NORTH FALLS

Offshore Wind Farm

Outline Construction Traffic Management Plan ~~(Clean)~~(Tracked)

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Contents

Tables

Plates

Figures

Appendices

Glossary of Acronyms

AIL	Abnormal Indivisible Load
ARR	Access Route Review
CLO	Community Liaison Officer
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EqIA	Equality Impact Assessment
ES	Environmental Statement
ESDAL	Electronic Service Delivery for Abnormal Loads
GPS	Global Positioning System
HDD	Horizontal Direction Drilling
HGV	Heavy Goods Vehicle
HW	Highways Works
LV	Light Vehicle
OCoCP	Outline Code of Construction Practice
OCTMP	Outline Construction Traffic Management Plan
HW	Highways Works
PC	Principal Contractor
TCC	Temporary Construction Compounds
TMCo	Traffic Management Co-ordinator
TTSA	Traffic and Transport Study Area
TWG	Transport Working Group
UK	United Kingdom
VEOWL	Five Estuaries Offshore Wind Farm Limited

Glossary of Terminology

Array area	The offshore wind farm area, within which the wind turbine generators, array cables, platform interconnector cable, offshore substation platform(s) and/or offshore converter platform will be located.
Bentley Road improvement works	Works involving the widening and improvement of the carriageway along Bentley Road, required to facilitate heavy goods vehicle and abnormal indivisible load access to the onshore cable route and the onshore substation.
Emergency Services	The term ‘emergency services’ in this OCTMP is used to refer to Essex Police, Essex County Fire and Rescue Service and the East of England Ambulance Service NHS Trust.
Haul road	The track along the onshore cable route used by construction traffic to access different sections of the onshore cable route.
Heavy Goods Vehicle (HGV)	HGV is the term for any vehicle with a Gross Weight over 3.5 tonnes. This is also used as a proxy for HGVs and buses / coaches recognising the similar size and environmental characteristics of the respective vehicle types.
Highway Stakeholders	Highways Stakeholders will include Suffolk and North East Essex Integrated Care Board, Emergency Services, Essex County Council, National Highways, relevant local District, Town and Parish Councils.

Horizontal directional drill (HDD)	Trenchless technique to bring the offshore export cables ashore at landfall. The technique will also be the primary trenchless technique used for installation of the onshore export cables at sensitive areas of the onshore cable route.
Landfall	The location where the offshore export cables come ashore at Kirby Brook.
Light Vehicle (LV)	The term 'light vehicle' is used to describe the range of vehicles that would be used by construction employees, i.e. cars, vans, pick-ups, minibuses, etc.
Movement	A two-way trip (i.e. the arrival and departure from site) for the transfer of employees or goods.
National Grid connection point	The grid connection location for the Project. National Grid are proposing to construct new electrical infrastructure (a new substation) to allow the Project to connect to the grid, and this new infrastructure will be located at the National Grid connection point.
Offshore cable corridor	The corridor of seabed from the array area to the landfall within which the offshore export cables will be located.
Onshore cable route	Onshore route within which the onshore export cables and associated infrastructure would be located.
Onshore export cables	The cables which take the electricity from landfall to the onshore substation. These comprise High Voltage Alternative Current (HVAC) cables, buried underground.
Onshore substation	A compound containing electrical equipment required to transform and stabilise electricity generated by the Project so that it can be connected to the National Grid.
Onshore substation works area	Area within which all temporary and permanent works associated within the onshore substation are located, including onshore substation, construction compound, access, landscaping, drainage and earthworks.
Temporary construction compound	Area set aside to facilitate construction of the onshore cable route. Will be located adjacent to the onshore cable route, with access to the highway where required.
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Traffic and Transport Study Area (TTSA)	Area where potential impacts from the Project could occur, as defined for each individual EIA topic.
Trenchless crossing	Use of a technique to install limited lengths of cable below ground without the need to excavate a trench from the surface, used in sensitive areas of the onshore cable route to prevent surface disturbance. Includes techniques such as HDD.
Vehicle (HGV, Traffic) trips	A two-way trip (i.e. the arrival and departure from site) for the transfer of employees or goods.

1 Introduction

1.1 Background

1. The following provides a brief description of the North Falls Offshore Wind Farm (herein 'the Project'). Further detail is provided within Environmental Statement (ES) Chapter 5 Project Description (Document Reference: 3.1.7).
2. The North Falls array is located off the East Anglian coastline. The offshore cable corridor runs from the array area to the landfall area at Kirby Brook, Essex.
3. Onshore export cables will then transport the electricity to the onshore substation located west of Little Bromley within the Tendring district of Essex before it enters the national grid. The offshore and onshore project locations are shown in ES Figures 1.1 and 1.2 (Document Reference: 3.2.1), respectively.

1.2 Purpose of the Outline Construction Traffic Management Plan

4. ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) contains an assessment of the likely significant effects and associated mitigation for the construction, operation and decommissioning of the Project.
5. The Outline Construction Traffic Management Plan (OCTMP) contains the control measures and monitoring procedures for managing the potential traffic and transport effects of constructing the Project. The objective of the OCTMP is to define a strategy to ensure that the construction traffic parameters (e.g. traffic numbers and routes) assessed within the ES are managed and not exceeded.
6. The OCTMP would form the basis for a final Construction Traffic Management Plan (CTMP) for each phase of the Project's onshore works, which would be prepared and submitted prior to the commencement of the construction of the relevant phase for approval by the local planning authority. This is secured through Development Consent Order (DCO) Requirement.
7. The final CTMP would set the standards and procedures that would be adopted and implemented by the appointed Principal Contractor (PC), including;

- Managing the numbers and routeing of Heavy Goods Vehicles (HGVs) during the construction phase;
- Managing the movement of employee traffic during the construction phase;
- Details of localised road improvements necessary to facilitate safe use of the existing road network; and
- Detail of measures to manage the safe passage of HGV traffic via the local highway network.

8. Prior to the construction of the onshore works there would be onshore site preparation works. These onshore site preparation works would be expected to result in limited traffic numbers, however, to minimise the potential for disruption it has been agreed with Essex County Council that drivers involved in the onshore site preparation works will be provided with details of the agreed delivery routes (Figure 1) and times (Section 2.2.2). Drivers will be required to operate within these times and follow the agreed delivery routes (as far as practicable).
9. Following the submission of the DCO application, comments have been provided by stakeholders regarding the content of the OCTMP. Table 1.1 provides a summary of the amendments that have been made in response.

Table 1.1 Summary of OCTMP changes

OCTMP Revision Number	Summary of Changes	Relevant Section of the OCTMP
01	Additional text requiring the appointment of a Dangerous Goods Safety Advisor.	Sections 1.4 and 5.4
	Additional commitments to engage with Essex Police and Safer Essex Roads Partnership when developing driver inductions.	Section 2.4
	Amendments to the text relating to delivery packs to require them to be shown to a police officer if requested.	Section 2.4.1
	Amendments to the travel planning measures to provide advice to employees relating to the use of e-scooters.	Table 3.1
	Updates to the measures to control reported detritus / material on the highway to include the requirement to provide a contact number for reporting/discussing any issues.	Section 4.2
	Updates to the text relating to the appointment of recovery companies.	Table 4.1
	Additional text to require the regular checking and maintenance of signage.	Section 4.13
	Minor updates to the monitoring and enforcement commitments.	Section 5
	Minor updates to the Appendices – Appendices A, B, C and D	Appendices A, B C and D

OCTMP Revision Number	Summary of Changes	Relevant Section of the OCTMP
	Addition of Appendix E – Road Safety Audits	Appendix E
02	Amendments to the text relating to non-special order abnormal loads and abnormal load controls including consultation requirements.	Section 2.5
	Additional text regarding vehicle monitoring requirements recognising the recommendations of the Equality Impact Assessment (EqIA).	Section 5.2.7
03	Addition of wording relating to the management of the route and timing of vehicles during the onshore site preparation works	Paragraph 8
	Additional commitments in relation to vehicle tracking via systems such as GPS	Section 2.3 and 5.2.3
	Clarification of the preferred routing for Abnormal Indivisible Loads, consultation process and potential mitigation measures	Section 2.5
	Clarifications in relation to employee travel plan measures and monitoring	Section 3.2
	The addition of an Access Route Review (ARR) to be submitted with the final CTMP and the inclusion of an ARR process to address any emerging road safety issues	Section 4.7
	Additional measures to manage parking demand	Section 4.9
	Peak seasonal periods added to the traffic incident management strategy.	Section 4.10
	The inclusion of a Transport Working Group to manage potential cumulative effects of projects.	Section 4.14
	Measures to manage parking demand.	Section 4.9
	Recording of HGV numbers and timings.	Section 5.2.2
	Process for agreeing monitoring or overspill parking.	Section 5.2.5
	Clarification of ‘near miss’ reporting process.	Section 5.2.6

OCTMP Revision Number	Summary of Changes	Relevant Section of the OCTMP
	Amendments to section addressing enforcement.	Section 5.3
	Updated Action Plan to reflect the changes outlined for OCTMP Revision 3.	Table 5.1
04	Amendments to text on employee travel to confirm that employees can arrive on site and park up prior to 07:00 start, and to describe measures in place to avoid vehicles parking/waiting on the highway prior to 07:00.	Section 3
05	Insertion of text requiring the Applicant to pay Essex County Council's reasonable and properly incurred costs for certain actions in accordance with the terms outlined	Section 6

1.3 OCTMP scope

10. The realistic worst case scenarios for the likely significant effects scoped into the Environmental Impact Assessment (EIA) for the traffic and transport assessment are summarised in ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) and based on project parameters described in ES Chapter 5 Project Description (Document Reference: 3.1.7). The main grid connection options considered in the ES, as relevant to this OCTMP, are outlined below:

- **Option 1:** Onshore electrical connection at a national grid connection point within the Tendring peninsula of Essex, with a project alone onshore cable route and onshore substation infrastructure.
- **Option 2:** Onshore electrical connection at a national grid connection point within the Tendring peninsula of Essex, sharing an onshore cable route and onshore cable duct installation (but with separate onshore export cables) and co-locating separate project onshore substation infrastructure with Five Estuaries Offshore Wind Farm ('Five Estuaries').

11. Unless explicitly specified, the measures and controls contained within this OCTMP would be applicable to both options.

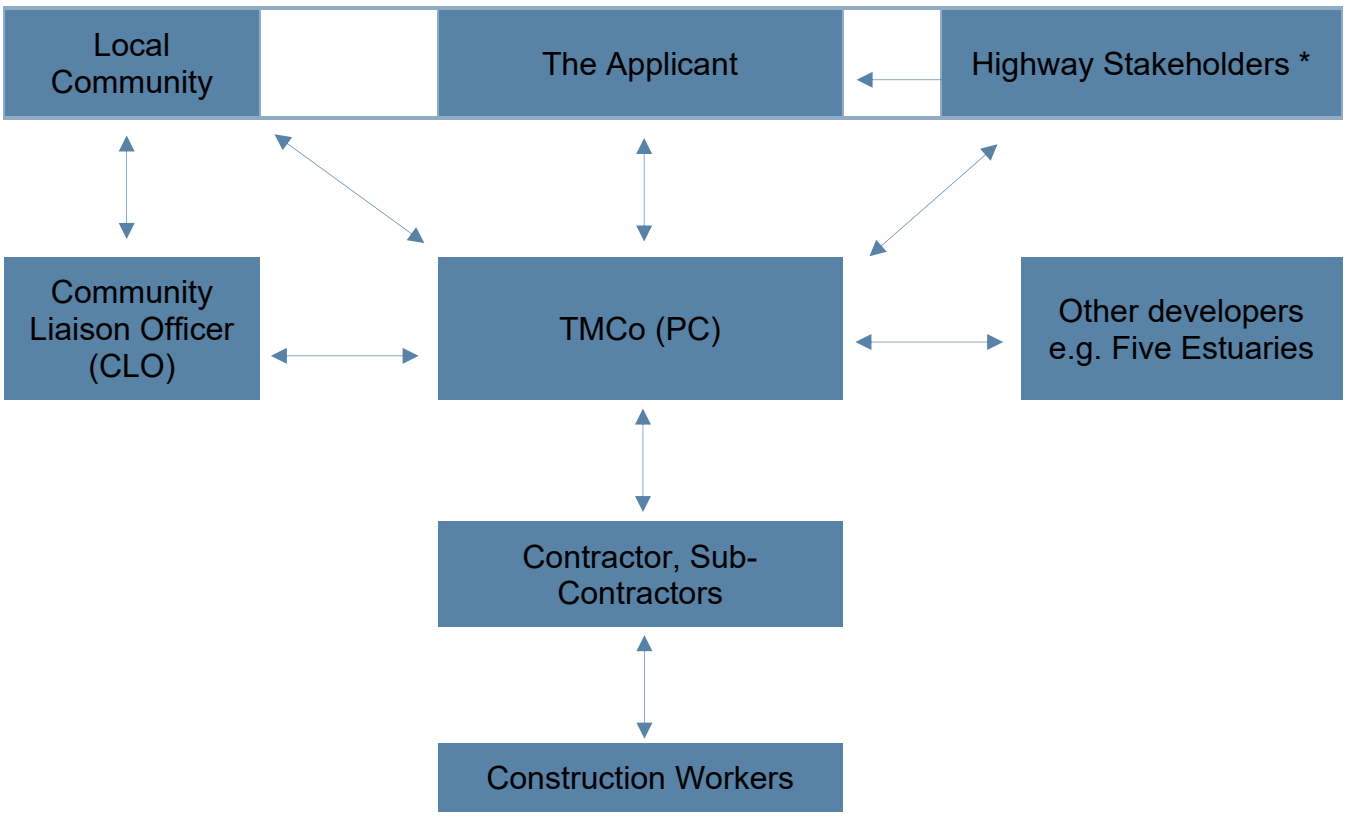
1.4 CTMP governance

12. Prior to the commencement of the construction of the relevant phase, a Traffic Management Co-ordinator (TMCo) would be appointed by the PC. Their key responsibilities would include:

- Managing the implementation of the approved CTMP;
- Collating monitoring data and preparing a monitoring report (as outlined in Section 5);

- Acting as a point of contact for the local community;
- Regular liaison and reporting to the Applicant;
- Sharing information with emergency and healthcare services, e.g. dates of any road closures, abnormal load movements, etc.;
- Appointing a Dangerous Goods Safety Advisor;
- Supporting the Applicant with highway stakeholder engagement; and
- Acting as a point of contact for construction workers and sub-contractors.

13. The TMCo would also be assisted in their role by a Community Liaison Officer (CLO).
14. To ensure clarity of flow of information and responsibilities of the OCTMP, the TMCO's intended coordination and collaboration with other key stakeholders in respect of traffic and transport is set out in Plate 1.1.



** Highways Stakeholders will include Suffolk and North East Essex Integrated Care Board, Emergency Services, Essex County Council, National Highways, relevant local District, Town and Parish Councils.*

Plate 1.1 TMCO Stakeholder Coordination / Collaboration Structure

15. Further details of all the responsibilities of the TMCo and CLO and associated timescales are provided as an Action Plan in Section 5.4. Contact details for the TMCo and CLO would be submitted to Highway Stakeholders prior to the commencement of construction.

1.5 OCTMP structure

16. Following this introduction, the structure of the OCTMP is as follows:

- Section 2 defines the measures to manage and control HGV demand;
- Section 3 defines the measures to manage and control employee traffic demand;
- Section 4 sets out access and traffic management proposals; and
- Section 5 sets out how the OCTMP would be monitored and provides an Action Plan for its implementation.

2 Control of HGV trips

2.1 Introduction

17. The OCTMP provides a 'framework' of traffic management measures that would be implemented to control HGV trips during the construction phase. In doing so, the OCTMP sets the management measures and performance required of the PC.

18. The finalised measures are an absolute requirement, established from the parameters outlined in Section 27.6 of ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29), to be adopted by the PC and only revised with the prior agreement of the relevant highway authority.

2.2 HGV traffic generation

19. Table 27.16 of ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) sets out the forecast numbers of peak and average daily construction HGV trips (for all of the 46 links within the Traffic and Transport Study Area (TTSA)) for North Falls Option 2.

20. ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) identifies that to mitigate potential amenity and road safety impacts (of the Project's construction traffic) it is necessary to reduce peak daily HGV trips on links 25 and 35.

21. Five Estuaries is also in its application phase, having submitted a DCO for the project, which was accepted by the Planning Inspectorate on 22 April 2024. Although subject to a separate DCO, Five Estuaries shares the same landfall location and onshore cable route (including Bentley Road improvement works) as North Falls, with the two projects also having co-located onshore substations within the same onshore substation works area. The two projects also have the same national grid connection point.

22. Five Estuaries Offshore Wind Farm Limited (VEOWL) and North Falls Offshore Wind Farm Limited (NFOW) have sought to collaborate and coordinate where practicable, which has led to collaborative design of the projects' onshore infrastructure. When developing a co-ordinated design onshore, North Falls and Five Estuaries have developed three possible build-out scenarios for both projects. These are:

- **Scenario 1:** North Falls 'Option 2' build out is progressed, and Five Estuaries undertakes landfall, onshore substation construction and cable pull which overlaps with North Falls equivalent works. In this scenario, onshore cable route associated works, including temporary construction compounds (TCC), accesses and haul road, all remain in place and are used by the second project during its construction.
- **Scenario 2:** North Falls 'Option 2' build out is progressed, and Five Estuaries undertakes landfall, onshore substation and onshore cable route construction and cable pull sequentially (i.e. not overlapping) with North Falls. There would

be a gap of between 1 and 3 years between each Projects' construction. In this scenario, onshore cable route associated works, including TCC, accesses and haul road, all remain in place and are used by the second project during its construction.

- **Scenario 3:** North Falls 'Option 1' build out is progressed, and Five Estuaries undertakes a separate landfall, onshore substation and onshore cable route construction and cable pull with a multi-year (>3 year) gap between the two construction activities. In this scenario, there is no reuse in onshore temporary works between the two projects, and all onshore cable route associated works are rebuilt and reinstated in full by the second project.

23. Table 2.1 sets out the options and scenarios that inform the maximum HGV demand for the HGV controls.

Table 2.1 Maximum HGV Options and Scenarios

Option / Scenario	Rationale
Option 2	Maximum intensity of construction activity leading to maximum daily Heavy Goods Vehicle (HGV) demand for a single project.
North Falls and Five Estuaries (Scenario 1)	Maximum intensity of construction activity leading to maximum daily HGV demand for North Falls and Five Estuaries cumulatively.

24. The resultant peak daily HGV trips per link for both North Falls Option 2 and the cumulative construction of North Falls and Five Estuaries (Scenario 1) are summarised in Appendix A and Appendix B of this OCTMP respectively. These appendices form the basis of a monitoring strategy set out later in Section 5 of this OCTMP.

2.2.1 HGV numbers

25. To ensure compliance with the assessed worst-case scenario for HGV trips (within Appendix A) for North Falls Option 2, a booking system for deliveries would be established by the TMCo to monitor HGVs at supply chain source and point of delivery. The booking system would enable a daily profile of deliveries to be maintained, allow the TMCo to ensure that the required deliveries are forecast and planned and also serves to inform route compliance.

26. Should there be a cumulative construction of North Falls and Five Estuaries, to ensure compliance with the assessed worst-case scenario for HGV trips (within Appendix B) for cumulative construction of North Falls and Five Estuaries (Scenario 1) the TMCo will liaise with Five Estuaries to establish their potential forward programme for deliveries. If any potential exceedances of the numbers outlined in Appendix B are identified, the TMCo for North Falls will liaise with Five Estuaries to reschedule deliveries to ensure the cumulative numbers are not exceeded.

27. To provide the relevant highway authorities with an indication of when peak deliveries may occur within the construction programme, the final CTMP would also be updated to include the indicative profiles for monthly deliveries per each road link for the construction duration.

2.2.2 HGV timings

28. The Outline Code of Construction Practice (OCoCP) (Document Reference: 7.13) outlines that construction work for the onshore works must only take place between 0700 hours and 1900 hours Monday to Saturdays, with no activity on Sundays and bank holidays.

29. It is therefore proposed that HGVs would not be permitted to arrive at site before 0700 or depart after 1900 hours (Monday to Saturday). This would however mean that HGVs could be travelling to or from the site outside of the working hours.

30. Any HGVs which are projected to arrive on site prior to 0700 would be required to park at an appropriate lorry park, services and other designated overnight parking locations until they can complete their journey within appropriate restrictions. These locations would be agreed with the relevant highway authorities prior to the commencement of construction and would be communicated to drivers within their delivery instructions (outlined within Section 2.4.1).

31. In addition to the restrictions outlined above, ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) also outlines embedded mitigation measures to manage HGV movements through Thorpe-le-Soken to occur outside of school start and finish times. The TMCo would agree the exact periods to be avoided with Essex County Council as part of finalising the CTMP.

32. The OCoCP (Document Reference: 7.13) includes a list of limited circumstances where onshore works could occur outside of the working hours (0700 to 1900 Monday to Saturday) but notes that save for emergency works, full details (including but not limited to type of activity, vehicle movements and type, timing and duration and any proposed mitigation) of all essential construction activities undertaken outside of the consented construction hours must be agreed with the relevant planning authority in writing in advance, and must be carried out within the agreed time. The TMCo would ensure this prior agreement with Essex County Council was reached for any such out of hours onshore works, and that works were undertaken within the agreed time, utilising the same methods as outlined above for the monitoring and management of the standard working hours.

2.3 Control of HGV routes

33. The proposed routes to be used by HGVs have been carefully selected to minimise effects upon sensitive receptors.

34. The proposed HGV routes to each access would be limited to the assessed links within ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) and as shown on Figure 1 of this OCTMP. To ensure compliance with the HGV delivery routes, the following measures are proposed:

- Direction signing would be implemented to direct construction traffic to the respective accesses along the assessed delivery routes (the location and design of these signs would be agreed with Essex County Council and National Highways (as appropriate) prior to the commencement of the construction of the relevant phase);
- The delivery routes and timing would be communicated (by the TMCo) through the issuing of delivery instructions to all companies and / or drivers involved in the transport of materials and plant to and from the site by HGV construction vehicles;
- The registration numbers for all HGVs making deliveries would be recorded by the TMCo. This would allow for checking and enforcement of any non-compliance of the agreed delivery route;
- The TMCo would require that an agreed proportion of HGVs are equipped with vehicle tracking (e.g. GPS) and that suppliers / drivers make the data available to the TMCo. Vehicle tracking would allow the TMCo to investigate any potential non-compliances. The specific proportion of vehicles that will be required to be fitted with vehicle tracking will be defined by the TMCo and agreed with relevant highway authorities as part of the approval of the final CTMP;
- The TMCo would provide an ‘identifier’ that would be placed within the window of all delivery vehicles to enable residents to identify if an HGV is engaged on work on the Project and would be submitted to and approved by the relevant highway authorities as part of the final CTMP.

2.4 Driver induction

35. All HGV drivers for the Project would be formally inducted. The induction would establish a clear set of responsibilities that all drivers would be required to follow, such as:

- Timings, pre-booked slots;
- Clarification of approved HGV routes;
- Highway safety concerns;
- Adherence to speed limits; and
- Details of reporting accidents and ‘near misses’.

36. The TMCo will also approach Essex Police to request the Essex Police Commercial Vehicle Unit provide a `Toolbox Talk' for HGV drivers and consult with the Safer Essex Roads Partnership regarding the Driving for Better Business scheme to understand what support and training they are able to provide.

2.4.1 Delivery packs

37. To support the strategy to control HGV routes, each driver would be issued with a delivery pack. This pack would include the following information:

- A plan showing the delivery routes, the location of the site access and areas with road safety concerns;
- Details of appropriate lorry parks, services and other designated overnight parking locations where drivers are permitted to stop;
- A copy of the identifier to display in the vehicle window;
- Details of restrictions on delivery hours (set out in Section 2.2.2); and
- Details of disciplinary measures for non-compliance (set out in Section 5.3).

38. The delivery pack will also instruct the driver to show the pack to any police officer should the driver be requested to.

39. Compliance with the agreed HGV delivery routes would be subject to the monitoring and enforcement measures set out in Section 5.

2.5 Abnormal loads

2.5.1 Special order abnormal loads

40. ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) identified that the construction of the Project's onshore substation would require the delivery of large electrical plant items such as transformers. Each transformer delivery would be classified as a Special Order[1] Abnormal Indivisible Load (AIL) delivery due to the size of the vehicle.

41. The movement of Special Order AILs would be outside the restrictions (routes and times) contained within this OCTMP and would be subject to a separate agreement with the relevant highway authorities and police under the Electronic Service Delivery for Abnormal Loads (ESDAL) system.

42. These movements would be expected to travel from the port of Harwich along the A120 before turning into Bentley Road. Whilst this route has been agreed in principle by National Highways, the PC will be required to undertake further discussions with National Highways in advance of using this route to agree any pre and post condition survey requirements and any requirement for mitigation measures

[1] *The Road Vehicles (Authorisation of Special Types) (General) Order 2003 (SI 1998) limits gross weight of an AIL to 150 tonnes, axle weight to 16,500kg, length to 30m and/or width to 6.1m, above which a Special Order is required from National Highways.*

(for example the temporary placement of localised steel plates or trackway to spread the load over areas of concern).

2.5.2 Non-special order abnormal loads

43. There would also be a potential requirement for AILs / abnormal load movements associated with the delivery of items such as cable drums, plant and shunt reactors. These deliveries would not however constitute a Special Order.

44. The movement of the non-Special Order AIL / abnormal loads would be subject to the same delivery route restrictions as HGVs (outlined in Section 2.3) however the timing of movements may be outside the standard hours (outlined in Section 2.2.2) and subject to separate agreement with the relevant highway authorities and police through the ESDAL system.

2.5.3 Abnormal load controls

45. The PC will initially consult with Essex Police, relevant highway authorities and Network Rail and agree appropriate timings, routes (taking into consideration structures) and asset protection measures appropriate to the type of load. This process will be followed for all administration areas through which the loads will traverse, and feed into the formal ESDAL application.

46. Separate to the ESDAL process, the TMCo would also ensure that Suffolk and North East Essex Integrated Care Board and the East of England Ambulance Service are notified of the timing and route of any AILs or abnormal loads.

3 Control of employee trips

3.1 Introduction and background

47. ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) assessed a worst case scenario of all employees travelling by vehicle, with a car share ratio of 1.5 employees per car (or three employees per every two cars).

48. Employee vehicle trips are expressed as Light Vehicles (LV) trips. The term LVs is a collective term used to describe the range of vehicle types that could be used by construction employees (e.g. cars, vans, pick-ups, minibuses, etc).

49. The resultant peak daily LV trips per link for both North Falls Option 2 and the cumulative construction of North Falls and Five Estuaries (Scenario 1) are summarised in Appendix A and Appendix B of this OCTMP respectively.

50. Experience of large scale ‘linear’ construction projects indicates that detailed monitoring of LV routing is notoriously difficult due to the similarity of the vehicle type with baseline traffic and the need to

distinguish legitimate trips (Section 3.2 refers). Therefore, light vehicle (LV) measures concentrate primarily on volume controls (e.g. resource forecasts, car sharing and monitoring vehicles at Project destination).

3.2 Measures

3.2.1 LV numbers

51. To ensure compliance with the assessed worst-case scenario for LV trips (Appendix A), the TMCo would be required to establish a resource forecast for the numbers of employees that could be travelling to the Project. The resource forecast would enable the TMCo to identify any potential exceedances and would be regularly reviewed / reforecast during construction.

52. Should there be cumulative construction of North Falls and Five Estuaries, to ensure compliance with the assessed worst-case scenario for LV trips (within Appendix B) for cumulative construction of North Falls and Five Estuaries (Scenario 1), the TMCo will liaise with Five Estuaries to establish their potential forward resource programme and identify any anticipated exceedances of the numbers within Appendix B.

53. Where potential exceedances are identified either for North Falls Option 2 or North Falls and Five Estuaries (Scenario 1), the TMCo will liaise with the Five Estuaries equivalent (where applicable) to review the resource forecast to determine legitimate trips, these could be:

- Activities which have an agreed economic benefit to the local area, e.g. food retail;
- Emergency trips through restricted areas;
- Employees travelling from a point of residence within the TTSA; and
- Local support services with a business origin within the TTSA.

