

# A47/A11 Thickthorn Junction

**Scheme Number: TR010037**

**Volume 7**

## **7.2 National Policy Statement for National Networks Accordance Table**

APFP Regulation 5(2)(q)

Planning Act 2008

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

February 2021

Infrastructure Planning

Planning Act 2008

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

The A47/A11 Thickthorn Junction  
Development Consent Order 202[x]

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**NATIONAL POLICY STATEMENT FOR NATIONAL NETWORKS  
ACCORDANCE TABLE**

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## CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Purpose of this Document .....	1
	<b>TABLE 1: COMPLIANCE WITH NPS NN CHAPTER 3.....</b>	<b>3</b>
	<b>TABLE 2: COMPLIANCE WITH NPS NN CHAPTER 4.....</b>	<b>12</b>
	<b>TABLE 3: COMPLIANCE WITH NPS NN CHAPTER 5.....</b>	<b>32</b>

## 1 INTRODUCTION

### 1.1 Purpose of this Document

- 1.1.1 The National Policy Statement for National Networks (NPS NN) Accordance Tables (the Accordance Tables) relate to an application made by Highways England (the Applicant) to the Secretary of State for Transport via the Planning Inspectorate (the Inspectorate) under the Planning Act 2008 (the PA 2008) for a Development Consent Order (DCO). If made, the DCO would grant consent for the A47/A11 Thickthorn Junction (the Scheme). A detailed description of the Scheme can be found in **Chapter 2, The Scheme** of the **Environmental Statement (ES) (TR010037/APP/6.1)**.
- 1.1.2 The NPS NN sets out Government's policies to delivery of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of NSIPs and the basis for the examination by Examining Authority (ExA) and decisions by the Secretary of State. Further details about the NPS NN can be found in the Case for Scheme **(TR010037/APP/7.1)**.
- 1.1.3 The Accordance Tables comprise a suite of application documentation and are included in the application in compliance with Regulation 5(2)(q) of the Infrastructure Planning (Prescribed Forms and Procedure) Regulations 2009 (the AFPF Regulations) which require  
*"5(2)(q) any other documents considered necessary to support the application"*
- 1.1.4 The Accordance Tables provide an assessment of the Scheme's strategic alignment and conformity with the NPS NN and are set out as follows:
- Table 1: Scheme's conformity with NPS NN Chapter 3 – Wider Government policy on national networks
  - Table 2: Scheme's conformity with NPS NN Chapter 4 – Assessment principles
  - Table 3: Scheme's conformity with NPS NN Chapter 5 – Generic impacts
- 1.1.5 Each relevant paragraph in the NPS NN is set out with adjacent commentary as to the extent of compliance by the Scheme with its terms.
- 1.1.6 The Accordance Tables reference other relevant documentation submitted as part of the Application and provide a summary where appropriate. The following documents and assessments have been used to inform the completion of the Accordance Tables.
- Draft Development Consent Order **(TR010037/APP/3.1)**
  - Consents and Agreements Position Statement **(TR010037/APP/3.3)**
  - Consultation Report and Annexes **(TR010037/APP/5.1 and 5.2)**
  - Environmental Statement, including Figures, Appendices and Non-Technical Summary **(TR010037/APP/6.1, 6.2, 6.3 and 6.4)**
  - Flood Risk Assessment, ES Appendix 13.1 **(TR010037/APP/6.3)**

- Drainage Strategy Report, ES Appendix 13.2 (**TR010037/APP/6.3**)
- Statement Relating to Statutory Nuisance (**TR010037/APP/6.7**)
- Environmental Masterplan (**TR010037/APP/6.8**)
- Habitat Regulations Assessment (**TR010037/APP/6.9**)
- Case for the Scheme (**TR010037/APP/7.1**)
- Scheme Design Report (**TR010037/APP/7.3**)
- Environmental Management Plan (**TR010037/APP/7.4**)
- Equalities Impact Assessment (**TR010037/APP/7.6**)

**TABLE 1: COMPLIANCE WITH NPS NN CHAPTER 3**

NPS NN Paragraph Number	Requirement of the National Policy Statement for National Networks (NPS NN)	Compliance with the NPS NN
<p>3.2 <b>(Environment and social impacts)</b></p>	<p>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>	<p>A comprehensive Environmental Impact Assessment (EIA) has been undertaken together with proposals for mitigating likely significant environmental effects arising from the Scheme. These are reported in the ES (TR010037/APP/6.1) and where specific mitigation measures have been applied, they are reported under each specialist chapter.</p> <p>The Scheme will have a variety of impacts, both beneficial and adverse, which are summarised in the Environmental Statement (ES) Non-Technical Summary (TR010037/APP/6.4) and as follows:</p> <ul style="list-style-type: none"> <li>• <b>Air Quality</b> – No significant adverse or beneficial air quality effects have been identified for the construction or operational phase.</li> <li>• <b>Noise and Vibration</b> – Subject to mitigation and monitoring, neither construction noise, vibration nor construction traffic movements are predicted to result in any significant adverse residual effects. During operation of the Scheme no significant adverse noise effects are predicted at noise sensitive receptors, including those within the Noise Important Areas and non-residential receptors.</li> <li>• <b>Landscape and Visual</b> – There would be a moderate adverse (significant) effect on <b>landscape</b> character during construction, principally associated with the removal of areas of woodland and individual trees. Some receptors would however be subject to significant <b>visual</b> effects, associated with views of surrounding construction activities and haul routes, including 15 residential properties, the railside footpath (Hetherset FP6) and the footpath and existing pedestrian footbridge over the A47 (Cringleford FP4). At the <b>year of opening</b> there would be no significant effect on <b>landscape</b> character however significant effects on some <b>visual</b> receptors will remain including nine residential properties. By <b>year 15</b> of operation, with the establishment of landscape mitigation, effects on <b>landscape</b> character would be neutral and would contribute to screening</li> </ul>

		<p>and landscape integration. Any significant residual <b>visual</b> effects at year 15 would be limited to three residential properties close to the proposed new junction at Cantley Lane South. DMRB LA107 requires that the effect of Schemes on landscape and visual amenity should be assessed independently and the outcome combined into a single conclusion on the <b>overall</b> likely significance of effect. In this regard the Scheme <b>would not result in a significant residual effect</b> on landscape and visual amenity.</p> <ul style="list-style-type: none"> <li>• <b>Cultural Heritage</b> – No significant effects have been identified as a result of permanent construction phase impacts. All identified effects can effectively be mitigated through preservation by record (archaeological recording). There will be one significant residual moderate adverse effect on the scheduled monument ‘Two Tumuli in Big Wood’. Arising from the permanent alteration of its setting due to construction of the Cantley Lane link road, including potential noise and visual intrusion. The permanent effect relates to the severance of a significant aspect of the asset’s setting, in which the barrows historically could be viewed prominently from downslope to the south. Beneficially a new viewpoint and information board will be installed to enhance everyday public awareness and appreciation of a scheduled monument which is currently inaccessible to the public.</li> <li>• <b>Biodiversity</b> – For most receptors, residual effects after mitigation would be neutral or slight adverse which are considered to be not significant for EIA. Although the design has sought to avoid removal of trees where possible and minimise habitat loss, areas of trees will need to be lost due to the Scheme. Deciduous woodland and hedgerows will experience a significant adverse residual effect due to the long-time lag to achieve their former maturity. The loss of two veteran trees would be a significant adverse residual effect as they are irreplaceable. However, there will be beneficial effects from: a net gain of more biodiverse grasslands with the introduction of species-rich and marshy, wet grassland; riparian planting along Cantley Stream increasing beneficial habitat for aquatic invertebrates.</li> <li>• <b>Road Drainage and the Water Environment</b> - No significant residual effects on surface water and groundwater receptors are anticipated during construction or operation of the Scheme.</li> </ul>
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- Geology and Soils** - Potential sources of contaminated land have been identified which could result in an adverse impact of moderate significance to the construction and operation of the Scheme. The identified potential sources are the Cantley Lane Landfill and an infilled gravel pit. These sources have not been fully investigated and therefore the risk has not been confirmed. Mitigation measures are based on the assumption that contamination is present at both sources which could impact on the Scheme. These sources will be investigated prior to construction of the and risks from contaminated land will be reviewed following completion of the ground investigation. There will be a large adverse significant effect on agricultural soils with a permanent and temporary land take of 9.08 hectares of Grade 3a (BMV) and 1.79 hectares of Grade 3b agricultural land and the temporary land take of 5.93 hectares of Grade 3a agricultural land. However, a Soils Management Plan (SMP) will be developed to help preserve land quality on the temporary land take areas and to make effective reuse of the soils taken from the areas of permanent land take. The SMP is included within the Environmental Management Plan (TR010040/APP/7.4). Where temporary land take can be restored back to its former condition, the long-term residual effects on agricultural soils would be limited to the permanent loss of agricultural land.
- Population and Human Health** – Overall, impacts on population and human health are predominantly not significant once the Scheme is operational and temporary during construction. The exception to this is for users of Cringleford footpath FP4a where a Moderate adverse effect is anticipated due to journey increases associated with the permanent diversion of the footpath to the new Walkers, Cyclists and Horse-riders (WCH) overbridge. Beneficial effects would be experienced by horse-riders and cyclists travelling between Cantley Lane and Cantley Lane South via the new WCH overbridge and by pedestrians and cyclists travelling along the shared footway/cycleway to be provided on the eastern frontage of the Cantley Lane Link. Those using the Scheme to access properties, businesses and community assets would also benefit from journey time savings and safety for road users once operational.



		<ul style="list-style-type: none"> <li>• <b>Material Assets and Waste</b> - No significant effects have been identified for the construction or operational phases.</li> <li>• <b>Climate</b> - No significant effects as a result of climate change are anticipated. The Scheme has been assessed as resilient to changes in the climate.</li> <li>• <b>Cumulative</b> - Cumulative effects during the construction and operational phases of the Scheme with all of the other developments are not anticipated to contribute beyond that of the effects identified in the preceding environmental chapters.</li> </ul> <p>Following design and mitigation efforts, some residual significant effects will be unavoidable, though these have been minimised as far as possible. Policy and guidance recognises that not all impacts are able to be resolved in large scale Schemes and the above residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms. Specifically paragraph 3.4 of the NPS NN States “ <i>whilst applicants should deliver developments in accordance with Government policy and in an environmentally sensitive way, including considering opportunities to deliver environmental benefits, some adverse local effects of development may remain.</i>” This is explored in Section 7 of the Case for the Scheme (<b>TR010037/APP/7.1</b>).</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>The Case for the Scheme (<b>TR010037/APP/7.1</b>) lists and assesses the principles of the National Planning Policy Framework (NPPF). Local planning policies that are relevant to each of the topics are covered in the ES (<b>TR010037/APP/6.1</b>) These are then addressed in the Case for the Scheme (<b>TR010037/APP/7.1</b>), which also addresses other material considerations.</p> <p>The Case for the Scheme (<b>TR010037/APP/7.1</b>) shows that the Scheme is compliant with national, regional and local planning policy. The ES (<b>TR010037/APP/6.1</b>) provides details of the opportunities for social and environmental benefits of the Scheme considered as part of the EIA process. Each chapter of the ES (<b>TR010037/APP/6.1</b>) sets out how environmental impacts of the Scheme would be mitigated, in line with current relevant guidance and accepted principles. Reasonable opportunities for environmental and social benefits have also been considered as part of the EIA process and would also be an ongoing aim</p>

		<p>of the detailed design process to deliver environmental and social benefits.</p> <p>Examples include:</p> <ul style="list-style-type: none"> <li>• recording of archaeological finds and conservation where appropriate</li> <li>• installation of bird and barn owl nesting boxes</li> <li>• creation of Kingfisher nesting banks and Mallard nest tubes in the attenuation basins</li> <li>• enhancement of reptile habitat</li> <li>• gap filling of existing species poor hedgerow</li> <li>• post-development monitoring of newly created habitat.</li> </ul>
3.5	<p>Outside the nationally significant infrastructure project regime, Government policy is to bring forward targeted works to address existing environmental problems on the Strategic Road Network and improve the performance of the network. This includes reconnecting habitats and ecosystems, enhancing the settings of historic and cultural heritage features, respecting and enhancing landscape character, improving water quality and reducing flood risk, avoiding significant adverse impacts from noise and vibration and addressing areas of poor air quality.</p>	<p>One of the Scheme's objectives is to protect and create an improved environment by minimising adverse impacts and where possible, improving the areas biodiversity such as the examples given in the response to paragraph 3.3 above.</p> <p>Each of the chapters 5 to 14 of the ES (<b>TR010037/APP/6.1</b>) set out the measured baseline conditions which have been utilised as a starting point for assessment. Where existing environmental issues occur, their impact has been taken together with the potential impact of the Scheme and any mitigation has been designed to address and eradicate the entire impact or where possible enhance the current baseline situation. In carrying out mitigation, the targeted works will therefore address existing issues where possible.</p> <p>All mitigation measures are set out as appropriate within the above chapters of the ES and are reflected on the drawings accompanying the application.</p>
3.6	<p>Transport will play an important part in meeting the Government's legally binding carbon targets and other environmental targets. As part of this there is a need to shift to greener technologies and fuels, and to promote lower carbon transport choices. Over the next decade, the biggest reduction in emissions from domestic transport is likely to come from efficiency improvements in conventional vehicles, specifically cars and vans, driven primarily by EU targets for new vehicle CO2 performance. Electrification of the railway will also support reductions in carbon.</p>	<p><b>ES Chapter 14, Climate (TR010037/APP/6.1)</b> considers the impact of the Scheme on climate change and the potential impacts of climate change on the Scheme.</p> <p>In accordance with the Design Manual for Roads and Bridges (DMRB) LA 114 'Climate', the Scheme has sought to minimise carbon emissions as far as possible in order to contribute to the UK's net reduction in carbon emissions, with regular recalculation of carbon emissions and ongoing review of further opportunities to minimise them. The recent UK government announcement on ending the sales of new petrol and diesel vehicles by 2030 will further reduce the Scheme's end user carbon emissions.</p>

		<p><b>Chapter 14: Climate</b> of the ES (TR010037/APP/6.1) concludes that no significant effects as a result of climate change have been identified. Monitoring of carbon emissions associated with the construction of the Scheme will be undertaken as per Highways England requirements to meet their Key Performance Indicators.</p> <p><b>Chapter 12: Population and Human Health</b> of the ES (TR010037/APP/6.1) sets out the new walking and cycling routes that would be delivered as part of the Scheme. This provision aligns with the national objective of providing sustainable transport choices.</p>
3.10	<p>The Government's overall vision and approach on road safety is set out in the Strategic Framework for Road Safety. It is a vision in which Britain remains a world leader in road safety; where highway authorities are empowered to take informed decisions within their area; where driver and rider training gives learners the skills they need to be safe on our roads; and where tough measures are taken against the minority of offenders who deliberately choose to drive dangerously. As set out in paragraphs 4.60 to 4.66, Scheme promoters are expected to take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate.</p>	<p><b>Chapter 5 of the Case for the Scheme (TR010037/APP/7.1)</b> summarises the economic assessment of the Scheme and calculates the accident cost savings in accordance with the Department for Transport's (DfT) online Transport Appraisal Guidance (WebTAG) using the Cost and Benefit to Accidents – Light Touch (COBALT). This assessment forecasts that, over the 60-year assessment period, the Scheme will provide an accident reduction benefit of <b>£7.2 million</b> and will save 242 accidents when compared to the 'without Scheme' scenario. This reduction in accidents is forecast to save the number of killed or seriously injured by 26.</p>
3.15	<p>The Government is committed to providing people with options to choose sustainable modes and making door-to-door journeys by sustainable means an attractive and convenient option. This is essential to reducing carbon emissions from transport.</p>	<p><b>Chapter 12: Population and Human Health</b> of the ES (TR010037/APP/6.1) notes that the Scheme would help to promote sustainable modes of transport by providing improved facilities for walkers, cyclists and horse-riders (WCHR). The Scheme has been designed to include the following:</p> <ul style="list-style-type: none"> <li>• the existing Cantley Lane footbridge that carries Cringleford footpath FP4a over the A47 between Cantley Lane South and Cantley Lane will be demolished and replaced with a new overbridge approximately 50m south-east of the existing footbridge location. The new replacement bridge will be suitable for WCHR users, with approach ramps constructed on earthwork embankments</li> <li>• a new cycle track to be provided on the eastern frontage of the new Cantley Lane Link Road. A refuge island would also be incorporated into its junction with the B1172 Norwich Road to facilitate a safe crossing between</li> </ul>

		<p>the shared footway and cycleway and the existing facility provided on the northern frontage of Norwich Road, which comprises part of the Wymondham to Sprowston Pedalways cycle route. The provision of this infrastructure would provide a safer and more pleasant route for users travelling between Wymondham and Cringleford, avoiding the need to pass through Thickthorn Junction.</p> <ul style="list-style-type: none"> <li>• A new cycle track access is being provided from the Caltey Lane Link Road into the Thickthorn Park and Ride facility.</li> </ul> <p>Consultation has been undertaken to understand the existing baseline conditions relating to public transport and WCH users. The impacts of the Scheme have been considered and amendments to the Scheme design have been incorporated. <b>Section 4</b> of the Case for the Scheme (<b>TR010037/APP/7.1</b>) concludes that public transport will not be affected by the Scheme.</p>
3.16	As part of the Government's commitment to sustainable travel is investing in developing a high-quality cycling and walking environment to bring about a step change in cycling and walking across the country.	See response in relation to NPS NN paragraph 3.15 above.
3.17 <b>(Sustainable transport)</b>	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>See response in relation to NPS NN paragraph 3.15 above.</p> <p>Additionally, the improvements for WCHRs have been considered in a Walkers, Cyclists and Horse-Riders Assessment Report (WCHAR) Section 4 of the Case for the Scheme (<b>TR010037/APP/7.1</b>).</p> <p>The Scheme would require the stopping up and diversion of Cringleford FPP4a to a new WCH footbridge, suitable for all WCH users, spanning the A47 to link Cantley Lane and Cantley Lane South and replacing the existing footbridge. The diverted footpath will be upgraded to bridleway status as part of the proposals. The overall impact of this would be beneficial, resulting in a large reduction in journey length for cyclists and horse-riders and providing a grade separated crossing of the A47 for all users when travelling between Cantley Lane and Cantley Lane South.</p> <p>The Scheme would not impact on any of the other WCHR routes in the vicinity of Thickthorn Junction and the effects of the Scheme on WCHR are assessed as being neutral.</p>

