

A47 Blofield to North Burlingham Dualling

Scheme Number: TR010040

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

December 2020

Infrastructure Planning

Planning Act 2008

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

A47 Blofield to North Burlingham
Development Consent Order 202[x]

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

Regulation Number:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010040
Application Document Reference	7.2
BIM Document Reference	PCF STAGE 3 HE551490-GTY-LSI-000-RP-TX-30019
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Version	Date	Status of Version
Rev 0	December 2020	Application Issue

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1 INTRODUCTION

1.1 Purpose of this Document

- 1.1.1 This National Networks National Policy Statement (NNNPS) Accordance Table relates 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 "2008 Act") for a Development Consent Order (DCO). If made, the DCO would grant consent for the A47 Blofield to North Burlingham Scheme (the "Scheme").
- 1.1.2 The NNNPS sets out Government's policies in respect of the 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 the Examining Authority (ExA) and decisions by the Secretary of State. Further details about NNNPS can be found in the Case for the Scheme (**TR010040/APP/7.1**).
- 1.1.3 This Accordance Table provides an assessment of the Scheme's strategic alignment and conformity with the NNNPS and is set out as follows:
- Table 1: Scheme conformity with NNNPS Chapter 2 – The need for development of the national networks and Government's policy
 - Table 2: Scheme conformity with NNNPS Chapter 3 – Wider Government policy on national networks
 - Table 3: Scheme conformity with NNNPS Chapter 4 – Assessment principles
 - Table 4: Scheme conformity with NNNPS Chapter 5 – Generic impacts.
- 1.1.4 Each relevant paragraph in the NNNPS is set out with commentary as to the extent of compliance by the Scheme with its terms.
- 1.1.5 The Accordance Table references other relevant documentation submitted as part of the Application and provides a summary where appropriate. The following documents and assessments have been used to inform the completion of the Accordance Table:
- Draft Development Consent Order (**TR010040/APP/3.1**)
 - Consents and Licences Position Statement (**TR010040/APP/3.3**)
 - Consultation Report and Annexes (**TR010040/APP/5.1 and 5.2**)
 - Environmental Statement, including Appendices, Figures, and Non-Technical Summary (**TR010040/APP/6.1, 6.2, 6.3 and 6.4**)
 - Flood Risk Assessment, ES Appendix 13.1 (**TR010040/APP/6.2**)
 - Drainage Strategy Report, ES Appendix 13.2 (**TR010040/APP/6.2**)
 - Statement Relating to Statutory Nuisance (**TR010040/APP/6.7**)
 - Masterplan (**TR010040/APP/6.8**)
 - Report to Inform the Habitat Regulations Assessment (**TR010040/APP/6.9**)
 - Case for the Scheme (**TR010040/APP/7.1**)

- Transport Assessment (**TR010040/APP/7.3**)
- Scheme Design Report (**TR010040/APP/7.6**)
- Environmental Management Plan (**TR010040/APP/7.7**)
- Equality Impact Assessment (**TR010040/APP/7.9**)

TABLE 1: COMPLIANCE WITH NNNPS CHAPTER 2

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
<p>2.1 (The need for development of the national networks and Government's policy)</p>	<p>The national road and rail networks that connect our cities, regions and international gateways play a significant part in supporting economic growth, as well as existing economic activity and productivity and in facilitating passenger, business and leisure journeys across the country. Well-connected and high-performing networks with sufficient capacity are vital to meet the country's long-term needs and support a prosperous economy.</p>	<p>The A47 Blofield to North Burlingham Scheme (the Scheme) forms part of a package of proposals for the A47 corridor to achieve a modern standard dual carriageway, improving the vital connection between Peterborough and Great Yarmouth and including the upgrade to the carriageway sections on the route to dual carriageway.</p> <p>The Transport Assessment (TA) Chapter 2 The Scheme (TR010040/APP/7.3) demonstrates that the Scheme will upgrade part of the existing A47 to a modern higher performing standard which will enable significant increases in traffic volumes using the A47 through increased capacity and a reduction in delays. These improvements will make the local area, and the East, more attractive for businesses to locate and help in promoting a competitive local economy. The dualling will also improve safety and reduce accidents on the route.</p> <p>The economic benefits of the Scheme are as per NNNPS paragraph 2.2 (see below).</p>
<p>2.2</p>	<p>There is a critical need to improve the national networks to address road congestion and crowding on the railways to provide safe, expeditious and resilient networks that better support social and economic activity; and to provide a transport network that is capable of stimulating and supporting economic growth. Improvements may also be required to address the impact of the national networks on quality of life and environmental factors.</p>	<p>The Scheme would create appropriate capacity to cope with peak demand and growth on the SRN, and provide a free flowing, safe, reliable and resilient network for the future. The TA, Chapter 7 Transport Impacts (TR010040/APP/7.3) describes the positive operational impacts of the Scheme on; journey times and congestion; the local road network and resilience; walking, cycling and public transport; and accidents.</p> <p>The economic appraisal of the Scheme has adopted a 60 year appraisal period and used a Benefit to Cost Ratio (BCR) to compare the Scheme cost to its benefits over this period. This is set out in the Case for the Scheme Chapter 5 Economic Case Overview (TR010040/APP/7.1).</p> <p>The appraisal has identified user benefits during operation, disbenefits during construction, accident savings, monetised greenhouse gas, air quality, noise impacts, journey time reliability, wider economic impacts, and the social and</p>

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		<p>distributional impacts. The Case for the Scheme Sections 5.2 and 5.3 (TR010040/APP/7.1) summarise the economic assessment results in both qualitative and quantitative terms:</p> <p>The Scheme will generate £116.4m of travel time savings due to reductions in congestion, though there will be a disbenefit of -£8.2m vehicle operating costs due to increased speed and fuel consumption. Though there will be some construction disbenefits (-£0.4m), greenhouse gas disbenefits over the 60-year appraisal period total -£5.6m, air quality -£3.8m, noise -£1.1m.</p> <p>Journey time reliability benefits of £3.3m are due to the greater reliability of dual carriageway over single, while the wider economic benefits of £40.6m are mainly derived from the agglomeration assessment. This suggests that business users are the main beneficiaries from the enhanced connectivity and congestion reductions brought about by the scheme and that there will be an overall, long-term positive impact. In terms of social impacts, there will be an £8m benefit through accident savings; neutral impacts on physical activity, public transport and accessibility; a moderate beneficial impact on security and slight beneficial impact on journey quality; and a slight adverse impact associated with accessing medical, education and leisure facilities.</p> <p>The Scheme generate a Present Value Benefit (PVB) of £109.9 million. The total Scheme costs are £46.4 million (PV) with an assumption that none of the costs will be funded from developer contributions.</p> <p>The Scheme represents “High” Value for Money (VfM). With consideration of the effects of delays during construction, accident benefits, indirect taxation benefits, monetised environmental impacts and maintenance costs gives an initial Benefit to Cost Ratio (BCR) of 2.4. The Scheme is also forecast to generate wider economic impacts and journey time reliability benefits. The value for the total wider economic impacts is about £40.6 million, whilst for journey time reliability it is £3.3 million. Inclusion of journey time reliability benefits and wider economic impacts gives an adjusted BCR of 3.3 which also represents “High” VfM.</p>

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2.4	<p>The pressure on our networks is expected to increase even further as the long-term drivers for demand to travel - GDP and population - are forecast to increase substantially over coming years. Under central forecasts, road traffic is forecast to increase by 30% and rail journeys by 40%, rail freight has the potential to nearly double by 2030.</p>	<p>The TA, Chapter 7 Transport Impacts (TR010040/APP/7.3) sets out the assessment of current and future network performance.</p> <p>The TA Section 7.3 sets out that observed traffic data indicates that 2015 base year traffic flows are approaching the reasonable capacity limitations of the road. Also, average weekday traffic speeds on the single carriage way section drop to around 42-43 mph, which represents a 14-15% decrease from the speed limit.</p> <p>With construction of the Scheme, the journey time results are reduced to levels either comparable or below the 2015 base year model. Along the A47 between Beighton Road in Acle and Yarmouth Road on the eastern edge of Blofield there will be an average travel time saving of approximately 3 minutes in 2025 and 3.7 minutes 2040 in the westbound direction in the AM peak. This represents approximately 50% reduction in the total journey time across the route. The rest of the peaks also experience an average of approximately 2 minutes saving in both directions.</p> <p>Along the A47 between Acle Roundabout and Cucumber Lane Roundabout (west of Blofield), journey times will decrease by around 1.7 to 2.3 minutes in 2025 and 2.0 to 2.6 minutes in 2040. The largest journey time savings are generated in 2040 in the westbound direction with reductions of up to 2.6 mins in the AM and PM peaks (approx. 34%).</p>
2.6	<p>There is also a need for development on the national networks to support national and local economic growth and regeneration, particularly in the most disadvantaged areas. Improved and new transport links can facilitate economic growth by bringing businesses closer to their workers, their markets and each other. This can help rebalance the economy.</p>	<p>Congestion, delays and unreliable journey times caused by inefficient transport infrastructure have a negative impact on the economy. Congestion is a barrier to economic growth. Norwich, Cambridge and Peterborough are among the fastest growing cities in the country. Congestion and poor journey time reliability are a constraint to both local businesses and tourism and the visitor economy.</p> <p>The estimated wider economic benefits of £40.6m have been quantified in the Case for the Scheme Chapter 5 Economic Case Overview (TR010040/APP/7.1).</p>

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2.7	In some cases, there may be a need for development to improve resilience on the networks to adapt to climate change and extreme weather events rather than just tackling a congestion problem.	Chapter 13 Road Drainage and the Water Environment and Chapter 14 Climate, of the Environmental Statement (ES) (TR010040/APP/6.1) and the Flood Risk Assessment (FRA) (ES Appendix 13.1 (TR010040/APP/6.2)), consider the impact of flooding as a result of climate change and describe how the Scheme has been designed to minimise the risk of flooding as a result of the new works, and also the risk of flooding to the Scheme, by incorporating current design standards and future climate change allowances to improve its resilience.
2.9	Broader environment, safety and accessibility goals will also generate requirements for development. In particular, development will be needed to address safety problems, enhance the environment or enhance accessibility for Non-Motorised Users. In their current state, without development, the national networks will act as a constraint to sustainable	The Scheme's objectives, as set out in the Case for the Scheme Chapter 3 The Need for the Scheme (TR010040/APP/7.1) are to deliver a design which not only supports economic growth and achieves value for money but will also result in a safer, more free flowing network which is integrated and accessible to all road and footpath users, and where possible minimise impacts and improve the environment for those receptors along the route of the new and existing road. How the Scheme meets these objectives is demonstrated in the Case for the Scheme Table 3.1 (TR010040/APP/7.1).
2.16	<p>Traffic congestion constrains the economy and impacts negatively on quality of life by:</p> <ul style="list-style-type: none"> • Constraining existing economic activity as well as economic growth, by increasing costs to businesses, damaging their competitiveness and making it harder for them to access export markets. Businesses regularly consider access to good roads and other transport connections as key criteria in making decisions about where to locate. • Leading to a marked deterioration in the experience of road users. For some, particularly those with time-pressured journeys, congestion can cause frustration and stress, as well as inconvenience, reducing quality of life. • Constraining job opportunities as workers have more difficulty accessing labour markets. • causing more environmental problems, with more emissions per vehicle and greater problems of blight and intrusion for people nearby. 	<p>Currently the single carriageway section of the A47 between Blofield and North Burlingham acts as a bottleneck, resulting in congestion and leading to longer and unreliable journey times. Traffic flows are approaching the reasonable capacity limitations of the road.</p> <p>Local communities and businesses along the length of the existing A47 and to the north and south of the road are directly and indirectly affected by the intrusion and congestion on the A47 and by traffic seeking to avoid congestion and delays. The traffic on the road also results in environmental impacts including high levels of traffic noise, visual intrusion and impact on wildlife.</p> <p>The TA, Chapter 7 Transport Impacts and Chapter 9 Summary and Conclusions (TR010040/APP/7.3) demonstrate that the Scheme will create appropriate capacity to cope with peak demand and future growth on the SRN and provide a free flowing, safe and reliable network for the future which would improve access to the local area and the East Midlands region and indirectly support economic productivity.</p>

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	This is especially true where traffic is routed through small communities or sensitive environmental areas.	The response to NNNPS paragraph 2.2 above summarises the likely wider economic growth attributed to the development of the Scheme.
2.17	The national road network is already under significant pressure. It is estimated that around 16% of all travel time in 2010 was spent delayed in traffic, and that congestion has significant economic costs: in 2010 the direct costs of congestion on the Strategic Road Network in England were estimated at £1.9 billion per annum.	See response to NNNPS paragraph 2.2.
2.22	Without improving the road network, including its performance, it will be difficult to support further economic development, employment and housing and this will impede economic growth and reduce people's quality of life. The Government has therefore concluded that at strategic level there is a compelling need for development of the national road network.	<p>See response to NNNPS paragraphs 2.1, 2.2, 2.6, 2.10 and 2.16.</p> <p>The Scheme is included in the Department of Transport's Road Investment Strategy 2 (RIS2) for 2020-2025 (page 101). The RIS2 sets out the list of schemes that are to be developed by Highways England over the period covered by the RIS.</p> <p>The Scheme will upgrade part of the existing A47 (which forms part of the SRN) to a modern higher performing standard which will enable significant increases in traffic volumes using the A47 through increased capacity and a reduction in delays. These improvements will make the local area, and the East, more attractive for businesses to locate and help in promoting a competitive local economy. The dualling will also improve safety and reduce accidents on the route.</p>
2.24	The Government's policy on development of the Strategic Road Network is not that of predicting traffic growth and then providing for that growth regardless. Individual Schemes will be brought forward to tackle specific issues, including those of safety, rather than to meet unconstrained traffic growth (that is, 'predict and provide').	<p>See response to NNNPS paragraph 2.22</p> <p>The Scheme is included in the Department of Transport's Road Investment Strategy 2 (RIS2) for 2020-2025 (page 101): <i>"A47 Blofield to North Burlingham – upgrade of the A47 east of Norwich to fill a gap in the dual carriageway section between Norwich and the Acle Straight"</i>.</p> <p>The Case for the Scheme, Chapter 3 (TR010040/APP/7.1) sets out the Need for the Scheme. The single carriageway section of A47 between Blofield and North Burlingham lies between two dual carriageway sections of the A47, has a poor safety record and acts as a bottleneck, resulting in congestion and</p>

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		<p>leading to longer and unreliable journey times.</p> <p>The A47 Blofield to North Burlingham (eastbound) currently has an average speed significantly lower than the daily average during the AM peak. This is an indicator of congestion and affects journey times and journey time reliability on the road.</p> <p>The TA, Chapter 5 Transport Impacts and Chapter 9 Summary and Conclusions (TR010040/APP/7.3) demonstrates that the Scheme is designed to address capacity and congestion issues on the A47, which is an important part of the SRN.</p>

TABLE 2: COMPLIANCE WITH NNNPS CHAPTER 3

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
<p>3.2 (Environment and social impacts)</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>The Objectives of the Scheme are set out in the Case for the Scheme Chapter 3 The Need for the Scheme (TR010040/APP/7.1). These recognise that the design should minimise its environmental (Objective 4) and social (Objective 5) impacts and thereby, together with the other Objectives, improve quality of life.</p> <p>The Scheme Objectives are:</p> <ol style="list-style-type: none"> 1. Supporting economic growth 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 employment and residential development opportunities. 2. Making a safer network Improving road safety for all road users by designing to modern highway standards appropriate for a major A road. 3. A more free-flowing network Increasing the resilience of the junction in coping with incidents such as collisions, breakdowns, maintenance and extreme weather. The improved A47 Blofield to North Burlingham will be more reliable, reducing journey times and providing capacity for future traffic growth. 4. Protected environment The Scheme design has given detailed consideration to the environment by minimising adverse impacts and where possible, improving the environmental effects of transport on those living along the route of the new and existing road. Mitigation is set out in relevant chapters of the ES (TR010040/APP/6.1) 5. An accessible and integrated network To ensure the proposals consider local communities and access to the road

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		<p>network, providing a safer route between communities for cyclists, pedestrians, equestrians and vulnerable users where a need is identified.</p> <p>6. Value for money To ensure that the scheme is affordable and delivers good value for money</p> <p>An Environmental Impact Assessment (EIA) has been undertaken, and proposals developed to mitigate likely significant environment effects arising from the Scheme. Where specific design, mitigation and enhancement measures have been applied, these are reported under each individual topic chapter of the ES (TR010040/APP/6.1) and are summarised in the ES Non-Technical Summary (TR010040/APP/6.4).</p> <p>The likely significant effects can be summarised as follows:</p> <ul style="list-style-type: none"> • Air Quality – No significant air quality effects have been identified for the construction or operational phase. • Cultural Heritage – 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. Where adverse effects could not be avoided, a programme of archaeological recording and publishing is proposed to mitigate the impact. Significant beneficial effects have been identified for the setting of the Grade I listed St Andrew’s Church in North Burlingham by moving traffic further away and maintaining an appropriate density of planted screening. • Landscape and Visual –The assessment concludes that the Scheme would not result in a significant residual effect on landscape and visual amenity. • Biodiversity – Careful design in combination with mitigation measures during construction and operation will reduce identified effects of the Scheme on receptors and habitats. Risk to bats are significant due to the presence of barbastelle bats which are of a

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		<p>national value of importance. All other residual effects after mitigation are not considered significant.</p> <ul style="list-style-type: none"> • Geology and Soils - The Scheme has the potential to result in a significant effect on agricultural soils due to the amount of farmland required. The assessment did not identify any other likely effects on the geology and soils. • Material Assets and Waste - No significant effects have been identified for the construction or operational phase. • Noise and Vibration – The assessment of operational noise indicates that there are likely both beneficial and adverse noticeable changes in noise levels due to the Scheme. Mitigation includes low noise surfacing and acoustic barriers. Significant beneficial noise effects are predicted at 17 residential receptors due to the expected change in road user behaviour (traffic re-routing) brought about by the Scheme. Significant adverse noise effects are predicted in the vicinity of Yarmouth Road and B1140 High Road. However, the absolute road traffic noise level at opening year will be comparable to local B roads in the local area. • Population and Human Health – Overall, impacts on population and human health are predominantly non-significant once the Scheme is operational. The exception to this is users of Burlingham FP3 where a significant residual adverse effect is anticipated as a result of a section of the footpath being lost. Beneficial effects would be experienced by pedestrians and cyclists travelling along the de-trunked section of A47 due to the new footway and cycleway, lower traffic levels and slower speeds. A new public right of way is included in the design sough of the proposed A47 mainline running east to west. • Road Drainage and the Water Environment - No significant adverse effects are predicted during construction or operation of the Scheme, subject to the mitigation and design measures. • Climate - no significant effects as a result of climate change are anticipated.

