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Norwich to Tilbury

Volume 6: Environmental Statement

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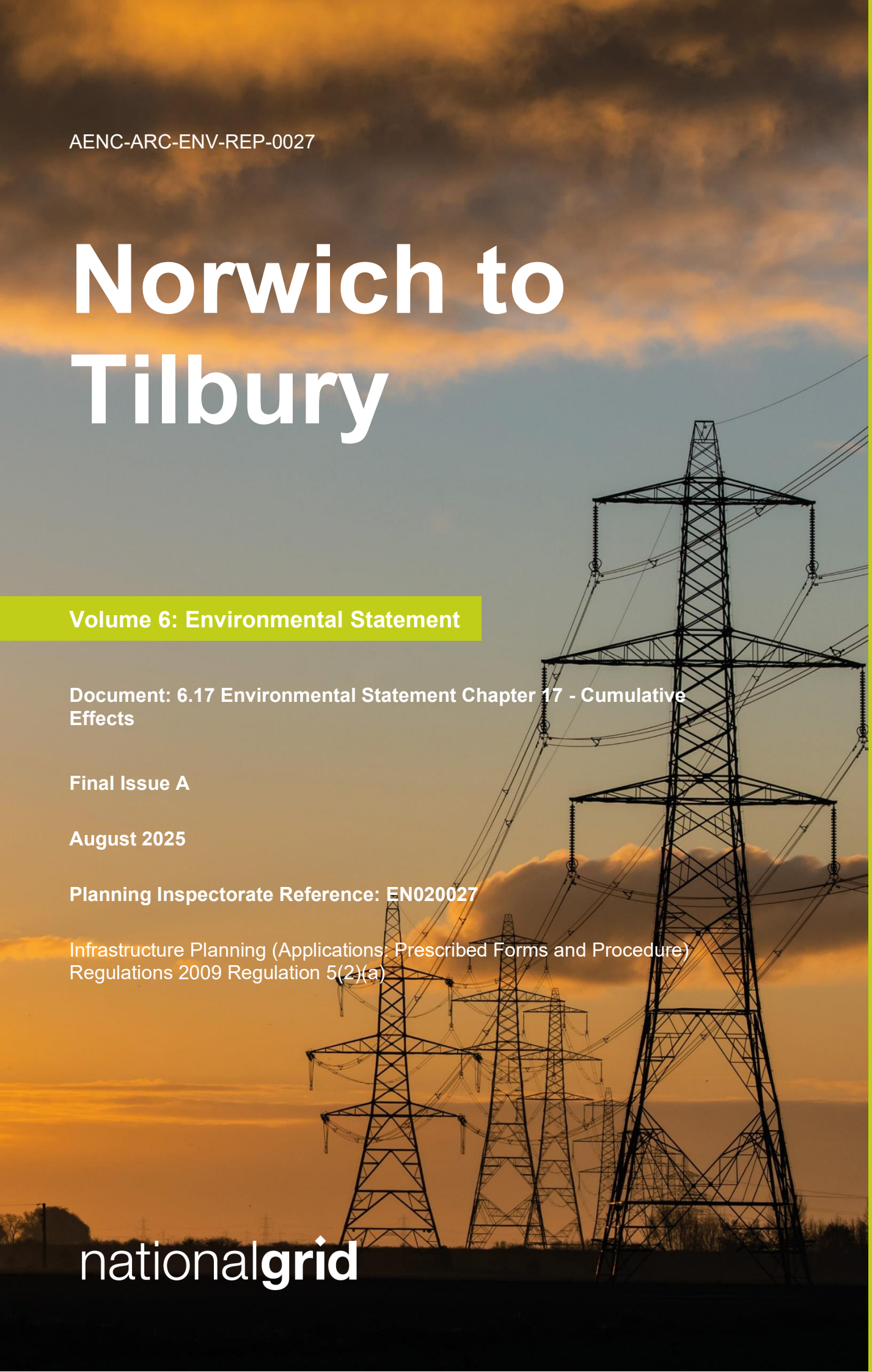

nationalgrid

Contents

17. Cumulative Effects

17.1 Introduction

17.1.1 This chapter of the Environmental Statement (ES) (Volume 6 of the Development Consent Order (DCO) application) details the Cumulative Effects assessment for Norwich to Tilbury (the 'Project') during the construction and operation (and maintenance) phases.

17.1.2 Cumulative effects occur when effects caused by present and reasonably foreseeable activities combine to create an increased level of effect. A single environmental effect resulting from a development may not be significant on its own but may become significant when combined with other environmental effects of the same development or of other developments. Two categories of cumulative effects are considered: 'intra-project' and 'inter-project' effects (Institute of Environmental Management and Assessment (IEMA) (now The Institute of Sustainability and Environmental Professionals (ISEP) as of 17th July 2025), 2011):

- **Intra-project cumulative effects** (referred to as 'inter-relationships between aspects' in the Planning Inspectorate Advice Note: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024)) occur when a resource, receptor or group of receptors are potentially affected by more than one source of direct environmental impact resulting from the same development (IEMA, 2011). For example, a community may be affected by both noise and dust effects resulting from the construction phase activities of a single development
- **Inter-project cumulative effects** (referred to as 'cumulative effects with other existing and, or approved development' in the Planning Inspectorate Advice Note (Planning Inspectorate, 2024)) occur when a resource, receptor or group of receptors are potentially affected by more than one development at the same time (IEMA, 2011). For example, the construction traffic effects of a development in isolation may not be significant, but when combined with the construction traffic effects of other existing or approved development ('other development') (using the same geographical area at the same time) may result in significant cumulative effects on the surrounding highways network.

17.1.3 This chapter has links with all environmental chapters (document references 6.6 to 6.16) as it considers the interrelationships between aspects.

17.1.4 This chapter is supported by the following figures and appendices:

- Figure 17.1: Long List of 'Other Developments' Considered within the Cumulative Impacts Assessment (document reference 6.17.F1)
- Figure 17.2: Short List of 'Other Developments' Considered within the Cumulative Impacts Assessment (document reference 6.17.F2)
- Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1)
- Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2)
- Appendix 17.3: Inter-Project Cumulative Effects (document reference 6.17.A3).

17.2 Regulatory and Planning Policy Context

Regulations

17.2.1 Schedule 4 paragraph 5 of The Infrastructure Planning Environmental Impact Assessment (EIA) Regulations 2017, known as the EIA Regulations, requires the assessment of cumulative effects stating:

'A description of the likely significant effects of the development on the environment resulting from, inter alia:

… (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources...

The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects of any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development'.

National Policy Statement (NPS)

17.2.2 Chapter 2: Key Legislation and Planning Policy Context (document reference 6.2) sets out the key overarching policy relevant to the Project. Overarching National Policy Statement for Energy (EN-1) (National Policy Statement EN-1) (Department for Energy Security and Net Zero (DESNZ), 2024a) is the key overarching policy relevant to the Project. This is supported by National Policy Statement for Electricity Networks Infrastructure (EN-5) (National Policy Statement EN-5) (DESNZ, 2024b).

Overarching NPS for Energy (EN-1)

17.2.3 NPS EN1 (DESNZ, 2024a) contains the following paragraphs relating to cumulative effects which have been considered within this chapter.

17.2.4 Paragraph 4.1.5 in EN-1 states:

'In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account: … its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy'.

17.2.5 Paragraph 4.2.12 in EN-1 states:

'The cumulative impacts of multiple developments with residual impacts should also be considered.'

17.2.6 Paragraph 4.3.3 in EN-1 states:

'The Regulations require an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, transboundary, short, medium, and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects'.

17.2.7 Paragraph 4.3.19 of EN-1 states:

'The Secretary of State should consider how the accumulation of, and interrelationship between, effects might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place'.

17.2.8 Paragraph 4.4.5 in EN-1 states:

'The impacts of more than one development may affect people simultaneously, so the applicant should consider the cumulative impact on health in the ES where appropriate'.

17.2.9 Full consideration of the relevant NPSs for the Project can be found in the Policy Compliance Document (document reference 5.7).

NPS for Electricity Networks Infrastructure (EN-5)

17.2.10 Paragraph 2.13.20 in EN-5 states:

'Applicants should refer to policy text in … EN1 (including sections 4.4 and 5.4) regarding consideration of impacts and cumulative impacts in the environment, as well as policy text in the remainder of this policy statement regarding consideration of impacts onshore'.

Other National Legislation and Policy

17.2.11 Although the Project will be considered against National Policy stated above, the assessment has also been undertaken in accordance with, and with reference to the following national legislation and policy:

- National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2025) and accompanying planning practice guidance.

Regional and Local Policy

17.2.12 Chapter 2: Key Legislation and Planning Policy Context (document reference 6.2), the Planning Statement (document reference 5.6) and Policy Compliance Document (document reference 5.7) set out relevant regional and local policy.

17.2.13 There are no additional or specific regional or local polices relating to Cumulative Effects relevant to this chapter.

Guidance

17.2.14 Relevant guidance, specific to Cumulative Effects, that has informed this ES (Volume 6 of the DCO application), comprises:

- The Planning Inspectorate Advice Note: Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024)
- The IEMA Special Report – The State of Environmental Impact Assessment Practice in the UK (IEMA, 2011)
- The Institute of Environmental Management and Assessment (IEMA) Demystifying Cumulative Effects, Thought Pieces from UK Practice. Impact Assessment Outlook Journal, Volume 7: July 2020.

17.3 Scope of the Assessment

17.3.1 The scope of the assessment has been informed by the Environmental Impact Assessment (EIA) Scoping Report (document reference 6.19) and EIA Scoping Opinion (document reference 6.20) provided by the Planning Inspectorate in 2022 on behalf of the Secretary of State. A summary of the scope of the cumulative effects assessment is provided in Appendix 5.2: Scope of the Assessment (document reference 6.5.A2).

17.3.2 In addition, the EIA Scoping Opinion, together with a response from National Grid against each point raised by the Planning Inspectorate relevant to cumulative effects, is provided in Appendix 5.1: National Grid's response to the EIA Scoping Opinion (document reference 6.5.A1).

Project Engagement and Consultation

17.3.3 Consultation and engagement with relevant stakeholders has informed the assessment presented in this chapter. Responses to representations received during the statutory consultation in summer 2024 are provided in Appendices K and M of the Consultation Report (document reference 5.1).

17.3.4 A summary of discussions and how these have influenced the Project, scope and the approach to the assessment are provided in Table 17.1.

Table 17.1 Engagement undertaken relevant to cumulative effects

Reference	Comment	National Grid's Response
Local Planning Authority (LPA) consultation on the list of other developments for the inter-project cumulative effects assessment (May 2025).	The long list of 'other existing and/or proposed developments' (detailed in Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2)) was issued to the LPAs on 28 May 2025 to determine if any additional developments should be included. The following LPAs were provided with a copy of the long list: • Babergh and Mid Suffolk District Council, • Brentwood Borough Council, • Basildon Borough Council • Braintree District Council • Chelmsford County Council • Colchester County Council • South Norfolk District Council • Tendring District Council • Thurrock Council • Essex County Council • Norfolk County Council • Suffolk County Council.	Other developments associated with seven applications were added to the long list (Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2)). The other six applications were for developments that were submitted to the planning portal after 1 April 2025 (refer to paragraph 17.5.33) or they were a development application that was a variation of a development already within our long list, and therefore the other developments were already considered. Project details and associated planning application information were updated within the Long List accordingly. Likely construction and operation programmes were also updated with comments received from the LPAs. The long list of 'other existing and/or proposed

Reference	Comment	National Grid's Response
	LPAs were asked to review the long list and proposed short list of developments. Thirteen additional applications were provided by LPAs for to be considered in the long list (six from Babergh and Mid Suffolk District Council and seven from Colchester City Council). Additional information on the likely construction and operation programmes of developments was also provided for some developments. To date, from the list above, only Babergh and Mid Suffolk District Council and Colchester City Council have provided a response.	developments' is presented in Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2).

17.3.5 Meetings have also been held with other developers including those promoting the North Falls and Five Estuaries wind farm projects. These wind farms are proposed to be located off the coast of East Anglia and connect into the proposed East Anglia Connection Node (EACN) Substation. Both projects involve the construction of new substations, which are proposed to be located adjacent to the EACN Substation. Project teams have worked collaboratively to reduce potential cumulative traffic effects should they be undertaken in parallel. Further details are presented within Chapter 16: Traffic and Transport (document reference 6.16). It should be noted that the Tarchon Interconnector project is also proposed to connect in to the new EACN Substation however, the project is still at an early stage of development.