54. Table 3.1 outlines a range of industry good practice measures that would be adopted to reduce the number of single occupancy vehicle trips.

55. The measures outlined in Table 3.1 would be implemented from the commencement of construction to ensure that good practice measures are embedded from the start of construction with an objective of achieving an overall employee to vehicle ratio of 1.5 during peak employee demand.

56. It is recognised that the demand for employees (and therefore opportunities for car-sharing) will fluctuate throughout construction. Accordingly, total vehicles generated by the workforce will be monitored as a primary target with the TMCo using an overall

employee to vehicle ratio of 1.5 throughout construction as a secondary indicator.

57. The TMCo will be required to monitor the employee to vehicle ratio throughout construction and if it becomes clear that there is no progression toward the objective of an overall employee to vehicle ratio of 1.5 the TMCo will be required to implement further measures.

Table 3.1 Personnel Travel Plan Measures

Measure	Rationale
Identify vehicle sharing and pickup locations	The TMCo would identify and group employees who are in nearby accommodation and explore opportunities for vehicle sharing including: • the assignment of car-sharing, crew vans, designated drivers and minibuses. • the potential to use the Colchester Park and Ride for employees, with employees parking at this location before being transferred to their work area via minibus.
Drivers required to park within designated areas	All drivers would be required to park within designated areas. Drivers not parking within the designated area, would be subject to enforcement action as set out in Section 5.3. The TMCo will manage the availability of parking spaces throughout construction with the aim of reducing single occupancy vehicle trips (through ensuring there is not an overprovision of spaces), whilst managing the potential for overspill parking on the public highway.
Walking, cycling, scooting	It is recognised that the transient nature of the construction workforce would reduce the potential opportunities for walking and cycling. However, the TMCo would encourage employees to walk and cycle by providing changing facilities and secure cycle parking. The level of cycle parking requirements would be established by the TMCo based upon personnel origins and reviewed throughout construction. The TMCo will not promote the use of e-scooters unless they are part of a recognised scheme or there is a change in the law to permit their use on the public highway.
Guaranteed lift home	To allow personnel who car-share to get home in an emergency, a guaranteed lift home would be offered.
Staff noticeboard	Staff noticeboards would be provided within communal areas, which would include details of the car-sharing options including details of parking requirements and the guaranteed lift home. The noticeboards would also include details of local walking and cycling routes and bus and train times (where options exist). The staff noticeboard will also provide information to staff relating to the current law on the use of e-scooters.
Welfare facilities	To minimise the requirement for employees to drive off site during the working day, the TMCo would ensure welfare facilities are available where workers can store, prepare and eat lunch.
Travel Packs and Inductions	The TMCo would ensure that all new starters are inducted and as part of this induction process, employees are provided with specific information in regard to their travel. This would include: • the vehicle-sharing options including details of parking requirements and the guaranteed lift home for non-drivers who may need to leave site unexpectedly.

Measure	Rationale
	• details of local walking and cycling routes and bus and train times (where options exist). • a plan showing the delivery routes, the location of the site access and areas with road safety concerns; • details of disciplinary measures for non-compliance (set out in Section 5.3).

3.2.2 LV timings

58. The OCoCP (Document Reference: 7.13) outlines that construction work for the onshore works must only take place between 0700 hours and 1900 hours Monday to Saturdays, with no activity on Sundays and bank holidays.

59. The assessment of driver delay (capacity) presented within ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) is predicated upon industry experience that highlights that the majority of the construction workforce would arrive before the morning network peak hour of (07:15 to 08:15) and depart before or after the evening peak (16:30 to 17:45).

60. The TMCo will therefore encourage staff to arrive prior to 07:15 and depart before 16:30 or after 17:45 in the evening. To facilitate this and to avoid the risk of employee vehicles needing to wait/park on the highway, the TMCo will ensure that a member of staff (typically security personnel) arrives prior to other employees to ensure that accesses are ready to receive traffic (e.g. gates are open/manned). This will allow employees to arrive and park within the designated onsite parking areas prior to 07:00.

61. Notwithstanding, there may be some employees who would work a shorter day, or trips outside of the peak traffic hours. To ensure that there would not be an adverse impact upon capacity, the TMCo would limit these movements to no more than 20% of the peak daily LV demand (outlined in Appendix A). Section 5.2.4 includes details of how employee movements would be monitored.

62. Alternatively, it could be possible that once appointed, the PC would require that more employees could travel during these peak hours. In this case the relevant highway authority would be consulted and the scope of any further capacity assessments would be agreed.

63. Should the assessment identify potentially significant effects, mitigation measures would be agreed with the relevant highway authority to manage effects to reduce the significance to a level that is not significant.

64. It is proposed that any mitigation measures would focus upon ‘traffic management’ measures to reduce peak traffic movements, such as, a higher car sharing ratio, reprofiling deliveries, etc.

65. It is proposed that the TMCo would discuss and agree the final form of mitigation with the relevant highway authorities prior to the commencement of the relevant phase of construction.

66. The OCoCP (Document Reference: 7.13) includes a list of limited circumstances where onshore works could occur outside of the working hours (0700 to 1900 Monday to Saturday) but notes that save for emergency works, full details, including but not limited to type of activity, vehicle movements and type, timing and duration and any proposed mitigation, of all essential construction activities undertaken outside of the consented construction hours must be agreed with the relevant planning authority in writing in advance, and must be carried out within the agreed time. This agreement with the relevant planning authority would include discussion of the likely timing of LV movements by construction workers for such out of hours works.

4 Traffic management

4.1 Introduction

67. This section sets out the standards and procedures for managing the interaction between construction traffic, existing highway users and local communities.

4.2 Control of material on the highway

68. To prevent detritus and other material being deposited on the public highway, the TMCo would be required to implement a series of site-specific measures. Prior to the commencement of construction of the relevant phase, the details of the measures that would be used for each access and crossing would be submitted to and agreed with the relevant highway authorities as part of the final CTMP.

69. It is envisaged that as a minimum, measures would include the following:

- All accesses and crossings would be provided with a bound surface (asphalt / concrete) to prevent mud and dirt being tracked onto the highway;
- Regular inspections of the public highway in the vicinity of the active site accesses to ensure cleanliness; and
- Road sweepers on call to clear any detritus and other material from the public highway.

70. Where deliveries are likely to be more intense, such as at compounds, further measures such as wheel washing facilities and dust suppression may be provided.

71. Prior to the commencement of construction of the relevant phase, the TMCo would agree with the relevant highway authorities an appropriate response time to remove any reported detritus / material on the highway following a report.

72. Prior to the commencement of construction of the relevant phase, the TMCo will also be required to provide the Highway Stakeholders with a contact number to provide a direct line of communication to report/discuss any issues.

4.3 Accesses and road crossings

73. A suite of outline access and road crossing designs have been developed for the Project and are detailed within Appendix C of this OCTMP. The location of these accesses and road crossings is also shown on ES Figure 27.2 (Document Reference: 3.2.23).

74. It has been agreed with Essex County Council that these outline access and crossing designs would be refined post consent, to be included in the final CTMP.

75. Prior to the commencement of the construction for the relevant phase, the technical approvals for the access and crossing designs would be submitted to and agreed with Essex County Council under relevant provisions of the DCO or via Section 278 of the Highways Act 1980.

76. The technical approval process would include submission of finalised drawings showing full details of access and crossing improvements, including drainage, lighting, signing and standard construction details.

77. The technical approval documentation would also include a Stage 2 Road Safety Audit and a Road Safety Audit Response Report (on behalf of the designers) for the access and crossing designs. Copies of the Stage 1 Road Safety Audits are provided within Appendix E of this OCTMP.

78. In addition to any powers set out in the draft DCO, relevant powers under the Road Traffic Regulation Act 1984 would be sought to implement any temporary speed limit changes required.

79. All accesses and crossings identified for construction are temporary and following completion of the construction works would be reinstated to their former state. The exception to this would be the access / crossing (AC-12) to the onshore substation which would remain permanently in-situ for operation and maintenance purposes (notated OA-39).

4.4 Traffic management measures

80. Table 27.2 of the ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) outlines the requirement for a limited number of construction vehicles to travel via Ardleigh Road from access AC-12 to access AC-13 (a distance of approximately 350m) to undertake drainage works.

81. Noting the limited numbers of vehicles and temporary duration of the works, it is proposed to use mobile traffic management measures to

manage the potential for conflict between two vehicles along this narrow road. These measures could include:

- Using an escort vehicle to guide construction traffic along Ardleigh Road and past oncoming traffic;
- Using 'Stop-works' signage to hold traffic back (for up to two minutes in any 15 minutes) whilst construction traffic travels along Ardleigh Road; or
- A banksman to observe oncoming traffic on Ardleigh Road and signal to the construction traffic driver when it is clear to proceed.

82. It is proposed that prior to the commencement of the construction of the relevant phase, the TMCo would formalise and agree the measures to be adopted for Ardleigh Road with Essex County Council.

4.5 Highways works

83. The Highways Works (HW) consist of:

- Bentley Road improvement works;
- a temporary 40mph speed limit along Bentley Road;
- installing a footway / cycleway parallel to Bentley Road; and
- widening the junction between Bentley Road and the A120.

84. The Bentley Road improvement works and the junction widening are proposed to be permanent, and the footway / cycleway is proposed to be removed following the end of the construction phase. The outline HW designs are provided in Appendix D.

85. It has been agreed with the relevant highway authorities that these outline designs will be refined post-consent and final designs subject to technical approval and agreement from Essex County Council and National Highways under relevant provisions of the DCO or via Section 278 of the Highways Act 1980. The technical approval process would include submission of finalised drawings showing full details of the HWs, including drainage, lighting, signage and standard construction details.

86. Prior to the construction of the Bentley Road improvement works, pavement coring and condition surveys will be undertaken, as requested by Essex County Council, to determine whether the road needs reconstruction or strengthening prior to construction commencing. These works would also include consideration of whether resurfacing to reduce road noise may be appropriate (Section 4.12).

87. The technical approval documentation would also include a Stage 1/2 Road Safety Audit and a Road Safety Audit Response Report (on behalf of the designers) for the HW. Copies of the Stage 1 Road Safety Audit for the A120/Bentley Road junction are provided within Appendix E of this OCTMP.

4.6 Cable crossing

88. ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) outlines that cable installation works, along the onshore cable route would need to be installed across four minor public roads using open-cut trenching techniques. All other roads would be crossed using trenchless crossing techniques such as Horizontal Directional Drilling (HDD). The location of all roads to be crossed by the Project's onshore cables and the form of crossing (i.e. open cut or trenchless techniques) are shown on ES Figure 27.4 (Document Reference: 3.1.23).

89. Due to the width of four of these roads, it is proposed that they would be closed for a period of up to six weeks (per crossing) whilst the cables are installed. These four roads include:

- Damant's Farm Lane;
- Paynes Lane;
- Spratts Lane; and
- Barlon Road.

90. To minimise the effect to existing road users of these four roads, the following measures are proposed:

- A safe route would be maintained for pedestrians and cyclists through the works area;
- Advanced signing would be implemented to assist drivers in finding alternative routes;
- The closures would be staggered, to ensure that nearby roads are not closed at the same time to ensure alternative diversions exist; and
- The TMCo and CLO would engage with affected local communities and stakeholders (including emergency services) to provide advanced notification and identify if there may be periods which could be avoided.

4.7 Road safety

91. An 'Access Route Review' (ARR) will be submitted with the final CTMP to comprise a review of the most recent road safety information on the agreed HGV routes, to determine whether there are any significant changes to the consented baseline conditions (e.g. road design or patterns of collisions which may affect safety during construction). The ARR would utilise the methodology outlined within Section 27.5.4 of the ES Chapter 27 Traffic and Transport [**APP-041**].

92. The ARR would allow for any emerging issues to be identified and discussed with the highway authorities to understand if they have any scheduled work to address the issues or if additional reasonable traffic management measures may need to implement by the TMCo. If measures are deemed to be required by the TMCo, these would

focus upon driver education and training (through inductions and delivery instructions) or temporary signage, rather than physical highway interventions.

93. Following the commencement of construction, the TMCo will continue to actively monitor and review any collisions or near misses involving their construction traffic (the ARR process). If emerging issues are identified, the TMCo will initiate discussions with the relevant highway authorities to update the package of traffic management measures as required, e.g. updating the delivery instructions, erecting additional temporary warning signs, etc.

94. Section 27.6.1 of the ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) identified potentially significant road safety effects along links 22 and 23 and within Cluster 8 (which lies on the roundabout junction between links 23 and 48).

95. Noting the temporary nature of the Project's construction phase, ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) outlines it is proposed that mitigation measures for links 22, 23 would focus predominantly upon management measures with the exception of physical measures at Cluster 8 (St John's Roundabout).

96. With regard to Cluster 8 it is proposed that prior to the commencement of construction of the relevant phase, the condition of the road marking and surfacing upon the approach to the roundabout will be reviewed and if markings and high friction surfacing (on the A133 approach to the roundabout) are deemed to require refreshing, the Applicant will facilitate conversations with Essex County Council to prioritise the delivery of these maintenance measures.

97. Management measures to minimise the impact on highway safety during the Project's construction phase are:

- Driver inductions and training. Drivers would be informed of the areas with existing highway safety issues (from the ARR) and appropriate training would be provided to minimise the effect on highway safety;
- Driver information packs. Where vehicles are routed via links where the ARR notes existing issues (e.g. Links 22, 23 and Cluster 8), the existing highway safety issues would be highlighted to drivers within information packs provided inside their delivery instructions. If emerging issues are identified through the ARR process, the packs would be updated; and
- Near miss reporting. Drivers would be requested during the induction to report any collisions or near misses. This would allow any potential highway safety concerns to be identified early and remedial action taken.

4.8 Streetworks

98. To construct each of the accesses, crossings and HW (including cable crossings and road safety improvements) temporary traffic management would be implemented to maintain highway safety and to ensure minimal delays to existing road users.

99. Prior to the commencement of construction of the relevant phase, details of traffic management would be developed by the TMCo in liaison with Essex County Council (and National Highways where appropriate).

100. Street works will be in accordance with the DCO and applications for road space booking would be made via the Essex Permitting Scheme.

4.9 Parking and loading

101. Appropriate loading / unloading and parking areas for construction vehicles would be designated within the construction sites to avoid the need for parking or waiting on the highway.

102. The planning of deliveries via the booking system would assist the TMCo to allocate sufficient space to accommodate the planned number of HGV deliveries.

103. The travel planning measures outlined in Table 3.1 will assist the TMCo in ensuring that the need for employee parking is managed to avoid employees parking on the public highway whilst also seeking to minimise vehicle trips.

4.10 Traffic incident management

104. To reduce the potential for construction traffic to have an adverse effect upon the highway network during planned and unplanned events and peak seasonal periods, the measures set out in Table 4.1 would be adopted.

Table 4.1 Traffic Incident Management Measures to be Adopted During Events

Measure	Rationale
Managing traffic demand during major events that impact on the highway (e.g. Little Bromley 10km race and the Corbeau Seats Rally).	The CLO and TMCo would liaise with local stakeholders to understand when major events occur. To ensure there are limited HGV trips planned during planned major events, the TMCo would undertake advanced planning to schedule activities and stockpile of materials in advance.
Schedule peak deliveries to limit impacts upon seasonal traffic	The TMCo would seek to schedule peak material deliveries to limit HGV demand during the most sensitive periods for tourist traffic, e.g. Saturdays during the school summer holidays. To ensure there are limited HGV trips during these sensitive periods the TMCo would undertake advanced planning to schedule activities and stockpile of materials in advance.
Managing traffic demand during major incidents such as accidents on the highway.	The TMCo would monitor traffic conditions. Should the TMCo become aware of an incident then the PC would liaise directly with suppliers to suspend HGV deliveries along affected routes where required.
Managing traffic demand during road closures.	In the event that the TMCo becomes aware that the agreed delivery routes (Figure 1) are unavailable (e.g. due to road closures by others) the TMCo would initially seek to reschedule works utilising the affected links. Where this

Measure	Rationale
	is not possible (e.g. in the case of long term closures which would disrupt the construction programme) the following approach is proposed: • The TMCo would identify contingency diversion routes having regard for the road hierarchy (e.g. where practicable utilising A and B roads) • The TMCo would submit details of the proposed contingency diversion routes to the relevant highway authorities who would be requested to advise if they consider the routes are suitable or if they require any further assessment; and • If further assessment is required, the TMCo would undertake the required assessment utilising the methodology detailed with ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29) and request the relevant highway authorities to review the outputs and confirm acceptance or otherwise.
Incidents involving PC HGV traffic blocking the highway, such as, breakdowns, accidents, etc.	The PC and their suppliers' fleet would have arrangements with recovery companies to allow breakdowns and accidents to be cleared as quickly as possible. All breakdowns and accidents would be reported to the TMCo. The PC will ensure that recovery companies are identified in advance to ensure a clear process is in place that provides a suitable provision for recovery and avoids undue congestion, risk, and costs.

4.11 Highway condition surveys

105. Highway condition surveys would be undertaken by the TMCo prior to the commencement of construction of the relevant phase and after substantial completion of construction works in relation to sections of a highway to be agreed with Essex County Council. Where required, the surveys would include all roads and verges within the TTSA that are not specifically designated for HGV movements, i.e. excluding all A-roads.

106. Any damage to the existing highway network as a consequence of the Project would be repaired by the PC or a financial contribution made to Essex County Council to cover the cost of remedial works. The survey would most likely comprise of a Coarse Visual Inspection survey (in accordance with the United Kingdom (UK) Pavement Management System standard). Prior to the commencement of construction of the relevant phase, the extent and scope of the surveys would be agreed between the TMCo and Essex County Council and outlined within the final CTMP.

107. In addition to undertaking surveys prior to and on completion of the construction works, the PC would also undertake regular inspections of the sections of the highway network agreed with Essex County Council (for condition surveys) to identify any emerging issues (such as damage to verges or potholes forming). The PC would be assisted in this function by the CLO who would feedback any local highway condition issues from their community engagement.

108. Further coring works would be carried out on Bentley Road (Link 4) prior to the widening works to ascertain the condition of the highway structure, more details are given in Section 4.4.

109. Where emerging issues are identified as a result of the Project's construction traffic, the PC would notify the relevant highway authority and either repair the issue or ask the relevant highway authority to undertake the repairs (with costs being recharged to the PC).

4.12 Noise management

110. ES Chapter 26 Noise and Vibration (Document Reference: 3.1.28) identified potentially significant noise effects to receptors associated with the addition of the Project's peak construction traffic travelling via Bentley Road (Link 4). However, when the embedded highway mitigation measure of a temporary reduction in the speed limit along Bentley Road (outlined in Section 4.4) was applied the residual noise effects were reassessed as not significant in Environmental Impact Assessment (EIA) terms.

111. It is therefore proposed that prior to the commencement of the construction of the relevant phase of the Project, the TMCo will ensure that a temporary 40mph speed limit has been implemented along Bentley Road and that the measures to manage the number of vehicle movements via Bentley Road (detailed in Section 2.2.1 and 3.2.1) are implemented.

112. Whilst the number of construction vehicles for North Falls alone (271 LVs and 235 HGVs per day) traveling via Bentley Road (Link 4) is not assessed to result in significant noise effects, the addition of further cumulative traffic associated with Five Estuaries and Norwich to Tilbury is assessed to result in potentially significant noise effects requiring further mitigation (beyond a reduction in the speed limit).

113. During the Project's construction phase, should a temporal overlap with Five Estuaries and / or Norwich to Tilbury be identified, the TMCo would liaise with the respective projects to establish their forward forecast for vehicle trips via Bentley Road (Link 4). Should these forecast identify there could be an increase in vehicle movements along Bentley Road above the levels for North Falls alone (271 LVs and 235 HGVs per day) the TMCo will work with the respective projects to assess the likely significant effects and establish a mitigation strategy.

114. Prior to the commencement of the relevant phase of construction, the TMCo would undertake baseline noise level monitoring at the worst-affected property (detailed in ES Chapter 26 Noise and Vibration (Document Reference: 3.1.28)) and assess potential noise effects.

115. Should the assessment identify potentially significant effects, mitigation measures would be proposed and agreed with Tendring

District Council (prior to the commencement of the relevant phase) to reduce the effect to a level that is not significant. Mitigation measures could include:

- Temporary screening between the road and receptors;
- Offers of improved noise insulation (glazing and ventilation) or temporary rehousing to residents of affected properties;
- Resurfacing of Bentley Road, e.g. with low noise asphalt or to remove existing damage, deflections in the surface that could lead to higher noise levels;
- A reduction in peak LV trips through enhanced travel planning measures, e.g. further car-sharing or contractor provided minibuses, etc;
- A reduction in peak daily HGV trips through measures such as:
  - Stockpiling of materials to reduce peak daily HGV demand;
  - Backhauling, i.e. using laden vehicles to import stone and export excavated material;
  - Optimising the size of HGVs to reduce the total number;
  - Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and
  - Reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.

4.13 Sign Maintenance

116. To ensure that any road signs installed for the Project (e.g. warning, direction, prohibition signage) clearly convey directions, the TMCo will be required to keep a record of all signs erected and undertake regular monitoring (at least weekly).

117. If the TMCo identifies that the signage is inconspicuous (e.g. due to dirt or overgrown vegetation) or missing, the TMCo will be required to correct matters.

4.14 Transport Working Group

118. Prior to the commencement of construction, the TMCo would establish a Transport Working Group (TWG) to assist the relevant highway authorities in coordinating the competing requirements from the projects within the TTSA.

119. The relevant highway authorities would be requested to nominate staff and invite relevant third party members to the TWG. It is expected that membership would include the nominated staff from the relevant highway authorities, the Applicant, and other major infrastructure projects under construction at the same time as the Project, such as Five Estuaries Offshore Wind Farm Limited and

National Grid Electricity Transmission (for the Norwich to Tilbury project).

120. The TWG would allow developers to discuss matters and coordinate with the aim of minimising disruption where practicable. Topics for discussion could include opportunities for coordination in relation to:

- Road works/road closures;
- Forecast peak HGV demand;
- Any emerging issues, areas for improvement, lessons learnt that can be shared;
- Highway improvements, e.g. Bentley Road improvements;
- Timing of abnormal load movements.

121. It is proposed that TWG meetings will be monthly, unless agreed otherwise between the members of the TWG. The membership of the TWG will be kept under review throughout construction, with members added or removed as required.

5 Monitoring, enforcement and action plan

5.1 Introduction

122. The following section sets out how the targets and measures contained within this OCTMP would be monitored to ensure compliance.

5.2 Monitoring

5.2.1 Community liaison

123. The Applicant would appoint a CLO who would be the first point of contact for all concerns raised. Contact details would be circulated to local parish and town councils and included on the Project's website and newsletters for reference.

124. In accordance with the requirements of 'Safety at Street Works and Road Works: A Code of Practice' (Department for Transport,

2013) signs would also be erected at road works with the relevant contact number (the Project's dedicated telephone number) clearly displayed for public enquires.

125. All enquiries would be recorded and responded to within seven working days. The enquirer would receive a written response detailing what action (if necessary) has been taken.

5.2.2 HGV numbers

126. To ensure compliance with the assessed daily HGV trips (outlined in Appendix A and B), the TMCo would operate a booking system for all deliveries. The booking system would be monitored (by the TMCo) to ensure the assessed number of trips are adhered to.

127. The TMCo will implement a system to record the number of vehicles and arrival and departure times at each access.

5.2.3 HGV routing

128. To assist the TMCo in responding to any complaints regarding HGV routing, the booking system (described in Section 2.2.1) would provide an initial check. The booking system would allow the TMCo to check if the reported HGV may have been employed in delivering to the Project, e.g. allowing checking of number plates, supplier names, scheduled timings and origin and destination, etc.

129. The TMCo would also implement a system to help the public distinguish HGV construction vehicles associated with the Project from other traffic on the network. Each vehicle would be required to display a unique identifier within the window of the cab (a recognisable logo) that would allow members of the public to report any concerns such as driver behaviour or the use of unapproved routes via a published telephone contact number. Prior to the commencement of the construction of the relevant phase, the TMCo will submit details of the unique identifier to the Highway Stakeholders for their records.

130. The TMCo would also ensure that an agreed proportion of HGVs are equipped with vehicle tracking (e.g. GPS) (further detail provided in Section 2.3). Vehicle tracking software, together with delivery records would serve to augment the unique identifier to allow the TMCo to respond to any complaints and provide a complete evidence base.

131. The TMCo will be required to provide Essex Police with access to this data (if requested) to ensure complaints received by the Commercial Vehicle Unit can be dealt with quickly and proportionately.

5.2.4 Employee monitoring

132. The TMCo would require all employees and visitors to sign in and out. This process would capture the details including the employee's method of travel to work and arrival / departure times and origin.

5.2.5 Overspill parking

133. The final CTMP will include details of measures agreed with the relevant highway authorities as to how the demand and supply of car parking will be monitored to identify any overspill parking on the public highway. Measures could include auditing the destination of any employees walking to site (e.g. anyone walking to site should be local) and weekly spot checks of parking local to accesses against a list of workforce vehicle registration plates.

5.2.6 Road safety

134. The TMCo would operate a Road Safety Review process of 'near miss' reporting for all highways incidents. The TMCo would ensure that all accidents and near misses are recorded within this system and that drivers are reminded to report all issues through inductions. Any accidents or near misses would be recorded, investigated and reported to the relevant highway authorities by the TMCo.

135. The TMCo would retain records of all incidents and submit to the relevant highway authorities as part of the monthly monitoring reports. If emerging issues are identified, the TMCo would initiate discussions with the highway authorities and Essex Police to promote a 'Zero Harm Culture' (further details are provided within Section 4.7).

5.2.7 Equality Impacts Assessment

136. The Project's Equality Impact Assessment (EqIA) [REP1-049] includes a recommendation to monitor vehicle movements along Link 24, to ensure that the peak daily change in total traffic flow from the Project is less than 30% (compared to background flows). This conclusion recognises that this link has a relatively high concentration of receptors that are heavily relied on by older people and those with disabilities.

137. Table 27.16 of ES Chapter 27 Traffic and Transport [APP-041] sets out the forecast numbers of peak construction trips along all links (including Link 24) and notes that for North Falls Option 2 (being the realistic worst case scenario) there would be an approximate increase in total traffic along Link 24 of approximately 2%, i.e. significantly less than 30%.

138. Section 2.2.1 and 3.2.1 outline measures to ensure that HGV and LV movements respectively to do not exceed those assessed within ES Chapter 27 Traffic and Transport [APP-041] and section 5.2.2 and 5.2.4 includes detail of measures to monitor compliance.

139. Compliance with these limits on HGV and LV movements detailed within Section 2.2.1 and 3.2.1 will ensure that changes in total vehicle movements are significantly less than 30% (as recommended by the Project's EqIA [REP1-049]). No further monitoring beyond that outlined in section 5.2.2 and 5.2.4 is therefore proposed.

5.2.8 Monitoring reports

140. Data recorded from the monitoring processes outlined above would be drawn together by the TMCo to produce a monthly monitoring report during

construction of the relevant phase and shared with the relevant highway authorities (and Essex Police upon request).

141. In compiling the monitoring report, the TMCo would be able to identify effective / ineffective measures and the requirement for any remedial action to achieve the agreed targets. A typical structure for the monitoring report would be as follows:

- Introduction and Background – this would provide detail with regard to the types of works being undertaken and number of construction workers;
- Results of Surveys and Monitoring – the TMCo would collate the results of the surveys and monitoring that have been undertaken. Where appropriate, the results of the surveys undertaken would be compared to the targets defined in the OCTMP. Data obtained from the surveys would be included as an appendix;
- Achievements – this would detail how all measures form the CTMP have been implemented;
- Summary – the TMCo would detail whether the CTMP is on track to meet its targets and if not, why not; and
- Future Plan – this would detail the aims of objectives of the CTMP for the next period to include any specific outcomes or desired results with any additional measures that are to be included to remediate action.