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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>See the response to NNNPS paragraph 3.2.</p> <p>At the core of the NPPF is a presumption in favour of sustainable development. The principles of the NPPF relevant to each of the topics covered in the ES (TR010040/APP/6.1), and local planning policies that need to be considered, are set out in the Case for the Scheme, Chapter 6 Conformity with Planning Policy and Transport Plans (TR010040/APP/7.1).</p> <p>The Case for the Scheme, Chapter 6 (TR010040/APP/7.1) demonstrates that the Scheme is compliant with local and national planning policy. The technical chapters of the ES (TR010040/APP/6.1) set out how significant environmental impacts of the Scheme would be mitigated, in line with current relevant guidance and accepted principles, and how reasonable opportunities for environmental and social benefits have been considered as part of the EIA process.</p>
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>Wider Government policy in relation to specific environmental topics is addressed in ES Chapter 4 Environmental Assessment Methodology and the individual topic chapters (TR010040/APP/6.1):</p> <ul style="list-style-type: none"> • Chapter 5 – Air Quality • Chapter 6 – Cultural Heritage • Chapter 7 – Landscape and Visual • Chapter 8 – Biodiversity • Chapter 9 - Geology and Soils • Chapter 10 - Material Assets and Waste • Chapter 11 – Noise and Vibration • Chapter 12 Population and Human Health • Chapter 13 Road Drainage and the Water Environment <p>In accordance with this paragraph, the Scheme would address environmental effects providing appropriate mitigation measures where any significant impacts are predicted. The Scheme improves the performance of this part of the network by increasing capacity, improving resilience and delivering journey time and safety improvements.</p>

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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>Chapter 14 of the ES (TR010040/APP/6.1) considers the impact of the Scheme on climate change and vice versa.</p> <p>In accordance with the Design Manual for Roads and Bridges (DMRB) LA 114¹ projects shall seek to minimise carbon emissions as far as possible in all cases in order to contribute to the UK's net reduction in carbon emissions. Mitigation of effects on climate (i.e. carbon emissions associated with the Scheme) takes place throughout the design process in accordance with the principles of PAS 2080: Carbon Management in Infrastructure (a global standard for managing infrastructure carbon), i.e. baselining, target setting and monitoring.</p> <p>The inclusion of new walking and cycling routes, as described in ES Chapter 12 Population and Human Health (Section 12.8 (TR010040/APP/6.1)) align to sustainable and integrated transport objectives. These new provisions introduce greener transport options locally.</p> <p>See also the response to NNNPS paragraph 3.2 above.</p>
3.8	<p>The impact of road development on aggregate levels of emissions is likely to be very small. Impacts of road development need to be seen against significant projected reductions in carbon emissions and improvements in air quality as a result of current and future policies to meet the Government's legally binding carbon budgets and the European Union's air quality limit values. For example:</p> <ul style="list-style-type: none"> - Carbon – the annual CO2 impacts from delivering a programme of investment on the Strategic Road Network of the scale envisaged in Investing in Britain's Future amount to well below 0.1% of average annual carbon emissions allowed in the fourth carbon budget This would be outweighed by 	<p>In accordance with the DMRB LA 114, projects shall seek to minimise carbon emissions as far as possible in all cases in order to contribute to the UK's net reduction in carbon emissions. Mitigation of effects on climate (i.e. carbon emissions associated with the Scheme) take place throughout the design process in accordance with the principles of PAS 2080: Carbon Management in Infrastructure, i.e. baselining, target setting and monitoring.</p> <p>ES Chapter 14 Climate (TR010040/APP/6.1) considers the Scheme's effect on climate (i.e. increases in carbon emissions) as well as the potential vulnerability of the Scheme to climate change (i.e. the resilience of Scheme assets to projected changes in climate) and no significant effects have been identified (see Section 14.12).</p> <p>ES Chapter 5 Air Quality (TR010040/APP/6.1) assesses the impact of the</p>

¹ <https://www.standardsforhighways.co.uk/dmrb/search/87f12e4f-70f8-4eed-8aed-9e9a42e24183>

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	<p>additional support for ULEVs also identified as overall policy.</p> <p>- Air quality – aggregate air quality impacts from delivering a programme of investment on the Strategic Road Network of the scale envisaged in Investing in Britain's Future are small. Total PM10 and NOX might be expected to increase slightly, but this needs to be seen in the context of projected reductions in emissions over time. PM10 and NOX are expected to decrease over the next decade or so as a result of tighter vehicle emission standards, then flatten, with further falls over time due to greater levels of electric and other ultralow emission vehicles.</p>	<p>Scheme during construction and operation on air quality and concludes that there will be no significant effects (see Section 5.10).</p> <p>See also the response to NNNPS paragraph 3.2.</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 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>Chapter 5 of the Case for the Scheme (TR010040/APP/7.1) summarises the economic assessment of the Scheme.</p> <p>The Economic Assessment has calculated 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 £8.48 million and will reduce accidents by approximately 20% on the A47 key links which equates to 2.2 accidents per year over the appraisal period when compared to the 'without Scheme' scenario.</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>ES Chapter 12 Population and Human Health (TR010040/APP/6.1) notes that the Scheme would help to promote sustainable modes of transport, by providing improved facilities for walkers and cyclists (see Section 12.8).</p> <p>The inclusion of new walking and cycling routes, as described in ES Chapter 12 (Section 12.8 (TR010040/APP/6.1)) aligns to sustainable and integrated transport objectives. These new provisions introduce greener transport</p>

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		<p>options locally.</p> <p>See also the response to NNNPS paragraph 3.2 and 3.17.</p>
<p>3.17 (Sustainable transport)</p>	<p>There is a direct role for the national road network to play in helping pedestrians and cyclists. The Government expects applicants to use reasonable endeavours to address the needs of cyclists and pedestrians in the design of new schemes. The Government also expects applicants to identify opportunities to invest in infrastructure in locations where the national road network severs communities and acts as a barrier to cycling and walking, by correcting historic problems, retrofitting the latest solutions and ensuring that it is easy and safe for cyclists to use junctions.</p>	<p>New footway / cycleway provision will improve safety for walkers and cyclists.</p> <p>Where the existing A47 is unaffected by the dualling, it is proposed to be de-trunked and serve as a local access road for residents. This will include a new combined footway/cycle. A new section of footway is also proposed on Yarmouth Road to connect to the existing footway and allow pedestrians to walk along Yarmouth Road to the allotment gardens. These new sections of infrastructure will provide improved connectivity between Blofield and North Burlingham for WCH.</p> <p>The Scheme also provides a new Public Right of Way (PRoW) footpath, to the south of the new A47 mainline, connecting from the Blofield Overbridge to the B1140 junction. This route connects with multiple existing north / south permissive routes and footpath Burlingham FP3 (see ES Chapter 12 Population and Human Health (TR010040/APP/6.1) Section 12.8).</p>
<p>3.19</p>	<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>The key objectives of the Scheme are set out in the Case for the Scheme (Section 3.6 and Table 3.1) TR010040/APP/7.1). In relation to accessibility and inclusivity the A47 to the west provides strategic road access from the East to the Midlands and North and plays a vital role in supporting the economy in this area.</p> <p>The Scheme has considered local communities and access to the road network, providing a safer route between communities for cyclists, pedestrians, equestrians and vulnerable users.</p>
<p>3.20</p>	<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"> • 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 	<p>The Highways England design standards and Scheme specific details are compliant with current national legislation set out under the Equality Act 2010 and associated Public Sector Equality Duty (PSED).</p> <p>An Equality Impact Assessment (EqIA) (TR010040/APP7.9) has been undertaken and provides an analysis of the proposals for the A47 Blofield to</p>

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	<p>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.</p> <ul style="list-style-type: none"> • 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 improvements in accessibility on and to the existing national road network should also be taken wherever appropriate. 	<p>North Burlingham. It supports Highways England in meeting its statutory requirements under the Public Sector Equality Duty (PSED), as set out in the Equality Act 2010, to support good decision making and to ensure that the scheme meets the needs of all users of the road network and of local communities, in particular those equality groups covered under the Equality Act 2010.</p> <p>Based on the conclusions of the EqIA and an understanding of the Equality, Diversity and Inclusion Tool (EDIT) (used as part of the assessment) results, it is not anticipated that the Scheme would significantly impact people within the protected characteristic groups as set out in the Equality Act 2010.</p> <p>See also the response to NNNPS paragraph 3.19</p>
3.21 (Accessibility)	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	<p>An EqIA (TR010040/APP7.9) has been prepared for the Scheme and meets the requirements of the Equalities Act 2010. The EqIA has considered the needs of these protected characteristic groups within the context of the Scheme.</p> <p>Based on the conclusions of the EQiA and an understanding of the EDIT results, it is not anticipated that the Scheme would significantly impact people within the protected characteristic groups as set out in the Equality Act 2010.</p> <p>See also the response to NNNPS paragraphs 3.19 and 3.20.</p>
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>ES Chapter 12: Population and Human Health (Section 12.9 (TR010040/APP/6.1)) provides a summary of the effects on community severance.</p> <p>The A47 at this location currently experiences some congestion during peak hours, particularly at Yarmouth Road, Lingwood Road, Lingwood Lane and the B1140 junctions, creating a degree of severance and accessibility issues for local communities.</p> <p>For those travelling by vehicle to access properties, businesses and</p>

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		<p>community facilities using the new A47 (the Scheme) by vehicle, benefits would be experienced in terms of journey time savings and safety for road users.</p> <p>The Scheme would sever access to properties on Lingwood Road, Lingwood Lane and Lingwood Community Woodland from the north and would result in a significant adverse effect due to increase journey length.</p> <p>Paragraph 1.2 of the NPS NN acknowledges that some schemes will unavoidably result in limited adverse impacts but that these should not outweigh the positive benefits. The residual impacts of this Scheme, following mitigation, do not outweigh its positive overall benefits.</p> <p>There will be a reduction in severance for North Burlingham due to the easternmost section of Main Road becoming a two-way road, increasing accessibility to businesses. The introduction of the grade-separated junction as part of the Scheme will allow access to Main Road via the Scheme.</p> <p>Although there will be effects on PROW and users of Burlingham FP3 as a result of a section of the footpath being lost and realigned, the Scheme includes new routes via the Blofield Overbridge and the B1140 Overbridge. A new combined footway/cycleway would be provided along a section of the existing A47.</p> <p>The existing A47 is to be detrunked, along with narrowing of the carriageway to reflect the reduced traffic flow and support a reduction in the speed limit. This would improve connectivity between Blofield and North Burlingham for pedestrians and cyclists. A new crossing of the Scheme would be facilitated by the Blofield Overbridge, which would be accessible from Burlingham FP3 via a new footpath to the south of the new A47.</p>

TABLE 3: COMPLIANCE WITH NNNPS CHAPTER 4

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
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"> • its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long term or wider benefits • 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. 	<p>The Case for the Scheme (Section 3.6 (TR010040/APP/7.1)) confirms the Scheme Objectives. Chapters 4-6 provide an overview of the transport, economic and environmental benefits associated with the Scheme.</p> <p>The Scheme offers an effective solution to the congestion on the A47. It will remove a long-standing bottleneck for road users, helping to create a high performing dual carriageway route, supporting the local and regional economy.</p> <p>Potential adverse impacts are considered in the EIA process as detailed throughout the topic chapters of the ES (TR010040/APP/6.1). Design, mitigation and enhancement measures to avoid, reduce or compensate are also reported in the document.</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 (TR010040/APP/6.1) reports on the EIA, which has been carried out with consideration for potential effects at national, regional and local levels.</p> <p>The TA (TR010040/APP/7.3) considers the transport effects of the Scheme on the strategic and local highway network with respect to traffic congestion, road safety and local sustainable modes of transport.</p> <p>The economic benefits of the Scheme are summarised within the Case for the Scheme (see Chapter 5 TR010040/APP/7.1).</p>
4.5	<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</p>	<p>The Case for the Scheme (Chapter 5 Economic Case Overview) (TR010040/APP/7.1) summarises the economic assessment of the Scheme. It presents the anticipated benefits and dis-benefits associated with the Scheme. After accounting for delays associated with construction and maintenance, and taking into account monetised journey time reliability and the wider economic benefits, the combined monetised value of benefits of the Scheme is forecast to be £107.48 million.</p> <p>The assessment has used the Transport Appraisal Guidance (TAG) Databook (May 2019).</p>

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
	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.	
4.6 (local transport model)	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>A strategic multi-modal model covering Broadland, Norwich and the surrounding area was used as the basis to derive forecasted traffic impacts of the Scheme's performance across the wider area. Known as the Norwich Area Transport Strategy Model (NATS), the Model was utilised for preliminary design work and has been developed in line with the DfT's Transport Appraisal Guidance (TAG).</p> <p>Local traffic models, including models of the A47/B1140 junction and Northern South Walsham Road Junction were utilised to assess the Scheme's operational performance in the forecast year scenarios.</p> <p>Details are provided in the TA Section 6 Assessment Methodology (TR010040/APP/7.3) and the results are summarised in the Case for the Scheme Chapter 4 Transport Case for the Scheme (TR010040/APP/7.1).</p> <p>The Case for the Scheme Chapter 5 Economic Case Overview (TR010040/APP/7.1) summarises the economic assessment of the Scheme and presents the anticipated benefits and dis-benefits associated with the Scheme.</p>
4.9	The Examining Authority should only recommend, and the Secretary of State should only impose, requirements in relation to a development consent, that are necessary, 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.	<p>The Draft Development Consent Order (DCO) (TR010040/APP/3.1) includes proposed Requirements which are considered to be necessary, relevant, enforceable, precise and reasonable and have taken into account guidance on the use of planning conditions.</p> <p>The Explanatory Memorandum (TR010040/APP/3.2) explains the purpose and effect of each provision in the draft DCO, including the requirements.</p>

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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.	It is not anticipated that a planning obligation is needed and none are proposed.
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 NNNPS and these assessments are detailed within this Accordance Table and the case for the Scheme (TR010040/APP/7.1).
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.	<p>The Blofield to North Burlingham section of the A47 is located approximately 9 kilometres to the east of Norwich and forms part of the main arterial highway route connecting Norwich with Great Yarmouth to the east.</p> <p>In the wider context, the A47 and A12 trunk roads form part of the strategic road network and provide for a variety of local, medium and long-distance trips between the A1 and the eastern coastline.</p>
4.15 (Environmental Impact Assessment)	All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive and are likely to have significant effects on the environment, must be accompanied by an environmental statement (ES), describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically requires an environmental impact assessment to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the environmental statement including a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term,	<p>An ES (TR010040/APP/6.1) has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.</p> <p>The ES presents a description of the Scheme, the likely significant environmental effects, the measures to avoid, prevent or reduce or if possible, offset any identified significant adverse effects.</p> <p>The scope of the ES complies with the Scoping Opinion (TR010040/APP/6.6). ES Chapter 4 Environmental Assessment Methodology (TR010040/APP/6.1) sets out the approach taken to preparing the EIA.</p>

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	<p>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>	
4.16	<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>ES Chapter 15 Cumulative Effects Assessment (TR010040/APP/6.1) 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> <p>This chapter 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>
4.17	<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>Potentially significant cumulative effects are identified, assessed and reported in ES Chapter 15 Cumulative Effects Assessment (TR010040/APP/6.1).</p> <p>In summary, as a result of the residual effects during the construction phase of the Proposed Scheme, as a single project there is potential significant cumulative effects for some residential properties on Yarmouth Road and at Poplar Farm. Additional liaison is prescribed in the Environmental Management Plan (TR04004/APP/7.7) to mitigate the adverse impacts.</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 (TR010040/APP/6.1) and details are shown on the Engineering Drawings and Sections (TR010040/APP/2.5) and the General Arrangement Plans (TR010040/APP/2.6).</p> <p>The Draft DCO (TR010040/APP/3.1) contains powers of lateral and vertical deviation as shown on the Works Plans (TR010040/APP/2.3).</p>

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		<p>The limits of deviation are also described in the Draft DCO (TR010040/APP/3.1) and the Explanatory Memorandum (TR010040/APP/3.2).</p> <p>The approach to the assessment of the limits of deviation in the EIA is set out in ES Chapter 2: The Proposed Scheme (TR010040/APP/6.1).</p>
4.19	Where some details are still to be finalised, applicants are advised to set out in the environmental statement, to the best of their knowledge, what the maximum extent of the proposed development may be (for example in terms of site area) and assess the potential adverse effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.	<p>See response to NNNPS paragraph 4.18 above.</p> <p>A reasonable worst cast assumption has been used throughout the EIA process.</p>
4.20	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 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.	The draft Requirements set out in Schedule 2 to the Draft DCO (TR010040/APP/3.1) make provision for the detailed design of the Scheme in general accordance with the Works Plans (TR010040/APP/2.3), Engineering Drawings and Sections (TR010040/APP/2.5) and the General Arrangement Plans (TR010040/APP/2.6), 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 worse adverse environmental effects in comparison with those reported in the ES (TR010040/APP/6.1).
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	<p>Not applicable</p> <p>The EIA Directive and therefore the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 apply to the Scheme.</p>
4.22 (Habitats Regulations Assessment)	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	A Report to Inform Habitat Regulations Assessment (TR010040/APP/6.9) has been produced and concludes there will be no likely significant effects to European sites as a result of the Scheme.