17.4 Intra-Project Cumulative Effects

EIA Approach and Methods

17.4.1 This section describes the methodology used to establish the existing and future baseline, together with the methodology / approach used to undertake the intra-project and inter-project cumulative effects assessment.

Study Area

17.4.2 The Study Areas used for the assessment of intra-project effects are those detailed in the relevant environmental topic chapters (document references 6.6 – 6.16). It is the receptors (e.g. local community) that form the basis for the intra-project combined effects assessment.

Assessment Methodology

17.4.3 This section sets out the methodology used for assessing the effects on Cumulative Effects for those aspects scoped into the assessment, as set out within the EIA Scoping Report (document reference 6.19) and agreed in the EIA Scoping Opinion

(document reference 6.20). The scope of the Cumulative Effects assessment is provided in Appendix 5.2: Scope of the Assessment (document reference 6.5.A2).

17.4.4 Intra-project cumulative effects are those that may arise when several different effects resulting from the same Project have the potential to affect a single receptor for example, a footpath could have effects assessed within Chapter 13: Landscape and Visual (document reference 6.13), Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15) and Chapter 16: Traffic and Transport (document reference 6.16). There is no standard approach to the assessment of intra-project cumulative effects therefore this methodology has been developed based on the EIA Scoping Report (document reference 6.19), the EIA Scoping Opinion (document reference 6.20), professional judgement and previous experience of other large scale linear infrastructure projects.

17.4.5 In summary the methodology adopted to undertake the intra-project cumulative assessment has comprised a stepped process with potential intra-project cumulative effects being identified by reviewing the predicted residual effects on common receptors assessed in each environmental topic chapter set out in the ES (Volume 6 of the DCO application).

17.4.6 Effects that were assessed as negligible in the environmental topic chapters are scoped out of the intra-project cumulative effects assessment as agreed with the Planning Inspectorate in the EIA Scoping Opinion (document reference 6.20). Minor effects, while not significant on their own, are considered in the assessment as multiple minor effects could result in a significant effect on a common receptor. In addition, moderate and major effects are also considered within the assessment.

17.4.7 The three steps followed to undertake the intra-project cumulative assessment comprised:

- Step 1: A review of environmental topic chapters (Chapters 6 - 16 (document reference 6.6 – 6.16)) was undertaken to identify common receptors across topics including representative groups and/or individual receptors. Using the common receptors identified, a screening matrix was populated that showed which topics the common receptors were assessed within and also determined whether intra-project cumulative effects were already intrinsic in the assessments within the chapters
- Step 2: The residual effects for all common receptors / receptor groups where intra-cumulative effects are not already reported within the environmental topic chapters were recorded in an assessment table
- Step 3: An assessment/ judgement was then undertaken / drawn to identify any significant intra-project cumulative effects on common receptors / receptor groups.

Step 1: Identification of Common Receptors including Representative Groups and/or Individual Receptors

17.4.8 Representative groups and/or individual receptors, such as people, watercourses, single/groups of listed buildings or protected species, were identified following the review of the environmental topic chapters. A screening matrix was populated to show where the common receptors are assessed in each environmental topic chapter together with recording whether intra-project cumulative effects were already intrinsic in the assessments within the chapters. Those common receptors where

intra-project cumulative effects were intrinsic in the assessments were not taken forward to the second step (to avoid double counting) and those that were not intrinsic were carried forwards to Step 2.

17.4.9 Common receptors identified are presented in Table A17.1.1 within Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1).

Step 2: Determine Common Receptors' Residual Effects

17.4.10 Residual effects predicted during construction and operation (and maintenance) for common receptors were recorded in an assessment table.

17.4.11 Residual effects identified for common receptors are presented in Table A17.1.1 within Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1).

Step 3: Identification of Potential for Intra-Project Cumulative Effects

17.4.12 Where the potential for an intra-project effect was identified at Step 2, consideration has been given to whether there would be a cumulative effect and if so, whether that effect is likely to be significant.

17.4.13 Using the residual effects identified during construction and operation (and maintenance) for common receptors within the environmental topic chapters (Chapters 6 – 16 (document reference 6.6 – 6.16)) an assessment of potential intra-project cumulative effects was undertaken, which considers whether that effect would be of the same or greater significance than the constituent effects. Receptors considered at Step 3 were considered in turn and using professional judgement a view was reached as to whether there would be a likely cumulative effect and if so, whether that effect would be of the same or greater significance than the constituent effects. Given that the types of effects are often very different, an integrated quantitative assessment is generally not possible, and it has therefore been necessary to apply professional judgement in determining the level of significance.

17.4.14 The assessment of intra-project cumulative effects is presented in Table A17.1.2: Intra-Project Residual Cumulative Construction Effects within Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1).

17.4.15 Where there is potential for significant intra-project cumulative effects, additional mitigation measures were considered.

Baseline Conditions

17.4.16 The existing and future baseline conditions for each of the environmental topics are detailed in environmental topic chapters 6-16 (document references 6.6 – 6.16) and their associated appendices and figures, as set out in Table 17.2. Baseline conditions are not repeated here.

Table 17.2 Environmental topic chapters and their location within the ES (Volume 6 of the DCO application)

Environmental Topics	**Chapter** Number (Document Reference)
Agriculture and Soils	Chapter 6 (document reference 6.6)
Air Quality	Chapter 7 (document reference 6.7)

Environmental Topics	**Chapter** Number (Document Reference)
Ecology and Biodiversity	Chapter 8 (document reference 6.8)
Contaminated Land, Geology and Hydrogeology	Chapter 9 (document reference 6.9)
Health and Wellbeing	Chapter 10 (document reference 6.10)
Historic Environment	Chapter 11 (document reference 6.11)
Hydrology, Land Drainage and Flood Risk	Chapter 12 (document reference 6.12)
Landscape and Visual	Chapter 13 (document reference 6.13)
Noise and Vibration	Chapter 14 (document reference 6.14)
Socio-economics, Recreation and Tourism	Chapter 15 (document reference 6.15)
Traffic and Transport	Chapter 16 (document reference 6.16)

Intra-Project Cumulative Effects Assessment

Intra-Project Cumulative Residual Effects

17.4.17 The following common receptors have been identified within Table A17.1.1 in Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1) as having potential to give rise to intra-project cumulative effects, and have therefore been included in the assessment:

- Community and land assets (construction phase only)
- Development land and businesses (construction phase only)
- Pedestrians, cyclists and horse riders (construction phase only).

17.4.18 No effects on common receptors during the operation (and maintenance) phase of the Project have been identified which could give rise to intra-project cumulative effects and are therefore not considered further.

17.4.19 A summary of the residual intra-project cumulative effects are presented in Table 17.3. A full assessment is presented in Appendix 17.1: Intra-Project Cumulative Effects (document reference 6.17.A1)