		<p>Further, the speed limit on the section of Cantley Lane South that will become a cul-de-sac as part of Scheme will be reduced to 20mph to promote road safety and improve conditions for WCHR users.</p> <p>In summary, the Scheme will provide new WCHR facilities to mitigate any impacts and improve accessibility for users in the local area generally, thereby supporting the promotion of active travel modes. As such, the Scheme would have a positive impact on pedestrians and cyclists.</p>
3.19	<p>The Government is committed to creating a more accessible and inclusive transport network that provides a range of opportunities and choices for people to connect with jobs, services and friends and family.</p>	<p>ES Chapter 12 Population and Human Health sets out how the Scheme will improve accessibility and inclusivity. In this regard, once operational, it will result in beneficial journey time savings in both directions for both general travel and when accessing community facilities (Cringleford GP Surgery, Norfolk and Norwich University Hospital and a Veterinary clinic) and businesses in Cringleford and Heathersett and also businesses on Station Lane south of the A11. Road safety will also be improved when accessing Thickthorn Services. Journey lengths will not be increased.</p> <p>WCHR facilities will be improved by the provision of a cycle track along the new Cantley Lane Link Road with a refuge island with its junction with Norwich Road to facilitate safe crossing, linking into the Wymondham to Sprowston cycle route and avoiding the Thickthorn junction.</p>
3.20	<p>The Government's strategy for improving accessibility for disabled people is set out in Transport for Everyone: an action plan to improve accessibility for all. In particular:</p> <ul style="list-style-type: none"> <li>• The Government will continue to work to ensure that the bus and train fleets comply with modern access standards by 2020, and to improve rail station access for passengers with reduced mobility. The private car will continue to play an important role, providing disabled people with independence where other forms of transport are not accessible or available.</li> <li>• The Government expects applicants to improve access, wherever possible, on and around the national networks by designing and delivering Schemes that take account of the accessibility requirements of all those who use, or are affected by, national networks infrastructure, including disabled users. All reasonable opportunities to deliver</li> </ul>	<p>One of the Scheme's objectives is to create an accessible and integrated network by considering local communities and their access to the roads. Also to provide safer routes between communities for cyclists, walkers, horse riders and other vulnerable users of the network.</p> <p>The Scheme will provide new WCHR facilities to mitigate the impacts of the Scheme and improve accessibility for users in the local area generally, thereby supporting the promotion of active travel modes. As such, the Scheme would have a positive impact on WCHR provision.</p> <p>In terms of severance, some vulnerable groups will see slight to moderate benefits.</p> <p>The Scheme is not expected to have any significant impacts on public transport accessibility.</p>

	improvements in accessibility on and to the existing national road network should also be taken wherever appropriate.	
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.	An <b>Equality Impact Assessment (EqIA) (TR010037/APP7.6)</b> has been prepared for the Scheme and meets the requirements of the Equalities Act 2010. The EqIA was embedded in the Scheme to ensure the needs of these groups were central to the Scheme development, including the Scheme design, communication and engagement strategy, and any required mitigation.
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><b>Chapter 12 Population and Human Health</b> of the ES (<b>TR010037/APP/6.1</b>) describes the assessment of severance in terms of separation of communities to assets and areas of community land, alterations to private properties (including their access) and severance of WCHR routes.</p> <p>During construction, access along the local road network for local residents and businesses across the study area may be disrupted whilst traffic management measures are in place, resulting in longer journey times and a degree of temporary severance between communities and their facilities.</p> <p>During operation access to some properties and businesses may change as a result of the Scheme, but overall impacts on population and human health would not be significant. The only exception to this is users of Cringleford footpath FFP4a where a moderate adverse effect is anticipated due to journey increases associated with the diversion of the footpath to the new WCH overbridge.</p> <p>There is a permanent change to access from the Scheme to private properties and businesses on Cantley Lane South and Cantley Lane. However, most people using the Scheme to access properties, businesses and community assets would also benefit from journey time savings and improved safety for road users.</p> <p>Journey time savings may also be experienced when accessing essential community assets such as Norfolk and Norwich University Hospital.</p>



**TABLE 2: COMPLIANCE WITH NPS NN CHAPTER 4**

NPS NN Paragraph Number	Requirement of the National Policy Statement for National Networks (NPS NN)	Compliance with the NPS NN
4.3	<p>In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account:</p> <ul style="list-style-type: none"> <li>• its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long term or wider benefits</li> <li>• its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.</li> </ul>	<p>The Case for the Scheme (<b>TR010038/APP/7.1</b>) gathers together and presents the Scheme benefits, setting out the need for the Scheme, the Scheme development and options considered, long term justification in transport and economic terms and how it satisfies national, regional and local planning, transport and economic policy. <b>Section 3</b> presents the Scheme Objectives which are:</p> <p><b>Supporting economic growth:</b> the Scheme aims to reduce congestion related delay, improve journey time reliability and increase the overall capacity of the A47. This will help contribute to sustainable economic growth by supporting regional housing and economic growth in Norwich and the surrounding areas.</p> <p><b>A safer and reliable network:</b> make the network safer for motorists and for those living near the junction by improving operational safety issues at the junction.</p> <p><b>A more free-flowing network:</b> increase the resilience of the junction to cope with incidents such as collisions, breakdowns, maintenance and extreme weather. Reduce vehicular delay and improve journey time reliability, making journey times more predictable and movement at the junction more free-flowing</p> <p><b>Improved environment:</b> protect the environment by minimising adverse impacts and, where possible, deliver benefits.</p> <p><b>An accessible and integrated network:</b> consider local communities and their access to the roads. Provide a safer route between communities for cyclists, walkers, horse riders and other vulnerable users of the network.</p> <p><b>Value for money:</b> to ensure that the Scheme is affordable and delivers good value for money.</p> <p><b>Section 5</b> of the <b>Case for the Scheme (TR010037/APP/7.1)</b> provides an overview of the economic, social and environmental benefits associated with the Scheme. The Scheme would lead to a decrease in lost productive time and subsequent</p>

		<p>increase in business user benefits. Commuters and other users would benefit from improved journey time reliability, improved journey times and associated vehicle operating costs such as fuel, vehicle maintenance and mileage related depreciation.</p> <p><b>Chapter 15: Assessment of Cumulative Effects</b> of the ES (TR010037/APP/6.1) assesses the cumulative effects arising from the Scheme and summarises the mitigation and monitoring actions to be implemented to reduce the significance of effects as far as possible. It concludes, significant single project effects are not expected as a result of the Scheme although some temporary effects are expected on residential properties on Cantley Lane and Cantley Lane South due to temporary visual intrusion, construction noise, and temporary increased journey length to access Thickthorn junction.</p> <p>Temporary significant cumulative effects during construction are also expected at Two Tumuli scheduled monument, due to the alteration of its cultural heritage setting, visual effects, noise and vibration increase and light intrusion. However best standard practice construction approaches in combination with community liaison will help to mitigate the cumulative impact of the effects. A planting design to mitigate visual impacts by screening the property views is presented in the Environmental Masterplan (TR010037/APP/6.8). Further, the EMP (TR010037/APP/7.4) is secured through Requirement 4 of the draft DCO (TR010037/APP/3.1) and will be used to mitigate any identified adverse impacts of the Scheme.</p> <p>The residual cumulative effects during the construction and operational phases of the Scheme when considered with all of the other developments in the vicinity are not anticipated to contribute beyond those effects identified in the ES chapters.</p>
4.4	<p>In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels. These may be identified in this NPS, or elsewhere.</p>	<p>The ES (TR010037/APP/6.1) reports the environmental impact assessment (EIA) which has been carried out in consideration for the potential effects of the Scheme at national, regional and local levels, including the requirements of the NPS NN. <b>Section 4</b> of the <b>Case for the Scheme (TR)10037/APP/7.1</b> outlines the safety benefits of the Scheme whilst <b>Section 5</b> provides an assessment of the economic benefits. Section 6 considers the Scheme's accordance with the national, regional and local planning, transport and economic policy context.</p>



<p>4.5</p>	<p>Applications for road and rail projects (with the exception of those for SRFIs, 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><b>Chapter 5</b> of the <b>Case for the Scheme (TR010037/APP/7.1)</b> sets out the anticipated economic benefits and dis-benefits associated with the Scheme. After accounting for delays associated with construction and maintenance, the combined monetised value of benefits of the Scheme is forecast to be <b>£119.8 million</b>.</p> <p>The Business Case for the Scheme has been developed based on the DfT's Business Case guidance and WebTAG guidance.</p>
<p>4.6 <b>(local transport model)</b></p>	<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 produced in line with DfT guidelines. Core, high growth (optimistic) and low growth (pessimistic) scenarios have been modelled.</p> <p>In both the future year scenarios, 2025 and 2040, a Do Minimum (DM) and a Do Something (DS) network scenario has been modelled. Following the TAG guidance, developments with the likelihood of at least 'near certain' or 'more than likely' were included in the forecast estimates. Sensitivity tests were also undertaken to consider the impact of changes to traffic growth and uncertainty of assumptions.</p> <p>Details of the modelling are provided in <b>Section 4</b> of the <b>Case for the Scheme (TR010037/APP/7.1)</b>.</p> <p><b>Section 5</b> summarises the economic assessment of the Scheme and presents its anticipated benefits and dis-benefits.</p>
<p>4.9</p>	<p>The Examining Authority should only recommend, and the Secretary of State should only impose, requirements in relation to a development consent, that are necessary,</p>	<p>The draft DCO (<b>TR010037/APP/3.1</b>) includes suggested requirements considered to be necessary, relevant to planning, relevant to the development to be consented</p>

	relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in all other respects. Guidance on the use of planning conditions or any successor to it, should be taken into account where requirements are proposed.	enforceable, precise and reasonable in all other respects and have taken into account guidance on the use of planning condition.  The Explanatory Memorandum ( <b>TR010037/APP/3.2</b> ) explains the purpose and effect of each provision in the draft DCO ( <b>TR010037/APP/3,1</b> )
4.10	Planning obligations should only be sought where they are necessary to make the development acceptable in planning terms, directly related to the proposed development and fairly and reasonably related in scale and kind to the development.	The Applicant does not at this stage anticipate the need for and has not proposed any planning obligations.
4.12	In considering applications for linear infrastructure, decision-makers will need to bear in mind the specific conditions under which such developments must be designed. The generic impacts section of this NPS has been written to take these differences into account.	The Scheme has been assessed against the generic impacts as listed in the NPS NN and these assessments are detailed within these Accordance Tables.
4.13	This NPS does not identify locations at which development of the road and rail networks should be brought forward. However, the road and rail networks provide access for people, business and goods between places and so the location of development will usually be determined by economic activity and population and the location of existing transport networks.	The Scheme forms part of a package of proposals for the A47 corridor to achieve a modern standard dual carriageway and improve the vital SRN connection between Peterborough, Kings Lynn, Norwich and Great Yarmouth. Congestion, delays and unreliable journey times caused by inefficient transport infrastructure have a negative impact on the economy. However, Norwich, Cambridge and Peterborough are among the fastest growing cities in the country.  The Scheme will create one new link road between the A11 and A47 and provide a new link road between Cantley Lane South and the B1172 Norwich Road for continued access to the Thickthorn Interchange. Two new underpasses and two new overbridges will also be constructed along with improvements to the Thickthorn roundabout. The Scheme will reroute traffic away from the existing Thickthorn Interchange, which currently experiences delays and high levels of congestion during peak hours.
4.15 <b>(Environmental Impact Assessment)</b>	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	The application is accompanied by an ES ( <b>TR010037/APP/6.1</b> ) which details the likely significant effects of the Scheme on the environment and where necessary mitigation measures to avoid, prevent, reduce, or if possible, offset any identified significant adverse effects. This meets the requirements of the European Union's EIA Directive (2014/52/EU) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (which superseded the 2009 Regulations).

	<p>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 scope of the ES (<b>TR010037/APP/6.1</b>) complies with the EIA Scoping Opinion (<b>TR010037/APP/6.6</b>) provided for the Scheme. Any change to the assessment approach as a result of changes to the DMRB is detailed in the respective chapter of the ES (<b>TR010037/APP/6.1</b>).</p>
<p>4.16</p>	<p>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>	<p><b>Chapter 15 Cumulative Effects Assessment</b> of the ES (<b>TR010037/APP/6.1</b>) provides an assessment of the likely significant effects of the Scheme in combination with other past, present and reasonably foreseeable development as well as impact interactions. This meets the requirements of the European Union's EIA Directive (2014/52/EU).</p> <p>This chapter also identifies the developments that have been considered in the cumulative assessment. Past and present development is considered as part of the baseline and, in some cases, reflects the sensitivity of the receptors assessed. The developments considered in the assessment include those recommended for inclusion by the local planning authorities.</p> <p>No significant effects are anticipated in combination with other developments.</p>
<p>4.17</p>	<p>The Examining Authority should consider how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place.</p>	<p><b>ES Chapter 15: Cumulative Effects Assessment (TR010037/APP/6.1)</b> assesses cumulative effects arising from the Scheme and summarises the mitigation and monitoring actions to be implemented to reduce the significance of any effects as far as possible.</p> <p>See response to NPS NN paragraphs 4.3 and 4.16 above.</p>

4.18	<p>In some instances, it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is 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>	<p>The Scheme design is described in ES Chapter 2 The Proposed Scheme (<b>TR010037/APP/6.1</b>) and the details are shown on the Engineering Section Drawings (<b>TR010037/APP/2.7</b>) and General Arrangement Plans (<b>TR010037/APP/2.2</b>).</p> <p>At the DCO application stage the Scheme is at a preliminary design stage. The detailed design stage converts the preliminary design into detailed design and build construction drawings for use by the build Contractor. At this stage the preliminary design will be refined and informed by additional investigations, such as targeted, more accurate topographical surveys. However, any design refinement would be controlled by the following factors:</p> <ul style="list-style-type: none"> <li>• The draft DCO (<b>TR010037/APP/3.1</b>) contains powers of lateral deviation as shown on the Works Plans (<b>TR010037/APP/2.4</b>) and vertical deviation of 1 metre upwards and 1 metre downwards from the levels shown on the Engineering Section Drawings (<b>TR010037/APP/2.7</b>).</li> <li>• The limits of deviation as described in the draft DCO (<b>TR010037/APP/3.1</b>) and the Explanatory Memorandum (<b>TR010037/APP/3.2</b>).</li> <li>• The approach to the assessment of the limits of deviation in the EIA as set out in ES Chapter 2 The Proposed Scheme (<b>TR010037/APP/6.1</b>).</li> </ul>
4.19	<p>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.</p>	<p>See response in relation to NPS NN paragraph 4.18 above.</p> <p>Where details are still be finalised a reasonable worst-case assumption has been used to inform the EIA process.</p>
4.20	<p>Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate development consent requirements in the development consent order. If development consent is granted for a proposal and at a later stage the applicant wishes for technical or commercial reasons to construct it in such a</p>	<p>The requirements set out in the draft DCO (<b>TR010037/APP/3.1</b>) make provision where appropriate for consideration of elements of the detailed design of the Scheme in general accordance with the Works Plans and Engineering Section Drawings (<b>TR010037/APP/2.4</b> and <b>TR010037/APP/2.7</b>), subject to any variation agreed in writing by the Secretary of State on the basis that the changes would not give rise to any materially new or materially different adverse environmental effects in comparison with those reported in the ES (<b>TR010037/APP/6.1</b>).</p>

	way that it is outside the terms of what has been consented, for example because its extent will be greater than has been provided for in terms of the consent, it will be necessary to apply for a change to be made to the development consent.	
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.  The EIA Directive and therefore the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 apply to the Scheme.
4.22 <b>(Habitats Regulations Assessment)</b>	Prior to granting a Development Consent Order, the Secretary of State must, under the Habitats Regulations, consider whether it is possible that the project could have a significant effect on the objectives of a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects. Applicants should also refer to paragraphs 5.20 to 5.38 of this national policy statement on biodiversity and geological conservation and to paragraphs 5.3 to 5.15 on air quality. 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.	Natural England has agreed to the approach taken and conclusions of the impact assessment in relation to European sites, as a result of the Scheme.  The HRA Screening Matrix within the <b>Report to Inform Habitats Regulations Assessment (HRA) (TR010037/APP/6.9)</b> states that the Broads SAC, the Broadland SPA and the Broadland Ramsar are located 11.5km from the proposed works, downstream from the Scheme via the River Yare. The report concludes that no impacts from noise, lighting, odour, emissions or changes in air quality are anticipated as a result of the Scheme. Given the intervening distance, no impacts on the European Site[s] are anticipated as a result from changes in water quality or potential pollution or contamination incidents.
4.23	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.	See response in relation to NPS NN paragraph 4.22.  No adverse impacts are anticipated, so no appropriate assessment is required.
4.24	If a proposed national network development makes it impossible to rule out an adverse effect on the integrity of a European Site it is possible to apply for derogation from the	See response in relation to NPS NN paragraph 4.22  No adverse impacts are anticipated.



	Habitats Directive, subject to the proposal meeting three tests. These tests are that no feasible, less damaging alternatives should exist; that there are no imperative reasons of overriding public interest for the proposal going ahead; and that adequate and timely compensation measures will be put in place to ensure the overall coherence of the network of protected sites is maintained.	
4,25	Where a development may negatively affect any priority habitat or species on a site for which they are a protected feature, any imperative Reasons of Overriding Public Interest (IROPI) case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment.	See response in relation to NPS NN paragraph 4.22  No adverse impacts are anticipated.
4.27 <b>(Alternatives)</b>	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 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.	The Scheme has been subject to a full options appraisal process prior to inclusion in the Roads Investment Strategy (RIS) including the assessment of alternative solutions/modes. The Case for the Scheme ( <b>TR010037/APP/7.1</b> ) outlines the history of the Scheme development prior to its inclusion in the current RIS for delivery in the road period between 2020/21 to 2024/25.  Further Chapter 2 of the Case for the Scheme ( <b>TR010037/APP/7.1</b> ) and Chapter 3: Assessment of Alternatives of the ES ( <b>TR010037/APP/6.1</b> ) sets out the main Scheme alternatives that have been considered before arriving at the preferred route for the Scheme. The Consultation Report ( <b>TR010037/APP/5.1</b> ) also sets out the options consulted on as part of the Options consultation.
4.28-4.29 <b>(Criteria for “good design” for national network Infrastructure)</b>	Applicants should include design as an integral consideration from the outset of a proposal. 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	Section 2 of the Case for the Scheme ( <b>TR010037/APP/7.1</b> ) demonstrates that design has been integral to the Scheme evolution. Chapter 3 Consideration of Alternatives of the ES ( <b>TR010037/APP/6.1</b> ) describe the Scheme’s development, the options considered and the selection of the preferred option.  The Scheme Design Report ( <b>TR010037/APP/7.3</b> ) explains the further evolution of the design and the measures incorporated into the Scheme.  The Scheme design has been guided by visual appearance as well as function and

	<p>construction, matched by an appearance that demonstrates good aesthetics as far as possible.</p>	<p>cost. Design options for structures, drainage and route options for road design were assessed by the Applicant's environmental specialists and their recommendations have informed the design choices This 'embedded mitigation' is outlined within the ES (<b>TR010037/APP/6.1</b>). Examples of 'embedded mitigation' include:</p> <ul style="list-style-type: none"> <li>• Visual appearance: Inclusion of notable extents of woodland and tree planting to replicate existing features and to establish visual screening; reinstatement of landscape features lost as a result of the Scheme, eg. hedgerow boundaries and woodland, as well as general enhancement of the landscape context.</li> <li>• Functional: The integration of WCHR routes and the adjacent Thickthorn Park and Ride site presents an opportunity to support modal shift within the vicinity.</li> <li>• Fitness for Purpose: New signage is proposed as part of the Scheme on several different features, to make sure the features are clear and understandable for vehicle users and pedestrians.</li> <li>• Sustainable: Biodiversity proposals include the introduction of species-rich grassland, water vole habitat creation to facilitate translocation of this protected species and creation of habitat suitable for reptiles. Also surface water runoff is to be attenuated using oversized pipes and attenuation ponds.</li> <li>• Cost: A foundation mattress solution was adopted for proposed embankments at two areas of weak and compressible Made Ground. A traditional solution would have resulted in a cost and materials intensive design option.</li> </ul> <p>The Consultation Report (<b>TR010037/APP/5.1</b>) sets out further design changes made as a result feedback received from the Options and Statutory consultations.</p>
<p>4.31</p>	<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 the improvements to operational efficiency for as many years</p>	<p>The Scheme has been designed in accordance with the Applicants 'Road to Good Design' report which sets out ten principles of good road design. The ten principles include consideration of 'Environmental Sustainability' and how the Scheme 'Fits in Context'. The EIA was integral to the design process. Further details on how the Scheme has been designed in accordance with the ten principles can be found in the Scheme Design Report (<b>TR010047/APP/7.3</b>).</p> <p>The design also considered operational efficiency for as many years as is</p>