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	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 and conclusions of the impact assessment in relation to European sites, as presented in the Report.
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.	<p>See comments in response to NNNPS paragraph 4.22.</p> <p>The Report to Inform Habitat Regulations Assessment (TR010040/APP/6.9) concludes that there are no significant effects upon European Sites (see Appendix A of that Report). No significant effects have been identified and therefore an Appropriate Assessment is not required.</p> <p>The Report to Inform Habitat Regulations Assessment (Section 4 (TR010040/APP/6.9)) details best practice or mitigation measures that will be implemented to reduce any adverse impacts caused by the Scheme on international sites.</p>
4.26	<p>Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:</p> <ul style="list-style-type: none"> • The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects. • There may also be other specific legal requirements for the consideration of alternatives, for example, under the Habitats and Water Framework Directives. <ul style="list-style-type: none"> • There may also be policy requirements in this NPS, for example the flood risk sequential test and the 	<p>The Case for the Scheme Chapter 3 The Need for the Scheme (TR010040/APP/7.1) and ES Chapter 3 Assessment of Alternatives (TR010040/APP/6.1) summarise the main Scheme alternatives that have been considered.</p> <p>The Report to Inform Habitat Regulations Assessment (Section 2 (TR010040/APP/6.9)) addresses the legal requirements of the Habitats Directive and the Directive 2009/147/EC on the conservation of wild birds (the 'Birds Directive').</p> <p>A Water Framework Directive (WFD) assessment has been undertaken and can be found in ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1) (see Section 13.10). Table 13-9 (ES Chapter 13)</p>

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	assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB).	<p>indicates that the construction and operation of the Scheme will not cause deterioration in the status of receiving water bodies nor will it impact on the ability of the water bodies to achieve their objectives and standards under the Water Framework Directive.</p> <p>A FRA has been provided as Appendix 13.1 to the ES (TR010040/APP/6.2). It confirms that the Scheme is classed as “Essential Infrastructure” under the NPPF. The Scheme lies within Flood Zone 1 where essential infrastructure is permitted. The Scheme is therefore ‘appropriate’ development and meets the requirements of the Sequential Test. As such, the Exception Test is not required (see Section 6).</p>
4.27 (Alternatives)	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.	<p>The Scheme has been subject to a full options appraisal process as described in the Case for the Scheme (Chapter 2 Scheme Development and options Considered (TR010040/APP/7.1)) and ES Chapter 3 Assessment of Alternatives (TR010040/APP/6.1)</p> <p>The initial feasibility studies and options appraisal using criteria from the DfT’s Early Assessment and Sifting Tool resulted in the Schemes inclusion in the Government’s Road Investment Strategy for 2015-2020 (RIS1). The Scheme has also been included in RIS2.</p>
4.28-4.29 (Criteria for “good design” for national network Infrastructure)	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	<p>The Case for the Scheme (Chapter 2 Scheme Development and Options Considered (TR010040/APP/7.1) and ES Chapter 3 Assessment of Alternatives (TR010040/APP/6.1) describe the Scheme’s development, the options considered and the selection of the preferred option.</p> <p>The Scheme Design Report (Chapter 3 Design Principles, Objectives and Constraints (TR010040/APP/7.6)) explains the further evolution of the design and the measures incorporated into the Scheme.</p>

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	construction, matched by an appearance that demonstrates good aesthetics as far as possible.	
4.31	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 as is practicable, taking into account capital cost, economics and environmental impacts.	<p>See response to NNNPS paragraphs 4.28 and 4.29.</p> <p>The design principles of the Scheme are considered in the Scheme Design Report Chapter 3 Design Principles, Objectives and Constraints of (TR010040/APP/7.6). This chapter explains that there are 10 principles of good design which should be implemented by a scheme, as identified within Highways England's Strategic Design Panel Progress Report 3² Good road design. These are:</p> <ul style="list-style-type: none"> • makes roads safe and useful • is inclusive • makes roads understandable • fills in context • is restrained • is thorough • is environmentally sustainable • is innovative • is long lasting • is a collaborative process <p>The Chapter goes on to describe how the Scheme considers each of the design principles and how each principle has been applied within the design of the Scheme.</p>
4.33	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	See response to NNNPS paragraphs 4.29 and 4.31.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/844039/Strategic_Design_Panel_progress_report_3.pdf

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	design principles are embedded into infrastructure proposals.	
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 to NNNPS paragraphs 4.29, 4.31 and 4.33.</p> <p>The Masterplan (TR010040/APP/6.8) 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 (TR010040/APP/6.1) and in collaboration with stakeholder engagement.</p> <p>The following ES chapters (TR010040/APP/6.1) 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"> • Chapter 6 Cultural Heritage • Chapter 7: Landscape and Visual effects • Chapter 8: Biodiversity
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 to NNNPS paragraphs 4.28-29, 4.31, 4.33 and 4.34.
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>ES Chapter 14 Climate (TR010040/APP/6.1) considers the Scheme's effect on climate (i.e. increases in carbon emissions) as well as the vulnerability of the Scheme assets to projected changes in climate during operation and construction. The latest UK Climate Projections have been used and the Scheme has been deemed resilient. No significant effects as a result of climate change are anticipated.</p> <p>A qualitative methodology for assessing the vulnerability of Scheme assets to climate change during operation has been produced in line with DMRB Climate guidance LA 114³ and IEMA Climate Change Resilience & Adaptation</p>

³ <https://www.standardsforhighways.co.uk/dmrb/search/87f12e4f-70f8-4eed-8aed-9e9a42e24183>

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		<p>Guidance (2020)⁴ (see Section 14.4. of ES Chapter 14 Climate (TR010040/APP/6.1)).</p> <p>Section 14.9, Design Intervention and Mitigation, sets out how, through consultation with the design team, assets of the Scheme (e.g. highways, pavement, and structures) 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 topic chapters of the ES, e.g. Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1).</p> <p>The drainage design includes capacity for climate change projections. The FRA, (ES Appendix 13.1 (TR010040/APP/6.2)) has considered the risk to the Scheme and the risk posed by the Scheme on flooding from all sources. With mitigation in place, the Scheme will not cause any increase in flood risk elsewhere. The development is therefore considered appropriate under the requirements of the NPPF and the NNNPS.</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 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>	See response to NNNPS paragraphs 4.38.
4.41	<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>	See response to NNNPS paragraphs 4.38.

⁴ Available to download from <https://www.iema.net/resources/reading-room/2020/06/26/iema-eia-guide-to-climate-change-resilience-and-adaptation-2020>

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4.42	The applicant should take into account the potential impacts of climate change using the latest UK Climate Projections available at the time and ensure any environment statement that is prepared identifies appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure...	See response to NNNPS paragraph 4.38.
4.43	The applicant should demonstrate that there are no critical features of the design of new national networks infrastructure which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections. Any potential critical features should be assessed taking account of the latest credible scientific evidence on, for example, sea level rise (e.g. by referring to additional maximum credible scenarios such as from the Intergovernmental Panel on Climate Change or Environment Agency) and on the basis that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime through potential further mitigation or adaptation.	<p>ES Chapter 14 Climate, (TR010040/APP/6.1) considers the vulnerability of Scheme assets (e.g. highways, pavement, and structures) to projected climate changes. Table 14-11 lists the key climate change effects that could occur to various scheme assets, with corresponding likelihoods, significance and whether specific mitigation is required.</p> <p>ES Chapter 14 Climate (Section 14.9 (TR010040/APP/6.1)) sets out design interventions and mitigation in further detail.</p> <p>The latest UK Climate Projections have been used in the assessment and the Scheme has been deemed resilient.</p>
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 to NNNPS paragraph 4.38.</p> <p>ES Chapter 14 Climate (TR010040/APP/6.1) considers the Scheme's effect on climate as well as the vulnerability of the Scheme assets to projected changes in climate during operation. The latest UK Climate Projections have been used and the Scheme has been deemed resilient. No significant effects as a result of climate change are anticipated.</p> <p>ES Chapter 14 Climate (TR010040/APP/6.1) considers the vulnerability of Scheme assets to projected climate changes. Table 14-11 lists the key climate change effects that could occur to various scheme assets, with corresponding likelihoods, significance and whether specific mitigation is required.</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	The Scheme has been designed to prevent consequential impacts from adaptation measures (See Section 3 of the Scheme Design Report (TR010040/APP/7.6)). This section explains there are 10 principles of good

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	and the impacts guidance set out in this part of this NPS (e.g. on flooding, water resources, biodiversity, landscape and coastal change).	<p>design which should be implemented by a scheme, as identified within Highways England's Strategic Design Panel Progress Report 3⁵. The section goes on to describe how the Scheme considers each of the design principles and how each principle has been applied within the design of the Scheme.</p> <p>ES Chapter 15 Cumulative Affects Assessment (TR010040/APP/6.1) identifies the residual effects during the construction phase of the Proposed Scheme, as a single project. None of the effects identified are due to consequential impacts of adaptation measures (see Section 15.6).</p>
4.46	Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.	ES Chapter 14 Climate (Section 14.4 (TR010040/APP/6.1)) states that the Scheme may be subject to weather extremes during construction. However, it is not anticipated that verifiable climate change will occur between the time of design assessment and the end of the construction period. Construction works are therefore not considered to be vulnerable to climate change (as opposed to extreme weather events), thus no associated mitigation, other than measures set out in the Environmental Management Plan (EMP) TR010040/APP/7.7 are considered to be necessary.
4.48 (Pollution control and other environmental protection Regimes)	Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality and the marine environment, or which include noise and vibration, may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any activities within the development that are regulated under those regimes before the activities can be operated.	<p>Details of other regulatory consents to be sought for the Scheme are set out in the Consents and Licences Position Statement (TR010040/APP/3.3). These could include:</p> <ul style="list-style-type: none"> • Protected Species Licences (Great Crested Newt) • Waste exemptions to ensure waste exemptions for re-use of material on site are in place (if required) • Mobile plant licences for crushing operations or site permits if not using a contractor with their own mobile licences • Section 61 agreement • Felling Licence
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	The Case for the Scheme Chapter 6 Conformity with Planning Policy and Transport Plans (TR010040/APP/7.1) sets out how the Scheme conforms to planning policy and is an acceptable use of the land. The impacts of the use of the land are considered in the ES (TR010040/APP/6.2).

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/844039/Strategic_Design_Panel_progress_report_3.pdf

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	<p>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>	<p>The EMP (TR010041/APP/7.7) sets out the control of processes, emissions and discharges through the construction process.</p>
4.53	<p>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>	<p>The Consents and Licences Position Statement (TR010040/APP/3.3) provides details of the various consents that may be required as part of the Scheme. 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 (TR010040/APP/3.1) as permitted by various provisions of the 2008 Act. However, not all consents/permits/licences required to deliver the Scheme are included and the following may be sought out:</p> <ul style="list-style-type: none"> • Protected Species Licences (Great Crested Newt) • Waste exemptions to ensure waste exemptions for re-use of material on site are in place (if required) • Mobile plant licences for crushing operations or site permits if not using a contractor with their own mobile licences • Section 61 agreement • Felling Licence
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</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 (TR010040/APP/6.1), the Flood Risk Assessment (ES Appendix 13.2 (TR010040/APP/6.2)) and in the Drainage Strategy (ES Appendix 13.2 (TR010040/APP/6.2)).</p> <p>A Statement of Common Ground will be developed with the Environment</p>

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	<p>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>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> <p>Highways England will continue to engage with the Environment Agency ahead of the main construction works.</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"> - the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and - 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>See response to NNNPS paragraph 4.54</p> <p>The Broads Internal Drainage Board were contacted for comment on the proposed drainage strategy and confirmed in May 2020 that they had no comment assuming any surface water runoff would be discharged to ground via infiltration. As there are no works proposed immediately adjacent to a watercourse managed by an Internal Drainage Board no consent is required from the Internal Drainage Board (See ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1)).</p> <p>The EMP (TR010040/APP/7.7) outlines the control of processes, emissions and discharges that will be implemented through the construction process to mitigate any identified adverse construction impacts.</p> <p>Section 13.9 of ES Chapter 13: Road Drainage and the Water Environment (TR010040/APP/6.1) sets out the pollution control measures that have been included within the design in order to mitigate potential pollution effects during operation.</p> <p>ES Chapter 15: Cumulative Effects Assessment (TR010040/APP/6.1) assesses cumulative effects arising from the Scheme. No cumulative effects in relation to pollution are predicted.</p>
4.56	<p>The Secretary of State should not refuse consent on the basis of regulated impacts unless there is good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.</p>	<p>Details of other regulatory consents to be sought for the Scheme are set out in the Consents and Licences Position Statement (TR010040/APP/3.3) which concludes that there is no reason to consider that the relevant permits or licences will not be subsequently granted.</p> <p>Article 20 of the Draft DCO includes powers for the discharge of water.</p>

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4.58	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 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.	Potential sources of nuisance have been considered with regard to proceedings in respect of statutory nuisance and are dealt with in the Statement of Statutory Nuisance (TR010040/APP/6.7) in accordance with section 79(1) of the Environmental Protection Act 1990.
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.	The TA (TR010040/APP/7.3) summarises the analysis of accidents and concludes overall that the Scheme would have a beneficial impact in terms of reducing accidents (see Section 7.11). The assessment states that over the 60-year appraisal period, the Scheme will provide an accident reduction benefit with a monetised value forecast to be £8.5 million and that the Scheme will save 190 accidents when compared to the 'without Scheme' scenario. This reduction in accidents is forecast to reduce the number of KSIs by 29 over the 60-year period.
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.	The TA (TR010040/APP/7.3) provides an assessment of overall impact of the Scheme on road safety, in accordance with WebTAG ⁶ 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	See comments in response to NNNPS paragraph 4.60.

