the mitigation measures relating to design and construction will be a material factor in the decision making process.</p>	<p>All mitigation measures are reported in the <b>Schedule of Mitigation [APP-235]</b>. The design, mitigation and enhancement measures in relation to carbon and GHG impact, and climate change resilience are also presented in <b>Chapter 2, The Scheme [APP-071]</b> of the ES. Essential mitigation measures are set out in the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>. The proposed mitigation measures are designed to reduce emissions during the construction and operation phases of the Scheme.</p> <p>Highways England commits to reducing carbon emissions from activity on its road network through the implementation of the following hierarchy:</p> <ul style="list-style-type: none"> <li>a. Avoidance and prevention – to maximise potential for reusing and/or refurbishing existing assets.</li> <li>b. Reduction – through the application of low carbon solutions including technologies, materials and products to minimise resource consumption.</li> </ul>

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5	Generic Impacts	<p>c. Remediation – applied to further reduce carbon through on or off-site offsetting or sequestrations.</p> <p>This hierarchy is reflected in the Scheme objectives. The Scheme has been designed, as far as practicable, to avoid and minimise impacts and effects relating to GHG and climate change through the process of design-development which is set out in further detail in <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES, and by embedding mitigation measures into the design of the Scheme. Climate change resilience has been incorporated in the Scheme design through option identification, appraisal, selection and refinement which is also described in <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES.</p> <p>Embedded mitigation measures proposed to reduce emissions during construction and operation are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the ES. Examples of measures included are:</p> <ul style="list-style-type: none"> <li>a. Incorporation of SuDS to handle road runoff and provide resilience against potential future flood events associated with climate change.</li> <li>b. The use of energy efficient road lighting to reduce energy consumption during operation of the Scheme.</li> <li>c. The retention where possible of existing highway infrastructure within the Scheme design to reduce GHG</li> </ul>



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		<p>emissions associated with demolition activities and the transportation of associated arisings off-site.</p> <p>d. The inclusion of new or diverted footpaths and cycleways at strategic points across the Scheme to preserve non-motorised user connectivity and journeys.</p> <p>Essential mitigation measures have also been identified which would be implemented by the Principal Contractor to reduce the impacts and effects that construction of the Scheme is likely to have on climate change and GHG emissions. Details of these measures undertaken during construction of the Scheme to mitigate temporary effects relating to GHG emissions and climate change are set out in the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>. Essential mitigation relating to GHG emissions incorporate measures including, but not limited to:</p> <p>a. Development of a management plan to reduce energy consumption and associated GHG (carbon) emissions, to include measures relating to the consideration of renewable and/or low or zero carbon energy sources and the recording of savings achieved.</p> <p>b. Sustainable use of soil and aggregate materials won from excavation and demolition activities, where feasible, to minimise GHG emissions.</p>

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		<ul style="list-style-type: none"> <li>c. The specification of energy efficient construction lighting and durable construction materials to reduce energy consumption.</li> <li>d. The recording and reporting of energy consumption and materials use on an ongoing basis during construction, using the Highways England Carbon Tool.</li> </ul>
5.22 - 5.23 <b>(Biodiversity and ecological conservation)</b>	<p>Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems. The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.</p>	<p>A biodiversity assessment has been undertaken as part of the EIA. This concludes that no significant effects on internationally, nationally and locally designated sites, and protected species and habitats (including Habitats and Species of Principle Importance as listed under Section 41 of the Natural Environmental Rural Communities (NECR) Act 2006) are likely. This is reported in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES. At Section 8.7 it also summarises the ecological measures that have been incorporated into the Scheme to mitigate the full range of potential impacts on ecosystems during Scheme construction and operation, as illustrated on the Environmental Masterplan which is <b>Figure 2.4</b> in the ES Figures <b>[REP9-037]</b> and described in greater detail in <b>Chapter 2, The Scheme [APP-071]</b> of the ES.</p> <p>Opportunities to conserve and, where reasonably possible, enhance biodiversity, are described in <b>Chapters 2 and 3 [APP-071] [APP-072]</b> of the ES. These present the alternatives considered during the design-development of the Scheme and explain how the final design has sought to avoid sites of</p>

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5	Generic Impacts	<p>ecological importance and minimise land take in pursuit of nature conservation.</p> <p>Through the design-development process, measures have been identified and incorporated into the Scheme to mitigate and, where necessary compensate (offset) for the loss of habitats and vegetation, some of which provide both a landscape integration and biodiversity function.</p> <p>The <b>First Iteration EMP [TR010044/APP/6.8v4]</b> details the measures to be implemented during construction of the Scheme to reduce and limit potential effects on biodiversity.</p> <p>The performance of the biodiversity and landscaping mitigation and enhancement measures incorporated into the design of the Scheme have been evaluated using Highways England's Biodiversity Offsetting Calculator and DEFRA's biodiversity metric to identify the extent to which these proposals will deliver biodiversity net gain (when compared to the existing conditions). This concludes that a net gain of 20.5% is expected. <b>Appendix 8.19, Biodiversity Net Gain [APP-206]</b>, of the ES explains how the biodiversity net gain percentage has been calculated.</p> <p>The EIA evaluated the potential for the Scheme to result in effects on sites of geological conservation importance. <b>Chapter 9, Geology and Soils [APP-078]</b> of the ES confirms that no such geological sites have been identified in the vicinity of the Scheme and that the sensitivity of geology across the Scheme is</p>

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5	Generic Impacts	<p>very low, hence the Scheme would have a neutral impact on geology.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant has submitted various documents relating to Biodiversity Net Gain and has responded to questions posed by the Examining Authority in written questions as follows:</p> <ul style="list-style-type: none"> <li>a. Biodiversity Net Gain: Metric 2.0 <b>[REP3-012]</b>.</li> <li>b. Applicant’s comments on the Biodiversity Net Gain Technical Note <b>[REP8-012]</b>.</li> <li>c. Question 1.3.2.1 – Metric for calculating BNG, see the Applicant’s Response to the Examining Authority’s First Round of Written Questions <b>[REP1-022]</b>.</li> <li>d. Question 2.3.2.1 – Metric for calculating BNG, see the Applicant’s Response to the Examining Authority’s Second Round of Written Questions <b>[REP4-037]</b>.</li> <li>e. Question 3.3.2.1 - Metric for calculating BNG, see the Applicant’s Response to the Examining Authority’s Third Round of Written Questions <b>[REP8-014]</b>.</li> <li>f. See also the Applicant’s response to REP9-044a within the Applicants comments on submissions received at Deadline 9 <b>[TR010044/EXAM/9.119]</b> which summarises the position relating to the NPSNN and net gain.</li> </ul>

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5.25	<p>As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.</p>	<p>The Scheme has sought to avoid significant harm to features of biodiversity interest, both during the consideration of alternatives and during the EIA process. The findings and conclusions set out in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES demonstrate full compliance with this policy of the NPSNN.</p> <p><b>Chapter 8, Biodiversity</b> of the ES [APP-077] presents an assessment of impacts of the Scheme on designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity. It does not identify any significant effects on any of these.</p> <p>Mitigation measures which have been incorporated in the design of the Scheme to avoid, reduce and compensate impacts are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the <b>Schedule of Mitigation [APP-235]</b>. These measures have been identified and developed through the EIA process, including consultation with stakeholders and statutory bodies where necessary. Construction-related mitigation measures are presented within the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>.</p> <p>The performance of the biodiversity and landscaping mitigation measures incorporated into the design of the Scheme have been evaluated using Highways England's Biodiversity Offsetting Calculator and DEFRA's biodiversity metric to identify the extent to which these proposals will deliver biodiversity net gain (when</p>

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		<p>compared to the existing conditions). This concludes that a net gain of 20.5% is expected. <b>Appendix 8.19, Biodiversity Net Gain [APP-206]</b>, of the ES explains how the biodiversity net gain percentage has been calculated.</p> <p>The EIA evaluated the potential for the Scheme to result in effects on sites of geological conservation importance. <b>Chapter 9, Geology and Soils [APP-078]</b> of the ES confirms that no such geological sites have been identified in the vicinity of the Scheme and that the sensitivity of geology across the Scheme is very low, hence the Scheme would have a neutral impact on geology.</p>
5.26	<p>In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.</p>	<p>The importance (sensitivity) of ecological features within the study areas has been assessed in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES in accordance with professional guidance (including DMRB and Chartered Institute for Ecology and Environmental Management (CIEEM)). Ecological importance is assigned based on the geographical approach (International or European, UK or National, Regional, County or Unitary Authority, Local and Site). The importance of any feature that would be significantly affected has been used to assist in determining the geographical scale at which effects are significant.</p> <p><b>Chapter 8, Biodiversity [APP-077]</b> of the ES presents an assessment of impacts of the Scheme on designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the</p>

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5	<b>Generic Impacts</b>	<p>conservation of biodiversity. It does not identify any significant effects on any of these.</p> <p>Due to the distance separating the Scheme from the identified designated sites of international importance, the assessment has concluded that there will be no direct or indirect impact pathways.</p> <p>A Habitats Regulation Assessment (HRA) screening exercise has been undertaken and is set out in the <b>HRA: No Significant Effects Report [APP-233]</b>. This concludes that the Scheme would not result in adverse impacts on the qualifying features of the identified European Sites.</p>
5.29 <b>(Biodiversity-SSSIs)</b>	<p>Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should be made only where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs. 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. Where</p>	<p>The Scheme does not have any adverse effects on any SSSIs, either individually or in combination with other developments. This is confirmed through assessments undertaken, the findings and conclusions of which are set out in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES. In addition, the <b>HRA Report [APP-233]</b> confirms that the Scheme is not within a defined Impact Risk Zone for any SSSI. and <b>Chapter 15, Assessment of Cumulative Effects [APP-084]</b> of the ES considers cumulative effects of the Scheme in combination with other developments and does not identify any significant biodiversity effects as a result of this.</p>