	<p>as is practicable, taking into account capital cost, economics and environmental impacts.</p>	<p>practicable taking into account capital costs and economic and environmental impacts. The Scheme ensures the long-term structural stability of the operational highway. The highway will be drained by a Sustainable Drainage System (SuDS) with a service life of 60 years and sufficient capacity to accommodate additional run-off associated with an increase in rainfall intensity of 20% allowance for climate change.</p>
<p>4.32</p>	<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>Outlined in the ES (<b>TR010037/APP/6.1</b>) are mitigation measures and enhancement opportunities to ensure the Scheme design is sustainable and aesthetically sensitive as far as possible.</p> <p>The Applicant has considered various options and pursued a design for the Scheme which ensures it is durable, adaptable, and as resilient as possible.</p>
<p>4.33</p>	<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>The Applicant has taken 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 situated).</p> <p>The aesthetic requirements are assessed in the ES (<b>TR010037/APP/6.1</b>). Furthermore, consultation has been carried out with non-statutory and statutory stakeholders which has led to design changes which are presented in the Consultation Report (<b>TR010037/APP/5.1</b>). The Applicant has considered the role of technology in delivering the Scheme and relied on professional independent advice to ensure that good design principles are embedded in the Scheme.</p> <p>The Applicant is committed to good design whilst having regard to responses received during the pre-application consultation process. Following consideration of the responses to the statutory consultation and further design work, the Scheme was refined. This included consideration of the land required for the utilities diversions and resulted in minor changes to the DCO boundary presented at the statutory consultation.</p> <p>The landscape strategy for the Scheme is set out in Chapter 2, The Proposed Scheme of the ES (<b>TR010037.APP/6.1</b>) and addresses the requirement to mitigate both landscape and biodiversity effects identified within the assessments. The assessments have focused on retention or replacement of vegetation, ecological enhancement, protected species mitigation and landscape integration and</p>



		screening to ensure the quality of the area is maintained. .
4.34	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>See response in relation to NPS NN paragraphs 4.28 to 4.29 and 4.31 to 4.33 above.</p> <p>The Environmental Masterplan (<b>TR010037/APP/6.8</b>) presents the final design and mitigation measures in relation to landscape character, landscape permeability, landform and vegetation and historic character. This has been informed by the technical assessments within the ES (<b>TR010037/APP/6.1</b>) and in collaboration with stakeholder engagement.</p> <p>The following ES chapters (<b>TR010037/APP/6.1</b>) identify design and mitigation measures in relation to landscape and historical character and function, landscape permeability, landform and vegetation:</p> <ul style="list-style-type: none"> <li>• Chapter 6 Cultural Heritage Eg. The site will be subject to archaeological excavation and recording by various methods, secured by DCO requirement; Milestone No.4 (Grade II listed building NHLE1050573), located on the B1172 Norwich Road will be demarcated with HERAS fencing to provide protection throughout construction works to ensure its safety.</li> <li>• Chapter 7: Landscape and Visual Eg. The application will retain or replace and reinforce existing vegetation where this contributes to the distinctive qualities of the landscape and select plant and grass species appropriate to the locality and with consideration of seasonal variations.</li> <li>• Chapter 8: Biodiversity Eg. Pre-construction ecological surveys are required prior to any site clearance by an Ecological Clerk of Works (ECoW) prior to vegetation clearance. If any protected species are found, they will be moved to a safe suitable area. Disturbance from noise and vibration will be mitigated by deployment of noise barriers, the selection of quieter plant and reducing time on noisy activities</li> </ul>

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.	See response in relation to NPS NN paragraphs 4.28 to 4.29 and 4.34 above.
4.38 (Climate change adaptation)	Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.	<p>The FRA at Appendix 13.1 of the ES (<b>TR010037.APP/6.1</b>) proposes any mitigation measures that make an allowance for climate change within their design. Chapter 10 Material Resources and Chapter 14 Climate of the ES (<b>TR010037/APP/6.1</b>) set out how the Scheme takes account of the predicted impacts of climate change and the vulnerability of the Scheme to the impacts of climate change.</p> <p>Cantley Stream, an ordinary watercourse, passes through the study area and within the DCO boundary. It flows beneath both the A11 and A47 in an easterly direction where it joins Intwood Stream at the eastern edge of the study area.</p> <p>The Scheme design allows for a 1 in 100-year flood risk event with a 65% climate change allowance, as per Environment Agency guidance to allow for residual uncertainty in assessing the impacts of climate change on future flood risk.</p> <p>Surface water drainage is designed to attenuate new drainage systems to the greenfield runoff rate up to a 1 in 100-year rainfall event including a 40% climate change allowance. For existing drainage systems that are modified as part of the Scheme, there will be no increase in existing runoff rate including a 20% climate change allowance for contributing new hardstanding areas; these standards are in accordance with DMRB CG501. This will ensure there is no increase in surface water runoff peak flow rate resulting from the Scheme.</p> <p>The flood risk assessment and drainage strategy for the Scheme have been developed in consultation with the Environment Agency and Norfolk County Council as the Local Lead Flood Authority (LLFA). Details of the assessments and drainage design are available in the FRA Appendix 13.1 Flood Risk Assessment and Appendix 13.2 Drainage Strategy Report of the ES (<b>TR010037/APP/6.3</b>). During construction, the main source of GHG emissions would be carbon from construction materials, waste generation and materials transportation. During operation, the main source of GHG emissions would be from vehicles using the Scheme with a smaller, ongoing source associated with road repairs. During construction, the main source of emissions is anticipated to be embedded carbon in construction materials, including those associated with road pavement required for</p>

		<p>the Scheme (ie: asphalt and aggregate) and new structures.</p> <p>Chapter 14: Climate of the ES (<b>TR010037/APP/6.1</b>) states in Section 14.12 that in accordance with DMRB LA 114, carbon emissions associated with the Scheme have been provided in the context of published UK carbon budgets. These budgets currently extend until 2032 and can be compared with 23% of the emissions increase associated with the Scheme. The remaining 77% of the increase in carbon emissions will occur after 2032 (the end of the last currently published UK carbon budget). Efforts to minimise carbon emissions throughout the design and construction of the Scheme at this stage are outlined in accordance with the requirements set out in DMRB LA 114. Recommendations to further reduce carbon emissions through design considerations and recalculation of carbon emissions at later stages of the design process have also been made.</p> <p>Table 14-11 of ES Chapter 14: Climate (<b>TR010037/APP/6.1</b>) identifies the effects of climate change on the Scheme including increases in winter precipitation; decreases in summer rainfall and increases in temperatures; increases in wind speed and frequency of extreme wind events have the potential to impact pavements and structures, drainage, earthworks, signage, WCHR facilities and safety barriers. However, the likelihood and consequence of such events are not considered to be significant and require no mitigation.</p> <p>During operation of the Scheme the main GHG emissions source would be from end-users (traffic). Another lesser source of GHG emissions is those associated with the refurbishment (replacement of specific assets) of the Scheme over its operational lifespan. The total increase in vehicle carbon emissions associated with the Scheme (comparison of Do-Minimum and Do-Something scenarios) for the 60-year appraisal period ie: 2025 to 2085 is estimated to be 163,749 tCO<sub>2</sub>e .</p> <p>Efforts have been made to minimise carbon throughout the design and construction of the Scheme, with regular recalculation of carbon emissions and ongoing review of further opportunities to minimise them. The recent UK government announcement on ending the sales of new petrol and diesel vehicles by 2030 will further reduce the proposed scheme's end user carbon emissions.</p>
4.40	<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</p>	<p>See response in relation to NPS NN paragraphs 4.38 above.</p>

	<p>climate change when planning 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>4.41</p>	<p>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>	<p>All of the ES Chapters have considered the significance of any impacts at a future design year. Chapter 14: Climate of the ES (<b>TR010037/APP/6.1</b>) confirms that UKCP18 projections (the 2018 update to UKCP09) have been used to infer future changes in a range of climate variables that may affect the vulnerability of the Scheme to climate change. The UKCP18 projections used to define the future baseline (against which resilience is assessed) are projections for the 2080s for the East of England region for a high emission scenario.</p> <p>Chapter 5: Air Quality of the ES (<b>TR010037/APP/6.1</b>) considers the Scheme against Defra’s Pollution Climate Mapping (PCM) to report compliance with the EU Directive (EU directive 2008/50/EC against NO<sub>2</sub> concentrations for several roads across the UK for a selection of futures. The PCM model projections used in the assessment of the Scheme were released in 2019, with a reference year of 2017. There were no road links from the PCM model in the study area for the Scheme and therefore the project does not affect the UK’s reported ability to comply with the Air Quality Directive in the shortest timescales possible.</p> <p>The flood risk assessment and drainage strategy for the Scheme are being developed in consultation with the Environment Agency and Norfolk County Council as the Local Lead Flood Authority (LLFA). Details of the assessments and drainage design are available in the FRA Appendix 13.1 Flood Risk Assessment and Appendix 13.2 Drainage Strategy Report of the ES (<b>TR010037/APP/6.3</b>).</p> <p>The Scheme design allows for a 1 in 100-year flood risk event with a 65% climate change allowance, as per Environment Agency guidance (2020) ‘Flood Risk Assessments: Climate Change Allowances’ guidance, to allow for residual uncertainty in assessing the impacts of climate change on future flood risk.</p> <p>Surface water drainage is designed to attenuate new drainage systems to the greenfield runoff rate up to a 1 in 100-year rainfall event including a 40% climate change allowance. For existing drainage systems that are modified as part of the Scheme, there will be no increase in existing runoff rate including a 20% climate</p>

		change allowance for contributing new hardstanding areas; these standards are in accordance with DMRB CG501. This will ensure there is no increase in surface water runoff peak flow rate resulting from the Scheme.
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...	See response in relation to NPS NN paragraphs 4.38 and 4.41 above.
4.44	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>See response in relation to NPS NN paragraph 4.38 and 4.41 above.</p> <p>The EIA is based on the Environment Agency's latest set of Climate Change projections/measures required during construction, such as avoidance of earthworks during winter months where possible, provision of appropriate temporary measures from maintaining site free from flood waters and controlled methods for construction of embankments. In addition, a number of adaptation measures are embedded into the Scheme to take account of climate change. For example adopting a hierarchical approach to carbon managements.</p> <p>The Scheme's vulnerability to climate change is considered in Section 14.10-14.11 of ES Chapter 14. <b>(TR010037/APP/6.1)</b>. No significant adverse effects as a result of climate have been identified therefore no monitoring is required.</p> <p>During the design stage, the Design Team were briefed on projected climate changes to ensure that the Scheme would be accordingly resilient. Through consultation with stakeholders, environmental technical specialists and the Design Team, those Scheme assets likely to be vulnerable to climate change have adhered to inherent design considerations and standards to account for climate resilience. Specific design considerations are detailed within the individual ES topic chapters.</p>
4.45	If any proposed adaptation measures themselves give rise to consequential impacts the Secretary of State should consider the impact in relation to the application as a whole and the impacts guidance set out in this part of this NPS (e.g. on flooding, water resources, biodiversity, landscape and coastal change).	<p>See response to NPS NN paragraph 4.41 and 4.44.</p> <p>Chapter 13: Road Drainage and the Water Environment of the ES <b>(TR010037/APP/6.1)</b> addresses the consequential impact of the provision of flow and any flood compensation for the Scheme.</p> <p>These measures, in addition to those set out at NPS NN paragraph 4.44 above have not been assessed in resulting in any consequential impacts in themselves.</p>

4.46	Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.	The adaption measures described in Section 14.9 of ES Chapter 14: Climate ( <b>TR010037/APP/6.1</b> ) include materials, 'buildability' and construction programme efficiencies which will all be implemented at construction stage.
4.47	Where adaption measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (eg: coastal processes) the Secretary of State may consider requiring the applicant to ensure that the adaption measure could be implemented should the need arise, rather than at the outset of the development (eg: reserving land for future extension increasing the height of an existing sea wall; or requiring a new sea wall)	Chapter 13 Road Drainage and the Water Environment and Chapter 14 Climate of the ES ( <b>TR010037/APP/6.1</b> ) set out how the Scheme takes account of the predicted impacts of climate change. The proposed mitigation and adaption measures can all be delivered on land within the Scheme boundary.
4.50 and 4.51	In deciding an application, the Examining Authority and the Secretary of State should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. They should assess the potential impacts of processes, emissions or discharges to inform decision making, but should work on the assumption that in terms of the control and enforcement, the relevant pollution control regime will be properly applied and enforced. Decisions under the Planning Act should complement but not duplicate those taken under the relevant pollution control regime.	<p>Chapter 6 of the Case for the Scheme (<b>TR010037/APP/7.1</b>) sets out the need for the Scheme in this location and how it accords with planning policy in terms of its land use acceptability.</p> <p>The ES (<b>TR010037/APP/6.1</b>) sets out the impacts of processes, emissions or discharges from that use.</p> <p>The EMP (<b>TR010037/APP/7.4</b>) sets out the control of processes, emissions and discharges through the construction process.</p>
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...	<p>At this point (i.e. the submission of the Application), the majority of consents and all of the powers required have been included, or addressed, within the draft DCO (<b>TR010037/APP/3.1</b>) as permitted by various provisions of the PA 2008.</p> <p>The Consents and Agreements Position Statement (<b>TR010037/APP/3.3</b>) provides a full list of the consents, licences and permits that may be required as part of the Scheme, outwith the powers of the DCO. Examples include:</p> <ul style="list-style-type: none"> <li>• protected species licences (e.g. great crested newts, bats, water voles)</li> <li>• waste exemptions to ensure waste exemptions for re-use of material on site are in place (if required)</li> <li>• mobile plant licences for crushing operations or site permits if not using a</li> </ul>



		<p>contractor with their own mobile licences</p> <ul style="list-style-type: none"> <li>land drainage consent</li> </ul>
4.54	<p>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 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.</p>	<p>The Environment Agency has been consulted throughout the development of the Scheme. The mitigation proposed is consistent with best practice guidelines and the outcome of the assessments undertaken follows DMRB guidelines.</p> <p>Further details can be found in ES Chapter 13 Road Drainage and the Water Environment (<b>TR010037/APP/6.1</b>), ES Appendix 13.1 FRA (<b>TR010037/APP/6.3</b>) and in ES Appendix 13.2 Drainage Strategy ( <b>TR010037/APP/6.3</b>).</p> <p>A draft Statement of Common Ground will be developed with the Environment Agency to record the matters that have been agreed between both parties and to identify any matters where comments still need to be resolved.</p>
4.55	<p>The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, Drainage Boards, and water and sewerage undertakers, to ensure that in the case of potentially polluting developments:</p> <ul style="list-style-type: none"> <li>the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and</li> </ul> <p>the effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits.</p>	<p>See the response in relation to NPS NN paragraph 4.54 above.</p> <p>The impacts of the Scheme are considered throughout the ES (<b>TR010037/APP/6.1</b>). The EMP (<b>TR010037/APP/7.4</b>) outlines the control of processes, emissions and discharges through construction of the Scheme.</p> <p>Chapter 15: Assessment of Cumulative Effects of the ES (<b>TR010037/APP/6.1</b>) assesses the cumulative effects arising from the Scheme No cumulative effects in relation to pollution are predicted.</p>
4.58	<p>It is very important that during the examination of a nationally significant infrastructure project, possible sources of nuisance under section 79(1) of the 1990 Act, and how they may be mitigated or limited are considered by the Examining Authority so they can recommend appropriate</p>	<p>Potential sources of nuisance have been considered with regard to proceedings in respect of statutory nuisance and are dealt with in the Statement Relating to Statutory Nuisance (<b>TR010037/APP/6.7</b>) in accordance with section 79(1) of the Environmental Protection Act 1990 and the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the APFP</p>

	requirements that the Secretary of State might include in any subsequent order granting development consent. More information on the consideration of possible sources of nuisance is at paragraphs 5.81-5.89.	Regulations 2009) - regulation 5(2)(f).
4.60 (Safety)	New highways developments provide an opportunity to make significant safety improvements. Some developments may have safety as a key objective, but even where safety is not the main driver of a development the opportunity should be taken to improve safety, including introducing the most modern and effective safety measures where proportionate. Highway developments can potentially generate significant accident reduction benefits when they are well designed.	Section 4 of the Case for the Scheme ( <b>TR010037/APP/7.1</b> ) states that overall, the Scheme will save 242 accidents when compared with to the “without Scheme” scenario. This includes one fatal and 26 serious accidents over a 60-year period. Section 5 states that this translates to a monetised saving of <b>£7.2 million</b>
4.61	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.	Section 4.7 of the Case for Scheme ( <b>TR010037/APP/7.1</b> ) provides an assessment of the overall impact of the Scheme on road safety, in accordance with WebTAG and Highways England (formerly Highways Agency) guidance.
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).	The requirements resulting from the road safety audit undertaken at Preliminary Design stage have been incorporated into the Scheme design where appropriate.
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>• minimise the risk of death and injury arising from their development;</li> <li>• contribute to an overall reduction in road casualties;</li> <li>• contribute to an overall reduction in the number of unplanned incidents; and</li> <li>• contribute to improvements in road safety for walkers and cyclists.</li> </ul>	See response in relation to NPS NN paragraph 4.60 above.  Measures to minimise the risk of death and injury arising from the construction of the Scheme are specified within the EMP ( <b>TR010037/APP/7.4</b> ). The Scheme has prioritised safety in design and is modelled to decrease the overall number of accidents on the road network by creating a high-quality interchange link and providing new WCH infrastructure that would improve safety for WCH and other vulnerable users.  The Scheme is therefore consistent with the Highways Agency's Safety Framework for the Strategic Road Network and with the national Strategic Framework for Road Safety.  Further details on the accident analysis and forecast Scheme safety benefits are included in Section 4 of the Case for the Scheme ( <b>TR010037/APP/7.1</b> ).