⁶ DfT WebTAG Unit M1 Section 4.2 : https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/427118/webtag-tag-unit-m1-1-principles-of-modelling-and-forecasting.pdf

DfT WebTAG Unit M3.1 Section 2.7.3 : https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888363/tag-unit-m3.1-highway-assignment-modelling.pdf

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	<p>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:</p> <ul style="list-style-type: none"> • minimise the risk of death and injury arising from their development; • contribute to an overall reduction in road casualties; • contribute to an overall reduction in the number of unplanned incidents; and • contribute to improvements in road safety for walkers and cyclists. 	<p>Measures to minimise the risk of death and injury arising from the construction of the Scheme are specified within the EMP (TR010040/APP/7.7). The Scheme has prioritised safety in design and is modelled to decrease the overall number of accidents on the road network from downgrading the existing A47 alignment to local road status, to the provision of new cycling and walking infrastructure, providing safety improvements for walking, cycling and other vulnerable users. The scheme also improves safety along the A47 for road users by providing an upgraded dual carriageway alignment and an upgraded A47/B1140 interchange junction.</p> <p>Further details on the accident analysis and forecast Scheme benefits is included in Chapter 4 of the Case for the Scheme (TR010040/APP7.1). The increased capacity provided by the additional lanes will increase the resilience of the highway, for example, in the event of a road traffic accident, and facilitate the government initiative to deliver regional economic growth.</p>
4.65	<p>They will also wish to demonstrate that:</p> <ul style="list-style-type: none"> • they have considered the safety implications of their project from the outset; and • they are putting in place rigorous processes for monitoring and evaluating safety. 	<p>See comments in response to NNNPS paragraphs 4.60 and 4.64.</p> <p>Safety has been taken into account through the consideration of alternatives, and the design evolution of the Scheme.</p> <p>Section 3.15 to 3.22 in the Outline Traffic Management Plan refer to ongoing safety and monitoring during construction (TR010040/APP/7.8).</p> <p>Section 8 of the TA (TR010040/APP/7.3) details the application of mitigation measures to applied to reduce the severity of any identified adverse transport impacts resulting from the Scheme. The mitigations required for the Scheme involve adopting an appropriate signage strategy and monitoring the performance of the road network. The TA (TR010040/APP/7.3) provides details of monitoring safety in Section 8.3.</p> <p>Once the Scheme is complete a Road Safety Audit will be undertaken to assess the safety and operational aspects of the Scheme. If any additional mitigation is then required, it will follow on from this assessment.</p>
4.66	The Secretary of State should not grant development	The Scheme has been designed to comply with DMRB which sets the

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	<p>consent unless satisfied that all reasonable steps have been taken and will be taken to:</p> <ul style="list-style-type: none"> - minimise the risk of road casualties arising from the Scheme; and - contribute to an overall improvement in the safety of the Strategic Road Network. 	<p>standards for safe highway design. The TA (TR010040/APP/7.3) provides an analysis of accident risk and safety and concludes that the Scheme would contribute to an overall improvement in the safety of the SRN between Blofield and North Burlingham, increase the capacity of the A47 and improve traffic flow (see Section 7.14).</p> <p>The Scheme has been designed to improve safety for walkers and cyclists as set out in Chapter 12: Population and Human Health, of the ES (TR010040/APP/6.1).</p>
<p>4.76 - 4.77 (Security considerations)</p>	<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 have been identified in developing the Scheme. No issues were identified in the responses to the statutory consultation (see the Consultation Report (TR010040/APP/5.1)).</p>
<p>4.81 - 4.82 (Health)</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.</p>	<p>The Scheme has been subject to EIA, which has considered air quality and noise impacts on sensitive human receptors (including local communities, walkers and cyclists). ES Chapter 5: Air Quality, Chapter 11: Noise and Vibration, and Chapter 12: Population and Human Health (TR010040/APP/6.1) report the impacts and propose appropriate mitigation.</p>

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	<p>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>ES Chapter 15: Cumulative Effects Assessment (TR010040/APP/6.1) concludes that, impacts on population and human health will be predominantly non-significant once the scheme is operational. The exception to this is users of Burlingham FP3 where a Moderate Adverse effect is anticipated due to journey increases. However, beneficial effects will be experienced by pedestrians and cyclists travelling along the de-trunked section of A47 due to the new footway/cycleway, lower traffic levels and slower speeds. For those travelling to access properties, businesses and community facilities using the new A47 (the Scheme), benefits will be experienced in terms of journey time savings and safety for road users. In this respect the Scheme will save 190 accidents when compared to the 'without Scheme' scenario. This reduction in accidents is forecast to reduce the number of KSIs by 29 over the 60-year period.</p> <p>During construction, there are likely to be some significant 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. Mitigation measures are set out in the EMP (TR010040/APP/7.7).</p>

TABLE 4: COMPLIANCE WITH NNNPS CHAPTER 5

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
<p>5.6 - 5.9 (Air quality)</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"> • 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 • 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. <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>ES Chapter 5 Air Quality (TR010040/APP/6.1) accords with the requirements of NPS paragraphs 5.6-5.9. The future baseline has been assessed, taking into account the future air quality if the scheme did not proceed. The detailed modelling also utilises Defra projections of air quality which allow for the effects of government initiatives to reduce emissions from motor vehicles and other sources.</p> <p>The results of the air quality assessment (Section 5.8) conclude that there will be no significant effects on air quality at either the construction or operational stage of the Scheme.</p> <p>ES Chapter 5 Air Quality (TR010040/APP/6.1) also states that the Scheme will not affect the UK's ability to comply with the Air Quality Directive (see Section 5.8).</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 vicinity of the Scheme. In all cases the Secretary of State</p>	<p>The local and wider study areas for the air quality assessment are defined in ES Chapter 5 Air Quality (Section 5.6 (TR010040/APP/6.1)).</p>

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	<p>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>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 (see Section 5.9).</p> <p>The assessment also included assessing compliance with the EU directive. There were no increases greater than 0.4 µg/m³ as a result of the Scheme in the opening year, which is within the threshold, therefore no risk to the reported date of compliance (see Section 5.12).</p>
5.11	<p>Air quality considerations are likely to be particularly relevant where schemes are proposed:</p> <ul style="list-style-type: none"> • within or adjacent to Air Quality Management Areas (AQMA); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England); and • 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. 	<p>The local and wider study areas defined in ES Chapter 5 Air Quality Section 5.6 (TR010040/APP/6.1) are not within or adjacent to any AQMAs (the closest being approx. 9.5km west of the Scheme). The only sites of ecological importance which are within 200m of the site are Breydon Water and Broadland SPA and RAMSAR sites and The Broads SAC which are sensitive to Nitrogen Deposition. Chapter 6 Air Quality of the ES confirms that there are no significant effects recorded in this respect.</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>Compliance of the Scheme with the EU Air Quality Directive is presented in ES Chapter 5 Air Quality (TR010040/APP/6.1).</p> <p>No significant effects or exceedances of the EU limit are predicted (see Section 5.8).</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"> • result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or 	<p>See response to NNNPS paragraph 5.11</p> <p>Neither of these scenarios will occur with the Scheme.</p>

NNNPS Paragraph Number	Requirement of the National Networks National Policy Statement (NNNPS)	Compliance with the NNNPS
	<ul style="list-style-type: none"> • affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision. 	
5.14 - 5.15	<p>The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage. The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales.</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 response to NNNPS paragraph 5.10</p> <p>ES Chapter 5 Air Quality Section 5.8 (TR010040/APP/6.1) states that as construction activities are programmed to last less than two years, it is unlikely there would be a significant effect on air quality or affect the UK's ability to comply with the Air Quality Directive. The construction traffic assessment was therefore screened out of the assessment.</p> <p>Based on the construction dust risk potential of the Scheme, the following activities to monitor the effectiveness of the mitigation measures and are included in the EMP (TR010040/APP/7.7):</p> <ul style="list-style-type: none"> • Development of dust management plan with measures to monitor effectiveness of mitigation • Daily onsite and off-site inspections • Record of complaints/exceptional dust events to be maintained <p>During operation no receptors are expected to exceed the annual mean NO2 AQO in the opening year scenarios. All modelled receptors have predicted annual mean NO2 concentrations well below the objective. In accordance with LA 105, no significant effects on human health or ecological receptors have been identified as a result of the Scheme in place (see ES Chapter 5 Air Quality Section 5.8 (TR010040/APP/6.1)).</p>
5.16	<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,</p>	<p>The Government's framework, carbon budget and plans have been taken into consideration within ES Chapter 14 Climate (TR010040/APP/6.1) which 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</p>

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	taking into account the impact of the Government's overall programme of new infrastructure as part of that.	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 (see Section 14.5).
5.17 (Carbon emissions)	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 applicants should provide evidence of the carbon impact of the project and an assessment against the Government's carbon budgets.	See response to NNNPS paragraph 5.16
5.18	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.	See response to NNNPS paragraph 5.16 The assessment in ES Chapter 14 Climate (TR010040/APP/6.1) has considered the Scheme's effect on climate (i.e. increases in carbon emissions). The increase in carbon emissions resulting from the Scheme is not considered so significant that it would have a material impact on the ability of the Government to meet its carbon reduction targets. 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 " <i>Carbon dioxide equivalents (or CO₂e) in tonnes associated with the Supply Chain's activities</i> " (Highways England 2019).
5.19	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	ES Chapter 14 Climate (TR010040/APP/6.1) identifies measures to reduce emissions across the lifecycle of the Scheme. Good practice measures are included in the EMP (TR010040/APP/7.7). Use of the Applicant's Carbon Tool has allowed consideration of carbon in the

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	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.	design process resulting in the development of a carbon baseline from which further reductions may be made. Monitoring and reporting on carbon emissions associated with energy and fuel use during the construction process will be undertaken (see C1 and C2 in Table 3-1 of the EMP (TR010040/APP/7.7)).
5.20 (Biodiversity and ecological conservation)	Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Government policy for the natural environment is set out in the Natural Environment White Paper (NEWP). The NEWP sets out a vision of moving progressively from net biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance.	See response to NNNPS paragraph 5.22 – 5.23 ES Chapter 8: Biodiversity (TR010040/APP/ 6.1) assesses the potential effects on sites, habitats and species of conservation importance including indirect effects. A Biodiversity net loss calculation has also been carried out to quantify biodiversity losses and gains. The Masterplan (TR010040/APP/6.8) has been developed to take into account opportunities to conserve and enhance biodiversity. It also identifies areas for habitat creation to mitigate for the loss of Habitats of Principal Importance (HPI). There are no sites designated for their geology and / or geomorphological importance in the vicinity of the Scheme.
5.22 - 5.23	Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems. The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.	ES Chapter 8 Biodiversity (TR010040/APP/6.1) Table 8-6 sets out the predicted effects on internationally, nationally and locally designated sites and other habitats and species. Table 8-7 in ES Chapter 8 Biodiversity sets out the ecological mitigation measures for the Scheme while Table 8-9 details the predicted significance of residual effects on biodiversity resources following the implementation of committed mitigation. Following mitigation, the partial tree removal at Lingwood Wood CWS can be compensated for by replacement planting alongside the Scheme resulting in a slight significant impact. Regarding bats, habitat creation in the form of artificial roosting habitat will be installed prior to the start of construction. The tree felling will be undertaken to avoid sensitive seasons for bats and will be soft felled with supervision from a

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		<p>registered bat licence holder with Natural England and under a fully detailed precautionary method statement. Works near trees and that may disturb roosting bats in buildings will be undertaken under supervision from a registered bat licence holder.</p> <p>Habitat loss and severance from the larger footprint of the new road will be compensated for as each phase of the road is completed with increased and enhanced tree planting as a remediation measure. At crossing point locations extra heavy standard trees will be planted of at least 4.25m high when planted.</p> <p>These will guide bats upwards over the wider highway at the existing crossing points used by bats. Crossing points will be monitored during operation and if required, changes to the EMP can be made.</p> <p>Lighting will be directional, and positioned sympathetically, to minimise light spill and disturbance for sensitive receptors including foraging bats. Further, a low noise road surface and four permanent noise barriers are included in the design.</p> <p>After mitigation, included in the precautionary method statement, residual effects to roosts will be neutral. Disturbance from loss of habitat during construction will not be remediated immediately as there will be a time lag between loss and the remediated habitats reaching maturity. Disturbance from noise, vibration and light spill is not predicted to cause residual effects. Mortality through traffic collisions is predicted to be less likely once remediated road side trees mature.</p> <p>Until an agreement has been reached as a result of pending consultation, the effects of the Scheme upon Barbastelle bats remains of Moderate Adverse significance.</p> <p>The Masterplan (TR010040/APP/6.8) has been developed to take into account opportunities to conserve and enhance biodiversity. Further detail is provided in Table 8-7 ES Chapter 8 Biodiversity (TR010040/APP/6.1)</p> <p>Paragraph 1.2 of the NPS NN acknowledges that some schemes will unavoidably result in limited adverse impacts but that these should not outweigh the positive</p>

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		benefits. The residual impacts of this Scheme, following mitigation, do not outweigh its positive overall benefits.
5.25	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.	See response to NNNPS paragraphs 5.20 & 5.22 – 5.23.
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.	See response to NNNPS paragraphs 5.20 and 5.22 – 5.23. ES Chapter 9 Geology and Soils (TR010040/APP/6.1) identifies that there are no sites designated for their geology and / or geomorphological importance in the vicinity of the Scheme.
5.27	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: <ul style="list-style-type: none"> • Potential Special Protection Areas and possible Special Areas of Conservation; • listed or proposed Ramsar sites; and • 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. 	As described within ES Chapter 8 Biodiversity (TR010040/APP/6.1) the assessment considers the following ecological receptors: <ul style="list-style-type: none"> • The Broads Special Area of Conservation (SAC) • Broadland Special Protected Area (SPA) / Ramsar • Breydon Waters SPA / Ramsar • Paston Great Barn SAC No potential or possible future sites have been identified and no sites are required as compensatory measures. Screening has been undertaken to assess the likelihood of the Scheme to result in any likely significant effects upon European Sites (Report to Inform the Habitat Regulations Assessment (TR010040/APP/6.9)). No significant effects have been found and therefore an Appropriate Assessment is not required.

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<p>5.28 - 5.29 (Biodiversity-SSSIs)</p>	<p>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> <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>As stated in ES Chapter 8 Biodiversity (TR010040/APP/6.1) the assessment considers the Decoy Carr, Acle Site of Special Scientific Interest (SSSI).</p> <p>Decoy Carr SSSI is approximately 0.6km south from Acle on the A47 and the assessment has concluded is unlikely to be impacted by the Scheme 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>
<p>5.32 (Biodiversity - Irreplaceable habitats including ancient woodland and veteran trees)</p>	<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 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</p>	<p>ES Chapter 8 Biodiversity (TR010040/APP/6.1) considers all ecological features. No ancient woodland is present within the study area and no aged or veteran trees have been identified by the assessment.</p>

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	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.	
5.33	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.	See response to NNNPS paragraph 5.22 – 5.23. ES Chapter 8 Biodiversity (TR010040/APP/6.1) describes the ecological mitigation (Table 8-7).
5.35 (Biodiversity - Protection of other habitats and species)	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.	ES Chapter 8 Biodiversity (TR010040/APP/6.1) considers all species and habitats of importance and assesses the residual effects following mitigation. Habitats include: scrub, trees, grasslands, hedgerows, woodland, allotments, ditches and buildings. Species include badger, bats, breeding birds (including barn owl), wintering birds, terrestrial and aquatic invertebrates, great crested newts, hedgehogs, hare, reptiles and their habitats. Mitigation measures are set out in ES Chapter 8 Biodiversity Table 8-7 that will reduce adverse effects through: replacing lost habitat; timing of construction works to avoid the most sensitive times of year; landscape planting and pollution control measures to prevent damage and degradation to habitats. The Masterplan (TR010040/APP/6.8) identifies areas for habitat creation to mitigate for the loss of Habitats of Principal Importance (HPI). The EMP (TR010040/APP/7.7) sets out good practice environmental measures that would be implemented for biodiversity during construction, why they are required, who is responsible for delivering them and details any ongoing maintenance arrangements. The EMP is secured through Requirement 4 to the Draft DCO (TR010040/APP/3.1). Mitigation and enhancement measures are set out in the Record of Environmental Actions and Commitments (REAC) which is included in the EMP

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		(TR010040/APP/7.7).
5.36 (Biodiversity – Mitigation)	<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"> • during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works; • 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); • habitats will, where practicable, be restored after construction works have finished; • developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable; • 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. 	<p>See response to NNNPS paragraph 5.35 and Table 8-7 of ES Chapter 8 Biodiversity (TR010040/APP/6.1).</p> <p>The EMP (TR010040/APP/7.7) details the good practice environmental measures that would be implemented for biodiversity during construction, why they are required, who is responsible for delivering them and any ongoing maintenance and monitoring arrangements. The EMP is secured through Requirement 4 to the Draft DCO (TR010040/APP/3.1).</p> <p>Mitigation and enhancement measures are set out in the REAC which is included in the EMP (TR010040/APP/7.7).</p>
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 (TR010040/APP/3.1) includes proposed Requirements. No requirement for planning obligations has been identified.</p> <p>The EMP (TR010040/APP/7.7) details the good practice environmental measures that would be implemented for biodiversity during construction, why they are required, who is responsible for delivering them and any ongoing maintenance and monitoring arrangements.</p> <p>Mitigation and enhancement measures are set out in the REAC which is included</p>

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		<p>in the EMP (TR010040/APP/7.7).</p> <p>The EMP is secured through Requirement 4 to the Draft DCO (TR010040/APP/3.1).</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 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 requirement for any protected species licenses. Details of consultation are included in ES Chapter 8 Biodiversity Section 8.5 (TR010040/APP/6.1)</p> <p>No protected species licences are required based on the assessment set out in Chapter 8 Biodiversity of the ES (TR010040/APP/6.1). However due to Covid 19 restricting surveys in 2020 a Great Crested Newt Licence has been included in the Consent and Licences Position Statement (TR010040/APP/3.3).</p>
5.42 (Waste management)	<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>The consumption of materials and products, use of materials offering sustainable benefits and the production, storage and disposal of waste including logistical details are set out in ES Chapter 10 Material Assets and Waste (TR010040/APP/6.1)</p> <p>ES Appendix 10.3 (TR010040/APP/6.2) sets out 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 (Table 1-2 of the EMP (TR010040/APP/7.7).</p>
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"> - any such waste will be properly managed, both onsite and off-site; - 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 	<p>See response to NNNPS paragraph 5.42.</p> <p>ES Appendix 10.3 Outline SWMP (TR010040/APP/6.2) sets out how the Scheme would prioritise waste prevention, followed by preparing for re-use, recycling, recovery and lastly disposal to landfill as per the internationally recognised waste hierarchy.</p> <p>The EMP (TR010040/APP/7.7) indicates the environmental mitigation measures that would be implemented during construction. The EMP includes the Outline SWMP that includes the management of hazardous and non-hazardous waste. It also sets out why measures are required, who is responsible for delivering them</p>