Construction

Table 17.3 Likely residual intra-project cumulative effects

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
Community and Land Assets			
Woodland Schools - Hutton Manor and Little Acorn (Project Section G)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **minor adverse** due to temporary acquisition of land with periodic disruption.	Acquisition of land from the sports pitches and sports ground would be temporary and short term during construction due to temporary construction access routes for third-party work (i.e. UKPN dismantling work - within a six-month period). These receptors are located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of the land acquisition. It is not considered that the effects when considered in combination would increase the significance of effect above that has already been assessed in each topic chapter. The intra-project cumulative effects on the Woodland Schools - Hutton Manor and Little Acorn is therefore considered to be **not significant**.
	Chater 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to their high receptor sensitivities.	
Development Land and Businesses			
Doves Barn (Project Section B)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **minor adverse** due to temporary acquisition.	Doves Barn is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. It is not considered that the effects when considered in combination would increase the significance of effect above that has already been assessed in each topic chapter. The intra-project cumulative effects on Doves Barn is therefore considered to be **not significant**.
	Chater 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	
Red Brick Retreat (Project Section B)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **minor adverse** due to potential air quality, noise and visual effects.	Red Brick Retreat is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. Therefore, flood risk and land drainage effects are not anticipated to lead to a magnification of any potential construction effects assessed in Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15). The intra-project cumulative effects on Red Brick Retreat is therefore considered to be **not significant**.
	Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	
Finjaro Guest House (Project Section C)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects on would be temporary, short-term and **minor adverse** due to potential air quality, noise and visual effects.	Finjaro Guest House is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. Therefore, flood risk and land drainage effects are not anticipated to lead to a magnification of any potential construction effects assessed in Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15). The intra-project cumulative effects on Finjaro Guest House is therefore considered to be **not significant**.
	Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
Vauxhall Christian Trust (Project Section C)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **minor adverse** due to potential air quality, noise and visual effects.	Vauxhall Christian Trust is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. Therefore, flood risk and land drainage effects are not anticipated to lead to a magnification of any potential construction effects assessed in Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15). The intra-project cumulative effects on Vauxhall Christian Trust is therefore considered to be **not significant**.
	Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	
Langham Hall Estate (Project Section C)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **minor adverse** due to temporary acquisition, and potential air quality, noise and visual effects.	Langham Hall Estate is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. Therefore, flood risk and land drainage effects are not anticipated to lead to a magnification of any potential construction effects assessed in Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15). The intra-project cumulative effects on Langham Hall Estate is therefore considered to be **not significant**.
	Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	
Ardleigh Caravan and Camping Park (Project Section C)	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	The residual construction effects would be temporary, short-term and **moderate adverse** due to temporary acquisition, and potential air quality, noise and visual effects.	Ardleigh Caravan and Camping Park is located within Flood Zone 1, defined as an area with a probability of less than 0.1% of annual flooding from rivers or the sea. Increases in flood risk at this location are therefore highly unlikely to occur within the timeframe of construction of the Project. The intra-project cumulative effects on Ardleigh Caravan and Camping Park are anticipated to be **significant.** The significance of the intra-project cumulative effects is largely driven by the visual effects due to proximity of the receptor to the Order Limits, however, the intra-project significant effects are no greater than reported in Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15).
	Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12)	Flood risk and land drainage effects during construction are anticipated to be temporary, short-term and **minor adverse** owing to the high receptor sensitivity.	
Pedestrians, Cyclists and Horse Riders			
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section A	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and **range from negligible to minor adverse.** Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effect varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. However, owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on the following Public Right of Way (PRoW) receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Ashwellthorpe Footpath (FP)5 • Forncett FP25 and FP26 • Roydon South Norfolk FP14. The residual severance effects on the following receptors are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 8 - A1066 Victoria Rd / A1066 Park Rd / A1066 High Rd	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 9 - A1066 High Road / A1066 Low Road / A1066 Diss Road / A1066 The Street / A1066 Thetford Road / A1066 Hurth Way / A1066 Mundford Road. The residual amenity effects on the following receptors are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 4 - B1113 • Link PAR 8 - A1066 Victoria Rd / A1066 Park Rd / A1066 High Rd • Link PAR 9 - A1066 High Road / A1066 Low Road / A1066 Diss Road /A1066 The Street / A1066 Thetford Road / A1066 Hurth Way / A1066 Mundford Road. The residual amenity effects on the following receptors are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 1 - A140 Ipswich Rd • Link PAR 2 - Mangreen Lane • Link PAR 3 - Stansfield Rd / Wymondham Rd • Link PAR 6 - Fundenhall Rd • Link PAR 7 - B1134 Station Rd / B1134 Long Row. The residual fear and intimidation effects on the following receptors are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 8 - A1066 Victoria Rd / A1066 Park Rd / A1066 High Rd.	effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section A, including significant and not significant effects. Significant effects during construction are related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors (and residential receptors and road users). Significant effects would extend up to approximately 1.5 km in some instances, for example where there are open, elevated and/or wide views towards construction activity. In some Visual Receptor Areas (VRAs) significant effects would be more contained, for example where views of construction activity would be filtered and screened by vegetation or topography. Effects would be short-term, partially reversible and adverse. Effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRAs within Project Section A. These include: • VRA A1 Swardeston • VRA A2 Stoke Holy Cross • VRA A3 Mulbarton and Wreningham • VRA A4 Newton Flotman • VRA A5 Tacolneston • VRA A6 Forncett St Peter • VRA A7 Goose Green	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• VRA A8 Tibenham • VRA A9 Shelfanger • VRA A10 Burston • VRA A11 Fen Street • VRA A12 Roydon and Diss. The residual visual effects during construction on all VRAs within Project Section A within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	During construction Forncett FP 25 (PRoW) would be temporarily closed, resulting in diversions and increases in journey length. Construction effects are anticipated to be temporary, short-term and **minor adverse**.	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section B	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse**. Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Palgrave FP3 • Burgate FP27, FP36 and BR22 • Mellis FP2 • Mendlesham FP46 • Creeting SP FP14 • Badley Bridleway (BR)13 • Battisford FP16 • Somersham FP27 • Little Blakenham FP54. The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **major adverse**: • Barking FP6 and Battisford FP25 • Bramford BRR1 and Burstall BR9. The residual severance effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 20 - B1113 Bramford Road / B1113 Loraine Way.	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 11 - Lion Road • Link PAR 13 - Wickham Road • Link PAR 16 - A1120 Church Road / A1120 Bell's Lane • Link PAR 20 - B1113 Bramford Road / B1113 Loraine Way. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 12 - B1113 Finningham Road / B1113 Walsham Road • Link PAR 14 - Eastland Lane • Link PAR 15 - Thornham Road • Link PAR 17 - A1120 south of A14 J50 • Link PAR 18 - Mill Lane • Link PAR 21 - Bullen Lane. The residual fear and intimidation effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 16 - A1120 Church Road / A1120 Bell's Lane.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section B, including significant and not significant effects. Significant effects during construction are related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors *(and residential receptors and road users)*. Significant effects would extend up to approximately 1.5 km in some instances, for example where there are open, elevated and/or wide views towards construction activity. In some VRAs significant effects would be more contained, for example where views of construction activity would be filtered and screened by vegetation or topography. Effects would be short-term, partially reversible and adverse. Effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRAs within Project Section B. These include: • VRA B1 Wortham • VRA B2 Palgrave • VRA B3 Mellis • VRA B4 Finningham and Gislingham • VRA B5 Wickham Skeith and Medlesham • VRA B6 Stowupland • VRA B7 Forward Green and Creeting St Mary • VRA B8 Stowmarket	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• VRA B9 Needham Market • VRA B10 Great Bricett • VRA B11 Barking and Willisham • VRA B12 Elmsett • VRA B13 Somersham. The residual visual construction effects on VRAs within Project Section B within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	During construction a number of PRoW and cycle routes would be temporarily closed, resulting in diversions and increases in journey length. Effects on the following PRoW during construction are anticipated to be temporary, short-term and **moderate adverse:** • W-121/006/0 • W-129/025/0. Effects on the following PRoW and cycle routes during construction are anticipated to be temporary, short-term and **minor adverse**: • W-172/036/0 • W-563/003/0 • W-370/054/0 • National Cycle Network Route 30 (NCN 30) • National Cycle Network Route 51 (NCN 51).	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section C	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse.** Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, bridleways, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on users of PRoW during construction are anticipated to be temporary, short-term and **minor adverse.** The residual severance effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 27 - Birchwood Rd • Link PAR 30 - Bentley Rd • Link PAR 33 - Old Ipswich Rd • Link PAR 34 - Turnpike Close. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 24 - B1070 (A12 access) • Link PAR 27 - Birchwood Rd	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 28 - Wick Rd / Grove Hill • Link PAR 33 - Old Ipswich Rd • Link PAR 34 - Turnpike Close. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 22 - A1214 London Road • Link PAR 23 - A1071 • Link PAR 25 - B1070 Hadleigh Road • Link PAR 26 - Ipswich Rd • Link PAR 29 - Perry Ln • Link PAR 30 - Bentley Rd • Link PAR 31 - Ardleigh Rd / Little Bromley Rd • Link PAR 32 - Wick Ln. The residual fear and intimidation effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 27 - Birchwood Rd. The residual parking and loading provision effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 33 - Old Ipswich Rd.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section C, related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors and road users *(and residential receptors)*. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRA within Project Section C. These include: • VRA C1 Burstall • VRA C2 Washbrook • VRA C3 Ipswich West, Bramford and Sproughton • VRA C4 Chattisham • VRA C5 Capel St Mary • VRA C6 Raydon • VRA C7 Holton St Mary and East Bergholt • VRA C8 Higham • VRA C9 Stratford St Mary and Dedham • VRA C10 Dedham Heath • VRA C11 Langham • VRA C12 Ardleigh	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• VRA C13 Little Bromley. The residual visual construction effects on VRAs within Project Section C within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. Note that for VRA C5 the residual effects between 0.5 km and 1.5 km would be **major adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	A number of PRoW and cycle routes would be temporarily closed during construction, resulting in diversions and increases in journey length. Effects on the following PRoW and cycle routes during construction are anticipated to be temporary, short-term and **minor adverse**: • W-486/003/0 • National Cycle Network Route 1 (NCN 1).	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section D	Chapter 14: Chapter Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse**. Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, bridleways, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Boxted FP38 125 • Great Tey FP36 137, FP32 137 and FP50 137 and BR46 137. The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Great Horkesley FP30 135 • Fordham FP36 134 • Great Tey FP38 137. The residual severance effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 36 - A134 Northern Approach Rd / A134 Wildeve Avenue / A134 Nayland Rd / A134 The Causeway. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 36 - A134 Northern Approach Rd / A134 Wildeve Avenue / A134 Nayland Rd / A134 The Causeway. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 35 - A1341 Via Urbis Romanae	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 37 - A1124 Halsted Rd. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 38 - Mill Rd • Link PAR 39 - Great Tey Rd. The residual fear and intimidation effects on the following receptor during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 36 - A134 Northern Approach Rd / A134 Wildeve Avenue / A134 Nayland Rd / A134 The Causeway. The residual fear and intimidation effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 35 - A1341 Via Urbis Romanae.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section D, related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors and road users *(and residential receptors)*. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRAs within Project Section D. These include: • VRA D1 Tye Green and Boxted • VRA D2 Little Horkesley and Wormingford • VRA D3 Great Horkesley and Horkesley Heath • VRA D4 North Colchester • VRA D5 Fordham • VRA D6 West Bergholt, Fordham Heath and Eight Ash Green • VRA D7 Fordstreet and Aldham • VRA D8 Great Tey • VRA D9 Marks Tey • VRA D10 Copford. The residual visual construction effects on VRAs within Project Section D within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. Note that for VRA D2 the residual effects beyond 1.5 km would be **moderate adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	A number of PRoW and cycle routes would be temporarily closed during construction, resulting in diversions and increases in journey length.	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		Effects on the following PRoW are anticipated to be temporary, short-term and **moderate adverse**: • Great Tey 38 • Great Tey 50 • Great Horkesley 30. Effects on the following PRoW and cycle routes during construction are anticipated to be temporary, short-term and **minor adverse**: • Langham 16 • Fordham 24 • Fordham 22 • Great Tey 36 • National Cycle Network Route 13 (NCN 13).	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section E	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse.** Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, bridleways, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Kelvedon BR1 92, FP2 92 and FP5 92 • Silver End FP15 108 and FP14 108 • Cressing FP19 74 • Rivenhall FP11 105 • White Notley BR15 120. The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Kelvedon FP4 92 • White Notley FP22 120. The residual severance effects on the following receptor during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 43 - Spinks Ln / Highfields Rd / Spa Rd / Flora Rd / Faulkbourne Rd / Church Hill. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 41 - B1018 Braintree Road / B1018 Witham Road. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 40 - A120 Colchester Road	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 42 - B1389 Hatfield Rd • Link PAR 44 - A131 Great Notley Bypass / A131 Great Leighs Bypass / A131 Braintree Road. The residual fear and intimidation effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 41 - B1018 Braintree Rd / B1018 Witham Rd • Link PAR 43 - Spinks Ln / Highfields Rd / Spa Rd / Flora Rd / Faulkbourne Rd / Church Hill. The residual parking and loading provision effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 43 – Spinks Lane • Link PAR 43 – Highfields Road.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section E, related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors and road users *(and residential receptors)*. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRA within Project Section E. These include: • VRA E1 Coggeshall • VRA E2 Feering and Rivenhall • VRA E3 Kelvedon • VRA E4 Silver End • VRA E5 Iack Notley and White Notley • VRA V6 Terling and Witham. The residual visual construction effects on VRAs within Section E within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	Effects on the following cycle route during construction are anticipated to be temporary, short-term and **minor adverse** owing to temporary access disruption: • National Cycle Network Route 16 (NCN 16).	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse.** Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
roads within Project Section F	Chapter 16: Traffic and Transport (document reference 6.16)	The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Great and Little Leighs FP40 221 • Little Waltham FP8 225 • Great Waltham FP76 222 • Broomfield FP1 214, FP5 214 and FP9 214 • Writtle FP66 238 and FP83 238. The residual delay effects on the following PRoW receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Little Waltham FP13 225 and FP21 225 • Great Waltham FP74 222 • Broomfield FP3 214. The residual severance effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 50 - A1016 Waterhouse Ln / A1016 Rainsford Lane • Link PAR 51 - A1060 Rainsford Road / A1060 Roxwell Road. The residual amenity effects on the following receptor during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 51 - A1060 Rainsford Road / A1060 Roxwell Road. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**: • Link PAR 46 - B1008 Braintree Road / B1008 Main Road • Link PAR 48 - Chelmsford Road • Link PAR 49 - A414 Three Mill Hill / A1114 London Road • Link PAR 50 - A1016 Waterhouse Lane / A1016 Rainsford Lane. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 44 - A131 Great Notley Bypass / A131 Great Leighs Bypass / A131 Braintree Road • Link PAR 47 - Chatham Hall Lane • Link PAR 52 - Vicarage Road • Link PAR 53 - A414 Greenbury Way / A414 Ongar Road. The residual fear and intimidation effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 50 - A1016 Waterhouse Lane / A1016 Rainsford Lane	visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 51 - A1060 Rainsford Road / A1060 Roxwell Road • Link PAR 53 - A414 Greenbury Way / A414 Ongar Road.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section F, related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors and road users *(and residential receptors)*. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRAs within Project Section F. These include: • VRA F1 Great Leighs • VRA F2 Peverel's Farm • VRA F3 Great Waltham • VRA F4 Little Waltham • VRA F5 Chignall Smealy • VRA F6 Chelmsford North-West • VRA F7 Roxwell • VRA F8 Writtle and Chelmsford West • VRA F9 Edney Common • VRA F10 Hylands Park • VRA F11 Margaretting and Stock. The residual visual construction effects on VRAs within Section F within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	A number of PRoW and cycle routes would be temporarily closed during construction, resulting in diversions and increases in journey length. Effects on the following PRoW and cycle routes during construction are anticipated to be temporary, short-term and **minor adverse:** • Broomfield 31 • Margaretting 38 • National Cycle Network Route 1 (NCN 1) • National Cycle Network Route 50 (NCN 50) (Ulting to Takeley section). Effects on the following ProW during construction are anticipated to be temporary, short-term and **major adverse:** • Margaretting 13.	
Pedestrians, cyclists and horse riders using footpaths, bridleways,	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse**. Minor adverse noise effects to	A number of PRoWs, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation.

