

AENC-MMAC-ENG-REP-0009

# Norwich to Tilbury

## Volume 7: Other Documents

Document: 7.3 Outline Construction Traffic Management Plan  
Appendix C - Indicative Highway Mitigation Plans - Guide to  
the Plans and Master Key Plan

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Infrastructure Planning (Applications: Prescribed Forms and Procedure)  
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nationalgrid

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# 1. Introduction

## 1.1 Overview

- 1.1.1 National Grid Electricity Transmission plc ('National Grid') owns and maintains the national high voltage electricity transmission network throughout England and Wales.
- 1.1.2 The transmission network connects the power from where it is generated to the regional Distribution Network Operators who then supply businesses and homes.
- 1.1.3 National Grid holds the Transmission Licence for England and Wales, and its statutory duty is to develop and maintain an efficient, coordinated and economical system of electricity transmission and to facilitate competition in the generation and supply of electricity, as set out in the Electricity Act 1989.
- 1.1.4 National Grid has developed plans for Norwich to Tilbury (referred to as the 'Project' in this report). The Project would support the UK's net zero target through the connection of new low carbon energy generation in East Anglia and by reinforcing the transmission network.
- 1.1.5 The Project comprises reinforcement of the transmission network between the existing Norwich Main Substation in Norfolk and Tilbury Substation in Essex, via Bramford Substation, the new East Anglia Connection Node (EACN) Substation and the new Tilbury North Substation.
- 1.1.6 The reinforcement is needed because the existing transmission network, even with current upgrading, will not have sufficient capacity for the new renewable energy (a substantial proportion of which would be generated by offshore wind) that is expected to connect to the network over the next 10 years and beyond. Completion of the Project, together with other new reinforcements across the country, will meet this future energy transmission demand both in East Anglia and across the UK.
- 1.1.7 The Project is a Nationally Significant Infrastructure Project (NSIP), and National Grid is seeking development consent under statutory procedures set by government. NSIPs are projects of certain types, over a certain size, which are considered by the government to be of national importance, hence permission to build them needs to be given at a national level, by the relevant Secretary of State (in this case the Secretary of State for Energy Security and Net Zero). Instead of applying to the local authority for planning permission, the developer must apply to the Planning Inspectorate for a Development Consent Order (DCO) that would grant development consent.
- 1.1.8 National Grid has submitted an application for development consent to the Planning Inspectorate. The Examining Authority (consisting of one or more examining inspectors), after a period of public examination, would make their recommendation to the Secretary of State for Energy Security and Net Zero, who in turn would decide on whether development consent should be granted for the Project.
- 1.1.9 The Project is identified as critical to delivering a network which supports the clean power pathways for 2030 delivery.

## **1.2 Purpose of document**

- 1.2.1 As part of its application for development consent under the Planning Act 2008, National Grid has prepared a series of documents to explain the Project, including plans and drawings. This Guide provides more detail about the purpose, role and content of the indicative highway mitigation plans and drawings within Volume 7.3.C of the Development Consent Order (DCO) application.
- 1.2.2 Whilst the plans and drawings illustrate many aspects of the Project, they do not explain the rationale for the design. A description of the Project is provided in the Environmental Statement (ES) Chapter 4: Project Description (document reference 6.4).
- 1.2.3 In accordance with normal practice, it should be noted that depending on their type, the plans and drawings show either indicative locations or illustrative designs to give a general understanding of the Project for which consent is sought, or they show the parameters within which the Project will be constructed. The designs are likely to change within the parameters shown, to reflect ongoing detailed design, and/or unforeseen engineering or environmental circumstances. Flexibility will be retained through Limits of Deviation (LoD).