5.3 Enforcement

142. To ensure that the final CTMP is effectively enforced the following matters have been defined as non-compliances that would be investigated to understand if corrective measures would be required:

- Regular exceedance of the target daily and hourly vehicle numbers. Exceedance which could indicate a pattern requiring further investigation is defined as:
    - two or more occurrences of an exceedance of less than 10% more than the limit (e.g. If the limit is 300 movements and the recorded movements were between 301 and 330) within one working week; or
    - five or more occurrences of and exceedance of less than 10% more than the limit within one month, or
    - any exceedance greater than 10% of the limit (i.e. if the limit is 300 movements, then 331 movements or more). For peak hour workforce movements, there may be extenuating circumstances which mean that an occurrence of a higher number of vehicle movements than the set limit would not be defined as an exceedance (e.g. an accident creating additional delay / affecting journey times);
- Failure to display the unique identifier, or to remove the unique identifier when not making deliveries to the Project;
- Construction workers overspill parking on the public highway;

- HGV drivers parking/waiting at non-designated locations;
- Vehicles being driven in contravention of the highway code;
- Construction traffic operating outside agreed hours (employee vehicles and HGVs); or
- HGV drivers not adhering to the agreed routes / times.

143. On receipt of a report of a potential non-compliance, the TMCo would investigate the circumstances and compile a report for the relevant highway authority as soon as reasonably practicable. The report would outline the outcome of the investigation and what corrective action (as necessary) has been implemented.

144. If the non-compliance is found to be material, the TMCo would take appropriate action within the jurisdiction of the contract and report back to the relevant highway authority.

145. Individual employee non-compliances would be addressed through UK employment law whereby the process outlined above may form the basis for disciplinary proceedings, if appropriate.

5.4 Action plan

146. The action plan set out in Table 5.1 summarises the commitments and measures that would be implemented by the Applicant, PC and TMCo.

147. Table 5.1 also provides an indicative timescale for the implementation of each of the measures. The exact details and associated timescales would be established in consultation with the relevant highway authorities as part of the preparation of the final CTMP.

Table 5.1 OCTMP Action plan

Measure ID	Measure	Responsibility	Indicative Timescales
M01	Appoint an Applicant's representative.	The Applicant	During mobilisation
M02	Appointment of a CLO.	The Applicant	Prior to commencement of construction
M03	Appointment of a TMCo.	PC	Prior to commencement of construction
M04	Obtain technical approval for construction accesses and crossings.	The Applicant	Prior to commencement of construction

Measure ID	Measure	Responsibility	Indicative Timescales
M05	Obtain technical approval for construction of highways works.	The Applicant	Prior to commencement of construction
M06	Appointment for a Dangerous Goods Safety Advisor.	TMCo/PC	Prior to commencement of construction
M07	Implement highways works.	PC	Prior to commencement of construction
M08	Implement direction signing.	TMCo	Prior to commencement of construction
M09	Agree timing, diversion routes and reinstatement details for cable crossings.	TMCo	Prior to commencement of construction
M10	Establish monitoring systems: • Delivery booking system; • Highway condition; • Unique vehicle identifier; • Overspill parking; and • Telephone reporting system.	TMCo	Prior to commencement of construction
M11	Agree scope of and undertake pre-commencement highway condition surveys.	TMCo	Prior to commencement of construction
M12	Agree and implement measures for each access and crossing to control the deposition of detritus on the public highway.	TMCo	Prior to commencement of construction
M13	Regularly review the potential for cumulative noise effects along Bentley Road and if necessary, agree and implement noise mitigation.	TMCo	Prior to and ongoing throughout construction
M14	Undertake ongoing liaison with communities and stakeholders.	TMCo and CLO	Prior to and ongoing throughout construction
M15	Establish and attend the TWG.	TMCo and CLO	Prior to and ongoing throughout construction

Measure ID	Measure	Responsibility	Indicative Timescales
M16	Undertake a Access Route Review and agree and implement any of the required traffic management measures. Following commencement of construction, continue to monitor any accidents and near misses and update traffic management measures as required.	TMCo	Prior to and ongoing throughout construction
M17	Inspect the highway for detritus and request regular cleansing as required.	TMCo	Ongoing throughout construction
M18	Monitoring of CTMP measures: • Vehicle numbers; • Arrival and departure times; • Accidents and near misses; • Employee mode share; • Overspill parking; and • Complaints.	TMCo	Ongoing throughout construction
M19	Produce monthly monitoring reports.	TMCo	Ongoing throughout construction
M20	Update condition surveys and agree any remedial works.	TMCo	Following the completion of construction

6 Administration

148. The final CTMP will confirm which teams within the highways department at Essex County Council the detailed design, detailed information and road safety audit (as defined in the protective provisions contained in Part 8 of Schedule 14 to the DCO (Protective Provisions)) will be issued to and an indicative programme for submission.

149. The Applicant agrees to pay Essex County Council's reasonable and properly incurred costs for actions taken in relation to the information listed under paragraph 148, the final CTMP and the Protective Provisions including but not limited to:

- participating in the design process for the detailed design and road safety audit;
- reviewing the detailed information;
- attending such meetings as required;
- negotiating a local operating agreement;
- reviewing access designs; and

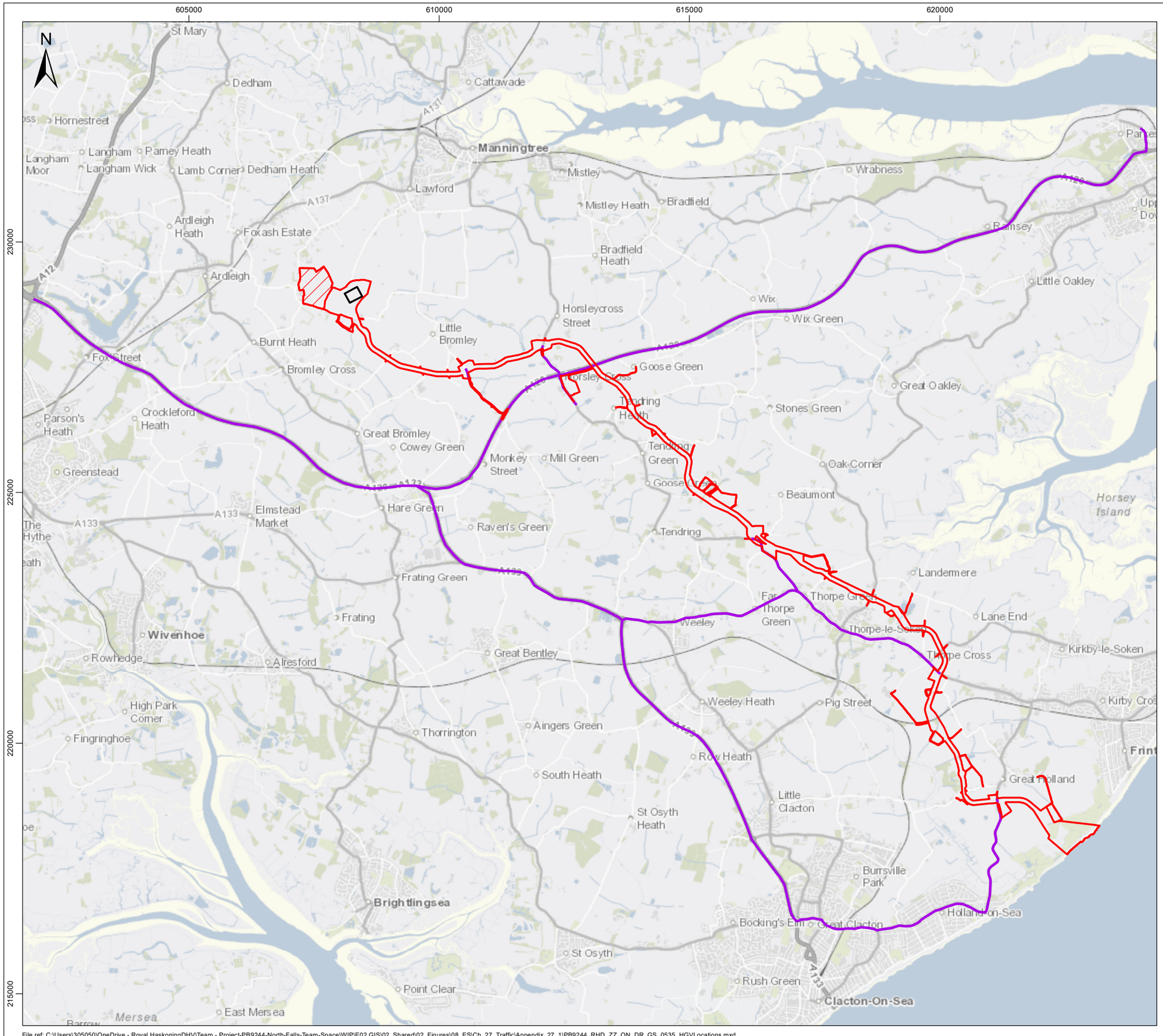
- reviewing and inspecting any works to the public highway and testing any materials.

150. The costs will be agreed with Essex County Council prior to the carrying out of any works to the public highway pursuant to Articles 10, 12, 13 and 16 of the DCO. The agreed costs will be set out in the final CTMP or a separate framework agreement or a planning performance agreement. The agreed costs will reflect the standard fee or standard costs on an hourly basis for the time incurred by Essex County Council officers as charged by Essex County Council for the above types of activities at the time agreement is sought.

~~6~~7 References

Department for Transport (1980), Highways Act 1980. Available at: https://www.legislation.gov.uk/ukpga/1980/66/contents/1991-11-01 [Accessed February 2024]
Department for Transport (1984), Road Traffic Regulation Act 1984. Available at: https://www.legislation.gov.uk/ukpga/1984/27/contents [Accessed February 2024]
Department for Transport (2013), Safety at Street Works and Road Works: A Code of Practice. Available at: https://www.gov.uk/government/publications/safety-at-street-works-and-road-works [Accessed February 2024]

Figures



Legend

- Onshore Project Area
- Onshore Substation
- East Anglia Connection Node (EACN)
- HGV Routes

0 1.25 2.5 5 km

Drawing Title

HGV Routes

Rev	Date	Remarks	Drwn	Chkd
02	31/05/2024	Second issue	FC	CB
01	08/04/2024	First issue	JH	CB

Drawing Number	Figure Number
PB9244-RHD-ZZ-ON-DR-GS-0535	1

Scale	Plot Size	Datum	Projection
1:75,000	A3	OSGB36	BNG

Royal HaskoningDHV
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NORTH FALLS
Offshore Wind Farm

File ref: C:\Users\305050\OneDrive - Royal HaskoningDHV\Team - Project-PB9244-North-Falls-Team-Space\WIP\E02 GIS\02_Shared\02_Figures\08_ES\Ch_27_Traffic\Appendix_27_1\PB9244_RHD_ZZ_ON_DR_GS_0535_HGVLocations.mxd

Appendix A: Peak Vehicle Movements Per Link - Option 2

Link Details		North Falls Option 2 Construction Flows (peak)		
Link	Link Description	Peak daily vehicle flows		
		Total Vehicles	LVs	HGVs
1	A120 from the A12 to the A133	780	286	494
2	A120 from the A133 to Harwich Road	812	318	494
3	A120 from Harwich Road to Bentley Road	812	318	494
4	Bentley Road from the A120 to Little Bromley	506	271	235
5	Bentley Road through Little Bromley	64	64	0
6	B1035 south of the A120 to Tendring Green	255	183	72
7	Bromley Road north of Little Bromley	64	64	0
8	Bromley Road south of the A137	64	64	0
9	A137 east-west through Lawford	0	0	0
10	A137 north-south through Lawford	6	6	0
13	B1035 south of the B1352	71	71	0
14	B1035 north of the A120	130	101	29
15	A120 from Bentley Road to the B1035	851	357	494
16	A120 from the B1035 to Colchester Road	535	41	494
18	A120 from Colchester Road to the B1352	535	41	494
19	A120 from the B1352 to Parkeston Road	520	26	494
20	A133 south of the A120	459	194	265
21a	A133 to Crown Lane	568	303	265
21b	A133 from Crown Lane to the B1034	585	320	265
22	A133 south of the B1033 to Progress Way	278	172	106
23	A133 south of Progress Way to the B1032	263	157	106
24	B1032 east of the A133 to Holland Road	259	153	106
25	B1032 from Holland Road to Kings Parade	224	153	71
26	B1032 from Kings Parade to the south of Great Holland	259	153	106
27	B1032 through Great Holland	61	61	0
28	B1033 north of the B1032 through Kirby Cross to Pork Lane	91	91	0
29	B1033 from Pork Lane to the south of Thorpe-le-Soken	181	148	33
30	B1033 south of the B1414 through Thorpe-le-Soken	181	148	33
31	B1414 east of the B1033	53	53	0
32	B1033 north of the B1414 through Thorpe-le-Soken	180	147	33
33	B1033 from the B1441 to the B1035 through Weeley	348	189	159
34	B1033 from the A133 to the B1441	348	189	159
35	B1035 north of B1033 to Whitehall Lane	319	236	83
36	B1035 through Tendring Green from Parsonage Lane to Stones Green Road	126	126	0
37	B1035 north of Whitehall Lane to Swan Road	199	160	39
38	B1035 through Goose Green	126	126	0
39	B1035 north of Swan Road to the south of Tendring	109	109	0
40	B1035 through Tendring to Crown Lane	109	109	0
41	Crown Lane	17	17	0
42	B1035 from Crown Lane to Lodge Lane	126	126	0
43	A133/Colchester Road from A133/Colchester Road roundabout to end of TTSA	96	96	0
44	B1441 (Progress Way) from A133/St Osyth Road/Progress Way Roundabout to B1414	13	13	0
45	B1414 east of B1441 to B1033 in Thorpe-le-Soken	4	4	0
46	B1441 from B1414 to B1033 in Weeley	0	0	0
47	A120 from Parkeston Roundabout to St Nicholas Roundabout	499	5	494
48	St John's Road from St Osyth Roundabout to end of TTSA	48	48	0

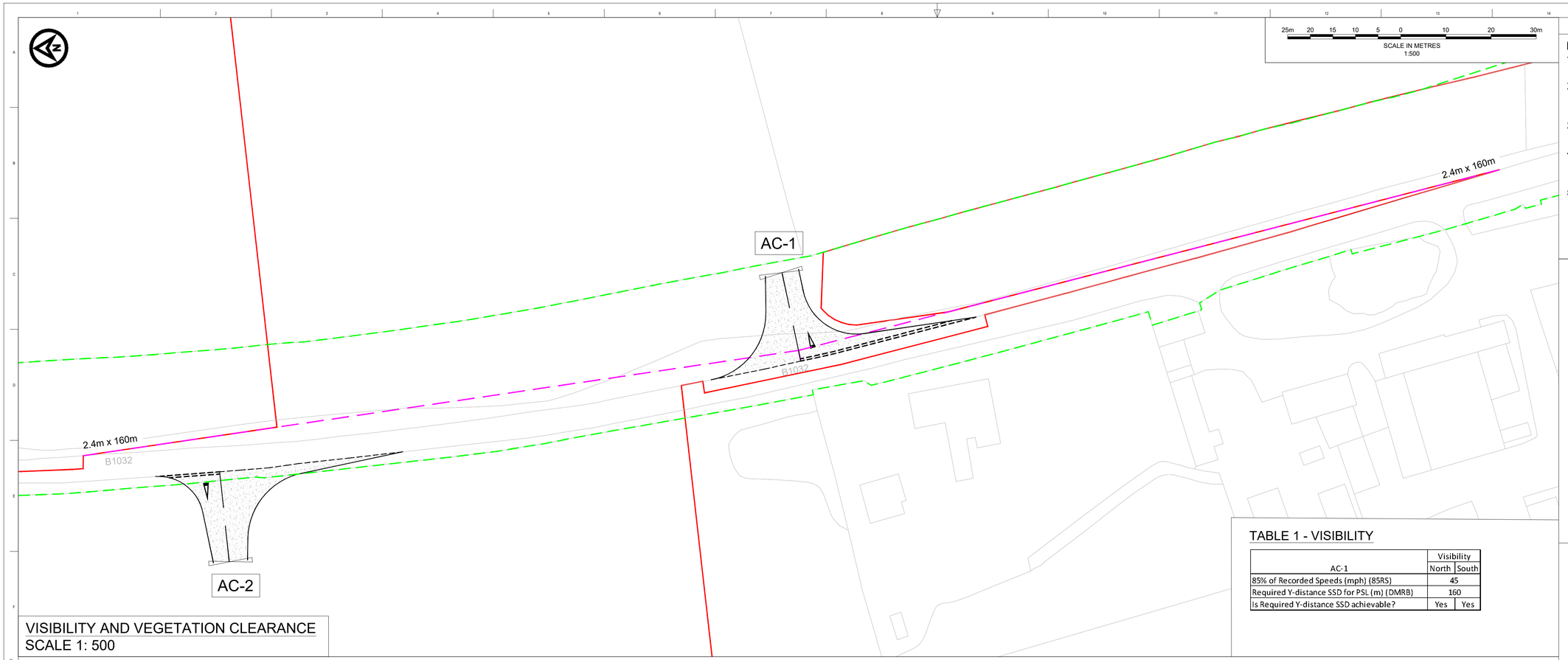
Mitigated Flows

Appendix B: Peak Vehicle Movements Per Link – Scenario 1

Link Details		North Falls / Five Estuaries Scenario 1 Construction Flows (peak)		
Link	Link Description	Peak daily vehicle flows		
		Total Vehicles	LVs	HGVs
1	A120 from the A12 to the A133	956	351	605
2	A120 from the A133 to Harwich Road	1,157	552	605
3	A120 from Harwich Road to Bentley Road	1,157	552	605
4	Bentley Road from the A120 to Little Bromley	823	458	365
5	Bentley Road through Little Bromley	109	109	0
6	B1035 south of the A120 to Tendring Green	288	216	72
7	Bromley Road north of Little Bromley	109	109	0
8	Bromley Road south of the A137	109	109	0
9	A137 east-west through Lawford	0	0	0
10	A137 north-south through Lawford	7	7	0
13	B1035 south of the B1352	74	74	0
14	B1035 north of the A120	135	107	29
15	A120 from Bentley Road to the B1035	1,157	552	605
16	A120 from the B1035 to Colchester Road	663	58	605
18	A120 from Colchester Road to the B1352	663	58	605
19	A120 from the B1352 to Parkeston Road	640	35	605
20	A133 south of the A120	492	224	268
21a	A133 to Crown Lane	621	353	268
21b	A133 from Crown Lane to the B1034	602	334	268
22	A133 south of the B1033 to Progress Way	311	202	109
23	A133 south of Progress Way to the B1032	292	183	109
24	B1032 east of the A133 to Holland Road	273	164	109
25	B1032 from Holland Road to Kings Parade	236	164	72
26	B1032 from Kings Parade to the south of Great Holland	273	164	109
27	B1032 through Great Holland	62	62	0
28	B1033 north of the B1032 through Kirby Cross to Pork Lane	105	105	0
29	B1033 from Pork Lane to the south of Thorpe-le-Soken	196	163	33
30	B1033 south of the B1414 through Thorpe-le-Soken	196	163	33
31	B1414 east of the B1033	81	81	0
32	B1033 north of the B1414 through Thorpe-le-Soken	205	172	33
33	B1033 from the B1441 to the B1035 through Weeley	351	192	159
34	B1033 from the A133 to the B1441	351	192	159
35	B1035 north of B1033 to Whitehall Lane	350	265	85
36	B1035 through Tendring Green from Parsonage Lane to Stones Green Road	154	154	0
37	B1035 north of Whitehall Lane to Swan Road	225	186	39
38	B1035 through Goose Green	154	154	0
39	B1035 north of Swan Road to the south of Tendring	135	135	0
40	B1035 through Tendring to Crown Lane	135	135	0
41	Crown Lane	19	19	0
42	B1035 from Crown Lane to Lodge Lane	154	154	0
43	A133/Colchester Road from A133/Colchester Road roundabout to end of TTSA	97	97	0
44	B1441 (Progress Way) from A133/St Osyth Road/Progress Way Roundabout to B1414	17	17	0
45	B1414 east of B1441 to B1033 in Thorpe-le-Soken	4	4	0
46	B1441 from B1414 to B1033 in Weeley	0	0	0
47	A120 from Parkeston Roundabout to St Nicholas Roundabout	618	13	605
48	St John's Road from St Osyth Roundabout to end of TTSA	58	58	0

Mitigated Flows

Appendix C: Outline Access Designs



VISIBILITY AND VEGETATION CLEARANCE
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SCALE IN METRES
1:500

DO NOT SCALE FROM THIS DRAWING

NOTES
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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

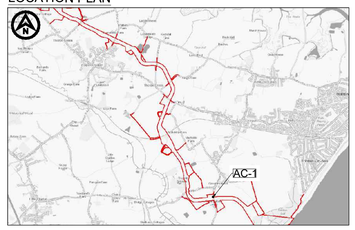
KEY

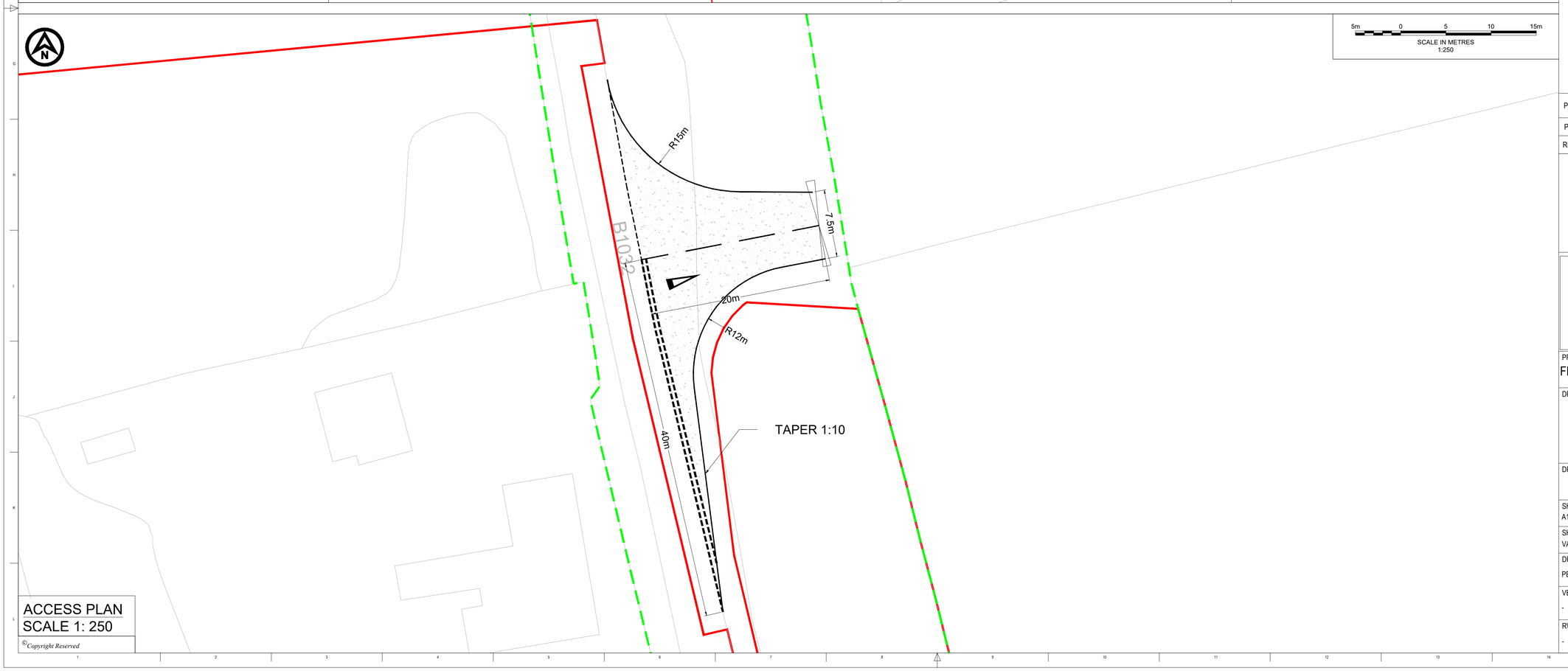
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

AC-1	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	45	
Required Y-distance SSD for PSL (m) (DMRB)	160	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS PLAN
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P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-1 - B1032
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
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RWE ECODOC NUMBER	SHEET No / REVISION
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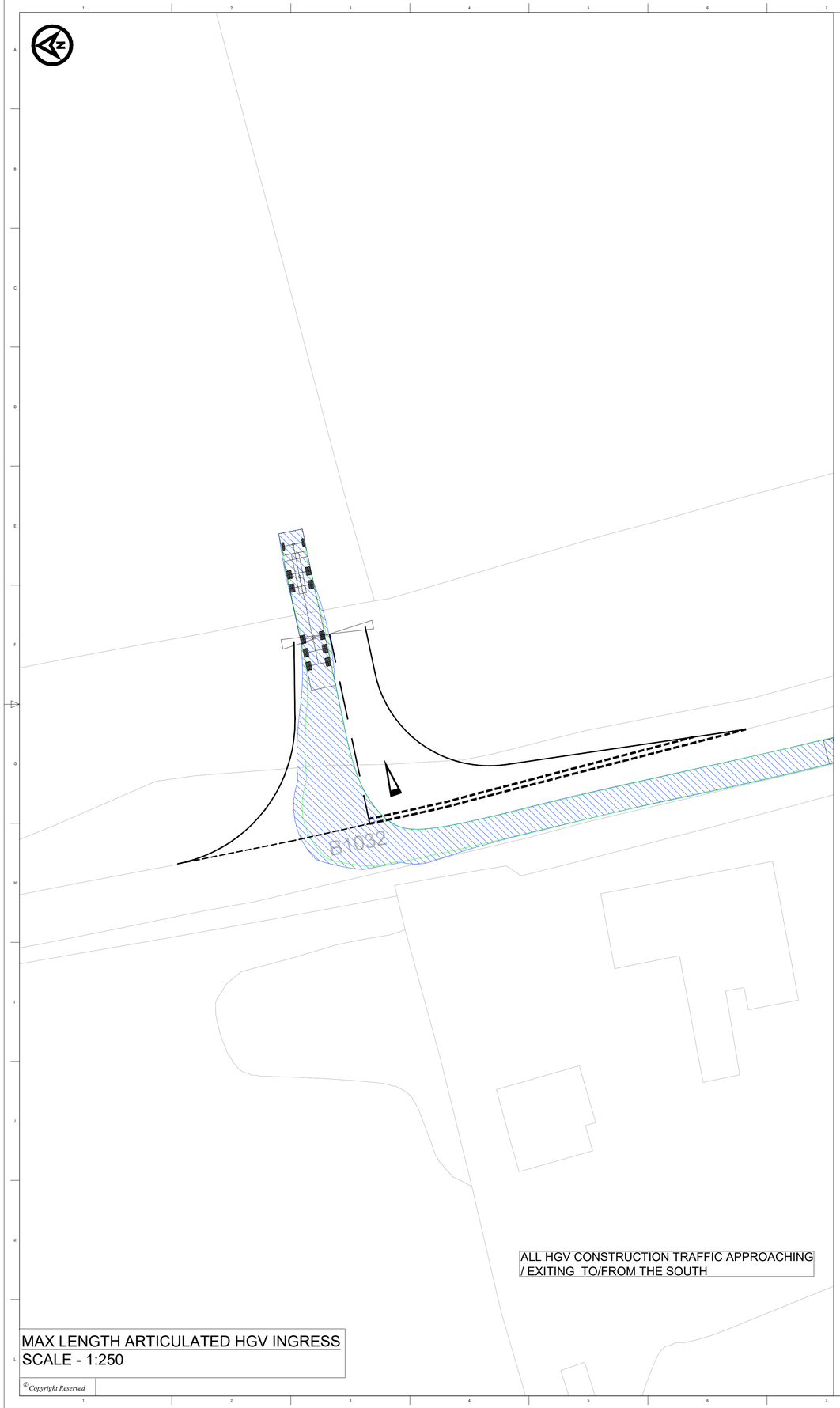