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
cycle routes and minor roads within Project Section G		pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and would be less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16:Traffic and Transport (document reference 6.16)	The residual delay effects on the following PRoW receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Thurrock FP10, FP42, FP67 and BR63. The residual delay effects on the following PRoW receptor during construction are anticipated to be temporary, short-term and **moderate adverse**: • Thurrock BR223. The residual severance effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 54 - B1002 Main Road • Link PAR 58 - A176 Noak Hill Road / A176 Laindon Road / A129 Southend Road • Link PAR 59 - A129 Sun Street / A129 London Road / A129 Rayleigh Road. The residual amenity effects on the following receptors during construction are anticipated to be **temporary, short-term and moderate adverse**: • Link PAR 56 - Ivy Barns Ln • Link PAR 59 - A129 Sun Street / A129 London Road / A129 Rayleigh Road • Link PAR 60 - Dunton Road / Brentwood Road • Link PAR 62 - Lower Dunton Road. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 54 - B1002 Main Road • Link PAR 55 - Wantz Road. The residual fear and intimidation effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 54 - B1002 Main Road • Link PAR 58 - A176 Noak Hill Road / A176 Laindon Road / A129 Southend Road • Link PAR 59 - A129 Sun Street / A129 London Road / A129 Rayleigh Road. The residual parking and loading provision effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 54 - B1002 Main Road.	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section G, related to the introduction of construction activity and equipment into close to medium distance views of residents, recreational receptors and road users. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRA within Project Section G. These include: • VRA G1 Ingatestone and Fryerning • VRA G2 Billericay West • VRA G3 Brentwood East • VRA G4 Ingrave and Herongate • VRA G5 Little Burstead • VRA G6 Basildon. The residual visual construction effects on VRAs within Project Section G within 0.5 km of the Order Limits are anticipated to be major **adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. All construction visual effects are anticipated to be temporary and short-term.	
	Chapter 15: Socio-economics, Recreation and Tourism (document reference 6.15)	Effects on the following PRoW during construction are anticipated to be temporary, short-term and **moderate adverse**, owing to temporary closures, diversions and increased journey length: • West Horndon 69.	
Pedestrians, cyclists and horse riders using footpaths, bridleways, cycle routes and minor roads within Project Section H	Chapter 14: Noise and Vibration (document reference 6.14)	The residual construction noise effects on pedestrians, cyclists and horse riders are anticipated to be temporary, short-term and range from **negligible to minor adverse**. Minor adverse noise effects to pedestrians, cyclists and horse riders are anticipated to be limited to 30 m from construction activities.	A number of PRoWs, bridleways, cycle routes and minor roads would be affected during construction, in terms of access/severance of routes, delay in journey time, amenity (including noise and visual effects), fear and intimidation. Pedestrians, cyclists and horse riders may experience magnification of effects as a result of the interaction on recreational experience of the receptors and visual amenity, with access and delay effects. The magnitude and duration of potential effects varies according to location along the Project route. Construction noise effects are anticipated to be of minor significance within 30 m of construction activities; in addition to this, visual effects are anticipated to decrease with distance from the Order Limits and wouldbe less significant in areas where intervening landforms and built form or existing vegetation provide screening. Owing to the significance of visual effects within 500 m of the Order Limits, and as further mitigation is unlikely to be practicable, it is anticipated that the residual cumulative effect of visual and noise amenity effects with access and delay effects would lead to a **significant** intra-project cumulative effect on pedestrians, cyclists and horse riders. However, the significant effects are no greater than reported in Chapter 13: Landscape and Visual (document reference 6.13).
	Chapter 16: Traffic and Transport (document reference 6.16)	The residual severance effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 63 - A128 Brentwood Road • Link PAR 64 - A1013 Stanford Road (east of Orsett Roundabout) • Link PAR 65 - Buckingham Hill Road • Link PAR 67 - A1013 Stanford Road (west of Orsett Roundabout) • Link PAR 68 - Heath Road. The residual amenity effects on the following receptor during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 65 - Buckingham Hill Road. The residual amenity effects on the following receptors during construction are anticipated to be temporary, short-term and **moderate adverse**:	

Receptor	Environmental Topic Chapter	Likely Residual Effects from Environmental Topic Chapter	Combined Significance of Intra-Project Cumulative Effect
		• Link PAR 64 - A1013 Stanford Road (east of Orsett Roundabout) • Link PAR 66 - Brentwood Road • Link PAR 67 - A1013 Stanford Road (west of Orsett Roundabout) • Link PAR 68 – Heath Road. The residual amenity effects on the following receptor during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 63 - A128 Brentwood Road. The residual fear and intimidation effects on the following receptor during construction are anticipated to be temporary, short-term and **major adverse**: • Link PAR 67 - A1013 Stanford Road (west of Orsett Roundabout). The residual fear and intimidation effects on the following receptors during construction are anticipated to be temporary, short-term and **minor adverse**: • Link PAR 63 - A128 Brentwood Road • Link PAR 64 - A1013 Stanford Road (east of Orsett Roundabout) • Link PAR 65 - Buckingham Hill Road • Link PAR 68 - Heath Road.	
	Chapter 13: Landscape and Visual (document reference 6.13)	The construction phase of the Project is predicted to result in a range of effects on visual receptors within Section H, related to the introduction of construction activity and equipment into close to medium distance views of recreational receptors and road users *(and residential receptors)*. Construction effects are anticipated on pedestrians, cyclists and horse riders who may use roads, PRoW, long distance footpaths or cycle routes within several VRA within Project Section H. These include: • VRA H1 Bulpham • VRA H2 Horndon on the Hill • VRA H3 Orsett • VRA H4 Stanford-le-Hope • VRA H5 Grays and Chadwell St Mary • VRA H6 Southfields • VRA H7 Linford • VRA H8 East Tilbury • VRA H9 Tilbury Marshes. The residual visual construction effects on VRAs within Project Section H within 0.5 km of the Order Limits are anticipated to be **major adverse**, between 0.5 km and 1.5 km **moderate adverse** and beyond 1.5 km **minor adverse**. Note that for VRA H2 the residual effects between 0.5 km and 1.5 km would be **major adverse**. All construction visual effects are anticipated to be temporary and short-term.	

Operation (and Maintenance)

17.4.20 No common receptors were identified during Steps 1 and 2 of the intra-project cumulative effects assessment. Therefore, there would be no intra-project cumulative effects during operation (and maintenance).

Mitigation and Monitoring

17.4.21 A review of potential mitigation measures for cumulative effects has been undertaken, however no additional mitigation measures were identified in addition to those already identified within the environmental topic assessments.

17.4.22 No monitoring is proposed during construction or operation (and maintenance).

17.5 Inter-Project Cumulative Effects

17.5.1 This section describes the methodology used to establish the existing and future baseline, together with the methodology / approach used to assess the significance of potential inter-project cumulative effects.

EIA Approach and Methods

Assessment Methodology

17.5.2 This section sets out the methodology used for assessing the effects on Cumulative Effects for those aspects scoped into the assessment, as set out within the EIA Scoping Report (document reference 6.19) and agreed in the EIA Scoping Opinion (document reference 6.20). The scope of the Cumulative Effects assessment is provided in Appendix 5.2: Scope of the Assessment (document reference 6.5.A2).

17.5.3 The methodology of the inter-project cumulative effects is structured using the staged assessment approach detailed in the Planning Inspectorate Advice Note on Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024). In summary, the staged assessment approach involves the following steps, which are explained in more detail in the following subsections:

- Stage 1A: Identify ZOI
- Stage 1B: Establishing the 'Long List' of '*other existing developments and, or approved developments*'
- Stage 2: Establishing a 'Short List' of '*other existing developments and, or approved developments*'
- Stage 3: Gathering information on each of the '*other existing development and, or approved development*' shortlisted at Stage 2
- Stage 4: Assessment of the cumulative effects of the Project with the '*other existing development and, or approved development*' identified in Stages 1-3 of the process outlined above.

17.5.4 Following the Stage 4 assessment, a cumulative effects assessment of clusters of 'other existing developments and, or approved developments' is undertaken. Although not part of the assessment approach detailed in the Planning Inspectorate

Advice Note on Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024), Stage 5 has been undertaken in accordance with the EIA Scoping Report (document reference 6.19) that assesses groups of 'other development' with the Project.

Stage 1A: Identify ZOI

17.5.5 The Study Area for inter-project effects comprises a number of Zones of Influence (ZOIs). A ZOI is the geographic area within which a project is likely to affect environmental receptors. As such, the ZOI will vary for different types of receptors. The ZOI used for the ES (Volume 6 of the DCO application) is based on relevant distances (according to the individual environmental topics) extending from the Order Limits. This maximum ZOI for each aspect has been used to determine other developments which are taken forward to a short list for assessment and to help focus the assessment on those other developments that are more likely to result in significant inter-project cumulative effect.

17.5.6 The ZOIs for each environmental topic for the inter-project cumulative effects assessment are listed in Table 17.4 and are based on the defined Study Areas within each environmental topic chapter. The rationale for the distances chosen are explained in the relevant environmental topic chapters.

Table 17.4 ZOIs

Environmental Topic Chapter	Maximum ZOI for Each Aspect
Agriculture and Soils	1 km
Air Quality	2 km
Ecology and Biodiversity	0.2 km – 2 km (30 km)[1]
Contaminated Land, Geology and Hydrogeology	0.5 km
Health and Wellbeing	0.5 km – 2 km
Historic Environment	3 km
Hydrology, Land Drainage and Flood Risk	0.5 km
Landscape and Visual	3 km[2]
Noise and Vibration	0.3 km
Socio-economics, Recreation and Tourism	LPA boundaries that the Project intersects within 3 km
Traffic and Transport	Primary Access Routes (Shown on Figure 16.1: Primary Access Routes (document reference 6.16.F1)

[1] The ZOI used for Chapter 8: Ecology and Biodiversity did consider SACs up to 30 km where bats were a qualifying feature, however, non were identified. The ZOI used for ecology and biodiversity in the inter-project cumulative effects assessment is therefore 0.2 – 2 km.

[2] A 5 km ZOI was not considered as per the Scoping Opinion (document reference 6.20) as undergrounding is proposed through the Dedham Vale National Landscape and its setting.

Stage 1B: Establishing the Long List of Other Developments

17.5.7 The long list of other developments considered in the inter-project cumulative effects assessment is presented in Appendix 17.2: Long List of Other Developments (document reference 6.17.A2)). A cut-off date of 1 April 2025 was used to allow the assessment to be completed before submission of the application for development consent due to the scale of the Project (although reviews continued in the background). The long list was developed through a search of planning applications on LPA websites and the Planning Inspectorate's Programme of Projects. The long list was also shared with LPAs for review and comment.

17.5.8 The following other developments were included in the long list:

- Nationally Significant Infrastructure Projects (NSIPs) listed on the Planning Inspectorate's Programme of Projects
- Major developments (as defined under the Town and Country Planning (Development Management Procedure) (England) Order 2015, as amended.
- Sites allocated in relevant Local Development Plans.

17.5.9 Major developments are defined as development involving any one or more of the following (Town and Country Planning (Development Management Procedure) (England) Order 2015):

'(a) the *winning and working of minerals or the use of land for mineral-working deposits;*

(b) waste *development;*

(c) the *provision of* dwellinghouses *where:*

(i) the *number of dwelling houses to be provided is 10 or more; or*

(ii) the *development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i); or*

(d) the *provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or*

(e) Development carried out on a site having an area of 1 hectare or more.'

17.5.10 Minor planning applications (including householder applications, discharge of planning conditions, and non-material and minor-material changes) have been excluded from the assessment as per the EIA Scoping Report (document reference 6.19) as these relate to developments of small scale and local importance. Minor planning applications are highly unlikely to give rise to significant cumulative environmental effects over and above the Project in isolation.

17.5.11 A search period of 10 years before the proposed start of construction of the Project (assumed to be 2027 subject to development consent) was used to identify submitted or approved planning applications that may have a temporal overlap with the Project (i.e. from 2017).

17.5.12 Advice Note 17 (Planning Inspectorate, 2024) identifies three tiers of other development based on where they are in the planning process and recognises that the amount of information available to inform the assessment varies according to which tier the development fits in to. Tier 1 developments are the most certain, with a

high level of publicly available information, while Tier 3 developments are the least certain, with limited publicly available information to inform assessments. Details of the three tiers are provided in Table 17.5, and the relevant tier is referenced in Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2). National Grid projects that are likely to be implemented under permitted development powers, and other known developments which are considered reasonably likely to come forward, have been assigned a tier based on availability of information and the stage that the development is at.

Table 17.5 Criteria used to determine the tier of development for the inter-project cumulative effects (Source: Planning Inspectorate (2024 (as amended)) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment)

Tier	Development Status	
1	*Other existing and, or approved development*	Decreasing level of available data ↓
	under construction.	
	permitted applications under the Planning Act or other regimes, but not yet implemented.	
	submitted applications under the Planning Act or other regimes, but not yet determined.	
	Refusals subject to appeal procedures not yet determined	
2	*Other existing and, or approved development*	
	projects on the Planning Inspectorate's programme of projects where a scoping report has been submitted[3]	
3	*Other existing and, or approved development*	
	projects on the Planning Inspectorate's programme of projects where a scoping report has not been submitted.	
	identified in the relevant Development Plan and emerging Development Plans, with appropriate weight given as they near adoption, recognising that there will be limited information available on the relevant proposals	
	identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward	

Stage 2: Establishing the Shortlist of Other Developments

17.5.13 At Stage 2 a short list was established using threshold criteria to determine whether the other developments have the potential to give rise to significant effects in combination with the Project.

