

# A12 Chelmsford to A120 widening scheme TR010060

# 7.1 Case for the Scheme Appendix A: National Networks National Policy Statement Accordance Table

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### A12 Chelmsford to A120 widening scheme

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### 7.1 Case for the Scheme

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#### A12 Chelmsford to A120 widening scheme



Case for the Scheme - Appendix A: National Networks National Policy Statement Accordance Table

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#### A12 Chelmsford to A120 widening scheme



Case for the Scheme - Appendix A: National Networks National Policy Statement Accordance Table

Planning Inspectorate Scheme Ref: TR010060 Application Document Ref: TR010060/APP/7.1



#### 1 Introduction

This National Networks National Policy Statement (NNNPS) Accordance Table relates to an application made by National Highways (the Applicant) to the Secretary of State for Transport via the Planning Inspectorate (the Inspectorate) under the Planning Act 2008 for a Development Consent Order (DCO).

The A12 Chelmsford to A120 widening scheme (the proposed scheme) comprises improvements to the A12 between junction 19 (Boreham interchange) and junction 25 (Marks Tey interchange), a distance of approximately 24km, or 15 miles, as seen on the Location Plan [TR010060/APP/2.1]. The proposed scheme involves widening the A12 to three lanes throughout (where it is not already three lanes) with a bypass between junctions 22 and 23 and a second bypass between junctions 24 and 25. It also includes safety improvements, including closing off existing private and local direct accesses onto the main carriageway, and providing alternative provision for walkers, cyclists and horse riders (WCH) to existing routes along the A12, which would be removed. The proposed scheme is classed as a Nationally Significant Infrastructure Project (NSIP), and an Environmental Impact Assessment (EIA) has been submitted to support the application for a DCO.

National Highways, formerly known as Highways England, announced in October 2019 its preferred route from junction 19 to junction 23. In May 2020, the Planning Inspectorate made the recommendation that the proposed garden community be removed from local plans which is detailed in Chapter 3: Assessment of alternatives, of the Environmental Statement (ES) [TR010060/APP/6.1] and in the Case for the Scheme (CftS) [TR010060/APP/7.1]. This resulted in National Highways making a Preferred Route Announcement for the remaining section between junctions 23 and 25 (August 2020) based on October 2017 stakeholder consultation routes. Preliminary design (Project Control Framework Stage 3) then commenced for the entire route, initiating the DCO pre-application process with the intention of submitting the application for development consent in Summer 2022.

Table 1.1 NNNPS Chapter 3

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
3.2 (Environment and social impacts)	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.	In March 2015, the Government issued the Road Investment Strategy 1 (RIS1), in which the A12 was selected as one of the projects in the East of England to undergo feasibility studies. In March 2020, the Government published its second Road Investment Strategy (RIS2), which covers investment in,



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		and management of, the Strategic Road Network (SRN) from April 2020 to March 2025 (Department for Transport (DfT), 2020). The proposed scheme is a committed scheme in RIS2. The Strategic Business Plan 2020-2025 (Highways England, 2020) supporting RIS2 identifies the following environmental commitments to which the proposed scheme is designed:
		Improving the health and wellbeing of people living near its roads
		Supporting government's ambition to achieve net zero UK carbon emissions by 2050
		Maximising opportunities for sustainability
		Improving the natural, built and historic environment
		Creating a network resilient to a changing climate
		The supporting Delivery Plan 2020-2025 (Highways England, 2020) includes a performance framework including the following key performance indicators for sustainability and the environment:
		Achieving no net loss of biodiversity across all National Highways activities by the end of Road Period 2
		Reducing carbon emissions resulting from National Highways electricity consumption, fuel use and other day- to-day operational activities during Road Period 2
		Bringing agreed sections of the Strategic Road Network (SRN) into compliance with legal nitrogen dioxide limit values as soon as possible



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		Delivering road noise mitigation for 7,500 households in noise important areas
		Environmental commitments and key performance indicators contained within RIS2 and its associated Strategic Business Plan and Delivery Plan have been considered throughout the proposed scheme design-development and EIA process todate. These have helped to minimise social and environmental impacts of the proposed scheme and promote improvements in quality of life.
		Measures have been designed into the proposed scheme to minimise adverse social and environmental impacts. The design of the proposed scheme is described in Chapter 2, The proposed scheme, of the Environmental Statement (ES) [TR010060/APP/6.1] along with the mitigation embedded within it. Mitigation measures to minimise any resulting social and environmental impacts are presented in the Register of Environmental Actions and Commitments (REAC), included within the first iteration of the Environmental Management Plan (EMP) [TR010060/APP/6.5]. As a result of these measures, the proposed scheme would deliver significant benefits in noise reduction at a large number of sensitive receptors and in the connectivity of rights of way for WCH. There would also be a significant reduction in flood risk on the A12, local roads and at residential receptors. The proposed scheme would include habitat creation, for example the creation of new wildlife ponds, replacement hedgerows and woodland.
		The Applicant has also prepared a Design and Access Statement (DAS) [TR010060/APP/7.4] which summarises the design policy context and a Design Principles document



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		[TR010060/APP/7.10] which discusses the overarching design principles to respond to the design objectives set out in the NNNPS, The Road to Good Design, Design Principles for National Infrastructure, Essex Green Infrastructure Strategy (EGIS), Technical Design Standards for the proposed scheme. The DAS demonstrates how 'good design' was considered across the proposed scheme design and how this design minimises social and environmental impacts.
3.3	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.	Care has been taken when developing the proposed scheme to avoid and limit negative social and environmental impacts through careful scheme design. Where practicable, measures have been incorporated into the design (as detailed in Chapter 2: The proposed scheme, of the ES [TR010060/APP/6.1]) to avoid negative impacts. These are referred to as embedded mitigation. Where it has not been practicable to avoid such impacts, mitigation measures have been proposed to limit the potential adverse effects of the proposed scheme; known as additional mitigation. Each chapter of the ES sets out how environmental impacts of the proposed scheme would be mitigated, in line with current relevant guidance and accepted principles. Opportunities for environmental and social benefits have also been considered as part of the EIA process and will be an ongoing aim of the detailed design process to deliver environmental and social benefits. The additional measures (which include good practice construction measures) are included within the REAC, included within the first iteration of the EMP [TR010060/APP/6.5]. This details the environmental mitigation measures that would be implemented prior to, during and after construction. It indicates why the measures are required, who is responsible for delivering them and



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		details any ongoing monitoring and maintenance arrangements required. The REAC is a 'living' document, future iterations of which would include additional and more detailed measures. All works would be carried out in compliance with the relevant iteration of the EMP.
		The Applicant has considered opportunities to deliver environmental and social benefits as part of the proposed scheme. Section 5.5 of the Case for the Scheme (CftS) [TR010060/APP/7.1] discusses the social benefits of the proposed scheme, while the ES [TR010060/APP/6.1] provides details of the opportunities for social and environmental benefits of the proposed scheme considered as part of the EIA process.
3.10	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	The CftS [TR010060/APP/7.1] provides an accident analysis of the proposed scheme and the expected level of savings in terms of casualties prevented and monetised benefit.
	in road safety; where highway authorities are empowered to take informed decisions within their area; where driver and rider training gives learners the skills they need to be safe on our roads; and where tough measures are taken against the minority of offenders who deliberately choose to drive dangerously. As set out in paragraphs 4.60 to 4.66, scheme promoters are expected to take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate.	The proposed scheme objectives include rate-based and frequency-based casualty reduction targets. These are based on fatal and weighted injuries, which give highest priority to the highest severity of injury. These are set out in the scheme safety governance documents for internal National Highways approval. The application of Design Manual for Roads and Bridges (DMRB) GD 300 Level 3 technology will provide assurance of meeting these casualty reduction targets.  The proposed scheme is subject to all safety governance processes including a Road Safety Audit.
3.17	There is a direct role for the national road network to play in helping pedestrians and cyclists. The Government	Provision has been made within the proposed scheme to maintain existing Public Rights of Way (PRoWs) where



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(Sustainable transport)	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.	practicable and deemed appropriate. Section 8.3 of the Transport Assessment [TR010060/APP/7.2] describes how the proposed scheme addresses the instances where it will be necessary to sever a PRoW. This shows that affected PRoWs will be diverted via new bridges, underpasses, or via new or existing paths. This will seek to retain the function of the PRoW network.
		New and improved WCH routes are proposed that surround the A12. The proposed scheme has a key principle to take the main WCH desire lines away from the main grade separated junctions that are part of the proposed scheme, as discussed in the DAS [TR010060/APP/7.4].
		As such, junction 21 will have its cycle route maintained to preserve the existing cycle route to the north of the proposed scheme, and junctions 21 and 22 will have new cycle routes bypassing the junction roundabouts.
		The proposed scheme has addressed historic severance, enhancing walking and cycling facilities within its scope of works. Numerous WCH crossing locations have been identified across the proposed scheme, with new crossing opportunities added for WCH. The locations of these crossings as well as the cycle routes are detailed in the Streets, Rights of Way and Access Plans [TR010060/APP/2.6] and the draft DCO schedules [TR010060/APP/3.1].
3.19	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.	Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] assesses the impact of the proposed scheme on community severance and social networks. It



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		confirms that the proposed scheme's overall effect on severance and social networks would be neutral.
		Chapter 13 also assesses the proposed scheme's impact on access to services, facilities, employment, education and skills. It finds that the proposed scheme would have a positive impact on accessibility for WCH, public transport, and car users due to improved provision and journey time reliability. Overall, the proposed scheme would provide a net improvement to access to services, facilities, employment, education and skills.
		Chapter 5 of the DAS [TR010060/APP/7.4] provides further detail of measures that will be taken to improve accessibility across the proposed scheme, while Section 8.3 of the Transport Assessment [TR010060/APP/7.2] demonstrates that links that would be maintained or enhanced by the proposed scheme with further detail in relation to the construction detailed in the Outline CTMP [TR010060/APP/7.7].
3.20	<ul> <li>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:</li> <li>The Government will continue to work to ensure that the bus and train fleets comply with modern access standards by 2020, and to improve rail station access for passengers with reduced mobility. The private car will continue to play an important role, providing disabled people with independence where other forms of transport are not accessible or available.</li> </ul>	As stated in Section 8.5 of the Transport Assessment [TR010060/APP/7.2], the proposed scheme will bring opportunities to improve accessibility to railway stations located between Hatfield Peverel and Marks Tey as well as the proposed Beaulieu Park station. As discussed in response to NNNPS paragraph 3.19, the overall accessibility of the A12, as well as surrounding jobs, services and social networks, will improve. As discussed in response to NNNPS paragraph 3.21, the design and delivery of the proposed scheme has been developed in accordance with the Equalities Act 2010 and the needs of disabled users, and all reasonable opportunities to deliver improvements in

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	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.	accessibility on and to the existing national road network have been taken where practicable.
3.21	Applicants are reminded of their duty to promote equality	The design of the proposed scheme has been developed in
(Accessibility)	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.	accordance with the Equalities Act 2010 and the needs of disabled people. The Equalities Impact Assessment [TR010060/APP/7.5] discusses how the requirements of the Equalities Act 2010 have been embedded in the proposed scheme's development, including design, communication and engagement strategy, and mitigation strategies.
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.	Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] has identified and assessed where opportunities have been taken to address past severance, mitigate new potential impacts and improve accessibility through design. The population and human health assessment has found that there would be likely significant beneficial effects for walkers and cyclists in the communities of Boreham, Kelvedon, Feering, Inworth, Marks Tey, Copford and Easthorpe if the proposed scheme were implemented.