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	<p>have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and</p> <ul style="list-style-type: none"> - <input type="checkbox"/> 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. 	<p>and any ongoing maintenance and monitoring arrangements. The EMP is secured through Requirement 4 to the Draft DCO (TR010040/APP/3.1).</p> <p>Minimising the production of waste has been considered throughout the design process. Measures proposed include:</p> <ul style="list-style-type: none"> • considering the re-use of waste generated on-site before it is transported off-site for re-use or disposal; • use of site-won or recycled material assets as opposed to sourcing new materials i.e. sand and gravel; • 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.
5.44	Where necessary, the Secretary of State should use requirements or planning obligations to ensure that appropriate measures for waste management are applied.	No requirement for planning obligations has been identified.
5.55 - 5.58 (Civil and military aviation and defence interests)	<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</p>	<p>Consultation has been undertaken with the relevant bodies (Ministry of Defence, Civil Aviation Authority, National Air Traffic Services and any aerodrome, licensed or otherwise).</p> <p>It is not expected that the Scheme will result in significant effects on any civil or military aviation interests. Further details of the organisations consulted can be found in the Consultation Report, Annex L (TR010040/APP/5.2).</p>

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	applicant to ensure that the relevant aviation and defence consultees are informed as soon as reasonably possible.	
5.59	The Secretary of State should be satisfied that effects on civil and military aviation and other defence assets have been addressed by the applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, it should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out. It may also be appropriate to expect operators of the aerodrome to consider making reasonable changes to operational procedures. The Secretary of State will have regard to the necessity, acceptability and reasonableness of operational changes to aerodromes, and the risks or harm of such changes when taking decisions. When making such a judgement in the case of military aerodromes, the Secretary of State should have regard to interests of defence and national security.	See response to NNNPS 5.55 – 5.58
5.62	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: <ul style="list-style-type: none"> • a development would prevent a licensed aerodrome from maintaining its licence; • the benefits of the proposed development are outweighed by the harm to aerodromes serving business, training or emergency service needs; or • the development would significantly impede or compromise the safe and effective use of defence assets or significantly limit military training. 	See response to NNNPS 5.55 – 5.58
5.71- 5.75 (Coastal change)	Applications for development in a Coastal Change Management Area (CCMA) should make it clear why there is a need for it to be located in a CCMA. For developments in a CCMA, applicants should undertake an assessment of the	The Scheme is not within in a CCMA.

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	<p>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>5.82 (Dust, odour, artificial light,</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 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</p>	<p>The Statement Relating To Statutory Nuisances (TR010040/APP/6.7) explains how the Scheme would not cause a nuisance for reasons of dust, odour, artificial light, smoke and steam, having regard to the results of the ES (TR010040/APP/6.1).</p> <p>ES Chapter 5 Air Quality Sections 5.8 and 5.10 (TR010040/APP/6.1) presents the</p>

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	<p>applications and by the Secretary of State in taking decisions on development consents.</p>	<p>results of a qualitative assessment of potential dust effects, undertaken in accordance with the Design Manual for Roads and Bridges (DMRB), LA 105 Air Quality and Institute of Air Quality Management (IAQM).</p> <p>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 12 Population and Human Health, Section 12.8 (TR010040/APP/6.1) recognises that during construction, local communities are likely to experience some adverse effects in terms of noise, dust and visual amenity.</p> <p>ES Chapter 12 Section 12.9 and the EMP (TR010040/APP/7.7) set out the mitigation measures that would be implemented during construction. This is secured through Requirement 4 to the Draft DCO (TR010040/APP/3.1).</p> <p>Users of the Blofield Allotments to the eastern extent of Blofield may be impacted upon during the construction of the Scheme to a degree in terms of noise, visual amenity and dust, and restricted access to the allotments for a short period of time. The contractor will liaise with the Allotment Association to implement specific mitigation measures. This is set out in the EMP (TR010040/APP/7.7).</p> <p>With regard to artificial light, mitigation measures to reduce the potential construction and operational effects on biodiversity are specified in ES Chapter 8 Biodiversity Table 8-7 (TR010040/APP/6.1) and the EMP (TR010040/APP/7.7).</p> <p>Construction activity impacts and mitigation include a restriction on night-time working and low-level lighting during construction and following build to reduce light spill onto habitats which support commuting and foraging bats.</p>
5.83	<p>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>	<p>ES Chapter 12 Population and Human Health (Section 12.8) (TR010040/APP/6.1) states that during construction, local communities are likely to experience some adverse effects in terms of noise, dust and visual amenity.</p> <p>The EMP (TR010040/APP/7.7) sets out the mitigation measures that would be implemented during construction. The EMP is secured through Requirement 4 to</p>

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5.84 - 5.87	<p>Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from emissions of odour, dust, steam, smoke and artificial light and describe these in the Environmental Statement.</p> <p>In particular, the assessment provided by the applicant should describe:</p> <ul style="list-style-type: none"> • the type and quantity of emissions; • aspects of the development which may give rise to emissions during construction, operation and decommissioning; • premises or locations that may be affected by the emissions; • effects of the emission on identified premises or locations; and • measures to be employed in preventing or mitigating the emissions. <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>the Draft DCO (TR010040/APP/3.1).</p> <p>See response to NNNPS paragraph 5.82</p> <p>The scope of the EIA was discussed with Norfolk County Council and the Environment Agency. The EIA assesses significant effects and there is no potential for odour, smoke and steam resulting from the operation of the Scheme.</p> <p>Construction effects associated with odour, dust and smoke (particulate matter), including the predicted type, quantity and receptor locations of emissions are considered within ES Chapter 5 Air Quality (TR010040/APP/6.1). The receptor locations are shown in Figure 5-3 (TR010040/APP/6.3). The assessment has been used to inform the REAC (see Table 3-1 to the EMP (TR010040/APP/7.7)). These include development of a dust management plan, daily on and off-site inspections and a record of complaints/exceptional dust events. With the implementation of mitigation measures, no significant effects are likely.</p> <p>The proposed lighting design interventions are set out in Table 1.8 of ES Appendix 7.8 Lighting Assessment (TR010040/APP/6.2) These include reducing sky glow and the impact on the insect prey of bats by changing the color of light sources from neutral to warm white, reducing the lumen outputs, reducing the height of lighting columns and installing back shields. Removal of the existing A47 street lighting is subject to ongoing discussion.</p> <p>ES Chapter 7: Landscape and Visual (TR010040/APP/6.1) assesses potential effects from lighting including indirect effects (see Sections 7.8 and 7.10). Aside from the proposed mitigation measures above, night-time lighting effects would reduce over time following the establishment of screening afforded by Scheme mitigation planting.</p> <p>Overall, there would be a minor adverse magnitude of change and slight adverse significance of effect on night-time views at year 1 reducing to a no-change magnitude and neutral effect at year 15 (see Section 7.10).</p> <p>Measures to reduce the potential construction and operational effects of lighting</p>

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		<p>on biodiversity are specified within ES Chapter 8 Biodiversity (Table 8-7) (TR010040/APP/6.1) and the EMP (Table 6-1, G2) (TR010040/APP/7.7). Construction mitigation includes lighting to be designed to reduce light spill onto habitats which support commuting and foraging bats (see ES Chapter 8 Biodiversity Section 8.9 (TR010040/APP/6.1)).</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 to NNNPS paragraph 5.82 and 5.84-5.87.</p>
5.90 (Flood risk)	<p>Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK, while sea levels will continue to rise. Within the lifetime of nationally significant infrastructure projects, these factors will lead to increased flood risks in areas susceptible to flooding, and to an increased risk of flooding in some areas which are not currently thought of as being at risk. The applicant, the Examining Authority and the Secretary of State (in taking decisions) should take account of the policy on climate change adaptation in paragraphs 4.36 to 4.47.</p>	<p>See response to NNNPS paragraphs 4.38 and 4.46.</p> <p>The vulnerability of the Scheme to climate change and the resilience of the Scheme to climate change impacts and associated weather effects, including how the Scheme will take account of the projected climate change has been assessed (see ES Chapter 14 Climate (TR010040/APP/6.1)).</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</p>	<p>ES Appendix 13.1, FRA (TR010040/APP/6.2) states that the entire Scheme lies within Flood Zone 1 - low risk of river flooding.</p> <p>Although no information was available from the Strategic Flood Risk Assessment ((SFRA) (JBA Consulting (2017)) with regards to climate change influences; using Flood Zone 2 as an indicator demonstrates no additional impact to the Scheme due to climate change.</p> <p>The majority of the Scheme is at very low risk of surface water flooding, with</p>

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	<p>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>localised areas of low to high risk of flooding.</p> <p>There are no records of sewer flooding within the Scheme and as such, this risk is likely to be low.</p> <p>The majority of the Scheme has limited potential for groundwater flooding to occur (see Section 5.7 of the FRA (ES Appendix 13.1 (TR010040/APP/6.2))).</p>
5.92 - 5.93	<p>Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):</p> <ul style="list-style-type: none"> • Flood Zones 2 and 3, medium and high probability of river and sea flooding; • 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. <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>ES Appendix 13.1, FRA, (TR010040/APP/6.2) identifies that the entire Scheme lies within Flood Zone 1 however a FRA has been undertaken and considers the potential for surface, sewer and groundwater flooding and any mitigation.</p> <p>The increase in fluvial, tidal and groundwater flood risk from the Scheme to others is considered negligible, therefore no mitigation is required. Mitigation measures as a result of an increase in surface water flood risk to others have been assessed.</p> <p>The Scheme will result in an increase in areas of hardstanding which would, if not mitigated, result in an increase in flood risk to surrounding areas. Mitigation is proposed whereby the road will drain at source via the road drainage network using soakaways and an infiltration basin designed to a 1 in 10-year storm event with a 20% allowance for climate change and to a 1 in 100-year storm event with a 40% allowance for climate change respectively. Flood risk mitigation is described in ES Appendix 13.1 FRA, Section 8 (TR010040/APP/6.2).</p> <p>In addition, the provision of 'dry' culverts or cross drains sized for a 1 in 100 year event with an allowance for climate change would allow surface water flow pathways crossing the Scheme to be maintained where possible. This would prevent surface water ponding upstream of the carriageway and avoid an increase in flood risk to others.</p> <p>Residual risks have been identified in Section 12 of ES Appendix 13.2, the Drainage Strategy Report (TR010040/APP/6.2) and the proposed management of these risks.</p>

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		<p>The FRA considers the risk to the Scheme and the risk posed by the Scheme on flooding from all sources. With mitigation in place for surface water as identified above, and in FRA (Section 8) (TR010040/APP/6.2), the Scheme will not cause an increase in flood risk elsewhere and will therefore accord with the NPPF and the NNNPS.</p>
5.94	<p>In preparing an FRA the applicant should:</p> <ul style="list-style-type: none"> • 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; • take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made; • consider the vulnerability of those using the infrastructure including arrangements for safe access and exit; • 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; • consider if there is a need to remain operational during a worst case flood event over the development's lifetime; • provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate. 	<p>See response to NNNPS paragraph 5.92 and 5.93.</p> <p>Mitigation measures will ensure the residual risk, which the temporary and permanent features of the Scheme would generate for other receptors, is low.</p> <p>Residual risks have been identified in ES Appendix 13.2 Drainage Strategy Report (Section 12) (TR010040/APP/6.2) and the proposed management of these risks.</p> <p>ES Appendix 13.1, the FRA (TR010040/APP/6.2) demonstrates that the Scheme meets the requirements of the NNNPS including information to apply the Sequential test (no Exception test is required). It demonstrates that the development remains safe from flooding throughout its lifetime (taking climate change into account).</p>
5.96	<p>Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as</p>	<p>ES Appendix 13.1 FRA (TR010040/APP/6.2) Section 4.4 summarises the consultation undertaken as part of the assessment of flood risk. Section 11 of ES Appendix 13.2, the Drainage Strategy Report (TR010040/APP/6.2) also details the stakeholders and consultation that has taken place. The Environment Agency,</p>

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	<p>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>Anglian Water and Norfolk County Council responded to the EIA Scoping Report (Highways England, 2018) via the Planning Inspectorate.</p> <p>The Drainage Strategy has been developed in discussion with statutory consultees and consultation is still ongoing (see Section 14 ES Appendix 13.2 the Drainage Strategy Report (TR010040/APP/6.2)). The Environment Agency has been consulted on the design depth of soakaways and confirmed that these are acceptable, given that the conditions set by the Environment Agency have been met by the Drainage Strategy and in Annex D Technical Note, Deep Drainage.</p>
5.97	<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 to NNNPS paragraph 5.91.</p> <p>ES Appendix 13.1, the FRA, Section 4.4 (TR010040/APP/6.2) states that consultation was undertaken with Norfolk County Council.</p> <p>The Norwich Urban Area Surface Water Management Plan (SWMP) (Norfolk County Council, 2011b) indicates that the Scheme area is not part of a Critical Drainage Area for surface water flooding.</p> <p>The assessment has shown that the majority of the Scheme is at very low risk of surface water flooding with localised areas of low to high risk, one of which is a flow pathway that crosses the Scheme in a south westerly direction from the western edge of Blofield towards Run Dike.</p> <p>The increase in fluvial flood risk from the Scheme to others is considered negligible, therefore no mitigation is required. Mitigation measures as a result of an increase in surface water and groundwater flood risk to others have been assessed and are detailed in Section 8 of the FRA, ES Appendix 13.1 (TR010040/APP/6.2). This includes mitigation whereby the road will drain at source via the road drainage network using soakaways and an infiltration basin</p>

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		<p>designed to a 1 in 10-year storm event with a 20% allowance for climate change and to a 1 in 100-year storm event with a 40% allowance for climate change respectively.</p> <p>In addition, the provision of 'dry' culverts or cross drains, sized for a 1 in 100 year event with an allowance for climate change, would allow surface water flow pathways crossing the Scheme to be maintained where possible. This would prevent surface water ponding upstream of the carriageway and avoid an increase in flood risk to others.</p>
5.98	<p>Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:</p> <ul style="list-style-type: none"> - the application is supported by an appropriate FRA; - 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). 	<p>A FRA has been prepared and is provided at ES Appendix 13.1 (TR010040/APP/6.2).</p> <p>The Environment Agency classifies land affected by the Scheme as Flood Zone 1, and as such the risk of flooding from rivers is low.</p> <p>The approach regarding the Sequential Test and Exception Test are as per NNNPS paragraphs 5.94. The Scheme is an upgrade of an existing road and is classified as 'essential infrastructure'. According, to the NPPF, 'essential infrastructure' is appropriate development in Flood Zone 1. Therefore, the Scheme meets the requirements of the Sequential Test and no Exception Test is required.</p>
5.99	<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"> - 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 - development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be 	<p>See response to NNNPS paragraphs 5.94.</p> <p>The Scheme forms part of a package of proposals for the A47 corridor to achieve a modern standard dual carriageway, improving the vital connection between Peterborough and Great Yarmouth and is classified as 'essential infrastructure'.</p> <p>According, to the NPPF, 'essential infrastructure' is appropriate development in Flood Zone 1. Therefore, the Scheme meets the requirements of the Sequential Test and no Exception Test is required, see ES Appendix 13.1, FRA (TR010040/APP/6.2).</p>

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	safely managed, including by emergency planning; and priority is given to the use of sustainable drainage systems.	
5.100	<p>For construction work which has drainage implications, approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems (SuDS), including any necessary access rights to property. The Secretary of State, should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority, or another body such as the Internal Drainage Board.</p>	<p>Appendix 13.1 the FRA (TR010040/APP/6.2) states that the road drainage network includes filter drains; carrier drains, kerb and gully or drainage channels and combined kerb drains where continuous drainage is required in flatter gradients leading to an infiltration basin or soakaways. Where possible, existing drainage on the A47 will remain in place.</p> <p>Overland flow will be intercepted in cut-off ditches and directed along existing flow pathways or to soakaways. An infiltration basin in the south west of the Scheme must attenuate the road runoff. Soakaways must be designed to a 1 in 10-year storm event with a 20% allowance for climate change and the infiltration basin will be designed to a 1 in 100-year storm event with a 40% allowance for climate change</p> <p>'Dry culverts' will also be provided, where required, to maintain continuity of surface water flooding flow pathways and to prevent potential ponding of water adjacent to the carriageway which may pose additional flood risk.</p> <p>The detailed design for the Scheme drainage will be in accordance with relevant guidance in the DMRB (Highways England, 2019b; 2020a; 2020b).</p> <p>ES Appendix 13.2, the Drainage Strategy Report (Section 13) (TR010040/APP/6.2) details the proposed maintenance of the drainage of the Scheme. The proposed responsibility of the drainage assets will be that of Highways England and Norfolk County Council. Allocation of assets between the two bodies is subject to agreement at this time. It is proposed that Highways England 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, in addition to any de-trunked sections of the A47 that will be retained. It is proposed that the infiltration basin, soakaways and ancillaries associated with the mainline drainage will be maintained by Highways England. Any soakaways receiving runoff from the de-</p>

