

Lower Thames Crossing

7.2 Planning Statement

Appendix F Kent Downs Area of Outstanding Natural Beauty

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Lower Thames Crossing

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Appendix F Kent Downs Area of Outstanding Natural Beauty

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Appendix F Kent Downs Area of Outstanding Natural Beauty

F.1 Introduction

- F.1.1 This Appendix assesses the planning issues raised by the location of part of the Order Limits within the Kent Downs AONB and addresses the relevant NPS policies.
- F.1.2 While there is an element of overlap between the development proposals in policy terms between the Kent Downs AONB and Green Belt, reflecting the fact that the designated Kent Downs AONB lies within the Green Belt, each designation has been considered separately, reflecting their distinct purposes and the different policy requirements. Please refer to Appendix E of this Planning Statement for the consideration of Green Belt.
- F.1.3 The Kent Downs AONB assessment has adopted the following broad structure:
- a. A description of the Kent Downs AONB
 - b. A description of the Project (including the proposed works) within the Kent Downs AONB
 - c. The Policy Framework
 - d. The extent to which the Project complies with the Policy Framework
 - e. Concluding comments on the planning case

F.2 Description of the Kent Downs AONB

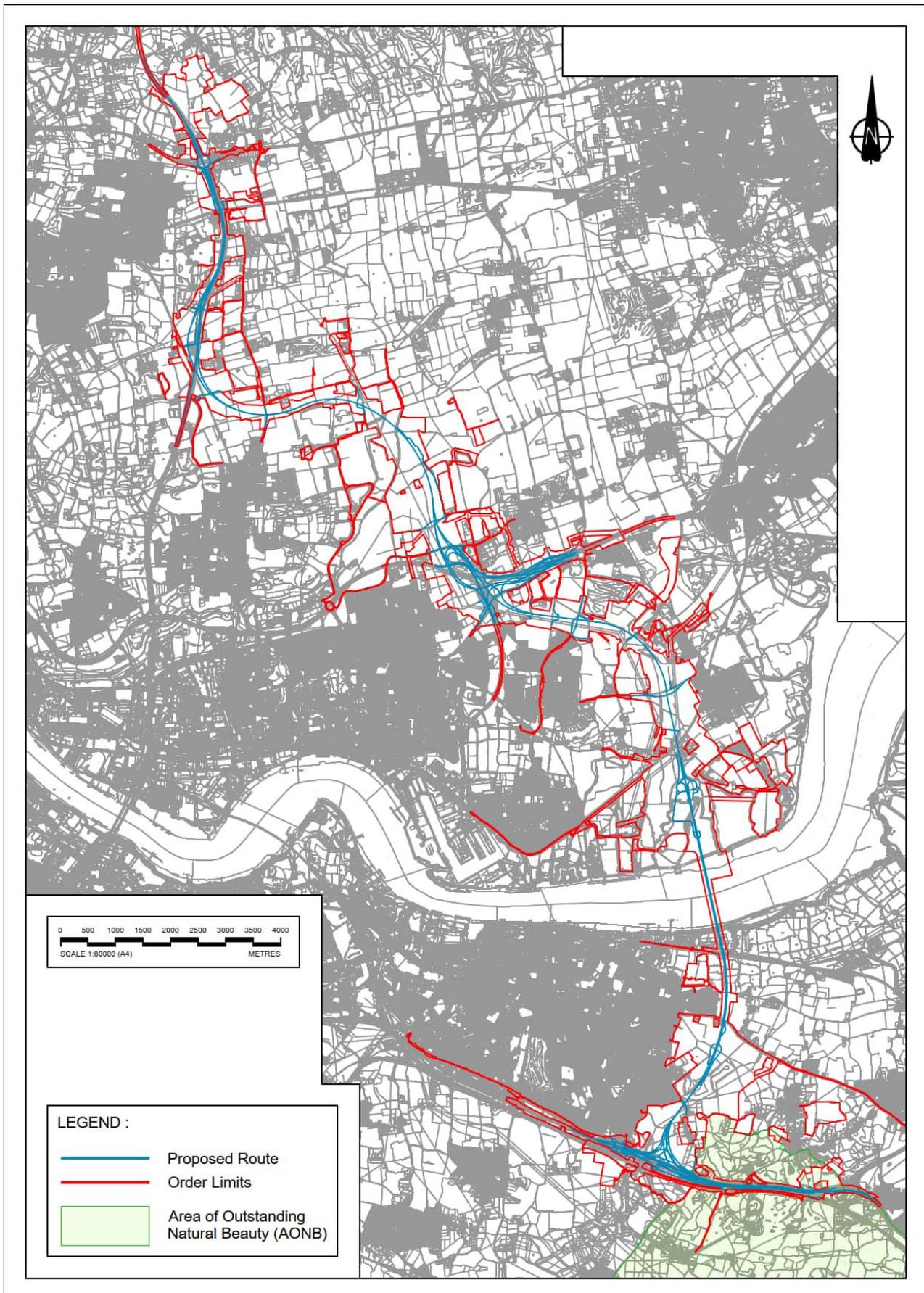
- F.2.1 The Kent Downs AONB was designated in July 1968 and stretches from Greater London to the Strait of Dover, covering an area of 878 square kilometres (326 square miles). Aside from a small area within the local authority areas of the London Borough of Bromley and Medway Council, the Kent Downs AONB is situated within the county of Kent and covers around 23% of the total land area of the county.
- F.2.2 The Kent Downs AONB is a nationally important protected landscape, whose special components, characteristics and qualities include its dramatic landform and views, rich habitats, extensive ancient woodland, mixed farmland, historic and built heritage and its tranquillity and remoteness. The landscape of the Kent Downs AONB is made up of 13 main character areas in recognition of the local identity of its different component areas. The 12 areas are as follows:
- a. Darent Valley

- b. East Kent Downs
- c. Eden Valley Low Weald
- d. Hollingbourne Scarp and Vale
- e. Kemsing Scarp and Vale
- f. Lympne Greensand Escarpment
- g. Medway
- h. Mid Kent Downs
- i. Postling Scarp and Vale
- j. Sevenoaks Greensand Ridge
- k. Stour Valley
- l. West Kent Downs
- m. White Cliffs Coast

F.2.3 The designated area contains no large settlements, although it does include major transport infrastructure, notably the A2, M2 which are part of the Strategic Road Network and the HS1 railway line, and is otherwise characterised by areas of ancient woodland, mixed farmland, historic and built heritage features, along with isolated farms and churches. The area is crossed in three places by the river valleys of the Darent, the Medway and the Stour, all flowing northwards.

F.2.4 As illustrated on Plate F.1 the Project affects only the very northern most area of the Kent Downs AONB and is limited to the existing major transport infrastructure corridor through the West Kent Downs Character Area within the Kent Downs AONB.