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH

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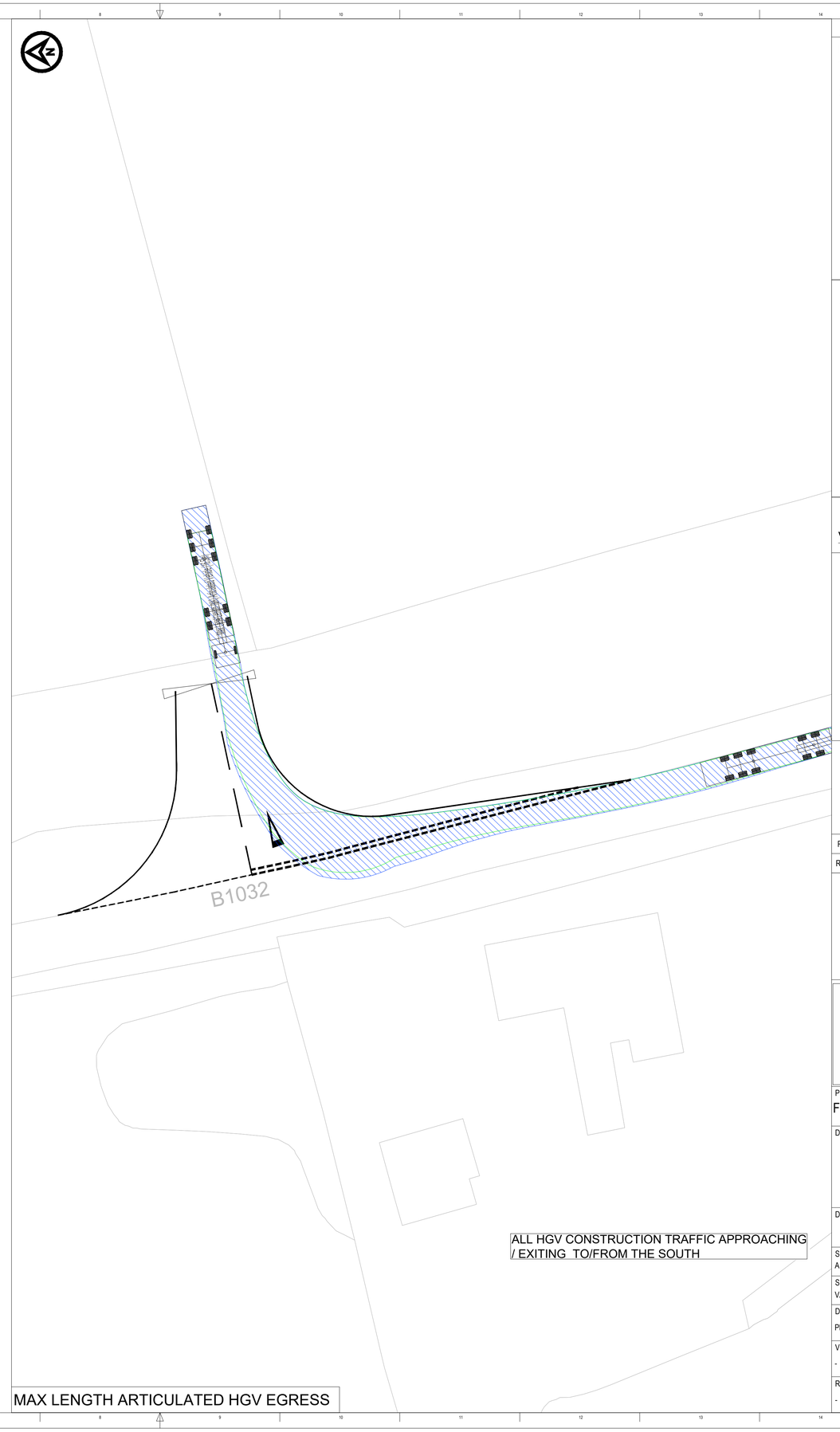
SCALE - 1:250



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH

MAX LENGTH ARTICULATED HGV EGRESS

DO NOT SCALE FROM THIS DRAWING

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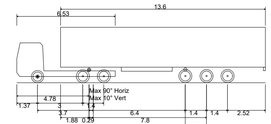
KEY

- EXISTING ARRANGEMENT
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	31/08/2023	FIRST ISSUE	AA	SKT	SKT

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www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC1 - B1032
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

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DRAWING NUMBER	REVISION
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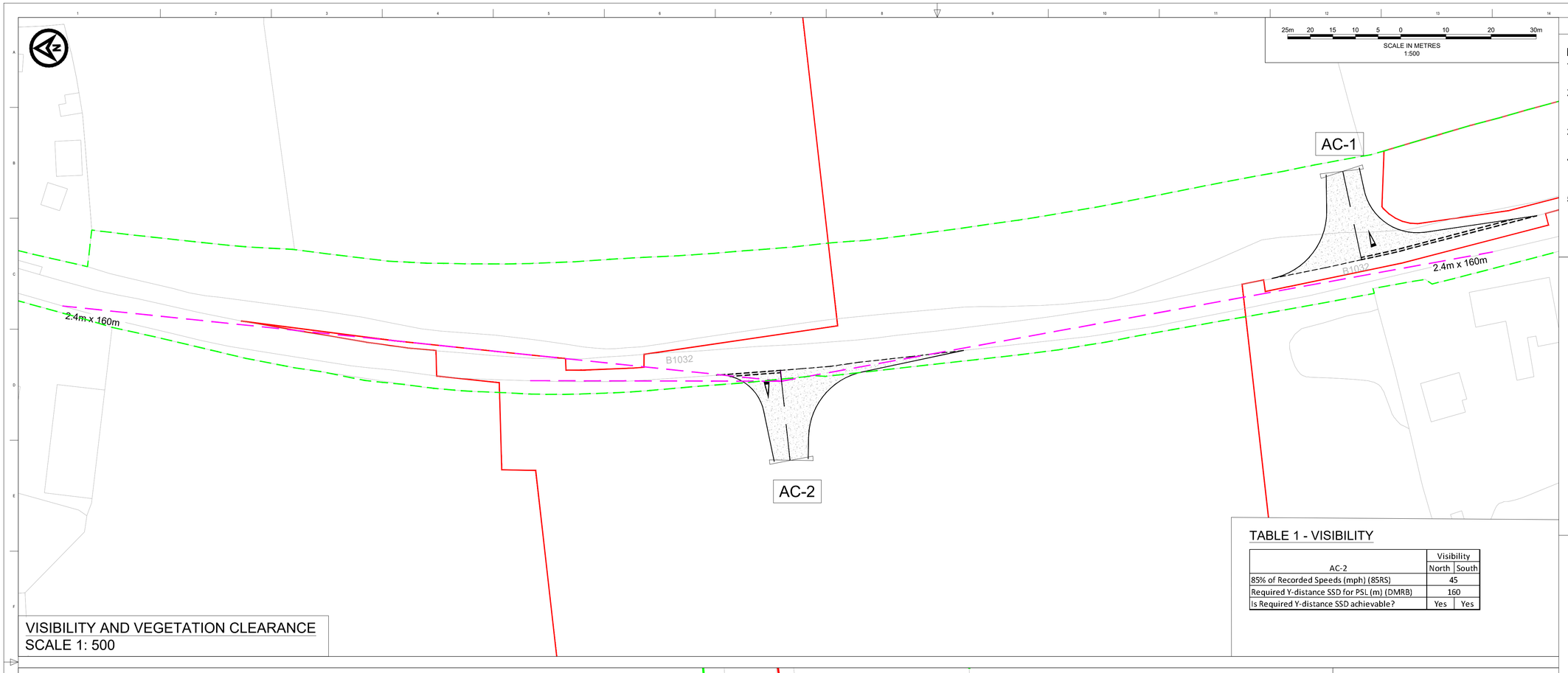

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SCALE IN METRES
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VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

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5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

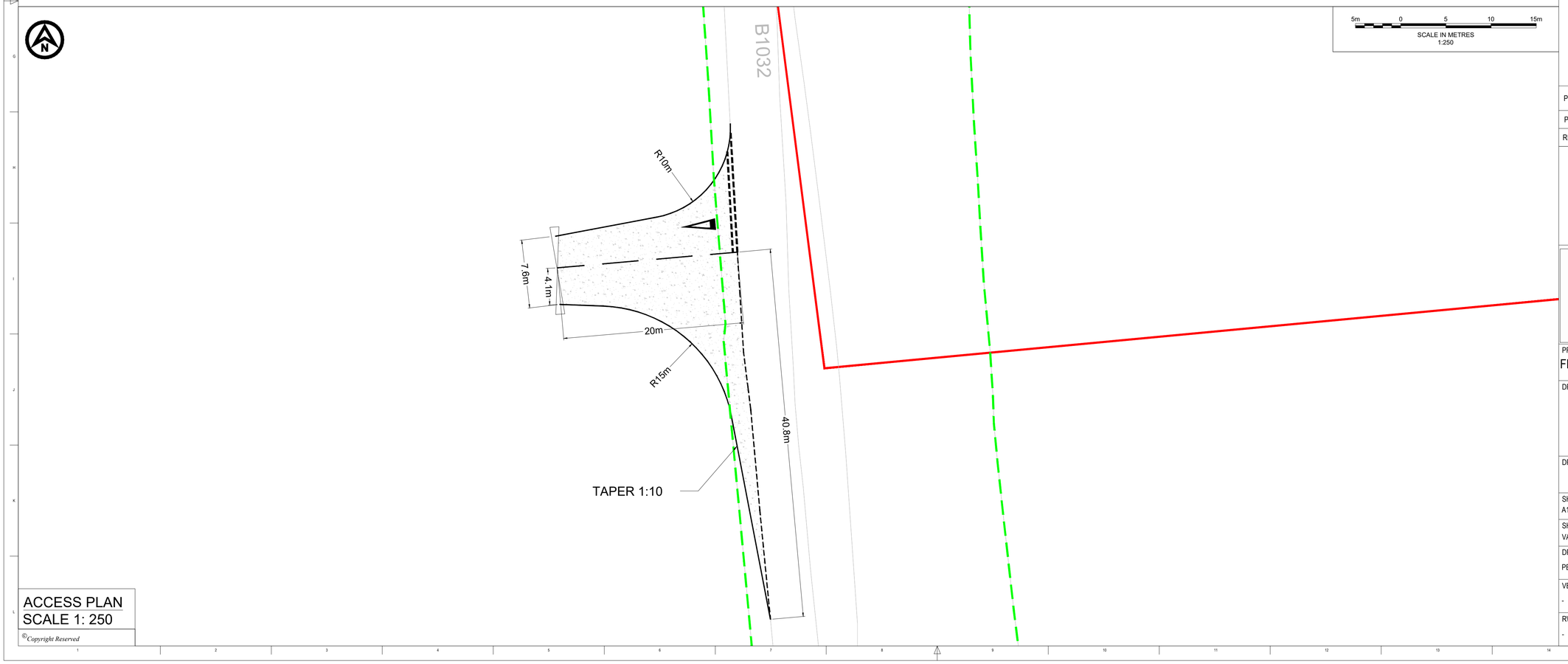
KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

AC-2	Visibility North	Visibility South
85% of Recorded Speeds (mph) (85RS)	45	
Required Y-distance SSD for PSL (m) (DMRB)	160	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



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ACCESS PLAN
SCALE 1: 250

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P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

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FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-2 - B1032
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

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RWE ECODOC NUMBER	SHEET No / REVISION
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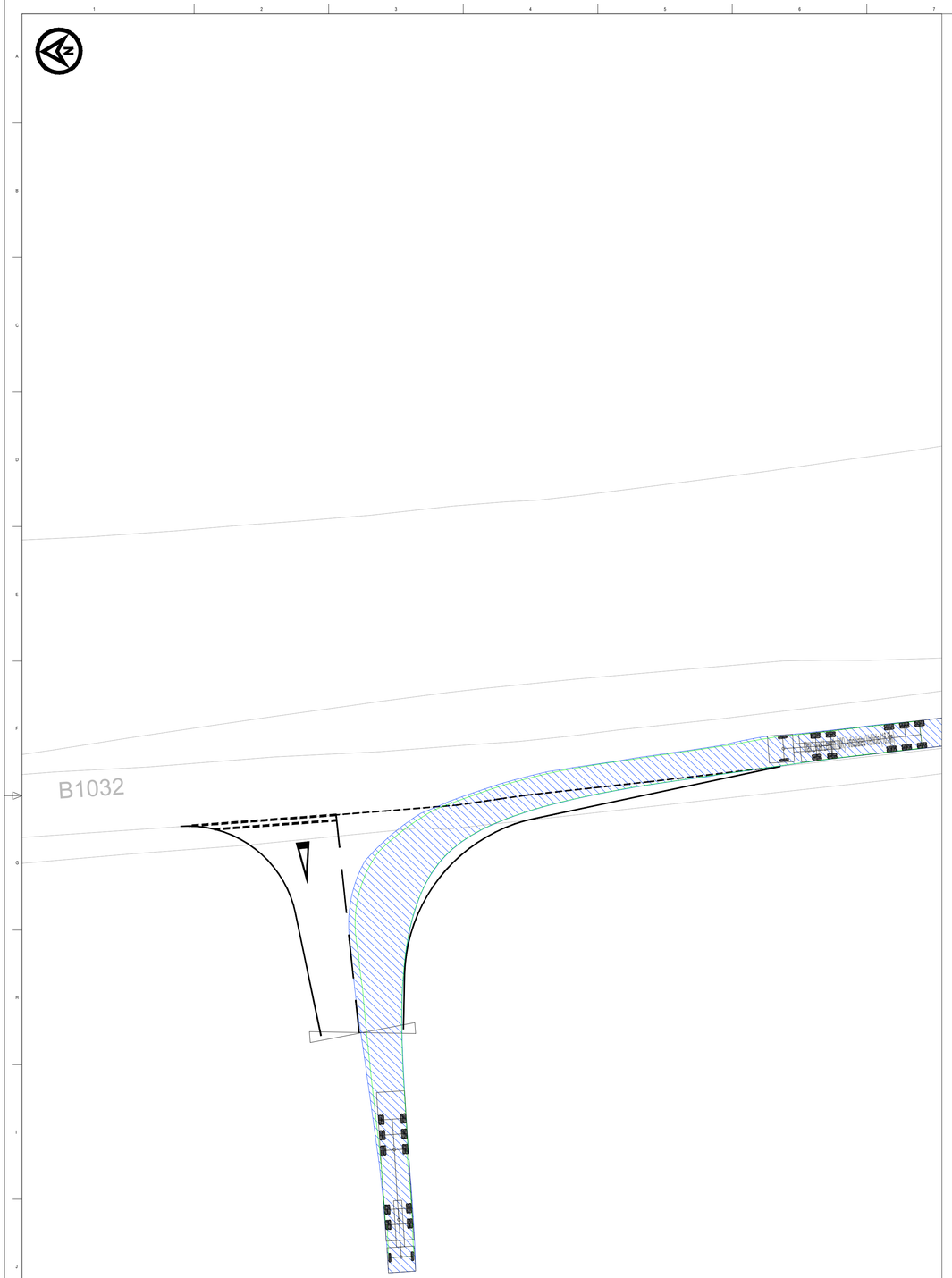
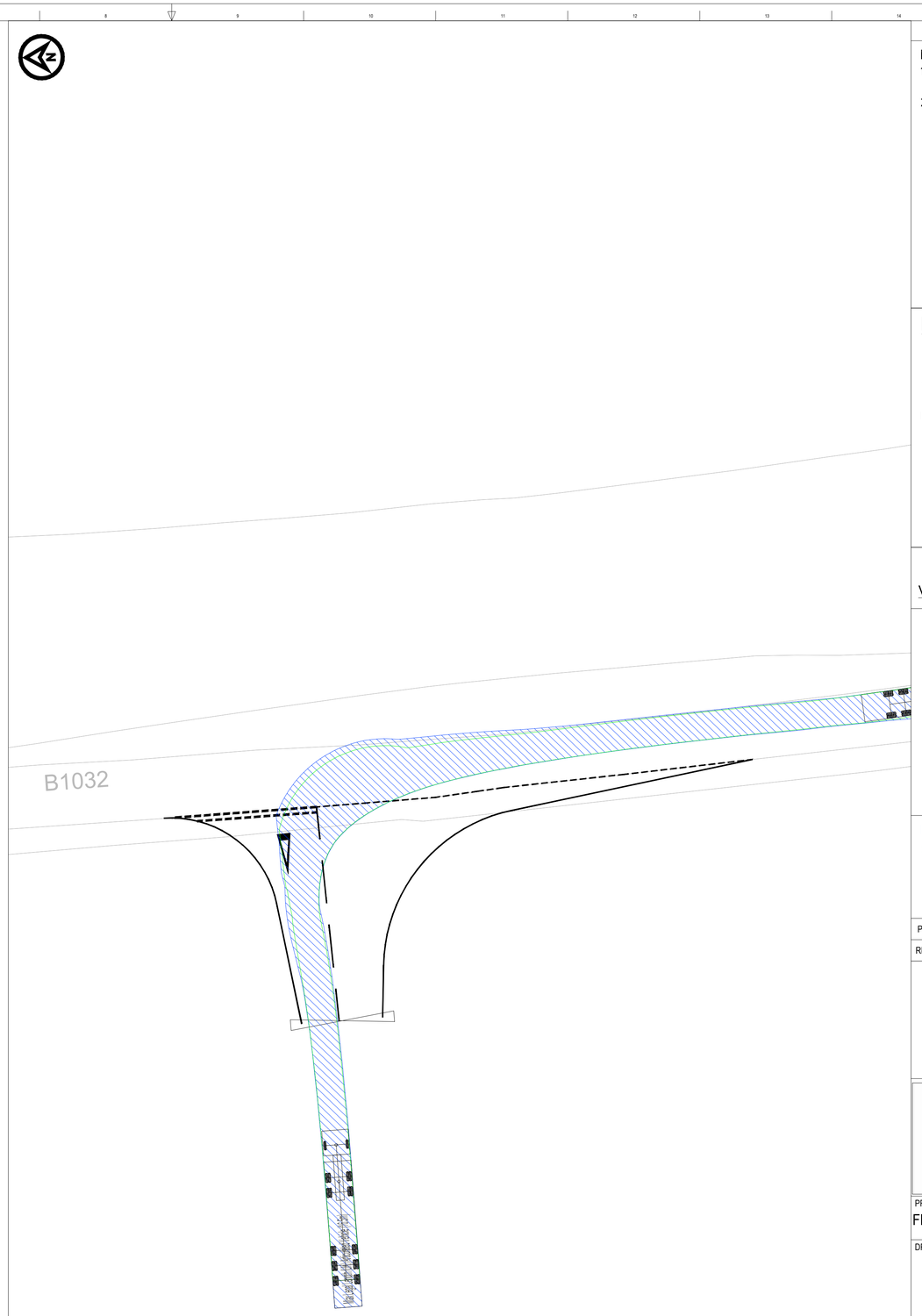


ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH

MAX LENGTH ARTICULATED HGV INGRESS



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MAX LENGTH ARTICULATED HGV EGRESS

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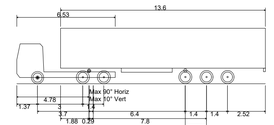
KEY

EXISTING ARRANGEMENT

PROPOSED ACCESS BOUNDARY/ROAD MARKINGS

PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)

VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	31/08/2023	FIRST ISSUE	AA	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-2 - B1032
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
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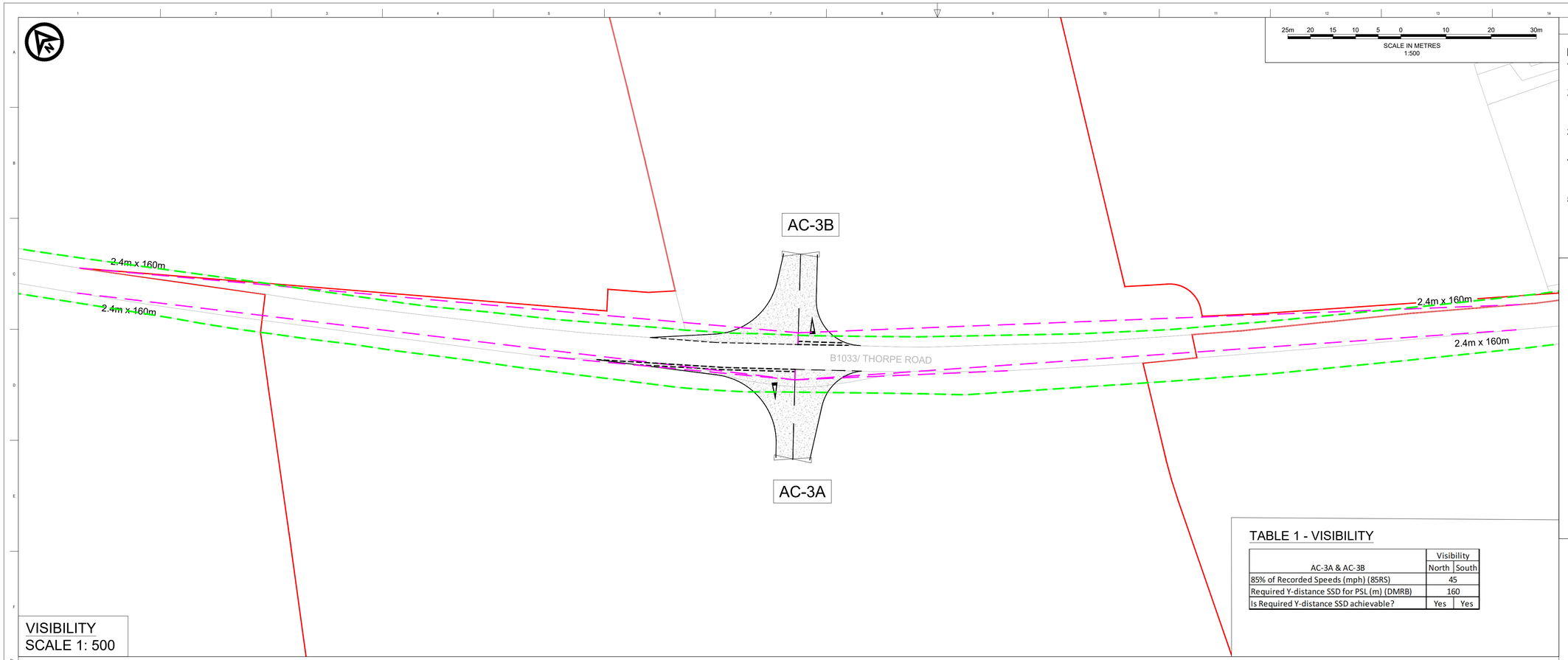

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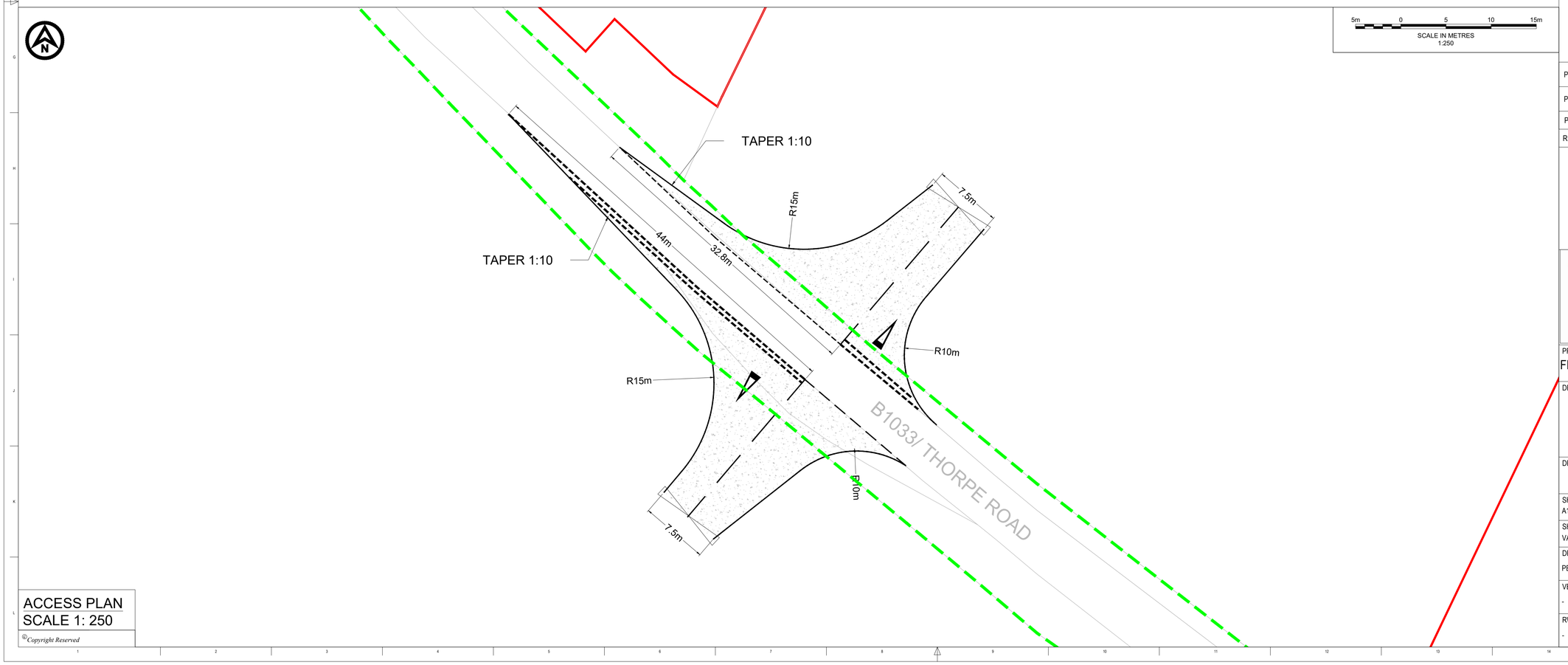

ACCESS PLAN
SCALE 1: 250

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SCALE IN METRES
1:500

5m 0 5 10 15m
SCALE IN METRES
1:250

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KEY

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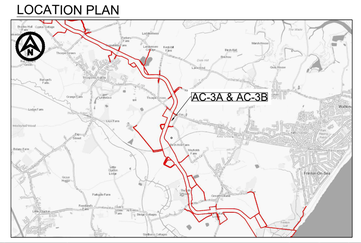
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

AC-3A & AC-3B	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	45	
Required Y-distance SSD for PSL (m) (DMRB)	160	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
P03	18/06/2024	UPDATE TO ACCESS NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

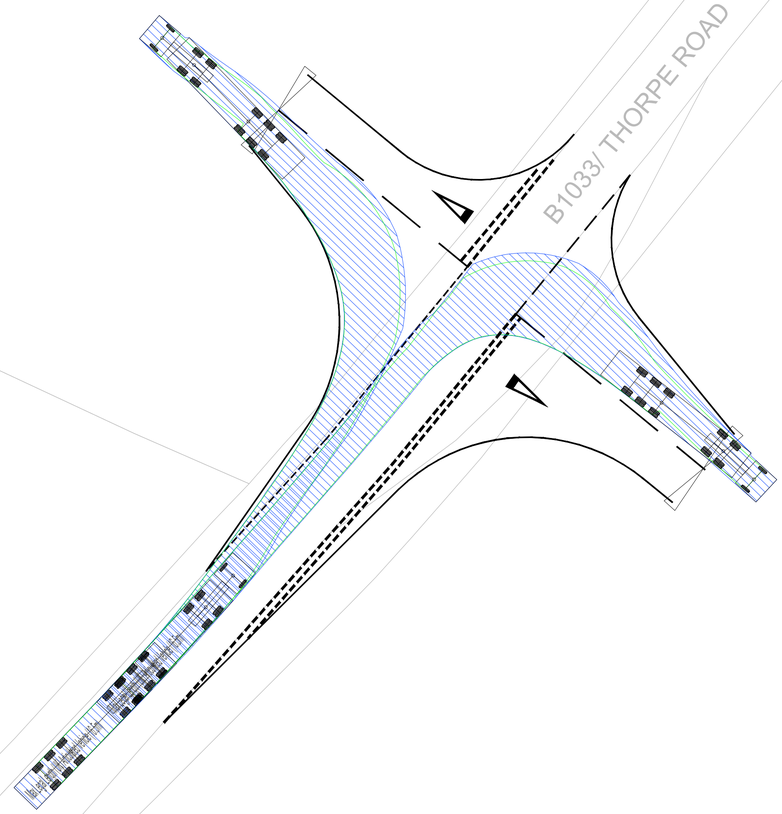
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-3A & AC-3B - B1033/THORPE ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