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		trunked carriageway and new links are proposed to be maintained by NCC.
5.112 - 5.115 (Flood risk – mitigation)	<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. 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>ES Appendix 13.2, the Drainage Strategy Report (Section 8 (TR010040/APP/6.2)) details the volumes and peak flow rates and demonstrates how they would not be increased. It also details the SuDS components that have been incorporated into the design (see Section 7 and 9).</p> <p>ES Appendix 13.1, the FRA (TR010040/APP/6.2) shows that the Scheme will result in an increase in areas of hardstanding which would, if not mitigated, cause a potential increase in flood risk to surrounding areas. The road drainage is proposed to drain at source via the road drainage network using soakaways and an infiltration basin, designed for a 1 in 10-year storm with a 20% allowance for climate change and a 1 in 100-year storm with a 40% allowance for climate change respectively. Dry culverts would also be provided, where required, to maintain continuity of surface water flooding flow pathways and prevent potential ponding of water adjacent to the carriageway which may pose additional flood risk.</p> <p>The Scheme is classified as ‘essential infrastructure’ and is located in Flood Zone 1. The NPPF states that ‘essential infrastructure’ is appropriate development in Flood Zone 1. The Scheme is therefore deemed to pass the Sequential Test and no Exception Test is required (see ES Appendix 13.1, the FRA (TR010040/APP/6.2)).</p>
5.117 - 5.118 (Land instability)	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	<p>A review of the existing geology and soil baseline conditions, consideration of the potential impacts, identification of proportionate mitigation and identification of residual effects caused by the Scheme is set out ES Chapter 9 Geology and Soils (TR010040/APP/6.1).</p> <p>There are no land stability issues relating to the Scheme.</p>

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	<p>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. A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain that their sites are and will remain stable or can be made so as part of the development. The site needs to be assessed in context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.</p>	
<p>5.124 (The historic environment)</p>	<p>Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.</p>	<p>ES Chapter 6 Cultural Heritage (TR010040/APP/6.1) 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 Assessment⁷) and has considered designated and non-designated heritage assets including:</p> <ul style="list-style-type: none"> • 28 Listed Buildings • 112 non-designated assets • 4 non-designated historic landscape types in 118 individual parcels. <p>Designated and non-designated heritage assets are listed in ES Appendix 6.1 Cultural Heritage Information (TR010040/APP/6.2) together with an assessment</p>

⁷ Available to download from <https://www.standardsforhighways.co.uk/dmrb/search/8c51c51b-579b-405b-b583-9b584e996c80>

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		of their historical background and context, value, magnitude and significance of impact.
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 though those assets are of lesser value than designated heritage assets.	See response to NNNPS paragraph 5.124. The assessment of designated and non-designated heritage assets includes; listed buildings, non-designated locally recorded historically important buildings and landscapes, locally important buildings and structures identified during survey work, and non-designated below ground archaeological remains (see ES Chapter 6 Cultural Heritage, Section 6.4 (TR010040/APP/6.1)).
5.126 - 5.127	<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>ES Chapter 6 Cultural Heritage (TR010040/APP/6.1) reports the potential significant effects on cultural heritage as a result of the Scheme.</p> <p>ES Appendix 6.1 Cultural Heritage Information (TR010040/APP/6.2) provides a detailed discussion 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. 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</p>

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		within the study area, and site visits, including a geophysical survey and trial trenching to assess the 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"> - relevant information provided with the application and, where applicable, relevant information submitted during examination of the application; - any designation records; - the relevant Historic Environment Record(s), and - similar sources of information; - representations made by interested parties during the examination; and - expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it. 	<p>See response to paragraphs 5.126 – 5.127.</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 ES Appendix 6.1 Cultural Heritage Information (TR010040/APP/6.2).</p> <p>Norfolk County Council has also been consulted in relation to the design of archaeological evaluations and has suggested drafting for the Requirement relating to archaeological site investigation (see Section 6.3 of ES Chapter 6 Cultural Heritage (TR010040/APP/6.1)).</p> <p>Further, the Consultation Report Annex O (TR010040/APP/5.2) provides a summary of responses provided by stakeholders such as Historic England, Norfolk County Council, Broadlands District Council and other interested parties and on heritage matters during statutory consultation. Annex L sets out the relevant bodies that were consulted on heritage as part of the 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>ES Appendix 6.1 Cultural Heritage Information (TR010040/APP/6.2) provides a detailed discussion 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. ES Chapter 6: Cultural Heritage (TR010040/APP/6.1) reports the significance of effects on heritage assets as a result of the Scheme (see Section 6.5).</p> <p>At construction stage they range between slight-adverse to moderate-beneficial and are temporary and have no residual effects. At operational stage from moderate adverse to moderate beneficial.</p>

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		Design measures are also proposed to mitigate the significance of effects as far as possible, as described in ES Chapter 6 Cultural Heritage Section 6.6 (TR010040/APP/6.1) .
5.130	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).	Mitigation has been embedded into the Scheme design to make a positive contribution to the conservation of heritage assets. Landscaping and planting have been incorporated into the design of the Scheme to reduce adverse effects on the setting of cultural heritage as described within ES Chapter 6 Cultural Heritage Section 6.6 (TR010040/APP/6.1) .
5.131	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>ES Chapter 6 Cultural Heritage (TR010040/APP/6.1) acknowledges the importance of designated heritage assets. The scheme affects only two: the Grade I listed St Andrew's Church in North Burlingham and the Grade II listed Church of St Peter.</p> <p>With regard to St Andrew's Church, traffic on the new carriageway will be further south than the current A47 alignment and landscape planting will be designed to be in keeping with the current screening. There will therefore be a moderate beneficial effect on the Church (see Section 6.7).</p> <p>Likewise, traffic on the new carriageway will be further away from St Peter's Church to the south with landscape planting designed to be in keeping with current screening resulting in a slight beneficial effect overall (see Section 6.7).</p> <p>Highways England will protect and conserve two mileposts along the route of the existing A47 and propose these for listing by Historic England (see Section 6.6).</p>
5.132	Any harmful impact on the significance of a designated heritage asset should be weighed against	ES Chapter 6 Cultural Heritage (TR010040/APP/6.1) confirms that the Scheme will not result in substantial harm to, or the total loss of significance, of any

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	the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.	designated heritage assets.
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"> • the nature of the heritage asset prevents all reasonable uses of the site; and • no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and • conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and - the harm or loss is outweighed by the benefit of bringing the site back into use. 	See response to NNNPS Paragraph 5.132. The Scheme does not lead to substantial harm or a total loss of significance of a designated heritage asset.
5.134	Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including securing its optimum viable use.	See response to NNNPS Paragraph 5.132.
5.135	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	The Scheme would not result in any effects on any World Heritage Sites or Conservation Areas as confirmed in ES Chapter 6 Cultural Heritage (TR010040/APP 6.1).

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	World Heritage Site as a whole.	
5.136	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>ES Chapter 6 Cultural Heritage Section 6.5 (TR010040/APP/6.1) reports the potential impacts on cultural heritage as a result of the Scheme.</p> <p>Adverse impacts during construction that are temporary in nature and reversible mainly cause only slight adverse impacts. There are some permanent impacts from construction, but these are mainly of slight adverse significance of impact on heritage assets.</p> <p>Any impacts will relate to loss of agricultural and landscape settings and as a result of noise, temporary structures and lighting. The nature of the landscape impacts mean they will occur naturally as construction progresses while lighting impacts will mainly occur during the operational stage. Lighting impacts will be offset by adjustments to the height of lighting columns, brightness and colour of existing lighting. Landscape planting measures will also contribute to offsetting Scheme and existing lighting and will improve with the passage of time.</p> <p>Norfolk County Council has proposed draft text for Requirements which make provision for the protection of heritage assets to prevent their loss occurring during construction of the Scheme.</p> <p>The Draft DCO (TR010040/APP/3.1) includes the following:</p> <p>Requirement 9: Archaeological remains 9.—(1) No part of the authorised development is to commence until, for that part, a written scheme of investigation of areas of archaeological interest, reflecting the relevant mitigation measures set out in the REAC has been submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the relevant planning authority. (2) The authorised development must be carried out in accordance with the scheme referred to in sub-paragraph (1).</p>
5.137	Applicants should look for opportunities for new development within Conservation Areas and World	Section 6.4 of ES Chapter 6 Cultural Heritage (TR010040/APP/6.1) states that there are no Conservation Areas within the study area.

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	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.	In addition, no World Heritage Sites have been identified or are included in ES Appendix 6.1.
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.	ES Appendix 6.1 Cultural Heritage Information, Section 6.4 (TR010040/APP/6.2) 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 (Landscape and visual impacts)	<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>ES Chapter 7 Landscape and Visual (TR010040/APP/6.1) 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>There are no statutory or local landscape designations associated with the Scheme study area.</p> <p>Five landscape character areas have been identified for the purposes of assessment as an outcome of review of published landscape character studies and site observation (see ES Appendix 7.4 Landscape Character Areas and ES Figure 7.3 Landscape Character) (TR010040/APP/6.2).</p> <p>The LVIA considers both construction and operational phase impacts and includes an assessment of likely significant effects on key visual receptors, representative viewpoints, landscape character areas, residential properties, PRoW and community facilities. It also considers the effect on tranquility and night-time effects. Effects are considered over a 15-year period of operation (see ES Chapter 7 Landscape and Visual (Section 7.10 TR010040/APP/6.1)).</p>

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	and light pollution effects, including on local amenity, tranquillity and nature conservation.	<p>ES Chapter 7 Landscape and Visual (Section 7.10 (TR010040/APP/6.1)) explains the effects on landscape character of the Scheme. Table 7-10 summarises the significance of operational effects on landscape character at year one and year 15 of operation. Table 7.11 shows these effects on representative viewpoints and 7-12 and 7-13 on visual receptors.</p> <p>As required by DMRB LA107 Landscape and Visual Effects the assessment concludes, in assessing the overall effects that the Scheme would not result in a significant residual effect on landscape and visual amenity.</p>
5.147- 5.148	<p>Any statutory undertaker commissioning or undertaking works in relation to, or so as to affect land in a National Park or Areas of Outstanding Natural Beauty, would need to comply with the respective duties in section 11A of the National Parks and Access to Countryside Act 1949 and section 85 of the Countryside and Rights of Way Act 2000.</p> <p>For significant road widening or the building of new roads in National Parks and the Broads applicants also need to fulfil the requirements set out in Defra's English national parks and the broads: UK government vision and circular 2010 or successor documents. These requirements should also be complied with for significant road widening or the building of new roads in Areas of Outstanding Natural Beauty.</p>	The Scheme is not located within or adjacent to a National Park or AONB.
5.149	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 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>See response to NNNPS paragraphs 5.144-5.146 above relating to effects on the existing landscape.</p> <p>Landscape and visual related design interventions and mitigation associated with the Scheme are described in ES Chapter 7 Landscape and Visual, Section 7.9 (TR010040/APP/6.1).</p> <p>ES Chapter 7 Landscape and Visual, Section 7.10 (TR010040/APP/6.1) 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>

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		<p>The EMP (TR010040/APP/7.7) includes the REAC (Table 3.1) which identifies the mitigation identified within the ES to address the potential significant environmental effects of the Scheme. During construction, measures within the REAC include keeping a tidy site, avoiding stockpiling, protecting retained vegetation, minimising routes of construction vehicles, reducing light disturbance for sensitive receptors and constraining working hours.</p> <p>Landscaping works will include, native tree and hedgerow planting; ensuring grasses and plants require minimum future maintenance; preservation of views of St Andrew's Church spire; ensuring an appropriate diversity in species in planting plans; creating attenuation ponds for landscape and ecological enhancement and smooth profiling of earth on cuttings and embankments (see ES Chapter 7 Landscape and Visual Section 7.10 (TR010040/APP/6.1)).</p> <p>Section 7.10 of ES Chapter 7 (TR010040/APP/6.1) 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>
5.150 - 5.151	<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>	<p>The Scheme is not located within or adjacent to a National Park, AONB or other nationally designated area.</p>

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	<ul style="list-style-type: none"> • 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; • the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way; and • any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated. <p>There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and Areas of Outstanding Natural Beauty, unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly. Planning of the Strategic Road Network should encourage routes that avoid National Parks, the Broads and Areas of Outstanding Natural Beauty.</p>	
5.153	Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.	The Scheme is not located within or adjacent to a National Park, AONB or other nationally designated area.
5.154 - 5.155	The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. This should	Section 7.7 of ES Chapter 7 Landscape and Visual (TR010040/APP/6.1) states that there are no landscape designations within the Scheme study area therefore it would not affect any statutory or locally designated landscapes.

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	<p>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>	
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>See response to NNNPS paragraphs 5.154-5.155.</p> <p>In terms of local landscape character, the Scheme is within the Broadlands District Council Landscape Character Assessment 'Blofield Tributary Farmland' and 'Freethorpe Plateau Farmland' (LCA) (see Section 7.7 of ES Chapter 7 Landscape and Visual (TR010040/APP/6.1)).</p> <p>The Norfolk Historic Landscape Characterisation (HLC) also provides information regarding historic character areas across the study area.</p> <p>Five 'Assessment landscape character areas', all of which have 'medium sensitivity' have been identified through review of the above studies and site observation and are used as the basis for assessment of the Scheme's effects on landscape character. These are:</p> <ul style="list-style-type: none"> • LCA 1: Blofield settlement • LCA 2: Blofield / Lingwood valley • LCA 3: Blofield / Lingwood plateau • LCA 4: Burlingham plantation • LCA 5: Freethorpe plateau <p>Baseline descriptions of each of the above 5 LCAs are presented in ES Appendix 7.4 Landscape Character Areas (TR010040/APP/6.2).</p> <p>During construction there would be a loss of existing trees and hedgerows and a change to the existing agricultural land use. People's views would also be</p>

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		<p>affected, including views of earthworks, construction vehicles and work associated with the installation of overbridges.</p> <p>During the initial stages of operation, the Scheme carriageway, overbridge structures, junction lighting and general movement of vehicles along the highway would be visible. Once tree and hedgerow planting became established, the visibility of the Scheme and extent of associated landscape features would revert to a state comparable to that of the existing situation.</p> <p>The assessment concludes that the Scheme would not result in a significant residual effect on landscape and visual amenity.</p>
5.157	<p>In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.</p>	<p>ES Chapter 7 Landscape and Visual (TR010040/APP/6.1) addresses how the Scheme has been designed to minimise harm to the landscape, sets out the environmental measures provided as part of the Scheme and the mitigation proposed.</p> <p>The EMP (TR010040/APP/7.7) includes the REAC (Table 3.1) which identifies the mitigation identified within the ES to address the potential significant environmental effects of the Scheme. During construction, measures within the REAC include keeping a tidy site, avoiding stockpiling, protecting retained vegetation, minimising routes of construction vehicles, reducing light disturbance for sensitive receptors and constraining working hours.</p> <p>Landscaping works will include, native tree and hedgerow planting; ensuring grasses and plants require minimum future maintenance; preservation of views of St Andrew's Church spire; ensuring an appropriate diversity in species in planting plans; creating attenuation ponds for landscape and ecological enhancement and smooth profiling of earth on cuttings and embankments (see Section 7.9 of Chapter 7 of the ES (TR010040/APP/6.1)) and the Masterplan (TR010040/APP/6.8).</p>
5.158	<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>Section 7.10 of ES Chapter 7 Landscape and Visual Section 7.7 (TR010040/APP/6.1) evaluates and assesses the significance of the effects of the Scheme on sensitive receptors following the design refinement during the EIA process and application of mitigation and enhancement measures. The majority of</p>

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		<p>effects would reduce as landscape planting matures.</p> <p>At year 1 of operation, of the 132 residential receptors identified as being potentially affected by the Scheme, 16 would experience moderate or large adverse visual effects. By year 15 of operation when planting has established, the potential for adverse visual effects would diminish and be limited to slight adverse effects on views from 53 residential properties.</p> <p>In terms of the benefits of the development, there will be visual benefits as a result of moving traffic further away from the settlement of North Burlingham, and the Scheme would deliver a range of substantial economic, transport, environmental and community benefits, which are summarised in the Case for the Scheme Chapters 3 to 5 (TR010040/APP/7.1). These benefits are considered to outweigh any visual effects on sensitive receptors.</p>
5.159	<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 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>See response to NNNPS paragraphs 5.157 and 5.158</p> <p>The Scheme is a linear highway project and there is accordingly limited scope to reduce scale. Eight potential options were initially considered, then assessed to identify their performance against safety, environmental, engineering, transportation and economic criteria so that they could be compared and contrasted. The Scheme Option 4 was the favoured option by the public by a significant margin in consultation and has the least impact on the environment. Further information can be found in the Case for the Scheme Chapter 2 (TR010040/APP/7.1) and ES Chapter 3 Assessment of Alternatives (TR010040/APP/ 6.1).</p> <p>The evolution of the Scheme's design is described in the Scheme Design Report (TR010040/APP/7.6). The design has considered the adjacent landform and sought 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.</p>
5.160	<p>Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping Schemes, depending</p>	<p>Landscape and visual related design interventions and mitigation associated with the Scheme are described in Section 7.9 of ES Chapter 7 Landscape and Visual (TR010040/APP/ 6.1). The EMP (TR010040/APP/7.7) includes the REAC (Table</p>