Plate F.1 Kent Downs AONB



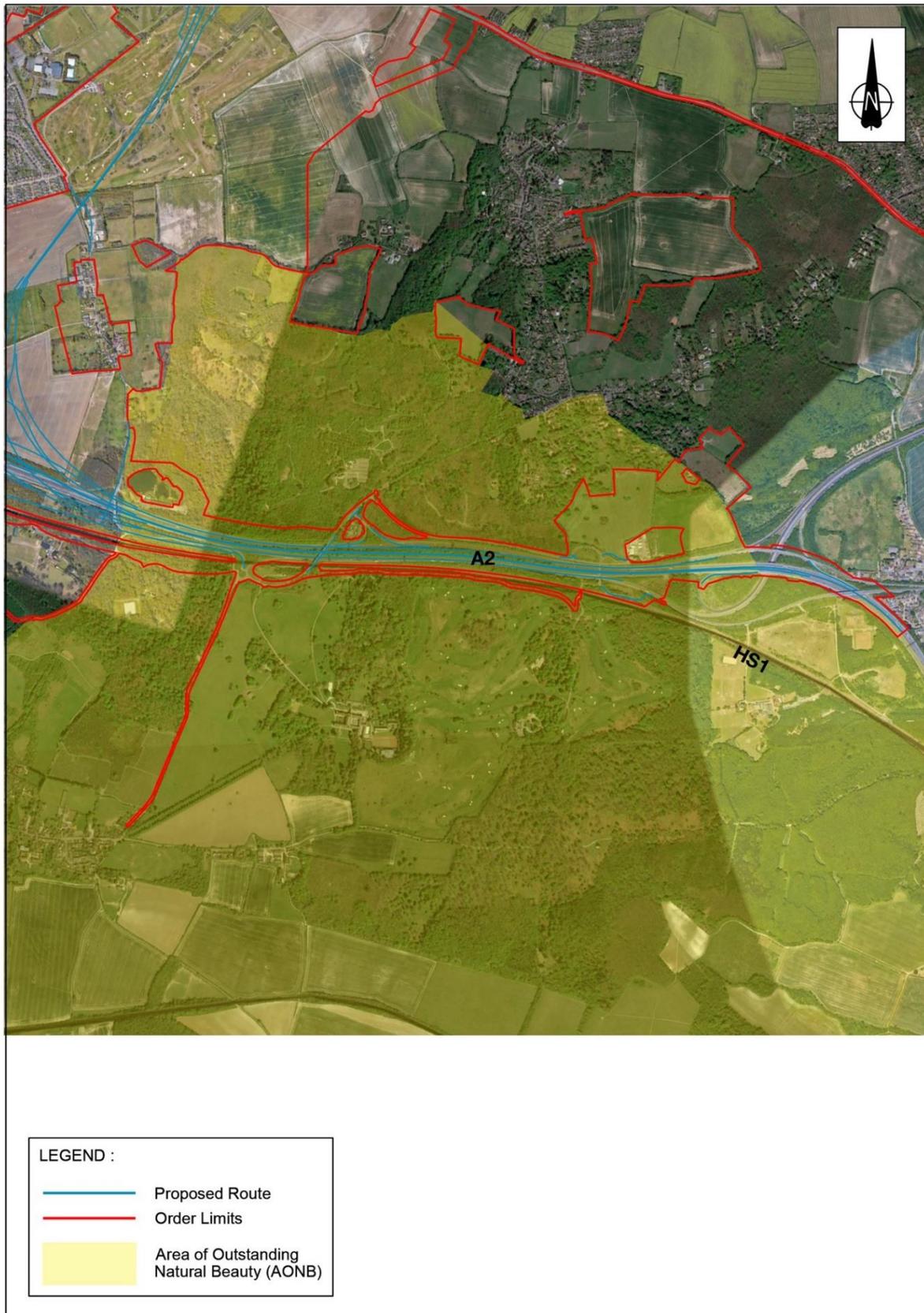
- F.2.5 The Kent Downs AONB Management Plan 2021-2026 (adopted in 2021) sets out the special characteristics and qualities of the Kent Downs' natural beauty. The following special components, characteristics and qualities have been identified as being of most relevance to the Project and the intrinsic landscape character and visual amenity of the Kent Downs AONB:
- a. *'Dramatic landform and views; a distinctive landscape character. The Kent Downs dramatic and diverse topography is based on the underlying geology. Key features comprise impressive south-facing steep slopes (scarps) of chalk and greensand; scalloped and hidden dry valleys, especially valued where they have a downland character; expansive plateaux; broad, steep-sided river valleys, and the dramatic, wild and iconic white cliffs and foreshore.*
 - b. *Biodiversity rich habitats. The unique landscapes of the Kent Downs create and contain a rich and distinctive biodiversity of local and often national or international importance.*
 - c. *Farmed landscape. A long-established tradition of mixed farming has helped create and maintain the natural beauty of the Kent Downs. The pastoral scenery is a particularly valued part of the landscape.*
 - d. *Woodland and trees. Broadleaf and mixed woodland cover 23% of the Kent Downs AONB and frames the upper slopes of the scarp and dry valleys and plateaux tops. Some large woodland blocks are present, but many woodlands are small, fragmented and in disparate land ownership and management.*
 - e. *A rich legacy of historic and cultural heritage. Millennia of human activity have created an outstanding cultural inheritance and strong 'time depth' to the Kent Downs. In the original designation the characteristic villages, churches and castles are particularly noted and the historic settlement pattern remains an important distinctive component of the AONB.*
 - f. *The Heritage Coasts. The Heritage Coasts either side of Dover, include the shoreline, marine flora and fauna cliffs, heritage features and adjacent downland.*
 - g. *Geology and natural resources. The imposing landform and special characteristics of the Kent Downs is underpinned by its geology. This is also the basis for the considerable natural capital and natural resources which benefit society*
 - h. *Tranquillity and remoteness. Much of the Kent Downs AONB provides surprising tranquil and remote countryside – offering dark night skies, space beauty and peace.'*

F.3 Description of the Project within the Kent Downs AONB

- F.3.1 Environmental Statement (ES) Chapter 2: Project Description (Application Document 6.1) confirms that the Project passes through the West Kent Downs Character Area of the Kent Downs AONB for approximately 2.8km, which is sited within the local authority areas of Gravesham Borough Council and Kent County Council (Plate F.1). The area of the development within the Kent Downs AONB is from the existing Thong Lane bridge over the existing A2 to the existing Junction 1 of the M2 as shown on Plate F.2.
- F.3.2 Within the Kent Downs AONB the Project would involve the realignment of the existing A2 to provide four lanes and hard shoulders / intermittent hard shoulders in each direction. Two new two-lane connector roads would be provided, north and south of the realigned A2, connecting to the existing A289 and at the eastern end of the A2.
- F.3.3 To minimise the land acquisition requirement outside of the existing highway boundary, an area of vegetation in the central reserve of the existing A2 is to be removed to enable the Project to be built. A green bridge would replace the existing Brewers Road bridge over the A2. A green bridge would also replace the existing Thong Lane bridge over the A2, however, this is located to the west of the Kent Downs AONB boundary.
- F.3.4 Land within the Kent Downs AONB is also included in the Order Limits to:
- a. Enable the diversion of utility infrastructure which includes the gas pipeline (G1a) in Shorne Woods, and the Park Pale Lane Utilities Logistics Hub (as addressed in Chapter 5 of this Planning Statement).
 - b. Allow for ecological mitigation including provision of dormouse boxes in Shorne Woods.
 - c. Provide new, realigned or improved footpaths, cycleways and bridleways footpaths.
 - d. Provide habitat creation to compensate for the Project's nitrogen deposition impacts. This includes land at Fenn Wood, Blue Bell Hill and Burnham.
- F.3.5 The Project incorporates environmental compensation and mitigation in the Kent Downs AONB including:
- a. Ancient woodland compensation planting, including land at Boysden Shaw
 - b. Land north of 'New Fish Pond', which is included in the order limits as an area for environmental mitigation to protect the water course
 - c. Extensive woodland planting around the A22/A2/M2 junction

- d. Linear planting along the route of the new road with visual screening and landscape integration
- e. Earthwork features such as false cuttings
- f. Walking, cycling and horse-riding (WCH) route realignments
- g. Improved connections over the A2/M2 and with local roads

Plate F.2 Location of the Project within the AONB



F.4 The Policy Framework

National Networks National Policy Statement

- F.4.1 National planning policy (in the relevant NPSs) confirms that AONBs, along with National Parks, attract the highest form of protection in relation to landscape and natural beauty and advises that development should not take place in these designated areas, other than in exceptional circumstances and where it can be demonstrated that development is in the public interest.
- F.4.2 The NPSNN (at paragraph 5.146) sets out the requirements for an applicant's assessment stating that *“the assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation”*.
- F.4.3 Paragraph 5.148 also requires that applicants proposing to build new roads in the AONB should fulfil the requirements set out in Defra's 'English national parks and the broads: UK government vision' and Circular 2010 or successor documents.
- F.4.4 Paragraphs 5.150 – 5.153 set out the decision making policies relating to development proposed within nationally designated areas.
- F.4.5 Paragraphs 5.150 and 5.151 of the NPSNN state that:
- F.4.6 *‘Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty, have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions.’*
(paragraph 5.150)
- F.4.7 *‘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:*
- a. *the need for the development, including in terms of any national considerations, and the impact of consenting it, upon the local economy*
 - i. *the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and*

- ii. *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*
(paragraph 5.151).

F.4.8 Paragraph 5.152 explains the strong presumption against building new roads in the AONB, *‘unless it can be shown that there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly’.*

F.4.9 Paragraph 5.153 states that *‘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’.*

F.4.10 Paragraphs 5.154 – 5.155 then set the decision making policies relating to development outside nationally designated areas which might affect them.

F.4.11 Paragraph 5.154 states that *‘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.’*

F.4.12 Paragraph 5.155 states *‘The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.’*

National Planning Policy Statements for Energy (NPSEN), July 2011

F.4.13 The Project is required to be assessed against both the NPSNN as well as the Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) and National Policy Statement for Electricity Infrastructure (EN-5) solely for the energy nationally significant infrastructure projects.

F.4.14 The Project includes gas pipeline diversions (Work Nos G2, G3, G4) and overhead electric line diversions (Work No OH7) that are considered to be NSIPs in their own right. They are all located outside the Kent Downs AONB, but three gas pipeline diversions (Work Nos G2, G3, G4) are located adjacent to the western boundary of the AONB. Whilst these diversions are not within the Kent Downs AONB the works could have an impact on the setting of the Kent Downs AONB and therefore an assessment of the relevant NPSENs have been provided below.

- F.4.15 Other utility diversion works, including gas pipeline (Work No. G1a), are located within the AONB. These are not NSIPs and are not therefore assessed against the Energy NPSs but the impact of the works has been taken into account as part of the assessment for the Project in the Environmental Statement (Application Document 6.1) and the accordance of the Project with the NPSNN in the Planning Statement.
- F.4.16 Paragraph 5.9.12 of NPS EN-1, which broadly mirrors the NPSNN, states that, *‘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 National Scenic Areas in Scotland.’*
- F.4.17 Paragraph 5.9.13 of NPS EN-1 states that, *‘The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.’*

Draft National Planning Policy Statements for Energy, September 2021

- F.4.18 The draft National Planning Policy Statements for Energy was published in September 2021, however, there are currently no substantive changes to the policies as set out above.

National Planning Policy Framework (NPPF) (2021)

- F.4.19 The NPPF is a potentially ‘important and relevant’ matter which the decision maker is required under Section 104(2)(d) of the 2008 Act to consider.
- F.4.20 NPPF paragraphs 176 and 177 mirror the NPSNN policy and do not introduce new or different policy tests.

Legislation

- F.4.21 The Kent Downs AONB is one of a number of AONBs established in England and Wales under the National Parks and Access to the Countryside Act 1949. Along with National Parks, AONBs are ‘protected landscapes’ formally recognised in statute as representing the finest countryside in England and Wales, where special policies apply to safeguard, conserve and manage the countryside.
- F.4.22 The Countryside and Rights of Way Act 2000, which revised and partly replaced the AONB provisions of the 1949 Act, provides the statutory framework for AONBs in England, Wales and Northern Ireland and sets out the purposes of AONB designation (section 82 of the Act).