#### Table 1.2 NNNPS Chapter 4

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
4		
4.3	<ul> <li>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:</li> <li>its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits;</li> <li>its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.</li> </ul>	Section 2 of the CftS [TR010060/APP/7.1] confirms that the overall aim of the proposed scheme is to solve strategic traffic problems and associated safety issues between junctions 19 and 25. Table 1.1 in the CftS outlines how the objectives of the proposed scheme align with Department of Transport (DfT) Strategic objectives and Road Investment Strategy 2 (RIS2) strategic outcomes.  Section 5 of the CftS also provides an overview of the economic, environmental and social benefits of the proposed scheme.  The ES [TR010060/APP/6.1] documents the beneficial and adverse effects arising from the proposed scheme including potential cumulative effects, which are detailed within Table 16.6 (Cumulative effects assessment matrix) of Chapter 16: Cumulative effects assessment, of the ES [TR010060/APP/6.1]. The ES also describes the mitigation measures proposed to avoid or reduce those effects and any enhancements that are proposed. Appropriate monitoring of the measures is also provided. All mitigation measures are presented in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
4.5 (General principles of assessment – Business Case)	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	A business case has been prepared for the proposed scheme in line with HM Treasury's Green Book Principles and DfT's Transport Analysis Guidance (TAG). The results gathered for the Economics Case are presented in The Economic Appraisal Package Report, submitted as Appendix D to the



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	basis for investment decisions on road and rail projects. The business case will normally be developed based on the Department's Transport Business Case guidance and WebTAG guidance. The economic case prepared for a transport business case will assess the economic, environmental and social impacts of a development. The information provided will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development. It is expected that NSIP schemes brought forward through the development consent order process by virtue of Section 35 of the Planning Act 2008, should also meet this requirement.	Combined Modelling and Appraisal Report (ComMA) [TR010060/APP/7.3]. This demonstrates that economic appraisal of the proposed scheme has been prepared in accordance with the Green Book - Appraisal and Evaluation in Central Government and explains that the appraisal covers the economic, environmental and social impacts of the proposed scheme. It concludes that, taking account of the wider impacts of the proposed scheme and journey time reliability benefits, the proposed scheme will deliver an adjusted benefit cost ratio of 1.7. This means that for every £1 spent on the proposed scheme there will be around £1.70 returned to society in benefits.
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.	A local transport model has been developed as outlined in the Combined Modelling and Appraisal Report (ComMA) [TR010060/APP/7.3]. Details of the modelling and assessment findings are contained in the ComMA and the model has been developed so that it is proportionate to the scale of the proposed scheme. This has been prepared in line with the DfT's TAG, and methodologies and results have been discussed with the DfT's (modelling and economics) specialists. Assessments of the costs and benefits have been undertaken under low and high growth scenarios. Details of the modelling and assessment findings are contained in the ComMA.

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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.	Schedule 2 of the draft DCO [TR010060/APP/3.1] includes suggested requirements that are considered necessary, relevant to both planning and the proposed scheme, enforceable, precise, and reasonable in all other respects.  The Explanatory Memorandum [TR010060/APP/3.2] explains the purpose and effect of each provision in the draft DCO.
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,	The proposed scheme is an EIA development falling within the description of paragraph 7(3) of Schedule 1 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations). The proposed scheme is therefore subject to mandatory EIA procedures as set out in those regulations.  In accordance with paragraph 4.15 of the NNNPS, an EIA has been undertaken which assesses the effects of the proposed scheme on humans, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage. The findings of the EIA are presented in the ES [TR010060/APP/6.1] which includes a description of the proposed scheme, the likely significant environmental effects of the proposed scheme, the measures to avoid, reduce or offset such effects and the alternatives considered. Combined effects of the different aspects are reported within individual
	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	chapters of the ES as set out in Chapter 5: Environmental assessment methodology, of the ES [TR010060/APP/6.1].  The scope of the ES complies with the Scoping Opinion as presented in Appendix 5.1: Scoping Opinion Detailed Response, of the ES [TR010060/APP/6.3].

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	accordingly be understood to mean likely significant effects, impacts or benefits.	
4.16-4.17	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). []  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.	The cumulative assessment can be found in Chapter 16: Cumulative effects assessment, of the ES [TR010060/APP/6.1]. It has been carried out in accordance with the Planning Inspectorate's (2019) Advice Note Seventeen: Cumulative Effects Assessment. The assessment sets out how the effects of the proposed scheme would combine and interact with the effects of other development projects, whether existing, awaiting consent, already consented or otherwise reasonably foreseeable.  In addition, an assessment has been made of potential cumulative impacts from the proposed scheme on the socioeconomic aspects of housing and access to services, facilities, employment, education and skills. This assessment has been made in recognition that there are several NSIPs in the region beyond the population and human health study area, which may contribute to potentially significant cumulative impacts for the proposed scheme. Chapter 16 of the ES also assesses the significance of cumulative effects for both the construction and operational phases of the proposed scheme.
4.18	In some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.	The proposed scheme design which forms the basis of the DCO submission is a 'preliminary design' which may be subject to some design refinement following approval of the DCO, subject to the Requirements in Schedule 2 of the draft DCO [TR010060/APP/3.1]. This is standard for schemes of this nature to ensure there is a reasonable degree of flexibility to make minor design changes as the design is matured.

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		Detail of the proposed scheme design is shown on the Works Plans [TR010060/APP/2.2] and the Structures Engineering Drawings and Sections [TR010060/APP/2.12] and is described in Chapter 2: The proposed scheme, of the ES [TR010060/APP/6.1].
		The draft DCO [TR010060/APP/3.1] provides the limits of deviation both laterally and vertically. These limits have been included in the proposed scheme in order to allow a necessary, but proportionate, degree of flexibility to facilitate the detailed design and construction phases of the proposed scheme. The limits of deviation have been considered when undertaking all technical assessments in relation to the proposed scheme.
		Chapter 5: Environmental assessment methodology, of the ES [TR010060/APP/6.1] sets out the assessment methodology and approach taken to prepare the EIA. Chapter 5 of the ES includes details of how the proposed scheme has been assessed where information was not available to inform the assessment. In addition, each of the aspect chapters gives a description of the assumptions made and the limitations of the assessment.
4.19	Where some details are still to be finalised, applicants are advised to set out in the environmental statement, to the best of their knowledge, what the maximum extent of the proposed development may be (for example in terms of site area) and assess the potential adverse effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.	The location and Order Limits of the proposed scheme are illustrated on Figure 1.1: Location Plan, of the ES [TR010060/APP/6.2]. Limits of deviation have been incorporated within the Order Limits to allow minor modifications to be made to the proposed scheme during the detailed design and construction phase. The ES [TR010060/APP/6.1] approach is to provide an assessment of the proposed scheme design based on the realistic worst-case scenario afforded by the limits of deviation sought within

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		the DCO. This is therefore the maximum possible extent of the proposed scheme and, as such, has been assessed within the ES.
		In respect to flood risk and hydromorphology, the assessment has been carried out on the proposed scheme as described in Chapter 2: The proposed scheme, of the ES [TR010060/APP/6.1]. Any changes to the design, within the limits of deviation, would only occur if they do not lead to any materially new or materially different environmental effects compared to those reported in the ES.
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.	The requirements of the draft DCO [TR010060/APP/3.1] make provision, where appropriate, for consideration of elements of the detailed design of the proposed scheme.
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	The proposed scheme is an EIA development, falling within the description of paragraph 7(3) of Schedule 1 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations). The proposed scheme is therefore subject to mandatory EIA procedures as set out in the EIA Regulations.
4.22 (Habitats Regulations Assessment)	[] 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.	The Applicant has sought the advice of Natural England throughout the development of the proposed scheme. A Stage 1 Screening Assessment concluded that no likely significant effects on any European sites are anticipated when considered alone or in combination with other plans and projects. The response received from Natural England is contained in Appendix E of the Habitats Regulations Assessment No Significant Effects Report



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		[TR010060/APP/6.8], which states that they are in agreement with the assessment.
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.	The Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8] is included within the DCO application. This considers whether the proposed scheme has the potential to result in significant effects on European sites of biodiversity interest. The Habitats Regulations Assessment (HRA) concludes that no likely significant effects on any European sites are anticipated, when considered alone or incombination with other plans and projects.
4.26 (Alternatives)	Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:  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.  There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB).	Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] sets out the main alternatives considered by the Applicant and how the preferred option was determined through consideration of environmental effects at different stages in the design development process. This is in line with the requirements of the EIA Directive. The Consultation Report [TR010060/APP/5.1] also sets out the options that the public were consulted on.  A Detailed Water Environment Regulations (WFD Regulations) Compliance Assessment has been carried out and is presented in Appendix 14.2 of the ES [TR010060/APP/6.3]. It shows compliance for all designated water bodies assessed, so no consideration of WFD alternatives is required.  A Habitats Regulations Assessment (HRA) has been carried out and is presented in the Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8]. It

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		concludes that no likely significant effects on any sites within the National Site Network are anticipated, when considered alone or in combination with other plans or projects.  Therefore, no consideration of alternatives is required.
		A flood risk Sequential Test has been carried out and is reported within Appendix 14.5: Flood Risk Assessment, of the ES [TR010060/APP/6.3]. Subsequently, an Exception Test was required, the results of which show that the proposed scheme passes the requirements of the test.
		The proposed scheme is not located within or near any National Park, the Broads or any Areas of Outstanding Natural Beauty (AONB). Therefore, no alternatives assessment relating to these features is required.
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	The proposed scheme is identified in both RIS1 (2015–2020) and RIS2 (2020–2025). Therefore, option-testing does not need to be considered by the Examining Authority or the decision maker as this assessment has already been undertaken.	
	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	Design options considered and appraised as part of the proposed scheme's development process are presented in Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1) and Section 3.2 of the CftS [TR010060/APP/7.1]. The main development stages included the following:
	Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken.	<ul><li>Initial options identification, assessment and sifting</li><li>Options development and shortlisting</li></ul>



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		Assessment of shortlisted options to identify viable options for consultation
		Consultation and option selection
		Preferred Route Announcement
		Design development for statutory consultation
		Continued design development post statutory consultation
4.28–4.29	Applicants should include design as an integral	The proposed scheme has been subject to an iterative design
(Criteria for "good design" for national network Infrastructure)	visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Applying "good design" to national network projects should therefore produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible.	process from the outset. The CftS [TR010060/APP/7.1] sets out how the proposed scheme's design has evolved, while Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] describes the other options considered. The proposed scheme's design has been informed by analysis of existing landscape and visual constraints, iterative impact assessments and mitigation proposals, and taking account of stakeholder input. Efficient use of materials and the controlled production and disposal of waste during construction of the proposed scheme have also been considered. Design, mitigation and enhancement measures are described in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1]. Chapter 2: The proposed scheme, of the ES [TR010060/APP/6.1] also explains that the proposed scheme has been designed in accordance with the standards set out in the DMRB and National Highways' safety
		governance procedures.  The Design Principles [TR010060/APP/7.10] explains that the proposed scheme has been informed by the 10 principles for good design as set out in National Highways' The Road to

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		Good Design. Sustainable infrastructure that is sensitive to place, efficient use of natural resources and energy used in construction, and good design aesthetics are all embedded within the proposed scheme's design principles, which are discussed in Section 1.4 of the Design Principles [TR010060/APP/7.10].
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 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.	The CftS [TR010060/APP/7.1] discusses the expected improvement the proposed scheme will provide to the local and regional road network. The junction and link road capacity has been designed to provide an acceptable level of service for at least 15 years after the proposed scheme is constructed.  The proposed scheme has been subject to an iterative design process, detailed in Section 3 of the CftS [TR010060/APP/7.1], that has sought to mitigate adverse impacts as they are identified. Measures such as sensitive route alignment, materials and waste reduction, and improved connectivity have been incorporated into the design during development and are presented within Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1]. Appropriate management strategies are detailed in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
4.32	Scheme design will be a material consideration in decision making. The Secretary of State needs to be satisfied that national networks infrastructure projects are sustainable and as aesthetically sensitive, durable, adaptable and resilient as they can reasonably be (having regard to regulatory and other constraints and including accounting for natural hazards such as flooding).	The Design Principles [TR010060/APP/7.10] sets out the proposed scheme's response to the Road to Good Design principles, demonstrating the proposed scheme's approach to sustainable, aesthetically sensitive, durable, adaptable and resilient design. The table below summarises the relationship between the Road to Good Design principles and acknowledges the factors detailed in paragraph 4.32 of the