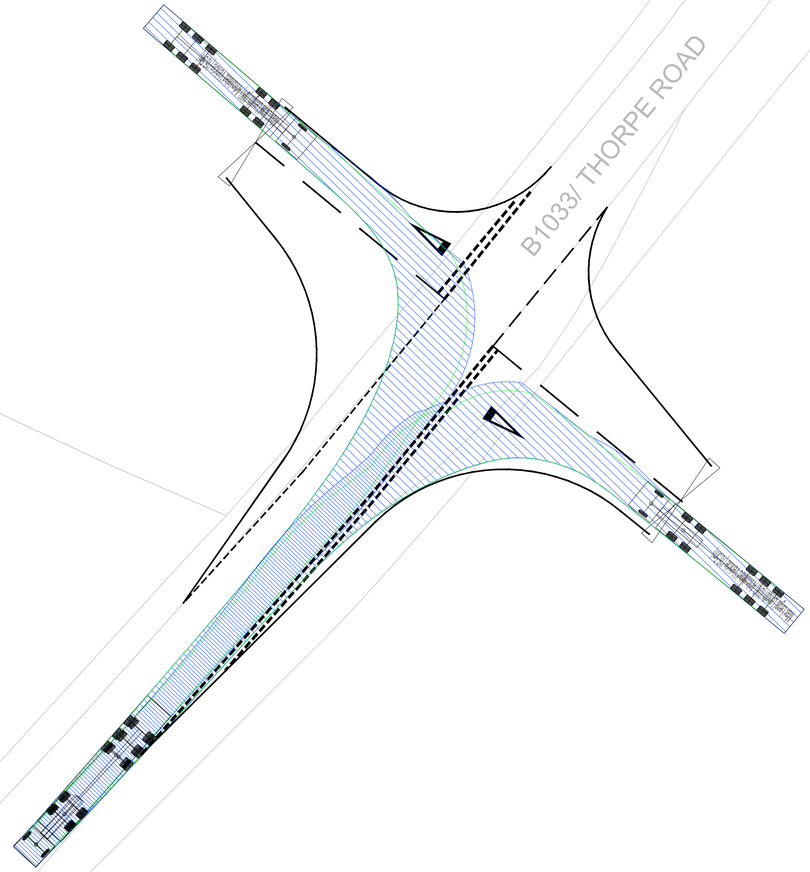
SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0003	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE WEST

MAX LENGTH ARTICULATED HGV INGRESS



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE WEST

MAX LENGTH ARTICULATED HGV EGRESS

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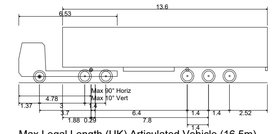
KEY

- EXISTING ARRANGEMENT
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)

VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	31/08/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

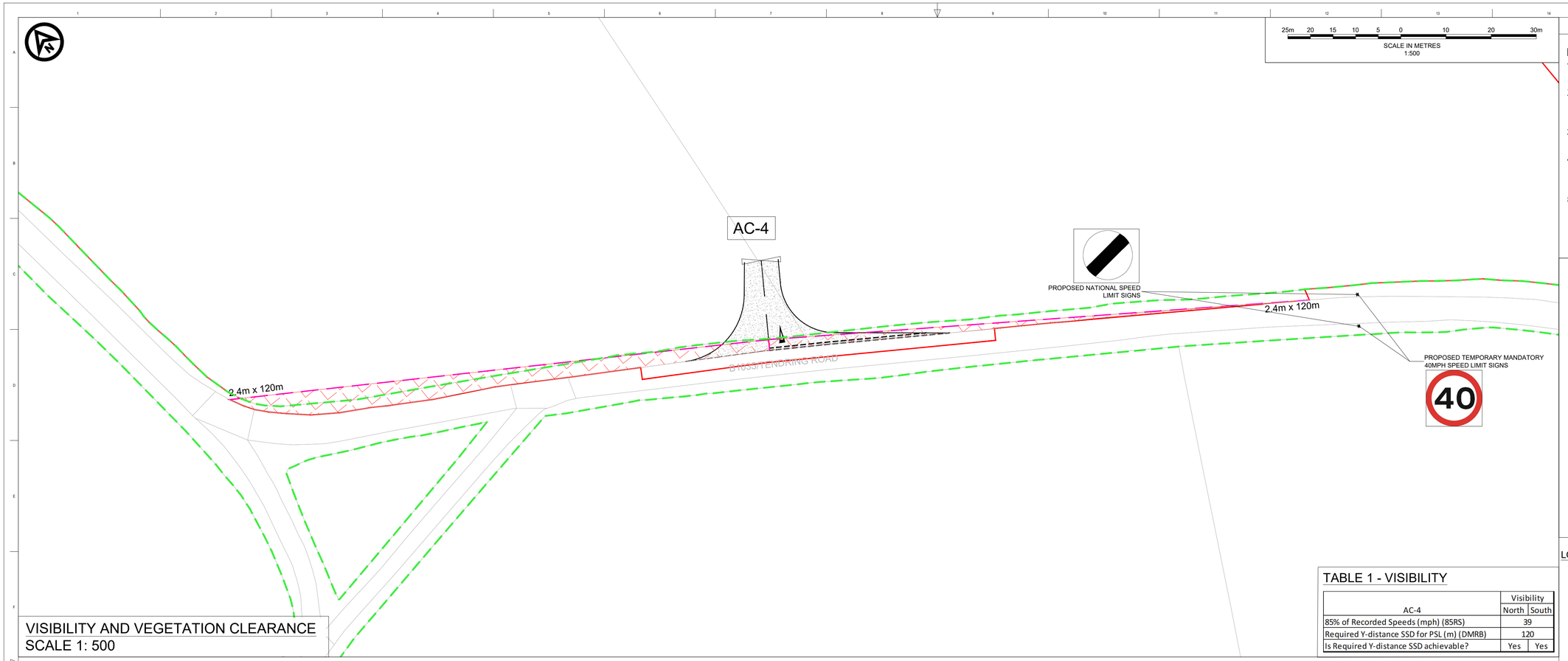
DRAWING TITLE
AC-3A & AC-3B - B1033/THORPE ROAD
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	31/08/2023	31/08/2023	31/08/2023	31/08/2023

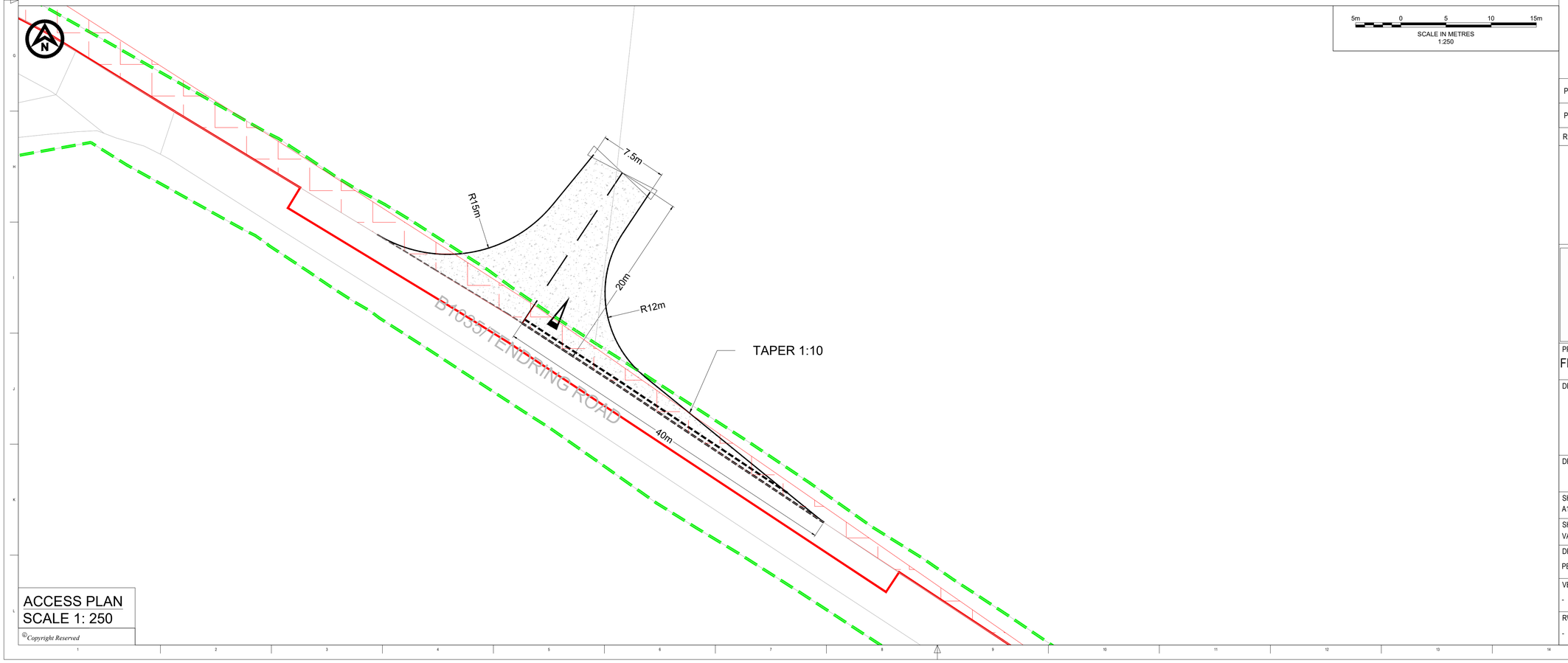
DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0023	P01
VE DOCUMENT NUMBER	REVISION
-	-

RWE ECODOC NUMBER	SHEET No	REVISION
-	1_OF_1	-



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500



ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

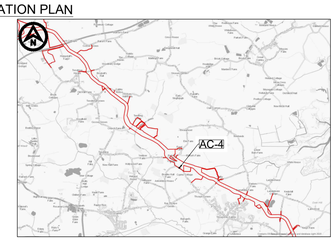
KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY
- PROPOSED TEMPORARY ROAD SIGN

TABLE 1 - VISIBILITY

AC-4	Visibility North	Visibility South
85% of Recorded Speeds (mph) (85RS)	39	
Required Y-distance SSD for PSL (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
P03	23/12/2024	UPDATE TO TEMPORARY SPEED LIMIT	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-4 - B1035/TENDRING ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0004	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST

MAX LENGTH ARTICULATED HGV INGRESS

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST

MAX LENGTH ARTICULATED HGV EGRESS

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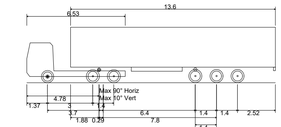
KEY

- EXISTING ARRANGEMENT
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

- VEHICLE BODY SWEPT PATH (FORWARD GEAR)
- VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	06/09/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM

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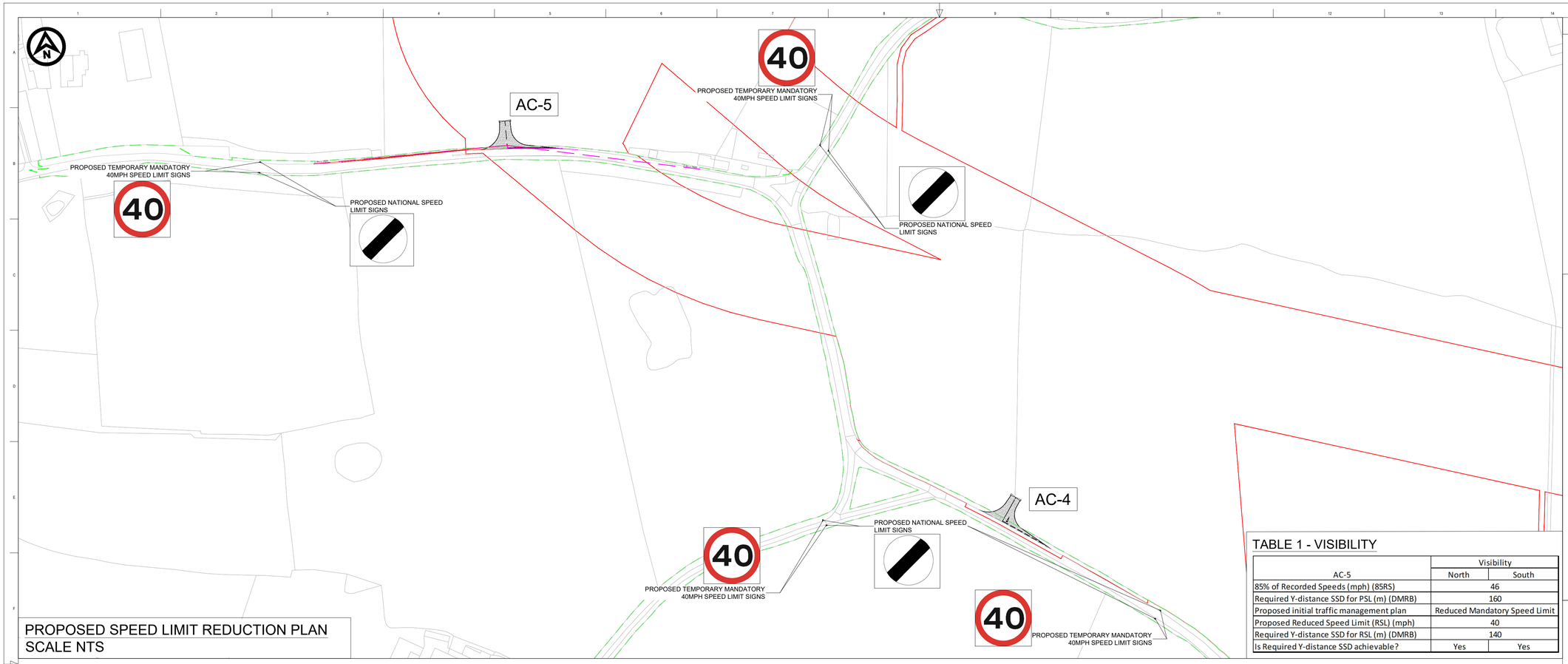
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-4 - B1035/TENDRING ROAD
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	06/09/2023	06/09/2023	06/09/2023	06/09/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0024	P01
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



PROPOSED SPEED LIMIT REDUCTION PLAN
SCALE NTS

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5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

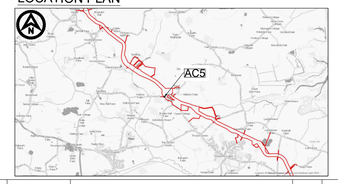
KEY

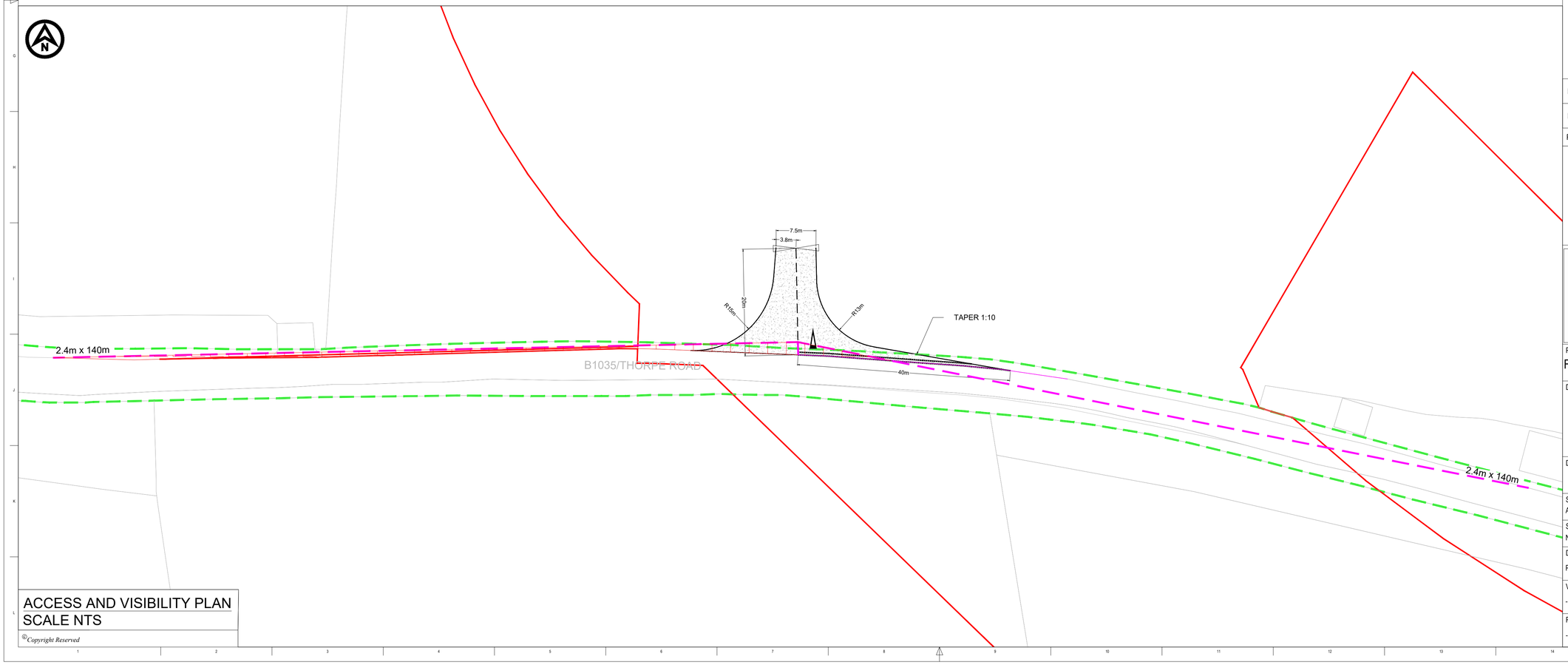
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (See Table 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY
- PROPOSED TEMPORARY ROAD SIGN

TABLE 1 - VISIBILITY

AC-5	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	46	
Required Y-distance SSD for PSL (m) (DMRB)	160	
Proposed initial traffic management plan	Reduced Mandatory Speed Limit	
Proposed Reduced Speed Limit (RSL) (mph)	40	
Required Y-distance SSD for RSL (m) (DMRB)	140	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS AND VISIBILITY PLAN
SCALE NTS

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	23/12/2024	UPDATED SPEED LIMITS	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

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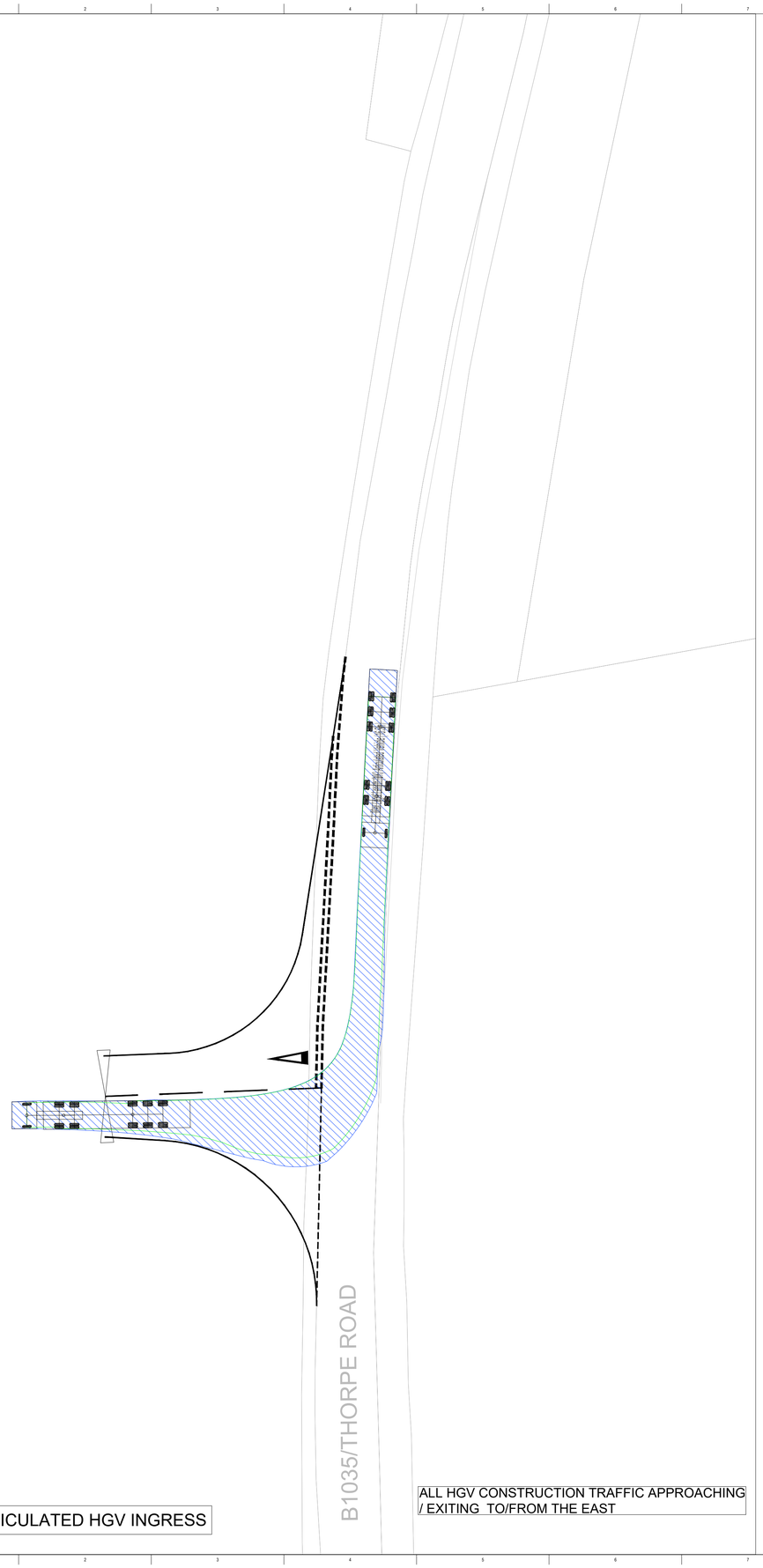
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-5 - B1035/THORPE ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

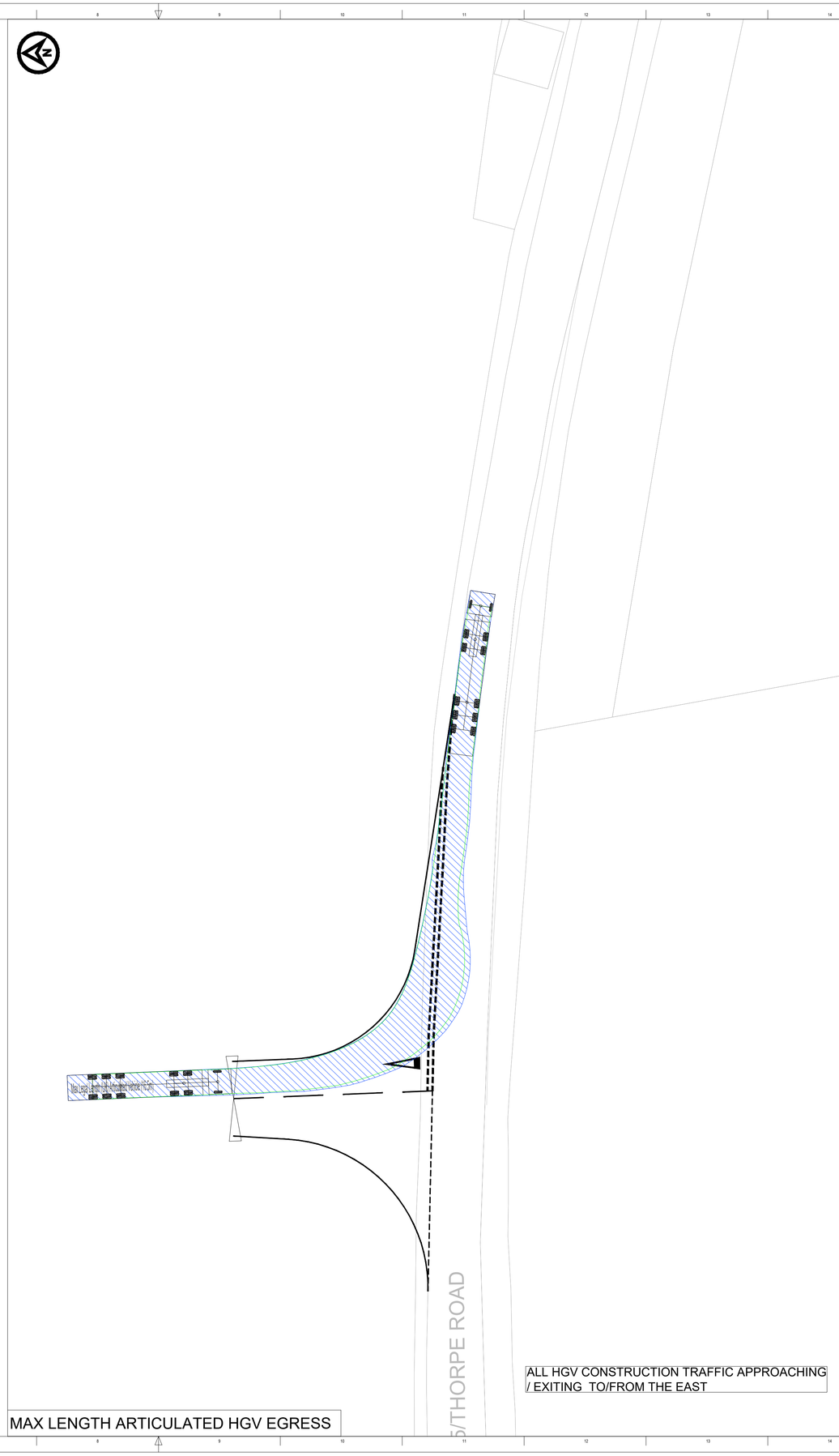
SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
NTS	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0005	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



MAX LENGTH ARTICULATED HGV INGRESS

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST



MAX LENGTH ARTICULATED HGV EGRESS

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST

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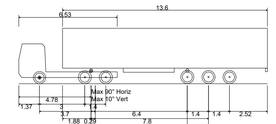
KEY

EXISTING ARRANGEMENT

PROPOSED ACCESS BOUNDARY/ROAD MARKINGS

PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)

VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	06/09/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM

NORTH FALLS Offshore Wind Farm

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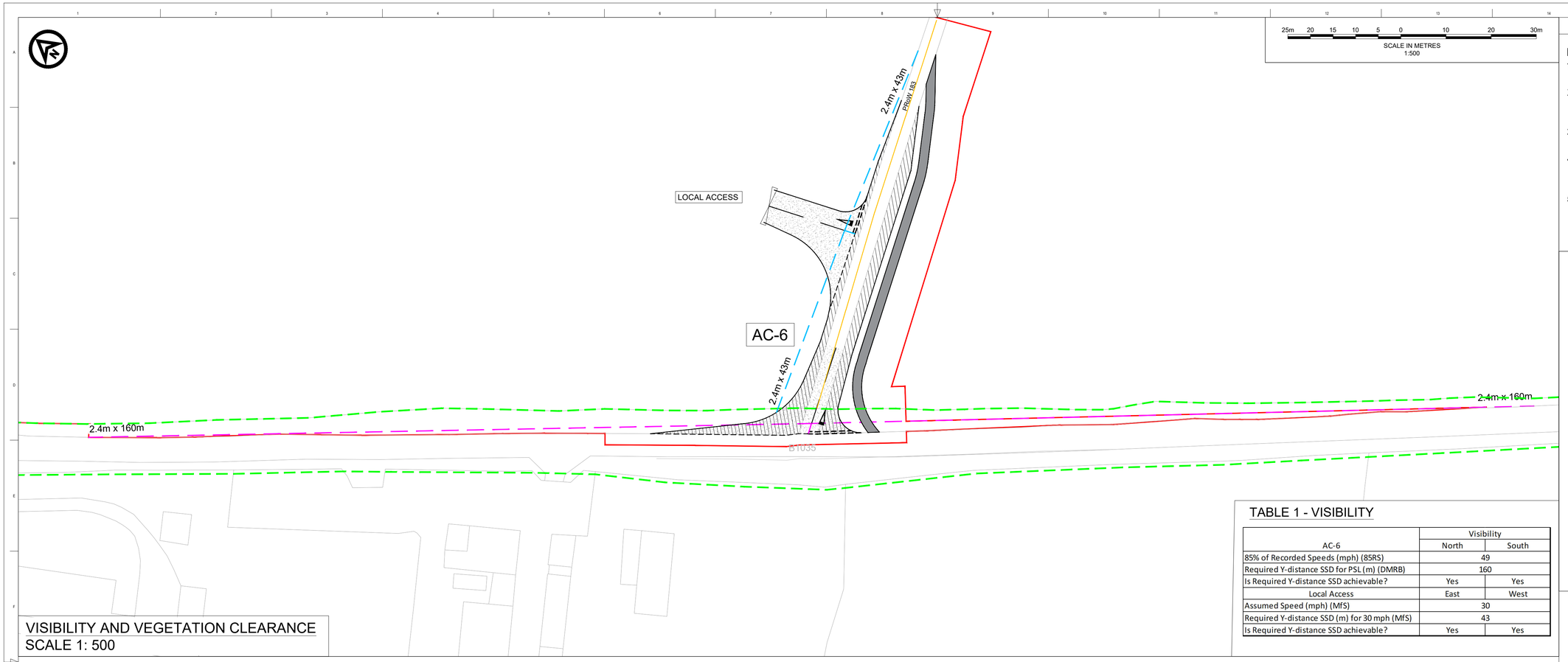
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-5 - B1035/THORPE ROAD
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	06/09/2023	06/09/2023	06/09/2023	06/09/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0025	P01
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