- F.4.23 The primary and subsidiary purposes of AONBs were reaffirmed in a 1991 policy statement on AONBs: *'Areas of Outstanding Natural Beauty: A Policy Statement,'* Countryside Commission, 1991, as follows:
- a. *'The primary purpose of designation is to conserve and enhance natural beauty'*
 - b. *'In pursuing the primary purpose of designation, account should be taken of the needs of agriculture, forestry, other rural industries and of the economic and social needs of local communities. Particular regard should be paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment; and'*
 - c. *'Recreation is not an objective of designation, but the demand for recreation should be met so far as this is consistent with the conservation and natural beauty and the needs of agriculture, forestry and other uses.'*
- F.4.24 Section 85 of the Countryside and Rights of Way Act 2000 requires that, *'in exercising or performing any functions in relation to, or so as to affect, land'* in National Parks and AONBs, relevant authorities *'shall have regard'* to the purposes for which these areas are designated.
- F.4.25 The Countryside Council's *'Areas of Outstanding Natural Beauty: A Policy Statement'* (1991), provides a widely accepted definition of the purposes of AONB designation *'...which is to primarily conserve and enhance natural beauty.'* The Statement goes on to say that:
- F.4.26 *'In pursuing the primary purpose of designation, account should be taken of the needs of agriculture, forestry and other rural industries and of the economic and social needs of local communities. Particular regard should be paid to promoting sustainable forms of social and economic development that in themselves conserve and enhance the environment.'*

Planning Practice Guidance

- F.4.27 Planning Practice Guidance (PPG) (Ministry of Housing, Communities and Local Government, 2019) provides further guidance in respect of the NPPF, noting that, *'all development in National Parks, the Broads and Areas of Outstanding Beauty will need to be located and designed in a way that reflects their status as landscapes of the highest quality'*.
- F.4.28 PPG also advises that Management Plans for AONBs may contain information which is a relevant consideration when assessing planning applications.

Kent Downs AONB Management Plan

- F.4.29 The Kent Downs AONB Management Plan 2021-2026 adopted in 2021 sets out the special components, characteristics and qualities of the Kent Downs' natural

beauty and formulates the policies and actions for its management and for carrying out the functions of the AONB.

- F.4.30 ES Chapter 7: Landscape and Visual (Application Document 6.1) states that consideration has been given to the guidance contained within the Kent Downs AONB Management Plan as part of the assessment undertaken of the Project on the landscape resource and on visual receptors during the construction and operational phases.
- F.4.31 ES Appendix 7.14 (Application Document 6.3) sets out the relevant policies contained within the Kent Downs AONB Management Plan and how they have been considered in relation to landscape and visual matters. The potential effects of the Project on the landscape character and visual amenity in respect of the Kent Downs AONB are considered in ES Appendix 7.9 and ES Appendix 7.10 (Application Document 6.3). Potential indirect effects on the Kent Downs AONB are set out in ES Appendix 7.11 (Application Document 6.3) which considers the traffic and noise effects on the Kent Downs AONB.
- F.4.32 In line with PPG, the following management principles within the Management Plan are of particular relevance to the Project:
- a. MPP2 – The Kent Downs AONB is a material consideration in plan making and decision taking, and so local authorities will give a high priority to the AONB Management Plan vision, aims, principles and actions.
 - b. MPP4 – Public bodies and statutory undertakers have a statutory duty of regard for the purposes of the Kent Downs AONB: this will be pursued.
 - c. SD3 – Ensure that development and changes to land use and land management cumulatively conserve and enhance the character and qualities of the Kent Downs AONB rather than detracting from it.
 - d. SD10 – Positive measures to mitigate the negative impact of the existing infrastructure and growth on the natural beauty and amenity of the Kent Downs AONB will be pursued.
 - e. SD12 – Transport and Infrastructure schemes and growth areas are expected to avoid the Kent Downs AONB. Unavoidable development will be expected to fit unobtrusively into the landscape, respect landscape character, be mitigated by sympathetic landscape, buffering, land bridges and design measures and provide compensatory measure through benefits to natural beauty elsewhere in the Kent Downs AONB.
- F.4.33 The area surrounding the Kent Downs AONB, is also important to its landscape character and quality. As such, views of the Project from the AONB have been considered carefully to ensure that the Project both conserves and enhances the natural beauty and character of the AONB and its setting.

Local Planning Policy

- F.4.34 Local development plan policy is a potentially ‘important and relevant’ matter which the decision maker is required under Section 104(2)(d) of the 2008 Act to consider.
- F.4.35 As the relevant local planning authority for the area of the Kent Downs AONB, Gravesham Borough Council provides the development planning framework for the area through the Gravesham Local Plan Core Strategy (Gravesham Borough Council, 2014). Strategic Objective S09 seeks to ‘*Conserve and enhance the diverse rural landscape including the Kent Downs AONB and its setting*’. The key policies to which this Objective relate are *CS01: Sustainable Development* and *CS12: Green Infrastructure*.
- F.4.36 The following extract from *Policy CS12* is of particular relevance to the AONB:
- F.4.37 *‘The overall landscape character and valued landscapes will be conserved, restored and enhanced. The greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the Kent Downs Area of Outstanding Natural Beauty and its setting. Proposals will take account of the Kent Downs Area of Outstanding Natural Beauty Management Plan, the Gravesham Landscape Character Assessment, and the Cluster Studies where relevant.’*
- F.4.38 Local development plan policy as set out above largely reflects the principles NPSNN policy although the latter provides specific policy tests in relation to NSIP development within (or nearby to) an AONB which are not directly reflected in local policy.

F.5 Planning assessment of the development proposed within and outside the AONB

- F.5.1 This planning assessment has been undertaken having regard to paragraphs 5.150 to 5.155 of the NPSNN which set out the specific policy requirements for development proposed within the AONB.
- F.5.2 The Applicant recognises that great weight should be given to conserving landscape and scenic beauty in nationally designated areas (as identified at paragraph 5.150 of the NPSNN)
- F.5.3 Paragraph 5.151 states that the decision maker should refuse development consent in these areas except:
- a. In exceptional circumstances
 - b. Where it can be demonstrated that it is in the public interest to do so
- F.5.4 Paragraph 5.151 of the NPSNN then provides a non-exhaustive list of matters that applications proposing development within nationally designated areas should include an assessment of. These are addressed in this section.

Exceptional circumstances and the public interest

F.5.5 *For the reasons set out extensively in the DCO application, there are exceptional circumstances justifying the grant of consent for development in the Kent Downs AONB and it is demonstrably in the public interest that the Project should be able to proceed.* These matters are not repeated here but the NPSNN does also require an assessment of the considerations listed in paragraph 1.151 of the NPSNN. These are considered individually in the following sections.

Need for the development (paragraph 5.151(a) of the NPSNN)

F.5.6 The first line of paragraph 5.151 of NPSNN states that in considering development proposals within an AONB consideration should be given to the need for the development.

F.5.7 The NPSNN emphasises the importance of the national road network and the need to improve the road network in order to support economic development, employment and housing.

F.5.8 The Need for the Project (Application Document 7.1) sets out the compelling reasons for improved and increased road capacity and that the benefits of the Project are considered to outweigh the costs very significantly, including national considerations and the benefits that the Project would bring to the local economy. Chapter 5 of this Planning Statement details the careful and detailed assessment of options that lead to the selection of the route alignment proposed Project road.

F.5.9 The project has sought to avoid where possible work within the AONB, and where works are required within the AONB, demonstrate the lack of deliverable or feasible alternatives. The main works within the AONB are limited to essential utility diversion works and the improvement to the A2/M2 to accommodate the required road capacity to provide a safe connection with the new A122, in the public interest. The provision of environmental mitigation within the AONB is considered to be complementary to the function and purpose if its designation in accordance with policy.

F.5.10 The Need for the Project (Application Document 7.1) provides a detailed analysis of the Transport, Community and Environment and Economic needs for the Project as a whole. These are summarised below:

F.5.11 Transport need:

- a. Traffic demand wishing to cross the river east of London outstrips the road supply in that location.
- b. Lack of alternative routes in this location resulting in congestion on the Dartford crossing.

- c. Impact to business transport as a result of congestion to the Dartford Crossing.

F.5.12 Community and Environment need:

- a. Transport operational issues at the Dartford Crossing and a lack of viable alternatives to cross the Thames Estuary in the surrounding area have made it difficult to build strong communities in Kent, Thurrock and Essex.
- b. Congestion causes high levels of emissions and poor air quality for local communities and the environment.

F.5.13 Economic Need:

- a. The congested nature of the Dartford Crossing means that there is a local, regional and national economic need for an additional crossing.
- b. There is an opportunity to enhance economic growth opportunities in the region by creating a better connected single market across both sides of the river through the provision on an additional river crossing east of London.

Developing outside the Kent Downs AONB or meeting the need in some other way (paragraph 5.151(b) of the NPSNN)

F.5.14 As explained above the second line of paragraph 5.151 of NPSNN advises that consideration should be given to the cost and scope of development outside of the Kent Downs AONB or meeting the need in some other way.