NNNPS paragraph number	Requirement of the NNNPS	С	Compliance v	with the NNNPS	
			NPSNN. See the Design Principles [TR010060/APP/7.10] for further information on the Design Principles.		
			4.32 factor	Road to Good Design principle	
			Sustainable	5. Good road design is restrained	
				6. Good road design is environmentally sustainable	
				9. Good road design is collaborative	
		1 1	Aesthetically sensitive	Good road design fits in context     Good road design is restrained	
			Durable	7. Good road design is thorough 10. Good road design is long-lasting	
			Adaptable	8. Good road design is innovative	
			Resilient	Good road design makes roads safe and useful     Good road design is inclusive     Good road design makes roads understandable	
		A p [7 ri s	Assessment ( roposed scho FR010060/Al sks from all f cheme and c ccount of clir	natural hazards such as flooding, a Flood Risk FRA) has been carried out in respect of the eme and is included as Appendix 14.5 of the ES PP/6.3]. The FRA identifies and assesses the forms of flooding to and from the proposed lemonstrates how these will be managed, taking mate change. The FRA concludes that the sidual effects of the proposed scheme on flood	

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		risk would mainly be negligible, with no change to flood risk outside the proposed scheme's Order Limits.
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 design principles are embedded into infrastructure proposals.	Functional requirements of the proposed scheme, as a highways infrastructure project, are led by technical documents setting out parameters for new road design, such as DMRB and supporting Highway Design Standards for infrastructure. Compliance with these requirements will ensure the proposed scheme is suitable. The proposed scheme proposals include the use of technological equipment including closed-circuit television (CCTV) coverage to monitor the section of road between Hatfield Peverel interchange and Marks Tey interchange, and emergency telephones installed within several lay-bys along the new dual carriageway. Variable message signs to provide information to drivers may also be included.
		The proposed scheme held two design workshops with the National Highways Design Review Panel on the 10 and 11 February 2021. Following the workshops, the Design Review Panel provided the project team with constructive comments and opportunities relating to the following:
		Overall approach
		Design narrative
		De-cluttering
		DMRB GD 300 standard
		Structures
		Communities

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		Travel networks
		Bypassed settlements
		Landscape
		The project team responded to each comment in tabular form, acknowledging each suggestion and the how the design team would reflect the suggestion in the design. Further detail of the method undertaken for the consultation process is within Chapter 4: Consultation of the ES [TR010060/APP/6.1]
ph infi to	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	The proposed scheme has been subject to an iterative design process, which is detailed in Section 3 of the CftS [TR010060/APP/7.1]. Information regarding the development of the design can also be found within Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1].
	character and function, landscape permeability, landform and vegetation.	As discussed in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1], the alignment of the proposed scheme and location of junctions and borrow pits including residual water bodies and ponds have been designed to reduce landscape and visual effects and integrate the proposed scheme into the existing landscape.
		Mitigation measures that reflect adjustment of the proposed scheme to improve design with regards to landscape, historical character and function, visual intrusion and biodiversity are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5] and the DAS [TR010060/APP/7.4].
4.35	Applicants should be able to demonstrate in their application how the design process was conducted and	Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] provides an overview of the options



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
	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.	considered, while Section 3 of the CftS [TR010060/APP/7.1] details how the design of the proposed scheme developed over time. In addition, the principles by which the proposed scheme was designed and developed can be found in the Design Principles document [TR010060/APP/7.10].
		The proposed scheme has been developed in accordance with the technical standards specified in the DMRB and guidance specified by the DfT's TAG criteria, through the EIA process, stakeholder engagement, and taking into account the relevant design standards.
4.40 (Climate change adaptation)	limate change term investments which will need to remain operational over many decades, in the face of a changing climate	The proposed scheme design has been developed taking into account the potential implications of climate change such as resilience of the proposed scheme to flooding and high temperatures.
		The EIA process has considered the effects of possible future changes in climate over a 60-year appraisal period. The potential impacts of these climatic changes on the proposed scheme have been assessed in Chapter 15: Climate, of the ES [TR010060/APP/6.1].
		The drainage design has been developed taking into account future potential increases in flooding, while the impacts have been considered in Appendix 14.5: Flood Risk Assessment, of the ES [TR010060/APP/6.3]. The guidance on climate change allowances has been used (Environment Agency (2021) Flood risk assessments: climate change allowances).
		Mitigation measures with regards to climate change are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5] and the DAS [TR010060/APP/7.4].

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
4.41	Where transport infrastructure has safety-critical elements and the design life of the asset is 60 years or greater, the applicant should apply the UK Climate Projections 2009 (UKCP09) high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level.	In accordance with paragraph 3.28 of DMRB LA 114 Climate, the latest available projections (i.e. UK Climate Projections 2018 (UKCP18)) have been used for the high emissions (i.e. Representative Concentration Pathway 8.5) scenario against the 2080 projections at the 50% probability level. UKCP18 superseded UKCP09 and is considered to provide a better estimate of future climate conditions. The climate projections can be found within Chapter 15: Climate, of the ES [TR010060/APP/6.1].
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	The UKCP18 projections are the latest available and have been used to understand possible changes in climate over the lifetime of the proposed scheme (i.e. up to the 2080s), as per paragraphs 3.31 and 3.32 of DMRB LA 114 Climate. Based on these probable changes in climate, mitigation measures embedded within the design of the proposed scheme have been identified and presented within Chapter 15: Climate, of the ES [TR010060/APP/6.1].
		With regards to flood risk, Government guidance on climate change consideration for fluvial and surface water flows has been followed. The details of the methodology and assessment together with mitigation and adaptation measures are included in Appendix 14.5: Flood Risk Assessment (FRA), of the ES [TR010060/APP/6.3].
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	DMRB LA 114 states that climate assessments should use the H++ climate scenarios to test the sensitivity of vulnerable safety-critical features, to ensure that such features would not be affected by more radical changes to the climate beyond that projected in the latest set of UK Climate Projections. The H++ scenarios cover heat waves, cold snaps, low and high



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	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.	rainfall, droughts, floods and windstorms. However, of these climate related events, the greatest risks to safety critical features (e.g. structures) are considered likely to be those associated with flooding. The H++ scenarios were developed using a set of climate change projections which have since been superseded (i.e. UKCP09); however, the Met Office does not propose to update these scenarios using UKCP18. While the H++ climate scenarios are still considered valid high-end scenarios, the climate change allowances which have been considered within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] are very similar to those for H++. Where those allowances are below the appropriate H++ allowance for the watercourse, there is no realistic prospect of the additional flows causing significant flood risk to the proposed scheme. As such, it is considered that the proposed scheme has been tested against and designed to account for more extreme changes in climate (specifically flooding).
		As discussed in Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1], consideration has also been given to potential changes to the risk of flooding should more radical changes in climate occur. This analysis identified no locations where the maximum credible climate change allowance published at that time (i.e. a 65% climate change allowance for peak river flow) would result in a risk of flooding to the carriageway due to the freeboard (i.e. the difference between the design flood level and the soffit level of a bridge/culvert) at all watercourse crossings. Since this analysis was undertaken, however, the recommended maximum credible climate change allowance for peak river flow has been increased from 65% to 72%. As there is



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		significant freeboard for each of the main rivers considered, and generally small modelled changes in flood depth due to the additional allowances for climate change considered, the risk of flooding to the proposed scheme with even a 72% climate change allowance is considered low.
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.	The UKCP18 projections are the latest available and have been used within Chapter 15: Climate, of the ES [TR010060/APP/6.1] to understand possible changes in climate over the lifetime of the proposed scheme (i.e., up to the 2080s). The Independent Assessment of UK Climate Risk (Climate Change Committee, 2021a), which provides advice to Government to inform the UK's third Climate Change Risk Assessment (CCRA3), has also been reviewed as part of this assessment (see Section 15.8 of Chapter 15).
		As noted in Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1], relevant climate change allowances, which have been agreed in consultation with relevant stakeholders (e.g., the Environment Agency), have informed the design of the proposed scheme. Mitigation measures embedded within the design of the proposed scheme have been identified and presented within Chapter 14 of the ES. These, along with standard mitigation measures, are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
4.52 (Pollution control and other environmental protection	There is a statutory duty on applicants to consult the Marine Management Organisation (MMO) on nationally significant projects which would affect, or would be likely to affect, any relevant marine areas as defined in the	The proposed scheme would not affect any marine areas, so it is not necessary to consult the Marine Management Organisation.



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
Regimes)	Planning Act (as amended by section 23 of the Marine and Coastal Access Act 2009).	
4.53	When an applicant applies for an Environmental Permit, the relevant regulator (the Environment Agency) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements	The Consents, Licences and Agreements Position Statement [TR010060/APP/3.3] sets out National Highways' intended strategy for obtaining the consents and associated agreements needed to implement the proposed scheme. It details the applications that will be made on behalf of the proposed scheme to the Environment Agency and Essex County Council as the Lead Local Flood Authority.
		Consultation undertaken with the Environment Agency is discussed in response to paragraph 4.54 of the NNNPS below.
4.54	Applicants are encouraged to begin pre-application discussions with the Environment Agency as early as possible. It is however expected that an applicant will have first thought through the requirements as a starting point for discussion. Some consents require a significant amount of preparation; as an example, the Environment Agency suggests that applicants should start work towards submitting the permit application at least 6 months prior to the submission of an application for a Development Consent Order, where they wish to parallel track the applications. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority.	Discussions have taken place during development of the proposed scheme regarding likely requirements for environmental permits with the Environment Agency, and regarding ordinary watercourse consents with Essex County Council as the Lead Local Flood Authority. This is documented in Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1]. A Statement of Common Ground between the Applicant and the respective parties is intended to be submitted during examination, and this document would detail the applications for consents and permits that would be made between the Applicant and respective parties.
4.55	The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation	The impacts of the proposed scheme are considered throughout the ES [TR010060/APP/6.1]. The first iteration of the EMP [TR010060/APP/6.5] outlines the control of

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
	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:  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.	processes, emissions and discharges through the construction process.  Liaison is ongoing with the Environment Agency, Essex County Council and Natural England to ensure that they are satisfied with good practice measures currently in place in the REAC within the EMP [TR010060/APP/6.5], the Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8] and the appendices associated with Chapter 9: Biodiversity and Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.3].  Chapter 16: Cumulative effects assessment, of the ES [TR010060/APP/6.1] assesses that no cumulative effects are predicted to arise in relation to pollution as a result of nearby planned developments.
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.	The Explanatory Memorandum [TR010060/APP/3.2] and the draft DCO [TR010060/APP/3.1] discusses statutory nuisance claims and provides a defence to those nuisances which may be of relevance to the proposed scheme. These are further detailed in the Statement of Statutory Nuisances provided as part of the DCO application [TR010060/APP/6.9].
4.61 <b>(Safety)</b>	The applicant should undertake an objective assessment of the impact of the proposed development on safety including the impact of any mitigation measures. This should use the methodology outlined in the guidance from DfT (WebTAG) and from the Highways Agency.	Section 5.6 of the CftS [TR010060/APP/7.1] provides an assessment of the impact of the proposed scheme on road safety, in accordance with TAG and National Highways guidance. The proposed scheme's safety objectives and safety governance requirements are set out in the National Highways safety governance documents. These include

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		addressing existing operational safety issues and mitigating worker and user safety impacts associated with the operation and maintenance of the proposed scheme.
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 Road Safety Audit process has been established and is progressed in accordance with Project Control Framework stages.
4.64	The applicant should be able to demonstrate that their scheme is consistent with the Highways Agency's Safety Framework for the Strategic Road Network and with the national Strategic Framework for Road Safety. Applicants will wish to show that they have taken all steps that are reasonably required to:  • 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.	The design of the proposed scheme has been carried out in accordance with the DMRB. Where it has been necessary to depart from safety standards within the DMRB, a full safety risk assessment has been carried out with approval from National Highways. National Highways Project Control Framework products have been produced which support the framework and the Stage Gate Assessment Review. These set out current safety performance, challenges that the proposed scheme presents, the safety objectives, and the safety management system that has been put in place to give confidence that safety objectives will be met. A WCH assessment has been produced and reviewed at each design stage to ensure the WCH routes proposed are enhanced. In addition, the design has been carried out in accordance with Local Transport Note 1/20 Cycle Infrastructure Design as far as feasibly possible. This standard is applicable to local highway schemes, and therefore to the elements of the proposed scheme that affect the local highway network, including all WCH provision as these users would no longer be routed along the A12.