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	necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.	
5.32 <b>(Biodiversity - Irreplaceable habitats including ancient woodland and veteran trees)</b>	Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. 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 woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.	<p>The design of the Scheme is such that it will not result in on the loss or deterioration of ancient woodland and avoids the loss of aged and veteran trees. This is reported in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES and the Arboricultural Impact Assessment Report found in <b>Appendix 7.5 [APP-183 and REP3-002, REP3-003, REP3-004 and REP3-005]</b> of the ES.</p> <p>Construction activities would be undertaken in line with best practice approaches and techniques to ensure the works do not encroach into the root protection areas or affect the canopies of aged and veteran tree specimens identified for retention. These measures are detailed in the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>.</p> <p>During the construction of the Scheme, an Environmental Clerk of Works will be appointed to ensure that the Principal Contractor follows the principles set out in the Second Iteration EMP, which will be a binding document that must be adhered to, derived from the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>. This appointment will assist with ensuring that construction activities are undertaken in line with best practice, as set out in the paragraph above.</p>



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5.35 <b>(Biodiversity - Protection of other habitats and species)</b>	Other 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. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of development. Where appropriate, requirements or planning obligations may be used in order to deliver this protection. The Secretary of State should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits of the development (including need) clearly outweigh that harm.	The biodiversity assessment reported in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES considers potential impacts on species and habitats and explains measures taken to ensure that species and habitats are protected from the adverse effects of development. No significant effects are reported in the ES on sites identified as being of principal importance for the conservation of biodiversity. To this extent the Scheme does not conflict with the wording in Paragraph 5.35 of the NPSNN and it is considered that there is no reason for the SoS to refuse consent on this basis.  Proposed mitigation measures are set out in in <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the Schedule of Mitigation <b>[APP-235]</b> and are summarised in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES. Construction measures are set out in the EMP <b>[TR010044/APP/6.8v4]</b> which will assist with ensuring that species and habitats are protected from adverse effects of constructing the Scheme.
5.36 <b>(Biodiversity – Mitigation)</b>	Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how that:  a. During construction, they will seek to ensure that activities will be confined to the minimum areas required for the works.	The <b>First Iteration EMP, [TR010044/APP/6.8v4]</b> outlines the environmental mitigation measures that would be implemented by the Principal Contractor during construction to ensure that the principles set out in Paragraph 5.36 of the NPSNN are adhered to. <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the <b>Schedule of Mitigation [APP-235]</b> set out the mitigation measures incorporated into the design of the Scheme.

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	<ul style="list-style-type: none"> <li>b. During construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised (including as a consequence of transport access arrangements).</li> <li>c. Habitats will, where practicable, be restored after construction works have finished.</li> <li>d. Developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable.</li> <li>e. Opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge.</li> </ul>	<p>A range of landscaping, ecological and drainage measures have been embedded into the design of the Scheme to mitigate, compensate and enhance habitats and features of biodiversity value and importance, as described within <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the <b>Schedule of Mitigation [APP-235]</b>. These are also illustrated on <b>Figure 2.4</b> of the Environmental Masterplan in the ES <b>[REP9-037]</b>. This includes green corridors within the site landscaping proposals which represent an example of opportunities being taken to enhance existing habitats and create new habitats of value.</p>
5.42 <b>(Waste management)</b>	<p>The applicant should set out the arrangements that are proposed for managing any waste produced. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that the alternative is the best overall environmental outcome.</p>	<p><b>Chapter 10, Material Assets and Waste [APP-079]</b> of the ES sets out the material assets and waste aspects of the Scheme. This explains that the Scheme aims will prioritise waste prevention followed by preparing for re-use, recycling and recovery and lastly disposal to landfill as per the internationally recognised waste hierarchy. In particular, the Scheme includes the following waste minimisation and management strategy.</p> <ul style="list-style-type: none"> <li>a. Designing the Scheme in a manner that facilitates the reuse of acceptable material arisings, for example those</li> </ul>

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<b>5</b>	<b>Generic Impacts</b>	<p>associated with earthworks cuttings and other excavations.</p> <ul style="list-style-type: none"> <li>b. Achieving an earthworks balance (cut and fill material) within the design of the Scheme, where possible, to minimise the need to import and export material.</li> <li>c. The inclusion of borrow pits within the Order Limits to obtain materials local to the Scheme and minimise the need to import and export material.</li> <li>d. The inclusion of land within the Order Limits for the temporary on-site storage of soils, excavated materials and other materials.</li> <li>e. The appropriate sizing of construction compounds to enable the segregation and storage of waste, and to facilitate off-site recovery.</li> <li>f. The retention of existing highways infrastructure within the Scheme design where feasible, to minimise the need for the demolition of components and infrastructure and the associated generation of waste material.</li> <li>g. The reuse of excavated materials and the recycling of demolition and construction materials within the Scheme.</li> <li>h. The optimisation of junction designs, for example Black Cat junction to reduce the height of retaining walls and pile lengths and their associated material requirements.</li> </ul>

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5	Generic Impacts	<ul style="list-style-type: none"> <li>i. The optimisation of bridge, underpass and culvert designs through the incorporation of precast concrete elements to reduce on-site waste arisings.</li> <li>j. Importing alternative (recycled and secondary) aggregate materials during construction, where practicable.</li> <li>k. The use of site-sourced excavated material within the Scheme engineering works and borrow pit restoration activities would be undertaken in accordance with a Materials Management Plan within the Second Iteration EMP, a framework for which is presented within the <b>First Iteration EMP [APP-234]</b>. The Materials Management Plan would be prepared by the Principal Contractor under CL:AIRE publication The Definition of Waste: Development Industry Code of Practice, with the material not being classified as waste. As such, there are expected to be minimal requirements for any off-site management of excavated materials or disposal to landfill.</li> </ul> <p><u>Additional signposting at the End of the Examination:</u></p> <ul style="list-style-type: none"> <li>(a) The Applicant submitted several updated versions of the First Iteration EMP during the Examination; the last version being submitted at Deadline 10 <b>[TR010044/APP/6.8v4]</b>.</li> <li>(b) The Applicant submitted a Borrow Pits Excavation and Restoration Report at Deadline 3 <b>[REP3-011]</b>.</li> </ul>

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		(c) The Applicant included a Borrow Pits Management Plan as Annex R in the updated First Iteration EMP at Deadline 6 onwards [REP6-008] [REP9-009] and at Deadline 10 [TR010044/APP/6.8v4].
5.55 - 5.58 <b>(Civil and military aviation and defence interests)</b>	<p>Where the proposed development may have an effect on civil or military aviation and/or other defence assets, an assessment of potential effects should be carried out.</p> <p>The applicant should consult the MoD, CAA, National Air Traffic Services (NATS) and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation or other defence interests.</p> <p>Any assessment on aviation or other defence interests should include potential impacts during construction and operation of the project upon the operation of CNS infrastructure, flight patterns (both civil and military), other defence assets and aerodrome operational procedures.</p> <p>If any relevant changes are made to proposals for an NSIP during the pre-application period or before the end of the examination of an application, it is the responsibility of the applicant to ensure that the relevant aviation and defence consultees are informed as soon as reasonably possible.</p>	<p>The Scheme is not considered to have an effect on an airport or civil or military aviation as there are no airports or airfields in close proximity to the Scheme.</p> <p>Highways England has consulted with MOD, CAA, and NATS, the details of which are described in the <b>Consultation Report [APP-033]</b>.</p>

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5.62	<p>Where, after reasonable mitigation, operational changes and planning obligations and requirements have been proposed, development consent should not be granted if the Secretary of State considers that:</p> <ul style="list-style-type: none"> <li>a. A development would prevent a licensed aerodrome from maintaining its licence.</li> <li>b. The benefits of the proposed development are outweighed by the harm to aerodromes serving business, training or emergency service needs.</li> <li>c. The development would significantly impede or compromise the safe and effective use of defence assets or significantly limit military training.</li> </ul>	<p>For the reasons set out above, the provisions in paragraph 5.62 do not apply to the Scheme.</p>
5.71- 5.74 <b>(Coastal change)</b>	<p>Applications for development in a Coastal Change Management Area (CCMA) should make it clear why there is a need for it to be located in a CCMA. For developments in a CCMA, applicants should undertake an assessment of the vulnerability of the proposed development to coastal change, taking account of climate change, during the project's operational life.</p> <p>For any projects involving dredging or disposal into the sea, the applicant should consult the Marine Management Organisation (MMO), and where appropriate, for cross-boundary impacts, Natural Resource Wales and Scottish Natural Heritage, at an early stage. The applicant should also consult the MMO on</p>	<p>The proposed scheme is not located in a coastal area and therefore paragraphs 5.71-5.74 are not considered relevant to the Scheme.</p>