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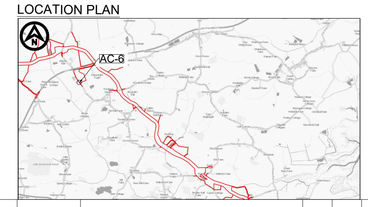
KEY

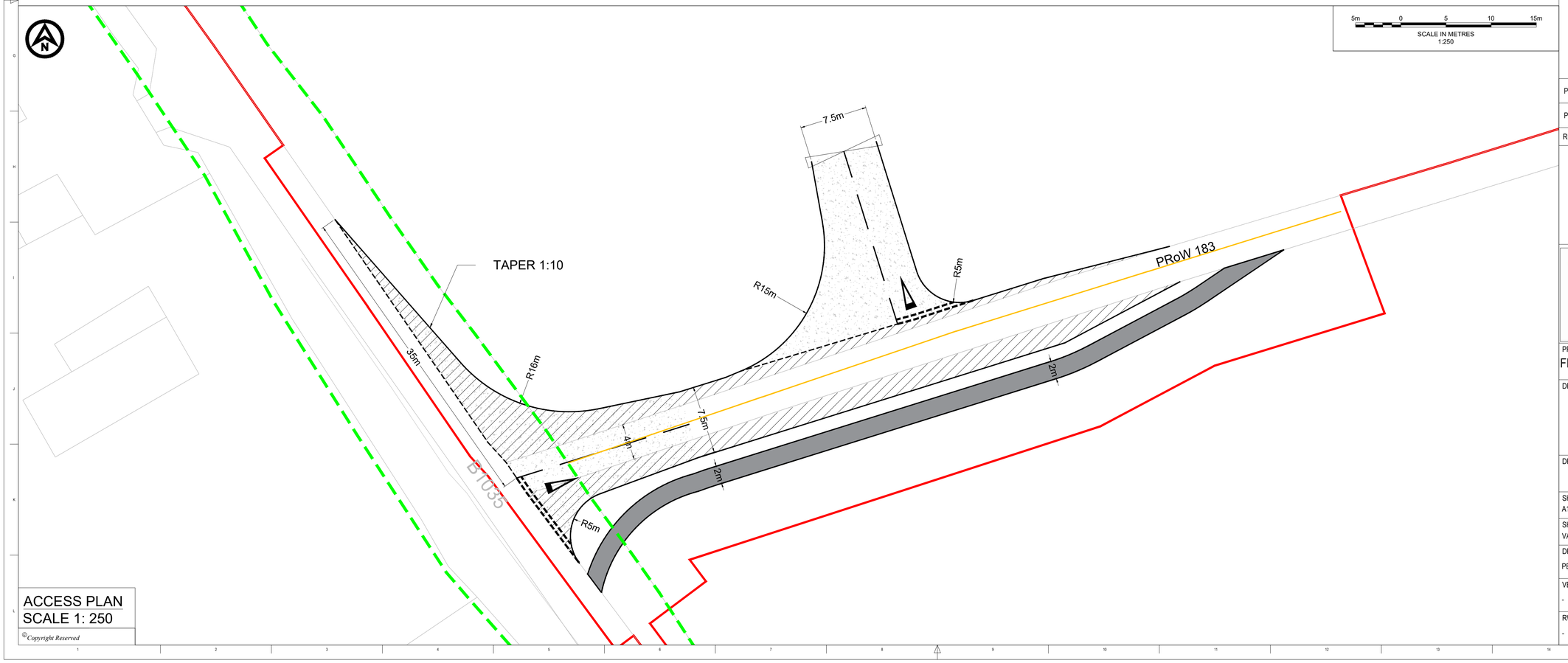
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- HIGHWAY BOUNDARY
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- DMRB - VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- MfS - VISIBILITY SPLAY FOR ASSUMED LOCAL ACCESS (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- CARRIAGEWAY WIDENING - FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- EXISTING PUBLIC RIGHTS OF WAY
- PROPOSED TEMPORARY OFFROAD PUBLIC RIGHTS OF WAY ROUTE
- PROPOSED GATE

TABLE 1 - VISIBILITY

AC-6	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	49	
Required Y-distance SSD for PSL (m) (DMRB)	160	
Is Required Y-distance SSD achievable?	Yes	Yes
Local Access	East	West
Assumed Speed (mph) (MfS)	30	
Required Y-distance SSD (m) for 30 mph (MfS)	43	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





5m 0 5 10 15m
SCALE IN METRES
1:250

ACCESS PLAN
SCALE 1: 250

REV	DATE	DESCRIPTION	BY	CHK	APP
P04	18/06/2024	UPDATED ACCESS NUMBERING	CB	SKT	SKT
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-6 - B1035
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0007	P04
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER / SHEET No	REVISION
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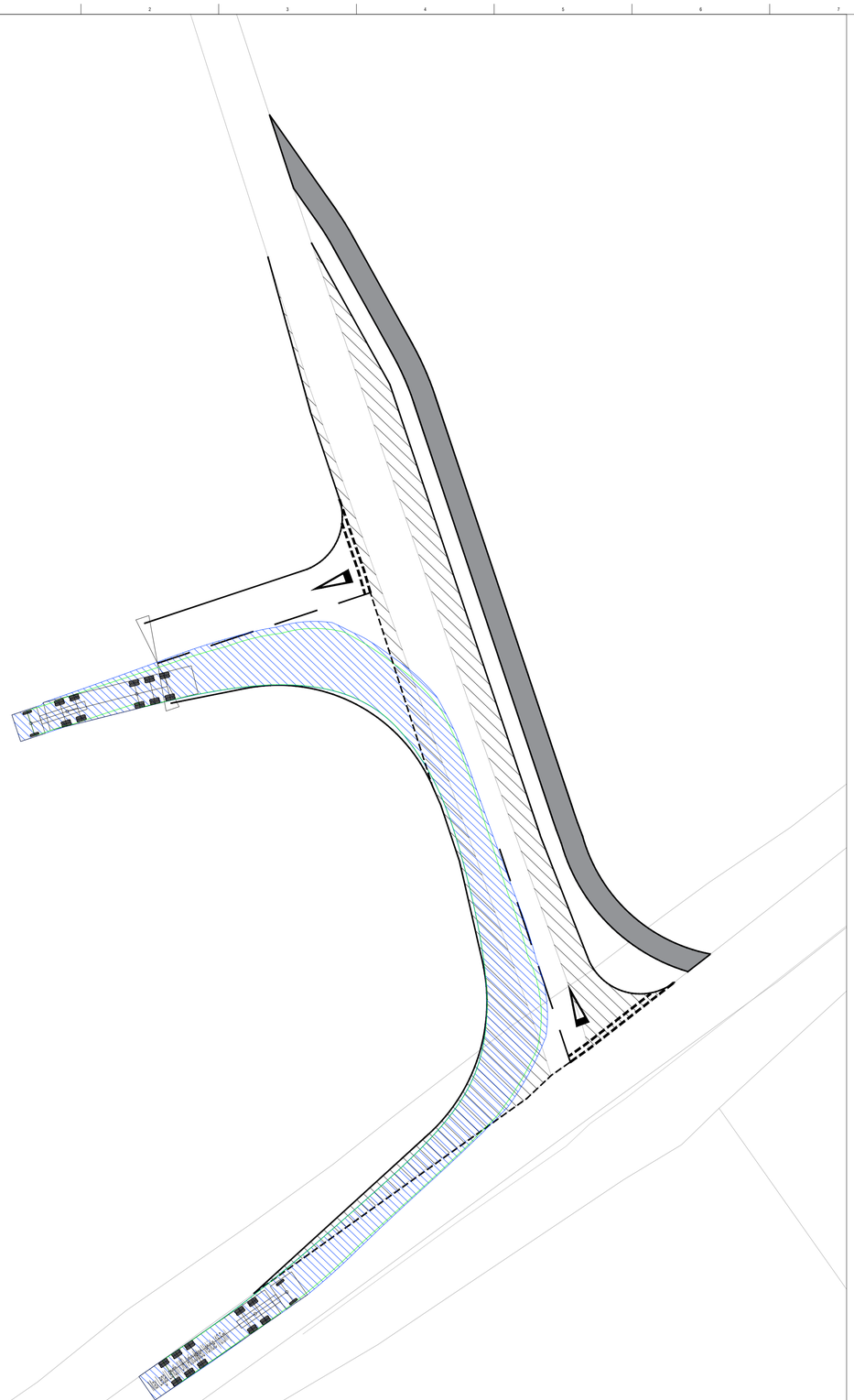
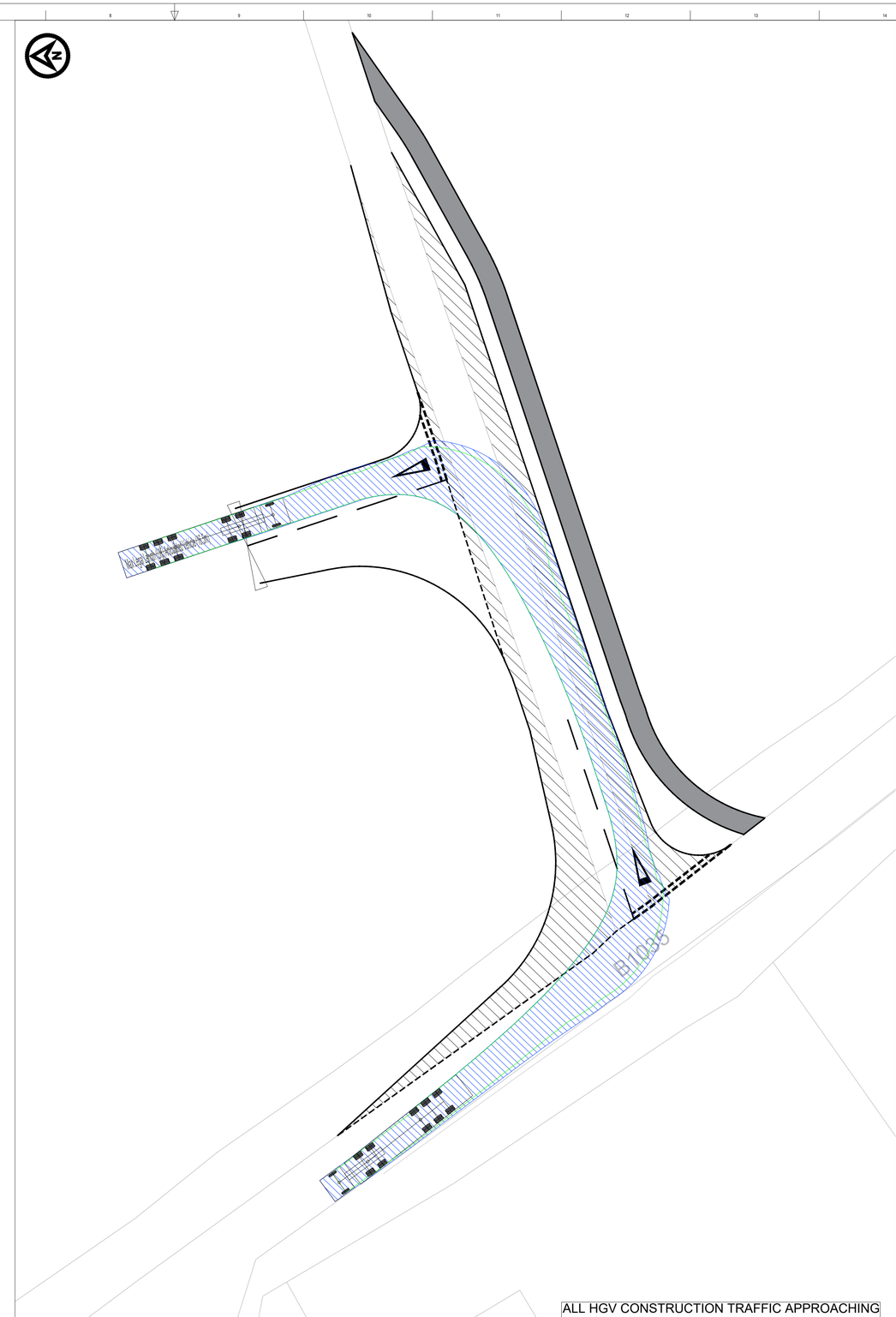


ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE NORTH

MAX LENGTH ARTICULATED HGV INGRESS



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE NORTH

MAX LENGTH ARTICULATED HGV EGRESS

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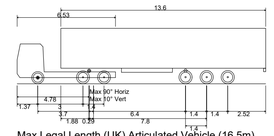
KEY

EXISTING ARRANGEMENT

PROPOSED ACCESS BOUNDARY/ROAD MARKINGS

PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)

VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P02	18/06/2024	UPDATE TO ACCESS NUMBERING	CB	SKT	SKT
P01	06/09/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM

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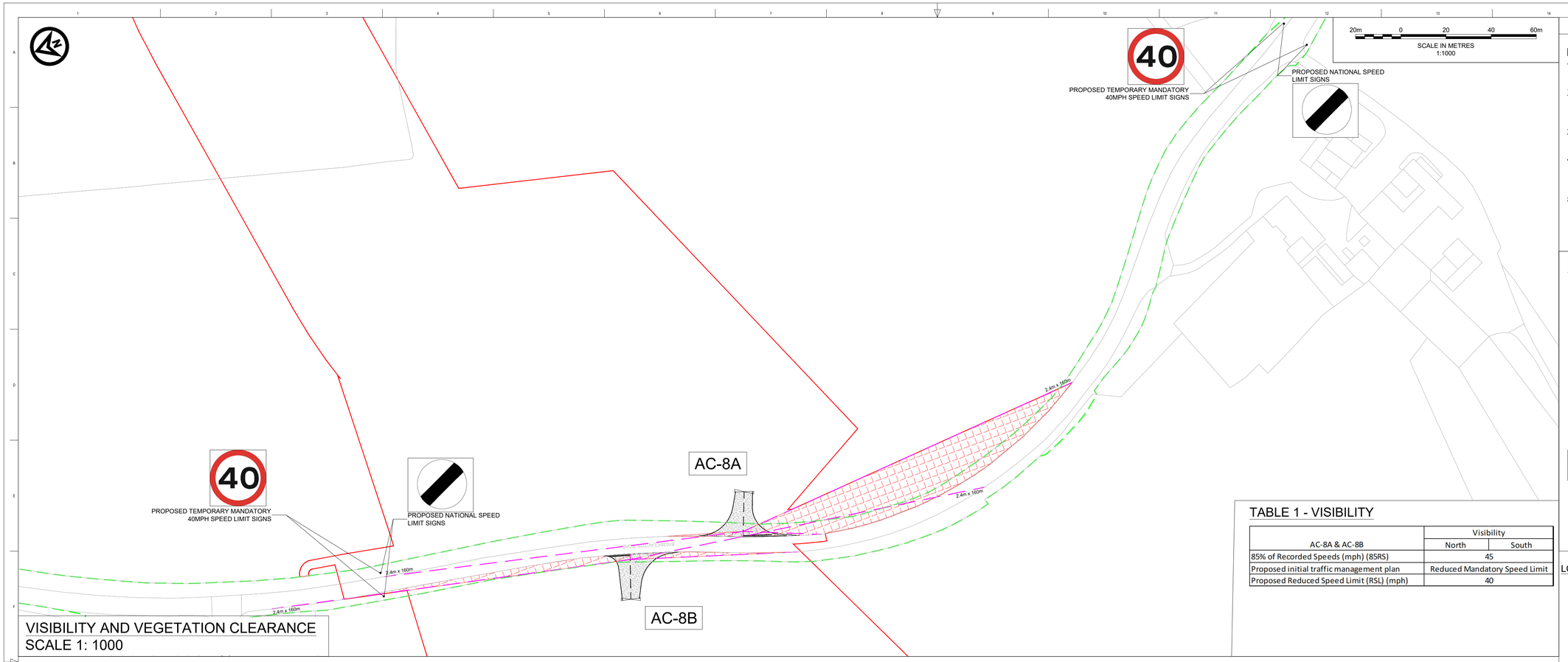
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-6 - B1035
SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	06/09/2023	06/09/2023	06/09/2023	06/09/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0026	P02
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000

DO NOT SCALE FROM THIS DRAWING

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5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

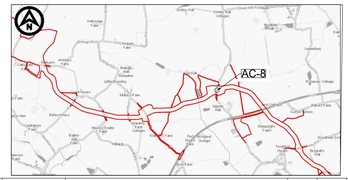
KEY

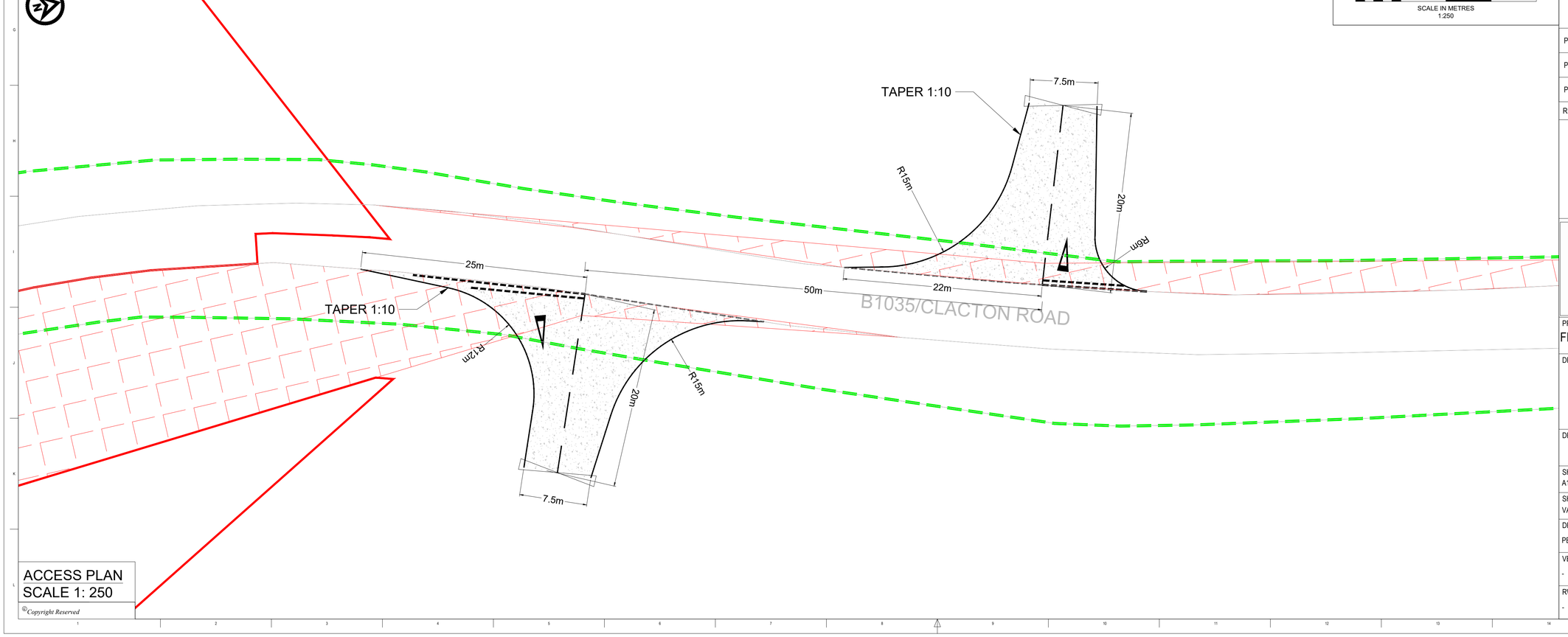
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

AC-8A & AC-8B	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	45	
Proposed initial traffic management plan	Reduced Mandatory Speed Limit	
Proposed Reduced Speed Limit (RSL) (mph)	40	

LOCATION PLAN





ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

REV	DATE	DESCRIPTION	BY	CHK	APP
P04	11/02/2025	ADDITION OF PROPOSED SPEED LIMIT	CB	SKT	SKT
P03	18/06/2024	UPDATE TO ACCESS NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

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Tel +44(0)1932 569566
www.royalhaskoningdhv.com

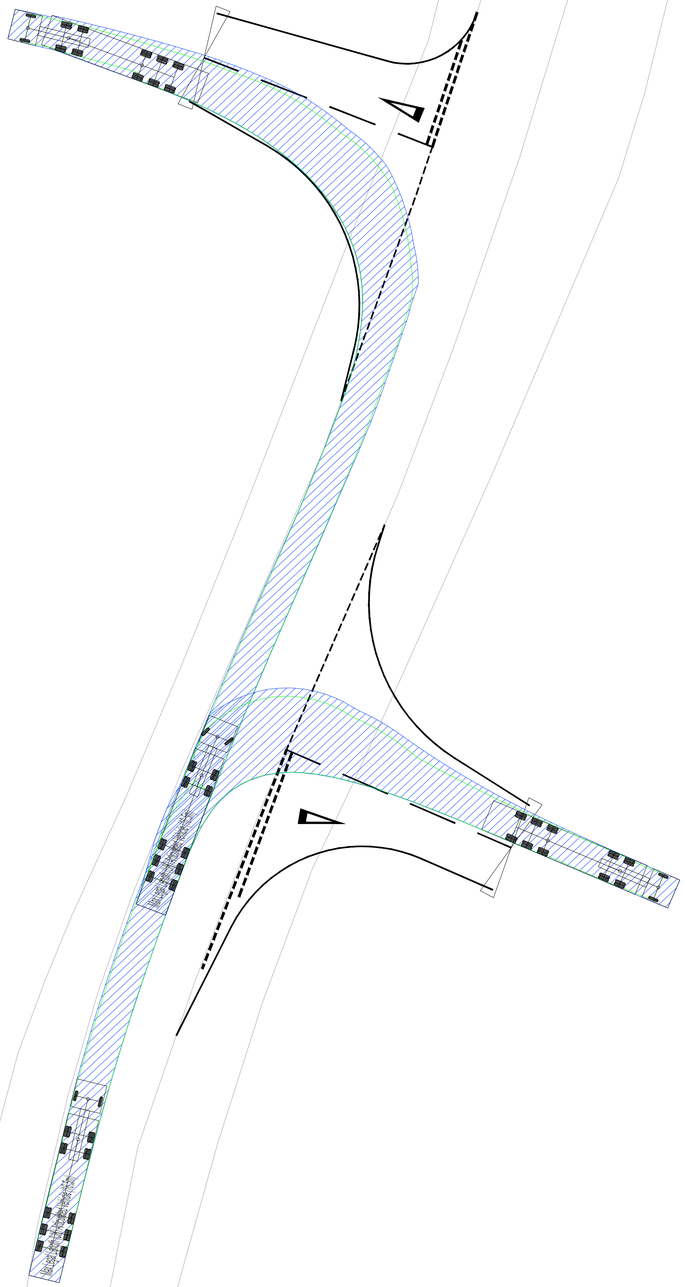
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-8A & AC-8B - B1035/CLACTON ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

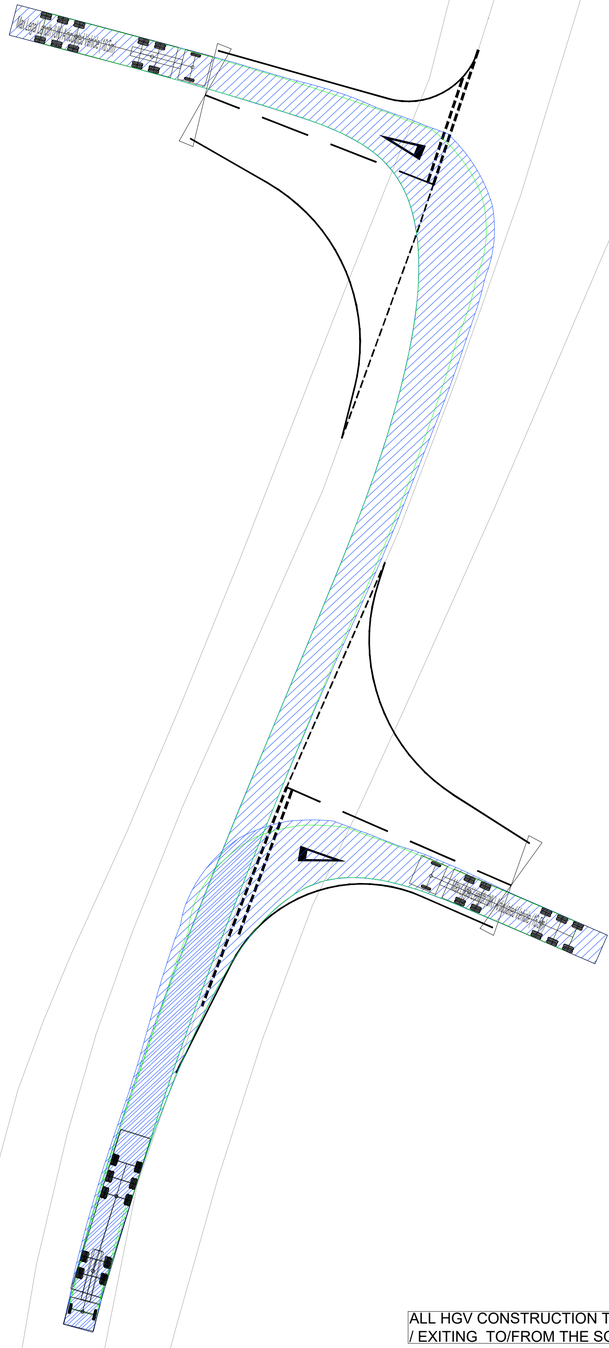
SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0008	P04
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER / SHEET No	REVISION
- / 1_OF_1	-



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH

MAX LENGTH ARTICULATED HGV INGRESS



ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH

MAX LENGTH ARTICULATED HGV EGRESS

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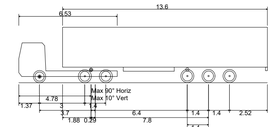
KEY

EXISTING ARRANGEMENT

PROPOSED ACCESS BOUNDARY/ROAD MARKINGS

PROPOSED GATE

VEHICLE TRACKING



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

VEHICLE BODY SWEPT PATH (FORWARD GEAR)

VEHICLE CHASIS SWEPT PATH

REV	DATE	DESCRIPTION	BY	CHK	APP
P01	06/09/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM

NORTH FALLS Offshore Wind Farm

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Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