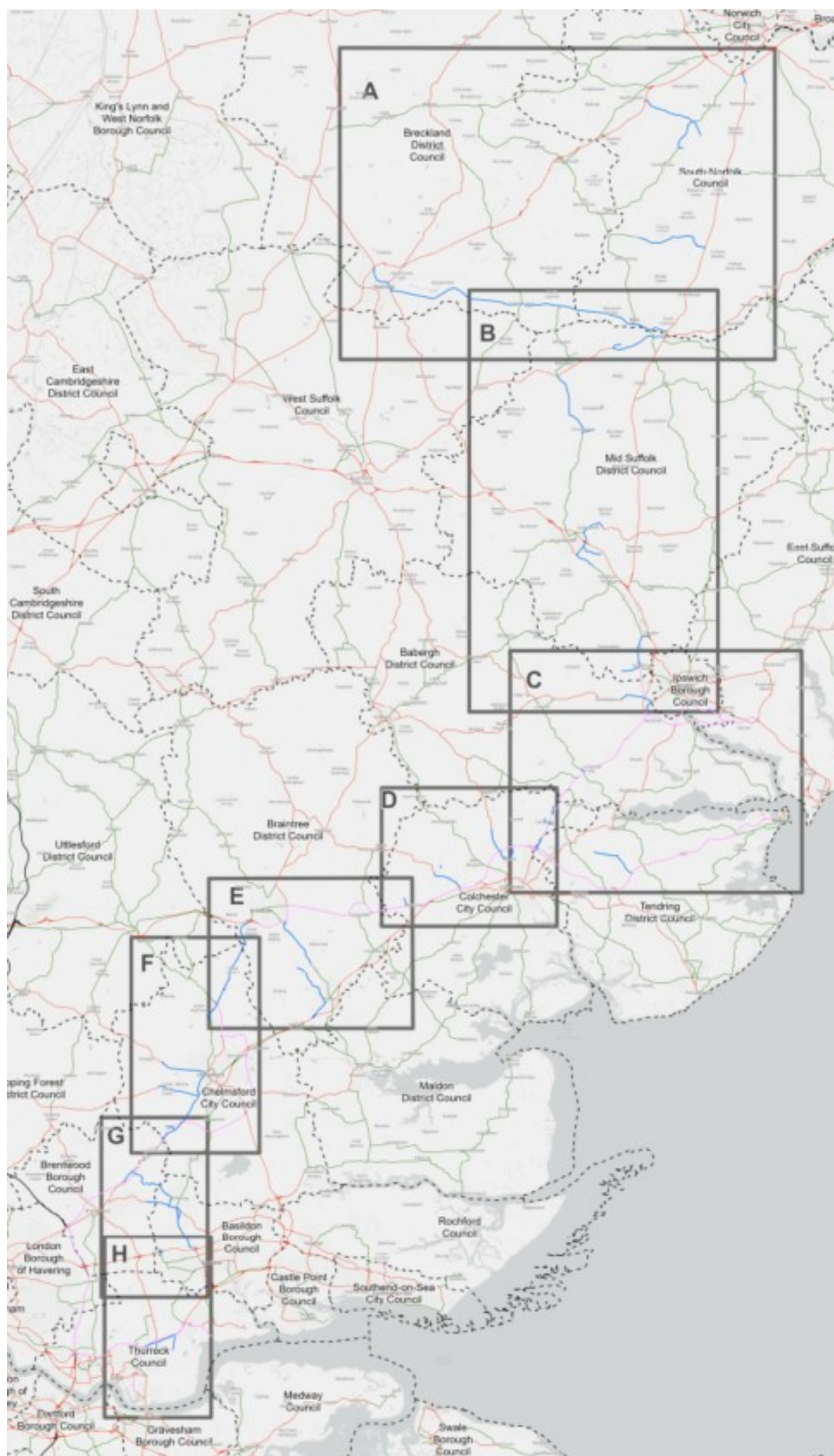


## 2. The Indicative highway mitigation plans

### 2.1 Route overview

- 2.1.1 The Project has been subdivided into eight geographical sections for reader accessibility, based largely on Local Planning Authority boundaries and comprise:
- Section A – South Norfolk District Council
  - Section B – Mid-Suffolk District Council
  - Section C – Babergh District Council, Colchester City Council and Tendring District Council
  - Section D – Colchester City Council
  - Section E – Braintree District Council
  - Section F – Chelmsford City Council and Brentwood Borough Council
  - Section G – Brentwood Borough Council and Basildon Borough Council (and part of Chelmsford City Council); and
  - Section H – Thurrock Council.
- 2.1.2 The Master Key Plan, drawing reference AENC-MMAC-ENG-DWG-0088 as seen in Figure 2.1, presents an inset map giving indication of the Project coverage, and also highlights the index breakdown of the Project sections A to H which have separated out to cover Local Planning Authorities along the route between Norwich to Tilbury
- 2.1.3 The Local Planning Authority boundaries and titles shown on the plans are correct at the time of submission in August 2025.
- 2.1.4 County Council boundaries are not shown on the plans.
- 2.1.5 The Master Key Plan presents existing major roads comprising classified A and B roads and motorways, along with an indication of the proposed primary access routes and AIL access routes.
- 2.1.6 The section plans show the Primary Access Routes (PAR) and Abnormal Indivisible Load (AIL) routes that construction vehicles will take to site.
- 2.1.7 Within each section there are a number of sheets generally ordered north to south following the route of the Project. The sheets cover the lengths of the PARs and indicative locations where highway mitigation works are required.

Figure 2.1 Master Key Plan: Project sections







- 2.1.8 Each Section, from A to H, has its own overview Key Plan showing the geographic region/s, with individual sheets, as summarised below:
- Drawing reference AENC-MMAC-ENG-DWG-0089, Section A : Norfolk County Council, covering South Norfolk District Council – Key Plan and sheets 1 to 15;
  - Drawing reference AENC-MMAC-ENG-DWG-0090, Section B : Suffolk County Council, covering Mid-Suffolk District Council – Key Plan and sheets 1 to 9;
  - Drawing reference AENC-MMAC-ENG-DWG-0091, Section C : Suffolk County Council, covering Babergh District Council, and Essex County Council, covering Colchester City Council and Tendring District Council – Key Plan and sheets 1 to 15;
  - Drawing reference AENC-MMAC-ENG-DWG-0092, Section D : Essex County Council, covering Colchester City Council – Key Plan and sheets 1 to 4;