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
4.65	<ul> <li>They will also wish to demonstrate that:</li> <li>they have considered the safety implications of their project from the outset; and</li> <li>they are putting in place rigorous processes for monitoring and evaluating safety.</li> </ul>	The proposed scheme has an integrated Operational Safety Team which ensure the safety implications as well as monitoring and evaluating safety decisions are implemented. These are the number one imperative for the proposed scheme in line with National Highways principles. The safety implications of the proposed scheme are set out in the safety governance documentation and supplemented by the attendance of the Operational Safety Team at all safety governance reviews as part of the National Highways safety governance framework. These processes are rigorous and address opportunities and challenges that the proposed scheme presents, and how these have been addressed.
4.76–4.77 (Security considerations)	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	No national security implications have been identified for the proposed scheme and hence CPNI have not been consulted.

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
	make a properly informed recommendation on the application.	
4.81–4.82 (Health)	As described in the relevant sections of this NPS, where the proposed project has likely significant environmental impacts that would have an effect on human beings, any environmental statement should identify and set out the assessment of any likely significant adverse health impacts.  The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. 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.	Opportunities to limit adverse impacts on health and maximise benefits have been identified within Chapter 13: Population and human health, of the ES [TR010060/APP/6.1]. This chapter also references other relevant aspect chapters, including Chapter 6: Air quality, Chapter 8: Landscape and visual, Chapter 12: Noise and vibration, and Chapter 15: Climate, of the ES [TR010060/APP/6.1], which include impacts on human health.  Examples of mitigation contained in the REAC within the first iteration of the EMP [TR010060/APP/6.5] include:  use of best practice construction measures, including careful scheduling of road and footpath closures/diversions  maintaining access along routes used by WCH during construction  control of noise, vibration and dust during construction  air quality improvements  new and improved WCH provision  the use of low noise surfacing, bunds and barriers to mitigate adverse noise impacts  setting the alignment into the existing landscape with the addition of planting to screen views and limit adverse visual impacts

#### A12 Chelmsford to A120 widening scheme



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		The assessment of impacts against determinants of health scoped into the assessment is provided in Section 13.11 of Chapter 13 of the ES [TR010060/APP/6.1]. 'Human health' considers the potential impacts on each identified determinant from all relevant pathways (including, but not limited to, changes in air quality and noise, land-take, vegetation removal, disruption in access or amenity to routes used by WCH, access to community facilities and assets, and employment opportunities).
		Chapter 16: Cumulative effects assessment, of the ES [TR010060/APP/6.1], assesses the potential for cumulative impacts on health which might arise in combination with other developments.



#### **Table 1.3 NNNPS Chapter 5**

NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
5		
5.3	Increases in emissions of pollutants during the construction or operation phases of projects on the national networks can result in the worsening of local air quality (though they can also have beneficial effects on air quality, for example through reduced congestion). Increased emissions can contribute to adverse impacts on human health, on protected species and habitats.	These requirements are addressed in Section 6.9 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1].
5.4	Current UK legislation sets out health-based ambient air quality objectives. In addition, the European Union has established common, health-based and eco-system based ambient concentration limit values (LVs) for the main pollutants in the Ambient Air Quality Directive (2008/50/EU) ('the Air Quality Directive'), which Member States are required to meet by various dates.	These requirements are addressed in Section 6.9 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1].
5.6	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 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.	Chapter 6: Air quality, of the ES [TR010060/APP/6.1] presents the results of the assessment of the impacts of the proposed scheme on air quality, in accordance with DMRB LA 105.



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
5.7	<ul> <li>The Environmental Statement should describe:</li> <li>existing air quality levels</li> <li>forecasts of air quality at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of the impact of the scheme</li> <li>any significant air quality effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project.</li> </ul>	Baseline air quality conditions are described in Section 6.8 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1] and Appendix 6.1: Air Quality Monitoring Results, of the ES [TR010060/APP/6.3].  Modelled air pollutant concentrations in the opening year (2027) Do Minimum (without the proposed scheme) and Do Something (with the proposed scheme) scenarios are presented and discussed in Section 6.9 of Chapter 6 [TR010060/APP/6.1] and Appendix 6.5: Air Quality Results, of the ES [TR010060/APP/6.3].  Potential impacts, mitigation measures and the significance of residual effects, during both the construction and operational phases of the proposed scheme, are presented and discussed in Sections 6.9, 6.10 and 6.11, respectively, of Chapter 6 of the ES [TR010060/APP/6.1].
5.8	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. The applicant's assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts.	Emission factors derived from the Department for Environment, Food and Rural Affairs' (Defra's) Emission Factors Toolkit (EFT) (v10.0) (which contains the most recent projections up to 2030) have been used within the air quality assessment presented in Chapter 6: Air quality, of the ES [TR010060/APP/6.1]. EFT (v11) has since been released but would have no implications for the air quality assessment owing to emission factors for $NO_X$ and $PM_{10}$ being identical up until 2030. The latest background pollutants maps and tools published on the Defra air quality assessment website were also used. No additional local fleet monitoring was undertaken in this assessment. Uncertainty in future fleet forecasts is addressed through modelling verification in Appendix 6.4: Verification of Dispersion Model Results, of the ES [TR010060/APP/6.3] and by long-term trend adjustment factors



NNNPS paragraph number	Requirement of the NNNPS	Compliance with the NNNPS
		discussed in Chapter 6: Air quality, of the ES [TR010060/APP/6.1].
5.9	A judgement on the risks as to whether the project would affect the UK's ability to comply with the Ambient Air Quality Directive must be provided.	A compliance risk assessment has been undertaken in accordance with DMRB LA 105, the outcomes of which are presented in Section 6.9 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1].
5.12	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 would lead to a deterioration in air quality in a zone/agglomeration.	Section 6.13 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1] concludes that the effect of the proposed scheme on air quality at human health receptors, during both the construction and operational phases, is not considered to be significant. However, the assessment identified likely significant effects at ecological receptors owing to an increase in nitrogen deposition, as outlined in Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1], where subsequent mitigation has been considered. Mitigation measures are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
5.13	The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:  • result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming noncompliant; or  • 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.	As demonstrated in Section 6.11 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1], the assessment of construction and operational traffic effects concluded that traffic associated with the proposed scheme would be unlikely to interfere with the UK's reported ability to meet the EU Air Quality Directive Limit Value for NO <sub>2</sub> in the shortest possible time. As a consequence, in accordance with DMRB LA 105 criteria on significance, the effect of the proposed scheme on air quality at human health receptors and on compliance with EU Limit Values during operation and construction is considered to be not significant.



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5.14–5.15	The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage. The proposed mitigation measures should ensure that the net impact of a project does not delay the point at which a zone will meet compliance timescales.  Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots 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.	As described within Section 6.10 of Chapter 6: Air quality, of the ES [TR010060/APP/6.1], no additional mitigation for air quality other than standard best practice is included in the first iteration of the EMP [TR010060/APP/6.5].  However, likely significant effects during operation of the proposed scheme are confirmed for ancient woodland habitats within ecological sites. The determination of significance is considered within Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1], where subsequent mitigation has been considered. In addition, confirmation of likely significant effects triggered the development of Appendix 6.6: Project Air Quality Action Plan (PAQAP), of the ES [TR010060/APP/6.3], where all mitigation measures have been considered. Mitigation measures are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
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	As discussed in Section 15.4 of Chapter 15: Climate, of the ES [TR010060/APP/6.1], changes in operational road user greenhouse gas emissions (i.e. carbon impacts) have been considered as part of the appraisal of scheme options in accordance with TAG Unit A3, Section 4 (DfT, 2021b).  In accordance with paragraphs 3.11 to 3.20 of DMRB LA 114, changes in greenhouse gas emissions associated with the construction and operation of the proposed scheme have been



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	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.	estimated and compared to relevant UK carbon budgets to assess their significance (see Section 15.11 of Chapter 15 of the ES).
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 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.	Both embedded and standard mitigation measures are detailed in Section 15.10 of Chapter 15: Climate, of the ES [TR010060/APP/6.1] and secured within the first iteration of the EMP [TR010060/APP/6.5]. The mitigation measures set out the proposed scheme's impact on greenhouse gas emissions and the proposed scheme's vulnerability to climate change for its construction and operational phases.  Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1] presents the alternatives that have been considered.
5.22 (Biodiversity and ecological conservation)	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.	<ul> <li>Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] identifies Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites where the proposed scheme:</li> <li>is within 2km of a Ramsar site or European site or functionally linked land</li> <li>is within 30km of an SAC, where bats are noted as one of the qualifying interests</li> <li>crosses or lies adjacent to, upstream of, or downstream of, a watercourse which is designated in part or wholly as a Ramsar site or European site</li> </ul>



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		has a potential hydrological or hydrogeological linkage to a Ramsar site or European site containing a groundwater- dependent terrestrial ecosystem
		has an Affected Road Network within 200m of a Ramsar site or European site
		will have a direct pathway to effects
		Chapter 9: Biodiversity, of the ES, also identifies Sites of Special Scientific Interest (SSSIs) within 2km of the proposed scheme and 200m of the Affected Road Network, or which have hydrological connectivity to the proposed scheme; Local Nature Reserves, Local Wildlife Sites, Local Road Verges and notable habitats such as ancient woodland groundwater-dependent terrestrial ecosystems within 1km of the proposed scheme and 200m of the Affected Road Network; and priority habitats and species up to 600m from the proposed scheme.
		Chapter 9 of the ES and the Habitats Regulations Assessment No Significant Effects Report [TR010060/APP/6.8] also clearly outline likely significant effects on internationally, nationally and locally designated sites of ecological conservation importance, on protected species, and on habitats and other species identified as being of principal importance for the conservation of biodiversity. Chapter 9 considers the full range of potential impacts on ecosystems.
		The first iteration of the EMP [TR010060/APP/6.5] includes specific management plans that will ensure construction related mitigation measures and actions set out in the REAC (part of the EMP) are successfully implemented onsite. The specific



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		management documents to support the EMP in terms of managing impacts on biodiversity and habitats are as follows:
		Landscape and Ecology Management Plan (Appendix I)
		Invasive Species Management Plan (Appendix H)
		The single geological SSSI has been scoped out of Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1].
5.23	The applicant should describe how the project plans to conserve and enhance biodiversity conservation interests.	The proposed scheme has taken into account the locations of valuable and priority habitats, including important connective habitats (i.e. hedgerows, watercourses and treelines) and the location of protected species. The mitigation hierarchy has been followed to modify the design to avoid impacts to these features where practicable. In addition, opportunities to enhance biodiversity have been proposed. Mitigation and enhancement measures are described within Section 9.10 of Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1].
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.	Design changes have been implemented where practicable to avoid impacts to ecological receptors. These are discussed within Section 9.10 of Chapter 9: Biodiversity and Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1]. Furthermore, the approach of maximising biodiversity delivery is being applied to the proposed scheme as discussed in Section 9.13 of Chapter 9 [TR010060/APP/6.1] and Appendix 9.14: Biodiversity Net Gain Report, of the ES [TR010060/APP/6.3]. The single geological SSSI has been scoped out of Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1].