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	<p>projects which could impact on coastal change, since the MMO may also be involved in considering other projects which may have related coastal impacts.</p> <p>The applicant should examine the broader context of coastal protection around the proposed project, and the influence in both directions, i.e. coast on project, and project on coast.</p> <p>The applicant should be particularly careful to identify any effects of physical changes on the integrity and special features of Marine Conservation Zones, candidate marine Special Areas of Conservation (SACs), coastal SACs and candidate coastal SACs, coastal Special Protection Areas (SPAs) and potential coastal SPAs, Ramsar sites, Sites of Community Importance (SCIs) and potential SCIs and sites of Special Scientific Interest. For any projects affecting the above marine protected areas, the applicant should consult Natural England and where appropriate, for cross-boundary impacts, Natural Resource Wales and Scottish Natural Heritage, at an early stage.</p>	
5.75	<p>When assessing applications in a CCMA, the Secretary of State should not grant development consent unless it is demonstrated that the development:</p> <ul style="list-style-type: none"> <li>a. Will be safe over its planned lifetime and will not have an unacceptable impact on coastal change.</li> <li>b. Will not compromise the character of the coast covered by designations.</li> </ul>	<p>The proposed scheme is not located in a coastal area and therefore paragraph 5.75 is not relevant to the Scheme.</p>

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	<ul style="list-style-type: none"> <li>c. Provides wider sustainability benefits.</li> <li>d. Does not hinder the creation and maintenance of a continuous signed and managed route around the coast.</li> </ul>	
5.79	<p>Applicants should propose appropriate mitigation measures to address adverse physical changes to the coast in consultation with the MMO, the Environment Agency, Natural England, Natural Resource Wales, Scottish Natural Heritage, Local Planning Authorities, other statutory consultees, Coastal Partnerships and other coastal groups, as it considers appropriate. The Secretary of State should consider whether the mitigation requirements put forward by an applicant are acceptable and will be delivered and whether requirements should be attached to any grant of development consent in order to secure their delivery.</p>	<p>The proposed scheme is not located in a coastal area and therefore paragraph 5.79 is not relevant to the Scheme and consultation has not been carried out in respect of this matter.</p>
5.84 - 5.86 <b>(Dust, odour, artificial light, smoke, steam)</b>	<p>Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from emissions of odour, dust, steam, smoke and artificial light and describe these in the Environmental Statement. In particular, the assessment provided by the applicant should describe:</p> <ul style="list-style-type: none"> <li>a. The type and quantity of emissions.</li> </ul>	<p>An assessment of the potential effects of the Scheme on air quality has been carried out as part of the EIA and is reported in <b>Chapter 5, Air Quality [APP-074]</b> of the ES. The air quality assessment considers the likely significant effects on amenity from all types of emissions that are applicable to the Scheme. <b>Chapter 7, Landscape and Visual Effects</b> of the ES <b>[APP-076]</b> takes account of artificial light in the assessment of landscape and visual impacts.</p> <p>The Applicant consulted with each relevant local planning authority and the Environment Agency in designing the scope</p>



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	<ul style="list-style-type: none"> <li>b. Aspects of the development which may give rise to emissions during construction, operation and decommissioning.</li> <li>c. Premises or locations that may be affected by the emissions.</li> <li>d. Effects of the emission on identified premises or locations</li> <li>e. Measures to be employed in preventing or mitigating the emissions.</li> <li>f. The applicant is advised to consult the relevant local planning authority and, where appropriate, the environment agency about the scope and methodology of the assessment.</li> </ul>	<p>and methodology of its assessments. Details of the engagement are included in Chapter 3 of the <b>Consultation Report [APP-033]</b>.</p> <p>The <b>First Iteration EMP [APP-234]</b> sets out mitigation measures that will be implemented during the construction of the Scheme in order to prevent or mitigate emissions.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The First Iteration EMP was updated several times during the Examination, with the last submitted version being at Deadline 10 (15 February 2022) <b>[TR010044/APP/6.8v4]</b>.</p>
5.89	<p>The Secretary of State should ensure the applicant has provided sufficient information to show that any necessary mitigation will be put into 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 development to reduce any loss to amenity which might arise during the construction and operation of the development. A construction management plan may help codify mitigation.</p>	<p>The mitigation measures for the Scheme in relation to air quality are set out in the documents listed below.</p> <ul style="list-style-type: none"> <li>a. <b>Chapter 3, Assessment of Alternatives [APP-072]</b> of the ES reports the good design measures incorporated into the Scheme design to mitigate effects caused by construction and operation.</li> <li>b. <b>Chapter 5, Air Quality [APP-074]</b> of the ES sets out the findings and conclusions of the air quality assessment which includes the design, mitigation and enhancement measures incorporated in the Scheme to minimise the significance of any adverse effects on air quality. The</li> </ul>

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5	Generic Impacts	<p>Chapter concludes that the Scheme would not lead to any breach of statutory air quality thresholds.</p> <p>c. The <b>First Iteration EMP [APP-234 ]</b> (incorporating secondary control plans) details the mitigation measures that will be implemented by the Principal Contractor during the construction of the Scheme, including those specific to the control and reduction of these types of emissions. The First Iteration EMP includes a number of management plans which assist with ensuring that good practice is followed in relation to particular elements of the Scheme construction.</p> <p><b>The First Iteration EMP [APP-234]</b> sets out the reasonable steps taken via mitigation measures which include those for dust suppression, control and use of equipment/plant and construction traffic management.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>(a) The Applicant updated the First Iteration EMP several times during the Examination, <b>[REP6-008]; [REP9-009]</b> with the last submitted version being at Deadline 10 (15 February 2022) <b>[TR01044/APP/6.8v4]</b>.</p> <p>(b) The Applicant submitted further details in respect of assessment of alternatives during the Examination, including:</p>

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		<ul style="list-style-type: none"> <li>(i) Overview of the Alternatives Considered at Black Cat Junction <b>[REP4-032]</b>.</li> <li>(ii) Appendices G to K to the Overview of the Alternatives considered at Black Cat Junction <b>[REP4-033]</b>.</li> <li>(iii) Update on Overview of Alternatives Considered at Black Cat Junction <b>[REP6-040]</b>.</li> </ul>
5.91 <b>(Flood risk)</b>	<p>The National Planning Policy Framework (paragraphs 100 to 104) makes clear that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. But where development is necessary, it should be made safe without increasing flood risk elsewhere. The guidance supporting the National Planning Policy Framework explains that essential transport infrastructure (including mass evacuation routes), which has to cross the area at risk, is permissible in areas of high flood risk, subject to the requirements of the Exception Test.</p>	<p>The location of the Scheme is set by the need to improve the strategic road network between the existing Black Cat and Caxton Gibbet roundabouts and to this extent is geographically constrained.</p> <p>A Flood Risk Assessment (FRA) has been carried out in respect of the Scheme and is included as <b>Appendix 13.4 [APP-220]</b> of the ES. The methodology and findings of the FRA are also presented in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES.</p> <p>The Scheme is considered by the Applicant to be a “necessary” development and subject to the Exception Test. The Scheme underwent a detailed optioneering process in order to identify the most appropriate option. The Scheme is required to provide a dual carriageway road link between the existing Black Cat and Caxton Gibbet roundabouts. There is no potential route between these points that would avoid the need to cross the River Great Ouse, its associated floodplain and other water courses. Flood modelling and flood risk assessments have been undertaken for</p>

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<b>5</b>	<b>Generic Impacts</b>	<p>each of the watercourses affected to demonstrate the potential impacts of the Scheme and identify and design appropriate mitigation measures to ensure that flood risk to people and property would be managed satisfactorily.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The Applicant submitted the following documents during the Examination:</p> <ul style="list-style-type: none"> <li>(a) Various versions of the draft Statement of Common Ground (SoCG) with the Environment Agency, <b>[REP1-008]; [REP4-013]; [REP6-011]</b>; with the last version submitted at Deadline 10 <b>[TR010044/EXAM/8.1v4]</b>.</li> <li>(b) An updated Flood Risk Assessment (FRA) Technical Note <b>[REP6-042]</b>.</li> <li>(c) An updated version of the FRA Technical Note at Deadline 10 <b>[TR01044/EXAM/9.82v2]</b>.</li> </ul>
5.92 - 5.93	<p>Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):</p> <ul style="list-style-type: none"> <li>a. Flood Zones 2 and 3, medium and high probability of river and sea flooding.</li> <li>b. Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local</li> </ul>	<p>A FRA has been carried out in accordance with Paragraphs 5.92 and 5.93 of the NPSNN and is included within <b>Appendix 13.4 [APP-220]</b> of ES. The FRA assesses the risk of all forms of flooding to and from the Scheme. The FRA identifies and assesses the risks from all forms of flooding to and from the project and demonstrates how these will be managed, taking</p>

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	<p>watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.</p> <p>This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.</p>	<p>account of climate change. The FRA concludes that that there is no detrimental impact on flooding to or from the Scheme.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>Row 5.91 above provides Examination references for documents that were submitted during the Examination that are relevant to this part of the NPS.</p>
5.94	<p>In preparing an FRA the applicant should:</p> <ol style="list-style-type: none"> <li>Consider the risk of all forms 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.</li> <li>Will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime.</li> <li>Take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made.</li> <li>Consider the vulnerability of those using the infrastructure including arrangements for safe access and exit.</li> <li>Include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been</li> </ol>	<p>The FRA included within <b>Appendix 13.4 [APP-220]</b> of ES has been developed for the Scheme and details the risk of flooding from all sources, climate change impacts, residual risk management and the operation of the highway during flood events.</p> <p>Parts of the Scheme cross Flood Zones 2 and 3, including where it crosses the River Great Ouse and Hen Brook, although the majority of the Scheme is within Flood Zone 1.</p> <p>The Sequential Test has been applied to the Scheme. The development cannot be directed to an area with lowest probability of flooding and is classed as 'Critical Infrastructure'. The Scheme is therefore subject to the Exception Test. The Scheme ensures that flood risk to people and property is not increased. Flood risk mitigation measures have been developed as part of the EIA and are described within <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES,</p>