  - Drawing reference AENC-MMAC-ENG-DWG-0093, Section E : Essex County Council, covering Braintree District Council – Key Plan and sheets 1 to 7;
  - Drawing reference AENC-MMAC-ENG-DWG-0094, Section F : Essex County Council, covering Chelmsford City Council and Brentwood Borough Council – Key Plan and sheets 1 to 10;
  - Drawing reference AENC-MMAC-ENG-DWG-0095, Section G : Essex County Council, covering Brentwood Borough Council and Basildon Borough Council – Key Plan and sheets 1 to 5;
  - Drawing reference AENC-MMAC-ENG-DWG-0096, Section H : Thurrock Council, covering Orsett, Horndon-Le-Hope, Southfields, Stanford-Le-Hope, Grays, Tilbury (North and West) – Key Plan and sheets 1 to 3.

## 2.2 Summary of the Plans

- 2.2.1 The purpose of these indicative highway mitigation plans is to present locations where highway mitigation measures are anticipated to be required along the PAR and AIL routes to accommodate construction vehicle movements, including Abnormal Indivisible Loads (AiLs).
- 2.2.2 The key highway mitigation items shown on the plans are:
- Abnormal Indivisible Load (AIL) routes
  - Primary Access Routes (PAR)
  - Locations of indicative highway mitigation works required to accommodate construction vehicle movements along the PARs and AIL routes.
- 2.2.3 These plans specify the highway constraints identified are and suggested mitigations for each constraint site. Each constraint has been allocated a reference number, a description of the constraint, and its suggested mitigation. A sample is shown in Figure 2.2.

Figure 2.2 Sample constraint table

Potential Constraint Details		
Constraint No.	Description	Suggested Mitigation
 A4	B1113 identified to be of narrow width and poor visibility around bend for design vehicle movements	Vegetation to be cut back to increase visibility. Appropriate traffic management to be provided in agreement with the Local Highway Authority.
 A5	Wymondham Road identified as narrow width for design vehicle movements	Junction with B1113 Norwich Road to be widened and passing places provided along Wymondham Road to accommodate design vehicle movements. Appropriate traffic management to be provided in agreement with the Local Highway Authority.
 C18	A1071 identified to be of narrow width for design vehicle movements.	Temporary removal of street furniture and traffic signs to accommodate design vehicle movements. Appropriate traffic management to be provided in agreement with the Local Highway Authority.
 C19	Geometry of exit and entry to roundabout between A1071 and B1113 identified as narrow width for design vehicle movements.	Removal of traffic islands to facilitate design vehicle movements. Temporary islands to be provided between AIL movements.