4.65	<p>They will also wish to demonstrate that:</p> <ul style="list-style-type: none"> <li>• they have considered the safety implications of their project from the outset; and</li> <li>• they are putting in place rigorous processes for monitoring and evaluating safety.</li> </ul>	<p>See response in relation to NPS NN paragraphs 4.60 and 4.64, above.</p> <p>The Applicant has considered safety through the consideration of alternatives and the design evolution of the Scheme, Once the Scheme is complete a Road Safety Audit is undertaken to assess the safety and operational aspects of the Scheme. If any mitigation is then required, it will follow on from this assessment.</p>
4.66	<p>The Secretary of State should not grant development consent unless satisfied that all reasonable steps have been taken and will be taken to:</p> <ul style="list-style-type: none"> <li>- minimise the risk of road casualties arising from the Scheme; and</li> <li>- contribute to an overall improvement in the safety of the Strategic Road Network.</li> </ul>	<p>The Scheme has been designed to comply with DMRB which sets the standards for safe highway design. Section 4 of the Case for Scheme (<b>TR010037/APP/7.1</b>), provides an analysis of accident risk and safety and concludes overall that the Scheme would contribute to an overall improvement in the safety of the SRN at the Thickthorn Junction.</p> <p>The Scheme has been designed to improve safety for WCH users as set out in Chapter 12 Population and Human Health of the ES (<b>TR010037/APP/6.1</b>).</p>
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. 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>	<p>No national security issues were identified in developing the Scheme and no issues were identified in the responses to the statutory consultation. Therefore, there was no requirements to consult relevant security experts from CPNI and the Department for Transport.</p>

<p>4.81 - 4.82 <b>(Health)</b></p>	<p>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 impacts. The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate.</p> <p>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>	<p>See response in relation to NPS NN paragraph 3.15 and 4.60 above</p> <p>The Scheme has been subject to an EIA, which has considered impacts on sensitive human receptors (including local communities and WCHR users). Chapter 5: Air Quality, Chapter 6: Noise and Vibration and Chapter 12 Population and Human Health of the ES (<b>TR010037/APP/6.1</b>) reports the impacts and proposed appropriate mitigation.</p> <p>Section 15.5 of ES Chapter 15 Cumulative Effects Assessment (<b>TR010037/APP/6.1</b>) assesses the combined health impacts of the Scheme with other known proposed or committed developments.</p> <p>Significant single project effects are not expected as a result of the Scheme. Some effects are expected on residential properties on Cantley Lane and Cantley Lane South due to temporary visual intrusion, construction noise, and temporary increased journey length to access Thickthorn junction. Cumulative effects are also expected at Two Tumuli scheduled monument, which may experience significant temporary cumulative effects due to the alteration of its cultural heritage setting, visual effects, noise and vibration increase and light intrusion during construction of the Scheme.</p> <p>Best standard practice construction approaches in combination with community liaison would likely help to mitigate the cumulative impact of the effects. A planting design to mitigate visual impacts by screening the property views is presented in the Environmental Masterplan (<b>TR010037/APP/6.8</b>).</p> <p>The residual cumulative effects during the construction and operational phases of the Scheme, with of all of the other developments, are not anticipated to contribute beyond that of the effects identified with the Scheme alone.</p>
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**TABLE 3: COMPLIANCE WITH NPS NN CHAPTER 5**

NPS NN Paragraph Number	Requirement of the National Policy Statement for National Networks (NPS NN)	Compliance with the NPS NN
<p>5.6 - 5.9 <b>(Air quality)</b></p>	<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: existing air quality levels;</p> <ul style="list-style-type: none"> <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; and</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> </ul> <p>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.</p> <p>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>The method of baseline assessment is described in ES Chapter 5 Air Quality <b>(TR010037/APP/6.1)</b>. This accords with the requirements of NPS NN paragraphs 5.6 to 5.9. The future baseline has been assessed in the chapter and is commonly referred to as the 'do minimum' scenario which takes account of what future air quality would be, assuming the Scheme did not go ahead. The future baseline also takes into account likely changes owing to government initiatives to reduce emissions from motor vehicles and other sources.</p> <p>The air quality assessment has concluded there are no significant adverse effects with the Scheme for human health and ecological receptors. With no significant effects being reported, no mitigation measures have been proposed. Results of compliance with the European Union (EU) Air Quality Directive can be found in Chapter 5 Air Quality of the ES <b>(TR010037/APP/6.1)</b>.</p>
<p>5.10</p>	<p>The Secretary of State should consider air quality impacts over the wider area likely to be affected, as well as in the near</p>	<p>ES Chapter 5 Air Quality <b>(TR010037/APP/6.1)</b> defines a local and wider study area for assessing the air quality impacts of the Scheme. It concludes that all predicted</p>

	<p>vicinity of the Scheme. In all cases the Secretary of State must take account of relevant statutory air quality thresholds set out in domestic and European legislation. Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures with a view to ensuring so far as possible that those thresholds are not breached.</p>	<p>pollutant concentrations are below the assessment thresholds at all receptors in the Scheme opening year. With no significant effects being reported, no mitigation measures have been proposed although the EMP (<b>TR010037/APP/7.4</b>) sets out best practice mitigation measures for the Scheme's construction phase.</p>
5.11	<p>Air quality considerations are likely to be particularly relevant where schemes are proposed:</p> <ul style="list-style-type: none"> <li>• within or adjacent to Air Quality Management Areas (AQMA); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England); and</li> <li>• where changes are sufficient to bring about the need for a new AQMA or change the size of an existing AQMA; or bring about changes to exceed the Limit Values, or where they may have the potential to impact on nature conservation sites.</li> </ul>	<p>The local and wider study areas defined in Chapter 5 Air Quality of the ES (<b>TR010037/APP/6.1</b>) are not within or adjacent to any AQMAs. There are no AQMAs currently declared in South Norfolk Council. The closest AQMA to the Scheme is located over 3km to the north-east, within Norwich City Centre, and does not fall within the modelled study area.</p> <p>The only sites of ecological importance within 200m of the Scheme are Breydon Water and Broadland SPA and Ramsar sites and The Broads SAC which are sensitive to Nitrogen Deposition. Chapter 5 Air Quality of the ES (TR010037/APP/6.1) confirms that there are no significant effects predicted on these designated sites as a result of the Scheme.</p> <p>The Scheme would not bring about the need for a new AQMA, change the size of an existing AQMA or bring about changes to exceed the Limit Values.</p>
5.12	<p>The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and / or where they lead to a deterioration in air quality in a zone/agglomeration.</p>	<p>Results of compliance with the EU Air Quality Directive is presented in Chapter 5 Air Quality of the ES (<b>TR010037/APP/6.1</b>). No significant effects or exceedances of the EU limit are predicted.</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>• result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or</li> <li>• 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>See response in relation to NPS NN paragraph 5.11 above</p> <p>Neither of these scenarios will occur with the Scheme.</p>

<p>5.14 - 5.15</p>	<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.</p> <p>Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots 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>See responses in relation to NPS NN paragraph 5.10 above.</p>
<p>5.16</p>	<p>The Government has a legally binding framework to cut greenhouse gas emissions by at least 80% by 2050. As stated above, the impact of road development on aggregate levels of emissions is likely to be very small. Emission reductions will be delivered through a system of five-year carbon budgets that set a trajectory to 2050. Carbon budgets and plans will include policies to reduce transport emissions, taking into account the impact of the Government's overall programme of new infrastructure as part of that.</p>	<p>Chapter 14 Climate of the ES (<b>TR010037/APP/6.1</b>) reports the total estimated GHG emissions arising from the Scheme for the construction, operation and overall total for the whole lifecycle.</p> <p>The Applicant's Carbon Tool was developed to better manage carbon emissions resulting from the maintenance and improvement of the trunk road network. It contains average embodied carbon figures for various construction materials taken from the Bath Inventory of Carbon and Energy, along with transport, energy and waste factors from Defra 2014 and the Waste Resources Action Programme. Chapter 14: Climate of the ES (<b>TR010037/APP/6.1</b>) identifies the inclusion of an estimate of embodied and transport carbon for the Scheme design and construction.</p>
<p>5.17 <b>(Carbon emissions)</b></p>	<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 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</p>	<p>See response in relation to NPS NN paragraph 5.16 above</p>



	applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets.	
5.18	<p>The Government has an overarching national carbon reduction strategy (as set out in the Carbon Plan 2011) which is a credible plan for meeting carbon budgets. It includes a range of non-planning policies which will, subject to the occurrence of the very unlikely event described above, ensure that any carbon increases from road development do not compromise its overall carbon reduction commitments. The Government is legally required to meet this plan. Therefore, any increase in carbon emissions is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the proposed Scheme are so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets.</p>	<p>See response in relation to NPS NN paragraph 5.16 above</p> <p>The assessment in ES Chapter 14 Climate (<b>TR010037/APP/6.1</b>) has considered the Scheme's effect on climate (i.e. increases in carbon emissions). A definitive assessment of materiality (and hence significance) against UK carbon budgets for the full appraisal period is not currently possible due to the absence of UK carbon budgets for most of the Scheme's 60-year appraisal period. However, in accordance with DMRB LA 114, this has not precluded efforts to minimise carbon throughout the design and construction of the Scheme, with regular recalculation of carbon emissions and review of further opportunities to minimise them in accordance with DMRB requirements.</p> <p>Monitoring of carbon emissions associated with the construction of the Scheme will be undertaken as per Highways England requirements to meet their key performance indicator "Carbon dioxide equivalents (or CO<sub>2</sub>e) in tonnes associated with the Supply Chain's activities" (Highways England 2019).</p>
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>The application includes an EMP (<b>TR010037/APP/7.4</b>). It details the environmental mitigation measures that would be implemented during construction, why they are required, who is responsible for delivering them and any ongoing maintenance and monitoring arrangements. Table 3-1 contains the Record of Environmental Actions and Commitments (REAC). In terms of maximising carbon savings during design and construction the Record commits to:</p> <ul style="list-style-type: none"> <li>• baseline recording of activity, deliveries and fuel usage</li> <li>• review of carbon calculations and climate change projection at detailed design stage.</li> </ul> <p>Annex B of the EMP sets out nine Environmental Management Plans, which will be prepared, detailing measures to be taken in maximizing carbon savings in relation to <i>inter alia</i> site waste and traffic movements, use of materials and soil, and drainage systems.</p>
5.22 - 5.23 <b>(Biodiversity)</b>	<p>Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any</p>	<p>Chapter 8 Biodiversity of the ES (<b>TR010037/APP/6.1</b>) assesses the predicted effects on internationally, nationally and locally designated sites and other habitats and</p>

<p><b>and ecological conservation)</b></p>	<p>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.</p> <p>The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.</p>	<p>species. Tables 8- 9 and 8-10 in Section 8.9 sets out the mitigation measures for the Scheme while Table 8-12 in Section 8.10 details the predicted significance of residual effects on biodiversity resources following the implementation of committed mitigation.</p> <p>Mitigation measures include enhancements where possible such as gap filling existing species poor hedgerows; improved planting in Cantley Stream; such as reptile habitat enhancement behind Cantley Lane area consisting of the installation of reptile hibernacula, hummock landscaping and planting of scrub and rough grassy areas; installation of bird and bat boxes, Kingfisher nesting banks and Mallard nest tubes.</p> <p>Residual impacts on biodiversity following the implementation of committed mitigation on designated sites are considered to be neutral. The response to paragraph 3.2 of NPS NN above summarises other impacts.</p> <p>The Environmental Masterplan (<b>TR010037/APP/6.8</b>) has been developed to take into account opportunities to conserve and enhance biodiversity.</p> <p>Chapter 9 Geology and Soils of the ES (<b>TR010037/APP/6.1</b>) identifies that there are no sites designated for their geology and / or geomorphological importance in the vicinity of the Scheme.</p>
<p>5.25</p>	<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>See response to NPS NN paragraphs 5.22 – 5.23 and 3.2.</p> <p>There would be no impact, either directly or indirectly, on sites internationally or nationally designated for their biodiversity or geological conservation interests.</p> <p>For most other biodiversity receptors, there would be no significant residual effects after mitigation. Deciduous woodland habitat and hedgerows will experience a significant adverse residual effect due to the long-time lag to achieve their former maturity. However, there will be beneficial effects from: a net gain of more biodiverse grassland habitats with the introduction of species-rich and marshy, wet grassland; and riparian planting along Cantley Stream increasing beneficial habitat for aquatic invertebrates.</p> <p>Policy and guidance recognises that not all impacts are able to be resolved in large scale Schemes and any significant residual impacts will be weighed against the</p>

		longer term and wider benefits of the Scheme in environmental, safety, social and economic terms.
5.26	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>See response in relation to NPS NN paragraph 5.22 – 5.23 above.</p> <p>Designated sites have been considered fully within ES Chapter 8: Biodiversity (<b>TR010037/APP/6.1</b>). Following mitigation, there will be a neutral residual effect on: Eaton Chalk Pit SSSI; Eaton Common, Earlham Park Woods and Marston Marshes Local Nature Reserves; and NERC Act (2006) priority habitats (with a slight beneficial on lowland meadows).</p> <p>There will be a large adverse effect at construction stage on scattered mature and veteran trees but a neutral impact at operational stage.</p> <p>Effects on all other county and local sites are set out in Table 8-12 of Chapter 8 and are either neutral or slight adverse which is not considered to be a significant impact.</p>
5.27	<p>The most important sites for biodiversity are those identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for European sites (see also paragraphs 4.22 to 4.25). The National Planning Policy Framework states that the following wildlife sites should have the same protection as European sites:</p> <ul style="list-style-type: none"> <li>• Potential Special Protection Areas and possible Special Areas of Conservation;</li> <li>• listed or proposed Ramsar sites; and</li> <li>• sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation and listed or proposed Ramsar sites.</li> </ul>	See response in relation to NPS NN paragraph 5.22 – 5.23 and 5.26 above.
5.28 <b>(Biodiversity-SSSIs)</b>	Many Sites of Special Scientific Interest (SSSIs) are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of SSSIs not covered by an international designation, should be given a high degree of protection. All National Nature Reserves are notified as SSSIs.	<p>See response in relation to NPS NN paragraph 5.22 – 5.23 and 5.26 above.</p> <p>Chapter 8 Biodiversity of the ES (<b>TR010037/APP/6.1</b>) assesses the risks to Eaton Chalk Pit Site of Special Scientific Interest (SSSI) as a result of the Scheme.</p> <p>Eaton Chalk Pit SSSI is approximately 1.5km east of the Scheme and only at risk of</p>



		<p>indirect impacts during construction through increased air pollution; the assessment concluded there would be no residual impacts after mitigation. During operation there would be no impact either directly or indirectly (and either individually or in combination with other developments).</p> <p>There are no National Nature Reserves in the study area.</p>
5.29	<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 necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.</p>	<p>See response in relation to NPS NN paragraph 5.28 above.</p>
5.31	<p>Sites of regional and local biodiversity and geological interest (which include Local Geological Sites, Local Wildlife Sites and Nature Improvement Areas) have a fundamental role to play in meeting overall national biodiversity targets, in contributing to the quality of life, and well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent.</p>	<p>Table 8-12 of Chapter 8 Biodiversity of the ES (TR010037/APP/6.1) states that effects on regional and local biodiversity sites are either neutral or slight adverse which is not considered to be a significant impact.</p> <p>Chapter 9 Geology and Soils of the ES (TR010037/APP/6.1) identifies that there are no sites designated for their geology and / or geomorphological importance in the vicinity of the Scheme.</p>
5.32 <b>(Biodiversity -Irreplaceable habitats</b>	<p>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</p>	<p>Chapter 8 Biodiversity of the ES (<b>TR010037/APP/6.1</b>) considers all ecological features. No ancient woodland would be lost as a result of the Scheme.</p> <p>Two veteran trees need to be removed as a result of the Scheme however tree</p>

<p><b>including ancient woodland and veteran trees)</b></p>	<p>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>	<p>planting will take place to compensate for those lost. Where possible the trees which are to be removed will be constructed into habitat piles to continue to provide suitable habitat for invertebrates. All veteran trees to be retained shall be protected with a suitable buffer zone.</p> <p>The loss of the trees is unavoidable because of their proximity to an existing road and the fact that delivery of modern highway standards has necessitated realignment of a section of Cantley Stream and the creation of a wider, standard highway junction (with segregated pedestrian and cycle lanes) at Cantley Lane South which is currently a very narrow rural lane.</p> <p>Policy and guidance recognises that not all impacts are able to be resolved in large scale Schemes and any significant residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms. This is discussed further in Section 7 of the Case for the Scheme (<b>TR010037/APP/7.1</b>).</p>
<p>5.33</p>	<p>Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design. When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.</p>	<p>See response in relation to NPS NN paragraphs 5.22 – 5.23 above.</p> <p>Tables 8-9 and 8-10 in ES Section 8.9, Chapter 8 Biodiversity (<b>TR010037/APP/6.1</b>) set out the mitigation measures for the Scheme which have sought to maximise opportunities for building in beneficial biodiversity. These include:</p> <ul style="list-style-type: none"> <li>• Attenuation ponds and improved planting in Cantley Stream</li> <li>• reptile habitat enhancement behind Cantley Lane area consisting of the installation of reptile hibernacula, hummock landscaping and planting of scrub and rough grassy areas to encourage species back into the area</li> <li>• enhancement of receptor areas for translocated water voles downstream</li> <li>• installation of bird and bat boxes</li> <li>• Kingfisher nesting banks</li> <li>• Mallard nest tubes</li> <li>• Native tree, shrub and meadow planting</li> <li>• Fish rescue prior to any instream works</li> <li>• minimization of light spill onto habitats</li> <li>• toolbox talks during construction to ensure operatives can identify habitats and species and measures required</li> <li>• gap filling of species poor hedgerow to encourage species diversity and quality across the site</li> </ul>

		<ul style="list-style-type: none"> <li>• movement of protected species to a safe suitable area</li> <li>• bat crossing points and bat hops with tall trees</li> <li>• monitoring.</li> </ul> <p>The Environmental Masterplan (<b>TR010037/APP/6.10</b>) and Table 3-1: REAC within the EMP (<b>TR010037/APP/7.4</b>) illustrate and detail these and other measures. Compliance is secured by Requirement 4 in Schedule 2 of the draft DCO (<b>TR010037/APP/3.1</b>).</p>
<p>5.35 <b>(Biodiversity - Protection of other habitats and species)</b></p>	<p>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.</p>	<p>ES Chapter 8 Biodiversity (<b>TR010037/APP/6.1</b>) considers all species and habitats of importance and assesses the residual effects following mitigation. Habitats include: ten NERC Act (2006) priority habitats within the 2km study area: lowland fens, traditional orchards, rivers, hedgerows, coastal and floodplain grazing marsh, standing water (ponds), arable field margins, lowland mixed and deciduous woodland, wood pasture and parkland and lowland meadows. Norfolk BAP Priority Habitats present include cereal field margin, hedgerows, lowland wood pasture and parkland, mixed deciduous woodland. Species include: [REDACTED]</p> <p>See the response to Paragraph 5.33 of the NPS NN above relating to mitigation.</p> <p>Compliance with the EMP is secured through Requirement 4 in Schedule 2 of the draft DCO (<b>TR010037/APP/3.1</b>). Mitigation and enhancement measures are set out in the Record of Environmental Commitments (REAC) included in the EMP (<b>TR010037/APP/7.4</b>).</p>
<p>5.36 <b>(Biodiversity - Mitigation)</b></p>	<p>Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how that:</p> <ul style="list-style-type: none"> <li>• during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;</li> <li>• 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> </ul>	<p>See response in relation to NPS NN paragraphs 5.33 and 5.35 above</p>

	<ul style="list-style-type: none"> <li>• habitats will, where practicable, be restored after construction works have finished;</li> <li>• developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable;</li> <li>• 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>	
5.37	<p>The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into in order to ensure that mitigation measures are delivered.</p>	<p>Schedule 2 of the draft DCO (<b>TR010037/APP/3.1</b>) includes proposed requirements. No requirement for planning obligations has been identified. The application includes an EMP (<b>TR010039/APP/7.4</b>) which details the good practice environmental measures that would be implemented to protect biodiversity during construction, why they are required, who is responsible for delivering them and details any ongoing maintenance and monitoring arrangements. The EMP is secured through Requirement 4 to the draft DCO (<b>TR010037/APP/3.1</b>).</p>
5.38	<p>The Secretary of State will need to take account of what mitigation measures may have been agreed between the applicant and Natural England and/or the MMO, and whether Natural England and/or the MMO has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences.</p>	<p>Natural England has been consulted with regard to protected species and the applicant acknowledges there is a statutory requirement to secure any protected species licenses as set out in ES Section 8.4 Chapter 8 Biodiversity (<b>TR010037/APP/6.1</b>) and the Consents and Agreements Position Statement (<b>TR010037/APP/3.3</b>).</p> <p>A draft Statement of Common Ground will be developed with Natural England to record the matters that have been agreed between both parties and to identify any matters where comments still need to be resolved.</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>Measures for managing waste and materials and information on their implementation, measuring and monitoring are set out in ES Chapter 10 Material Assets and Waste (<b>TR010037/APP/6.1</b>)</p> <p>In addition ES Appendix 10.3 (<b>TR010037/APP/6.3</b>) provides an Outline Site Waste Management Plan (SWMP). This has been prepared to demonstrate how waste generated during the construction phase will be minimised and controlled to reduce impacts. Preliminary information included in the Outline SWMP will be updated and used to develop the detailed SWMP (see action M1 in Table 3-1 of the</p>

		EMP( <b>TR010037/APP/7.4</b> )).
5.43	<p>The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from the construction and operation of the proposed development. The Secretary of State should be satisfied that the process sets out:</p> <ul style="list-style-type: none"> <li>- any such waste will be properly managed, both onsite and off-site;</li> <li>- the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and</li> <li>- adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where an alternative is the most sustainable outcome overall.</li> </ul>	<p>See response in relation to NPS NN paragraph 5.42 above.</p> <p>The EMP (<b>TR010037/APP/7.4</b>) indicates the environmental mitigation measures that would be implemented during construction. The EMP includes the production of a detailed SWMP that includes procedures for the management of hazardous and non-hazardous waste. It also sets out why measures are required, who is responsible for delivering them and any ongoing maintenance and monitoring arrangements. The EMP is secured through Requirement 4 of the draft DCO (<b>TR010037/APP/3.1</b>).</p> <p>Minimising the production of waste has been considered throughout the design of the Scheme. The Scheme would apply a waste hierarchy in order to move waste management practices as far up the hierarchy as possible, minimising disposal and maximising re-use and recycling. Measures proposed include:</p> <ul style="list-style-type: none"> <li>• considering the re-use of waste generated on-site before it is transported off-site for re-use or disposal</li> <li>• use of site-won or recycled material assets as opposed to sourcing new materials, i.e. sand and gravel</li> <li>• use of material logistics planning to manage responsible local resourcing of material assets minimal ordering of materials, appropriate segregation and storage-site by waste type, to facilitate re-use.</li> </ul> <p>A Contaminated Land: Applications in Real Environment (CL:AIRE) Materials Management Plan (MMP) would be implemented to mitigate the risk arising from the re-use of materials. The CL:AIRE process is documented in Chapter 10 Materials and Waste of the ES (<b>TR010037/APP/6.1</b>) and its production is secured through the EMP and Requirement 4 of the draft DCO (<b>TR010037/APP/3.1</b>).</p>
5.44	Where necessary, the Secretary of State should use requirements or planning obligations to ensure that appropriate measures for waste management are applied.	Measures for waste management are set out in the REAC which is included in the EMP ( <b>TR010037/APP/7.4</b> ). There is a requirement in Schedule 2 of the draft DCO ( <b>TR010037/APP/3.1</b> ) for the second iteration EMP to be prepared and approved in writing by the Secretary of State prior to works commencing.
5.45	Where the project will be subject to the Environment Agency's environmental permitting regime, waste management arrangements during operations will be covered by the permit	Any necessary waste management permits will be obtained as set out in the EMP ( <b>TR010037/APP/7.4</b> ) and Consents and Agreements Position Statement ( <b>TR010037/APP/3.3</b> ).

	and the considerations set out in paragraphs 4.48 to 4.56 will apply.	
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>	No civil or military aviation and/or other defence assets will be affected by the Scheme and no issues were identified in the responses to the statutory consultation, which included relevant bodies such as the Ministry of Defence and Civil Aviation Authority.
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 development would prevent a licensed aerodrome from maintaining its licence;</li> <li>• the benefits of the proposed development are outweighed by the harm to aerodromes serving business, training or emergency service needs; or</li> <li>• the development would significantly impede or compromise the safe and effective use of defence assets or significantly limit military training.</li> </ul>	See response in relation to NPS NN paragraph 5.55 – 5.58 above.
5.71- 5.75 <b>(Coastal</b>	Applications for development in a Coastal Change Management Area (CCMA) should make it clear why there is	The Scheme is not within in a CCMA.