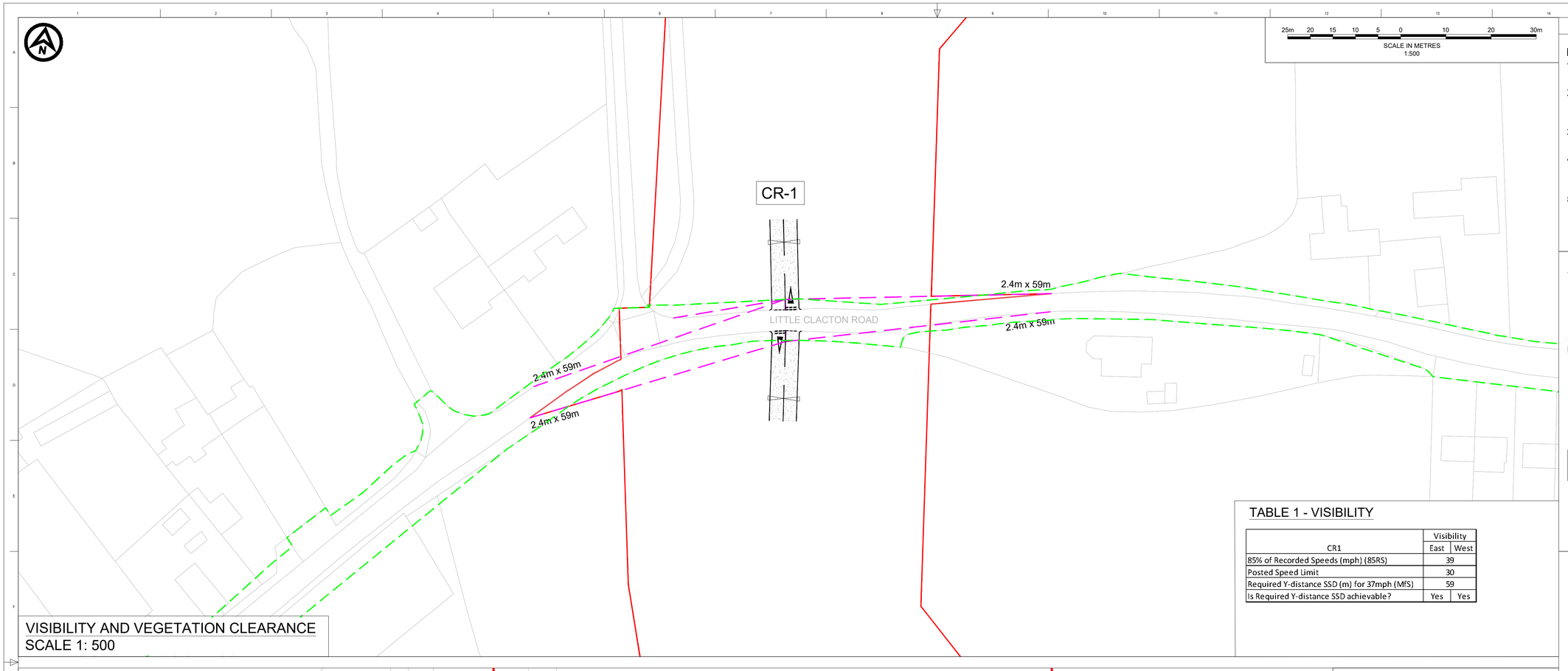
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
AC-8A & AC-8B - B1035/CLACTON ROAD SWEPT PATH ANALYSIS

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	06/09/2023	06/09/2023	06/09/2023	06/09/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0027	P01
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

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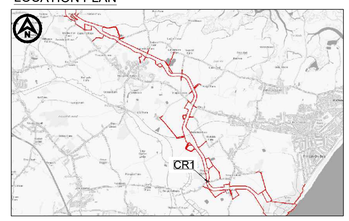
KEY

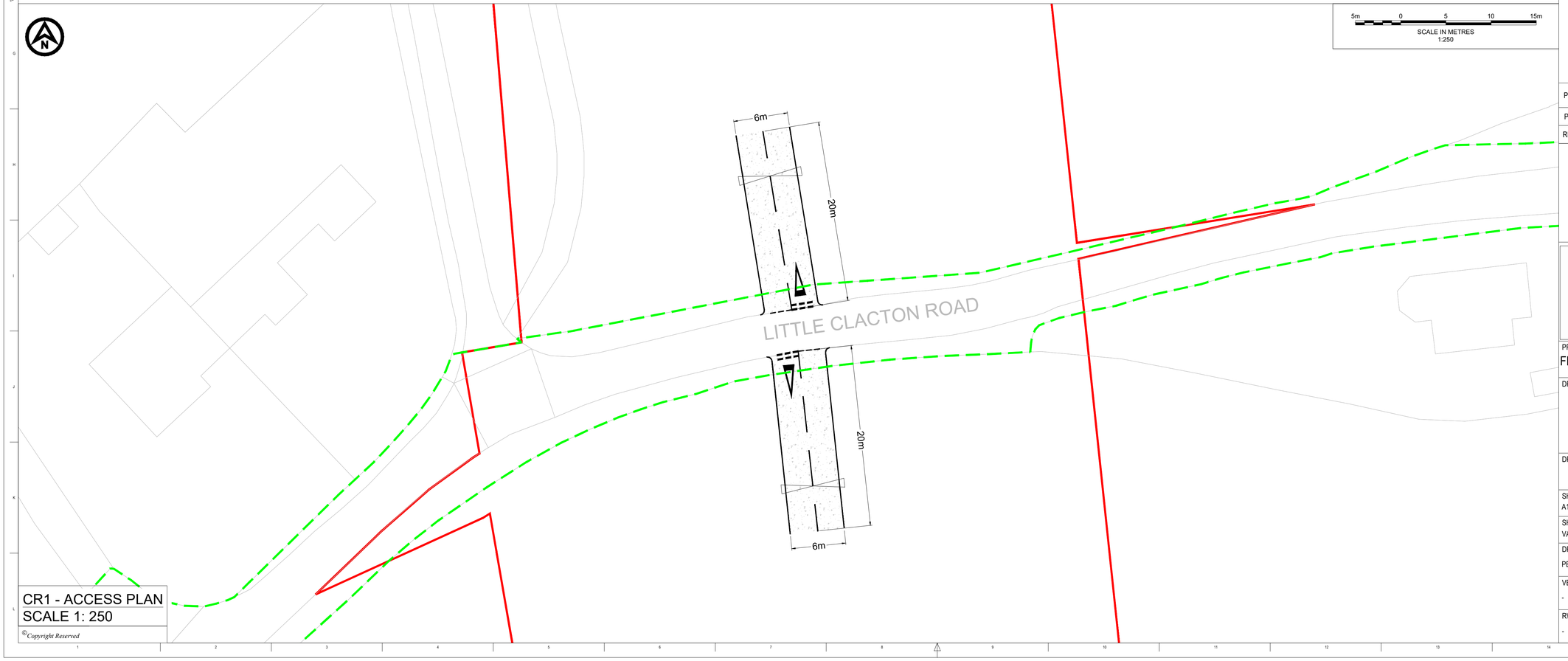
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

CR1	Visibility East	Visibility West
85% of Recorded Speeds (mph) (85RS)	39	
Posted Speed Limit	30	
Required Y-distance SSD (m) for 37mph (MfS)	59	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





CR1 - ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

REV	DATE	DESCRIPTION	BY	CHK	APP
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

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www.royalhaskoningdhv.com

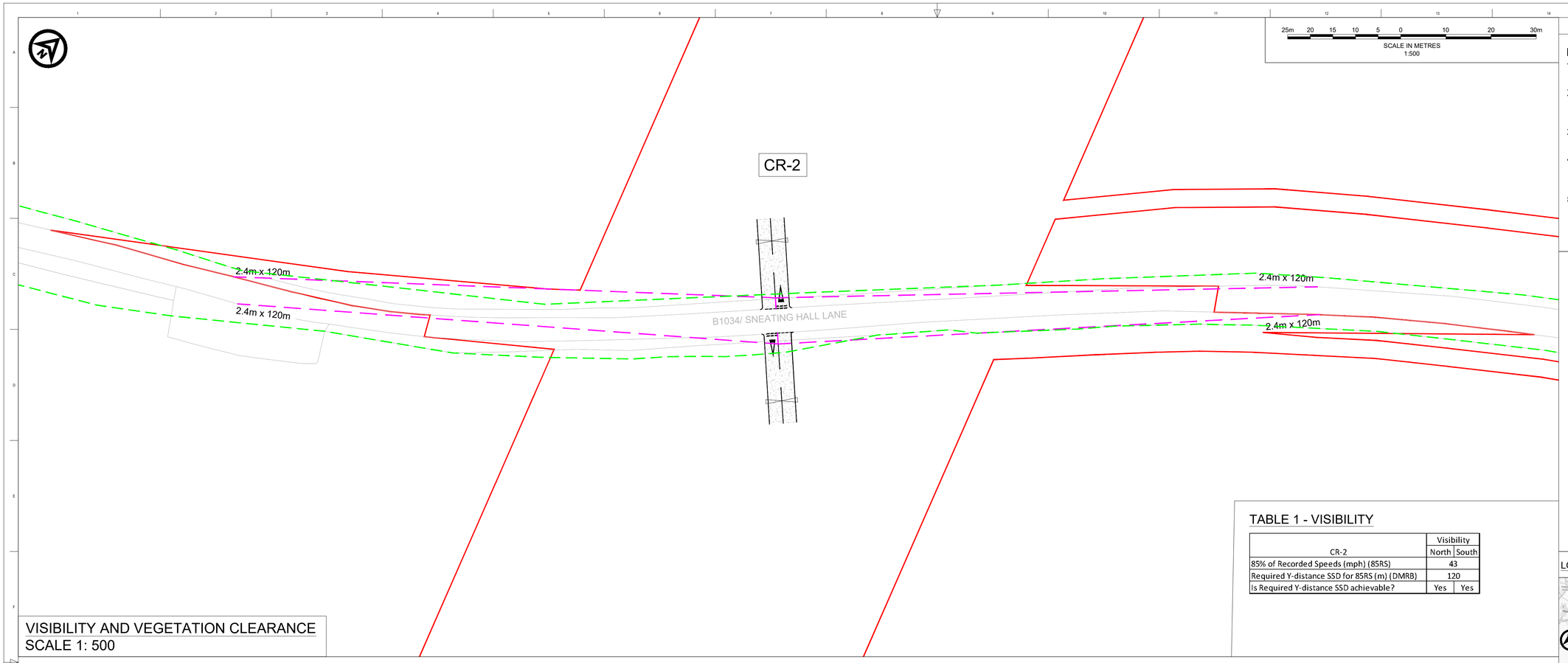
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-1 - LITTLE CLACTON ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0016	P02
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

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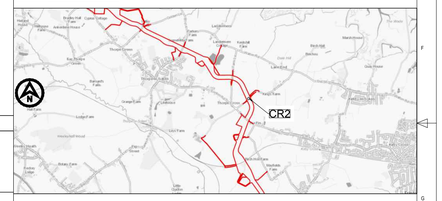
KEY

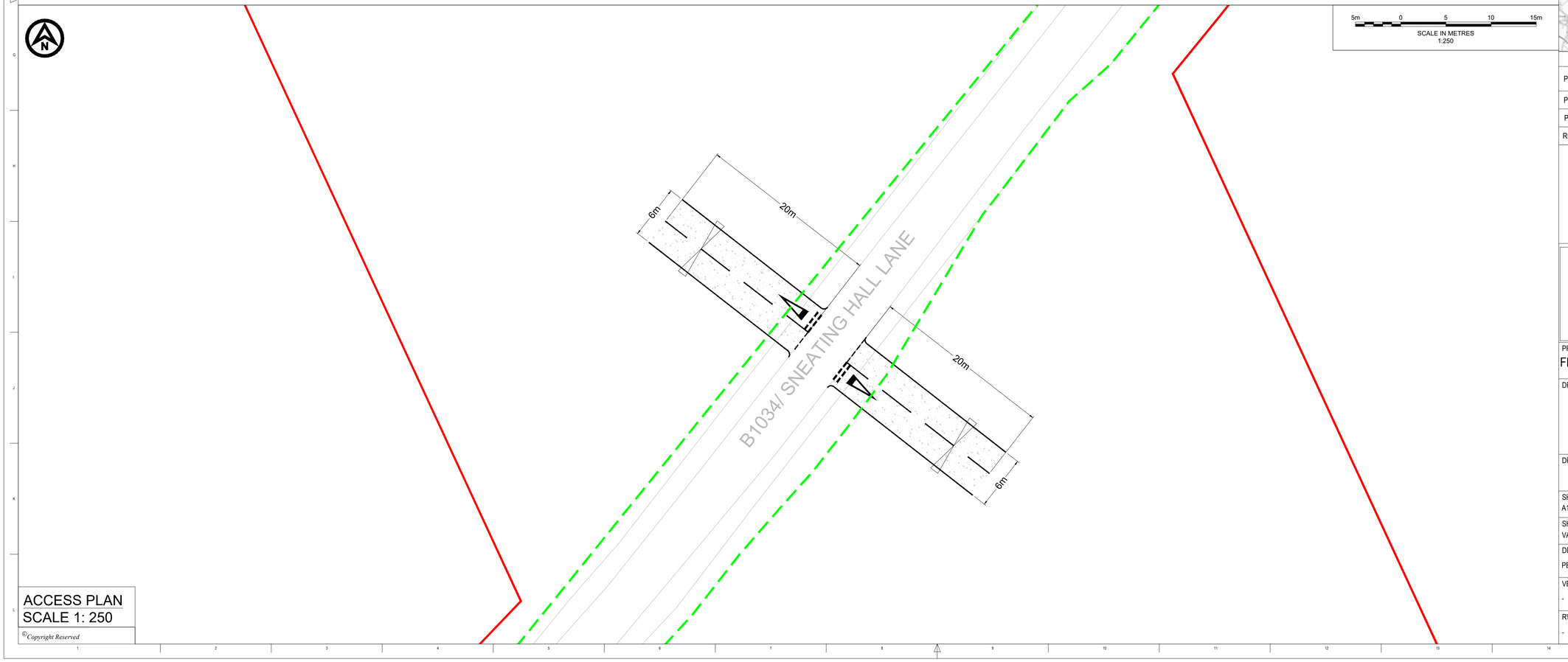
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

CR-2	Visibility North	Visibility South
85% of Recorded Speeds (mph) (85RS)	43	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR2 - B1034/ SNEATING HALL LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0009	P03
VE DOCUMENT NUMBER	REVISION
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RWE ECODOC NUMBER / SHEET No	REVISION
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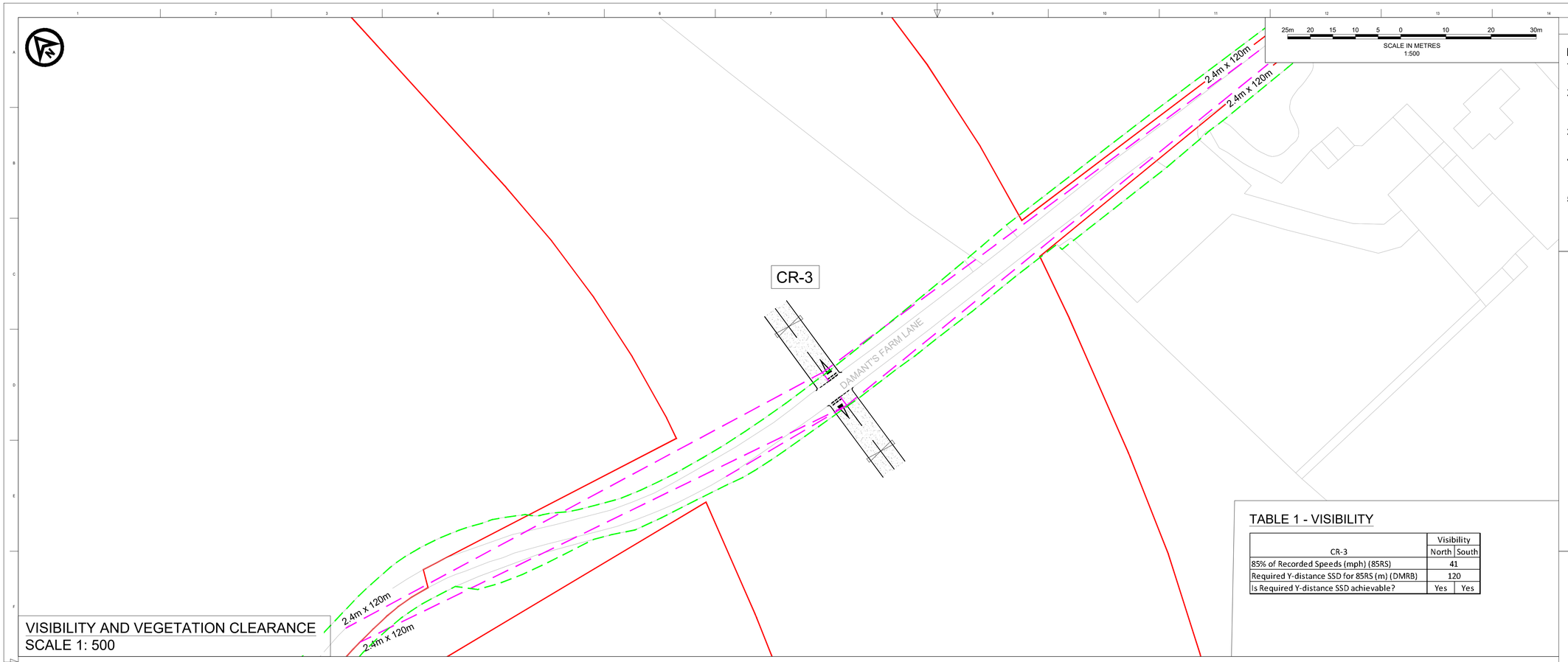
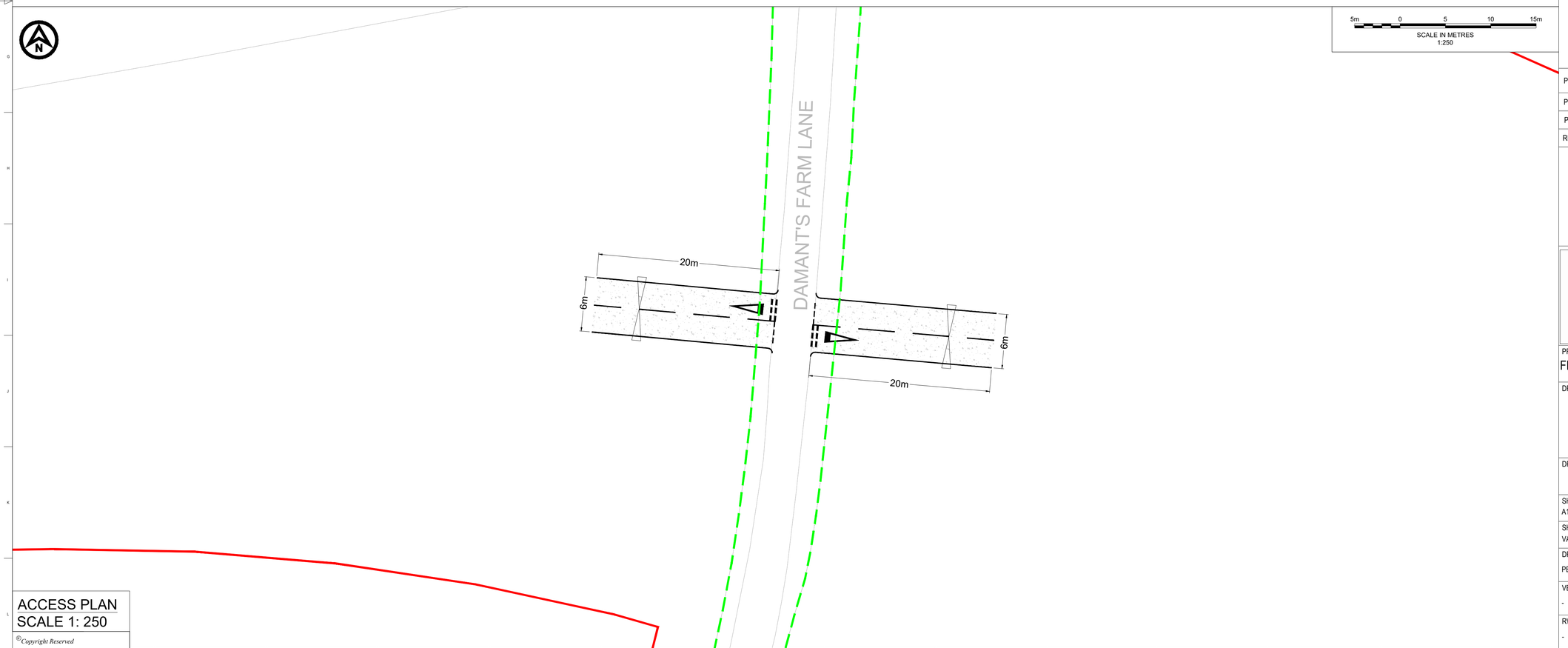


VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500



ACCESS PLAN
SCALE 1: 250

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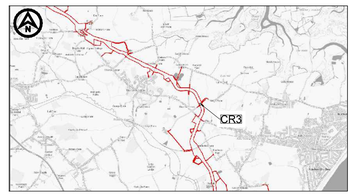
KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

CR-3	Visibility North	Visibility South
85% of Recorded Speeds (mph) (85RS)	41	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-3 - DAMANT'S FARM LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0010	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
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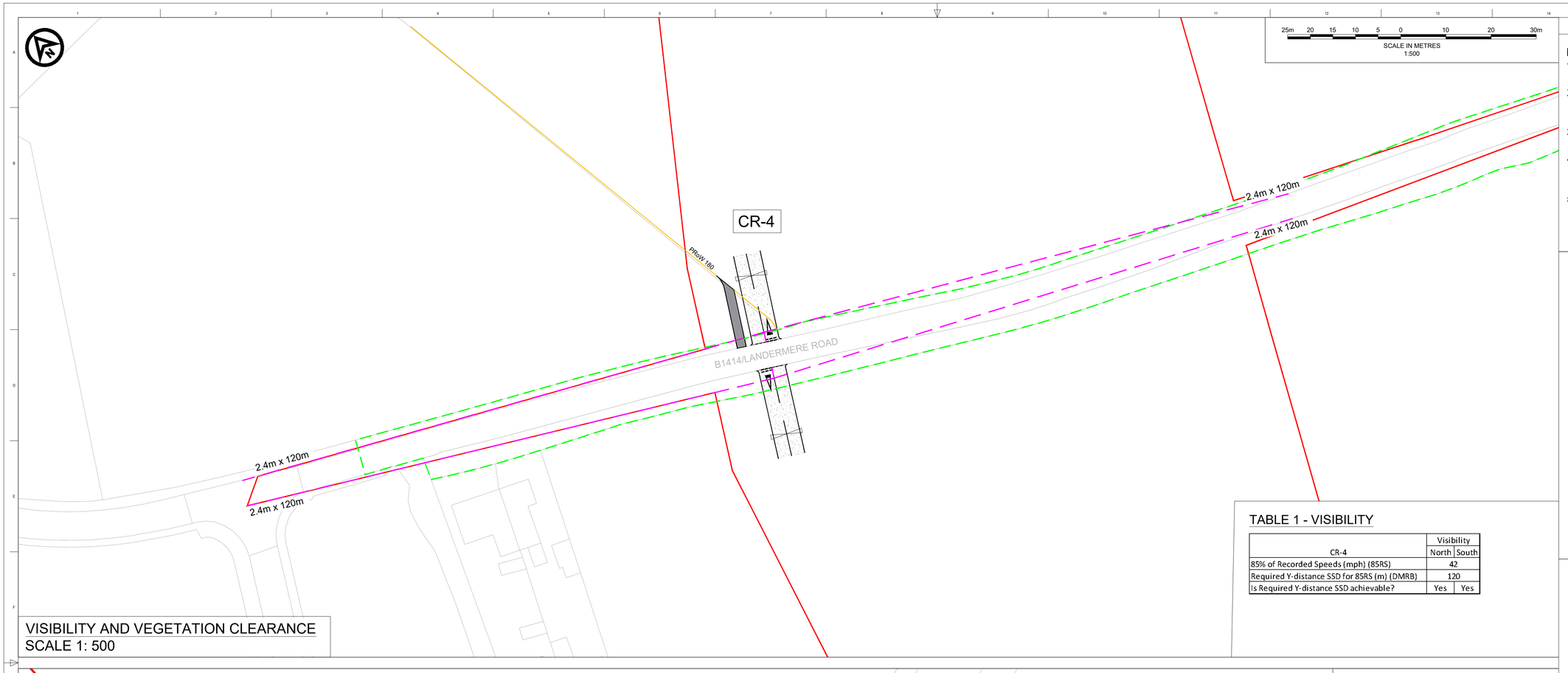

VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

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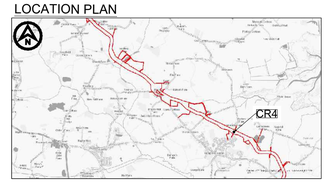
KEY

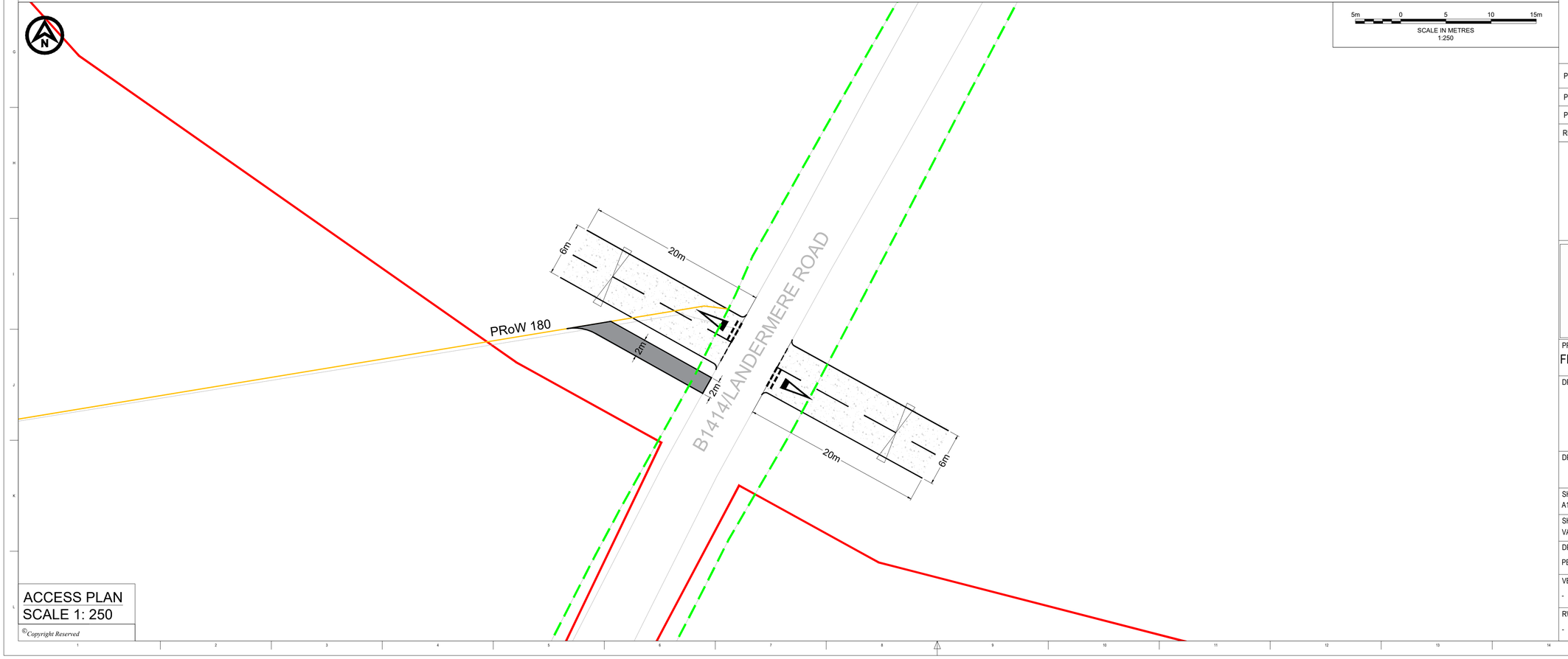
- EXISTING ARRANGEMENT
- ONSHORE CABLE CORRIDOR
- HIGHWAY BOUNDARY
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- EXISTING PUBLIC RIGHTS OF WAY
- PROPOSED TEMPORARY OFFROAD PUBLIC RIGHTS OF WAY ROUTE
- PROPOSED GATE