2.2.4 Within this series of plans, there are some sheets which display duplicate area coverage; this has been done to maintain section grouping with the relevant geographical regions as set out in 2.1.1. Indicative highway mitigation measures are shown in sections based on the start and end locations of the Primary Access Route (PAR) or Abnormal Indivisible Load (AIL) route that the mitigation is located along.

2.2.5 Examples of duplicate area sheets are as follows:

- Section A Sheet 7 and Section B Sheet 1 show the same area, however the former only shows routes that originate in South Norfolk District Council, while the latter shows routes that originate in Mid-Suffolk District Council.
- Section B Sheet 9 and Section C Sheet 5 show the same area, however the former only shows routes that originate in Mid-Suffolk District Council, while the latter shows routes that originate in Babergh District Council or Ipswich Borough Council.

2.2.6 The sheet numbering starts from the beginning of the PAR or AIL route that the mitigation is along, rather than following a north to south and east to west orientation.

2.2.7 The indicative highway mitigation measures presented within the plans are colour coded, as summarised:

- Red – highway improvement works such as road widening and passing places, both within the highway and extending outside of highway boundary. These construction works may be either permanent or temporary measures, such as road or junction radii widening, the provision of passing places and non-motorised user facilities.
- Orange – highway improvement works (either permanent or temporary) such as road widening and passing places. The extent of the works are expected to be contained within the existing public highway.



- Yellow – modifications to existing highway features such as a temporary removal of street furniture (bollard, signs, guard railing) or central traffic/pedestrian islands to allow large vehicles / AIL delivery vehicles to pass. Additionally, they may also include vegetation removal or cut back.
- Green – localised vegetation cutting/clearance, or TTRO/TROs in the highway.

## 2.2.8

Each plan includes indicative images of the largest construction vehicles expected to use the PARs and AIL routes, comprising Mobile Crane, Low Loader HGV, AIL (Abnormal Indivisible Load) Low Loader Cable Drum delivery vehicle, or AIL-AL50 Girder delivery vehicle.




















## 2.2.9

Primary access routes (PAR) and AIL access routes can be seen labelled on these plans, each having individual route reference IDs which are listed in sheet-specific tables. These tables indicate which types of construction vehicles are anticipated to use the specific PAR or AIL routes travelling to/from their delivery destinations in the locations presented on each sheet.

Construction Vehicles Travelling on Routes				
Route	Mobile Crane	Low Loader (HGV)	Low Loader (Cable Drum Delivery)	AIL-AL50 Girder
H25-AIL5			✓	
H25-AIL6			✓	
H36-AIL2				✓
H36-AIL4				✓
H36-AIL5			✓	
H36-AIL6			✓	
H36-AIL7			✓	
H36-AIL8			✓	
H37-A1	✓	✓		
H38-A1	✓	✓		