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	<p>on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration.</p>	<p>3.1) which identifies the mitigation identified within the ES to address the potential significant environmental effects of the Scheme.</p> <p>The evolution of the Scheme's design is described in the Scheme Design Report (TR010040/APP/7.6). The Scheme design has considered the adjacent landform and sought 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.</p> <p>Landscape planting is set out in the Masterplan (TR010040/APP/6.8). Landscaping works will include, native tree and hedgerow planting; ensuring grasses and plants require minimum future maintenance; preservation of views of St Andrew's Church spire; ensuring an appropriate diversity in species in planting plans; creating attenuation ponds for landscape and ecological enhancement and smooth profiling of earth on cuttings and embankments (see ES Chapter 7 Landscape and Visual Section 7.9 (TR010040/APP/6.1)).</p>
5.161	<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 hedge lines would mitigate the impact when viewed from a more distant vista.</p>	<p>The Order Limits do not include for off-site landscape mitigation as sufficient mitigation can be delivered within the Scheme boundary.</p> <p>Proposed landscape and visual mitigation measures embedded in the Scheme design are illustrated and detailed in the Masterplan (TR010040/APP/6.8).</p>
5.165 - 5.167 (Land use including open space, green infrastructure and Green Belt)	<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</p>	<p>ES Chapter 12: Population and Human Health (TR010040/APP/6.1) 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. Consultation has taken place with Norfolk County Council CC as detailed in the Consultation Report (TR010040/APP/5.1)</p>

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	<p>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>There are no landscape designations or national trails associated with the study area therefore the Scheme will not affect any designated landscapes (statutory or local designation), further information is provided within Chapter 7 Landscape and Visual of the ES (TR010040/APP/6.1).</p> <p>There will be some disruption during construction for local residents and businesses resulting in longer journey times and a degree of temporary severance between communities, businesses and their facilities. Recreational users would also experience temporary diversions of footpaths. 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 (TR010040/APP/6.1)).</p> <p>During operation, there are likely to be changes in severance for private property and housing, community land, community facilities, development land and businesses in the communities of Blofield with South Walsham, Burlingham and Acle. Access to some private properties and businesses may change as a result of the Scheme, however none of these changes are considered significant (see Chapter 12: Population and Human Health of the ES (TR010040/APP/6.1)).</p> <p>No proposed development land or sites with planning applications are anticipated to be affected as a result of the Scheme.</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</p>	<p>The A47 corridor is located within a largely rural landscape characterised by agricultural land use and dispersed settlement linked by a network of local roads.</p> <p>ES Chapter 9 Geology and Soils (TR010040/APP/6.1) states that the soils underlying the Scheme are designated as best and most versatile (BMV) (i.e. land that can best deliver future crops for food and non-food uses). These are commonly encountered across Norfolk. The baseline conditions are described in Section 9.7).</p> <p>The provisional Agricultural Land Classification (ALC) of the soils below the Scheme are predominantly designated as Grade 1 soils, with minor areas near</p>

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	<p>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>the proposed Blofield overbridge designated as Grade 2. This designation indicates agricultural soils of the highest quality.</p> <p>During construction the Scheme will result in the approximate temporary land take of 40.16 ha of agricultural land with potential for compaction or deterioration of the adjacent soil resource. Permanent land take will be 47.4ha. At operational stage there will be no significant effects on geology and soils.</p> <p>Given the surrounding lands are of similarly high agricultural quality, the overall effect on agricultural soils of the considered alternatives would be very similar for other offline route options. The key design principle has been to minimise effects on soils is to ensure that the footprint of the Scheme is reduced as much as practicable. Materials will be reused within or outwith the scheme in line with best practice. A Materials Management Plan and Soil Management will be put in place to ensure these actions take place.</p> <p>Paragraph 1.2 of the NPS NN acknowledges that some schemes will unavoidably result in limited adverse impacts but that these should not outweigh the positive benefits. The residual impacts of this Scheme, following mitigation, do not outweigh its positive overall benefits.</p>
5.169	<p>Applicants should safeguard any mineral resources on the proposed site as far as possible.</p>	<p>ES Chapter 10 Material Assets and Waste (TR010040/APP/6.1) 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. Further detail is provided in Appendix 10.4 to the ES (Mineral Impact Assessment (TR010040/APP/6.2)).</p> <p>The potential impacts of the Scheme are set out in Table 10-5 of ES Chapter 10 (TR010040/APP/6.1). These include, depletion of natural resources through the predominant use of primary aggregates and the use of recycled/secondary aggregates below the 31% east of England regional target; depletion of resources through recycling or recovery of CDW below the &)% recovery target; sterilization of one or more mineral safeguarding sites; reduction in the capacity of regional and inert non-hazardous landfill facilities; and, generation of hazardous waste requiring disposal outside of the region.</p>

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		<p>Potential impacts have been assessed prior to mitigation and the residual effects then evaluated taking account of committed design, mitigation and enhancement measures (see Section 10.10). The predicted effects are presented in Table 10-8. After mitigation, all effects are assessed as being slight adverse and not significant.</p> <p>The EMP (TR010040/APP/7.7) includes the REAC (Table 3.1) which identifies the mitigation identified within the ES to address the potential significant environmental effects of the Scheme.</p> <p>Section 10.9 of Chapter 10 states that mitigation measures in the Outline SWMP (Appendix 10.3) (TR010040/APP/6.2) and the EMP (TR010040/APP/7.7) will include the use of site-won or recycled material assets where possible. 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>
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</p>	<p>There are no Green Belt designations within the Order Limits.</p>

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	<p>infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts.</p>	
5.173	<p>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>	<p>Chapter 6 of the Case for the Scheme Conformity with Planning Policy and Transport Plans (TR010040/APP/7.1) sets out the planning policy justification for the proposal.</p> <p>The Scheme demonstrates compliance with the Government's strategic vision for the development of the national road network. The 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 single carriageway between Blofield and North Burlingham, the Scheme meets many of the objectives contained in the transport and economic strategies for the area as well as the policies within the Broadland local development plan.</p> <p>There is also much support for improvements to the A47 at a county level, such as within 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 Norfolk and the East of England as a whole.</p>
5.174	<p>The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields, unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements, or the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.</p>	<p>The Scheme does not include proposals to acquire land designated as open space.</p>

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5.175	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 footprint in supporting biodiversity and ecosystems should also be taken into account when assessing the impact on green infrastructure.	Green infrastructure networks have not been identified in the vicinity of the Scheme.
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 to NNNPS paragraph 5.168
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 8: Biodiversity (TR010040/APP/6.1) confirms that the Scheme's mitigation and landscape design incorporates linear and connective habitat throughout to maintain and, where possible, improve connectivity of habitats and green infrastructure. This is comprised of extensive replacement woodland, hedgerow and grassland planting throughout, which will also contribute to the physical separation of the existing and proposed A47, for the purposes of habitat connectivity for birds, mammals and invertebrates. This will include tall trees for bat hops and habitat piles. Table 8-7 provides information about the ecological mitigation measures for the Scheme.</p> <p>ES Chapter 12 Population and Human Health (TR010040/APP/6.1) identifies the walking, cycling and horse riding routes within the study area. Surveys were</p>

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		<p>carried out on the use of these routes and the receptors and their sensitivity are summarised in Table 12-5.</p> <p>Permanent land-take is required from the allotment gardens car park in Blofield, and a small number of allotment plots will be lost. There is likely to be temporary disruption to users of the allotment gardens during the construction of the Scheme, however these are considered to be temporary in nature. Access will be maintained throughout construction. Mitigation would aim to minimise impacts on users of the allotment gardens through measures outlined in the EMP (TR010040/APP/7.7). The magnitude of impact is classified as minor, as the land-take would not compromise the overall viability of the community facility. Therefore, impacts are classified as permanent Moderate adverse (see Section 12.9).</p> <p>Section 12.9 details the new combined footway/cycle paths and new PRoW that will be provided to provide improved connectivity between existing settlements. The new Public Right of Way (PRoW) footpath, to the south of the new A47 mainline, connecting from the Blofield Overbridge to the B1140 junction will connect with multiple existing north / south permissive routes and footpath Burlingham FP3.</p>
5.181	<p>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 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>See response to NNNPS paragraph 5.180</p> <p>No additional or exchange land is required.</p>
5.182	<p>Where a proposed development has an impact on a Mineral Safeguarding Area (MSA), the Secretary of State should</p>	<p>ES Chapter 10 Material Assets and Waste (TR010040/APP/ 6.1) 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>

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	ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.	<p>Section 10.9 states that mitigation measures in the Outline SWMP (ES Appendix 10.3) (TR010040/APP/6.2) and the EMP (TR010040/APP/7.7) will include use of site-won or recycled material assets as opposed to sourcing new materials were appropriate. 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 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 (Second Iteration) (TR010040/APP/7.7).</p>
5.183	Where a project has a sterilising effect on land use there may be scope for this to be mitigated through, for example, using the land for nature conservation or wildlife corridors or for parking and storage in employment areas.	See response to NNNPS paragraph 5.168-5.169 and 5.180.
5.184	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 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>Section 12.6 of ES Chapter 12 Population and Human Health (TR010040/APP/6.1) details that a number of new combined footway/cycle paths will be provided to provide improved connectivity between existing settlements.</p> <p>Where the existing A47 is unaffected by the dualling, it is proposed to be de-trunked and serve as a local access road for residents. This will include a new combined footway/cycleway provided adjacent to the eastbound carriageway connecting Yarmouth Road at Blofield to the existing footway, which commences at the Dell Corner Lane junction via the Blofield Overbridge. A new section of footway is also proposed on Yarmouth Road to connect to the existing footway and allow pedestrians to walk along Yarmouth Road to the allotments. These new sections of infrastructure will provide improved connectivity between Blofield and North Burlingham for WCH.</p> <p>The Scheme provides a new length of footway and Public Right of Way (PRoW) footpath, to the south of the new A47 mainline, connecting from the Blofield</p>

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	<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>	<p>Overbridge to the B1140 junction. This route connects with multiple existing north / south permissive routes and footpath Burlingham FP3.</p> <p>This new PRoW consists of an unbound footpath running east to west, starting on the footway of the Access Road which provides a link to the Blofield Overbridge:</p> <ul style="list-style-type: none"> • adjacent to the proposed agricultural access track passing Lingwood Road to FP3 • adjacent to the agricultural access track and then the maintenance track from FP3 to permissive Burlingham Woodland Walks • adjacent to the existing Burlingham Trails Network (bridleway) to Lingwood Lane with a short diversion of approximately 50m round the proposed soakaway • a new footpath from Lingwood Lane to the B1140 <p>A new combined footway/cycleway would be incorporated into the A47/B1140 grade separated interchange allowing the safe crossing of the new A47 for pedestrians and cyclists between South Walsham Road and the B1140. The new provision would also include a footway/cycleway link into North Burlingham via the existing A47 to be downgraded and Main Road.</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 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>ES Chapter 11 Noise and Vibration (TR010040/APP/6.1) considers the potential noise and vibration impacts of the Scheme.</p> <p>The noise environment is generally rural with the predominant noise source in the area traffic from the A47. Sensitive receptors are principally concentrated in the villages of Blofield, Lingwood and North Burlingham as well as dispersed properties and isolated farmsteads.</p> <p>During construction local communities and users of the allotments east of Blofield are likely to experience some temporary adverse noise effects although measures to minimise effects will be used.</p> <p>Table 11-13 in ES Chapter 11 Noise and Vibration assesses the significance of operational noise. At the five noise important areas, final operational noise levels will not be significant. At Strumpshaw Road/Stone Road/Wood Lane there will be</p>

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		<p>a significant beneficial impact. At Panxworth, North Burlington, Acle and South Walsham, Blofield (beyond Yarmouth Road) and receptors on Lingwood road and Lingwood Lane final levels will not be significant. At Yarmouth Road (Blofield), for 37 dwellings and for 18 receptors on the B1140 (High Road) there will be a significant adverse impact.</p> <p>It is important to note that there are no significant residual adverse effects expected at receptors affected by the improved A47 dual carriageway. All of the adverse noise effects are off-line due to increases in traffic flows and speeds on other parts of the local road network (B1140 High Road and Yarmouth Road).</p> <p>The mitigation measures comprise of a low noise surface along the proposed A47 dual carriageway, with a minimum road surface influence of -3.5dB, and four noise barriers. These measures comprise low noise surfacing along the proposed A47 dual carriageway, with a minimum road surface influence of -3.5dB and four noise barriers.</p> <p>Paragraph 1.2 of the NPS NN acknowledges that some schemes will unavoidably result in limited adverse impacts but that these should not outweigh the positive benefits. The residual impacts of this Scheme, following mitigation, do not outweigh its positive overall benefits.</p> <p>An assessment of potential construction vibration impacts has also been undertaken. It is concluded that the Scheme is unlikely to give rise to any potential significant vibration effects.</p>
5.187	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>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 (TR010040/APP/6.1).</p> <p>Disturbance of foraging areas from construction noise, vibration resulting in avoidance and abandonment of habitats / roosts could have a major adverse effect and may continue in operation. This will be mitigated by the timing of noisy activities to outside of the April to September maternity season, where practical, and utilising systems that minimise noise and vibration and soft-start processes.</p>

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		Table 8-9 of Chapter 8 Biodiversity of the ES (TR010040/APP/6.1) predicts the significance of residual effects post mitigation. It states that the disturbance of foraging areas from noise, vibration and light spill is likely to have a 'slight adverse' residual effect on wintering birds and bats following mitigation.
5.189	<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"> • a description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. <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"> • identification of noise sensitive premises and noise sensitive areas that may be affected. • the characteristics of the existing noise environment. • a prediction on how the noise environment will change with the proposed development: <ul style="list-style-type: none"> ○ in the shorter term such as during the construction period; ○ in the longer term during the operating life of the infrastructure; ○ at particular times of the day, evening and night as appropriate. • an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas. • measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts. 	<p>Chapter 11 Noise and Vibration of the ES (TR010040/APP/6.1) considers the potential noise and vibration impacts of the Scheme. The assessment has been undertaken in accordance with British Standards 5228 parts 1 and 2 and DMRB, HD213/11 which address the areas detailed by NNNPS paragraph 5.189. It covers daytime and night-time periods, weekdays and weekends.</p> <p>A baseline noise survey was undertaken in June 2018 (ES Appendix 11.3 (TR010040/APP/6.2)). Noise modelling was then undertaken for all noise sensitive receptors within the corresponding study areas. Sensitive receptors, such as residential homes, in proximity to the Scheme have been identified. Receptors that are close to the A47 are already exposed to relatively high noise levels due to road traffic.</p> <p>A construction noise assessment concluded that, with the use of temporary noise barriers and noise monitoring, significant construction noise effects are unlikely. The assessment of potential construction vibration impacts concluded that the Scheme is unlikely to give rise to any potential significant effects while the construction traffic assessment concluded that, providing the anticipated vehicle movements and routes are restricted as described, potential significant effects are unlikely (see Section 11.8).</p> <p>The operational noise significance summary is detailed in Table 11-14 of ES Chapter 11 Noise and Vibration (TR010040/APP/6.1). Most receptors will experience no significant environmental effects overall. Properties at Strumpshaw Road, Stone Road and Wood lane will experience a significant beneficial effect in the short term due to the expected change in road user behaviour (traffic re-routing) brought about by the Scheme. Significant adverse noise effects are unavoidable at the following locations:</p>

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	<ul style="list-style-type: none"> o the nature and extent of the noise assessment should be proportionate to the likely noise impact. 	<ul style="list-style-type: none"> • Eighteen dwellings on the B1140 (High Road) between the Cock Tavern and the junction with Sandy Lane • Thirty-seven dwellings on Yarmouth Road between the junction with the A47 and the crossroads with Doctors Road / Danesbower Lane <p>Embedded mitigation such as noise barriers have been incorporated as part of the Scheme design where possible. The assessment identifies proportionate and reasonable actions to avoid significant adverse impacts on health and quality of life from noise and vibration as a result of the new development.</p>
5.190	<p>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.</p>	<p>ES Chapter 11 Noise and Vibration (TR010040/APP/6.1) considers the construction and operational effects and includes offline impacts.</p> <p>In the Opening Year it is expected that the Scheme will cause changes to road users' behaviour, especially for long distance trips. With the Scheme in place road users between Great Yarmouth and north-west Norwich are more likely to use the improved A47 then join the A1270 at Postwick junction. Without the Scheme, road users would otherwise travel via Acle and South Walsham B1140 until reaching the A1270. This explains the noise level reductions at Panxworth, Acle and South Walsham (see Section 11.8).</p> <p>With the Scheme, road users from Cantley are expected to travel through South Burlingham and Beighton then use the B1140 (High Road) to join the improved A47. Without the Scheme, road users would otherwise travel via Cantley Road, Wood Lane and Stone Road through Brundall then use Cucumber Lane to join the A47. This explains the expected reduction in road traffic noise at receptors within the village of Brundall adjacent to The Street / Blofield Road / Strumpshaw Road and Long Lane / Stone Road / Wood Lane / Cantley Road.</p>
5.191	<p>Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards</p>	<p>ES Chapter 11 Noise and Vibration Section 11.3 ES (TR010040/APP/6.1) 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 NNNPS 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</p>

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	and other guidance which also give examples of mitigation strategies.	Vibration ⁸ .
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.	ES Chapter 8 Biodiversity (TR010040/APP/6.1) states that consultation has been undertaken in February 2020 with Natural England. The results of the noise assessment (ES Chapter 11 Noise and Vibration (TR010040/APP/6.1)) have informed the ecological assessment. For example, disturbance of the foraging areas of wintering birds from construction noise and the disturbance of bats resulting in avoidance and abandonment of habitats/roosts.
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.	ES Appendix 11.2: Legislation and policy framework (TR010040/APP/6.2) identifies the legislation, policy, regulations, guidance and standards that are relevant to this assessment, including the Noise Policy Statement for England. The Appendix also 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 ES Chapter 11 Noise and Vibration ES (TR010040/APP/6.1) details the mitigation proposed in relation to the Scheme. As described in the response to NNNPS paragraphs 4.3 and 4.31, reducing the environmental effects of the road, is an objective for the Scheme, and the Scheme layout responds to this objective. Reducing noise impacts of the road are central to meeting these objectives. A summary of the mitigation which is proposed to minimise noise emissions includes landscaping, low noise surfacing and noise barriers. The need for mitigation elsewhere has been considered as part of the noise assessment but is not proposed.
5.195	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: <ul style="list-style-type: none"> • avoid significant adverse impacts on health and quality of life from noise as a result of the new development; 	See response to NNNPS paragraph 5.186 above.