[3] Scoping at the scoping stage under the Town and Country Planning Act have also been included within this tier.

17.5.14 The criteria that was used to identify the short list is based on available information and professional judgement, and comprised:

- Temporal scope: The relative construction, operation (and maintenance) and decommissioning of the other existing and, or approved developments identified in the ZOI together with the Project programme, to establish whether there is overlap and any potential for interaction
- Scale and nature of development: The scale and nature of the other existing and, or approved developments identified in the ZOI that are likely to interact with the Project
- Other factors: The nature and, or capacity of the receiving environment, which could make a significant cumulative effect with the other existing and, or approved developments more or less likely.

17.5.15 Other developments that were identified as having potential to produce significant cumulative effects were taken forward to Stage 3.

Stage 3: Information Gathering

17.5.16 Stage 3involved collating and reviewing relevant available information relating to the other developments within the short list. Information was gathered from a number of sources including relevant planning authority planning portals and the Planning Inspectorate's website and included:

- Proposed design and location information
- Proposed programme for construction, operation (and maintenance) and decommissioning (if applicable)
- Environmental assessments that set out baseline data and effects arising from the other existing and, or approved development.

17.5.17 The information gathering exercise identified a number of potential receptors and environmental effects arising from the other developments. These were then compared to the assessments presented within environmental topic chapters 6 to 16 (document references 6.6 to 6.16) to identify if there were any common receptors that could be cumulatively affected.

Stage 4: Assessment of Inter-Project Cumulative Effects

17.5.18 The assessment involved describing and evaluating the likely significant inter-project cumulative effects arising from the Project and other developments using professional judgement and the significance criteria detailed in Table 17.6. The results of the assessment are presented in Appendix 17.3: Inter-Project Cumulative Effects (document reference 6.17.A3) and summarised in Table 17.7.

17.5.19 Residual effects were taken from the assessments in the environmental topic chapters to inform the significance of cumulative effects with other developments.

Table 17.6 Significance criteria for inter-project cumulative effects

Significance Criteria	Definition of Effect
Major (Significant)	Adverse or Beneficial effects that are a significant magnification of potentially wide-ranging effects on receptors/resources that are already predicted to occur.
Moderate (Significant)	Adverse or Beneficial effects that are a significant magnification of localised effects on receptors/resources that are already predicted to occur.
Minor (Not significant)	Adverse or Beneficial effects that would only lead to a localised (not significant) magnification of effects on a receptor/resource.
Negligible (Not significant)	Negligible effects

17.5.20 Where the significance of a cumulative effect would be moderate or above (adverse or beneficial), it is considered to be 'significant'. The need for additional mitigation measures has been considered, where necessary.

17.5.21 The baseline traffic numbers against which the effects of construction traffic have been assessed and reported in Chapter 6: Air Quality (document reference 6.6), Chapter 14: Noise and Vibration (document reference 6.14) and Chapter 16: Traffic and Transport (document reference 6.16), includes any traffic that would be generated by committed or other development. The assessment of construction traffic is therefore inherently cumulative in the Air Quality, Noise and Vibration and Traffic and Transport assessments and is therefore not considered in the Stage 4 assessment.

17.5.22 Following Stage 4, in accordance with the EIA Scoping Report (document reference 6.19) a Stage 5 assessment of clusters of other development with the Project was undertaken. The assessment looked at where two or more other developments identified in Appendix 17.3: Inter-Project Cumulative Effects (document reference 6.17.A3) could affect a common receptor (e.g. LCA/LCT or VRA) with the Project. The inter-project cumulative effect of clusters of developments is detailed in Table 17.7. Table 17.7 summarises the effects of the Project on the receptors taken from the environmental topic chapters (document references 6.6 to 6.16) and then the combined effect of other development on the same receptor. The table also considers if additional mitigation is required. The significance criteria in Table 17.6 has also been used to determine the level of significance. The Stage 5 assessment (Table 17.7) considered only topics that identified moderate and major significant cumulative effects in the context of the EIA Regulations.

Key Parameters and Assumptions

17.5.23 The short list for the inter-project cumulative effects assessment was completed on 1 April 2025 to allow the assessment of cumulative effects to be undertaken prior to submission of the DCO application. Any new other development submitted to the LPA / Planning Inspectorate since this is not included in this assessment.

17.5.24 The inter-project cumulative effects assessment is based on publicly available data which is not possible to verify and is limited in some cases. Where a planning application has been submitted but no environmental information supports the

application, this was not taken forward into the short list as it was not considered that a robust and proportionate environmental assessment could be carried out.

17.5.25 Limitations, assumptions and parameters identified in the environmental topic chapters are detailed within the individual documents (document references 6.6 to 6.16).

Assumptions About Other Development

17.5.26 The inter-project cumulative effects assessment is based on the results of the assessments presented in the environmental topic chapters (document references 6.6 to 6.16) and assumes that mitigation identified within the preceding chapters and/or within the EIA undertaken by other developers is included before undertaking the cumulative effects assessment.

17.5.27 For applications submitted but not yet determined it has been assumed that there would be potential for a temporal overlap with the Project.

17.5.28 It has been assumed that if other developments meet the EIA Regulations Schedule criteria to be an EIA development there could be potential for significant cumulative effects with the Project.

Baseline Conditions

Existing Baseline

17.5.29 The long list and short list of cumulative other developments within the ZOIs is presented within Appendix 17.2: Long List and Short List of Other Developments (document reference 6.17.A2) and shown on Figure 17.1: Long List of 'Other Developments' Considered within the Cumulative Impacts Assessment (document reference 6.17.F1) and Figure 17.2: Short List of 'Other Developments' Considered within the Cumulative Impacts Assessment (document reference 6.17.F2).

17.5.30 529 other developments were identified in the long list at Stage 1 and 141 were taken forward to the Stage 2 short list.

17.5.31 The long list and short list of cumulative other developments includes other development as of 1 April 2025 – however a review has continued.

Summary of Stage 4: Assessment of Inter-Project Cumulative Effects

17.5.32 Table 17.7 presents those effects that have been assessed as resulting in a potential significant inter-project cumulative effect (i.e. moderate or major effects). The detailed assessment is presented in Appendix 17.3: Inter-Project Cumulative Effects (document reference 6.17.A3).

17.5.33 The following sub-sections summarise the potential significant inter-project cumulative effects.

Agriculture and Soils

17.5.34 Based on the data available on the other developments it was determined that inter-project cumulative effects on agriculture and soils receptors within the areas

surrounding the Project would be **significant**, both during construction and operation (and maintenance).

17.5.35 The Project has a major adverse effect on its own due to permanent loss of best and most versatile (BMV) land, therefore any further loss of BMV land associated with the shortlisted other developments would be cumulatively significant. As effects relate to the permanent loss of agricultural land there are no additional mitigation measures that could be adopted to reduce effects.

17.5.36 All effects anticipated to be significant for Agriculture and Soils are no worse than already identified in Chapter 6: Agriculture and Soils (document reference 6.6).

Air Quality

17.5.37 Based on the data available on other developments it was determined that inter-project effects on air quality receptors within the areas surrounding the Project would be **not significant**, both during construction and operation (and maintenance). The inter-project assessment for air quality identified that all shortlisted other developments would have **negligible** and **not significant** inter-project effects on air quality receptors within the areas surrounding the Project, during both construction and operation (and maintenance).

17.5.38 As detailed in Chapter 7: Air Quality (document reference 6.7), the Department for Environment, Food and Rural Affairs (Defra) modelled concentrations for the year 2030 show reductions in both NO_2 and NO_x levels within the Order Limits compared to the 2023 forecast. The forecast shows minimal changes in concentrations of PM_{10} and $PM_{2.5}$ between 2023 and 2030. Therefore, it is considered that with other development the baseline in relation to Air Quality would not change significantly from that described in detailed in Chapter 7: Air Quality (document reference 6.7)

Ecology and Biodiversity

17.5.39 Based on the data available on other developments it was determined that inter-project cumulative effects on ecology and biodiversity receptors within the areas surrounding the Project would be **not significant** during both construction and operation (and maintenance). This is either due to the distance of the Project to other development, or due to a lack of notable ecological receptors/lack of connectivity for any protected species to reach the Project, or because of different habitats being affected within the ZOI of other developments.

17.5.40 In addition, the implementation of mitigation and enhancement proposed as part of other developments commitments to Biodiversity Net Gain (BNG), and mitigation and enhancement proposed for the Project (refer to the BNG Report (document reference 7.1)), including off-site compensation where necessary/most appropriate. It was considered that all effects on ecology and biodiversity, including those on specific protected species and habitats would be wholly mitigated.

17.5.41 The inter-project effects for ecology and biodiversity receptors during construction and operation were assessed as **negligible** and **not significant**.

Contaminated Land, Geology and Hydrogeology

17.5.42 Based on the data available on other developments it was determined that inter-project cumulative effects on contaminated land, geology and hydrogeology

receptors within the areas surrounding the Project would be **not significant** during both construction and operation (and maintenance).

17.5.43 Based on the data available on the other development proposals, the cumulative effects assessment identified no shortlisted development with the potential to cause significant inter-project effects for Contaminated Land, Geology and Hydrogeology receptors, during both construction and operation.

17.5.44 Significant contamination sources have not been identified within the Project. In addition, legislation and planning requires that for new developments, risks to human health and controlled waters from potential contamination are appropriately mitigated. It is therefore assumed that the other developments within the contaminated land, geology and hydrogeology ZOI comply with legislation and planning policy. Therefore, inter-project cumulative effects in relation to contaminated land, geology and hydrogeology are unlikely. Furthermore, each development would be bound by its own Code of Construction Practice (CoCP) and / or a Construction Environmental Management Plan (CEMP) where applicable, and it is assumed each development would apply standard mitigation / construction methods so as to minimise effects from contamination on ground conditions and effects to groundwater receptors.

17.5.45 Inter-project effects on Contaminated Land, Geology and Hydrogeology receptors were assessed as **negligible** and **not significant**.

Health and Wellbeing

17.5.46 Based on the data available on other developments it was determined that inter-project cumulative effects on health and wellbeing receptors within the areas surrounding the Project would be **not significant** during both construction and operation (and maintenance).

17.5.47 The implementation of best practicable means (BPM) and other mitigation measures as part of other developments would ensure that there would be no adverse effects from environmental change including noise, air quality and landscape and visual effects. Where other development presents a potential inter-project cumulative effect in relation to specific PRoWs, appropriate PRoW management measures (for example diversion routes) would be implemented to minimise disruption to physical activity. Minor beneficial inter-project cumulative effects may be experienced in relation to construction job creation across a number of other developments. In a number of instances, adverse effects on mental health and wellbeing may be particularly relevant as a result of the scale of other development (for example significant residential or infrastructure development) and associated perceived effects on neighbourhood quality / sense of place / uncertainty during the construction phases.

17.5.48 The inter-project assessment identified that any inter-project effects with the shortlisted other developments for health and wellbeing during construction and operation (and operation) would be **negligible** and **not significant**.

Historic Environment

17.5.49 Based on the data available on the other developments it was determined that inter-project cumulative effects on designated heritage assets within the areas surrounding the Project would be **significant,** both during construction and operation (and maintenance). The inter-project cumulative assessment identified three other developments that would result in significant adverse cumulative effects with the

Project. This would affect one scheduled monument, and two grade II listed buildings, which would experience **moderate adverse** and **significant** cumulative effects during construction and operation (and maintenance).

17.5.50 Chapter 11: Historic Environment (document reference 6.11) has assessed a moderate adverse and significant effect on Kenningham Hall grade II listed building (1373056). Combined with the other development, which would have a minor adverse and not significant, effect on the same asset, a **moderate adverse** and **significant** inter-project cumulative adverse effect is predicted due to increase in energy infrastructure within the setting of the asset.

17.5.51 Two heritage assets with other development, increase a *'not significant'* effect assessed in Chapter 11: Historic Environment (document reference 6.11) to significant. These assets comprise:

- One scheduled monument:
  - Venta Icenorum: Roman town and associated prehistoric, Anglo-Saxon and medieval remains (1021463) during construction and operation (and maintenance). Minor adverse and not-significant effects were assessed for this asset within Chapter 11: Historic Environment (document reference 6.11), however owing to the moderate adverse effects assessed during construction and operation within the application documents for the other development a **moderate adverse** and **significant** inter-project cumulative effect is predicted.
- One grade II listed building:
  - Dunton Hills (1208245). Minor adverse and not significant effects were assessed for this asset during construction and negligible and not significant effects were assessed for operation (and maintenance) within Chapter 11: Historic Environment (document reference 6.11). However, the other development concluded moderate harm, which is considered likely to equate to a significant adverse effect, within the application documents for the other development and therefore a **moderate adverse** and **significant** inter-project cumulative effect is predicted.