<p><b>change)</b></p>	<p>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 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, that is, coast on project, and project on coast. 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>	
<p><b>5.82 (Dust, odour, artificial light,</b></p>	<p>Because of the potential effects of these emissions and in view of the availability of the defence of statutory authority against nuisance claims in s.104 of the Planning Act 2008 described previously, it is important that the potential for these impacts is considered by the applicant in their application, by the Examining Authority in examining applications and by the Secretary of State in taking decisions on development consents.</p>	<p>The potential effect of emissions has been considered by the applicant in the following documents:</p> <p>The Statement Relating to Statutory Nuisances (<b>TR010038/APP/6.7</b>) which concludes that with mitigation in place, none of the statutory nuisances identified in section 79(1) of the Act are predicted to arise during construction or operation of the Scheme.</p> <p>ES Chapter 5 Air Quality (<b>TR010037/APP/6.1</b>) presents the results of a qualitative assessment of potential dust effects, undertaken in accordance with the Design</p>

		<p>Manual for Roads and Bridges (DMRB), LA 105 Air Quality and Institute of Air Quality Management (IAQM). Mitigation includes: limiting the height of and protecting stockpiles from wind; ensuring vehicles with open loads of dusty materials are sheeted; daily on and off-site monitoring. The air quality assessment has concluded there will be no significant effects on air quality at human and ecological receptors as a result of the Scheme.</p> <p>ES Chapter 11 Noise and Vibration <b>(TR010037/APP/6.1)</b> states that assuming all mitigation is implemented effectively, no significant residual construction noise effects are predicted. Mitigation includes: restricting working hours; having a construction noise management plan; selecting quiet plant where possible; use of silencers; managing deliveries to avoid vehicles queueing; toolbox talks on quieter working methods; positioning generators &gt;20m from closest receptor; carrying out vibration works in the daytime only and advising residents; monitoring levels. During operation, mitigation is unnecessary in respect of noise effects.</p> <p>ES Chapter 12 Population and Human Health <b>(TR010037/APP/6.1)</b> recognises that construction can result in temporary effects on local air quality (including dust dispersal and deposition and odour) from construction vehicles and activities. Accordingly, prior to works beginning the principal contractor will put in place measures to minimise noise, dust and visual effects as set out in the EMP <b>(TR010037/APP/7.4)</b> and secured by Requirement 4 of Schedule 2 in the draft DCO <b>(TR010037/APP/3.1)</b>. With mitigation measures in place, no receptors have been identified as being significantly affected by the Scheme although local communities are likely to experience some adverse effects in terms of noise, dust and visual amenity.</p> <p>Section 12.9 in ES Chapter 12 <b>(TR010037/APP/6.1)</b> and the EMP <b>(TR010037/APP/7.4)</b> set out the mitigation measures that would be implemented during construction. Compliance with the EMP is secured through Requirement 4 of Schedule 2 in the draft DCO <b>(TR010037/APP/3.1)</b>.</p> <p>With regard to artificial light, measures to reduce the potential construction and operational effects on humans and biodiversity are specified in ES Chapter 7 Landscape and Visual Effects and Chapter 8 Biodiversity, respectively <b>(TR010037/APP/6.1)</b>. Construction activity impacts and mitigation include a restriction on night-time working and low-level lighting during construction and reducing light spill onto habitats, especially those supporting commuting and foraging</p>
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		protected species. Mitigation measures are prescribed in the EMP <b>(TR010037/APP/7.4)</b> and will be secured through Requirement 4 to the draft DCO <b>(TR010037/APP/3.1)</b> .
5.83	For nationally significant infrastructure projects of the type covered by this NPS, some impact on amenity for local communities is likely to be unavoidable. Impacts should be kept to a minimum and should be at a level that is acceptable.	<p>The impact of the Scheme on the amenity of local communities is set out in Chapter 12 Population and Human Health of the ES <b>(TR010037/APP/ 6.1)</b>. The assessment considered the potential for impacts on land use and accessibility (including housing, community land and assets, development land and businesses, agricultural land holdings, WCHR); and human health. Impacts have been minimised through the use of mitigation.</p> <p>During construction, any effects on local communities and potentially their health in terms of the noise and dust created by construction activities and the visual amenity impact of construction vehicles and compounds will be mitigated by measures set out in the EMP <b>(TR010037/APP/7.4)</b>. A Community Liaison Officer will be available to assist.</p> <p>Overall, impacts on population and human health are predominantly non-significant once the Scheme is operational. The exception to this is users of Cringleford footpath FP4a where a moderate adverse effect is anticipated due to journey increases associated with the permanent diversion of the footpath across the new Cantley Lane WHCR bridge (Cringleford). Beneficial effects would however generally be experienced by WCHR as a result of new cycletracks and benefits would also accrue for those travelling to access properties, businesses and community assets in terms of journey time savings and safety for road users.</p> <p>The loss of a proposed area of on-site public open space at Cringleford residential development would result in a large adverse effect should an alternative solution not be agreed with the developer and local planning authority. Discussions are ongoing and it is hoped that an agreement can be reached regarding the loss of on-site public open space during the DCO examination stage.</p>
5.84 - 5.86	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.	<p>See response in relation to NPS NN paragraph 5.82 above</p> <p>Consultation has taken place with Norfolk County Council and the Environment Agency with regards to the scope and methodology of the EIA and further details can be found in the Scoping Opinion <b>(TR010037/APP/6.6)</b> and the Consultation Report <b>(TR010037/APP/5.1)</b>. Chapters 5 Air Quality and 14 Climate of the ES consider all of the matters listed in paragraphs 5.84 to 5.86 of the NPS NN and assess the likely</p>

<p>In particular, the assessment provided by the applicant should describe:</p> <ul style="list-style-type: none"> <li>• the type and quantity of emissions;</li> <li>• aspects of the development which may give rise to emissions during construction, operation and decommissioning;</li> <li>• premises or locations that may be affected by the emissions;</li> <li>• effects of the emission on identified premises or locations; and</li> <li>• measures to be employed in preventing or mitigating the emissions.</li> </ul> <p>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.</p> <p>The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of odour, dust, steam, smoke and artificial light. This includes the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation</p>	<p>significant effects. There is no potential for odour, smoke and steam resulting from operation of the Scheme and these are therefore not assessed.</p> <p>Chapter 5 Air Quality of the ES (<b>TR010037/APP/6.1</b>) considers potential construction related effects to sensitive receptors from dust. The assessment concludes, that with considered mitigation, no significant effects from the emissions of dust are likely to occur.</p> <p>Chapter 7 Landscape and Visual of the ES (<b>TR010037/APP/6.1</b>) considers the visual receptors who could experience potential adverse impacts during construction of the Scheme as a result of increase in light pollution from vehicles and artificial lighting at construction compounds at night. Further details can also be found in the Statement relating to Statutory Nuisance (<b>TR010037/APP/6.6</b>). The REAC contained within the EMP (<b>TR010037/APP/7.4</b>) details the mitigation measures that would be implemented during construction of the Scheme to address any effects during construction from dust and light pollution. These have not been found to be significant.</p> <p>Chapter 7 Landscape and Visual of the ES (<b>TR010037/APP/6.1</b>) assesses potential effects from lighting including indirect effects and proposes appropriate mitigation where a potential adverse effect has been identified. During operation of the Scheme, lighting and vehicle headlights would result in nighttime effects on views, with new effects (beyond the existing highway infrastructure) most apparent around the Cantley Lane Link Road and overbridges. Once the Scheme's tree planting becomes established, the visibility of the main elements of the Scheme and extent of associated landscape features would revert to a state comparable to that of the existing situation. Overall, there would be a slight adverse (not significant) effect on nighttime views at year of opening reducing to neutral (not significant) at year 15 following completion of the Scheme.</p> <p>ES Chapter 15: Cumulative Effects Assessment considers the cumulative effects of lighting from the proposed park and ride extension at Thickthorn Hall and the proposed residential development at the western edge of Cringleford. The assessment concluded that there may be some light intrusion on Two Tumuli scheduled monument during construction however with mitigation this effect will not exceed the effect of the Scheme alone. With mitigation, no effects are anticipated during construction or in respect of the replacement or new lighting around the Scheme.</p>
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5.88	<p>If development consent is granted, the Secretary of State should consider whether there is justification for all of the authorised project (including any associated development) being covered by the defence of statutory authority against nuisance claims. If the Secretary of State cannot conclude that this is justified, then the defence should be disapplied, in whole or in part, through a provision in the Development Consent Order.</p>	<p>The draft DCO (<b>TR010037/APP/3.1</b>) contains the defence of statutory authority against nuisance claims. This includes construction or maintenance of the authorised development and nuisance which is attributable to carrying out of the authorised development which cannot be reasonably avoided.</p> <p>It is not expected that any statutory nuisance will arise, but in the event that it did, it is justifiable that the applicant has a defence having regard to the national need for the Scheme. It would not be appropriate for Scheme to be delayed/thwarted by a claim for statutory nuisance.</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>See response in relation to NPS NN paragraph 5.82 above.</p>
5.91	<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 FRA at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>) confirms that the Scheme is classed as Essential Infrastructure under the NPPF. Essential Infrastructure within Flood Zone 3 requires Sequential Test and Exception Test to be passed before it is considered to be acceptable. The Scheme is required to improve traffic flow, journey time reliability and safety, amongst other reasons, within this area. Although alternative design layout options were assessed during the options stage, as considered in Chapter 3 Assessment of Alternatives of the ES (<b>TR010037/APP/6.1</b>), the development is an upgrade of an existing trunk road junction on the strategic road network. Therefore, the Scheme is deemed to pass the Sequential and Exception Tests in this instance. In terms of the Exception Test, the FRA at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>) demonstrates that the Scheme would remain safe throughout its design life and that flood risk would not be increased elsewhere, apart from a property adjacent to Cantley Stream and Intwood Road, where a potential small increase in flood risk up to 15mm is predicted.</p> <p>The FRA at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>) has considered the risk from all sources of flooding to and from the Scheme. The Drainage Strategy Report at</p>

		<p>Appendix 13.2 of the ES (<b>TR010037/APP/6.3</b>), confirms that highway drainage would discharge to surface water via detention basins and swales and to ground via filter drains.</p> <p>Vegetated attenuation ponds will be constructed north of the A11 and to the south of the A47/A11 Thickthorn Junction. Surface water drainage is designed to attenuate new drainage systems to the greenfield runoff rate up to a 1 in 100-year rainfall event including a 40% climate change allowance. For existing drainage systems that are modified as part of the Scheme, there will be no increase in existing runoff rate including a 20% climate change allowance for contributing new hardstanding areas; these standards are in accordance with DMRB CG501. This will ensure there is no increase in surface water runoff peak flow rate resulting from the Scheme.</p>
<p>5.92 - 5.93</p>	<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>• Flood Zones 2 and 3, medium and high probability of river and sea flooding;</li> <li>• 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 watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.</li> </ul> <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>A FRA has been carried out and is included at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>). It considers the risk from all forms and sources of flooding to and from the Scheme.</p> <p>Cantley Stream, an ordinary watercourse, passes through the study area and within the DCO boundary. It flows beneath both the A11 and A47 in an easterly direction where it joins Intwood Stream at the eastern edge of the study area.</p> <p>The Environment Agency's Flood Map for Planning (2020) and the 2017 Greater Norwich Area Strategic Flood Risk Assessment identify the majority of the Proposed Scheme within Flood Zone 1 (low fluvial flood risk). There are areas identified within Flood Zone 2 (medium fluvial flood risk) and the indicative extent of Flood Zone 3b (functional floodplain where water has to flow or be stored in times of flood). These areas are associated with Cantley Stream and the floodplain.</p> <p>The FRA at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>) assesses the potential effects of climate change on the Scheme. The Scheme design allows for a 1 in 100-year flood risk event with a 65% climate change allowance, as per Environment Agency guidance (2020) 'Flood Risk Assessments: Climate Change Allowances' guidance, to allow for residual uncertainty in assessing the impacts of climate change on future flood risk.</p> <p>The FRA in Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>) used hydraulic modelling of Cantley Stream to conclude that based on the current flood risk understanding and incorporation of specific flood risk mitigation measures and considerations, the</p>



		<p>Scheme would be at an acceptable level of flood risk and would not increase flood risk elsewhere. Section 8 of the FRA outlines the flood risk mitigation embedded into the Scheme design.</p> <p>The Drainage Strategy Report, in Appendix 13.2 of the ES (<b>TR010037/APP/6.3</b>) confirms the surface water drainage is designed to attenuate new drainage systems to the greenfield runoff rate up to a 1 in 100-year rainfall event including a 40% climate change allowance. For existing drainage systems that are modified as part of the Scheme, there will be no increase in existing runoff rate and the strategy includes a 20% climate change allowance for contributing new hardstanding areas; these standards are in accordance with DMRB CG501. This will ensure there is no increase in surface water runoff peak flow rate resulting from the Scheme.</p>
5.94	<p>In preparing an FRA the applicant should: 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 will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime;</p> <ul style="list-style-type: none"> <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 taken into account and demonstrate that this is acceptable for the particular project;</li> <li>• consider if there is a need to remain operational during a worst case flood event over the development's lifetime;</li> <li>• provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate.</li> </ul>	<p>Design considerations, mitigation measures and residual risks are described in ES Chapter 13 Road Drainage and Water Environment (<b>TR010037/APP/6.1</b>), supported by detailed studies in ES Appendix 13.1 FRA (<b>TR010037/APP/6.3</b>) and ES Appendix 13.2 Drainage Strategy Report (<b>TR010037/APP/6.3</b>). These documents consider all the points listed in paragraph 5.94 and demonstrate that the Scheme meets the requirements of the NPS NN. See response in relation to NPS NN paragraphs 5.92 and 5.93 above.</p> <p>The Scheme is classed as Essential Infrastructure under the NPPF. Essential Infrastructure within Flood Zone 3 requires Sequential and Exception Tests to be passed before it is considered to be acceptable (see response to NPS NN paragraph 5.91 above).</p>
5.96	Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-	The Environment Agency, Anglian Water, Norfolk Rivers Internal Drainage Board and Norfolk County Council (as the LLFA) have been consulted during the development of

	<p>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>the design, assessment and, where relevant, mitigation proposals. Although there is some impact downstream on the overall Cantley Stream flood plain, the Scheme will beneficially remove the throttling that currently occurs at Cantley Lane South during periods of high rainfall.</p> <p>Section 4.4 of Appendix 13.1 FRA of the ES (<b>TR010037/APP/6.3</b>) summarises the consultation undertaken as part of the assessment of flood risk. Section 11 of Appendix 13.2: Drainage Strategy Report of the ES (<b>TR010037/APP/6.3</b>) also details the stakeholders and consultation that has taken place.</p> <p>Section 14 of the Drainage Strategy Report at Appendix 13.2 of the ES (<b>TR010037/APP/6.3</b>) has been developed in discussion with statutory consultees and consultation is still ongoing.</p> <p>Statements of Common Ground will be developed with the Environment Agency and Norfolk County Council to record the matters that have been agreed with these parties and to identify any matters where comments still need to be resolved.</p>
<p>5.97</p>	<p>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>	<p>See response in relation to paragraph 5.91 above.</p> <p>Appendix 13.1 FRA of the ES (<b>TR010037/APP/6.3</b>) presents the flood risk assessment that considers the potential for surface, sewer and groundwater flooding and any mitigation required for the Scheme.</p> <p>Section 2.1 of the FRA, in Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>), summarises the data sources consulted to inform the FRA and included the following strategic flood studies conducted by the Environment Agency and Local Authorities: Norfolk County Council Preliminary Flood Risk Assessment Report (PFRAR) (Norfolk County Council, 2011), Norwich Local Area Surface Water Management Plan (SWMP) Norfolk County Council (2011b), Norfolk Local Flood Risk Management Strategy (LFRMS) Norfolk County Council (2015), Greater Norwich Area Strategic Flood Risk Assessment (SFRA) (JBA, 2017).</p>
<p>5.98</p>	<p>Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:</p> <ul style="list-style-type: none"> <li>- the application is supported by an appropriate FRA;</li> </ul>	<p>See response in relation to NPS NN paragraph 5.91 above</p>

	<ul style="list-style-type: none"> <li>- the Sequential Test (see the National Planning Policy Framework) has been applied as part of site selection and, if required, the Exception Test (see the National Planning Policy Framework).</li> </ul>	
<p>5.99</p>	<p>When determining an application, the Secretary of State should be satisfied that flood risk will not be increased elsewhere and only consider development appropriate in areas at risk of flooding where (informed by a flood risk assessment, following the Sequential Test and, if required, the Exception Test), it can be demonstrated that:</p> <ul style="list-style-type: none"> <li>- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and</li> <li>- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and priority is given to the use of sustainable drainage systems.</li> </ul>	<p>The Scheme's adherence to the requirements of the Exception Test is detailed in the FRA at Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>). The drainage strategy details the volumes and peak flow rates and demonstrates they would not increase flood risk elsewhere. The FRA details the embedded mitigation measures as part of the Scheme to ensure there is no increase in flood risk as a result of the Scheme.</p> <p>A sequential approach and Section 7 and 8 of the FRA, in Appendix 13.1 of the ES (<b>TR010037/APP/6.3</b>), considers how the Scheme will be safe for its lifetime, taking into account the vulnerability of its users, without increasing flood risk elsewhere.</p> <p>The final EMP will include an Emergency Response Plan setting out procedures in the event of an environmental emergency. This will be produced prior to construction by the Principal Contractor. Annex D of the EMP (<b>TR010037/APP/7.4</b>) sets out the information to be included.</p>
<p>5.100</p>	<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, in ES Appendix 13.2 (<b>TR010038/APP/6.3</b>), details the design standards applied, incorporation of SuDS and proposed maintenance of the drainage of the Scheme. The detailed design for the Scheme drainage will be in accordance with relevant guidance in the DMRB (Highways England, 2019b; 2020a; 2020b), in particular technical standards under the prescribed headings as set out in Appendix B of DMRB CG 502 'The Certification of Drainage Design'; this document outlines the requirements for the certification of drainage design on motorway and all-purpose trunk roads. Details must be submitted for approval by the Secretary of State under Requirement 8 of the draft DCO (<b>TR010038/APP/3.1</b>).</p> <p>The Scheme incorporated SuDS features, including detention basins or wetlands, filter drains, and grassed ditches. The detention basins and wetlands support the 4 pillars of SuDS (quantity, quality, biodiversity and amenity) by providing: storage to restrict discharge rates to greenfield run-off rates; vegetated surface for water to flow over to settle; filtrate and biodegrade hydrocarbons and pollutants (including sediment and dissolved sediment-bound heavy metals). The detentions basins also promote biodiversity as these will include a diverse range of local plants which will provide habitat and food for invertebrates and birds. Perimeter fencing around the basins will be provided but will not be designed to restrict wildlife access. The proposed basins</p>