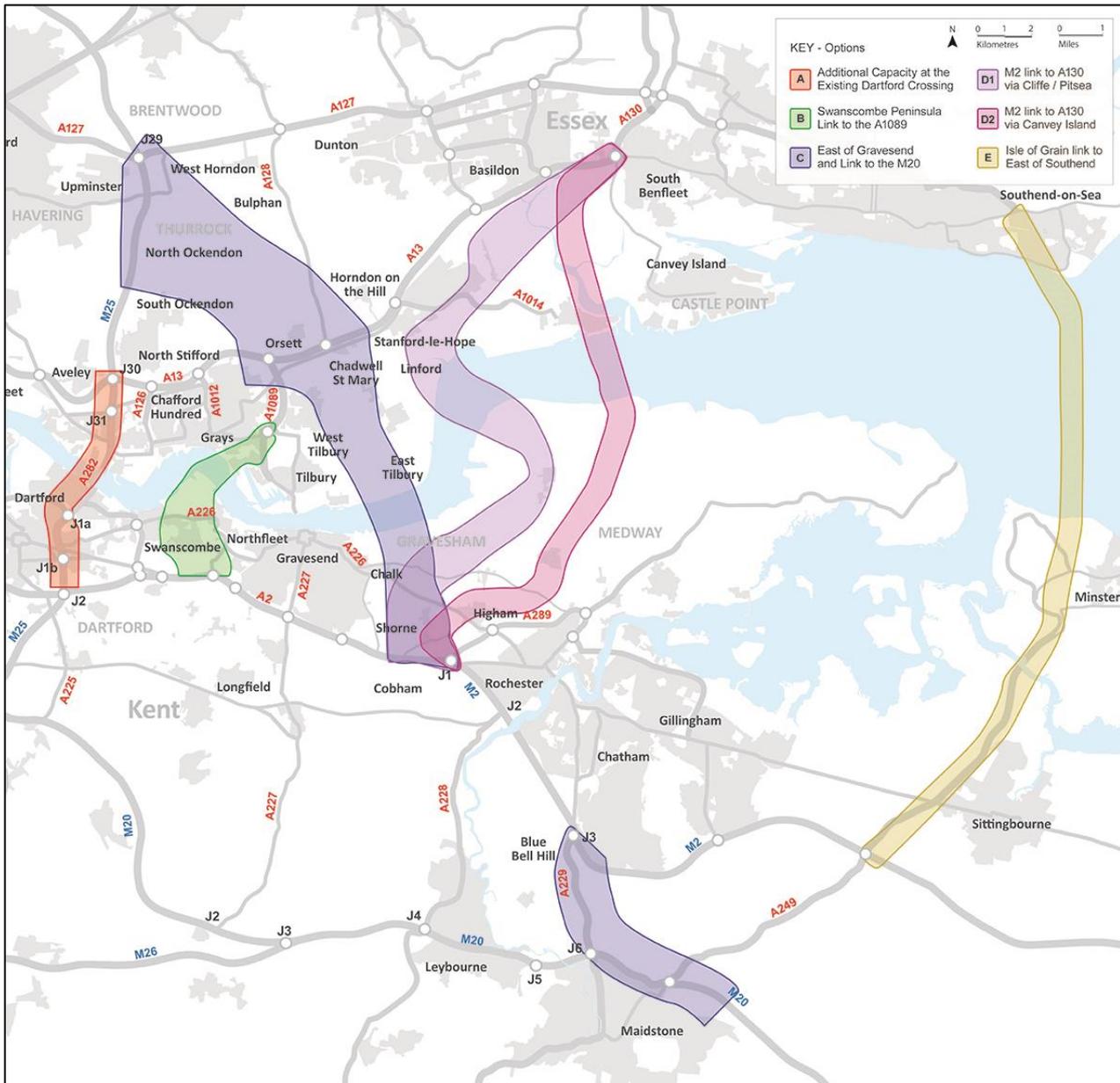
F.5.15 Firstly with regards to consideration of the scope for development outside of the Kent Downs AONB, the proposed Project works within the Kent Downs AONB are set out earlier in this Appendix. The existing A2 is part of an infrastructure corridor that extends east-west across the northern section of the Kent Downs AONB. Within this corridor is the main A2 alignment as well as local link roads, the High Speed 1 (HS1) railway line and a number of utilities. Development within the Kent Downs AONB arises from the essential proposed highway improvements to the existing A2 and the local link roads resulting from the creation of a junction with the A122. The proposed alignment of the new A122, itself, is located outside the AONB designation to the west of the Kent Downs AONB, as is the majority of the new junction connecting to the A2 to the east of Gravesend (the Western Southern Link (WSL)) as presented within the Preferred Route Announcement (PRA) in 2017. Updated transport modelling forecasts have since helped inform design changes to the WSL and the A2 and now include the widening of the existing A2 corridor across the northern part of the AONB.

F.5.16 As a consequence of these highway works, it is also necessary to divert an existing underground gas pipeline and multi-use utilities corridor (electric and foul water) that lie along sections of the A2 and to the south following existing

and new road infrastructure. These changes were initially presented as part of Statutory Consultation undertaken in 2018, following which design development continued, resulting in the reduction of the width of both carriageways, and reductions in the central reservation, reducing the overall footprint of the highway corridor within the Kent Downs AONB. Further detail of these changes, as well as on the utilities provision, was provided in the Supplementary Consultation in 2020. Additional design refinement took place following engagement with relevant Statutory Undertakers, and reductions to the utility requirements south of the A2 corridor were presented in the proposals set out in the Design Refinement Consultation, also in 2020.

- F.5.17 Following PRA, including the WSL in 2017, further land within the Kent Downs AONB has been included with the Order Limits as a result of the need to increase the width of the A2 highway corridor to meet forecast levels of traffic demand. The changes included the introduction of two connector roads parallel to the main A2 alignment, and the provision of a utility corridor along the northern and southern highway boundaries. These design changes resulted in the WSL further encroaching within the boundary of the designated AONB.
- F.5.18 The assessment of route options, undertaken initially by DfT prior to PRA and subsequently through reappraisal by National Highways (as described in Chapter 5 of this Planning Statement) has involved environmental appraisal, consideration of environmental designations including the potential for impact on AONB (among a wider suite of criteria). Potential routes at Locations A, B and E (see Plate F.3) that would have avoided the Kent Downs AONB all failed to meet the Scheme Objectives by having a higher impact on environmentally sensitive sites and on local communities, would not have relieved the existing congestion pressure at the Dartford Crossing, and would not have provided value for money. Potential routes at locations C, D1 and D2 would have similar impacts on the AONB as illustrated in Plate F.3.

Plate F.3 Route Options Plan



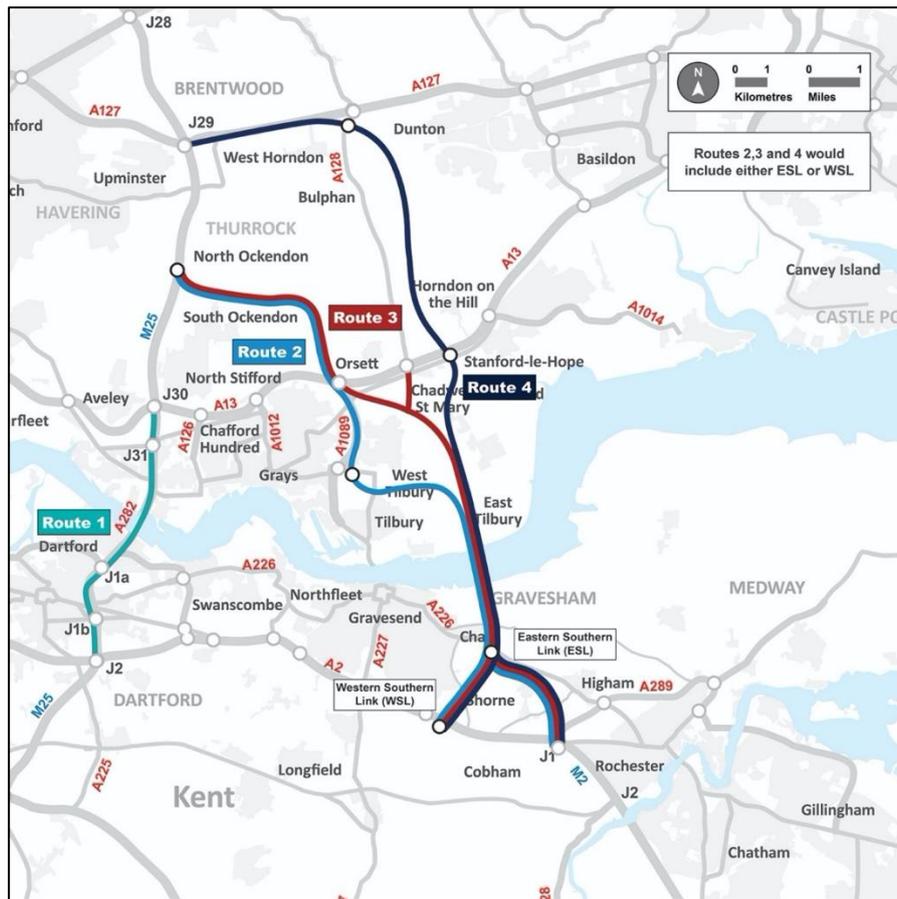
F.5.19 Other reasons for the rejection of these options related to construction cost and time, the relative performance of the options in terms of connectivity to the existing highway network, and economic benefit, especially in locations of existing and planned development.