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

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	<ul style="list-style-type: none"> mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and contribute to improvements to health and quality of life through the effective management and control of noise, where possible. 	
5.196	In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based.	<p>Section 11.8 of ES Chapter 11 Noise and Vibration (TR010040/APP/6.1) addresses potential noise impacts during construction and operation of the Scheme while Section 11.9 identifies appropriate mitigation.</p> <p>Mitigation measures during construction are also set out in the EMP (TR010040/APP/7.7). The EMP is secured by Requirement 4 to the draft DCO.</p>
5.197	The Examining Authority and the Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. The Secretary of State may wish to impose requirements to ensure delivery of all mitigation measures.	Both construction and operational noise mitigation are proposed. Construction mitigation measures are set out within the EMP (TR010040/APP/7.7). The EMP is secured by Requirement 4 to the draft DCO.
5.198	<p>Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:</p> <ul style="list-style-type: none"> engineering: containment of noise generated; materials: use of materials that reduce noise, (for example low noise road surfacing); lay-out: adequate distance between source and noise-sensitive receptors; incorporating good design to minimise noise transmission through screening by natural or purpose built barriers; administration: specifying acceptable noise limits or times of use (e.g., in the case of railway station PA systems). 	<p>The EMP (TR010040/APP/7.7) and ES Chapter 11 Noise and Vibration Section 11.9 (TR010040/APP/6.1) set out noise mitigation measures and best practice techniques that are expected to reduce the potential for significant effect occurring due to noise from the construction and operation of the Scheme.</p> <p>It is considered that the mitigation proposed is proportionate and includes all reasonable measures (as far as sustainable), including for construction works:</p> <ul style="list-style-type: none"> where possible limiting construction works to weekday daytime and Saturday mornings early construction of the embedded noise barriers temporary noise barriers for construction noise where necessary Noise monitoring during relevant periods of the construction programme Select quieter plant than the those assumed within this assessment

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		<ul style="list-style-type: none"> • ensure equipment is maintained, in good working order, and is used in accordance with the manufacturer's instructions • use equipment that is fitted with silencers or mufflers • set time restrictions on certain noisy and vibratory activities such as earthworks and surfacing • manage deliveries to prevent queuing of site traffic • do not leave plant running unnecessarily • plant with highly directional sound emissions shall be angled so that the direction of highest sound emissions does not face towards receptors • materials to be lowered instead of dropped from height • alternative reversing warning systems such as white noise alarms shall be employed • the Contractor shall advise members of the construction team during toolbox talk briefings on quieter working methods • any fixed plant such as generators shall be positioned at least 20 m from nearest receptor. <p>For operation, the embedded mitigation measures that have been included in are all within the Order Limits for the Scheme. These comprise four noise barriers and low noise surface along the proposed A47 dual carriageway, with a minimum road surface influence of -3.5dB.</p>
5.199	<p>For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on and provide powers to the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with both construction and operational noise.</p> <p>An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the</p>	<p>ES Chapter 11 Noise and Vibration (TR010040/APP/6.1) states that subject to the provision of temporary or permanent noise barriers, appropriate construction noise monitoring and the mitigation measures described within Section 11.9, noise from construction activity is not expected to result in any significant residual effects.</p> <p>During operation significant adverse effects are likely at the following locations:</p>

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	<p>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>	<ul style="list-style-type: none"> • 37 dwellings in the vicinity of Yarmouth Road (A47 to the Danesbower Lane junction) • 18 dwellings in the vicinity of B1140 High Road (Cock Tavern to Sandy Lane). <p>These off-line impacts are due to traffic re-routing and more road users choosing these routes to access the improved A47 between Blofield and North Burlingham. Provision of acoustic barriers adjacent to these roads is not practical since it would obstruct access to driveways. These roads are maintained by the local highways authority and Highways England is not responsible for the selection of road surface material type. No further mitigation for these receptors is deemed necessary.</p>
5.200	Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process.	<p>Five NIAs are identified in ES Figure 11.1 (TR010040/APP/6.3). These are:</p> <ul style="list-style-type: none"> • Area 5206 - 9 and 44 Highview Close • Area 5207 – 11 Brandsby • Area 5208 – Old Post Office • Area 5209 – 1 and 2 Hall Cottages • Area 5210 – (no name) <p>These NIAs are considered in Section 11.9 and Table 11.14 of ES Chapter 11 Noise and Vibration (TR010040/APP/6.1) which summarises the final operational noise significance, following mitigation, for each of the NIAs. Mitigation and design interventions including resurfacing works and noise barriers are proposed for these areas. These measures are secured via the REAC contained in Table 3.1 within the EMP (TR010040/APP/7.7).</p>
5.203 - 5.205 (Impacts on transport networks)	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>Section 6 of the Case for the Scheme (TR010040/APP/7.1) 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. This is summarised in Section 8.4 of the TA (TR010040/APP/7.3). A record of meetings and items of discussion will be set</p>

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	<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>out in a Statement of Common Ground.</p> <p>There are no proposed alterations to rail public transport services as part of the Scheme, therefore any impacts are judged to be insignificant.</p> <p>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.</p> <p>ES Chapter 12 Population and Human Health (TR010040/APP/6.1) considers the effects of the Scheme on walkers and cyclists and describes beneficial effects during operation 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 outcome of the assessment is presented in ES Chapter 12 Population and Human Health (TR010040/APP/6.1). Table 12-14 of Chapter 12 sets out the significance of residual impacts to WCH which include the unavoidable severance of a public right of way but also the creation of new footpaths and cycleways.</p> <p>The Scheme provides support to walking, cycling and other vulnerable users by incorporating safe, convenient, accessible and attractive routes for pedestrians and cyclists. A new a footway is to be provided on southern frontages of the realigned Waterlow and existing Yarmouth Road allowing a connection to the existing footway on the northern frontage of Yarmouth Road. A new footway/cycleway is also to be provided along the northern frontage of the realigned Waterlow, across the proposed Blofield Overbridge and along the northern frontage of the existing A47 alignment that will be downgraded as part of the Scheme. This route will provide a link between Blofield and North Burlingham for pedestrians and cyclists.</p> <p>A new PRoW footpath will be provided to the south of the new A47 alignment connecting the Blofield Overbridge to the B1140 junction. This route connects with</p>

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		<p>multiple north / south permissive routes and footpath Burlingham FP3.</p> <p>New footway/cycleway crossing facilities will also be provided as part of the proposed grade separated interchange allowing safe crossing of the new A47 for pedestrians and cyclists between South Walsham Road and the B1140. The new provision will also include a footway/cycleway link into North Burlingham via the existing A47 to be downgraded and Main Road.</p>
5.206	<p>For road and rail developments, if a development is subject to EIA and is likely to have significant environmental impacts arising from impacts on transport networks, the applicant's environmental statement should describe those impacts and mitigating commitments. In all other cases the applicant's assessment should include a proportionate assessment of the transport impacts on other networks as part of the application.</p>	<p>The application is supported by a TA (TR010040/APP/7.3) which considers the transport impacts of the Scheme on other networks, including rail and public bus services in addition to impacts on the highway network.</p> <p>The outputs of the traffic modelling and forecasting have been considered in the relevant ES Chapters (TR010040/APP/6.1) which consider the impacts and mitigation in relation to air quality, biodiversity, noise and vibration, population and human health, and climate.</p>
5.208	<p>Where appropriate, the applicant should prepare a travel plan including management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport and sustainable modes where relevant, to reduce the need for any parking associated with the proposal and to mitigate transport impacts.</p>	<p>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.</p> <p>Section 7.10 of the TA (TR010040/APP/7.3) states that there are no proposed alterations to rail transport services as a result of the Scheme, therefore any impacts are judged to be insignificant.</p> <p>No alterations to bus public transport services are included in the scheme. It is considered the Schemes impact on bus transport users will be beneficial due to the congestion relief provided for all highway traffic.</p>
5.209	<p>For schemes impacting on the Strategic Road Network, applicants should have regard to DfT Circular 02/2013 The Strategic Road Network and the delivery of sustainable development (or prevailing policy) which sets out the way in which the highway authority for the Strategic Road Network, will engage with communities and the development industry to deliver sustainable development and, therefore, economic</p>	<p>All statutory and non-statutory public consultations have been carried out, as set out in the Consultation Report (TR010040/APP/5.1).</p> <p>Highways England is the operator of the Strategic Road Network and is the applicant. Norfolk County Council, the Local Highway Authority, has been consulted on the proposals and on the traffic modelling and the results. This is summarised in Section 8.4 of the TA (TR010040/APP/7.3).</p>

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	growth, whilst safeguarding the primary function and purpose of the Strategic Road Network.	Further consideration of plans and policies, including DfT Circular 02/2013, is set out in Section 6 of the Case for the Scheme (TR010040/APP/7.1).
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 (TR010040/APP/4.2).
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 NNNPS paragraph 5.209. Where relevant, analysis has been included in this document and is provided in the Case for the Scheme (TR010040/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 development plan policies is provided in Section 6 of the Case for the Scheme (TR010040/APP/7.1). Consultation has been undertaken with NCC as the relevant Highway Authority and Broadland District Council as the local planning authority (see Annex P to the Consultation Report (TR010040/APP/5.2)). The Scheme is supported by and has taken account of the various documents which comprise Broadland's Local Plan, Norfolk CC Local Transport Plan 2011-26, the Norwich Area Transportation Strategy 2003 and the Greater Norwich Infrastructure Plan 2020. The Scheme is also consistent with the New Anglia Strategic Economic Plan 2014, the New Anglia LEP Economic Strategy 2017, the New Anglia LEP Integrated Transport Strategy 2018 the New Anglia Norfolk and Suffolk LTS draft Local Industrial Strategy 2020 and meets the aims of the A47 Alliance.
5.215	Mitigation measures for Schemes should be proportionate and reasonable, focused on promoting sustainable	The ES (TR010040/APP/6.1) contains a full assessment of the relevant impacts that are likely to rise from the Scheme, and where significant impacts are

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	development.	<p>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.</p> <p>Mitigation measures are also set out in the EMP (TR010040/APP/7.7) (secured through Requirement 4 to the draft DCO) including why they are required, who is responsible for delivering them and detailing ongoing reporting criteria.</p> <p>The Masterplan (TR010040/APP/6.8) illustrates landscaping mitigation measures embedded as integral elements of the Scheme design.</p>
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 to NNNPS paragraphs 5.203-5.205.
5.220 (Water quality and resources)	Where applicable, an application for a development consent order has to contain a plan with accompanying information identifying water bodies in a River Basin Management Plan.	<p>ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1) is supported by Figures 13.1 to 13.8 (TR010040/APP/6.3).</p> <p>The Anglian River Basin Management Plan includes the Witton Run and the Bure. These and other surface water features are illustrated on Figure 13.1 (TR010040/APP/6.3).</p>
5.221	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>See response to NNNPS paragraph 4.54.</p> <p>ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1) notes that early contact with the Environment Agency was made and with other stakeholders (including Norfolk County Council as Lead Local Flood Authority).</p> <p>Article 20 of the Draft DCO provides powers for the discharge of water.</p> <p>No significant adverse effects on the water environment are predicted during construction or operation of the Scheme, subject to the mitigation measures included in the EMP (TR010040/APP/7.7) and the Scheme design.</p> <p>Section 13.8 of Chapter 13 of the ES (TR010040/APP/6.1) considers the potential impacts on surface water, groundwater and flood risk receptors prior to mitigation</p>

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		<p>from the construction and operation of the Scheme. Residual effects are considered in Section 13.10 and Tables 13-7 and 13-8. Table 13-9 summarises the potential impacts in relation to the ability of the relevant Water Framework Directive water bodies to meet their current objectives. The Proposed Scheme is not expected to give rise to significant residual effects during the construction or operational phases with the adoption of mitigation.</p>
5.222	<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 (TR010040/APP/6.1) considers the effects of the Scheme on water quality and identifies opportunities to improve the quality of existing discharges.</p> <p>The Water Framework Directive Assessment (Section 13.10) indicates that the construction and operation of the Scheme will not cause deterioration in the status of receiving water bodies nor will it impact on the ability of the water bodies to achieve their objectives and standards under the Water Framework Directive.</p> <p>All potential effects on groundwater and surface water waste receptors during operation of the Scheme are predicted to be neutral and are shown in Table 13.8.</p>
5.223	<p>Any environmental statement should describe:</p> <ul style="list-style-type: none"> • the existing quality of waters affected by the proposed project; • existing water resources affected by the proposed project and the impacts of the proposed project on water resources; • existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics; • any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions; and • any cumulative effects. 	<p>ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1) describes the existing water environment.</p> <p>All potential effects on groundwater and surface water receptors during operation of the Scheme are predicted to be neutral. The Water Framework Directive Assessment in Section 13.10 also shows that the Scheme would be compliant under the WFD.</p> <p>Details of the source protection zones and licensed and unlicensed abstractions are provided in ES Figure 13.6 (Groundwater Abstractions and Source Protection Zones (TR010040/APP/6.3)).</p> <p>The scoping boundary of the Scheme crosses a source protection zone (SPZ) 3 (Total Catchment) at its western extent for approximately 500m. This is associated with groundwater abstractions at Postwick, approximately 4.5km to the west of the Scheme. There are five licensed groundwater abstractions within the study area. The proposed works would be no likely to have significant adverse</p>

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		<p>effects on surface or groundwater bodies.</p> <p>ES Chapter 15 Cumulative Effect Assessment (TR010040/APP/6.1) addresses the cumulative effects of the Scheme. No significant cumulative effects on water resources with other development taking place nearby are anticipated.</p>
5.224	<p>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>	<p>See response to NNNPS paragraph 5.221.</p>
5.225	<p>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.</p>	<p>See response to NNNPS paragraph 5.223.</p>
5.226	<p>The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. In terms of Water Framework Directive compliance, the overall aim of projects should be no deterioration of ecological status in watercourses, ensuring that Article 4.7 of the Water Framework Directive Regulations does not need to be applied.</p>	<p>Table 13.3 of ES Chapter 13 Road Drainage and the Water Environment (TR010040/APP/6.1) 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 ES Chapter 13 (TR010040/APP/6.1). The assessment does not identify any adverse impacts on the achievement of the environmental objectives established under the Water Framework Directive.</p>
5.227	<p>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</p>	<p>ES Chapter 13: Road Drainage and the Water Environment (TR010040/APP/6.1) describes consultation carried out with the Environment Agency and appropriate stakeholders (including Norfolk County Council as Lead Local Flood Authority).</p>

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	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.	Good practice mitigation measures to protect the water environment are set out within the EMP (TR010040/APP/7.7). The EMP is secured by Requirement 4 to the draft DCO.
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 (TR010040/APP/7.7) 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 to the draft DCO.
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 to NNNPSNPS NN paragraph 5.100
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 areas for storage and unloading, with appropriate drainage facilities, should be marked clearly.	<p>Section 13.9 of ES Chapter 13 Road Drainage and the Water Environment, (TR010040/APP/6.1), describes the proposed construction and operational design interventions and mitigation. It includes measures delivered through the design of the Scheme and also appropriate construction methods which adhere to good practice embodied in the DMRB LA 113.</p> <p>The EMP (TR010040/APP/7.7) 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 to the draft DCO.</p>