		<p>are irregular shaped and are designed to be sympathetic with the surrounding landscape which will be further enhanced by the proposed planting.</p> <p>Grassed ditches provide a vegetated surface for water to flow over to settle and filtrate hydrocarbons and pollutants. Grassed ditches also promote biodiversity as these include a diverse range of local plants which will provide habitat and food for invertebrates and birds. The proposed ditches will be natural in form and will be designed to be sympathetic to their setting.</p> <p>Filter drains provided at the edge of road carriageways provide a degree of filtration and contributes to slowing down carriageway run-off. Gravel media can also host microorganisms and provide a breeding ground for insects.</p> <p>Attenuation pipes are provided to hold back water to slow the rate of discharge to green field run-off. Attenuation pipes will include catch pits to settle and capture sediment within the surface water run-off.</p> <p>Section 13 of Appendix 13.2, Drainage Strategy Report of the ES (TR010040/APP/6.3) details the proposed maintenance of the drainage of the Scheme. The proposed responsibility of the drainage assets will be that of the Applicant and Norfolk County Council. Allocation of assets between the two bodies is subject to agreement at this time. It is proposed that the Applicant would take responsibility of any assets located along or within the proposed mainline highway, whilst Norfolk County Council would adopt assets located within the proposed junctions and local highways. It is proposed that any attenuation ponds, soakaways and ancillaries associated with the mainline drainage will be maintained by the Applicant.</p>
<p>5.112 - 5.115 <b>(Flood risk – mitigation)</b></p>	<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 proposed project, unless specific off-site arrangements are made and result in the same net effect.</p>	<p>See response in relation to NPS NN paragraphs 5.91 and 5.94 above.</p> <p>No infiltration attenuation storage outside the Order limits is being proposed.</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.</p> <p>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>5.117 - 5.118 <b>(Land instability)</b></p>	<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 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</p>	<p>Land stability has been considered during the design of the Scheme.</p> <p>A review of available desk-based information (Envirocheck Report and published mapping) was undertaken to determine the likelihood of encountering natural ground hazards within the Scheme. None of significance were noted.</p> <p>The findings were subsequently supported by a comprehensive Ground Investigation (GI) undertaken between March to September 2020 which targeted the full Scheme extents. The design of the GI considered and targeted underlying chalk bedrock, areas of possible soft compressible ground as indicated by BGS mapping, potential historical mineral extraction sites, etc.</p> <p>Areas of soft compressible ground have been observed and will require ground treatment to be designed at later stages. A preliminary engineering assessment has been undertaken with respect to earthworks and the feasibility of design slope geometries in relation to stability of cuttings and embankments. Slopes will be designed at a safe angle of repose where possible. Additional slope stabilisation measures will be specified if/where required.</p> <p>During the detailed design, ground improvement and slope stability measures will be undertaken to ensure that there are no land instability issues relating to the Scheme.</p>

	form of a land stability or slope stability risk assessment report.	
5.124 <b>(The historic environment)</b>	Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.	<p>ES Chapter 6 Cultural Heritage (<b>TR010037/APP/6.1</b>) describes the criteria used to assess the value of archaeological remains; in DMRB terminology value equates to significance. This chapter identifies how value or significance has been determined for undesignated assets.</p> <p>The assessment has been undertaken in accordance with DMRB LA 106 (Cultural Heritage Assessment ) and has considered designated and non-designated heritage assets including:</p> <p>A total of 37 heritage assets as recorded by the NHER and evaluation undertaken for this assessment have been identified within the study area. These assets are made up of:</p> <ul style="list-style-type: none"> <li>• one Scheduled Monument (comprising two barrows – Two Tumuli)</li> <li>• six Listed Buildings (all Grade II)</li> <li>• 13 non-designated assets</li> <li>• 17 findspots, which are considered by the assessment of archaeological potential, but excluded from direct impact assessment)</li> </ul> <p>In addition, 16 historic landscape character types and one unknown heritage asset are considered in the impact assessment, the latter identified through trial trench evaluation carried out for the Scheme ('THK02') (Appendix 6.3 (<b>TR010037/APP/6.3</b>)).</p> <p>There are no Registered Parks and Gardens, Registered Battlefields or Conservation Areas within the study area.</p> <p>Designated and non-designated heritage assets are listed in ES Appendix 6.1 Cultural Heritage Information (<b>TR010037/APP/6.3</b>) together with an assessment of their historical background and context, value, magnitude and significance of impact.</p>
5.125	The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision making process) on the basis of clear evidence that the assets have a significance that merit consideration in that process, even	<p>Section 6.7 of Chapter 6 Cultural Heritage of the ES (<b>TR010037/APP/6.1</b>) lists five undesignated assets which contribute to the significance of Thickthorn Hall (NHLE1169537) and its kitchen garden (NHLE1050575). Due to their association with these Grade II listed buildings, the following non-designated assets are considered to be of Medium value/sensitivity:</p> <ul style="list-style-type: none"> <li>• Thickthorn Park (MNF33732) which was an early 19th century landscape</li> </ul>



	<p>though those assets are of lesser value than designated heritage assets.</p>	<p>park surrounding Thickthorn Hall</p> <ul style="list-style-type: none"> <li>constructed in the late 18th or early 19th century, Lodge House (MNF11805) was the original lodge of Thickthorn Hall (NHLE1169537)</li> <li>Thickthorn Lodge (MNF47810), a late 19th century red brick lodge with a thatched roof. The lodge stands at the entrance to the landscape park surrounding Thickthorn Hall</li> <li>Hollow way (MNF65395) visible as an earthwork on aerial photographs and on the ground. The hollow way may be a former approach to Thickthorn Hall</li> <li>Medieval moat (MNF9352) in the grounds of Thickthorn Hall. Medieval documents record that this was the site of the manor house of Alan de Thickthorn in the mid-13th century.</li> </ul> <p>Chapter 6 assessed the impacts of the Scheme on these non-designated assets.</p>
<p>5.126 - 5.127</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 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.</p>	<p>Chapter 6 Cultural Heritage of the ES (<b>TR010037/APP/6.1</b>) reports the potential significant effects on cultural heritage as a result of the Scheme.</p> <p>ES Appendix 6.1 Cultural Heritage Information (<b>TR010037/APP/6.3</b>) provides a detailed explanation of baseline information including assessment of archaeological potential, contribution of setting to value / significance and of the value / significance of all identified heritage assets designated and non-designated.</p> <p>The Scheme will have both beneficial and adverse effects on cultural heritage. Adverse impacts have been reduced or eliminated with a combination of sensitive design and targeted mitigation including protection during construction; excavation; avoidance of ground disturbance; toolbox talks; plans for temporary halting of works. Where adverse effects could not be avoided, a programme of archaeological recording and publishing is proposed to mitigate the impact.</p> <p>The level of assessment is proportionate to the importance of each asset and the likely impact of the Scheme, including an assessment of the significance of the impacts on below ground remains, built heritage assets and historic landscapes during the construction and operational phases of the Scheme.</p> <p>In addition to the Historic Environment Record, a variety of other sources were consulted to establish the baseline for cultural heritage assessments. These include archival materials, historic mapping, reports of previous investigations within the study area, and site visits, including a geophysical survey and trial trenching to assess the</p>

		conditions and settings of heritage assets.
5.128	<p>In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:</p> <ul style="list-style-type: none"> <li>- relevant information provided with the application and, where applicable, relevant information submitted during examination of the application;</li> <li>- any designation records;</li> <li>- the relevant Historic Environment Record(s), and similar sources of information;</li> <li>- representations made by interested parties during the examination; and</li> <li>- expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it.</li> </ul>	<p>See response in relation to NPS NN paragraphs 5.126 – 5.127 above.</p> <p>Consultation with Historic England to discuss the assessment and potential impacts on the Grade II* and Grade I listed buildings in the study area has taken place and is reported in Appendix 6.1 Cultural Heritage Information of the ES <b>(TR010037/APP/6.3)</b>.</p> <p>Norfolk County Council has also been consulted to agree the design of intrusive archaeological evaluations of the Scheme DCO boundary by trial trenching, which informs the assessment of archaeological potential in Chapter 6 Cultural Heritage of the ES <b>(TR010037/APP/6.1)</b>.</p> <p>Further, Annex O of the Consultation Report <b>(TR010037/APP/5.2)</b> provides a summary of responses provided by stakeholders such as Historic England, Norfolk County Council, South Norfolk District Council and other interested parties on heritage matters during statutory consultation. Annex L of the Consultation Report sets out the relevant bodies that were consulted on heritage as part of the statutory consultation, including Historic England.</p>
5.129	<p>In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.</p>	<p>Appendix 6.1 Cultural Heritage Information of the ES <b>(TR010037/APP/6.3)</b> provides a detailed explanation of baseline information including assessment of archaeological potential, contribution of setting to value / significance and of the value / significance of all identified heritage assets designated and non-designated. Chapter 6 Cultural Heritage of the ES <b>(TR010037/APP/6.1)</b> reports the significance of effects on heritage assets as a result of the Scheme. There is a moderate adverse significant effect on the the Scheduled Monument Two Tumuli in Big Wood resulting from the permanent alteration of its setting, noise and visual intrusion. Whilst there are no mitigation measures available to fully ameliorate the permanent impact upon the Scheduled Monument, opportunities to enhance appreciation of cultural heritage in the area have been proposed in the form of a new viewpoint and information board. These measures will enhance everyday public awareness and appreciation of a scheduled monument which is inaccessible to the public.</p> <p>This is fully described in Section 6.10 of Chapter 6 Cultural Heritage of the ES <b>(TR010037/APP/6.1)</b>.</p>

5.130	<p>The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).</p>	<p>Mitigation has been embedded into the Scheme design to make a positive contribution to the conservation of heritage assets.</p> <p>See paragraphs 5.126-5.127 above. Additional measures including landscaping and information boards are also secured in the REAC which is included in the EMP <b>(TR010037/APP/7.4)</b>.</p>
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 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>Chapter 6 Cultural Heritage of the ES <b>(TR010037/APP/6.1)</b> acknowledges the importance of designated heritage assets. Section 6.11 of Chapter 6 Cultural Heritage of the ES summarises the residual effects on designated heritage assets.</p> <p>All temporary and permanent construction phase effects on heritage assets are not considered significant as they are either short term and reversible or can effectively be mitigated through preservation by record (archaeological recording).</p> <p>Slight residual operational effects have been identified for two grade II listed buildings, non-designated heritage assets and a Historic Landscape Character. However, slight residual effects on historic environment receptors are not significant and do not equate to substantial harm.</p> <p>The impact assessment has identified one moderate significant residual adverse effect in respect of the scheduled monument 'Two Tumuli in Big Wood' (NHLE1003977) as a result of the permanent alteration of its setting from construction of the Cantley Lane link road, including potential noise and visual intrusion. See response to paragraph 5.129 above.</p>
5.132	<p>Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the</p>	<p>Section 6.12 of Chapter 6 Cultural Heritage of the ES <b>(TR010037/APP 6.1)</b> states that there is one designated heritage asset located within the DCO boundary, Milestone No.4, grade II listed building 1050573, for which protection with fencing throughout construction is recommended and therefore no impact is predicted.</p>

	<p>heritage asset, the greater the justification that will be needed for any loss.</p>	<p>There is one significant residual adverse effect, after mitigation, to the scheduled monument 'Two Tumuli in Big Wood' (NHLE1003977) during the operation of the Scheme. Construction of the proposed embanked Cantley Lane Link Road immediately adjacent to the western barrow would cause severance from the monument's associated landscape to the south, from where the barrows are currently viewed prominently. There will be a similar effect of reduced magnitude for the eastern barrow due to the thicker vegetation present providing improved screening. Following application of mitigation proposals including focused planting and screening of new infrastructure, an improved understanding of the context of the barrows through excavation, and introduction of a heritage information board to enhance everyday public awareness and appreciation of a scheduled monument which is inaccessible to the public, the residual effect on the scheduled monument is assessed to be of Moderate significance.</p> <p>Policy and guidance recognises that not all impacts are able to be resolved in large scale Schemes and the above residual impact will be weighed against the longer term and wider economic, transport, environmental and community benefits of the Scheme which are summarised in Chapters 3 to 5 of the Case for the Scheme <b>(TR010037/APP/7.1)</b>. These benefits are considered to outweigh any effects on sensitive designated heritage asset receptors.</p>
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> <ul style="list-style-type: none"> <li>• the nature of the heritage asset prevents all reasonable uses of the site; and</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; and</li> <li>• conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and</li> <li>- the harm or loss is outweighed by the benefit of bringing the site back into use.</li> </ul>	<p>See response in relation to NPS NN Paragraphs 5.131 and 5.132 above.</p>
5.134	<p>Where the proposed development will lead to less than</p>	<p>See response in relation to NPS NN Paragraph 5.132 above.</p>

	<p>substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including securing its optimum viable use.</p>	
5.135	<p>Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.</p>	<p>The Scheme would not result in any effects on any World Heritage Sites or Conservation Areas as confirmed in Chapter 6 Cultural Heritage of the ES (<b>TR010037/APP/6.1</b>).</p>
5.136	<p>Where the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development and the significance of the asset in question, the Secretary of State should consider imposing a requirement that the applicant will prevent the loss occurring until the relevant development or part of development has commenced.</p>	<p>ES Chapter 6 Cultural Heritage Section 6.5 (TR010038/APP/6.1) reports the potential impacts on cultural heritage as a result of the Scheme. Also see response to NPS NN Paragraph 5.132.</p> <p>The location of drainage and road infrastructure has been placed as far as possible from the scheduled monument 'Two Tumuli in Big Wood', located alongside the Scheme DCO boundary, in order to minimise direct impacts on any associated remains that may be preserved.</p> <p>Screening planting is to be established on the embanked Cantley Lane Link Road as part of the Scheme Environmental Masterplan (<b>TR010037/APP/6.8</b>) and will assist in reducing the predicted impact of the Scheme on the setting of nearby heritage assets.</p> <p>A strategy for appropriate mitigation will be developed in consultation with Historic England and NCCES, include archaeological excavation in advance of construction in specific areas an archaeological recording during construction. Depending on the results of geoarchaeological monitoring, programmed for Spring 2021, in the area of the proposed Cantley Stream diversion, a programme of palaeoenvironmental mitigation may be required. The scope of any palaeoenvironmental evaluation works will be specified in a Written Scheme of Investigation developed with Historic England and NCCES.</p> <p>Mitigation will be delivered through the Environment Management Plan (<b>TR010038/APP/7.4</b>) secured by a Requirement in the Draft DCO</p>

		( <b>TR010038/APP/3.1</b> ) and a written scheme of investigation must be approved by the Secretary of State prior to commencement of development.
5.137	Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.	Chapter 6 Cultural Heritage of the ES ( <b>TR010037/APP/6.1</b> ) confirms there are no Conservation Areas or World Heritage Sites within the study area of the Scheme.
5.138	Where there is evidence of deliberate neglect of or damage to a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.	Appendix 6.1 Cultural Heritage Information ( <b>TR010037/APP/6.3</b> ) details the baseline conditions of the heritage assets. Any deterioration in the assets due to deliberate neglect or damage is not considered during the assessment of effects.
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 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</p>	<p>Chapter 7 Landscape and Visual of the ES (<b>TR010037/APP/6.1</b>) presents the findings of the Landscape and Visual Impact Assessment (LVIA) including baseline conditions, the potential impacts of the Scheme upon surrounding landscape and visual receptors and identification of appropriate mitigation. The assessment was carried out in accordance with the Design Manual for Roads and Bridges (DMRB), LA107 Landscape and Visual Effects and the Guidelines for Landscape and Visual Impact Assessment. The LVIA also takes account of local development plan policies in respect of landscape and visual effects.</p> <p>The Yare Tributary Farmland with Parkland landscape character area was originally identified by the South Norfolk Landscape Assessment and has been identified for the purposes of assessment (see Appendix 7.4 Landscape Character Areas of the ES <b>TR010037/APP/6.3</b>).</p> <p>ES Chapter 7 states that as a direct consequence of construction there would be a moderate adverse (significant) effect on landscape character associated with removal of and change to existing vegetation and land use specifically to allow construction to take place. Also, some receptors would be subject to very large to moderate adverse (significant) visual effects, associated with views of surrounding construction activities and haul routes.</p> <p>At year of opening there would be moderate adverse (significant) effect on landscape character arising from the residual loss of vegetation, the relative prominence of</p>



	<p>and light pollution effects, including on local amenity, tranquillity and nature conservation.</p>	<p>Scheme infrastructure and changes in character at the junction with Cantley Lane South. A moderate to large adverse (significant) effect would also remain for some visual receptors.</p> <p>However, by year 15 of operation, with the establishment of Scheme landscape mitigation, effects on landscape character would be slight adverse (not significant). Significant visual effects at year 15 would be limited to 3 residential properties close to the proposed new junction at Cantley Lane South.</p> <p>DMRB LA107 requires that the effect of the Scheme on landscape and visual amenity be assessed independently and the outcome combined into a single conclusion on the overall likely significance of effect. The assessment concludes that, overall, combining both landscape and visual effects and on all receptors and focusing on the longer term outcome, the Scheme would not result in a significant long term residual effect on landscape and visual amenity as a single combined consideration.</p> <p>Policy and guidance recognise that not all impacts are able to be resolved in large scale Schemes and the above residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme <b>(TR010037/APP/7.1)</b>.</p>
<p>5.147- 5.148</p>	<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>	<p>The Scheme is not located within or adjacent to a National Park or Area of Outstanding Natural Beauty (AONB).</p>
<p>5.149</p>	<p>Landscape effects depend on the nature of the existing landscape likely to be affected and nature of the effect likely to occur. Both of these factors need to be considered in judging the impact of a project on landscape. Projects need to</p>	<p>See response in relation to NPS NN paragraphs 5.144-5.146 above.</p> <p>Baseline conditions, impact and landscape and visual related design interventions and mitigation associated with the Scheme are described in Chapter 7 Landscape</p>