F.5.20 The main purpose of the ESL was to create the most direct and cost-efficient route from the M25 to the M2 without the need to divert onto other roads. As explained in Chapter 5 of this Planning Statement (Project Evolution and Alternatives), it was concluded that the WSL would best meet the Scheme Objectives, compared to the ESL. In particular, the WSL would have a materially lower impact than the ESL on the environment and local communities, including less intrusion into the Kent Downs AONB, and

its setting. It was concluded that the WSL remained the best option, considering the environmental and community impacts of the ESL.

- F.5.21 The C Variant options (illustrated in Plate 4.5 of Chapter 5 of this Statement) involve widening the A229 between the M2 and the M20. The options are within the Kent Downs AONB and would have significant environmental and landscape impacts. Section 2.6 of the Pre-Consultation Scheme Assessment Report 2016 outlines that the C Variant options would not maximise the economic and transport benefits of Lower Thames Crossing and, therefore, a decision was made to not take the options forward for further development and consideration.
- F.5.22 Prior to Statutory Consultation, in 2018 a review was undertaken by National Highways (then known as Highways England) to consider the changes to the Project design south of the River Thames, including increased encroachment into the Kent Downs AONB along the A2. Neither the ESL nor the WSL provide a route that is wholly outside the AONB, as reported in Chapter 5 of this Planning Statement (Project Evolution and Alternatives), however, ESL had greater impact on the AONB than WSL. The review concluded that, even when considering the changes to the A2 highway corridor and the associated utility diversions, the balance of the community and environmental impacts of the ESL remained more significant than the overall balance of impacts of the WSL, therefore, confirming that the route selection conclusions remain robust and appropriate.
- F.5.23 Plate F.4 Illustrates the WSL and ESL options in the context of the Kent Downs AONB.

Plate F.4 WSL and ESL options



- F.5.24 The WSL junction with the A2 would mostly be located outside of the Kent Downs AONB with only a slip road located within it. The new road infrastructure to the north and west would be visible from parts of the Kent Downs AONB at Shorne and Ashenbank Woods.
- F.5.25 The ESL junction with the A2/M2 would have had a greater physical impact on the Kent Downs AONB as there would be a greater transport infrastructure footprint within it. There would also be a greater loss of ancient woodland that forms an important part of the landscape fabric.

Cost of developing outside the Kent Downs AONB: Alternative road alignments

- F.5.26 Capital costs for each of the remaining three route corridor options (Options A, B and C) taken forward for further assessment beyond the initial 2009 Study (Chapter 5 of this Planning Statement provides the chronology and detail of early route selection and optioneering studies and the options considered) were estimated (in the ‘*Review of Lower Thames Crossing Options: Output 2 Design & Costing Report*’ undertaken for DfT in 2013) from the dimensions of the conceptual designs using typical cost rates for delivery of comparable infrastructure. The estimated capital costs for the new crossing structures, based on additional three lanes in each direction at Options A, B and C assuming a bored tunnel (i.e. excluding the costs involved with linking new

structures into the existing road network) were Option A - £1.81bn, Option B - £2.71bn and Option C £3.04bn. The estimated cost of the C variant link between the M2 and M20 was £1.77bn, however, there were issues relating to the feasibility of its delivery, as well the technical and environmental challenges.

- F.5.27 The capital costs of developing Locations A and B outside the AONB were lower than for Location C, although it would be feasible to construct a new crossing and link the crossing to the existing route network at all three location options subject to an appraisal of and consideration of the acceptability of environmental impacts.
- F.5.28 As well as the capital costs there are environmental, health and wellbeing costs to be taken into consideration. Options A, and B would have greater operational lifetime environmental and health and wellbeing impacts from traffic congestion due to local population density for options A and B.
- F.5.29 Options A, B, D and E were not considered further as they would not deliver the Scheme Objectives outlined in Chapter 4 of this Planning Statement (Needs and benefits). Chapter 5 of this Planning Statement demonstrates through further reappraisal and backchecking by National Highways that the preferred route option represents the optimal solution.

Scope for developing outside the AONB: utilities provision

- F.5.30 The existing utility arrangement follows an existing infrastructure corridor comprising the A2 and the HS1 railway line which cuts through the northern most tip of the Kent Downs AONB. The combination of road, rail and utility infrastructure in one locality lessens the overall visual impact on the Kent Downs AONB. The main works associated with utility provision relate to the proposed highway improvements to the WSL within the boundary of the Kent Downs AONB. This involves the realignment of the existing gas pipelines and overhead electricity transmission lines running across the A2 and over the existing HS1 line. Since PRA, the design changes to the Project, including the widening of the A2 have resulted in the utility realignment further encroaching into the Kent Downs AONB.
- F.5.31 The proposed realignment of the existing utilities largely remain within the existing infrastructure corridor in order to minimise further encroachment into the Kent Downs AONB and to moderate any harm by combining the development with the existing road and rail infrastructure. The gas pipeline along the northern tip of the Kent Downs AONB, in close proximity to the A2 and other multi-utilities, would largely follow the proposed local roads, including a sewer diversion along Halfpence Lane, within the boundary of the AONB. As the existing utilities are sited within the Kent Downs AONB it is not possible to divert them in a way which would avoid the Kent Downs AONB entirely, although significant improvements and design refinements have been made to

reduce the land acquisition presented in the Supplementary Consultation (2020).

- F.5.32 The utility realignments have been an ongoing process with changes made to further reduce their impact on the Kent Downs AONB. Significant reductions in the utility diversions required to the south of the A2 were presented at the Design Refinement Consultation (2020). This included the removal of the utility diversions south of HS1 within Ashenbank Woods; reductions in the area required for diversions around Jeskyns Farm and reductions in the area required for the corridor south of Shorne Woods (required for the gas pipeline diversions north of the A2 which has been reduced further).
- F.5.33 Following feedback from the Kent Downs AONB at the 2021 Community Impacts Consultation, the Order Limits were further amended following discussions with Southern Gas Networks to include the whole of Park Pale and removed an area of ancient woodland from the Order Limits. This enabled the gas pipeline to be diverted to reduce impacts upon ancient woodland and the AONB.
- F.5.34 In addition to the works to reduce the direct impact within the AONB, several design options were considered in relation to the gas pipeline diversions within and around Claylane Wood. The option to divert the gas pipelines outside Claylane Wood south of Thong and the A226 was discounted as a trenchless crossing would be required under the existing HS1 railway line and the A2, was considered a significant construction risk. Initial proposals to have both high-pressured gas pipeline diversions in the same trench to further reduce impacts within the Kent Downs AONB were discounted as being contrary to the Institution of Gas Engineers and Managers (IGEM) TD/1 Section 6.11 requirement for a minimum separation distance and therefore presenting a safety risk.
- F.5.35 The preferred option has been developed to minimise the ecological and arboricultural damage to Claylane Wood by diverting the gas pipeline through an area previously cleared for overhead line and gas main installations, currently filled with dense trees, saplings and scrub.
- F.5.36 Therefore, while acknowledging that the utilities realignment would impact on the Kent Downs AONB, the options taken forward and the design refinements demonstrate measures have been adopted to minimise their impact on the Kent Downs AONB as much as possible.

Meeting the need in some other way (Alternative Transport Modes)

- F.5.37 Chapter 5 of this Planning Statement has considered modal alternatives with an assessment being undertaken considering rail, ferry, road based public transport and non-motorised modes. This assessment found that alternative modes would not provide a replacement for a new crossing.

Any detrimental effects on the environment, landscape, recreational opportunities and the extent of moderation (paragraph 5.151(c) of the NPSNN)

- F.5.38 As explained above, the third line of paragraph 5.151 of the NPSNN advises that consideration should be given to any detrimental effect on the environment, landscape and recreational opportunities.
- F.5.39 In line with NPSNN (paragraph 5.151), an assessment has been carried out to consider any detrimental effects of the Project on the environment, landscape, and recreational opportunities within the Kent Downs AONB, as follows.

Landscape and environment

- F.5.40 ES Chapter 7: Landscape and Visual (Application Document 6.1) has provided an assessment of the detrimental effects on the landscape as a result of the Project.
- F.5.41 ES Appendix 7.11 (Application Document 6.3) considers the traffic and noise effects of the Project on the Kent Downs AONB.

Temporary detrimental effects on the AONB

- F.5.42 The temporary detrimental effects of the Project on the landscape character of the Kent Downs AONB through the construction phase are detailed in Chapter 7: Landscape and Visual (Application Document 6.1) and a summary is provided below:
- a. Large scale construction activity to the northern part of the AONB, mostly within the West Kent Downs (sub area Shorne) Local Landscape Character Area (LLCA)
 - b. Limited perceived change in the night-time views as a result of construction activity and construction light sources
 - c. Vegetation loss to the northern part of the AONB, mostly within West Kent Downs (sub area Shorne) and Higham Arable Farmland (sub area Thong) LLCAs which lies outside the AONB but contributes to its setting, along the A2 corridor, at Gravelhill Wood and within a narrow strip of the Shorne and Ashenbank Woods SSSI between the A2 and HS1 (including some ancient woodland)
 - d. Loss of woodland along the A2 corridor and within a narrow strip of the Shorne and Ashenbank Woods SSSI between the A2 and HS1 (including some ancient woodland)
 - e. Change to existing false cutting earth bunds which could alter views to designated sites e.g. Cobham Hall registered Park and Garden
 - f. Further reduction in relative tranquillity experienced along the A2 corridor

- F.5.43 Within the Kent Downs AONB, the most affected views would be those of PRow users close to the A2 corridor, including views from overbridges. Vegetation removal along the existing A2 and within the central reservation would open up views towards construction works and increase existing views of traffic and highway infrastructure.
- F.5.44 Section 4.2 of ES Appendix 7.11 (Application Document 6.3) details that there would no change/negligible change in noise levels across the whole of the AONB in the first two years of the construction phase of the Project. There would be a moderate beneficial change in noise levels along the M2/A2 corridor within the AONB in 2027 and 2028. Along the minor road route of Cobhambury Road, Warren Road and Bush Road between Cuxton and Cobham, within the AONB to the south of Cobham Park Registered Park and Garden, there would be a moderate adverse change in noise levels in 2027 and a major adverse change in noise levels in 2028. There would be no significant changes in noise levels during the construction phase in 2029 and 2030.