17.5.52 Effects to non-designated heritage assets/archaeological remains have been identified for the Project and separately for other developments. While there would be overlap of the Order Limits for other developments and the Project, effects to archaeology would only occur once by whichever construction would take place first. These effects would be mitigated as appropriate and agreed with the LPA(such as through excavation, recording, and publication). Any affected archaeology would be removed as a result of the mitigation/construction and therefore the inter-project effects for construction and operation (and maintenance) would be **negligible** and **not significant**.

Hydrology, Land Drainage and Flood Risk

17.5.53 Based on the data available on other developments it was determined that inter-project cumulative effects on hydrology, land drainage and flood risk receptors within the areas surrounding the Project would be **not significant** during both construction and operation (and maintenance).

17.5.54 For Hydrology and Land Drainage, the main inter-project cumulative effect is on the land drainage regime. This is where other developments would add to impermeable land cover (replacing permeable land), which reduces infiltration and increases rates and volumes of rainfall runoff, in turn increasing the risk of surface water and river

flooding. There is also potential for individual losses of floodplain storage to add up to increase flood risk from rivers during construction and operation. However, each other development would be expected to compensate for their losses, so that cumulatively there would be no net loss, and a **negligible** and **not significant** inter-project effect on floodplain storage overall.

17.5.55 With suitable standard mitigation implemented at each other development (e.g. Sustainable Drainage Systems) as required under national planning policy and local planning policy, the significance of inter-project effects on hydrology, land drainage and flood risk would be neutral. Therefore, any inter-project cumulative effect would be considered to be **negligible** and **not significant**. Furthermore, the Project has been assessed as having no likely significant effects, therefore significant inter-project cumulative effects are not anticipated.

Landscape and Visual

17.5.56 A large number of significant landscape and visual effects associated with the Project have been identified, as reported in Chapter 13: Landscape and Visual (document reference 6.13). These are due to the size and scale of the Project during the construction and operation (and maintenance) phases. Based on the data available on the other development, the assessment identified 47 shortlisted other development with the potential to contribute to **significant** inter-project effects on landscape and visual receptors during construction, and 34 during operation (and maintenance). The assessment identified three shortlisted other development (DCO2, DCO3 and CH17) with the potential to contribute to major adverse **significant** inter-project effects for landscape and visual receptors during construction, and two during operation (and maintenance). Furthermore, the assessment, identified 44 shortlisted other development with the potential to contribute to moderate adverse **significant** inter-project effects for landscape and visual receptors during construction, and 30 during operation (and maintenance). Where the shortlisted other development is likely to comprise mainly underground components, effects were significant during construction, reducing to **not significant** during operation (and maintenance). All significant effects predicated are already identified in isolation in Chapter 13: Landscape and Visual (document reference 6.13).

17.5.57 Other developments along the Project that has the potential to contribute to major and **significant** inter-project effects on Landscape Character Types (LCT), Landscape Character Areas (LCA) or Visual Receptors Areas (VRA) within the ZOI include:

- The construction and operation of the Bramford to Twinstead new double circuit electricity transmission network reinforcement has the potential for **major adverse** and **significant** inter-project effects on both landscape and visual receptors within the ZOI during the construction and operation of the Project
- Lower Thames Crossing has the potential for **major adverse** and **significant** inter-project effects on both landscape and visual receptors within the ZOI during the construction and operation of the Project
- The Chelmsford North East Bypass has the potential for **major adverse** and **significant** inter-project effects on both landscape and visual receptors within the ZOI during construction, reducing to **moderate adverse** and **significant** at operation.

17.5.58 No additional mitigation measures beyond those proposed in Chapter 13: Landscape and Visual (document reference 6.13) have been identified. Although significant effects have been identified, it is not practicable to mitigate these through landscape mitigation measures, predominantly due to the scale of the works and the heights of the pylons.

17.5.59 All effects anticipated to be significant for Landscape and Visual are no worse than already identified in Chapter 11: Landscape and Visual (document reference 6.13).

Noise and Vibration

17.5.60 Based on the data available on other developments it was determined that inter-project cumulative effects on noise and vibration receptors within the areas surrounding the Project would be and **not significant** during both construction and operation (and maintenance).

17.5.61 For construction activities, any noise and vibration effects are often very localised, and it is unlikely that cumulatively the Project and any of the shortlisted other development would contribute to anything more than a **slight adverse** and **not significant** inter-project effect on nearby noise and vibration receptors within the 300 m ZOI. Best practice measures would be employed by all other development to mitigate construction noise and vibration effects. Significant cumulative effects from noise and vibration during construction or operation (and maintenance) are not predicted.

Socio-economics, Recreation and Tourism

17.5.62 Based on the data available on other developments it was determined that inter-project cumulative effects on socio-economic, recreation and tourism receptors within the areas surrounding the Project would be and **not significant** during both construction and operation (and maintenance).

17.5.63 The temporal overlap of multiple developments, and the Project, could generate additional economic benefits during construction. Given the nature and scale of some of the other developments, the scale of the construction employment generated is likely to be relatively large when compared with the pool of construction labour. However, it is likely that the number of construction workers would be spread across the construction period. Therefore, it is anticipated that the inter-project cumulative effects would be **negligible** and **not significant** on the local economy and local employment. The availability of bedspace during peak season is anticipated to be sufficient without compromising the accommodation available to visitors. Therefore, it is anticipated that the effects would be **negligible** and **not significant** on visitor accommodation bedspace.

17.5.64 It is expected that the other development would also apply standard mitigation set out within their CoCP and or CEMP and Construction Traffic Management Plans (CTMP) to mitigate the potential effects on tourism receptors. Therefore, it is anticipated that the effects from other developments and the Project would be **negligible** and **not significant** on the tourism economy.

17.5.65 There is no overlap of community facility or tourism receptors for the Project and other development. Therefore, no inter-project cumulative effects are anticipated on community facilities or tourism assets during construction or operation (and maintenance).

17.5.66 There is likely to be an inter-project cumulative effect on PRoWs, footpaths and bridleways. However, it is noted that other development would apply PRoW management measures to minimise disruption, including diversions. Therefore, it is anticipated that the cumulative effects would be **negligible** and **not significant** on recreational routes.

Summary of Stage 5: Assessment of Inter-Project Cumulative Effects from Clusters of Other Development

17.5.67 Table 17.7 presents the inter-project assessment of clusters of other development. Further detail of the references used to identify other developments in Table 17.7 can be found in Appendix 17.3: Inter-Project Cumulative Effects (document reference 6.17.A3).

Table 17.7 Assessment of inter-project cumulative effects from clusters of other development with the Project

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Agriculture and Soils				
Loss of Best Most Versatile (BMV) agricultural land and soil resource during construction and operation (and maintenance) (All Project Sections)	All shortlisted planning applications within the Agriculture and Soils ZOI in 6.17.A3 Inter-project Cumulative Effects Matrix	There would be a temporary loss of BMV land Agriculture Land Classification (ALC) Grades 1, 2 and 3a) from agricultural productivity during construction. During operation (and maintenance), there would be a permanent loss of areas of agricultural land required for permanent infrastructure.	The loss of BMV land associated with the Project and clusters of other developments would be **major adverse** and **significant**. The potential inter-project effects on agriculture and soils are a result of permanent loss of BMV land. Significant effects are predicted in isolation on this receptor in Chapter 6: Agriculture and Soils (document reference 6.6).	No mitigation proposed.
Landscape				