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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.	Sections 9.9 to 9.11 of Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] detail impacts, mitigation and significant effects to ecological receptors such that the Secretary of State can be informed in the decision-making process. The first iteration of the EMP [TR010060/APP/6.5] includes all mitigation measures from the chapters.  The single geological SSSI has been scoped out of Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1].
5.29 (Biodiversity – SSSIs)	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.	There are no SSSIs designated for ecological value within 2km of the proposed scheme, and only one SSSI (Tiptree Heath) within 200m of the Affected Road Network. Air quality modelling has shown there would be no significant impacts to Tiptree Heath SSSI through construction or operation of the proposed scheme. Sections 9.9 to 9.11 of Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] provides more detail on potential impacts, mitigation and significant effects. The first iteration of the EMP [TR010060/APP/6.5] includes all mitigation measures.



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5.32 (Biodiversity – Irreplaceable habitats including ancient woodland and veteran trees)	Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.	Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] details that the proposed scheme would not directly impact any areas of Ancient Woodland. Perry's Wood is located within 200m of the Affected Road Network and has been assessed for impacts from changes in air quality. The air quality assessment has shown there would be changes in air quality at one veteran tree, four potential veteran trees and one potential ancient tree during construction and changes in air quality for six verified veteran trees, 16 potential veteran trees and one ancient tree during operation. There would also be a change in air quality for one Ancient Woodland/Local Wildlife Site (Perry's Wood). The assessment in Appendix 9.15: Assessment of Air Quality Impacts on Ecological Receptors [TR010060/APP/6.3] and Chapter 9: Biodiversity, of the ES, concludes that there would be no significant effect on the veteran or ancient trees (verified and potential). Chapter 9 of the ES does conclude there would be a significant effect on Perry's Wood Local Wildlife Site, which is valued of national importance due to its designation as ancient woodland. It is not possible to mitigate this impact, but compensation would be provided in the form of new woodland planting within borrow pit F.
	No verified veteran trees would be directly impacted by construction of the proposed scheme. However, five potential veteran trees (i.e. trees not formally designated but assessed as part of A12 field surveys to be of sufficient quality to qualify as veteran trees) would be removed during construction. Where practicable, the design of the proposed scheme was refined to avoid impacts, but loss of these five trees is unavoidable. Where potential ancient and veteran trees are unavoidably removed to accommodate the proposed scheme, their loss would be partially compensated (acknowledging that features such as ancient and	



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		veteran trees are considered irreplaceable and therefore cannot be fully compensated) as per the latest guidance from Natural England and the Forestry Commission (2022):
		Young trees of the same species as that which is removed would be planted with sufficient space around them to encourage development of an open crown.
		Where practicable, trees would be planted close to the trees they are replacing, taking into account post-construction air quality levels.
		Where practicable and safe to do so, the intact hulk of the potential ancient or veteran tree would be left where it is (preferably standing) to benefit invertebrates and fungi. Where this is not possible, the hulk would be moved near to other unimpacted potential ancient or veteran trees or parkland in the area as show on Figure 2.1: Environmental Masterplan, of the ES [TR010060/APP/6.2].
5.33	Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design. The applicant should maximise such opportunities in and around developments.	Proposals for enhancements related to biodiversity are detailed within Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1]. No enhancement opportunities are detailed in Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1] as the proposed scheme would not have an impact on geological features.
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	Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] presents an assessment of the effects on species and habitats of principal importance for biodiversity. Data searches and field surveys have been used to identify protected and notable habitats and species within the zone of influence. Impacts to these receptors have been assessed and, where necessary, measures to avoid, reduce and mitigate these impacts have been proposed.

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	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.	
5.36 (Biodiversity – Mitigation)	<ul> <li>Appropriate mitigation measures are considered an integral part of a proposed development and the applicant should include these in their assessment, including identifying how these measures will be secured. The applicant should demonstrate that:</li> <li>they will seek to ensure that activities will be confined to the minimum areas required for works during construction;</li> <li>standard mitigation will be followed to ensure that risk of disturbance or damage to species or habitats is minimised during construction and operation;</li> <li>developments and landscaping will be designed to provide green corridors and minimise habitat fragmentation; and</li> <li>opportunities will be taken to enhance existing habitats and create new habitats within the site landscaping proposals.</li> </ul>	Embedded and standard mitigation measures are detailed within Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1]. Impacts would be limited by reducing the construction footprint as far as practicable, through following standard mitigation, through landscape design and through provision of enhancements where practicable. Mitigation measures are secured in the REAC within the first iteration of the EMP [TR010060/APP/6.5]. Measures will also be contained within Natural England licences which will be applied for prior to works commencing, as detailed in the Consents, Licences and Agreements Position Statement [TR010060/APP/3.3].



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5.42 (Waste management)	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.	Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1] sets out how waste will be managed during construction and operation. It also details how the design of the proposed scheme would reduce the consumption and disposal of waste, and where practicable, the design of the proposed scheme would work towards the ambition of zero avoidable waste in construction. The proposed scheme would aim to maximise its use of recycled materials for construction where feasible.  An outline Site Waste Management Plan (SWMP) has been prepared as part of the first iteration of the EMP [TR010060/APP/6.5] to plan, implement, monitor and review waste reduction and management throughout the design and construction of the proposed scheme. The SWMP is a live document, which will be updated at varying points during design and construction. It will be used to quantify waste arisings and facilitate the identification and implementation of waste prevention at the detailed design stage, and the reuse, recycling and other recovery opportunities during the construction stage. The waste hierarchy will be followed as a priority to achieve the best overall environmental outcome, and limit waste generation and disposal to landfill in line with the prevailing national policy targets.
5.55–5.58 (Civil and military aviation and defence interests)	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.  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	The proposed scheme is not considered to have any effects on an airport or civil or military aviation, as there are no airports close to the proposed scheme.  National Highways has consulted with the Ministry of Defence, Civil Aviation Authority and National Air Traffic Services, the details of which are described in the Consultation Report [TR010060/APP/5.1].



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	preparing an assessment of the proposal on aviation or other defence interests.	
	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.	
	If any relevant changes are made to proposals for an NSIP during the pre-application period or before the end of the examination of an application, it is the responsibility of the applicant to ensure that the relevant aviation and defence consultees are informed as soon as reasonably possible.	
5.71–5.74 (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 vulnerability of the proposed development to coastal change, taking account of climate change, during the project's operational life.	The proposed scheme is not located in a coastal area, so paragraphs 5.71 to 5.74 are not considered relevant.
	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	



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	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.	
	The applicant should examine the broader context of coastal protection around the proposed project, and the influence in both directions, i.e. coast on project, and project on coast.	
	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.	
5.75	When assessing applications in a CCMA, the Secretary of State should not grant development consent unless it is demonstrated that the development:	The proposed scheme is not located in a coastal area, so paragraph 5.75 is not considered relevant.



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	will be safe over its planned lifetime and will not have an unacceptable impact on coastal change;	
	<ul> <li>will not compromise the character of the coast covered by designations;</li> </ul>	
	<ul> <li>provides wider sustainability benefits; and</li> </ul>	
	<ul> <li>does not hinder the creation and maintenance of a continuous signed and managed route around the coast.</li> </ul>	
5.79	Applicants should propose appropriate mitigation measures to address adverse physical changes to the coast in consultation with the MMO, the Environment Agency, Natural England, Natural Resource Wales, Scottish Natural Heritage, Local Planning Authorities, other statutory consultees, Coastal Partnerships and other coastal groups, as it considers appropriate. The Secretary of State should consider whether the mitigation requirements put forward by an applicant are acceptable and will be delivered and whether requirements should be attached to any grant of development consent in order to secure their delivery.	The proposed scheme is not located in a coastal area, so paragraph 5.79 is not relevant and consultation has not been carried out in respect of this matter.
5.84–5.86 (Dust, odour, artificial light, smoke, steam)	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,	As discussed in Chapter 6: Air quality, of the ES [TR010060/APP/6.1] there is the potential for dust effects during the construction phase at sensitive receptors within the distance bands outlined in DMRB LA 105. These are shown on Figure 6.4: Construction Dust Assessment, of the ES [TR010060/APP/6.2].



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	smoke and artificial light and describe these in the Environmental Statement.  In particular, the assessment provided by the applicant should describe:  • 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.  The applicant is advised to consult the relevant local planning authority and, where appropriate,	The level and distribution of construction dust emissions will depend on where within the Order Limits the dust raising activity takes place, the nature of the activity and controls, and weather conditions. Chapter 6 shows the number of receptors within the distance bands outlined in DMRB LA 105. Based on the number of receptors within the distance bands and the large potential for dust emissions to occur, the construction dust risk is considered to be 'high'. This is in accordance with DMRB LA 105 Tables 2.58a and 2.58b. As outlined in the methodology, standard mitigation measures in line with this level of risk have been detailed within the first iteration of the EMP [TR010060/APP/6.5].  In terms of the proposed scheme's impact on artificial light, the landscape and visual impact assessment in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1], considers the significance of effect of both day and night-time changes for landscape and visual receptors in line with the requirements of DMRB LA 107. The assessment considers the effects of construction lighting, highway lighting and vehicle lights, and identifies the potential for temporary lighting to have an impact.
	the Environment Agency about the scope and methodology of the assessment.	This would be mitigated by the use of sensitive lighting design as outlined in Section 8.10 of Chapter 8 of the ES.  In respects of emissions of odour, smoke and steam, these are not addressed in the ES as the proposed scheme would not result in any of these emissions that would require an assessment.  Chapter 4: Consultation, of the ES [TR010060/APP/6.1] provides detail of the consultation process and demonstrates that all the relevant local authorities and the Environment Agency were consulted during the planning and scope of the methodology for preparing the ES. Comments have been acknowledged and built into the overall proposed scheme design.



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5.89	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.	As discussed in response to NNNPS paragraphs 5.84–86, there is potential for dust effects during the construction phase, and mitigation measures for dust are detailed in the first iteration of the EMP [TR010060/APP/6.5].
		Regarding light, the landscape and visual impact assessment considers the significance of effect of both day and night-time changes for landscape and visual receptors in line with the requirements of DMRB LA 107. The assessment considers the effects of construction lighting, highway lighting and vehicle lights, and identifies the potential for temporary lighting to have an impact. This will be mitigated by the use of sensitive lighting design as outlined in Section 8.10 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1].
		Odour, steam and smoke are not considered a material pressure on the local environment as a result of the proposed scheme's construction or operational phases. All mitigation measures can be found in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
5.91 (Flood risk)	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	Essential transport infrastructure, which has to cross areas at risk of flooding, is permitted in areas of high flood risk subject to the requirements of the Exception Test. This is discussed in Appendix 14.5: Flood Risk Assessment, of the ES [TR010060/APP/6.3].
development away from areas at highest risk. But where development is necessary, it should be made safe without increasing flood risk elsewhere. The guidance supporting the National Planning Policy Framework explains that essential transport infrastructure (including mass evacuation routes), which has to cross the area	Where assessment has identified that the proposed scheme could increase flood risk elsewhere, mitigation (e.g. drainage, flood compensation areas) has been included to ensure no residual increase in flood risk including an appropriate allowance for climate change for the lifetime of the development. Details can be found within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and mitigation	

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	at risk, is permissible in areas of high flood risk, subject to the requirements of the Exception Test.	measures are included in the REAC within the first iteration of the EMP [TR010060/APP/6.5].
5.92–5.93	<ul> <li>Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):</li> <li>Flood Zones 2 and 3, medium and high probability of river and sea flooding;</li> <li>Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.</li> <li>This should identify and assess the risks of all forms of flooding to and from the project and</li> </ul>	The proposed scheme is over 1 hectare in size and traverses all Flood Zones. Consequently, Appendix 14.5: Flood Risk Assessment (FRA), of the ES [TR010060/APP/6.3] has been produced.  The FRA assesses the impact to and from the proposed scheme on all sources of flood risk and commits to mitigation. This is as detailed within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and mitigation measures are included in the REAC within the first iteration of the EMP [TR010060/APP/6.5]. The mitigation would ensure the proposed scheme does not increase flood risk and is safe for its lifetime including the predicted impact of climate change.
	demonstrate how these flood risks will be managed, taking climate change into account.	
5.94	<ul> <li>In preparing an FRA the applicant should:</li> <li>consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the project, and demonstrate how these risks</li> </ul>	Appendix 14.5: Flood Risk Assessment (FRA) [TR010060/APP/6.3] assesses the impact to and from the proposed scheme on all sources of flood risk and commits to embedded and essential mitigation to manage flood risk, taking into account the residual risk, concluding that the proposed scheme would be acceptable and not result in unacceptable levels of flooding or increase flooding elsewhere.