Permanent detrimental effects on the Kent Downs AONB

- F.5.45 The permanent detrimental effects of the Project on the landscape character of the Kent Downs AONB during the operational phase of the Project are detailed in ES Chapter 7: Landscape and Visual (Application Document 6.1) and a summary is provided below:
- a. Continued partial absence of mature woodland along the A2 corridor (including some ancient woodland), resulting in a perceived increase in the prominence and scale of the A2 corridor and associated highway infrastructure
 - b. Greater landscape severance north and south of the modified A2 partially offset by the provision of two new green bridges spanning the A2 corridor
 - c. Highway infrastructure, structures and moving vehicles at the M2/A2/A122 Lower Thames Crossing junction to the west
 - d. Limited reduction in relative tranquillity along the A2 corridor
- F.5.46 ES Appendix 7.10 (Application Document 6.3) provides a detailed visual impact assessment. This includes the assessment on visual receptors from Representative Viewpoints and assessment of visual effects on other individual receptors and groups of receptors identified within the refined study area.
- F.5.47 Within the Kent Downs AONB, the most affected views would be those from Park Pale overbridge, a small localised area on the northern edge of Cobham Hall Registered Park and Garden, Brewers Road overbridge and at each end of Thong Lane overbridge near the Inn on the Lake Hotel, where the reduction of

enclosing vegetation along the edge of the A2 corridor and in the central reservation would result in increased views of traffic and highway infrastructure.

F.5.48 ES Appendix 7.11 (Application Document 6.3) outlines in Section 6.2 that due to road alignment changes that there would be a small pocket of moderate to major beneficial change to noise levels in the opening year of the Project within the AONB along the M2/A2 corridor. There would also be two small pockets of moderate adverse change along the A228 corridor to the north-east and south-west of Cuxton.

F.5.49 Section 6.2 of ES Appendix 7.11 (Application Document 6.3) demonstrates that by 2045 there would be no significant change in noise levels as a result of the Project across the whole of the AONB, except for small pockets of beneficial change outlined above along the M2/A2 corridor.

Mitigation

F.5.50 A number of embedded measures are proposed in the Environmental Masterplan and secured through Schedule 2 Part 1 Requirement 5 of the draft DCO (Application Document 3.1) to mitigate the effects on the Kent Downs AONB both during construction and operation, which are as follows:

- a. Replacing vegetation that would be removed to facilitate construction including nitrogen deposition compensation planting within the AONB (ES Appendix 2.4: Environmental Masterplan (Application Document 6.2)).
- b. The preliminary design has been developed to reduce the width of the A2 corridor footprint as far as reasonably practicable. (Design Principle S1.03).
- c. The provision of green bridges to enhance landscape continuity across the Project route.
- d. False cutting earthworks to help screen views and extensive woodland planting at the junction with the A2 to help integrate the Project into the landscape.
- e. Woodland, tree belts and hedgerow planting along the rest of the Project route including ancient woodland compensation planting within the AONB (ES Appendix 2.4: Environmental Masterplan (Application Document 6.2)).

F.5.51 Other REAC mitigation measures secured through Schedule 2 Part 1 Requirement 4 of the draft DCO (Application Document 3.1) include:

- a. LV005 – No main construction compounds would be located within the AONB.
- b. LV007 – Construction compound facilities greater than 6m in height would be located as south westerly as reasonably practicable to maximise distance from the adjacent boundary of the AONB.

- c. LV009 – Softening the appearance of temporary earthwork stockpiles adjacent to the Kent Downs AONB by phasing of works, to be such that south-east facing slopes are retained as grass seeded slopes for visual screening purposes for as long as reasonably practicable.

Conclusion

- F.5.52 The Project has sought to reduce and manage the potential impact on the AONB, firstly through the careful alignment of the Project to accommodate the junction with the A2/M2 outside the AONB, to reduce the significance of the effect of the works by restricting them to the existing infrastructure corridor along the existing A2/M2 and through the adoption of embedded and construction mitigation to deliver high quality reinstatement and landscape scale enhancement through the delivery of the nitrogen deposition compensation sites.

Recreation

- F.5.53 As explained above, the third line of paragraph 5.151 of the NPSNN also focuses on the detrimental effects on recreational opportunities. The recreational opportunities within the Kent Downs AONB have been identified within ES Chapter 13: Population and Human Health and highlights those assets directly affected by the Project and the measures taken to mitigate and compensate for these effects. The embedded and essential mitigation, replacement land, along with the landscape proposals are set out in ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Design Principles (Application Document 7.5).
- F.5.54 Appendix D (Open Space) of this Statement provides details on the impact of the Project on Shorne Woods Country Park. The Project would permanently impact on the Country Park due to the diversion of utilities and the permanent easements in place, restricting public accessibility to 4,408sqm of land. Proposed mitigation includes open space replacement land, along with landscaping and tree planting connecting existing woodland blocks. Appendix D provides details on the nature and quality of the replacement land.
- F.5.55 ES Chapter 13: Population and Human Health (Application Document 6.1) provides details of the National Cycle Network Route (NCN) 177 running through the AONB which would be directly impacted by the Project. The route would be permanently closed to accommodate the new Lower Thames Crossing/A2 junction. Upgrades to existing footpaths and tracks would be undertaken prior to the closure of the existing NCR177 alignment to ensure that a suitable alternative route is available. Once works are complete an alternative roadside route would be available as a permanent diversion. The temporary and permanent diversion routes would allow for improved user experience.

Conclusion

F.5.56 The DCO application includes design elements to reduce the significance of the impact of the Project on recreation opportunities within and adjoining the Kent Downs AONB. In some cases, by improving connections across the A2/M2 providing WCH links into the AONB, for example, the closure of National Cycle Route 177 to accommodate the works to the A2/M2 is addressed by the provision of an alternative route which is considered to provide an enhancement as it links Jeskyns Country Park to the national network. The impact on Shorne Woods Country Park is reduced as a result of proposals to acquire permanent replacement land, which also provides an enhanced additional woodland WCH route linking the Country Park with other woodland blocks.

Summary: Does the Project constitute ‘exceptional circumstances’ and it is in the public interest?

- F.5.57 In accordance with paragraph 5.151 of the NPSNN the Applicant has demonstrated and evidenced exceptional circumstances for developing in the AONB and that such development is in the public interest, in summary by:
- a. Providing a strong case for the need for the Project and the benefits of consenting it
 - b. Demonstrating that there are no viable alternative route options that would meet the need and deliver those benefits
 - c. Demonstrating that the Project would provide high environment standards with the adoption of a landscape-led approach to the design of the scheme and incorporation of appropriate mitigation

The presumption against building new roads in the Kent Downs AONB (paragraph 5.152 of the NPSNN)

F.5.58 There is a policy presumption (under paragraph 5.152 of the NPSNN) against significant road widening or new roads in AONBs other than where there are compelling reasons for new or enhanced capacity and any benefits outweigh the costs very significantly. This section demonstrates that this policy test is satisfied for the Project.

Compelling reasons for the new or enhanced capacity

F.5.59 The Scheme Objectives outlined in Chapter 3 of this Statement and, agreed by National Highways and the Department for Transport (DfT), include: ‘To relieve the congested Dartford Crossing and approach roads and improve their performance by providing free-flowing north--south capacity.’

F.5.60 The Transport Assessment (Application Document 7.9) sets out the benefits of the Project in terms of improving the operation of the SRN and providing additional highway capacity.

- F.5.61 The Dartford Crossing currently experiences high levels of congestion on a regular basis. The Dartford Crossing was found to have operated above its design capacity on 337 days during 2019 (Highways England, 2019).
- F.5.62 The Need for the Project (Application Document 7.1) recognises that the lack of capacity across the River Thames and the congestion at the Dartford Crossing, *'threaten to weaken the UK's Industrial Strategy, increasingly disrupt trade flows, stifle employment growth and hamper efforts to raise national productivity levels'*.
- F.5.63 The Need for the Project (Application Document 7.1) also explains how the Project would reduce congestion at Dartford Crossing, creating additional capacity and increased resilience across the River Thames east of London.
- F.5.64 Selection of the preferred Project route option in relation to the AONB is set out in response to paragraph 5.151(b) of the NPSNN above, including the subsequent project development after PRA leading to the proposed widening of the existing A2 corridor across the northern part of the AONB. This route would provide an essential link connecting the A2 and M2 in Kent to the M25 south of junction 29, creating an all-purpose trunk road connecting Kent, Thurrock and Essex and providing over 80% additional road capacity across the River Thames.
- F.5.65 The compelling and very significant need for the Project is explained in the Need for the Project (Application Document 7.1), not only in addressing the long-standing traffic problems at the Dartford Crossing, but in delivering benefits across a wide range of needs and opportunities.
- F.5.66 In summary, the range of Project benefits are as follows:
- a. An additional crossing of the River Thames, east of London, would provide more reliable journeys across the Thames. The enhanced connectivity would provide increased cross river economic opportunities which would stimulate competition and boost employment in the region. It would also allow for quicker, more reliable access to key markets, resources and labour for the region's ports.
 - b. The Project would provide enhanced connectivity and facilities for walkers, cyclists and horse riders, alongside improved access to community and businesses. Additionally, reduced congestion in the Dartford area would decrease air pollution.
 - c. As a result of the Project, journeys on both sides of the River Thames, as well as those that cross the River, would be quicker and these journeys would be subject to less frequent delays and uncertainty than is currently experienced. Congestion at the Dartford Crossing would be significantly

reduced as the Project provides substantial additional capacity and a new route option across the River Thames.