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on LCA B1: Tas Tributary Farmland (Project Section A)	DCO1, DCO6, SN3, SN19, SN24, SN27, SN47	The Tas Tributary Farmland is a large LCA, extending from Norwich in the north to Tibenham in the south. During construction there would be effects on the landscape through the introduction of construction activity relating to the Project and other developments, should they be built at the same time. The other developments are mainly located in the north of the LCA, between Norwich Main Substation and Newton Flotman. There are a number of other developments around Norwich Main Substation, namely the extension of Norwich Main Substation to the west (SN27), an underground connection at Norwich Main (SN24), the connection for Hornsea Three Offshore Windfarm (DCO1) and the connection for Sheringham and Dudgeon Extension Projects (DCO6). There is also a proposed Battery Energy Storage System (BESS) north of Hickling Lane (SN19 and SN47) and a proposed solar farm either side of Brickkiln Lane (SN3). During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and the extension of Norwich Main Substation to the west (SN27), a proposed BESS north of Hickling Lane (SN19 and SN47) and a	Effects would be **moderate adverse** and **significant** during construction and operation (and maintenance) within a localised area in the north of the LCA, between the A47 and Newton Flotman. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		proposed solar farm either side of Brickkiln Lane (SN3). As Hornsea Project Three Offshore Windfarm (DCO1), the connection for the Sheringham and Dudgeon Extension Projects (DCO6) and the underground connection at Norwich Main (SN24) comprise underground cables, effects during operation (and maintenance) relating to the interaction with the other developments would reduce.		
Effects on LCA D1: Wymondham Settled Plateau Farmland (Project Section A)	SN3, SN26	During construction there would be effects on the landscape through the introduction of construction activity relating to the Project and proposed solar farms / energy storage systems (SN3 and SN26), should all other developments be built at the same time. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and proposed solar farms / energy storage systems (SN3 and SN26).	Effects would be **moderate adverse** and **significant** during construction and operation (and maintenance) within a localised area in the east of the LCA, south of Bracon Ash and east of Mulbarton. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Effects on Rolling Valley Farmlands and Furze LCT (Project Section B) and	BMS44, BMS63, BMS69	The Rolling Valley Farmlands and Furze LCT and Ancient Plateau Claylands LCT occurs in multiple parts of the ZOI, including along the Waveney Valley and adjacent plateau.	Effects would be **moderate adverse** and **significant** during construction and operation (and maintenance) within a localised area south of the	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Ancient Plateau Claylands LCT (Waveney Valley area) (Project Sections B and C)		During construction there would be effects on the landscape through the introduction of construction activity relating to the Project and proposed solar farms between Wortham and Palgrave (BMS44, BMS63 and BMS69), should all other developments be built at the same time. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and proposed solar farms between Wortham and Palgrave (BMS44, BMS63 and BMS69).	Waveney Valley and along one of its tributaries, broadly between Wortham Ling, Wortham and Palgrave. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on Ancient Plateau Claylands LCT (Project Section B and C) and Rolling Valley Farmland LCT (Bramford Substation area) (Project Section B)	DCO2, BMS31, BMS42, BMS45, BMS52, BMS68, BMS70	During construction there would be effects on the landscape through the introduction of construction activity relating to the Project and other developments around Bramford Substation. These include Bramford to Twinstead (DCO2), solar farm/battery storage (BMS31, BMS52, BMS68, BMS42 and BMS70) and East Anglia Three Offshore Windfarm connection (BMS45), should all other developments be built at the same time. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and Bramford to Twinstead (DCO2) and solar	Effects would be **moderate adverse** and **significant** during construction and operation (and maintenance) within a localised area around Bramford Substation, broadly between Flowton, Burstall and Bramford. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13)	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		farm/battery storage (BMS31, BMS52, BMS68, BMS42 and BMS70). As East Anglia Three Offshore Windfarm connection (BMS45) comprises an underground cable, effects at operation relating to the interaction with this development would reduce.		
Effects on Bromley Heaths LCA (Project Section C)	DCO8, DCO9, ECC27, T3, T17	The Bromley Heaths LCA extends from the north-eastern edge of Colchester near the A12 to the eastern edge of the ZOI near Horsley Cross and Little Bentley, and includes the settlements at Ardleigh and Lawford. During construction, assuming all other developments would be built at the same time as the Project, there would be effects on the landscape through the introduction of construction activity relating to the Project, the Five Estuaries Offshore Wind Farm onshore substation and grid connection (DCO8), the North Falls Offshore Wind Farm onshore substation and grid connection (DCO9), the Battery storage adjacent to Lawford Substation (T3), the western extension to Martells Quarry (ECC27) and a Food storage and distribution facility (T17) to the east of the A12. During operation (and maintenance) there would be direct effects on the key	**Major adverse** and **significant** inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap. This includes where other developments affect a larger proportion of the LCA in close proximity to the Project, such as the landscape to the west of Litte Bromley where the onshore substations and battery storage area are located, and in areas where other developments are in close proximity to the Project such as near the A12. **Major adverse** and **significant** inter-project cumulative landscape	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		characteristics of the landscape through the introduction of the Project and the other developments described above.	effects are also anticipated during operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on LCA B6: Great Horkesley Farmland Plateau (Project Section C and D)	CO24, A11 (CoCC)	The Great Horkesley Farmland Plateau is crossed by the Project to the north of Great Horkesley between Langham Lane and the B1508 Colchester Road. During construction, assuming all other developments were built at the same time as the Project, there would be effects on the landscape through the introduction of construction activity relating to the Project, residential development to the north of West Bergholt (CO24) and a housing allocation on a rugby club site to the north of Colchester (A11 – CoCC). During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and the developments described above.	**Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap, though effects are not expected to be significant due to the small proportion of the LCA directly affected and the discrete and distant nature of the other developments relative to the Project. **Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated during operation (and maintenance).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on LCA C6: Blackwater and Brain Valley (Project Section E)	B13, B42, B44, ECC35, ECC39, A1 (BDC), A3 (BDC).	The Blackwater and Brain Valley LCA extends along the river valleys between Braintree, Witham and Coggleshall, and is crossed by the Project to the south of Coggleshall and again through a narrow valley area along the River Brain at White Notley. During construction, assuming all other developments would be built at the same time as the Project, there would be effects on the landscape through the introduction of construction activity relating to the Project, a solar farm and associated infrastructure and grid connection to the east of White Notley (B42), a solar farm north of Feering (B44), residential developments north of Kelvedon (B13), greenhouses and solar energy provision at Rivenhall Airfield (ECC35), a waste recycling facility west of Silver Ends (ECC39), and residential allocations at Feering (A1 BDC) and east of Great Notley that just clips the edge of the LCA (A3 BDC). During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and the other developments described above.	**Minor adverse** and **not significant** adverse inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap, including where other developments are in close proximity to the Project, such as near Cressing Road, east of White Notley, and north of Kelvedon. **Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated during operation (and maintenance).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on LCA B1: Central Essex Farmland (Project Section F and G)	B8, B42, CH17, CH18, CH24, CH26, CH28, ECC13, ECC19, DCO13	The Central Essex Farmland LCA is a large LCA that encompasses three discrete parcels of landscape with the ZOI, between Coggleshall and Edney Common, and is crossed three times by the Project. The first is to the south of Silver End, the next is to the east and south of Little Leighs, and finally to the west and south of Chignall St James. During construction, assuming all other developments were built at the same time as the Project, there would be effects on the landscape through the introduction of construction activity relating to the Project, a solar farm south of Silver End near Rivenhall (B8), a solar farm and associated infrastructure and grid connection, east of White Notley (B42), a solar farm near Terling (DCO13), residential developments east of Little Waltham and west of Chelmsford (CH26, CH28), commercial and residential development east of Little Waltham (CH24), Chelmsford North East Bypass highways works, south of Chatham Green (CH17), greenhouses and solar energy provision at Rivenhall Airfield (ECC35), a waste recycling facility west of Silver End (ECC39), and part of an agricultural reservoir (ECC13 and ECC19) with an irrigation pipeline from the River Chelmer,	**Moderate adverse** and **significant** inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap, including where other developments affect a larger proportion of the LCA in close proximity to the Project, such as to the south of Little Leighs and Chatham Green, and where other developments directly interact with the Project including at Rivenhall, and near Cressing Road, east of White Notley. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13). **Moderate adverse** and **significant** inter-project cumulative landscape effects are anticipated during operation (and	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		and a residential allocation east of Great Notley (A3 BDC). During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and the other developments described above.	maintenance), as described above.	
Effects on LCA C5: Chelmer Valley (Project Section F)	CH3, ECC13, ECC19	The southern edge of the Chelmer Valley LCA is crossed by the Project as it passes from the north of Little Waltham to Broad's Green. During construction, assuming all other developments would be built at the same time as the Project, there would be effects on the landscape through the introduction of construction activity relating to the Project, residential development to the north of Broomfield (CH3), and part of an agricultural reservoir (ECC13 and ECC19) with an irrigation pipeline from the River Chelmer. There would also be construction activity relating to these residential and commercial developments in the neighbouring LCAs, north of Chelmsford and Little Waltham. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and residential development north of	**Moderate adverse** and **significant** during construction (in the south of the LCA). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13). **Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated during operation (and maintenance).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		Broomfield (CH3), and part of an agricultural reservoir (ECC19) with an irrigation pipeline from the River Chelmer.		
Effects on LCA G2: Chelmsford and Environs (Project Section F)	CH3, CH28	The Chelmsford and Environs LCA is located to the west of the Project at Chelmsford and directly interacts with only a small section of the Project to the east of Writtle. During construction, should all be built at the same time as the Project, there would be landscape effects on a small proportion of the LCA through the introduction of construction activity relating to the Project, and through residential development north of Broomfield and west of Chelmsford (CH3 and CH28). During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project on a small proportion of the LCA to the west of Writtle, and on a small proportion of the LCA on the northern edge of the Broomfield settlement due to residential development (CH3) and also to the west of Chelmsford (CH28) on the existing urban edge.	**Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated should the construction periods of all other development and the Project overlap. **Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated during operation (and maintenance).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on LCA D2: Brentwood Hills (Project Section F and G)	A3 (BrBC), A5 (BrBC), A11 (BrBC), BA13, BR2, BR5, BR11	The Brentwood Hills is a large LCA, extending from the edge of Writtle in the north to West Horndon in the south. During construction there would be effects on the landscape through the introduction of construction activity relating to the Project and other development, should all be built at the same time. There are a number of housing allocations and planning applications for residential developments between Ingatestone, Mountnessing and Brentwood (A5 (BrBC), A11 (BrBC), BR5 and BR11). There is also a housing allocation and planning application at Dunton Hills Garden Village (A3 (BrBC) and BR2) and a solar farm (BA13) in the south of the LCA. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project and residential developments.	**Minor adverse** and **not significant** inter-project cumulative effects are anticipated during construction for (A5 (BrBC), A11 (BrBC), BR5 and BR11) given the distance between these other developments and the Project. For Dunton Hills Garden Village (A3 (BrBC) and BR2) and a solar farm (BA13) in the south of the LCA during construction effects would be **moderate adverse** and **significant** within a localised area in the south of the LCA, between West Horndon and the eastern edge of the LCA. Given the distance between the Project and proposed residential developments between Ingatestone, Mountnessing and Brentwood (A5 (BrBC), A11 (BrBC), BR5 and BR11), effects would be **minor adverse** and **not**	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
			significant during operation (and maintenance). However, effects would be **moderate adverse** and **significant** in the south of the LCA between West Horndon and the eastern edge of the LCA, as a result of the interaction between the Project, Dunton Hills Garden Village (A3 (BrBC) and BR2) and a solar farm (BA13). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on LCA 11: West Billericay Wooded Farmlands (Project Section G)	BR11, BA4, BA5, BA8, BA21	During construction there would be effects on the landscape through the introduction of construction activity relating to the Project, residential development (BA4, BA5, BA8 and BA21) and a solar farm (BR11), should all be built at the same time. With the exception of the solar farm (BR11) the other developments are over 1.5 km from the Project and located on the edge of urban areas in Billericay. During operation (and maintenance) there would be direct effects on the key	**Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated should the construction periods of the Project and other development overlap. **Minor adverse** and **not significant** inter-project cumulative landscape effects are anticipated.	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		characteristics of the landscape through the introduction of the Project, residential development (BA4, BA5, BA8 and BA21) and a solar farm (BR11). With the exception of the solar farm (BR11) the other developments are over 1.5 km from the Project and located on the edge of urban areas in Billericay.		
Effects on LCA 13: Dunton Settled Claylands (Project Section G)	BA6, BA13, BA20, BA24	During construction there would be effects on the landscape through the introduction of construction activity relating to the Project, residential development (BA6 and BA24), a solar farm (BA13) and a battery storage facility (BA20), should all be built at the same time. The construction of residential and commercial development at Dunton Hills Garden Village (A3 (BrBC) and BR2) in the neighbouring LCA would also contribute to cumulative effects. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project, residential development (BA6 and BA24), a solar farm (BA13) and a battery storage facility (BA20). Residential and commercial development at Dunton Hills Garden Village (A3 (BrBC) and BR2) in the neighbouring LCA would also affect the key characteristics of LCA 13.	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on LCA H1: East and West Tilbury Open Undulating Farmland (Project Section H)	DCO3, TH12, TH18, TH22, TH30, TH40	During construction there would be effects on the landscape through the introduction of construction activity relating to the Project, the Lower Thames Crossing (DCO3), residential development (TH12, TH30 and TH40), mineral quarrying (TH22) and a gas power station (TH18), should all be built at the same time. During operation (and maintenance) there would be direct effects on the key characteristics of the landscape through the introduction of the Project, the Lower Thames Crossing (DCO3), residential development (TH12, TH30 and TH40), mineral quarrying (TH22) and a gas power station (TH18).	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Visual				
Effects on visual receptors within VRA A1 Swardeston (Project Section A)	DC01, DCO6, SN27, SN47	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project and other developments. These include the Norwich Main Substation Extension (SN27), Sheringham and Dudgeon Extension grid connection (DCO6), Hornsea Three Offshore Windfarm grid connection (DCO1) and BESS north of Hickling Lane (SN47). During operation (and maintenance) there would be visual effects through the	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance) within a localised area around Norwich Main Substation. Significant effects are predicted on this receptor in isolation in Chapter 13:	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		introduction of the Project, Norwich Main Substation Extension (SN27) and BESS north of Hickling Lane (SN47).	Landscape and Visual (document reference 6.13).	
Effects on visual receptors within VRA A2 Stoke Holy Cross (Project Section A)	DCO1, DCO6, SN3, SN24, SN27, SN47	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, Norwich Main Substation Extension (SN24 and SN27) and solar farm and other electrical infrastructure schemes (DCO1, DCO6, SN3 and SN47). During operation (and maintenance) there would be visual effects through the introduction of the Project, Norwich Main Substation Extension (SN27), and solar farm and other electrical infrastructure schemes (SN47 and SN3).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance) within a localised area around Norwich Main Substation. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Effects on visual receptors within VRA A3 Mulbarton and Wreningham (Project Section A)	SN3, SN26, DCO6	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project and solar farm schemes (SN3 and SN26) and other electrical schemes (DCO6). Effects would be localised to views experienced by users of the PRoW network and residential receptors south of Bracon Ash, including along Marsh Lane. During operation (and maintenance) there would be visual effects through the introduction of the Project, and solar farm schemes (SN3 and SN26). Effects would	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance) and localised to views experienced by users of the PRoW network and residential receptors south of Bracon Ash including Marsh Lane.	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		be localised to views experienced by users of the PRoW network and residential receptors south of Bracon Ash, including along Marsh Lane.	Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on visual receptors within VRA B1 Wortham (Project Section B)	BMS44, BMS69	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project and solar farm schemes (BMS44 and BMS69). Adverse effects would particularly affect receptors along Lion Road, Marsh Lane and Millway Lane. During operation (and maintenance) there would be visual effects through the introduction of the Project, and solar farm schemes (BMS44 and BMS69). Adverse effects would particularly affect receptors along Lion Road, Marsh Lane and Millway Lane.	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance) particularly affecting receptors along Lion Road, March Lane and Millway Lane. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Effects on visual receptors within VRA B12 Elmsett (Project Section B)	DCO2, BMS31, BMS42, BMS52, BMS68	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, the Bramford to Twinstead Electricity Transmission scheme (DCO2) and solar farm schemes (BMS31, BMS42, BMS52 and BMS68). Adverse effects would be particularly focussed in the south-eastern corner of this VRA, where the sub-station is proposed, and on	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance) particularly focussed in the south-eastern corner of this VRA, where the substation is proposed, and on	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		receptors at the Channel and east of Flowton. During operation (and maintenance) there would be visual effects through the introduction of the Project, the Bramford to Twinstead Electricity Transmission scheme (DCO2) and solar farm schemes (BMS31, BMS52 and BMS68). Adverse effects would be particularly focussed in the south-eastern corner of this VRA, where the sub-station is proposed, and on receptors at the Channel and east of Flowton.	receptors at the Channel and east of Flowton. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on visual receptors within VRA B13 Somersham (Project Section B)	BMS45, BMS70	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, off shore wind farm underground infrastructure (BMS45) and a Battery Energy Storage System (BMS70). Adverse effects would be particularly focussed on the south-west corner of this VRA, where the new sub-station is proposed, and on receptors, including users of PRoWs to the east of Bramford Substation and along Bullen Lane. Inter-project cumulative effects on this receptor from clusters of other developments are not anticipated during operation (and maintenance).	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction particularly focussed on the south-west corner of this VRA, where the new sub-station is proposed, and on receptors, including users of PRoWs to the east of Bramford Substation and along Bullen Lane. Significant effects are predicted on this receptor in isolation in Chapter 13:	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
			Landscape and Visual (document reference 6.13). **No inter-project cumulative effects** during operation (and maintenance) are anticipated.	
Effects on visual receptors within VRA C13 Little Bromley (Project Section C)	DCO8, DCO9, T3	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, Five Estuaries Offshore Wind Farm (DCO8), North Falls Offshore Wind Farm (DCO9) and a Battery Energy Storage System (T3). Adverse would be focussed around the proposed substation and on receptors along Ardleigh Road and the local PRoW network. Inter-project cumulative effects on this receptor from clusters of other developments are not anticipated during operation (and maintenance).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction particularly focussed around the proposed substation and on receptors along Ardleigh Road and the local PRoW network. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13). **No inter-project cumulative effects** during operation (and maintenance) are anticipated.	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on visual receptors within VRA E2 Feering and Rivenhall (Project Section E)	B8, B13, B44	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project and residential development (B13) and solar farms (B8 and B44). Inter-project cumulative effects on this receptor from clusters of other developments are not anticipated during operation (and maintenance).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13). **No inter-project cumulative effects** during operation (and maintenance) are anticipated.	No mitigation proposed.
Effects on visual receptors within VRA E4 Silver End (Project Section E)	ECC35, B8, B42	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, solar farm developments (B8 and B42) and a controlled environmental agriculture scheme which would include solar panels and greenhouses (ECC35). During operation (and maintenance) there would be visual effects through the introduction of the Project, solar farm developments (B8 and B42) and a controlled environment agricultural scheme which would include solar panels and greenhouses (ECC35).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
Effects on visual receptors within VRA F2 Peverel's Farm (Project Section F)	CH24, CH26 (construction only), ECC13, ECC19, DCO13	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, solar development (DCO13), residential development (CH24, CH26) and the construction of a new reservoir (ECC13 and ECC19). During operation (and maintenance) there would be visual effects through the introduction of the Project and residential development (CH24).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Effects on visual receptors within VRA F4 Little Waltham (Project Section F)	CH17, CH24	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, residential development (CH24) and highways infrastructure (CH17). During operation (and maintenance) there would be visual effects through the introduction of the Project, residential development (CH24) and highways infrastructure (CH17).	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction and operations (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.
Effects on visual receptors within VRA G4 Ingrave and Herongate	BA13, BR2, A3 (BrBC)	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project, residential development (BR2 and A3 (BrBC)), and a solar farm (BA13). During operation (and maintenance) there would be visual effects through the	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance).	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
(Project Section G)		introduction of the Project, residential development (BR2 and A3 (BrBC)), and a solar farm (BA13).	Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	
Effects on visual receptors within VRA G6 Basildon (Project Section G)	BA6, BA24	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project and residential development (BA6 and BA24). Inter-project cumulative effects on this receptor from clusters of other developments are not anticipated during operation (and maintenance).	**Moderate adverse** and **significant** inter-project cumulative effects are predicted during construction. Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13). **No inter-project cumulative effects** during operation (and maintenance) are anticipated.	No mitigation proposed.
Effects on visual receptors within VRA H6 Southfields (Project Section H)	TH30, TH40, DCO3	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project (and particularly in relation to the proposed Tilbury North sub-station), Lower Thames Crossing (DCO3) and large scale residential development (TH30 and TH40).	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13:	No mitigation proposed.