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	<p>taken into account and demonstrate that this is acceptable for the particular project.</p> <p>f. Consider if there is a need to remain operational during a worst case flood event over the development's lifetime.</p> <p>g. Provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate.</p>	<p>the <b>Schedule of Mitigation [APP-235]</b>, and in the FRA included within <b>Appendix 13.4 [APP-220]</b> of the ES.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>Row 5.91 above provides Examination references for documents that were submitted during the Examination that are relevant to this part of the NPS.</p>
5.96	<p>Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, highways authorities and reservoir owners and operators. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the FRA, 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 is encouraged to discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, preferably before the application for development consent is submitted.</p>	<p>Consultation with the Environment Agency on the methodology and provisions of the FRA was carried out throughout the pre-application stage of the Scheme. Details of engagement are set out in Chapter 3 of the <b>Consultation Report [APP-033]</b>.</p> <p>The Road Drainage and the Water Environment assessment reported in section 13.3 of <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES, and Section 4.6 of the FRA reported in <b>Appendix 13.4 [APP-220]</b> of the ES, confirm the engagement undertaken in respect of flood matters including mitigation measures, modelling and appropriate assessment methodology. The <b>Consultation Report [APP-033]</b> sets out how there has been due regard to comments raised during statutory consultation.</p> <p><u>Additional signposting at the End of the Examination:</u>                      Engagement with the Environment Agency has been ongoing during the Examination, as reported in the Statement of Common Ground (SoCG) between the Applicant and the</p>

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		Environment Agency [REP1-008]; [REP4-013]; [REP6-011]. The final version of the SoCG was submitted to the Examination at Deadline 10 [TR10044/EXAM/8.2v4].
5.97	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>Local flood risk data sources from fluvial, surface water, groundwater, ordinary watercourses, artificial sources and sewer and water supply infrastructure have been taken into consideration as part of the EIA and FRA. The FRA in <b>Appendix 13.4 [APP-220]</b> of the ES has considered the risk from all sources of flooding to and from the Scheme, and the design-development process has sought to avoid zones known to be susceptible to, or at risk from, flood events where practicable.</p> <p>The Geology and Soils assessment reported in <b>Chapter 9, Geology and Soils [APP-078]</b> of the ES, and the Road Drainage and the Water Environment assessment reported in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES collate and present the existing hydrological and hydrogeological baseline, which has allowed an interpretation of the water environment as part of the FRA included within <b>Appendix 13.4 [APP-220]</b> of ES.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>Row 5.91 above provides Examination references for documents that were submitted during the Examination that are relevant to this part of the NPS.</p>

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5.100	<p>For construction work which has drainage implications, approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. 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 (SuDS), including any necessary access rights to property. The Secretary of State, should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, 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, or another body such as the Internal Drainage Board.</p>	<p>The Drainage Strategy Report submitted as <b>Appendix 13.3 [APP-219]</b> of ES identifies that the Scheme's drainage has been designed according to national standards for SuDS. These include the principles of DEFRA (2015) Sustainable Drainage Systems, Non-statutory technical standards for SuDS and DMRB.</p> <p>The Drainage Strategy complies with the National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010.</p> <p>Sustainable Drainage Systems (SuDS) have been incorporated into the Scheme. Attenuation within SuDS features have been provided to ensure no flooding in a 1 in 100 year return period event + climate change.</p> <p>Highways England will be responsible for the maintenance and inspection of all drainage infrastructure, except where such infrastructure will be adopted by, and become the responsibility of the relevant local authorities.</p>
5.112 - 5.115 <b>(Flood risk - mitigation)</b>	<p>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.</p> <p>The surface water drainage arrangements 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</p>	<p>The Road Drainage and the Water Environment assessment reported in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES and the Drainage Strategy Report submitted as <b>Appendix 13.3</b> of the ES <b>[APP-219]</b> indicate that drainage solutions have been designed to minimise the risk of flooding elsewhere by incorporating current design standards and future climate change allowances.</p>



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	<p>proposed project, unless specific off-site arrangements are made and result in the same net effect.</p> <p>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 the project site, if necessary through the use of a planning obligation.</p> <p>The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on 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 SuDS.</p>	<p>Drainage features incorporated into the design of the Scheme include ponds, reedbeds and swales.</p> <p>The Drainage Strategy Report provided in <b>Appendix 13.3 [APP-219]</b> of the ES identifies that the drainage has been designed according to national SuDS best practice. These include the principles of DEFRA (2015) Sustainable Drainage Systems, Non-statutory technical standards for SuDS and the DMRB. The Environmental Masterplan which is included in the application as <b>Figure 2.4</b> of the ES <b>[REP9-037]</b> shows attenuation basins that will also form Marsh and Wet Grassland, contributing to wetland enhancement, as reported in Section 8.8 of <b>Chapter 8, Biodiversity [APP-077]</b> of the ES.</p>
5.117 - 5.118 <b>(Land instability)</b>	<p>Where necessary, land stability should be considered in respect of new development, as set out in the National Planning Policy Framework and supporting planning guidance. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. If land stability could be an issue, applicants should seek appropriate technical and environmental expert advice to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected. Applicants should liaise with the Coal Authority if</p>	<p>A desk study and ground investigation was prepared and are reported in <b>Chapter 9, Geology and Soils [APP-078]</b> of the ES and <b>Appendix 9.1, Ground Investigation Summary Report [APP-208]</b> of the ES. These have helped inform the design of the Scheme.</p> <p>The desk study identified, including via Coal Authority online interactive maps, that superficial and bedrock geology beneath the Geology Study Area have no viable coal bearing material;</p>

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	<p>necessary.</p> <p>A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain 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 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>therefore, the area is not affected by historical coal mining and liaison with the Coal Authority was not necessary.</p>
<p>5.126 - 5.127 <b>(The historic environment)</b></p>	<p>Where the development is subject to EIA the applicant should undertake an assessment of any likely significant heritage impacts of the proposed project as part of the Environmental Impact Assessment and describe these in the environmental statement.</p> <p>The applicant 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</p>	<p>An assessment of any likely significant heritage impacts is reported in <b>Chapter 6, Cultural Heritage [APP-075]</b> of the ES.</p> <p>The assessment includes consideration of the potential of the Scheme to impact on archaeological remains, historic buildings and the historic landscape, carried out by competent experts with relevant and appropriate experience in the field of cultural heritage and archaeology. Data on each identified asset has been obtained through a combination of desk-based and field-based survey techniques, including scrutiny of the Historic Environment Record and other records. A scheme of archaeological field investigation has also been designed and findings reported within <b>Chapter 6, Cultural Heritage [APP-</b></p>

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	proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.	<b>075]</b> of the ES and <b>Appendices 6.6, 6.7 and 6.8</b> of the ES <b>[APP-173] [APP-174] [APP-175] [APP-176]</b> .
5.131	<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. Substantial harm to or loss of a grade II Listed.</p> <p>Building or a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the 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>	<p>The Cultural Heritage assessment reported in <b>Chapter 6, Cultural Heritage [APP-075]</b> of the ES defines the approach to assigning significance, and describes the approach taken to assessing effects on heritage assets.</p> <p>The scheme will have a range of effects on heritage assets from slight beneficial effects to moderate or slight adverse effects that are less than substantial harm. Large adverse effects which equate to substantial harm can be found in one case at the Grade II listed Brook Cottages.</p> <p>A detailed analysis of compliance with this policy is set out in Section 5.5 of the <b>Case for the Scheme [APP-240]</b>.</p>

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5.133	<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 the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm, or alternatively that all of the following apply:</p> <ol style="list-style-type: none"> <li>The nature of the heritage asset prevents all reasonable uses of the site.</li> <li>No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation.</li> <li>Conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible.</li> <li>The harm or loss is outweighed by the benefit of bringing the site back into use.</li> </ol>	<p>The Scheme is in accordance with Paragraph 5.133 of the NPSNN, although the Scheme will result in the loss of the Grade II listed Brook Cottages. The removal of the listed building is necessary in order to deliver the substantial public benefits of the Scheme and these benefits outweigh the loss of, and substantial harm to, Brook Cottages. Section 5.5 of the <b>Case for the Scheme [APP-240]</b> provides further detail on this matter.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The following documents were submitted to the Examination:</p> <ol style="list-style-type: none"> <li>Brook Cottages Technical Note <b>[AS-009]</b>.</li> <li>Brook Cottages Heritage Strategy <b>[REP8-021]</b>.</li> <li>Joint Position Statement on Methodology, Practicalities and Value of Relocating Brook Cottages <b>[REP8-017]</b>.</li> <li>Statements of Common Ground with Historic England <b>[REP1-009]; [REP4-014]; [REP6-016]</b> and at Deadline 10 <b>[TR010044/EXAM/8.2v4]</b> and Bedford Borough Council <b>[REP1-012]; [REP4-017]; [REP6-019]</b> and at Deadline 10 <b>[TR010044/EXAM/8.8v4]</b>.</li> </ol>
5.144 - 5.146 <b>(Landscape and visual impacts)</b>	<p>Where the development is subject to EIA the applicant should undertake an assessment of any likely significant landscape and visual impacts in the environmental impact assessment and describe these in the environmental assessment. A number of guides have been produced to assist in addressing</p>	<p>A landscape and visual impact assessment (LVIA) has been undertaken in respect of the Scheme. The findings and conclusions of this assessment are reported in <b>Chapter 7, Landscape and Visual Effects [APP-076]</b> of the ES.</p>