Economic benefits of the Project

- F.5.67 An appraisal of the economic, environmental and social impacts of the Project has been undertaken in line with DfT's Transport Analysis Guidance (TAG). This includes benefits, disbenefits (sometimes described as negative benefits), revenues and costs. The appraisal methods, key assumptions and appraisal results are presented within Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7).
- F.5.68 The planning and construction costs of the Project, taking into account inflation, have been estimated in line with National Highways guidance and are £8,083 million. In line with HM Treasury guidance that enables costs and benefits to be directly compared, these costs are included in the appraisal expressed in 2010 prices and values (£3,120 million), along with the operating, maintenance and renewals costs estimated over the 60-year appraisal period (£327million). User charge revenues of £749 million (also in 2010 prices and values) from the Project, as well as the change in receipts at the Dartford Crossing and the London Congestion Charge and revenues from the Silvertown and Blackwall Tunnels, are deducted from the total costs in order to calculate the net costs of £2,700 million (Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report (Application Document 7.7)).
- F.5.69 A breakdown of the benefits shows the following:
- a. 48% of the benefits accrue to people starting and/or ending their journeys in the Lower Thames area (Thurrock, Dartford, Gravesham, Havering, Brentwood and Medway). Benefits by population, origin, destination and benefits are presented in Table A of Appendix D: Economic Appraisal Package of the Combined Modelling and Appraisal Report.
 - b. 31% of the benefits accrue to journeys starting and/or ending in other local authorities in the South East Local Enterprise Partnership (SELEP) region.
 - c. 21% of the benefits accrue to journeys starting and/or ending in other local authorities in Great Britain.
- F.5.70 Economic benefits would be greatest for local businesses in high value economic sectors, for example biotechnology and financial services. They would also be significant for firms in the lower value sectors such as transport and construction sectors, given their high transport costs and relative concentration in the Lower Thames area. In addition, the appraisal considers that these gains would feed through supply chains to businesses in other economic sectors, encouraging new business clusters to develop. This would

raise employment growth and boost inward investment which would enhance the competitive performance and development of the local area.

- F.5.71 As part of the economic appraisal work, the impact of the Project on the local economy was considered. Of the £3,278 million of the core growth benefits (that can be spatially disaggregated), 40% of these accrue to Lower Thames local authorities (Thurrock, Brentwood, Dartford, Gravesham and Medway). These benefits include transport user and provider impacts and agglomeration benefits.

Costs of the Project

- F.5.72 There are environmental costs associated with the implementation of the Project, these would need to be significantly outweighed by the benefits in order to make a compelling case for the Project.
- F.5.73 The environmental costs of developing within the AONB have been set out above and split into temporary construction and permanent operational landscape and visual impacts on the AONB.
- F.5.74 The costs of the Project are identified as residual significant effects. Chapter 17 of the ES (Application Document 6.1) summarises the likely significant effects of the Project reported in the environmental topic chapters of the Environmental Statement. Residual impacts arising from the project are identified in the following environmental topics: cultural heritage, landscape and visual, Terrestrial Biodiversity, Geology and Soils, Material Assets and Waste, Noise and Vibration and Population and Human Health.

Summary: Are there compelling reasons for the Project and do the benefits outweigh the costs very significantly?

- F.5.75 For the reasons set out above and in the Need for the Project (Application Document 7.1) there are compelling reasons for the new or enhanced capacity in the local area to relieve congestion at the existing Dartford crossing. It is recognised that there are costs associated with the Project, however it is considered that the substantial public and economic benefits of the Project would outweigh the costs very significantly.
- F.5.76 The Project is therefore considered to accord with paragraph 5.152 of the NPSNN.
- F.5.77 The Project's high environmental standards (paragraph 5.153 of the NPSNN)
- F.5.78 Paragraph 5.153 of the NPSNN recognises that the tests in paragraph 5.152 are capable of being satisfied and identifies a further policy consideration where consent is given for development in an AONB, namely that the applicant has ensured the development would be carried out to high environmental standards

and included, where possible, measures to enhance other aspects of the environment.

High Environmental Standards

- F.5.79 Although not formally defined, the reference within NSPNN paragraph 5.153 to high environmental standards is, for the purposes of the Project, the nature and extent of environmental mitigation proposed for the Project and where appropriate the Project has sought landscape scale interventions and adopted mechanisms to ensure this is delivered to a high standard, as set out in the Environmental Masterplan (Application Document 6.2, ES Appendix 2.4). The Project would secure these high environmental standards, including landscape scale compensation land and mitigation within the AONB, through the actions and commitments set out in the Register of Environmental Actions and Commitments (REAC) (Application Document 6.3, ES Appendix 2.2), ES Figure 2.4: Environmental Masterplan (Application Document 6.2) and the Design Principles (Application Document 7.5).
- F.5.80 Design Principles (Application Document 7.5) specific to the AONB include:
- a. S1.01 - To retain the historic woodland landscape character within the Kent Downs AONB and to screen the Project from users of Shorne Woods Country Park (including users of Park Pale), existing planting along the northern edge of the A2 corridor shall be retained as far as reasonably practicable.
 - b. S1.03 - To reduce the impact on the Kent Downs AONB, the preliminary design has been developed to reduce the width of the A2 corridor footprint as far as reasonably practicable.
 - c. S1.06 - The detailed design of the landscape and mitigation shall take account of the extensive deciduous woodlands adjoining large arable fields, thick deciduous shaws and hedgerows to ensure they complement and strengthen the existing character of the Kent Downs AONB and local landscape character assessments and the Kent Downs AONB Landscape Design Handbook.
 - d. S1.09 - Retaining structures and bridge abutments within the Kent Downs AONB and its setting, shall be either green walls, earth banks, or clad with hard materials in accordance with the Kent Downs AONB Landscape Design Handbook, to be reflective of the local vernacular.
- F.5.81 The Design Principles are commitments that will be secured through the Development Consent Order (DCO) and that are certified in Schedule 16.
- F.5.82 The REAC secured through Schedule 2 Part 1 Requirement 4 of the draft DCO (Application Document 3.1) summarises the committed mitigation measures

within the Environmental Statement which are at a landscape scale and relate to the construction and operational phases of the Project, ensuring that where consent is given in these areas, the Project would be carried out to high environmental standards. REAC measures include:

- a. LV005 – No main construction compounds would be located within the AONB.
- b. LV007 – Construction compound facilities greater than 6m in height would be located as south westerly as reasonably practicable to maximise distance from the adjacent boundary of the AONB.
- c. LV009 – Softening the appearance of temporary earthwork stockpiles adjacent to the Kent Downs AONB by phasing of works.

F.5.83 The landscape-led approach is detailed in the Project, including the Environmental Masterplan which identifies the embedded environmental mitigation measures for the Project, including proposals affecting the functionality and connectivity of the green infrastructure network.

F.5.84 Embedded mitigation is included within the Design Principles (Application Document 7.5). This sets out ways in which the Project proposes to incorporate appropriate mitigation, including such measures as the provision of green bridges, improving connectivity between existing habitats and reinstating, wherever possible land to its original use as far as reasonably practicable.

F.5.85 Embedded Design Principles within the AONB include:

- a. S1.09/S2.10 – Retaining structures and bridge abutments within the Kent Downs AONB and its setting, shall either be green walls, earth banks, or clad with third materials in accordance with the Kent Downs AONB Landscape Design Handbook, to be reflective of the local vernacular.
- b. S3.19 – The detailed design of ancient woodland compensation planting shall retain a long range view north from Shorne Ifield Road bordering Shorne Woods Country Park within the Kent Downs AONB, over River Thames towards distant hills near Thorndon Country Park
- c. S14.17 – The detailed design of nitrogen deposition compensation planting shall retain vistas from footpath 272_110 west of the B186 Great Warley Street above Hole Farm, towards distant hills within Kent AONB to the south-east and in the direction of Codham Hall Wood to the south-west.