	<p>be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.</p>	<p>and Visual of the ES (<b>TR010037/APP/6.1</b>).</p> <p>Section 7.10 of Chapter 7 Landscape and Visual, of the ES (<b>TR010037/APP/6.1</b>) evaluates and assesses the residual effects of the Scheme on landscape and visual sensitivities following the design refinement process and application of mitigation and enhancement measures.</p> <p>Section 7.9 of Chapter 7 of the ES (<b>TR010037/APP/6.1</b>) and the Environmental Masterplan (<b>TR010037/APP/6.5</b>) set out mitigation. During construction, mitigation measures include: keeping a tidy site; avoiding unnecessary stockpiling and protecting retained vegetation.</p> <p>Landscaping works will include: .</p> <ul style="list-style-type: none"> <li>• creation of a reptile habitat enhancement area and improvements to water vole habitat along Cantley Stream</li> <li>• retaining, away from the main trunk road carriageways, the sense of an underlying peaceful, rural landscape</li> <li>• creation of new areas of tree and woodland planting to compensate for losses</li> <li>• integrating Scheme infrastructure through appropriate use of planting to contribute to visual screening</li> <li>• retaining or replacing and reinforcing existing vegetation</li> <li>• selecting plant species appropriate to the locality</li> <li>• acknowledgement of the landscape setting of cultural heritage assets and retention of a milestone on the B1172 Norwich Road</li> <li>• Input to the alignment of fence lines to accommodate the extent of proposed planting areas</li> <li>• input to the design of the Cantley Stream diversion</li> <li>• input to the location and extent of drainage soakaways and surface water attenuation basins</li> <li>• input to the lighting strategy to help maintain the distinction between urban and rural areas</li> <li>• consideration of future maintenance with inclusion of pull in lay-bys and gated access points and the selection of plant and grass types that would require limited maintenance resources</li> <li>• building in resilience for climate change by including diversity within the plant and grass species mixes</li> <li>• sourcing plant and grass species of local provenance where possible in the interests of extending local flora and construction sustainability.</li> </ul>
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<p>5.150 - 5.151</p>	<p>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 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>• 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>• the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way; and</li> <li>• 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</p>	<p>The Scheme is not located within or adjacent to a National Park, AONB or other nationally designated area.</p>

	routes that avoid National Parks, the Broads and Areas of Outstanding Natural Beauty.	
5.154 - 5.155	<p>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.</p> <p>The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.</p>	<p>See comments in relation to NPS NN paragraphs 5.150-5.151 above.</p> <p>The Scheme will not impact on designated areas in Wales or on National Scenic Areas in Scotland.</p>
5.156	<p>Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.</p>	<p>In terms of landscape character, the Scheme is within the National Character Area (NCA) 84; Mid Norfolk and two landscape character areas: the 'Yare Tributary Farmland with Parkland' (Area C1 in the SNLA) over most of the study area and Scheme; the 'Yare Valley Urban Fringe' (Area F1 in the SNLA) on the far eastern fringes of the study area (see Section 7.7 Chapter 7 Landscape and Visual of the ES (<b>TR010037/APP/6.1</b>) and baseline descriptions in Appendix 7.5 Landscape Character Areas of the ES (<b>TR010037/APP/6.3</b>)).</p> <p>During construction of the Scheme there would be a slight adverse (not significant) effect on landscape features, character and tranquillity associated with removal of and change to existing vegetation and land use specifically to allow construction to take place.</p> <p>At the year of opening there would be slight adverse (not significant) effects on landscape features, character and tranquillity arising from the residual loss of vegetation and relative prominence of Scheme infrastructure.</p> <p>The assessment concludes that by Year 15 (design year) of operation the Scheme would not result in a significant residual effect on landscape features and character.</p>
5.157	In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking	ES Chapter 7 Landscape and Visual ( <b>TR010037/APP/6.1</b> ) addresses how the Scheme has been designed to minimise harm to the landscape, sets out the

	<p>account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.</p>	<p>environmental measures provided as part of the Scheme and the mitigation proposed.</p> <p>The following overarching landscape and visual objectives were identified and have guided the iterative development of the Scheme design. Securing these objectives is embedded within the location, scale, extent and height of the highway geometry and earthworks design:</p> <ul style="list-style-type: none"> <li>• to minimise direct impacts on trees and woodlands through avoidance - especially mature or veteran specimen trees (most frequently Oak) along roadsides and those within a parkland setting</li> <li>• to minimise the landscape effect and visibility of the main infrastructure (particularly the new Cantley Lane Link road overbridges and embankments) by limiting the elevation of new infrastructure and earthworks within this low-lying landscape and by providing adequate screen planting</li> <li>• to maintain the distinction between the trunk road network and the underlying peaceful, rural landscape by ensuring that components of the Proposed Scheme away from the main trunk roads (for example the Cantley Lane Link road and overbridges) are detailed in a way which is appropriate to the local vernacular and rural character and distinct from the treatment of the main A47 and A11 corridors.</li> </ul> <p>Further detail is provided in the Environmental Masterplan <b>(TR010037/APP/6.8)</b>. The construction and operation states will also be guided by the EMP <b>(TR010037/APP/7.4)</b> which includes the REAC (Table 3-1) that identifies the mitigation identified within the ES to address the potential significant environmental effects of the Scheme.</p>
<p>5.158</p>	<p>The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development.</p>	<p>Sections 7.7 to 7.10 of ES Chapter 7 Landscape and Visual <b>(TR010037/APP/6.1)</b> evaluate and assess the significance of the effects of the Scheme on sensitive receptors following the design refinement process during the EIA process and application of mitigation and enhancement measures. The majority of effects would reduce as landscape planting matures.</p> <p>See response to NPS NN paragraphs 5.144-5.146.</p>
<p>5.159</p>	<p>Reducing the scale of a project or making changes to its operation can help to avoid or mitigate the visual and landscape effects of a proposed project. However, reducing</p>	<p>See response in relation to NPS NN paragraphs 5.157 and 5.158 above</p>

	<p>the scale or otherwise amending the design or changing the operation of a proposed development may result in a significant operational constraint and reduction in function. There may, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in scale or function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape effects outweigh the marginal loss of scale or function.</p>	<p>The Scheme is a junction upgrade and there is accordingly limited scope to reduce scale. However, during the appraisal of new junction design layout options, summarised in Chapter 2 of the Case for Scheme (<b>TR010037/APP/7.1</b>) and Chapter 3 Consideration of Alternatives of the ES (<b>TR010037/APP/ 6.1</b>), landscape and visual amenity were considered as part of the environmental assessment of new junction design options alongside performance against safety, other environmental, engineering, transportation and economic criteria. Alongside other benefits, the preferred route option was selected as it had the least impact on the environment.</p> <p>The subsequent evolution of the Scheme's design is described in the Scheme Design Report (<b>TR010037/APP/7.3</b>). The landscape design has sought to integrate the Scheme with surrounding landscape character, minimise visual intrusion and minimise impacts on the settings of the Scheduled Monument.</p>
<p>5.160</p>	<p>Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping Schemes, depending on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration.</p>	<p>See response to NPS NN paragraphs 5.157</p> <p>The evolution of the Scheme's design is described in the Scheme Design Report (<b>TR010037/APP/7.3</b>). The Scheme design has considered the landform and historic landscape character / settings to minimise intrusion. It also includes appropriate landscaping measures to mitigate potentially harmful effects on views associated with the Scheme which will be more effective as they mature. Landscape planting is set out in the Environmental Masterplan (<b>TR010037/APP/6.8</b>).</p> <p>Landscape and visual related design interventions and mitigation associated with the Scheme are described in Section 7.9 of Chapter 7 Landscape and Visual of the ES (<b>TR010037/APP/6.1</b>). The EMP (<b>TR010037/APP/7.4</b>) secures compliance with the Environmental Masterplan and the mitigation identified within the ES (<b>TR010037/APP/6.1</b>) to address the potential significant environmental effects of the Scheme. This is secured by Requirement 4 of Schedule 2 in the draft DCO (<b>R010037/APP/3.1</b>).</p>
<p>5.161</p>	<p>Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site, although if such landscaping was proposed to be consented by the development consent order, it would have to be included within the order limits for that application. For example, filling in gaps in existing tree and</p>	<p>The DCO boundary does not include for off-site landscape mitigation as sufficient mitigation can be delivered within the Scheme.</p> <p>Landscape and visual mitigation measures embedded in the Scheme design are illustrated and detailed in the Environmental Masterplan (<b>TR010037/APP/6.10</b>).</p>



	hedge lines would mitigate the impact when viewed from a more distant vista.	
5.164	Green Belts, defined in a development plan, are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. For further information on the purposes and protection of Green Belt see the National Planning Policy Framework.	The Scheme does not affect any green belt areas.
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. 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>Chapter 12: Population and Human Health of the ES (<b>TR010037/APP/6.1</b>) identifies existing land uses and receptors in the vicinity of the Scheme and assesses their sensitivity, using the criteria in Table 3.11 of DMRB LA 112, to the potential effects of the Scheme and the potential magnitude of impact. Residential, businesses, agricultural holdings, recreational users, PRoW, new developments and uses proposed in the Development Plan are considered.</p> <p>Discussions have taken place with Norfolk County Council as detailed in the Consultation Report (<b>TR010037/APP/5.1</b>)</p> <p>There would be impacts on land use and accessibility during the construction and operation of the Scheme, including:</p> <ul style="list-style-type: none"> <li>• temporary and permanent land-take from agricultural land holdings</li> <li>• temporary disruption as a result of road closures and traffic management during the construction phase</li> <li>• temporary and permanent diversions to Public Rights of Way</li> <li>• permanent change to access from the Scheme to private properties and businesses on Cantley Lane South and Cantley Lane.</li> </ul> <p>There may also be some adverse amenity effects for human health, specifically in terms of noise, dust and visual intrusion though mitigation measures to minimise these effects will be used (see Chapter 12: Population and Human Health of the ES (<b>TR010037/APP/6.1</b>)).</p> <p>With regards proposed development land with planning applications, an area of the proposed Cringleford Residential Development public open space is unavoidably required permanently by the Scheme due to its position adjacent to the south-east</p>

		<p>side of Thickthorn junction. Discussions are ongoing with the developer to determine the mitigation for the loss of some on site open space provision including some land allocated to provide a football pitch. Using a worst case scenario that the football pitch cannot not be relocated or provided off-site, the effect is assessed as Large adverse. This matter is discussed in more detail in Section 7.4 of the Case for the Scheme (<b>TR010038/APP/7.1</b>).</p> <p>Chapter 15 Cumulative Effects Assessment of the ES (<b>TR010037/APP/6.1</b>) provides an assessment of the likely significant effects of the Scheme in combination with other past, present and reasonably foreseeable development as well as impact interactions.</p>
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>Chapter 9 Geology and Soils of the ES (<b>TR010037/APP/6.1</b>) states that the Scheme will result in the permanent loss of approximately 12.64ha Grade 3a (good quality) and 2.24ha Grade 3b (moderate quality) agricultural land; areas of Grade 3a agricultural land are considered to be best and most versatile (BMV) agricultural land (i.e. land that can best deliver future crops for food and non-food uses).</p> <p>The design of the Scheme has sought to minimise the area of permanent loss through alternative layout options review. A Soil Management Plan, within the EMP (<b>TR010038/APP/7.4</b>), will be developed to help preserve land quality on the temporary land take areas and to make effective reuse of the soils taken from the areas of permanent land take. Therefore, the long-term residual effects on agricultural soils would be limited to the area of agricultural land permanently lost.</p> <p>Chapter 9 Geology and Soils of the ES (<b>TR010037/APP/6.1</b>) also assesses the risk posed by existing potential contaminated land. With the Scheme located near Cantley Lane landfill and an infilled gravel pit, existing contaminated land poses a risk of a temporary residual adverse effect of moderate significance. Mitigation measures are proposed on the assumption that contamination is present, but the contamination risk sources will be investigated prior to construction of the Scheme to confirm the mitigation measures required to manage risks of pollution and harm to workers from contaminated land</p> <p>Mitigation measures in the EMP (<b>TR010037/APP/7.4</b>) would be secured through Requirement 4 of Schedule 2 in the draft DCO (<b>TR010037/APP/3.1</b>).</p>
5.169	<p>Applicants should safeguard any mineral resources on the proposed site as far as possible.</p>	<p>Section 10.7 Chapter 10 Material Assets and Waste of the ES (<b>TR010037/APP/6.1</b>) states that the Scheme intersects part of a known sand and gravel reserve (mineral</p>

		safeguarding area) as shown in Norfolk County Council's mineral safeguarding area mapping. Further detail is provided in Appendix 10.4 Mineral Impact Assessment of the ES ( <b>TR010037/APP/6.3</b> ), which also concludes it is not anticipated that any mineral safeguarding sites will be sterilised. Therefore, the effects on mineral resources are assessed as being slight adverse and not significant.
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 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>	There are no Green Belt designations within the DCO boundary.
5.173	Where the project conflicts with a proposal in a development plan, the Secretary of State should take account of the stage which the development plan document has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented or precluded. The closer the development plan document is to being adopted by the local plan, the greater the weight which can be attached to the impact of the proposal on the plan.	<p>Chapter 6 of the Case for the Scheme (<b>TR010037/APP/7.1</b>) sets out the planning policy justification for the Scheme.</p> <p>The Scheme demonstrates compliance with the Government's strategic vision for the development of the national road network. Scheme is included within the RIS and national, regional and local transport and planning policy. Section 3(6) of the Infrastructure Act 2015 places a duty on the SoS to comply with the provisions of the RIS.</p> <p>By increasing capacity and removing many of the constraints associated with the existing A47/A11Thickthorn Junction, the Scheme meets many of the objectives</p>

		<p>contained in the transport and economic strategies for the area as well as the policies within the South Norfolk local plan.</p> <p>There is much support for the Scheme at a county level, such as within in the Norfolk County Council Local Transport Plan and improvements to the SRN are considered to be key priorities for the delivery of economic growth in Norwich and South Norfolk as a whole.</p> <p>The respective ES Chapters assess the potential impacts of the Scheme within the relevant policy context. Policy and guidance recognise that not all impacts are able to be resolved in large scale Schemes and any residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms.</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>There are no existing areas of community land within the study area, but there is proposed public open space provision as part of the Cringleford Residential Development on land immediately adjacent to the north-east and south-east of Thickthorn Junction.</p> <p>An area of the proposed Cringleford Residential Development public open space is unavoidably required permanently by the Scheme due to its position adjacent to the south-east side of Thickthorn junction. As the informal recreational open space proposed (8.1Ha) will be reduced by 1Ha if the Scheme is implemented, which is still surplus of the minimum requirement secured by a planning obligation (2.75Ha), the loss as a result of the Scheme is not considered to impede the planning obligations set for the Cringleford Development.</p> <p>Discussions are ongoing with the developer to determine appropriate mitigation for the loss of 0.8Ha of the sport/formal public recreational open space, but assuming using a worst case scenario that the football pitch cannot be relocated on-site or provided off-site, the effect is assessed as Large adverse.</p> <p>Compliance with this policy is discussed in more detail in Section 7.4 of the Case for the Scheme (<b>TR010038/APP/7.1</b>).</p>
5.175	<p>Where networks of green infrastructure have been identified in development plans, they should normally be protected from development, and, where possible, strengthened by or integrated within it. The value of linear infrastructure and its</p>	<p>Green infrastructure networks have not been identified in the vicinity of the Scheme.</p> <p>Notwithstanding, the biodiversity and landscape mitigation and enhancements summarised in the responses to paragraphs 5.33 and 5.149 will contribute to the</p>

	footprint in supporting biodiversity and ecosystems should also be taken into account when assessing the impact on green infrastructure.	integration of the Scheme into its natural surroundings.
5.176	The decision-maker should take into account the economic and other benefits of the best and most versatile agricultural land. The decision maker should give little weight to the loss of agricultural land in grades 3b, 4 and 5, except in areas (such as uplands) where particular agricultural practices may themselves contribute to the quality and character of the environment or the local economy.	See response in relation to NPS NN paragraph 5.168 above
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.	There are no coastal recreation sites or features impacted by 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>ES Chapter 7 Landscape and Visual Effects and Chapter 8 Biodiversity (<b>TR010037/APP/6.1</b>) include mitigation and landscape design measures that will incorporate linear and connective habitat throughout the Scheme, supporting policy objectives to maintain and, where possible, improve connectivity of habitats and green infrastructure. This includes replacement woodland and hedgerow and grassland planting for the purposes of habitat connectivity for birds, mammals and invertebrates.</p> <p>Further, ES Chapter 12 Population and Human Health (<b>TR010037/APP/6.1</b>) identifies the WCHR routes within the study area. Surveys were carried out on the use of these routes and the routes and their sensitivity are summarised in Section 12.7 Chapter 12 Population and Human Health of the ES. The inclusion of new or improved WCHR routes, aligns to sustainable and integrated transport objectives.</p> <p>No National Trails are affected by the Scheme.</p>
5.181	The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any	See response in relation to NPS NN paragraph 5.180 above

	<p>planning obligations, for example, to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, any replacement land provided under those sections will need to conform to the requirements of those sections.</p>	<p>As discussed in Section 7.4 of the Case for the Scheme (<b>TR010038/APP/7.1</b>) an area of the proposed Cringleford Residential Development public open space is unavoidably required permanently by the Scheme due to its position adjacent to the south-east side of Thickthorn junction. As the informal open space is a surplus requirement of the planning obligations, the loss as a result of the Scheme is not considered to impede the planning obligations set for the Cringleford Development.</p> <p>Discussions are ongoing with the developer and local planning authority to determine the mitigation for the loss of 0.8Ha of on site formal public open space.</p>
<p>5.182</p>	<p>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>	<p>Chapter 10 Material Assets and Waste of the ES (<b>TR010037/APP/ 6.1</b>) states that the Scheme intersects part of a known sand and gravel reserve (mineral safeguarding area) as shown in Norfolk County Council's mineral safeguarding area mapping.</p> <p>Section 10.6 of Chapter 10 states that mitigation measures in the Outline SWMP (see Appendix 10.3 of the ES, (<b>TR010037/APP/6.3</b>)) and the EMP (<b>TR010037/APP/7.4</b>) will include use of site-won or recycled material assets as opposed to sourcing new materials. With particular consideration to potential sterilisation of mineral resources, the re-use of materials will include the use of sand and gravel mineral resources in the construction of the Scheme, if the material meets the required specification for highway construction.</p> <p>Preliminary information included in the outline SWMP at Appendix 10.3 of the ES (<b>TR010037/APP/6.3</b>) will be updated and used by the principal contractor to develop the SWMP at detailed design stage. The SWMP will be included as part of the EMP (<b>TR010037/APP/7.4</b>) which will be developed further prior to commencement of construction.</p>
<p>5.184-5.185</p>	<p>Public rights of way (PRoW), National Trails, and other rights of access to land (for example 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</p>	<p>Section 12.6 of Chapter 12 Population and Human Health of the ES (<b>TR010037/APP/6.1</b>) assesses the impacts on users of changes to the existing public rights of way (PRoW) and other land providing recreational facilities for WCH users. There are no National Trails in the study area.</p> <p><u>The Scheme will provide new footway / cycleway provision to improve safety for WCHR users as follows:</u></p>



	<p>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>Public rights of way can be extinguished under Section 136 of the Act if the Secretary of State is satisfied that an alternative has been or will be provided or is not required.</p>	<ul style="list-style-type: none"> <li>The existing Cantley Lane footbridge that carries Cringleford footpath FP4a over the A47 between Cantley Lane South and Cantley Lane will be demolished by Scheme and replaced with a new overbridge approximately 50m south-east of the existing footbridge location. The new replacement bridge will be suitable for cyclists and horse riders as well as walkers, with approach ramps constructed on earthwork embankments.</li> <li>Pedestrians and cyclists would benefit from travelling along a new shared footway and cycleway to be provided on the eastern frontage of the new Cantley Lane Link Road. A refuge island would also be incorporated into its junction with the B1172 Norwich Road to facilitate the safe crossing between the shared footway and cycleway and the existing facility provided on the northern frontage of Norwich Road, which comprises part of the Wymondham to Sprowston Pedalways cycle route. The provision of this infrastructure would provide a safer and pleasant route for users travelling between Wymondham and Cringleford, avoiding the need to pass through Thickthorn Junction.</li> </ul> <p>The Scheme would require the permanent diversion of Cringleford FP4a to the new Cantley Lane Footbridge (Cringleford) spanning the south facing slip roads at Thickthorn Junction, to link Cantley Lane and Cantley Lane South. It will be upgraded to bridleway status. As the sensitivity of the footpath is classed as high, due to the usage of the footpath it would result in a Moderate adverse outcome.</p> <p>The Scheme would also permanently remove the section of bridleway Cringleford BR5 and the Pegasus crossing facilities at the Thickthorn Junction. Although the bridleway is a PRow, its sensitivity has been classified as <b>low</b> as it is overgrown and there is no evidence of its use or use of the Pegasus facilities. The magnitude of the potential impact is <b>Moderate beneficial</b>. This is because the provision of the new Cantley Lane Footbridge (Cringleford) would result in a large reduction in journey length for cyclists and horse-riders and also provide a grade separated crossing of the A47 when travelling between Cantley Lane and Cantley Lane South.</p>
<p>5.186 (Noise and vibration)</p>	<p>Excessive noise can have wide-ranging impacts on the quality of human life and health (e.g. owing to annoyance or sleep disturbance), use and enjoyment of areas of value (such as quiet places) and areas with high landscape quality. The Government's policy is set out in</p>	<p>Section 11.8 of Chapter 11 Noise and Vibration of the ES (TR010037/APP/6.1) considers the potential noise and vibration impacts of the Scheme. The residual effects following mitigation are summarised in Section 11.10.</p> <p>During construction, the noise assessment concluded that, with the use of temporary</p>