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	<p>landscape issues. The landscape and visual assessment should include reference to any landscape character assessment and associated studies, as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England.</p> <p>The applicant's assessment should include any significant effects during construction of the project and/or the significant effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).</p> <p>The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation.</p>	<p>The assessment takes into account landscape character assessments and associated studies for the study area. Its scope is also informed by the relevant policies in the local development plans of the host authorities for the Scheme as well as the relevant policies set out in the NPSNN.</p> <p>The LVIA considers the potential for significant effects to arise from construction, operation and maintenance of the Scheme on landscape character and visual amenity. This includes specific reference to existing areas of landscape character (and the key features and components that contribute to character), visually sensitive locations and receptors, and published studies and policies relating to the protection and conservation of the landscape.</p> <p>A series of photomontages have been prepared as part of the assessment, which illustrate the visibility and conspicuousness of the Scheme once operational and how it would appear in views from a series of representative locations, accounting for seasonal variation in vegetation foliage and the establishment of planting measures over time. These are shown on <b>Figure 7.15.1 to Figure 7.15.53</b> of the ES [APP-123 to APP-137].</p> <p><b>Chapter 7, Landscape and Visual Effects [APP-076]</b> of the ES considers the combined effects of the Scheme on views and visual amenity which includes the visibility and conspicuousness of the Scheme during construction and operation. The LVIA considers the effects of light pollution impacts on local amenity and tranquillity. It also takes account of noise when considering</p>

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		tranquillity. Impacts of these on nature conservation are considered by <b>Chapter 8, Biodiversity [APP-077]</b> of the ES. Cumulative effects arising as a result of the Scheme construction and operation are also detailed in the Assessment of Cumulative Effects which is reported in <b>Chapter 15, Assessment of Cumulative Effects [APP-084]</b> of the ES.
5.147- 5.148	<p>Any statutory undertaker commissioning or undertaking works in relation to, or so as to affect land in a National Park or Areas of Outstanding Natural Beauty, would need to comply with the respective duties in section 11A of the National Parks and Access to Countryside Act 1949 and section 85 of the Countryside and Rights of Way Act 2000.</p> <p>For significant road widening or the building of new roads in National Parks and the Broads applicants also need to fulfil the requirements set out in Defra’s English national parks and the broads: UK government vision and circular 2010 or successor documents. These requirements should also be complied with for significant road widening or the building of new roads in Areas of Outstanding Natural Beauty.</p>	The Scheme is not located in an Area of Outstanding Natural Beauty or a National Park.
5.150 - 5.151	Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory	The Scheme is not located in an Area of Outstanding Natural Beauty or a National Park.

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	<p>purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions.</p> <p>The Secretary of State should refuse development consent in these areas except in exceptional circumstances and where it can be demonstrated that it is in the public interest. Consideration of such applications should include an assessment of:</p> <ul style="list-style-type: none"> <li>a. The need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy.</li> <li>b. The cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way.</li> <li>c. Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.</li> </ul> <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 Areas of Outstanding Natural Beauty, unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly. Planning of the Strategic Road Network should encourage routes that avoid National Parks, the Broads and Areas of Outstanding</p>	

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	Natural Beauty.	
5.153	Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.	The Scheme is not located in an Area of Outstanding Natural Beauty or a National Park.
5.154 - 5.155	The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. 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.	The Scheme is not located in an Area of Outstanding Natural Beauty or a National Park, nor will it impact upon such nationally designated areas as confirmed by the LVIA in <b>Chapter 7, Landscape and Visual Effects [APP-076]</b> of the ES.



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5.165 - 5.167 <b>(Land use including open space, green infrastructure and Green Belt)</b>	<p>The applicant should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of 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>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 by equivalent or better provision in terms of quantity and quality in a suitable location. 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>During any pre-application discussions with the applicant, the local planning authority should identify any concerns it has about the impacts of the application on land-use, having regard to the development plan and relevant applications, and including, 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 their Local Impact Report which can be submitted after an application for development consent has been accepted.</p>	<p>Section 3 of the <b>Case for the Scheme [APP-240]</b> identifies the main existing land uses and the main relevant planning history for land within the Order Limits. It also identifies Development Plan allocations within and adjacent to the Order Limits. The Scheme would not impact the delivery of any Development Plan allocation, including St Neots East (Wintringham). Here, the Scheme would use part of the allocated land as a temporary construction compound but would no longer be needed by the Scheme at the point that the allocated development is built.</p> <p>The Scheme will not result in the loss of land that comprises existing open space, sports or recreational buildings.</p> <p>Pre-application discussions were held with the host local authorities. This included discussion of land use issues, in particular the impact on Black Cat Quarry, where the planning authority confirmed there would be no impact on the quarry use as extraction would be completed before construction of the Scheme would commence.</p>

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5.168	<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 quality, taking into account any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this.</p>	<p>Table 9-7 of <b>Chapter 9, Geology and Soils [APP-078]</b> of the ES sets out the proportion of agricultural land and best and most versatile agricultural land within the Order Limits.</p> <p>The impact of the loss of agricultural land is taken into account within the Economic Assessment Report that is submitted as Appendix D of the <b>ComMA Report [APP-254]</b>.</p> <p>Section 5.7 of the <b>Case for the Scheme [APP-240]</b> explains that the applicant has done all that reasonably can be done to avoid and reduce impacts on the best and most versatile agricultural land. Given the locational constraints of the Scheme it has not been possible however to avoid the impact on best and most versatile land.</p> <p>The <b>First Iteration EMP [APP-234]</b> includes a Soil Handling and Management Plan as Annex E. This sets out methods for soil stripping, storage and reinstatement that seek to preserve soil quality.</p> <p>The <b>First Iteration EMP [TR010044/APP/6.8v4]</b> also includes a Contaminated Land Management Plan at Annex I that sets out how risks associated with potential contaminated land will be addressed.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The following documents were submitted to the Examination:</p>

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5	<b>Generic Impacts</b>	<p>(a) The Applicant updated the First Iteration EMP several times during the Examination, <b>[REP6-008]</b>; <b>[REP9-009]</b> with the last submitted version being at Deadline 10 (15 February 2022) <b>[TR01044/APP/6.8v4]</b>.</p> <p>(b) Agricultural Survey Report <b>[REP9-018]</b>.</p>
5.169	Applicants should safeguard any mineral resources on the proposed site as far as possible.	<p>The Scheme passes through one allocated mineral extraction site – Black Cat Quarry. Under the Quarry’s Planning Permission (Bedford Borough Council ref: 17/03160/S73WM), extraction of material at the site was required to have been completed no later than 15 September 2020 and it is understood that the consented mineral reserve at the quarry has been removed. The Scheme will therefore not have any negative impact on the supply of Mineral from Black Cat Quarry and or any other allocated mineral sites.</p> <p>The Scheme also crosses a Mineral Safeguarding Area (MSA) in Cambridgeshire for sand and gravel where the route crosses the Hen Brook to the east of St Neots. The safeguarded mineral is river terrace gravels associated with Hen Brook. Additionally, a small part of a MSA in Bedford Borough for river valley glacial sand and gravel lies within the Order Limits.</p> <p>The Minerals Safeguarding Report in <b>Appendix 10.1 [APP-209]</b> of the ES has considered the potential effects of the Scheme on mineral resources and extraction sites. It concludes that the extraction of mineral at Hen Brook is not possible due to environmental constraints, and that the resource potential is low.</p>

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		<p>In relation to Bedford Borough, the assessment concludes that part of the MSA is proposed for extraction by one of the Scheme's borrow pits, but otherwise there is no economic resource worthy of prior extraction and prior extraction is technically constrained. The benefits of the Scheme outweigh the benefits of prior extraction.</p> <p>Due to the locations of the MSA, these cannot practically be avoided by the Scheme. However, the alignment of the Scheme crosses the Bedford Borough MSA through Black Cat quarry, where safeguarded mineral has already been worked and crosses Hen Brook MSA in the west of the MSA where it is narrower than in the east. As a result, only a minimal area of unworked material will be affected by the Scheme.</p> <p>The design-development process has sought to make efficient use of minerals within the Order Limits, by reusing suitable material from the areas where ground levels are required to be lowered, in order to fill areas where the land level is required to be raised.</p>
5.170 - 5.171	<p>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</p>	<p>No part of the Scheme is located within the Green Belt, Metropolitan Open Land, nor land designated as Local Green Space in a local or neighbourhood plan.</p>

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	<p>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.</p> <p>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 achievement of the objectives for the use of land in Green Belts.</p>	
5.174	<p>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 any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.</p>	<p>The Scheme does not involve the use of land currently used for the purposes of open space, sports and recreation or playing fields and as such this part of the NPSNN is not relevant to this Scheme.</p>