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	<ul> <li>will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime;</li> <li>take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made;</li> <li>consider the vulnerability of those using the infrastructure including arrangements for safe access and exit;</li> <li>include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project;</li> <li>consider if there is a need to remain operational during a worst case flood event over the development's lifetime;</li> <li>provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate.</li> </ul>	The FRA has sufficiently demonstrated accordance with Sequential and Exception Tests as appropriate. The FRA and Chapter 15: Climate, of the ES [TR010060/APP/6.1] takes into account the impact of climate change and the proposed scheme's long-term impact on climate and the UK Government's Carbon Budget. Chapter 15 also considers the proposed scheme's vulnerability to climate change. This is as detailed within Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1], and mitigation measures are included in the REAC within the first iteration of the EMP [TR010060/APP/6.5].  The FRA assumes a 100-year lifetime for the proposed scheme and incorporates the predicted impact of climate change upon flood risk. This is based on UKCP09 and UKCP18 projections as transposed into allowances by the Environment Agency.  The proposed scheme has been classified as essential infrastructure in accordance with Annex 3: Flood risk vulnerability classification, of the National Planning Policy Framework, which is documented in the FRA. The FRA assesses the risk of flooding to the proposed scheme and demonstrates that it will remain safe for users for its lifetime. The FRA also discusses the operation of the proposed scheme during a worst case flood event.
5.96	Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, highways authorities and	Discussions with flood risk management bodies (the Environment Agency and Essex County Council) have been undertaken to inform the design process as recorded in Chapter 14: Road drainage and the water environment, and Chapter 4: Consultation, of the ES [TR010060/APP/6.1].

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	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.	Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] confirms that the hydraulic models and results have been submitted for review and accepted by the Environment Agency in advance of the DCO submission.
5.97	For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in Flood Risk Assessments. Surface water flood issues need to be understood and then account of these issues can be taken, for example flow routes should be clearly identified and managed.	Local flood risk data sources from fluvial, surface water, groundwater, ordinary watercourses, artificial sources, and sewer and water supply infrastructure have been taken into consideration as part of the EIA and the Flood Risk Assessment (FRA). Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] contains details of the sources of information used for the FRA, which include surface water management plans and strategic flood risk assessments. These are referenced and taken account of within Appendix 14.5: Flood Risk Assessment, of the ES [TR010060/APP/6.3].
5.100	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	Appendix 14.6: Surface Water Drainage Strategy, of the ES [TR010060/APP/6.3] identifies that the proposed scheme's drainage has been designed in accordance with all national standards that are relevant to it. The proposed scheme has been

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	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 2010.93 In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any	designed in accordance with the DMRB, including DMRB CG 501 Design of Highway Drainage Systems. DMRB provides a standard for the design of highways projects that are typically undertaken by National Highways. The DMRB is development specific rather than generic for all developments and thus does not align fully with all aspects of the non-statutory technical standards in two areas: discharge rates and volume control.  The proposed scheme discharge rates have been restricted to a
	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.	minimum 5l/s, which is appropriate and takes into account blockage risk and maintenance but is higher in places than the minimum rate mandated by standard S2 of the Non-Statutory Technical Standards for Sustainable Drainage Systems (Defra, 2015). There would be no adverse effects as a result of the use of the 5l/s minimum discharge rate for the proposed scheme. This is because in the majority of locations this increase in proposed discharge rates would be anticipated, and discharges in adjacent proposed catchments with the same receptors have been adjusted (reduced) to ensure that there is no overall increase to the existing site allowable discharge rates. Where this adjustment has not been possible, an assessment has been undertaken of the impact of the 5l/s discharge rate on flood risk. This is presented in the FRA (Appendix 14.5 of the ES [TR010060/APP/6.3]) and identifies a negligible impact on the surface water drainage flood risk, generally as a result of the existing flows (within the watercourses the 5l/s discharges flow into) being significantly larger than the change in flows that would result from the proposed scheme.
		The non-statutory technical standards also include standards S4–S6, which relate to volume control from drainage discharges. The design standards in the DMRB do not include volume control within either DMRB CG 501 Design of Highway Drainage Systems



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		or DMRB LA 113 Road Drainage and the Water Environment (this provides a methodology for the assessment of impacts from highways projects). However, the proposed scheme incorporates Sustainable Drainage Systems (SuDS). Attenuation within SuDS features have been provided to ensure no flooding for a 1% (1 in 100) Annual Exceedance Probability event plus a 20% climate change allowance and tested for a 40% climate change allowance.
		National Highways would be responsible for the maintenance and inspection of all drainage infrastructure, except where such infrastructure would be adopted by and become the responsibility of the relevant local authorities.
5.109	The proposed scheme should be designed and constructed to remain operational and safe for users in times of flood.	Details of compliance are included in Appendix 14.5: Flood Risk Assessment, of the ES [TR010060/APP/6.3].
5.112–5.115 (Flood risk – mitigation)	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.	Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1] and Appendix 14.6: Surface Water Drainage Strategy, of the ES [TR010060/APP/6.3] show that drainage has been designed to reduce the risk of flooding elsewhere including incorporation of climate change allowances.
	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.	Appendix 14.6: Surface Water Drainage Strategy, of the ES [TR010060/APP/6.3] identifies that the drainage has been designed according to national SuDS best practice. This includes the principles of Defra's (2015) Sustainable Drainage Systems, non-statutory technical standards for SuDS and DMRB CG 501 Design of Highway Drainage Systems (Highways England, 2020e). Given the timing of the revised guidance being published, it has not been possible to incorporate the Environment Agency's new guidance for climate change. The FRA and Chapter 14: Road



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	It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation.	drainage and the water environment assesses the percentage of climate change at 20% whilst new guidance has increased this to 25%. Therefore, it has not been possible to incorporate this change into the relevant DCO application documents. However, it is proposed that the guidance will be considered post-submission (and ideally pre-examination), by way of a sensitivity test that will report the implications of the new guidance on the assessments undertaken to date.
	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.	The proposed scheme has been assessed as 'essential infrastructure' partially located within Flood Zone 3. Objectives of the proposed scheme are to improve traffic flow, journey safety and reliability between Chelmsford and the A120. As there are no reasonable alternatives, as demonstrated in Chapter 3: Assessment of alternatives, of the ES [TR010060/APP/6.1], the proposed scheme is deemed to have passed the Sequential and Exception Tests in this instance.
		Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1] identifies that the design of the proposed scheme includes the provision of 71 attenuation ponds to mitigate for flood risk and enable road runoff to be treated prior to discharge into receiving watercourses. Attenuation ponds will be refined at the detailed design stage to ensure they are sympathetic to wildlife.
5.117–5.118	Where necessary, land stability should be	The design of the proposed scheme and reporting have been
(Land instability)	considered in respect of new development, as set out in the National Planning Policy Framework and supporting planning guidance. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. If land stability could be an issue, applicants should seek appropriate	undertaken in accordance with DMRB CD 622 Managing Geotechnical Risk. Appendix 10.1: Land Quality Risk Assessment, of the ES [TR010060/APP/6.3] summarises the land quality of the proposed scheme; The proposed scheme carried out Ground Investigations (GI) in several locations to inform the scheme design. The GI reports inform the design of retaining walls and embankments. The GI reports are part of National Highways PCF



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	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.	products which are reviewed and agreed by National Highways specialists across the PCF stages development.
	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.	
5.124 (The historic environment)	Paragraph 5.124 requires that 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.	Non-designated cultural heritage assets have been identified through desk-based studies in Appendix 7.1: Cultural Heritage Gazetteer, Appendix 7.2: Cultural Heritage Desk Based Assessment, Appendix 7.3: Palaeolithic Desk Based Assessment and Appendix 7.4: Aerial Investigation and Mapping Report, of the ES [TR010060/APP/6.3], supplemented by a programme of non-intrusive and intrusive field evaluation reported in Appendices 7.5 and 7.6: Geophysical Survey Phase 1 and 2, and Appendix 7.7: Archaeological Trial Trenching Final Report, of the ES [TR010060/APP/6.3]. None of the non-designated assets



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		identified and assessed are of equivalent significance to scheduled monuments.
5.126–5.127 (The historic environment)	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.  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.	An assessment has been undertaken to identify likely significant heritage impacts from the proposed scheme and appropriate mitigation measures. The methodology and findings of the assessment are presented in Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1]. Non-designated cultural heritage assets have been identified through desk-based studies in Appendix 7.1: Cultural Heritage Gazetteer, Appendix 7.2: Cultural Heritage Desk Based Assessment, Appendix 7.3: Palaeolithic Desk Based Assessment and Appendix 7.4: Aerial Investigation and Mapping Report, of the ES [TR010060/APP/6.3], supplemented by a programme of non-intrusive and intrusive field evaluation reported in Appendices 7.5 and 7.6: Geophysical Survey Phase 1 and 2, and Appendix 7.7: Archaeological Trial Trenching Final Report, of the ES [TR010060/APP/6.3]. Consultation has also been carried out with Historic England to gain their views and guidance, which is reported in Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1].
5.129	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	The significance of cultural heritage assets has been assessed as part of the baseline data gathering to inform Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1].

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	should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.	
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.	Measures to sustain and, where practicable, enhance the significance of cultural heritage assets are included in Chapter 7: Cultural heritage, of the ES [TR010060/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	The assessment set out within Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1] and the CftS [TR010060/APP/7.1] concludes that no physical impacts or setting impacts of substantial harm are likely to occur on designated cultural heritage assets.

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	Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.	
designated heritage asset should be against the public benefit of developr	Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the	Significant effects on designated cultural heritage assets, during the operation and construction phases, have been identified and, where practicable, have been mitigated, as discussed in Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1].
	significance of the heritage asset, the greater the justification that will be needed for any loss.	After the introduction of appropriate mitigation to reduce the impact of the significant effects on cultural heritage assets, it is assessed that across archaeology, built heritage and historic landscapes there would largely be a combination of slight to moderate adverse significant effects for construction and operation.
		The National Planning Policy Framework defines 'substantial harm' as effects of very large and large adverse significance. The proposed scheme would not result in any effects of very large or large significance, and after mitigation would therefore not result in 'substantial harm' to cultural heritage assets. Section 7.11 of Chapter 7: Cultural Heritage of the ES [TR010060/APP/6.1] details the assessment of likely significant effects and also provides mitigation to ensure these affects would not result in substantial harm as defined by the NPPF
		A summary of all effects on cultural heritage, including those assessed not to be significant, is presented in Appendix 7.9: Cultural Heritage Impact Assessment Summary Tables, of the ES [TR010060/APP/6.3]. A summary of the impact on cultural heritage is presented in the CftS [TR010060/APP/7.1].