Residual Effects from the Project	Clusters of Other Development(s) Considered	Inter-Project Cumulative Effect from the Project and Clusters of Other Development	Significance of Effect	Additional Mitigation
		During operation (and maintenance) there would be visual effects through the introduction of the Project (and particularly in relation to the proposed Tilbury North sub-station), Lower Thames Crossing (DCO3) and residential development (TH30 and TH40).	Landscape and Visual (document reference 6.13).	
Effects on visual receptors within VRA H7 Linford (Project Section H)	TH22, TH30, TH40, DCO3	During construction there would be effects on visual amenity through the introduction of construction activity relating to the Project (and particularly in relation to the proposed Tilbury North sub-station), Lower Thames Crossing (DCO3), large scale residential development (TH30, TH40), and mineral quarrying (TH22). During operation (and maintenance) there would be visual effects through the introduction of the Project (and particularly in relation to the proposed Tilbury North sub-station), Lower Thames Crossing (DCO3), large scale residential development (TH30, TH40), and mineral quarrying (TH22).	**Major adverse** and **significant** inter-project cumulative effects are predicted during construction and operation (and maintenance). Significant effects are predicted on this receptor in isolation in Chapter 13: Landscape and Visual (document reference 6.13).	No mitigation proposed.

Monitoring

17.5.68 Proposals for monitoring are outlined in the relevant topic chapters. The intra and inter-project cumulative effects assessments did not identify the need for additional monitoring further to that already set out in environmental topic chapters 6 to 16 (document references 6.6 to 6.16).

17.6 Sensitivity Testing

Introduction

17.6.1 Sensitivity testing has been undertaken as described in Chapter 5: EIA Approach and Method (document reference 6.5) to determine if delays or an extension to the construction programme, changes to the design within the Limits of Deviation (LoD) or if any of the design scenarios presented in Table 4.4 in Chapter 4: Project Description (document reference 6.4) would affect the assessment presented in Sections 17.4 or 17.5.

Flexibility in the Construction Programme

17.6.2 The assessment of effects during construction, assumes a four-year, phased construction programme between 2027 and 2031 as described in Section 4.7 in Chapter 4: Project Description (document reference 6.4).

17.6.3 Each environmental topic chapter of the ES (document references 6.6 –6.16) provides an assessment to determine if the environmental effects would be different if the construction programme was delayed. Each topic chapter has been reviewed and if the construction programme was delayed there would be no new or different likely significant intra-project cumulative effects to those identified the assessment.

17.6.4 A change in construction programme such as a later construction start date or an extended construction programme of works would change the temporal overlap with the construction of other developments considered within the inter-project cumulative effects assessment (e.g. some other developments would be constructed prior to the Project, and others would be in construction at the same time as the Project). However, no developments identified within the long list of other developments (document reference 6.17.A2) were screened out due to a construction start date being after the assumed operational date of the Project (2031). Therefore, **no new or different significant inter-project cumulative effects** were identified if the construction programme were to be delayed.

Flexibility in Design

Flexibility within the Limits of Deviation

17.6.5 The assessment presented within Sections 17.4 and 17.5 has assumed the alignment shown on Figure 4.1: Proposed Project Design (document reference 6.4.F1) and Figure 4.2 Proposed Project Design – Permanent Features (document reference 6.4.F2. It should be noted that as described in Chapter 4: Project Description (document reference 6.4), there are elements of the Project where uncertainty remains and design flexibility has been identified within the defined LoD,

for example changes to the location or height of permanent features, such as pylons (other than where locations of pylons are committed to as detailed within the Outline CoCP (document reference 7.2)). Sensitivity testing has been carried out to determine the potential for likely significant effects should alternative locations within the parameters defined by the LoD be taken forward.

17.6.6 Each environmental topic chapter has assessed the flexibility in the design within Section 9 of the relevant topic chapter. These have concluded that there would be no change to the overall significance of effects and that there would be no residual new or different effects associated with applying flexibility within the LoD (following the implantation of mitigation). As such, **the significance of residual intra and inter-project cumulative effects would be no different** from those outlined in Sections 17.4 and 17.5.

Flexibility Within the Order Limits

17.6.7 Each environmental topic chapter has assessed the design scenarios in Table 4.4 in Chapter 4: Project Description (document reference 6.4) within Section 9 of each chapter. The sensitivity texting assessments conclude that there would be **no change to the overall significance** of effects and that there would be no residual new or different effects. As such, the significance of residual intra and inter-project cumulative effects would be no different from those outlined in Sections 17.4 and 17.5.

Abbreviations

Abbreviation	Full Reference
BESS	Battery Energy Storage System
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BPM	Best Practicable Means
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
CTMP	Construction Traffic Management Plan
DEFRA	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DCO	Development Consent Order
EACN	East Anglia Connection Node
EIA	Environmental Impact Assessment
EN-1	Overarching National Policy Statement for Energy
EN-5	National Policy Statement for Electricity Networks Infrastructure
ES	Environmental Statement
FP	Footpath
IEMA	Institute of Environmental Management and Assessment
ISEP	Institute of Sustainability and Environmental Professionals
km	kilometre
LCA	Landscape Character Area
LCT	Landscape Character Type
LoD	Limits of Deviation
LPA	Local Planning Authority
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
ProW	Public Right of Way
VRA	Visual Receptor Area
ZOI	Zone of Influence

Glossary

Term	Definition
Code of Construction Practice	A code of construction practice (CoCP) sets out the standards and procedures to which a developer (and its contractors) must adhere in order to manage the potential impacts of construction works.
Cumulative Effects	The assessment of the impact on the environment which results from the incremental impact of an action when added to other past, present or reasonably foreseeable actions regardless of what agency or person undertakes such actions. Cumulative impact can result from individually minor but collectively significant actions taking place over a period of time.
Development Consent Order	A statutory instrument which grants consents and other rights to build a Nationally Significant Infrastructure Project, as defined by the Planning Act 2008.
Environmental Impact Assessment	An assessment of the likely effects of a development project on the environment, which is reported in an Environmental Statement that is publicised and consulted on and taken into account in the decision on whether a project should proceed.
Environmental Statement	The main output from the EIA process, an ES is the report required to accompany an application for development consent (under the Infrastructure Planning (EIA) Regulations 2017) to inform public and stakeholder consultation and the decision on whether a project should be allowed to proceed. The EIA Regulations set out specific requirements for the contents of an ES for Nationally Significant Infrastructure Projects.
National Planning Policy Framework	The National Planning Policy Framework is a key part of the government's reforms to make the planning system less complex and more accessible. It vastly simplifies the number of policy pages about planning. The planning practice guidance to support the framework is published online and regularly updated.
Nationally Significant Infrastructure Project	Typically, a large scale development of national importance that requires development consent from the Secretary of State, under the Planning Act 2008.
Order Limits	The maximum extent of land within which the authorised development may take place.
Overhead Line	Conductor (wire) carrying electric current, strung from pylon to pylon.
Proposed Alignment	This term is used to help communicate the potential alignment of the Project within the application.
Pylon	Structures that support the overhead line (conductors). There are two types of pylons: suspension (line), where the conductors are simply suspended from the tower and tension (angle).

Term	Definition
Receptor	The physical resource or user group that would respond to an effect e.g. somebody or something adversely affected by a pollutant.
Residual Effect	The consequence of an 'impact' of construction, operation and decommissioning of the Proposed Development after mitigation measures have been applied.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Short term	This is used to describe an impact of short-term duration or reversible within the short term, which is assumed to be up to five years after construction.
Statutory Consultation	The formal period of public consultation, prior to deciding a planning application.
Substation	Substations are used to control the flow of power through the electricity system. They are also used to change (or transform) the voltage from a higher to lower voltage to allow it to be transmitted to local homes and businesses.
Temporary construction access route	The additional temporary construction space required to construct the Project in a particular area, but which will not be required once construction has taken place.
Temporary construction area	A temporary road constructed to convey construction vehicles through the working areas. These can be made of imported stone or using protective covering such as Trakmat. These would be removed at the end of construction.
Topic	A subject area covered within the EIA, for example landscape and visual or biodiversity.
Underground cable	An insulated conductor carrying electric current designed for underground installation. Underground cables link together two Cable Sealing End compounds.
Working area	The working area refers to the area of land that is likely to form part of the construction site.
Zone of Influence	The defined geographic area within which the Project's environmental receptors are located.

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National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com