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5.177	In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the Secretary of State should consider the implications for development of the creation of a continuous signed and managed route around the coast, as proposed in the Marine and Coastal Access Act 2009.	The Scheme is not located near any coastal recreation site and therefore this paragraph of the NPSNN is not relevant to the Scheme.
5.180	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 mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of way.	<p>A number of existing PRoW, cycle and equestrian routes will need to be temporarily diverted in order to accommodate the Scheme. Additionally, some routes may be permanently severed and/or diverted as a result of the Scheme. However, provision of alternative routes have been incorporated into the design of the Scheme to maintain connections. This will ensure access to countryside and green infrastructure assets in the local area are maintained. An assessment of the impact of the Scheme on users of PRoW is set out in <b>Chapter 12, Population and Human Health [APP-081]</b> of the ES from paragraph 12.9.28 to 12.9.51. This does not identify any permanent significant effects.</p> <p><b>Chapter 2 The Scheme [APP-071]</b> of the ES describes mitigation measures which have been incorporated into the design of the Scheme to ensure the continued connectivity of routes as well as route enhancements and diversions. The Environmental Masterplan which is included in the application as <b>Figure 2.4</b> of the ES <b>[REP9-037]</b> illustrates the contribution that landscaping would also have on the overall amenity,</p>

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		pleasantness and attractiveness of journeys made. Opportunities have been taken where possible to improve routes and implement enhancement measures.
5.182	Where a proposed development has an impact on a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.	<p>As set out in the response to Paragraph 5.169, the Scheme crosses a MSA in Cambridgeshire for sand and gravel where the route crosses Hen Brook to the east of St Neots. The safeguarded mineral is river terrace gravels associated with Hen Brook. Additionally, a small part of a MSA in Bedford Borough for river valley glacial sand and lies within the Order Limits.</p> <p>The Minerals Safeguarding Report in <b>Appendix 10.1 [APP-209]</b> of the ES has considered the potential effects of the Scheme on mineral resources and extraction sites. It concludes that the extraction of mineral at Hen Brook is not possible due to environmental constraints, and that the resource potential is low. In relation to Bedford Borough, the assessment concludes that part of the MSA is proposed for extraction by one of the Scheme's borrow pits, but otherwise there is no economic resource worthy of prior extraction and prior extraction is technically constrained. The benefits of the Scheme outweigh the benefits of prior extraction.</p> <p>Due to the locations of the MSA, these cannot practically be avoided by the Scheme. However, the alignment of the Scheme crosses the Bedford Borough MSA through Black Cat quarry, where safeguarded mineral has already been worked and crosses Hen Brook MSA in the west of the MSA where it is</p>

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		<p>narrower than in the east. As a result, only a minimal area of unworked material will be affected by the Scheme.</p> <p>The design-development process has sought to make efficient use of minerals within the Order Limits, by reusing suitable material from the areas where ground levels are required to be lowered, in order to fill areas where the land level is required to be raised.</p>
5.184	<p>Public rights of way, National Trails, and other rights of access to land (e.g. open access land) are important recreational facilities for walkers, 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, where appropriate, to consider what opportunities there may be to improve access. 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 the 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>The Scheme will not affect the use of National Trails or Open Access Land.</p> <p>A number of existing PRoW, cycle and equestrian routes will need to be temporarily diverted in order to accommodate the Scheme. Additionally, some routes may be permanently severed and/or diverted as a result of the Scheme. However, provision of alternative routes have been incorporated into the design of the Scheme to maintain connections. This will ensure access to countryside and green infrastructure assets in the local area are maintained. An assessment of the impact of the Scheme on PRoW is set out in <b>Chapter 12, Population and Human Health [APP-081]</b> of the ES from paragraph 12.9.28 to 12.9.51. This does not identify any permanent significant effects. In addition, it also explains that the Scheme will improve access to and/or the user experience of PRoW 7 and PROW 8 in and around Chawston.</p> <p><b>Chapter 2 The Scheme</b> of the ES <b>[APP-071]</b> describes mitigation measures which have been incorporated into the</p>



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		design of the Scheme to ensure the continued connectivity of routes as well as route enhancements and diversions. The Environmental Masterplan which is included in the application as <b>Figure 2.4</b> of the ES [REP9-037] illustrates the contribution that landscaping would also have on the overall amenity, pleasantness and attractiveness of journeys made. Opportunities have been taken where possible to improve routes and implement enhancement measures.
5.189 <b>(Noise and vibration)</b>	<p>Where a development is subject to EIA and significant noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment, which should form part of the environment statement:</p> <ul style="list-style-type: none"> <li>a. A description of the noise sources including 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, impulsive or low frequency characteristics of the noise.</li> <li>b. Identification of noise sensitive premises and noise sensitive areas that may be affected.</li> <li>c. The characteristics of the existing noise environment.</li> <li>d. A prediction on how the noise environment will change with the proposed development:</li> </ul>	<p>The Noise and Vibration assessment reported in <b>Chapter 11, Noise and Vibration [APP-080]</b> of the ES identifies the likely effects of the Scheme on noise and vibration. It includes and considers the following:</p> <ul style="list-style-type: none"> <li>a. A description of the noise and vibration sources.</li> <li>b. Information regarding identified noise and vibration sensitive receptors.</li> <li>c. A description of the characteristics of the existing ambient noise environment, including the results of a baseline survey.</li> <li>d. Details of how the Scheme will impact the noise environment, including in relation to changes in traffic noise levels due to various factors such as the time of day.</li> </ul>

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	<ul style="list-style-type: none"> <li>e. In the shorter term such as during the construction period;</li> <li>f. In the longer term during the operating life of the infrastructure;</li> <li>g. At particular times of the day, evening and night as appropriate.</li> <li>h. An assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.</li> <li>i. Measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.</li> <li>j. The nature and extent of the noise assessment should be proportionate to the likely noise impact.</li> </ul>	<ul style="list-style-type: none"> <li>e. An assessment of the noise impact as a result of construction, including construction traffic.</li> <li>f. An assessment of whether impacts on noise and vibration sensitive receptors are considered to be significant.</li> <li>g. Mitigation measures proposed during both construction and operation, and an explanation of how the measures have been incorporated in the scheme design (for instance the use of noise barriers where necessary and utilisation of noise minimising materials during construction such as low noise surfacing).</li> </ul> <p>In addition, noise mitigation measures are set out in <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the <b>Schedule of Mitigation [APP-235]</b>. Measures to manage noise during the construction period are set out in the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>.</p> <p><u>Additional signposting at the End of the Examination:</u>                      The following document was submitted during the Examination:                      Chapter 11, Noise and Vibration Errata <b>[REP3-027]</b>.</p>
5.190	The potential noise impact elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on the national networks, should be considered as appropriate.	At paragraphs 11.9.85 – 11.9.86, <b>Chapter 11, Noise and Vibration [APP-080]</b> of the ES considers the noise impact elsewhere as a result of changes in traffic arising from the Scheme. This concludes that the majority of affected routes are

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		<p>predicted to experience minor and moderate decreases in road traffic noise levels in the short term as a result of traffic drawn to the Scheme rather than alternative parallel east-west routes. It also identifies that a small number of affected routes are predicted to experience a minor increase in traffic noise levels in the short term as a result of traffic being drawn to the Scheme on routes in close proximity to the western and eastern extent of the Scheme. The ES concludes that none of these benefits or impacts is significant.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>Row 5.189 above provides the Examination reference for a document that was submitted during the Examination that is relevant to this part of the NPSNN.</p>
5.191	<p>Operational noise, with respect to human 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. .... For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.</p>	<p>Operational traffic noise impacts have been undertaken in accordance with relevant DMRB standards and guidelines adopted at the time of assessment, the findings and conclusions of which are reported in <b>Chapter 11, Noise and Vibration [APP-080]</b> of the ES. The DMRB methodology requires the use of the Calculation of Road Traffic Noise (CRTN) prediction method for traffic noise. The assessment methodology and criteria for construction impacts is based predominantly on BS 5228.</p> <p><u>Additional signposting at the End of the Examination:</u></p>

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		Row 5.189 above provides the Examination reference for a document that was submitted during the Examination that is relevant to this part of the NPSNN.
5.192	The applicant should consult Natural 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>Details of the modelling and assessment of noise effects is presented in <b>Chapter 11, Noise and Vibration [APP-080]</b> of the ES. The Biodiversity assessment reported in <b>Chapter 8, Biodiversity [APP-077]</b> of the ES takes account of the results of the noise impact assessment in appraising likely significant effects on protected species and habitats.</p> <p>Highways England has undertaken engagement with Natural England throughout the design development process for the Scheme, including with regard to the assessment of potential noise and vibration impacts on designated nature conservation sites, protected landscapes and other protected species and habitats. The scope of the noise and vibration assessment was also established through a process of formal EIA scoping with the Planning Inspectorate, the opinion of which has been informed by consultation feedback from Natural England and other organisations and is included in the <b>EIA Scoping Opinion [APP-231]</b>. The Consultation Report <b>[APP-033]</b> provides details of the engagement with Natural England.</p> <p><u>Additional signposting at the End of the Examination:</u></p>