	<p>the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references below to “noise” apply equally to assessment of impacts of vibration</p>	<p>noise barriers there will be only minor or negligible noise effects remaining with the exception of a residual moderate adverse impact from culvert structure works potentially affecting six residential properties only if works exceeded a certain number of days. This will be monitored and methods of work adjusted where necessary.</p> <p>Where mitigation is implemented vibration due to construction activity is not expected to result in any significant effects at any vibration-sensitive receptor.</p> <p>No significant adverse noise effects due to construction traffic are predicted and the change in road traffic noise during temporary traffic diversions is not expected to result in any significant effects.</p> <p>The changes in road traffic noise that will occur due to the operation of the Scheme are not expected to result in any significant operational effects.</p> <p>Section 11.8 of Chapter 11 Noise and Vibration of the ES (<b>TR010037/APP/6.1</b>) reports the following long-term beneficial effects:</p> <ul style="list-style-type: none"> <li>• six residential dwellings along Cantley Lane South are predicted to experience a minor beneficial impact due to the removal of this section of road</li> <li>• three non-residential noise sensitive receptors are predicted to experience a minor beneficial impact - southern Tumuli in Big Wood (a scheduled monument) and users of PRow Cringleford FFP4a and Hethersett FP6</li> <li>• one non-residential noise sensitive receptor, the northern Tumuli in Big Wood, is predicted to experience a moderate beneficial impact, mostly due to the changes in topography at the elevated Cantley Lane link road, which provides screening to noise from the A11.</li> </ul>
5.187	<p>Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed in accordance with the Biodiversity and Geological Conservation section of this NPS.</p>	<p>Ecology is considered a sensitive receptor that can be affected by changes to noise and vibration. Effects of impacts on wildlife and biodiversity from noise have been assessed in ES Chapter 8 Biodiversity (<b>TR010037/APP/6.1</b>).</p> <p>There is a risk of disturbance to wildlife during foraging and breeding from construction noise, resulting in avoidance and abandonment of habitats adversely affecting the species. Mitigation measures in the EMP (<b>TR010037/APP/7.4</b>), such as using quieter plant, leaving a buffer zone around sensitive receptors and reducing time on noisy activities, would be secured through Requirement 4 of the draft DCO</p>

		<p><b>(TR010037/APP/3.1).</b></p> <p>Section 8.10 in Chapter 8 concludes that there would be no significant adverse noise effects on wildlife or biodiversity during the construction or operation of the Scheme, so no additional mitigation is required.</p>
<p>5.189</p>	<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 description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern.</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>• identification of noise sensitive premises and noise sensitive areas that may be affected.</li> <li>• the characteristics of the existing noise environment.</li> <li>• a prediction on how the noise environment will change with the proposed development: <ul style="list-style-type: none"> <li>○ in the shorter term such as during the construction period;</li> <li>○ in the longer term during the operating life of the infrastructure;</li> <li>○ at particular times of the day, evening and night as appropriate.</li> </ul> </li> <li>• an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.</li> <li>• measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.</li> <li>○ the nature and extent of the noise assessment should be proportionate to the likely noise impact.</li> </ul>	<p>Chapter 11 Noise and Vibration of the ES (<b>TR010037/APP/6.1</b>) considers the potential noise and vibration impacts of the Scheme and covers the areas of assessment listed in this NPS NN paragraph.</p> <p>A baseline noise survey was undertaken in May 2018 (see Appendix 11.3 Baseline Noise Survey of the ES, (<b>TR010037/APP/6.3</b>)). Noise modelling was undertaken for all noise sensitive receptors within the corresponding construction and operational study areas.</p> <p>The construction noise assessment concluded that with the application of mitigation measures, including temporary noise barriers and noise monitoring, significant construction noise effects are unlikely. The assessment of potential construction vibration impacts concluded that with the application of mitigation and monitoring the Scheme is unlikely to give rise to any potential significant effects. The construction traffic assessment concluded that, providing the anticipated vehicle movements and routes are restricted as described, potential significant effects are unlikely (see Section 11. 12 of Chapter 11 Noise and Vibration of the ES (<b>TR010037/APP/6.1</b>)).</p> <p>The assessment of operational noise demonstrated that there are no significant adverse or significant beneficial noise effects expected due to changes in road traffic noise therefore mitigation is unnecessary (see Section 11.12 of Chapter 11 Noise and Vibration of the ES (<b>TR010037/APP/6.1</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.	There are not expected to be any changes elsewhere on the national networks as a result of construction or operation of the Scheme.
5.191	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.	Chapter 11 Noise and Vibration of the ES ( <b>TR010037/APP/6.1</b> ) states that the assessment has been undertaken in accordance with the relevant standards and guidance, in particular, British Standards 5228 parts 1 and 2 and DMRB HD213/11 which covers the various aspects required by NPS NN paragraph 5.189, and is proportionate to the effects which are anticipated. The assessment has been produced with consideration to the above policy and guidance and in accordance with methodology within DMRB LA 111 Noise and Vibration <sup>1</sup> .
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.	Chapter 8 Biodiversity of the ES ( <b>TR010040/APP/6.1</b> ) states that consultation has been undertaken with Natural England in February, September and October 2020.  The results of the noise assessment (ES Chapter 11 Noise and Vibration of the ES ( <b>TR010040/APP/6.1</b> )) have informed the ecological assessment in Chapter 8 Biodiversity of the ES. Section 8.10 in Chapter 8 Biodiversity concludes that there would be no significant adverse noise effects on wildlife or biodiversity during the construction or operation of the Scheme, so no additional mitigation is required.
5.193	Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the government's associated planning guidance on noise.	Appendix 11.2: Legislation and policy framework of the ES ( <b>TR010037/APP/6.3</b> ) identifies the legislation, policy, regulations, guidance and standards that are relevant to the noise assessment, including the Noise Policy Statement for England and states where the policy requirements have been addressed as part of the Scheme assessment.
5.194	The project should demonstrate good design through optimisation of Scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to Government policy.	Section 11.9 of Chapter 11 Noise and Vibration of the ES ( <b>TR010037/APP/6.1</b> ) details the mitigation proposed in relation to the Scheme. The Scheme Design Report ( <b>TR010037/APP/7.3</b> ) discusses how noise was considered in developing the Scheme design and inclusion of noise barriers where required. Sensitive receptors and Noise Important Areas were identified and potential impacts considered.  See response to Paragraph 5.186 of the NPS NN above.

<sup>1</sup> Available to download at <https://www.standardsforhighways.co.uk/dmrb/search/cc8cfcf7-c235-4052-8d32-d5398796b364>

		<p>Construction noise mitigation is described in the response to NPS NN paragraph 5.198 below.</p> <p>There are not expected to be any changes elsewhere on the national networks as a result of the construction and operation of the Scheme.</p>
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>• avoid significant adverse impacts on health and quality of life from noise as a result of the new development;</li> <li>• mitigate and minimise other adverse impacts on health and quality of life from noise from the new development;</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>• contribute to improvements to health and quality of life through the effective management and control of noise, where possible.</li> </ul>	See response in relation to NPS NN paragraph 5.186 above.
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.</p> <p>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 order to gain consent for what might otherwise be unacceptable development.</p> <p>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.</p>	See response to paragraph 5.189 above. No mitigation is therefore required.

5.200	<p>Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process.</p>	<p>One Noise Important Area (NIA 4965) is identified within the operational study area of the Scheme, as identified in Figure 11.1 Noise Location Plan of the ES (<b>TR010037/APP/6.2</b>).</p> <p>Section 11.10 of Chapter 11 Noise and Vibration of the ES (<b>TR010037/APP/6.1</b>) states the assessment of operational noise indicates that no significant adverse noise effects would be predicted at noise sensitive receptors, including those within the NIA, associated with traffic flows during operation of the Scheme.</p>
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 3.21 and 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>Chapter 6 of the Case for the Scheme (<b>TR010037/APP/7.1</b>) assesses the Scheme's conformity with Local Development Plans and Transport Plans.</p> <p>Norfolk County Council, the Local Highway Authority, has been consulted on the traffic modelling and the results presented in Chapter 4 of the Case for the Scheme (<b>TR010037/APP/7.1</b>). A record of meetings and items of discussion will be set out in a draft Statement of Common Ground to be developed.</p> <p>Effects on public transport are assessed in Chapter 4 of the Case for the Scheme (<b>TR010037/APP/7.1</b>). Public transport will not be affected by the Scheme, but the implementation of an additional lane is anticipated to improve access to the Newfound Farm development, Norwich Research Park and the Hospital. Indirectly, the Scheme's will benefit bus transport users due to the congestion relief provided for all highway traffic.</p> <p>Chapter 12 Population and Human Health of the ES (<b>TR010037/APP/6.1</b>) considers the effects of the Scheme on WCH users and describes beneficial effects during operation of the Scheme relating to the improved transportation and movement between communities and facilities in the area.</p> <p>A Walking, Cycling, Horse-riding Assessment and Review (WCHAR) process has been undertaken as part of the Scheme. The assessment presented in Chapter 12 Population and Human Health of the ES (<b>TR010037/APP/6.1</b>) sets out the significance of impacts from altering a PRoW and creating of a new footway / cycleway provision to improve safety for WCH users</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</p>	<p>The application is supported by a Transport Assessment summarised in Chapter 4 of the Case for Scheme (<b>TR010037/APP/7.1</b>), which considers the transport impacts of the Scheme on other networks, including rail and public bus services in addition to</p>



	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.	impacts on the highway network.  The outputs of the traffic modelling and forecasting have been considered in the relevant Chapters of the ES ( <b>TR010037/APP/6.1</b> ), such as air quality, noise, water environment and road drainage, population and human health, and climate.
5.208	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.	A travel plan has not been prepared to support the Application due to the nature of the Scheme not being a generator of additional traffic in itself, rather it is re-distributing existing and future traffic flows.  There are no proposed alterations to rail transport services as a result of the Scheme.  No alterations to bus public transport services are included in the Scheme. It is considered the Scheme's impact on bus transport users will be beneficial due to the congestion relief provided for all highway traffic.
5.209	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, therefore, economic growth, whilst safeguarding the primary function and purpose of the Strategic Road Network.	All statutory and non-statutory public consultations have been carried out, as set out in the Consultation Report ( <b>TR010037/APP/5.1</b> )  The Applicant is the operator of the Strategic Road Network. Norfolk County Council, the Local Highway Authority, has been consulted on the proposals and on the traffic modelling and the results presented in the Chapter 4 of the Case for Scheme ( <b>TR010037/APP/7.1</b> ).  Further consideration of plans and policies, including DfT Circular 02/2013, is set out in Chapter 6 of the Case for the Scheme ( <b>TR010037/APP/7.1</b> ).
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.	Third party funding is not required as the Scheme has funding committed through the Government's RIS. Funding sources are described in the Funding Statement ( <b>TR010037/APP/4.2</b> ).

5.211	The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in local plans, for example, policies on demand management being undertaken at the local level.	See response to NPS NN paragraphs 5.203-5.206, 5.208 and 5.209 above.  Where relevant, analysis has been included in this document and is provided in the Case for Scheme (TR00037/APP/7.1).
5.212	Schemes should be developed and options considered in the light of relevant local policies and local plans, taking into account local models where appropriate, however the Scheme must be decided in accordance with the NPS except to the extent that one or more of sub-sections 104(4) to 104(8) of the Planning Act 2008 applies.	The consideration of policies as set out in the local plans is provided in the Case for the Scheme ( <b>TR010037/APP/7.1</b> ).
5.215	Mitigation measures for Schemes should be proportionate and reasonable, focused on promoting sustainable development.	The ES ( <b>TR010037/APP/6.1</b> ) contains a full assessment of the relevant impacts that are likely to arise from the Scheme, and where significant impacts are identified, articulates how those impacts can be avoided, reduced or mitigated. The proposed mitigation measures take account of relevant policy and guidance, including the policy focus on promoting sustainable development.  Mitigation measures are also set out in the EMP ( <b>TR010037/APP/7.4</b> ) (secured through Requirement 4 to the draft DCO (TR010037/APP/3.1)) including why they are required, who is responsible for delivering them and detailing ongoing reporting criteria.  The Environmental Masterplan ( <b>TR010037/APP/6.10</b> ) illustrates landscaping mitigation measures embedded as integral elements of the Scheme design including new areas of habitat creation and landscaping.
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.	See response in relation to NPS NN paragraphs 5.203-5.205.
5.220 <b>(Water quality and resources)</b>	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.	The Anglian River Basin Management Plan includes the Intwood Stream and The Yare (Tiffey to Wensum) WFD water bodies.  Section 13.7 of Chapter 13 Road Drainage and the Water Environment of the ES ( <b>TR010037/APP/6.1</b> ) describes these and other surface water features considered as part of the assessment.

<p>5.221</p>	<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 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.</p>	<p>The Environment Agency, Anglian Water, Norfolk Rivers Internal Drainage Board and Norfolk County Council (as the Lead Local Flood Authority) have been consulted during the development of the design and assessments; see Chapter 13 Road Drainage and the Water Environment of the ES (<b>TR010037/APP/6.1</b>).and the Consultation Report (<b>TR010037/APP/5.1</b>).</p> <p>There are no significant effects (moderate or above) identified within the assessment subject to mitigation. However, monitoring of surface water and groundwater is part of the essential mitigation required to ensure construction works such as the stream realignment and excavations do not have a significant effect.</p>
<p>5.222</p>	<p>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.</p>	<p>ES Chapter 13 Road Drainage and the Water Environment (<b>TR010037/APP/6.1</b>) considers the effects of the Scheme on water quality and identifies opportunities to improve the quality of existing discharges.</p> <p>The WFD Assessment, Section 13.10 of Chapter 13 Road Drainage and the Water Environment of the ES concludes that the construction and operational activities affecting the Intwood Stream and indirectly Yare (Tiffey to Wensum) will be compliant with the requirements of the WFD. This assumes mitigation is implemented. Construction and operational activities affecting the Intwood Stream and indirectly Yare (Tiffey to Wensum) are not considered to cause deterioration and should not prevent future attainment of good ecological status.</p>
<p>5.223</p>	<p>Any environmental statement should describe:</p> <ul style="list-style-type: none"> <li>• the existing quality of waters affected by the proposed project;</li> <li>• existing water resources affected by the proposed project and the impacts of the proposed project on water resources;</li> <li>• existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics;</li> <li>• any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones</li> </ul>	<p>ES Chapter 13 Road Drainage and Water Environment (<b>TR010037/APP/6.1</b>) describes the existing water environment, potential impacts, mitigation, residual significant effects and impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs).</p> <p>ES Chapter 15 Cumulative Effect Assessment (<b>TR010037/APP/6.1</b>) addresses the cumulative effects of the Scheme. No significant cumulative effects on water resources with other development taking place nearby are anticipated.</p>

	(SPZs) around potable groundwater abstractions; and • any cumulative effects.	
5.224	Activities that discharge to the water environment are subject to pollution control. The considerations set out in paragraphs 4.48-4.56 on the interface between planning and pollution control therefore apply. These considerations will also apply in an analogous way to the abstraction licensing regime regulating activities that take water from the water environment, and to the control regimes relating to works to, and structures in, on, or under a controlled water.	<p>Pollution control devices such as penstocks shall be provided in order to reduce any pollution that may occur in the event of a spillage, as noted in Volume 3, Appendix 13.2 (Drainage strategy report) <b>(TR010037/APP/6.3)</b>.</p> <p>Pollution prevention measures are set out in the REAC in the EMP <b>(TR010037/APP/7.4)</b> and include:</p> <ul style="list-style-type: none"> <li>• appropriate storage of construction materials, including bunding of storage tanks, use of silt fencing and covering stockpiles</li> <li>• spill kits located on sites near to ordinary watercourses or drainage ditches and within the works compounds with staff trained in their use</li> <li>• emergency response procedures to handle any leakages or spillages of potentially contaminating substances</li> <li>• in agricultural areas best practice construction methods are to be applied to prevent the mobilisation of nitrate and phosphate</li> <li>• avoidance of pollution pathways between the construction sites, including material lay down areas, and ordinary watercourses or drainage ditches</li> <li>• prevention of surface water runoff containing suspended sediment reaching ordinary watercourses or drainage ditches through overland flow during rainfall events</li> <li>• a temporary surface water drainage strategy incorporated into the EMP to prevent increased flood risk to people and property elsewhere, and manage pollution risks most commonly associated with increased sediment loading.</li> </ul>
5.225	The Secretary of State will generally need to give impacts on the water environment more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive.	The WFD assessment concludes that the construction and operational activities affecting the Intwood Stream and indirectly Yare (Tiffey to Wensum) will be compliant with the requirements of the WFD. This assumes the mitigation is implemented and limits the overall effect of the Scheme to slight adverse and is localised.
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.	ES Table 13.3 of Chapter 13 Road Drainage and the Water Environment <b>(TR010037/APP/6.1)</b> summarises the WFD surface water bodies within the study area and indicates their targets and objectives. The current Anglian River Basin Management Plan (RBMP) is taken into consideration and a WFD Assessment has been undertaken and can be found at Section 13.10 of Chapter 13 Road Drainage

	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.	and the Water Environment of the ES. The assessment does not identify any adverse impacts on the achievement of the environmental objectives established under the WFD.
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 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.	ES Chapter 13 Road Drainage and the Water Environment ( <b>TR010037/APP/6.1</b> ) describes consultation carried out with the Environment Agency and appropriate stakeholders (including Norfolk County Council as Lead Local Flood Authority). Details are also provided in the Consultation Report (TR010037/APP/5.1). Separate Statements of Common Ground will be developed with the Environment Agency and Norfolk County Council to record the matters that have been agreed with these parties and to identify any matters where comments still need to be resolved.  Good practice mitigation measures to protect the water environment are set out within the EMP ( <b>TR010037/APP/7.4</b> ). The EMP is secured by Requirement 4 to the draft DCO ( <b>TR010037/APP/3.1</b> ).
5.229	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.	The EMP ( <b>TR010037/APP/7.4</b> ) details the environmental mitigation measures proposed to be implemented during construction, why they are required, who is responsible for delivering them and details ongoing reporting criteria. The EMP is secured by Requirement 4 of the draft DCO ( <b>TR010037/APP/3.1</b> ).
5.230	The project should adhere to any National Standards for sustainable drainage systems (SuDs). The National SuDs Standards will introduce a hierarchical approach to drainage design that promotes the most sustainable approach but recognises feasibility and use of conventional drainage systems as part of a sustainable solution for any given site given its constraints.	See response in relation to NPS NN paragraph 5.100.  The EMP is secured by Requirement 4 of the draft DCO and Table 3-1 therein states in relation to flood risk mitigation “ <i>A temporary surface water drainage strategy shall be incorporated into the EMP to prevent increased flood risk to people and property elsewhere, and to manage pollution risks most commonly associated with increased sediment loading</i> ”.
5.231	The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated	ES Section 13.9 of Chapter 13 Road Drainage and the Water Environment ( <b>TR010037/APP/6.1</b> ) describes the proposed construction and operational design interventions and mitigation. It includes measures delivered through the design of the

	<p>areas for storage and unloading, with appropriate drainage facilities, should be marked clearly.</p>	<p>Scheme and also appropriate construction methods which adhere to good practice embodied in the DMRB LA 113 Road Drainage and the Water Environment.</p> <p>Designated areas for materials storage and unloading are shown on the General Arrangement plans (<b>TR010038/APP/2.2</b>).</p> <p>The EMP (<b>TR010037/APP/7.4</b>) details the environmental mitigation measures proposed to be implemented during construction, why they are required, who is responsible for delivering them and ongoing reporting criteria. The EMP is secured by Requirement 4 of the draft DCO (<b>TR010037/APP/3.1</b>).</p>
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