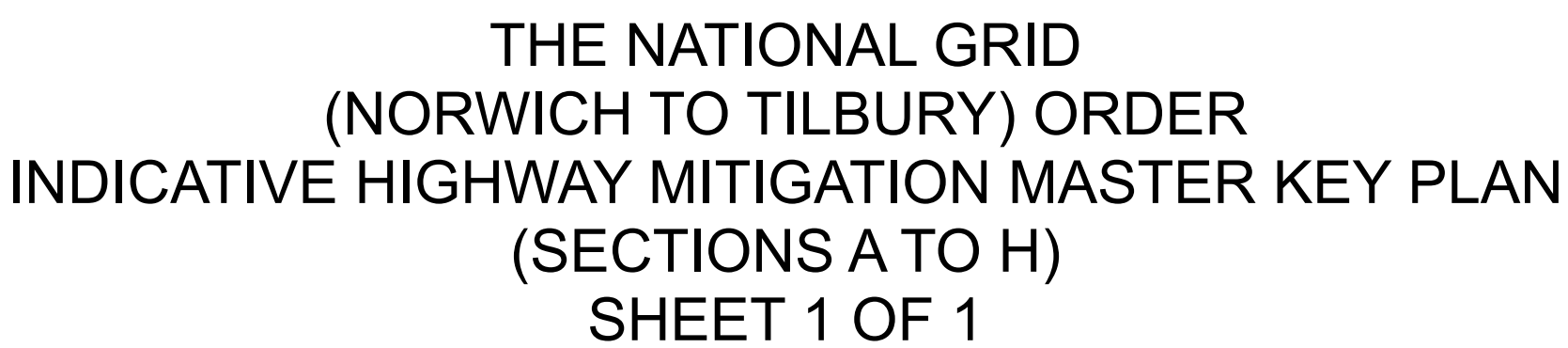


2.2.10 The plans contain a Legend Key which varies from sheet to sheet; differing line styles and conventions are used to show some or all of the following categories, where these are applicable:

 Match Line	Sheet match line, for where adjoining sheets overlap
	Local authority boundary, denoted by black colour dashed line
	Section boundary
	Section boundary and local authority boundary, where the two overlap
	Order Limits, denoted by continuous red line
	Primary access route, denoted by continuous blue line
	AIL access route, denoted by dashed or solid pink line
	A road, denoted by continuous orange line
	B road, denoted by continuous green line
	Motorway, denoted by continuous black line
	Vegetation removal / cutting back / temporary traffic regulation orders
	Modifications to existing highway features, including vegetation removal / cut back where required
	Work within the existing highway boundary. Including vegetation removal / cut back where required
	Includes work outside the existing highway boundary
	Crossover point (bellmouth)
	Site access point (bellmouth)
	Indicative area of carriageway widening

- 2.2.11 The Section boundaries shown in these drawings are those that are in use throughout the scheme, however the sheet indexing used for these plans does not fully align with the other DCO plans. This is because the PARs and ALL routes shown on these plans extend significantly beyond the project Order Limits, which requires additional drawing sheets and differently scaled key plans to other sets of drawings forming part of the DCO documentation. As a result, the section boundaries do not extend to the full limits of all sheets.
- 2.2.12 These indicative highway mitigation plans have been produced to support the National Grid DCO, PINS Application Number EN020027, having developed from the Construction Access Plans which were produced for the 2024 Section 42 statutory public consultations.
- 2.2.13 Through subsequent and ongoing dialogue with the Local Highway Authorities following the 2024 Section 42 consultation, these indicative highway mitigation plans have been subject to further assessment and vehicle tracking. This included localised route refinement to further refine the highway mitigation measures anticipated along the routes, as now presented in these Plans.





## Notes

1. These plans show the Order Limits and potential location for the works. Due to the need for future flexibility, National Grid will be applying for Order Limits and Limits of Deviation within its Development Consent Order, within which any final alignment would lie.
2. The plans form an Appendix to, and should be read alongside, the Outline Construction Traffic Management Plan.
3. The proposed mitigation measures have been developed through engagement with the relevant local highways authorities and, where applicable, National Highways.
4. The plans show proposed mitigation measures on the Primary Access Routes and All Roads.
5. This drawing is scaled at paper size A0, therefore any prints taken at smaller sizes will affect accuracy of the measurement units and should not be scaled against.

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A	AUG-2025	For DCO submission	KT	DC	KR
Issue	Date	Remarks	Drawn	Checked	Approved

Title

THE NATIONAL GRID  
(NORWICH TO TILBURY) ORDER  
INDICATIVE HIGHWAY MITIGATION MASTER  
KEY PLAN (SECTIONS A TO H)  
SHEET 1 OF 1

GENERAL ARRANGEMENT  
FOR INFORMATION ONLY

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<u>PINS Application Number</u>	EN020027
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National Grid Drawing Reference

Scale	Sheet Size	Sheet	Issue
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1:130,000	A0	SHEET 1 OF 1	A
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