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		Row 5.189 above provides the Examination reference for a document that was submitted during the Examination that is relevant to this part of the NPSNN.
5.195	<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"> <li>a. Avoid significant adverse impacts on health and quality of life from noise as a result of the new development.</li> <li>b. Mitigate and minimise other adverse impacts on health and quality of life from noise from the new development.</li> <li>c. Contribute to improvements to health and quality of life through the effective management and control of noise, where possible.</li> </ul>	<p>Section 11.3 of <b>Chapter 11, Noise and Vibration [APP-080]</b> of the ES, addresses the three policy aims of the Government regarding achieving sustainable development through adhering to the noise aspects of this key policy, in respect of the construction and operation of the Scheme. Section 5.8 of the <b>Case for the Scheme [APP-240]</b> also considers compliance of the Scheme with this policy.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>Row 5.189 above provides the Examination reference for a document that was submitted during the Examination that is relevant to this part of the NPSNN.</p>
5.199	<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 the compulsory acquisition of affected properties in</p>	<p>As set out by of <b>Appendix 11.6, NPSNN 2014 Compliance, Noise Insulation Regulations and Noise Important Areas [APP-215]</b> of the ES, insulation works under The Noise Insulation Regulations 1975 has identified three residential buildings. These are 9 and 10 Roxton Road, Chawston and Oak Tree Cottage to the east of the existing Caxton Gibbet roundabout.</p> <p>A complete Noise Insulation Regulations assessment would be completed at a later stage of the project when the detailed</p>

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	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.	design of the Scheme is finalised and in accordance with the timescales set out in the Regulations.
5.200	Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process.	Section 1.4 of <b>Appendix 11.6, NPSNN Compliance, Noise Insulation Regulations and Noise Important Areas [APP-215]</b> of the ES sets out noise mitigation measures that are proposed at NIA. Opportunities to further address the existing noise issues at NIA have been considered in the design of the Scheme, but no other reasonable and proportionate opportunities have been identified. Paragraph 1.2.13 of <b>Appendix 11.6, NPSNN Compliance, Noise Insulation Regulations and Noise Important Areas [APP-215]</b> of the ES explains that introducing noise barriers alongside the A1 between Black Cat and Wyboston junctions, with the aim of reducing levels to below SOAEL is not considered to be a practical engineering option due to the safety risks a barrier would create in this location as this would require further reductions in standards or the removal of the service road alongside the A1 carriageway.

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5.203 - 5.205 <b>(Impacts on transport networks)</b>	<p>Applicants should have regard to the policies set out in local plans, for example, policies on demand management being undertaken at the local level.</p> <p>Applicants should consult the relevant highway authority, and local planning authority, as appropriate, on the assessment of transport impacts.</p> <p>Applicants should consider reasonable opportunities to support other transport modes in developing infrastructure. As part of this, consistent with paragraph 3.19-3.22 above, the applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance issues that act as a barrier to non-motorised users.</p>	<p>The Scheme has five host authorities which have all been consulted throughout the design development process of the Scheme, and in relation to the assessment of transport impacts, as outlined in the <b>Consultation Report [APP-033]</b> and <b>TA [APP-241]</b>. The local authorities are:</p> <ol style="list-style-type: none"> <li>a. Bedford Borough Council.</li> <li>b. Central Bedfordshire Council.</li> <li>c. Huntingdonshire District Council.</li> <li>d. South Cambridgeshire District Council.</li> <li>e. Cambridgeshire County Council.</li> </ol> <p>Appendix C of the <b>Case for the Scheme [APP-240]</b> includes a table of local Development Plan policies that are relevant to the Scheme.</p> <p>The Scheme generally aligns and conforms to a number of local transport policy documents at a strategic level, as the Scheme will improve connectivity, reduce traffic congestion and provide improved transport infrastructure.</p> <p>The assessment of the traffic impacts of the Scheme has been conducted and the results presented in the <b>TA [APP-241]</b>.</p> <p>Provision has been made within the Scheme to maintain and enhance pedestrian and cycle facilities where possible and appropriate, including on PRoW by incorporating new bridges or</p>

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		<p>underpasses in the Scheme or diverting routes via new or existing paths, as described by Table 8-1 of the of the <b>TA [APP-241]</b>. The Scheme will also enhance the suitability of the existing A428 single carriageway for cyclists by reducing traffic flow on this section.</p> <p>The Scheme makes enhancements to pedestrian and cyclist facilities in order to address historic severance issues. For example, the existing cycle route along Bedford Road terminates at the existing Black Cat roundabout, meaning that cyclists or walkers travelling between Roxton and Chawston would either have to traverse Black Cat Junction and the A1 or travel via Roxton Road and Chawston Road. The Scheme creates a new, more direct, route between Roxton and Chawston via the Roxton Link Road. This route is suitable for cyclists and pedestrians and is not severed by Black Cat Junction. A description of this and other new and improved WCH routes to be delivered by the Scheme is included in paragraph 8.3.3 of the <b>TA [APP-241]</b>.</p>
5.206	<p>For road and rail developments, if a development is subject to EIA and is likely to have significant environmental impacts arising from impacts on transport networks, the applicant's environmental statement should describe those impacts and mitigating commitments. In all other cases the applicant's assessment should include a proportionate assessment of the transport impacts on other networks as part of the application.</p>	<p>The Scheme is subject to an EIA as it exceeds the thresholds set out in the EIA Regulations. The impacts of the Scheme from traffic effects during construction and operation on the environment and associated mitigation measures proposed are reported in each topic-based chapter of the ES (<b>Chapters 5-15</b> of the ES [<b>APP-074</b> to <b>APP-084</b>]) and in <b>Chapter 2, The Scheme</b> of the ES [<b>APP-071</b>] and the <b>Schedule of Mitigation [APP-235]</b>. Additionally, the mitigation measures proposed</p>



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		<p>during the construction of the Scheme are set out in the <b>First Iteration EMP [TR010044/APP/6.8v4]</b>.</p> <p>The <b>Transport Assessment Annex [APP-243]</b> reports on likely transport impacts of the operation of the Scheme on the wider strategic road network.</p>
5.208	<p>Where appropriate, the applicant should prepare a travel plan including management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport and sustainable modes where relevant, to reduce the need for any parking associated with the proposal and to mitigate transport impacts.</p>	<p>An <b>Outline Construction Traffic Management Plan (OCTMP) [APP-244]</b> has been prepared. This describes the temporary traffic management processes that will be followed for the safe and efficient construction of the Scheme to minimise the impact on customers and stakeholders while ensuring work is carried out safely, and efficiently.</p> <p>A travel plan may be prepared by the Principal Contractor following approval of the Scheme. This would address construction personnel traffic and how it will be managed and controlled during the construction phase of the Scheme.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>The following documents were submitted during the Examination:</p> <ul style="list-style-type: none"> <li>(a) Updates to the OCTMP [REP-012]; [REP6-010]; [REP9-011].</li> <li>(b) An outline Travel Plan [REP5-016].</li> </ul>

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5.209	<p>For schemes impacting on the Strategic Road Network, applicants should have regard to DfT Circular 02/2013 The Strategic Road Network and the delivery of sustainable development (or prevailing policy) which sets out the way in which the highway authority for the Strategic Road Network, will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the Strategic Road Network.</p>	<p>Highways England is the authority responsible for the Strategic Road Network and has had regard to the DfT Circular 02/2013 in the development of the Scheme.</p> <p>The DfT sets out key requirements for the strategic road network in the Road Investment Strategy 2: 2020-2025. In keeping with these requirements, the Scheme is designed to make the network safer, improve user satisfaction, support the smooth flow of traffic, encourage economic growth, deliver better environmental outcomes, help cyclists, walkers and other vulnerable users of the network, achieve real efficiency in terms of cost savings for the taxpayer, and keep the network in good condition.</p> <p>Statutory consultation in respect of the Scheme was carried out under Section 42 of the Planning Act 2008 (PA 2008) in parallel with consultation under s47 and s48 of the PA 2008, in addition to non-statutory supplementary consultation and additional stakeholder engagement. Additional targeted consultation was also carried out in the later stage of the design development process. The design of the Scheme submitted as part of the application has been informed by all the engagement with stakeholders during the design development phase, which assists with ensuring that the Scheme delivered adheres to the principles of sustainable development. The <b>Consultation Report [APP-033]</b> sets out further details on how Highways</p>

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		England has engaged with Stakeholders in developing the Scheme.
5.210	If new transport infrastructure is proposed, applicants should discuss with network providers the possibility of co-funding by Government for any third-party benefits. Guidance has been issued in England which explains the circumstances where this may be possible. The Government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time, and cannot provide financial support to a scheme that solely mitigates the impacts of a specific development. Any decisions on co-funded transport infrastructure will need to be taken in the context of the Government's wider policy of transport improvements.	The funding commitment for delivering the Scheme was made in the Road Investment Strategy: 2015 to 2020 (RIS 1) as the Scheme was identified as committed and therefore funded. The funding commitment was reiterated in the Highways England Delivery Plan 2015-2020 and subsequently in the Delivery Plan 2020-2025. The Scheme is detailed as one of the key investments on the Strategic Road Network. The Road investment Strategy 2: 2020-2025 (RIS 2) renewed the commitment to deliver the Scheme. Most recently the Chancellor of the Exchequer made a commitment to fund various road schemes in his budget speech of March 2020 including the "A428 in the East of England". The <b>Funding Statement [APP-031]</b> sets out further details regarding the Government and Highways England's commitments demonstrating that the Scheme will be fully funded by the DfT and consequently the Scheme is not dependant on funding contributions from other parties.
5.216	Where development would worsen accessibility such impacts should be mitigated so far as reasonably possible. There is a very strong expectation that impacts on accessibility for non-motorised users should be mitigated.	The Population and Human Health assessment reported in <b>Chapter 12, Population and Human Health [APP-081]</b> of the ES reports the likely significant effects on walkers, cyclists and horse riders who travel on parts of the road and PRoW networks that will be altered as a consequence of the Scheme. A Walking, Cycling and Horse-Riding Assessment and Review (WCHAR)