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5.133	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	The assessment set out within Chapter 7: Cultural heritage, of the ES [TR010060/APP/6.1] has found that no physical impacts or setting impacts of substantial harm would be likely on designated cultural heritage assets.
	substantial public benefits that outweigh that loss or harm, or alternatively that all of the following apply:	
	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.	
5.144 (Landscape and visual impacts)	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	The landscape and visual impact assessment, in Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers likely significant landscape and visual effects within Section 8.11. The assessment of landscape effects has been made on the local landscape character areas defined within published assessments. The landscape and visual impact assessment takes account of



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	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.	local planning policies presented within Table 8.4 of Chapter 8 of the ES.
5.145	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).	Section 8.11 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] considers likely significant landscape effects during both construction and operation. In line with DMRB LA 107, the effect on the constituent landscape features and elements/components of the landscape character areas have been considered in combination as part of the effects on landscape character and not as individual receptors.
5.146	The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including effects on local amenity, tranquillity and nature conservation.	Section 8.11 within Chapter 8: Landscape and visual, of ES [TR010060/APP/6.1] considers likely significant visual effects during both construction and operation. In accordance with DMRB LA 107, aesthetic and perceptual qualities, including effects on dark skies and tranquillity, are included within the assessment of landscape effects. Both day and night-time changes for landscape and visual receptors are considered. Effects relating to noise are included within Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1]. Effects relating to nature conservation are included within Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1].
5.147–5.148	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	National Parks, the Broads and AONBs are not found in the study area.



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	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.	
	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.	
5.149	Landscape effects depend on the nature of the existing landscape likely to be affected and the 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 practicable and appropriate.	The nature of the existing landscape is considered within Section 8.8 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1], and the nature of the landscape effects likely to occur has been considered within the assessment of likely significant effects in Section 8.11 of Chapter 8 of the ES. To avoid or minimise harm to the landscape and views, embedded mitigation measures for this aspect have been developed as presented within Section 8.10 of Chapter 8 of the ES [TR010060/APP/6.1].
5.150–5.151	Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have	National Parks, the Broads and AONBs are not found in the study area.



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	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.	
	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:	
	<ul> <li>the need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy;</li> </ul>	
	the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way; and	
	<ul> <li>any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.</li> </ul>	
	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	

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	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.	
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.	National Parks, the Broads and AONBs are not found in the study 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 include projects in England which may have impacts on designated areas in Wales or on National Scenic Areas in Scotland.	National Parks, the Broads and AONBs are not found in or adjacent to the study area.



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	The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.	
5.160	Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping schemes, depending on the size and type of proposed project.  Materials and designs for infrastructure should always be given careful consideration.	To avoid or limit harm to the landscape and views, embedded mitigation measures for this aspect have been developed as presented within Section 8.10 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1]. Further design considerations and landscape objectives have been defined as part of an overarching set of scheme-specific design principles presented within the DAS [TR010060/APP/7.4]. These have been used to inform development of the proposed scheme design, including both the highway alignment and Figure 2.1: Environmental Masterplan, of the ES [TR010060/APP/6.2].
5.161	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.	All landscape mitigation, presented within Section 8.10 of Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1] and illustrated on Figure 2.1: Environmental Masterplan, of the ES [TR010060/APP/6.2], is incorporated within the extents of the Order Limits. Assessment of visual effects from five longer distance illustrative viewpoints (A to E) within the landscape and visual impact assessment demonstrates that landscape and visual effects beyond 1km from the Order Limits would not be significant. For visual receptors at illustrative viewpoint A, the magnitude of effect would reduce from minor adverse in year 1 to negligible adverse in year 15 when mitigation planting would be established. There would be no change at any assessment timeframe for visual receptors at illustrative viewpoints B to E. Further, offsite, planting is not therefore considered necessary.
5.165–5.167	The applicant should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of	Existing and proposed land uses and details of relevant planning history relating to developments within and adjacent to the Order Limits are within Section 5.4 of the CftS [TR010060/APP/7.1]. The

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(Land use including open space, green infrastructure and Green Belt)	the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate.  Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location. Applicants considering proposals which would involve developing such land should have regard to any local authority's assessment of need for such types of land and buildings.  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.	existing conditions within the Order Limits and surrounding area are also reported in Chapters 6 to 15 of the ES [TR010060/APP/6.1]. There are no areas of greenbelt in or around the Order Limits, and no sports and recreation buildings included within the Order Limits. Loss of open space has been assessed and is discussed in Chapter 13: Population and human health, of the ES [TR010060/APP/6.1], with further detail provided in Appendix 13.3: Detailed Land Use and Accessibility Assessment Tables, of the ES [TR010060/APP/6.3]. Any loss of such community assets would be replaced by equivalent or improved provision.  The land identified as open space and its replacement land are explained and identified in the Replacement Land Statement [TR010060/APP/7.9].  The Statement of Reasons [TR010060/APP/4.1] also provides detail of land that is proposed to be acquired, Section 7.2 of which refers to special category land forming part of open space that would be acquired for the delivery of the proposed scheme.
5.168	Applicants should take into account the economic and other benefits of the best and most versatile	Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1] details the site-specific ALC survey undertaken for the proposed



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	agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification (ALC)). Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil quality, taking into account any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value.  For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this.	scheme to clearly identify areas of best and most versatile (BMV) land. The full report is presented in Appendix 10.2: Agricultural Land Classification Survey Report, of the ES [TR010060/APP/6.3]. The first iteration of the EMP [TR010060/APP/6.5] includes a Soil Handling Management Plan, which details how the proposed scheme will seek to minimise the impact on soil quality, and a Contaminated Land Management Plan, which demonstrates how contaminated land will be remediated if discovered during construction.  The design for all elements of the proposed scheme has sought to limit land-take as far as practicable. Permanent sealing or wastage of topsoil will be avoided via stripping and reuse elsewhere, and best practice soil management measures will be followed to limit degradation during its handling. The proposed soil management measures to be adopted during construction are detailed in Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1].  Appendix 10.1: Land Quality Risk Assessment, of the ES [TR010060/APP/6.3] includes the land quality risk assessment which has been completed in line with the Land Contamination Risk Management (Environment Agency, 2021). A summary of the assessment is included in Chapter 10: Geology and soils, of the ES [TR010060/APP/6.1].
5.169	Applicants should safeguard any mineral resources on the proposed site as far as possible.	Mineral resources are assessed in Chapter 11: Material assets and waste, of the ES [TR010060/APP/6.1]. The alignment of the mainline around junction 22 (Colemans interchange) has been revised to reduce the impact on Colemans Farm Quarry, limiting impacts to the quarry's extraction programme. Appendix 11.1: Mineral Resource Assessment, of the ES [TR010060/APP/6.3] has been prepared to establish the existence, or otherwise, of a mineral resource capable of having economic importance within



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		the Order Limits. A Mineral Resource Assessment (Appendix 11.1 of the Environmental Statement [TR010060/APP/6.3]) has been prepared to establish the existence, or otherwise, of a mineral resource capable of having economic importance within the Order Limits. Where the proposed scheme could result in the sterilisation of mineral resources, the environmental, social and economic viability of prior extraction has been considered. The viability assessment as part of the MRA concludes that it would not be viable to prior extract and backfill the minerals that would be sterilised by the proposed scheme.
5.170-5.171	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.	No part of the proposed scheme is located within the Green Belt, Metropolitan Open Land, nor land designated as Local Green Space in a local or neighbourhood plan.
	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	

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	policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts.	
5.174	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.	No part of the proposed scheme is located within the Green Belt, Metropolitan Open Land, nor land designated as Local Green Space in a local or neighbourhood plan.
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.	The locations of the links between green infrastructure surrounding the proposed scheme are shown in the Streets, Rights of Way and Access Plans [TR010060/APP/2.6] as referred to in the schedules to the draft DCO [TR010060/APP/3.1].



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5.176	The decision-maker should take into account the economic and other benefits of the BMV agricultural land. The decision-maker should give little weight to the loss of agricultural land in grades 3b, 4 and 5' (as defined in the ALC system, described in Section 10.7)) 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.	An ALC survey has been undertaken to clearly identify areas of BMV land and is included in Appendix 10.2: Agricultural Land Classification Survey Report, of the ES [TR010060/APP/6.3].
5.177	In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the Secretary of State should consider the implications for development of the creation of a continuous signed and managed route around the coast, as proposed in the Marine and Coastal Access Act 2009.	The proposed scheme is not located near any coastal recreation site, so this paragraph is not relevant.
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	As discussed in the DAS [TR010060/APP/7.4], historic PRoWs previously severed would be reinstated by the proposed scheme. New connections would also allow continued access. The locations of the links between green infrastructure surrounding the proposed scheme are shown in the Streets, Rights of Way and Access Plans [TR010060/APP/2.6] as referred to in the schedules to the draft DCO [TR010060/APP/3.1].

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	coastal access routes, National Trails and other public rights of way.	
5.182	Where a proposed development has an impact on a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.	Appendix 11.1: Mineral Resource Assessment, of the ES [TR010060/APP/6.3] has been prepared to establish the existence, or otherwise, of a mineral resource capable of having economic importance within the Order Limits. Where the proposed scheme could result in the sterilisation of mineral resources, the environmental, social and economic viability of prior extraction has been considered. The viability assessment as part of the MRA concludes that it would not be viable to prior extract and backfill the minerals that would be sterilised by the proposed scheme.
		Specifically, the alignment of the mainline around junction 22 (Colemans interchange) has been revised to reduce the impact on Colemans Farm Quarry which is within an MSA as part of the Essex Minerals Local Plan (Essex County Council, 2017). The proposed scheme's realignment would limit impacts to the quarry's extraction programme.
5.184	Public rights of way, National Trails, and other rights of access to land (e.g. open access land) are important recreational facilities for walkers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other public rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way consideration needs to be given to the use, character, attractiveness and	Through consultation and workshops, consideration has been given to the use, character, attractiveness and convenience of the right of way network, and how the proposed scheme both directly and indirectly impacts it. The Applicant has sought so far as possible to not only mitigate affected PRoWs but to provide improved routes for active travel for utility journeys and leisure purposes. This has included connecting historically severed accesses. An assessment of the impact of the proposed scheme on PRoWs is set out in Chapter 13: Population and human health and Chapter 8: Landscape and visual, of the ES [TR010060/APP/6.1].



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	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.	No impacts on coastal access, National Trails or open access land have been identified.
5.189 (Noise and vibration)	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	A description of the existing situation is contained within Section 12.8 of Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1]. The noise sources from the proposed scheme are described within Section 12.9 of Chapter 12 of the ES.
	<ul> <li>environment statement:</li> <li>a description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise.</li> <li>identification of noise sensitive premises and noise sensitive areas that may be affected.</li> <li>the characteristics of the existing noise environment.</li> <li>a prediction on how the noise environment will change with the proposed development:</li> <li>In the shorter term such as during the construction period;</li> </ul>	The noise sensitive premises are identified within Section 12.8 of Chapter 12 and are shown on Figure 12.2: Noise Sensitive Receptors, of the ES [TR010060/APP/6.2].
		The characteristics of the existing noise environment are described within Section 12.8 of Chapter 12 and within Appendix 12.3: Noise Baseline Survey Results, of the ES [TR010060/APP/6.3].
		The prediction of how the noise environment would change and the assessment of effects from this change is provided within Sections 12.9 and 12.11 of Chapter 12 of the ES. This includes during the construction and operational phases.
		Mitigation measures are described in Section 12.10 of Chapter 12 of the ES and are secured in the REAC within the first iteration of
		the EMP [TR010060/APP/6.5].  The noise assessment presented in Chapter 12 of the ES is considered to be proportionate to the scale of the proposed scheme.