Environmental Enhancements

F.5.86 Paragraph 5.153 of NPSNN also refers to the measures being undertaken to enhance other aspects of the environment, including within the Kent Downs AONB. Proposed landscape enhancements have been developed for the

Project as shown with the spatial layout of features identified in the Environmental Management Plan and include the following within the Kent Downs AONB:

- a. Blue Bell Hill nitrogen deposition compensation site providing mixed planting securing a landscape scale enhancement and linking previously fragmented habitats (Clause S1.18, Design Principles (Application Document 7.5))
- b. Burham nitrogen deposition compensation site providing compensation planting securing an expansion to an existing SSSI (Clause S1.22, Design Principles (Application Document 7.5))
- c. Fenn Wood nitrogen deposition compensation site providing compensation planting and linking fragmented woodland (Clause LSP.22, Design Principles (Application Document 7.5))
- d. The M2/A2/A122 Lower Thames Crossing junction includes large scale woodland planting (Clause LSP.10, Design Principles (Application Document 7.5)) and Ancient Woodland Compensation Planting providing additional planting to reinforce ancient woodland replacement planting (S2.03, S2.09, Design Principles)
- e. Minimising impacts on Claylane Ancient Woodland and other vegetation planting to reinforce and supplement the existing planting alongside the A2/M2 corridor (Clause S2.06, Design Principles (Application Document 7.5))
- f. New earthworks providing 4m high false cuttings on Project SB to M2 EB slip road (4m higher than the proposed carriageway ground level, typically with a 1(v)4(h) inward facing slope and 1(v)10(h) outward slope) reducing the visual impact of the A2/M2 on the AONB. (Clause LSP.09, Design Principles (Application Document 7.5))
- g. New earthworks providing 4m deep cuttings for approximately. 400m south of Thong Lane green bridge (minimum 4m lower than adjacent ground level, typically with a 1(v)4(h) inward facing slope), and a maximum 25m deep cutting for approximately 1,200m north of Thong Lane green bridge (typically with a 1(v)4(h) chalk rock / scree slope) further reducing the visual impact of the Project road (Clauses LSP.09, STR.02, LSP.18, S3.01, S3.02, S3.03, S3.10, S3.11, Design Principles (Application Document 7.5))
- h. A new multifunctional green bridge at Thong Lane to be installed to enhance user experience/recreational access across the improved A2 corridor, aid ecological connectivity through mitigating severance and fragmentation of habitats and supporting landscape integration and visual screening for visual receptors (Clause S2.04, Design Principles (Application Document 7.5))

- i. New circular walks connecting recreational areas and access to the Kent Downs AONB, through diversion of PRoW NS167 and NS169 and stopping up of NS367 improving accessibility to the AONB for walkers, cyclists and horse riders (Clauses S2.02, Design Principles (Application Document 7.5))

Summary: is the Project carried out to high environmental standards and does it include measures to enhance the environment?

F.5.87 In accordance with paragraph 5.153 of the NPSNN the Project has demonstrated high environmental standards by implementing a landscape scale approach with embedded design and mitigation measures. The Project has also presented environmental enhancements which go beyond the existing baseline and would benefit recreational and environmental functions of the AONB in line with its designation.

F.6 Development outside the AONB which might affect them

F.6.1 Paragraph 5.154 of the NPSNN states that when considering applications for projects outside of nationally designated areas that there is a duty to consider the impact on them and the aim should be to avoid compromising the purposes of designation through sensitive design. Paragraph 5.155 of the NPSNN confirms that if a proposed project is visible from within a designated area that should not in itself be a reason for refusing consent.

F.6.2 The utilities works (Works numbers G2, G3 and G4) are located outside but close to the Kent Downs AONB and therefore policy 5.9.12 of the Overarching Energy NPS (EN-1) applies. The construction activity associated with these works is temporary, involving:

- a. The diversion of existing underground gas pipelines
- b. A new alignment to the easement resulting in a change to above ground vegetation
- c. Replacement planting is proposed to mitigate this loss

F.6.3 The works would, therefore, not compromise the purposes of the designation.

F.6.4 An assessment has been undertaken in ES Chapter 7: Landscape and Visual (Application Document 6.1) that highlights that outside of the AONB to the south and the north of the River Thames, including land within the setting of the AONB, construction works and construction compounds would be prominent in the landscape, in particular the A2 junction and large northern and southern tunnel entrance compounds.

- F.6.5 Outside of the AONB, construction works for the M2/A2/Lower Thames Crossing junction and the extensive southern tunnel entrance compound would result in significant adverse visual effects to the setting of the AONB.
- F.6.6 The Project provides embedded mitigation and design principles secured by reference to the Register of Environmental Actions and Commitments (REAC) (Application Document 6.3, ES Appendix 2.2), the Environmental Masterplan (Application Document 6.2, ES Figure 2.4) secured through Schedule 2 Part 1 Requirement 4 of the draft DCO (Application Document 3.1), and the Design Principles (Application Document 7.5). These mitigation measures and design principles would not compromise the purposes of the North Kent Downs AONB designation.

Conclusion

- F.6.7 It is essential that the Project road connects to the existing national road network, the location of the junction with the A2/M2 is outside the AONB and provides the optimum connection. The embedded mitigation measures in the junction design secured through the Project Design Principles together with the proposed environmental mitigation secured through the Environmental Masterplan (Application Document 6.2, ES Appendix 2.4) and the REAC/CoCP commitments (Application Document 6.3) would, as the planting becomes established, reduce the impact of the junction on the Kent Downs AONB.

Compliance with Defra UK Government Vision and Circular 2010

- F.6.8 *Paragraph 5.148 of the NPSNN states that:*
- F.6.9 *‘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.’*
- F.6.10 Paragraph 5.148 of the NPSNN explains that the requirements set out in this Circular apply to AONBs where significant road widening or the building of new roads is proposed. Defra’s *‘English National Parks and the Broads: UK Government Vision’* and Circular 2010 (the Circular) (2010) sets out a number of key outcomes which support the vision for the English National Parks and the Broads.
- F.6.11 The Government aims towards achieving the vision can be made through authorities and key partners together focusing on the achievement of the following key outcomes:
- a. A renewed focus on achieving the park purposes

- b. Leading the way in adapting to and mitigating climate change
- c. A diverse and healthy natural environment, enhanced cultural heritage and inspiring lifelong behaviour change towards sustainable living and enjoyment of the countryside
- d. Foster and maintain vibrant, healthy and productive living and working communities
- e. Working in partnership to maximise the benefits delivered

F.6.12 The Circular makes clear that achieving these key outcomes should be the Government's priority for the National Parks and the Broads. Fulfilling the requirements of the Circular (or successor document) for any significant road widening or the building of new roads within the Kent Downs AONB is a requirement set out in paragraph 5.148 of the NPSNN.

F.6.13 In accordance with NPSNN paragraph 5.148 the following documents demonstrate accordance with the outcomes and overall compliance with the Defra UK Government Vision and Circular 2010:

- a. The Sustainability Statement (Application Document 7.11) recognises the importance of adapting to and mitigating climate change and sets out the key sustainability themes and outcomes for the Project. The intention is to embed sustainability into the Project through the preliminary design, direct specification and, challenging contractors to promote sustainable outcomes or including them in the REAC.
- b. ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) assesses the potential effects of the Project on biodiversity during both the construction and operational phases and the likely impacts to important ecological features. The Project includes a range of environmental commitments as part of the DCO application and the proposed development design and mitigation measures would minimise impacts upon biodiversity and would deliver significant benefits in the longer term.
- c. ES Chapter 7: Landscape and Visual (Application Document 6.1) presents an assessment of the landscape and visual impacts associated with the Project, including mitigation measures, residual effects and future monitoring. The Project includes a range of commitments to high environmental standards and enhancements that would benefit varied aspects of the AONB environment.
- d. In response to working in partnership with local authorities, government bodies and the Kent Downs AONB Unit, full details of the consultation events are provided in the Consultation Report (Application Document 5.1).

F.7 Conclusions

- F.7.1 In line with the NPSNN and as a major infrastructure development within the Kent Downs AONB, an assessment has been undertaken of the impact of the Project on the Kent Downs AONB and a justification for the Project within its boundary, particularly with reference to the exceptional circumstances and the Project's public interest in justifying the Project.
- F.7.2 The assessment has also had regard to the purposes of designation and an acknowledgement of the highest status of protection afforded to the AONB in terms of landscape and scenic beauty.
- F.7.3 The Project has been assessed against each of the relevant decision making policy tests of the NPSNN relating to development within and outside an AONB. As the policy provisions within the NPPF and local development plan policy align with those of the NPSNN the conclusions reached provide a demonstration of the Project's compliance with the national policy framework, along with other relevant policy considerations.
- F.7.4 Paragraph 5.151 of the NPSNN makes clear that consent should only be granted within Kent Downs AONBs in 'exceptional circumstances' and where this is in the public interest, while paragraph 5.152 explains the strong presumption against building new roads in the Kent Downs AONB unless there are compelling reasons for doing so and with any benefits outweighing the costs very significantly.
- F.7.5 Paragraph 5.153 of the NPSNN outlines that where consent is given for development within an AONB the Project must be carried out to high environmental standards and where possible implementing environmental enhancements.
- F.7.6 Paragraph 5.154 and 5.155 of the NPSNN state that when considering applications for projects outside of nationally designated areas that there is a duty to consider the impact on them. However, if a proposed project is visible from within a designated area that should not in itself be a reason for refusing consent.
- F.7.7 This Appendix concludes that:
- a. There are exceptional circumstances for development of the Project within the AONB and to do so would be in the public interest.
 - b. There are compelling reasons for the Project in terms of enhancing capacity and the benefits of the Project significantly outweigh the costs.
 - c. The Project would be carried out to a high environmental standard including measures that would enhance the environment.

- d. The Project would have an impact on the setting from within and outside of the Kent Downs AONB but accords with paragraph 5.154 of the NPSNN. The purpose of the AONB designation would not be compromised.

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