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5	Generic Impacts	<p>process was undertaken as part of the design development of the Scheme to identify opportunities to facilitate, where possible, the inclusion of all walking, cycling and horse riding modes in the design development of the Scheme. This includes new, diverted and improved facilities that integrate with the wider local and national network. The WCHAR is included as <b>Appendix 8.1</b> of the <b>TA [APP-242]</b>.</p> <p>The requirements of these users have been identified and appropriate mitigation measures have been incorporated into the design of the Scheme to:</p> <ul style="list-style-type: none"> <li>a. Enhance accessibility through the provision of new and altered cycleways and footways.</li> <li>b. Reduce traffic-related severance by providing appropriate crossings.</li> <li>c. Maintain connectivity by modifying and diverting existing routes.</li> </ul> <p>Design-based mitigation measures are reported in the Scheme Description in <b>Chapter 2, The Scheme [APP-071]</b> of the ES.</p> <p>The Scheme will provide new and diverted footpaths, cycleways and bridleways which will provide many benefits to the local population such as increased access to community facilities, improved safety while travelling, encouragement to take part in recreational activity and the increased opportunity to travel using sustainable transport modes.</p>

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		<p>This includes the new 3m footpaths/cycleway from Cambridge Road in Eltisley to the Caxton Gibbet junction and similarly introduced between Chawston and Roxton as well as along Toseland Road which adjoins the existing A428 by Whitehall Farm Industrial Estate. The scheme will also introduce a new 2m wide section of footway next to a new bus shelter on the A1 Great North Road as well as a new bridleway which will be established along the length of School Lane.</p>
5.220 <b>(Water quality and resources)</b>	<p>Where applicable, an application for a development consent order has to contain a plan with accompanying information identifying water bodies in a River Basin Management Plan.</p>	<p>Water bodies within the Order Limits are included in the Anglian River Basement Management Plan.</p> <p>All relevant waterbodies are described in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES and the Water Framework Directive (WFD) Assessment in <b>Appendix 13.1 [APP-217]</b> of the ES. They are shown in Figure 2 of <b>Appendix 13.1 [APP-217]</b> of the ES. The WFD Assessment also provides an assessment against the Water Framework Directive and River Basin Management Plan objectives and mitigation measures for each waterbody.</p>
5.221	<p>Applicants should make early contact with the relevant regulators, including the Environment Agency, for abstraction licensing and with water supply companies likely to supply the water. Where a development is subject to EIA and the development is likely to have significant adverse effects on the water environment, the applicant should ascertain the existing</p>	<p>Engagement has been carried out with the Environment Agency, throughout the pre-application process. This included discussions on future consents and permits that will need to be obtained to construct the Scheme and are being sought within the <b>draft DCO [TR010044/APP/3.1v6]</b>.</p>

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	status of, and carry out an assessment of the impacts of the proposed project on water quality, water resources and physical characteristics as part of the environmental statement.	Further details on additional permits and licences required for the Scheme in relation to the water environment is provided the <b>Consents and Agreements Position Statement [APP-029]</b> .  <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> , sets out an assessment of the impacts of the Scheme on the water environment.  <u>Additional signposting at the End of the Examination:</u>  The following documents were submitted during the Examination:  Updates to the Consents and Agreements Position Statement <b>[REP1-007]; [REP9-009]</b> and at Deadline 10 <b>[TR010044/APP/3.3v4]</b> .
5.222	For those projects that are improvements to the existing infrastructure, such as road widening, opportunities should be taken, where feasible, to improve upon the quality of existing discharges where these are identified and shown to contribute towards Water Framework Directive commitments.	The Scheme is a construction project rather than an improvement project. This paragraph is therefore not applicable to the Scheme.
5.223	Any environmental statement should describe: <ol style="list-style-type: none"> <li>a. The existing quality of waters affected by the proposed project.</li> <li>b. Existing water resources affected by the proposed project and the impacts of the proposed project on water</li> </ol>	The Road Drainage and the Water Environment assessment reported in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES presents the findings of an assessment into the quality and characteristics of existing watercourses and waterbodies (both surface and groundwater) associated with the Scheme, and the potential impacts on these

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	<p>resources.</p> <p>c. 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.</p> <p>d. Characteristics.</p> <p>e. Any impacts of the proposed project on water bodies or protected areas under the water framework directive and source protection zones (spzs) around potable groundwater abstractions.</p> <p>f. Any cumulative effects.</p>	<p>features as a result of its construction, operation and maintenance.</p> <p>An extensive list of the key watercourses within the study area have been identified in Table 13-3 of <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES. These include the River Great Ouse, Rockham Ditch, South Brook, Begwary Brook, Stone Brook, Hen Brook, Wintringham Brook, Fox Brook, Gallow Brook, West Brook and Bourn Brook. There are also a number of minor and unnamed drains and ditches across the study area.</p> <p>Information is also presented in the assessment on Source Protection Zones and Water Framework Directive waterbodies likely to be affected by the Scheme, and the hydrodynamics and morphology of watercourses.</p> <p>Works close to and over the River Great Ouse include the construction of a multi-span viaduct, a main site compound located approximately 300m to the west, and construction of floodplain compensation areas to the west. In addition a pipeline owned and operated by CLH Pipeline System Ltd that is located between the River Great Ouse and the A1 will need to be diverted as part of the works. As the majority of the Scheme lies within the headwaters of numerous tributaries to the River Great Ouse, there is also the potential for cumulative indirect impacts from works to these water bodies. Cumulative effects on identified waterbodies are presented in the Cumulative Effects</p>

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		Assessment reported in <b>Chapter 15, Assessment of Cumulative Effects [APP-084]</b> of the ES.
5.226	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 (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. In terms of Water Framework Directive compliance, the overall aim of projects should be no deterioration of ecological status in watercourses, ensuring that Article 4.7 of the Water Framework Directive Regulations does not need to be applied.	<p>In carrying out the Road Drainage and Water assessment for the Scheme, Highways England has had regard to the Anglian River Basin Management Plan and requirements of the Water Framework Directive. The Road Drainage and the Water Environment assessment reported in <b>Chapter 13, Road Drainage and the Water Environment [APP-082]</b> of the ES sets out the methodology for the assessment and how it presents details of the watercourses and waterbodies that will be affected by the Scheme and identifies those designated under the Water Framework Directive.</p> <p>A separate Water Framework Directive Assessment has been undertaken as part of the EIA of the Scheme, the findings of which are reported in <b>Appendix 13.1 [APP-217]</b> of the ES. This concludes that the Scheme is compliant with the WFD objectives for the Ouse (Roxton to Earith), Abbotsley and Hen Brooks, West Brook, Stone Brook, Begwary Brook and Bourn Brook water bodies.</p>
5.227	The Examining Authority and the Secretary of State should consider proposals put forward by the applicant to mitigate adverse effects on the water environment and whether appropriate requirements should be attached to any development consent and/or planning obligations. If the	Engagement has been undertaken with the Environment Agency throughout the design-development process, including discussion of mitigation measures proposed for the Scheme during construction and operation. Comments from the Environment Agency have been taken into account during the



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	<p>Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of impacts on water quality/resources, the Secretary of State can grant consent, but will need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the Environment Agency to try to resolve the concerns, and that the Environment Agency is satisfied with the outcome.</p>	<p>development of design mitigation measures which have been embedded into the design of the Scheme to minimise impact on the water environment. The <b>Consultation Report [APP-033]</b> sets out comments received and how they have been taken account of. These measures include the incorporation of SuDS, swales and attenuation ponds as well as introducing green corridors around watercourses. These are described in Table 2-1 within <b>Chapter 2, The Scheme [APP-071]</b> of the ES.</p> <p>The <b>First Iteration EMP [APP-234]</b> sets out measures that will be undertaken during construction of the Scheme to protect water bodies from pollution and disturbance and that these will be part of the Second Iteration EMP.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>(a) The Applicant updated the First Iteration EMP several times during the Examination, <b>[REP6-008]; [REP9-009]</b> with the last submitted version being at Deadline 10 (15 February 2022) <b>[TR01044/APP/6.8v4]</b>.</p> <p>(b) Engagement with the Environment Agency has been ongoing during the Examination, as reported in the Statement of Common Ground (SoCG) between the Applicant and the Environment Agency <b>[REP1-008]; [REP4-013]; [REP6-011]</b>. The final version of the SoCG between the Applicant and the Environment Agency was submitted to the Examination at Deadline 10 <b>[TR10044/EXAM/8.2v4]</b>.</p>

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5.229	<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>Mitigation measures proposed for both the construction and operation of the Scheme are detailed in <b>Chapter 2, The Scheme [APP-071]</b> of the ES and the <b>Schedule of Mitigation [APP-235]</b>.</p> <p>A Second Iteration EMP will be prepared by the Principal Contractor, based on the <b>First Iteration EMP [APP-234]</b> that is submitted with this application in order to ensure that good management practices along with the prescribed mitigation measures are implemented during the construction period.</p> <p><u>Additional signposting at the End of the Examination:</u></p> <p>(a) The Applicant updated the First Iteration EMP several times during the Examination, <b>[REP6-008]; [REP9-009]</b> with the last submitted version being at Deadline 10 (15 February 2022) <b>[TR01044/APP/6.8v4]</b>.</p>