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	in the longer term during the operating life of the infrastructure;	
	at particular times of the day, evening and night as appropriate.	
	<ul> <li>an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.</li> </ul>	
	<ul> <li>measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.</li> </ul>	
	the nature and extent of the noise assessment should be proportionate to the likely noise impact.	
5.190	The potential noise impact elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on the national networks, should be considered as appropriate.	The assessment of road traffic noise is presented in Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1]. It includes consideration of changes in road traffic noise for all road links where a significant change in noise is predicted, regardless of whether they are close to the proposed scheme or at a greater distance.
5.191	Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise For the	The predictions of road traffic noise are presented in Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1]. They have been undertaken following the calculation methodology provided in Calculation of Road Traffic Noise (Department of Transport and Welsh Office, 1988). The assessments of construction noise and vibration have been undertaken with reference to BS 5228 Part 1



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	prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.	(British Standards Institution, 2014a) and Part 2 (British Standards Institution, 2014b).
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.	The project team have consulted Natural England as detailed in Table 9.1 of Chapter 9: Biodiversity, of the ES [TR010060/APP/6.1]. The assessment of noise impacts on biodiversity, arising during both the construction and operational phase, is also presented in Chapter 9 of the ES. It includes consideration of disturbance to protected species as a result of changes in noise levels. European protected species mitigation licences will be sought from Natural England for species where noise disturbance is considered to be significant.
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.	Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1] presents the assessment of impacts from noise and vibration. The assessment has been undertaken in accordance with the instructions within DMRB LA 111 Noise and Vibration (Highways England, 2020b). By using DMRB LA 111, it is considered that the proposed scheme can be measured against the policy requirements of the Noise Policy Statement for England (Defra, 2010) and National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021).
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	In the early development of the proposed scheme, the route alignment was considered in order to avoid or minimise impacts on communities or individual receptors. As the design progressed, this has been optimised with the consideration of noise barriers and low noise surfacing, as described in Section

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	impacts elsewhere on the road and rail networks that have been identified as arising from the development, according to Government policy.	12.10 of Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1].
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:	These aims have been considered within the assessment of noise and vibration impacts, and how they are met is described in Section 12.13 of Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1].
	<ul> <li>avoid significant adverse impacts on health and quality of life from noise as a result of the new development;</li> </ul>	
	<ul> <li>mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and</li> </ul>	
	<ul> <li>contribute to improvements to health and quality of life through the effective management and control of noise, where possible.</li> </ul>	
5.199	For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on and provide powers to the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with both construction and operational noise. An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the applicant may consider it	Three potential dwellings have been identified eligible for insultation to protect the residents of these dwellings from noise from the proposed scheme. The Noise Insulation Regulations 1973 is designed to protect residents subject to increases in traffic noise at or above a specified level arising directly from the use of new or altered roads, by making available grants for noise insulation work to be carried out on their homes. The eligibility criteria are described within Appendix 12.2: Assessment Methodology, of the ES [TR010060/APP/6.3]. In summary, to be eligible, a dwelling must be within 300m of the proposed scheme,



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	appropriate to provide noise mitigation through the compulsory acquisition of affected properties in order to gain consent for what might otherwise be unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the development consent order land in relation to which compulsory acquisition powers are being sought.	<ul> <li>have a noise level above 68dB LA<sub>10,18h</sub>, and experience a 1dB(A) increase in long-term noise levels. The three dwellings identified are as follows:</li> <li>Hall Chase Farm House, Marks Tey</li> <li>Two dwellings at Sorrells Cottages, Bury Lane, Hatfield Peverel</li> </ul>
5.200	Applicants should consider opportunities to address the noise issues associated with the Important Areas as identified through the noise action planning process.	Where practicable, opportunities have been considered to address the noise issues in Noise Important Areas. As required by DMRB LA 111, the impact at each Noise Important Area is described within Section 12.11 of Chapter 12: Noise and vibration, of the ES [TR010060/APP/6.1].
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.	Regard has been given to the relevant policies set out in the applicable Local Plans. An assessment of the conformity of the proposed scheme with Local Plan policies is included in Section 8 of the CftS, and Appendix E of the CftS [TR010060/APP/7.1].
	Applicants should consult the relevant highway authority, and local planning authority, as appropriate, on the assessment of transport impacts.	Transport impacts, including on local roads, have been assessed in the Transport Assessment [TR010060/APP/7.2]. The contents of this report have been subject to discussion with local highway and planning authorities.
	Applicants should consider reasonable opportunities to support other transport modes in developing infrastructure. As part of this, consistent with paragraph 3.19-3.22 above, the applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance	Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] has identified existing severance in the baseline (detailed in Section 13.7) and assesses the impact of proposals on WCH, including the effects of proposals for enhanced WCH infrastructure (set out in Section 13.9. Impacts on other forms of travel, including buses, are considered in Section 13.18 of Chapter 13.



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	issues that act as a barrier to non-motorised users.	The Streets, Rights of Way and Access Plans [TR010060/APP/2.6] show how PRoWs, permissive paths, local roads and private means of access will be maintained. Chapter 13: Population and human health of the ES [TR010060/APP/6.1] and the Transport Assessment [TR010060/APP/7.2] provide detail that reasonable endeavours to address severance have been taken.
5.206	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.	The proposed scheme is subject to an EIA as it exceeds the thresholds set out in the EIA Regulations. The impacts of the proposed scheme from traffic effects during construction and operation on the environment and associated mitigation measures proposed are reported in each aspect chapter of the ES [TR010060/APP/6.1]. All mitigation measures are set out in the REAC within the first iteration of the EMP [TR010060/APP/6.5]. The Transport Assessment [TR010060/APP/7.2] provides detail of likely transport impacts of the operation of the proposed scheme on the wider Strategic Road Network (SRN).
		Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] considers potential impacts arising from changes in the alignment, access and traffic flows on the highway network. This includes matters such as the potential impact on community severance, air quality, and noise and vibration, as well as changes in access and land use.
5.208	Where appropriate, the applicant should prepare a travel plan including management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport and sustainable modes where relevant, to reduce the	An Outline Construction Traffic Management Plan (OCTMP) [TR010060/APP/7.7] has been prepared. This describes the temporary traffic management processes that will be followed for the safe and efficient construction of the proposed scheme to minimise the impact on customers and stakeholders while work is carried out. A travel plan may be prepared by the Principal



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	need for any parking associated with the proposal and to mitigate transport impacts.	Contractor following approval of the proposed scheme. This would address construction personnel traffic and how it will be managed and controlled during the construction phase of the proposed scheme.
		The Transport Assessment [TR010060/APP/7.2] and Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] provide an overview of existing and future conditions for WCH, PRoWs and public transport. The documents also set out mitigation measures to promote active travel across the communities affected by the proposed scheme.
5.209	For schemes impacting on the Strategic Road Network, applicants should have regard to DfT Circular 02/2013 The Strategic Road Network and the delivery of sustainable development (or prevailing policy) which sets out the way in which the highway authority for the Strategic Road Network, will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the Strategic Road Network.	Table 1.1 in the CftS [TR010060/APP/7.1] demonstrates how the proposed scheme objectives are aligned with the strategic objectives of both the DfT and RIS2. Section 1 of the CftS goes into further detail on how the proposed scheme complies with its environmental objectives which were developed based on the commitments within the Highways England: Licence National (DfT, 2015b).
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	This proposed scheme is not being co-funded by network providers.



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	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.	
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.	Chapter 13: Population and human health, of the ES [TR010060/APP/6.1] reports on the likely significant effects for WCH who travel on parts of the A12 and surrounding PRoW networks as a consequence of the proposed scheme. The proposed scheme is expected to improve accessibility for WCH overall, and where the accessibility could potentially worsen accessibility, mitigation has been embedded into the design of the proposed scheme. Chapter 5 of the DAS [TR010060/APP/7.4] and Chapter 8 of the Transport Assessment [TR010060/APP/7.2] demonstrate how new and improved routes, which are compliant with Local Transport Note 1/20 for WCH users, improve accessibility around the A12 and address severance issues.
5.220 (Water quality and resources)	The Government's planning policies make clear that the planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, water pollution. Where applicable, an application for a development consent order has to contain a plan with accompanying information identifying water bodies in a River Basin Management Plan.	The proposed scheme is located within the Anglian River Basin District as discussed in Chapter 14: Road drainage and the water environment, of the ES [TR010060/APP/6.1].  Water bodies that the proposed scheme interacts with are recorded in Appendix 14.2: Water Environment Regulations Compliance Assessment, of the ES [TR010060/APP/6.3]. This document sets out the assessment process and demonstrates that there would be no significant environmental effects on the water bodies as a result of the proposed scheme. The water bodies within the proposed scheme study area are also identified on



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		Figure 14.1: Key Water Environment Features, of the ES [TR010060/APP/6.2].
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.	Discussions have taken place during development of the ES [TR010060/APP/6.1] regarding likely requirements for abstraction licensing with the Environment Agency and with Anglian Water as the water supplier and sewerage undertaker. A list of licences and permits required for the construction and operation of the proposed scheme, including those required by Anglian Water and the Environment Agency, is available in the Consents, Licences and Agreements Position Statement [TR010060/APP/3.3]. The impacts of the proposed scheme on water quality, water resources and physical characteristics are addressed within Chapter 14: Road drainage and water environment, of the ES [TR010060/APP/6.1] and its associated appendices [TR010060/APP/6.3] and the draft Statements of Common Ground between the parties, which will be submitted during the examination
5.222	For those projects that are improvements to the existing infrastructure, such as road widening, opportunities should be taken, where feasible, to improve upon the quality of existing discharges where these are identified and shown to contribute towards Water Framework Directive commitments.	The assessment of water quality impacts has been based upon the methodology provided in DMRB LA 113 and assessed using Highways England Water Risk Assessment Tool (HEWRAT). Opportunities for water quality enhancements have been explored as the design has developed. Attenuation ponds would also provide an enhancement for those catchments where the HEWRAT assessments determined that mitigation is not required, which would be a beneficial effect. Water quality is addressed within Appendix 14.1: Water Quality Assessment Report, of the ES [TR010060/APP/6.3].
5.223	Any environmental statement should describe:	Water quality and impacts of the proposed scheme upon them are described within Chapter 14: Road drainage and the water



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	<ul> <li>the existing quality of waters affected by the proposed project;</li> <li>existing water resources affected by the proposed project and the impacts of the proposed project on water resources;</li> <li>existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics;</li> <li>any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions; and</li> <li>any cumulative effects.</li> </ul>	environment, of the ES [TR010060/APP/6.1] and Appendix 14.1: Water Quality Assessment Report, of the ES [TR010060/APP/6.3]. Issues relating to the Water Framework Directive are addressed within Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment, of the ES [TR010060/APP/6.3]. Groundwater issues are further discussed within Appendix 14.4: Groundwater Assessment, of the ES [TR010060/APP/6.3].
5.226	The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. In terms of Water Framework Directive compliance, the overall aim of projects should be no deterioration of ecological status in watercourses, ensuring that Article 4.7 of the Water Framework	The proposed scheme would comply with the environmental objectives of the Water Environment Regulations as shown in Appendix 14.2: Detailed Water Environment Regulations Compliance Assessment, of the ES [TR010060/APP/6.3].

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	Directive Regulations does not need to be applied	
5.229 and 5.230	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 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	The first iteration of the EMP [TR010060/APP/6.5] provides details of all the environmental actions and commitments required to manage and minimise the environmental effects of the proposed scheme identified in the ES [TR010060/APP/6.1]. The actions and commitments would be secured by the first iteration EMP as a certified document.  The second iteration of the EMP (based on the requirements of the first iteration) would include control measures for environmental impacts arising during construction, in addition to more detailed management plans and methodologies on the design and construction of the proposed scheme. Schedule 2 of The draft DCO [TR010060/APP/3.1] details that the construction of the proposed scheme must be carried out in accordance with the approved second iteration EMP.  On completion of construction, a final version of the EMP (third iteration EMP) relating to the operational and maintenance phase of the proposed scheme would be prepared.  Overall, the iterative EMP process would enable the Secretary of State to identify all proposed mitigation measures within the proposed scheme and ascertain how these would be secured, implemented and maintained.
		Details of the SuDS measures included in the proposed scheme are included in Appendix 14.6: Surface Water Drainage Strategy, of the ES [TR010060/APP/6.3].