TABLE 1 - VISIBILITY

CR-4	Visibility North	Visibility South
85% of Recorded Speeds (mph) (85RS)	42	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

REV	DATE	DESCRIPTION	BY	CHK	APP
P04	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P03	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT
P02	15/11/2023	PUBLIC RIGHTS OF WAY AMENDMENTS	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-4 - B1414/LANDERMERE ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0011	P04
VE DOCUMENT NUMBER	REVISION
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RWE ECODOC NUMBER	SHEET No / REVISION
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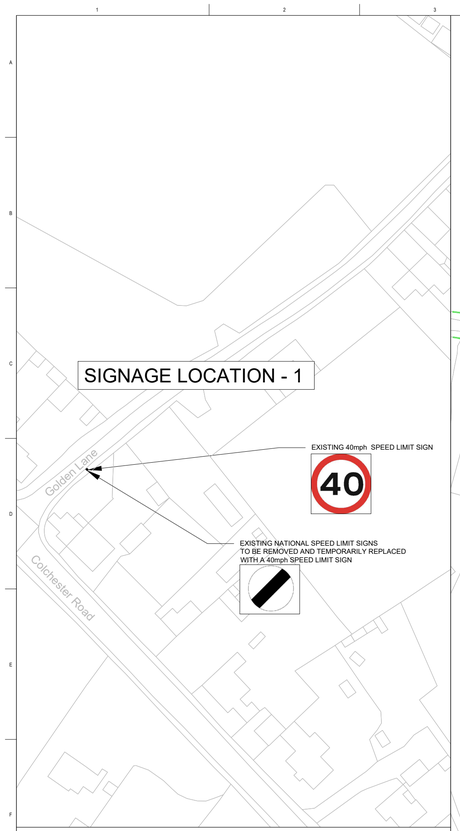
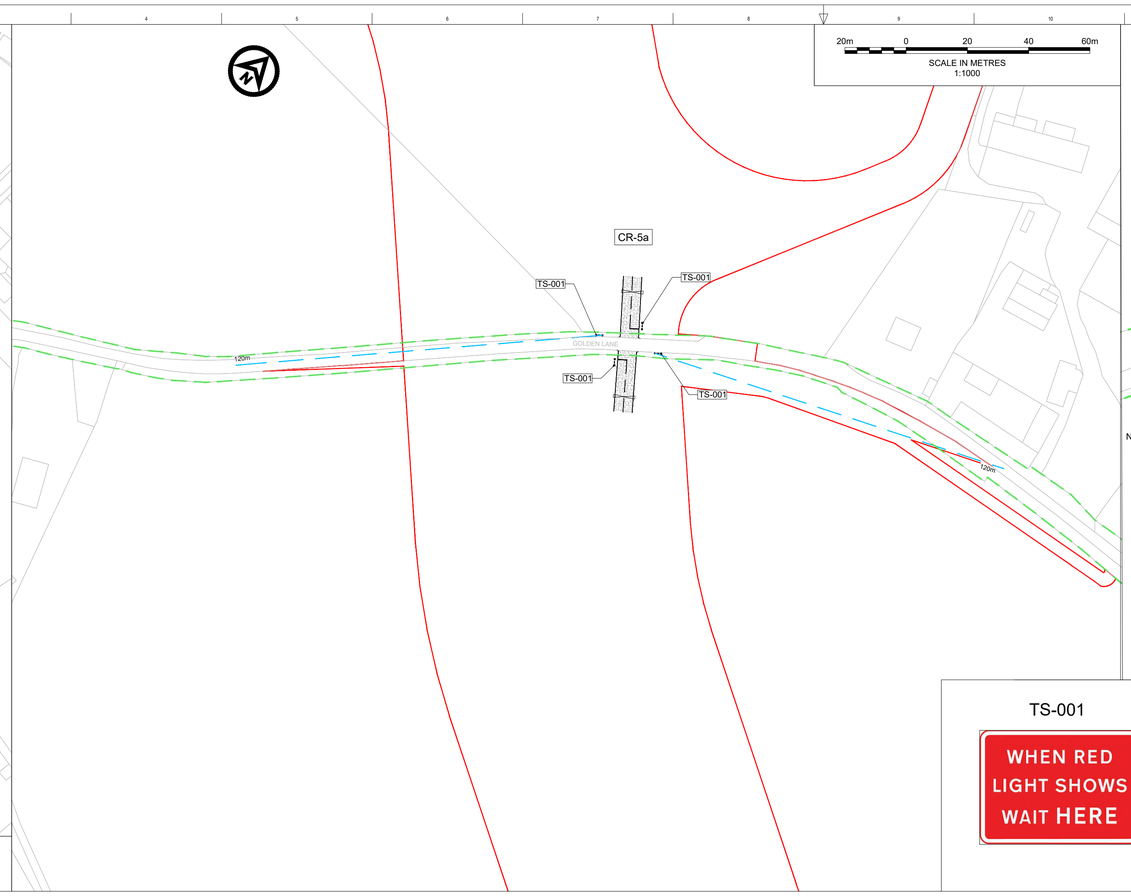
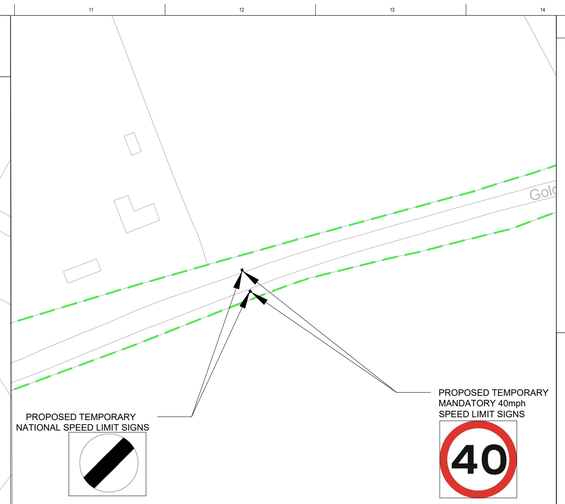


VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000



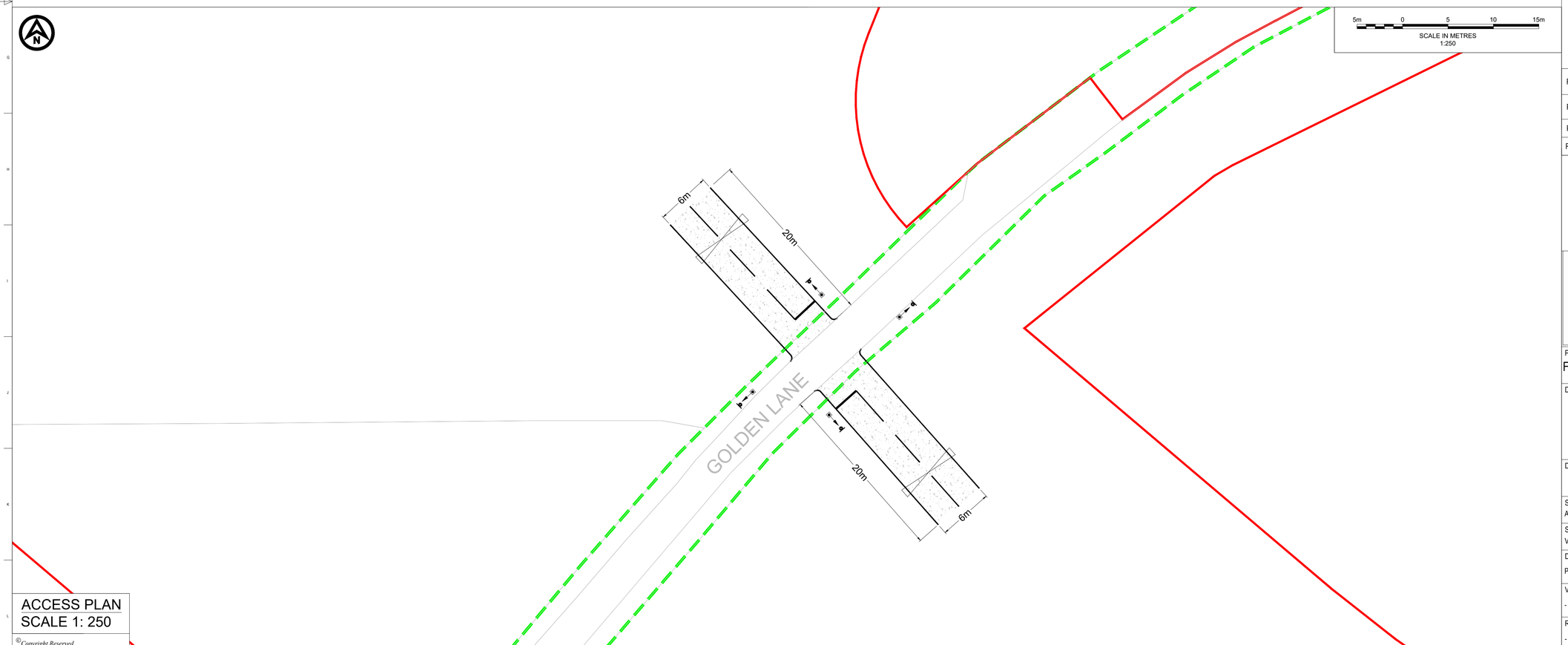


SIGNAGE LOCATION - 2

TS-001

TABLE 1 - VISIBILITY

CR-5a	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	45	
Required Y-distance SSD for 85RS (m) (DMRB)	160	
Proposed initial traffic management plan	Traffic signal control and reduced mandatory speed limit	
Proposed Reduced Speed Limit (RSL) (mph)	40	
Required Y-distance SSD for RSL (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes



ACCESS PLAN
SCALE 1: 250

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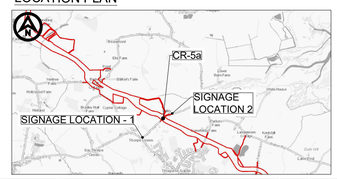
KEY

- EXISTING ARRANGEMENT
- ONSHORE CABLE CORRIDOR
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- FORWARD STOPPING DISTANCE
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY
- PROPOSED TEMPORARY PORTABLE TRAFFIC LIGHTS
- PROPOSED TEMPORARY ROAD SIGN

LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
P05	23/12/2024	UPDATE TO TEMPORARY SPEED LIMIT LOCATION	CB	SKT	SKT
P04	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P03	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

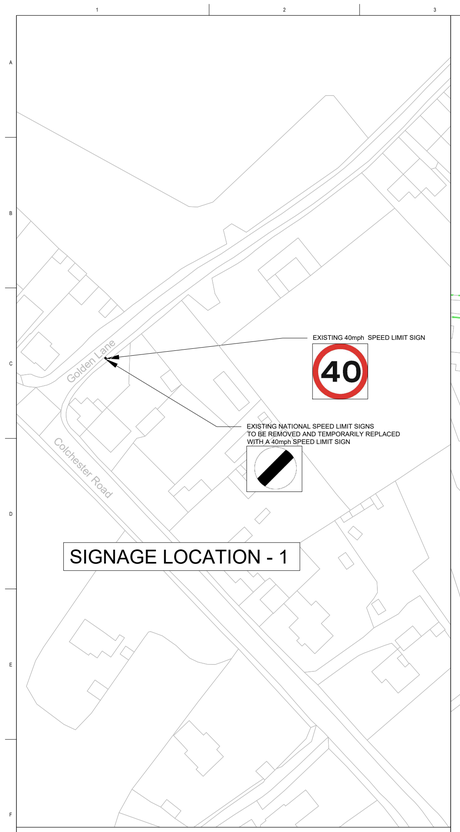
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-5a - GOLDEN LANE
GENERAL ARRANGEMENT
TRAFFIC SIGNAL OPTION

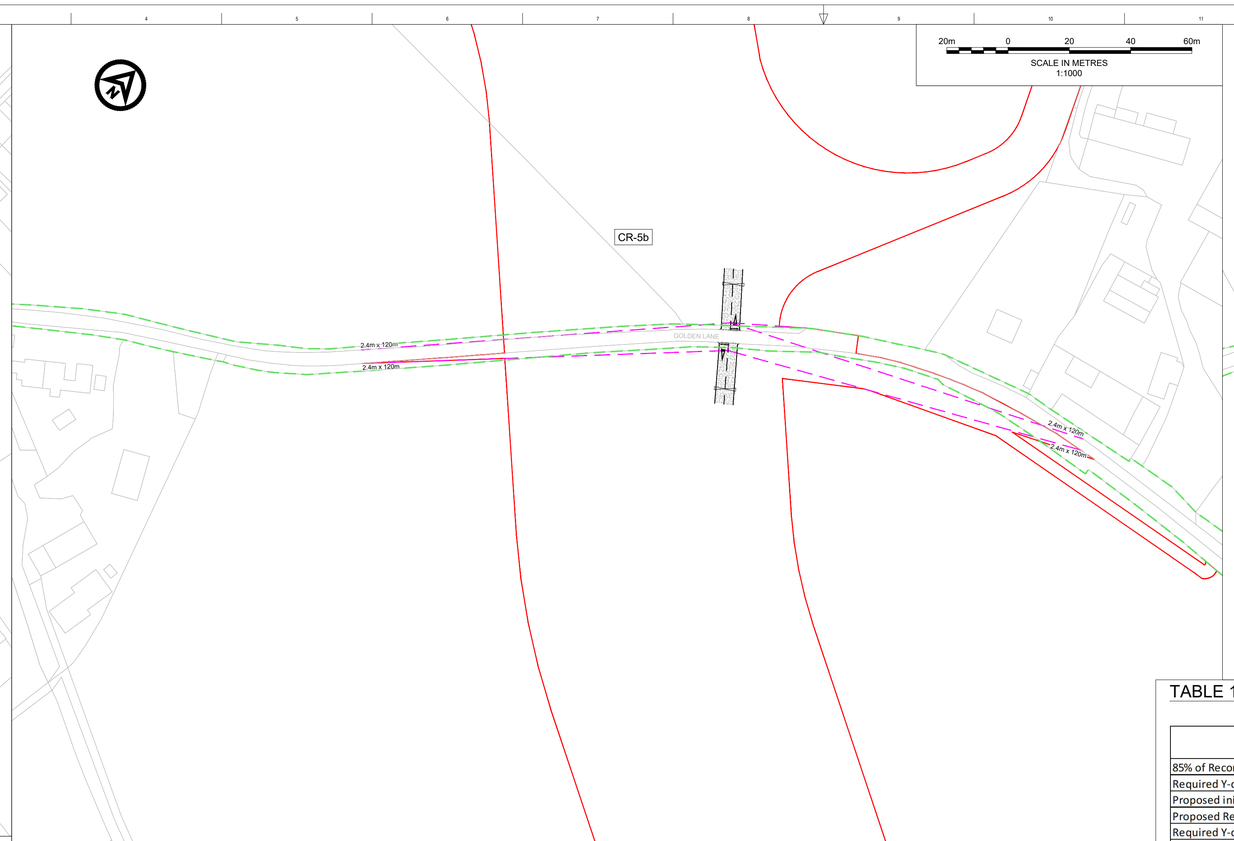
DRAWING STATUS
PLANNING

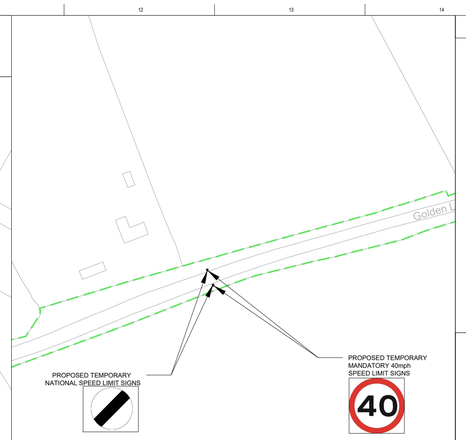
SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0012	P05
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



SIGNAGE LOCATION - 1





SIGNAGE LOCATION - 2

VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000

DO NOT SCALE FROM THIS DRAWING

NOTES
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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

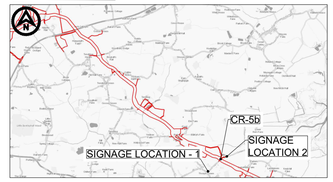
KEY

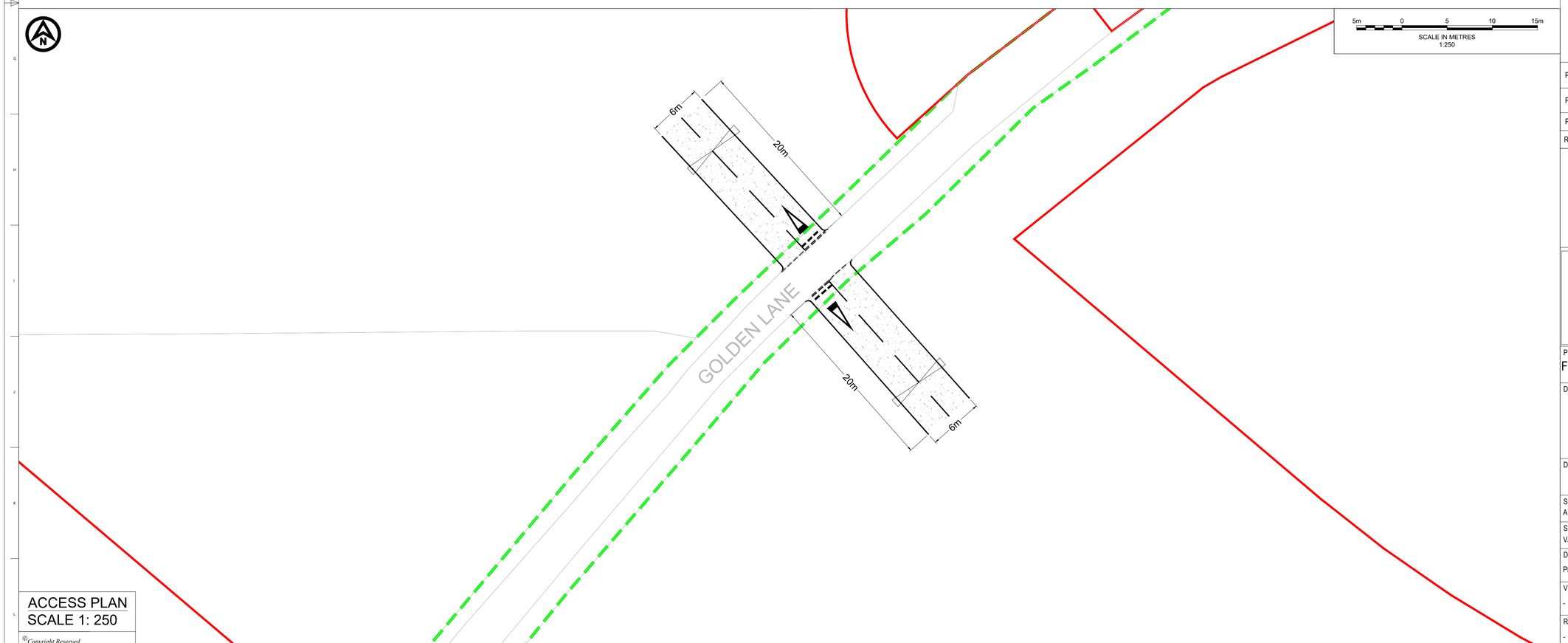
- EXISTING ARRANGEMENT
- ONSHORE CABLE CORRIDOR
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FORWARD STOPPING DISTANCE
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY
- PROPOSED TEMPORARY ROAD SIGN

TABLE 1 - VISIBILITY

CR-5b	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	45	
Required Y-distance SSD for 85RS (m) (DMRB)	160	
Proposed initial traffic management plan	Reduced mandatory speed limit	
Proposed Reduced Speed Limit (RSL) (mph)	40	
Required Y-distance SSD for RSL (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS PLAN
SCALE 1: 250

REV	DATE	DESCRIPTION	BY	CHK	APP
P04	23/12/2024	UPDATE TO TEMPORARY SPEED LIMIT LOCATION	CB	SKT	SKT
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERS	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

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Tel +44(0)1932 569566
www.royalhaskoningdhv.com

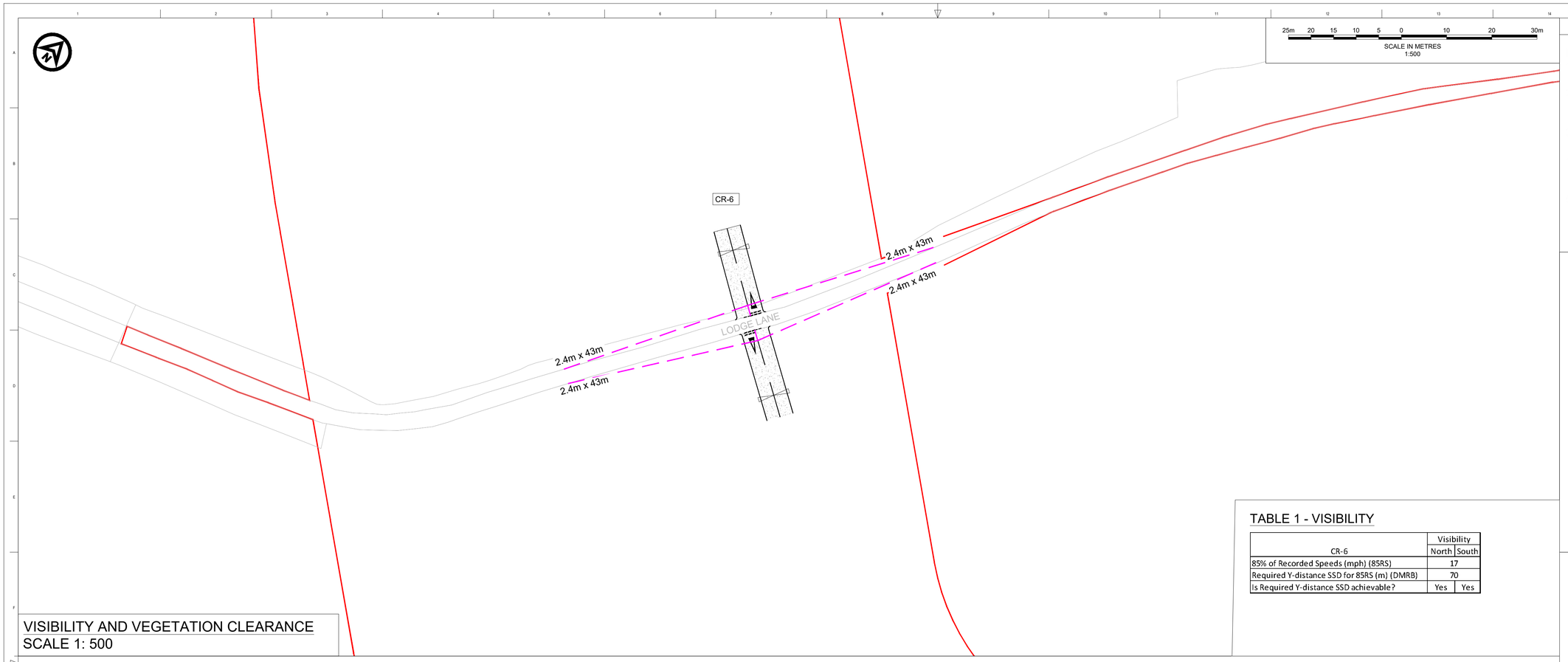
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-5b - GOLDEN LANE
GENERAL ARRANGEMENT
PRIORITY OPTION

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0021	P04
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

DO NOT SCALE FROM THIS DRAWING

NOTES
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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

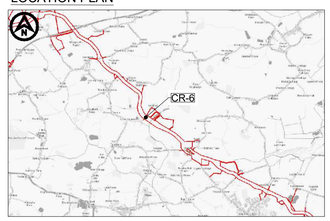
KEY

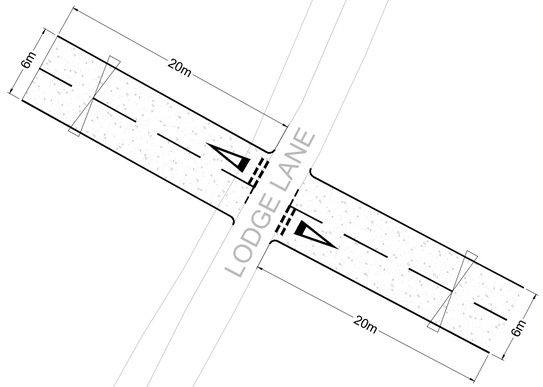
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE

TABLE 1 - VISIBILITY

CR-6	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	17	
Required Y-distance SSD for 85RS (m) (DMRB)	70	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

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Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel: +44(0)1932 569566
www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-6 - LODGE LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SRT	SRT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0013	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER / SHEET No	REVISION
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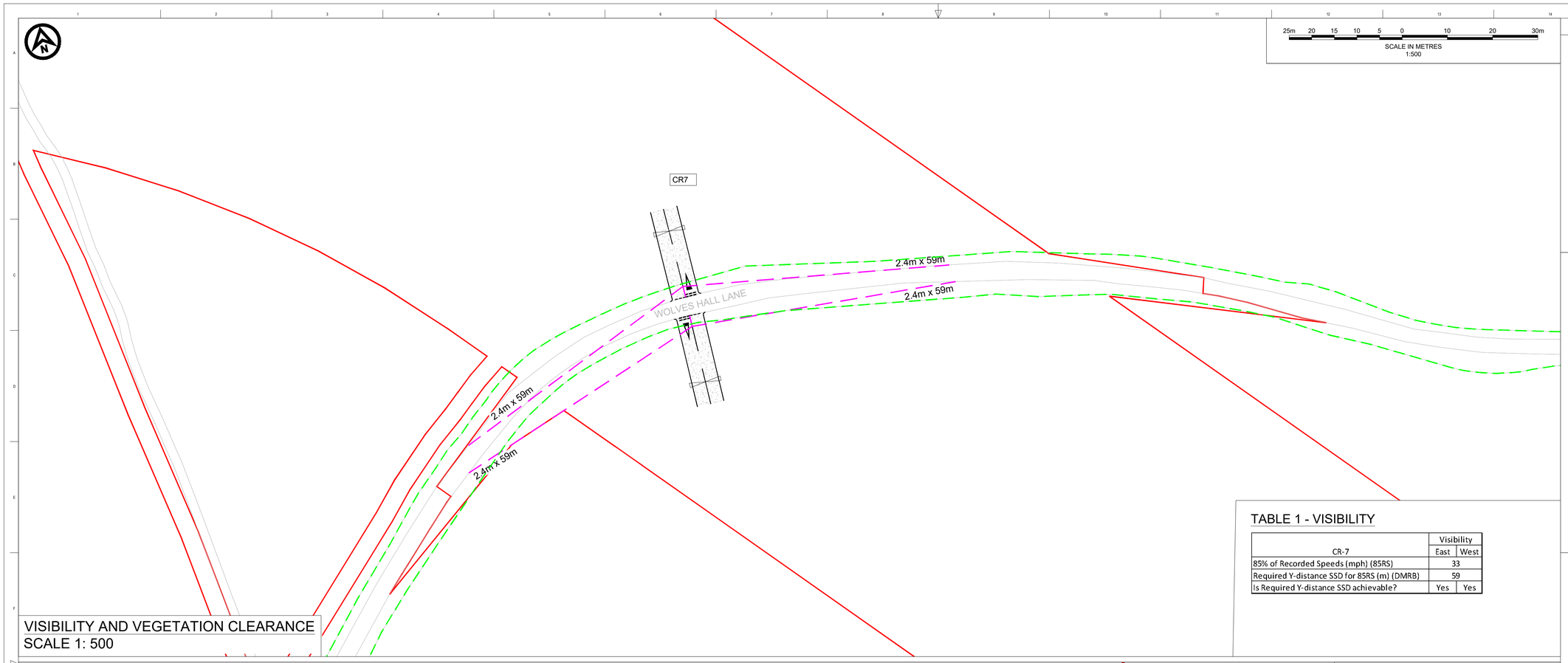
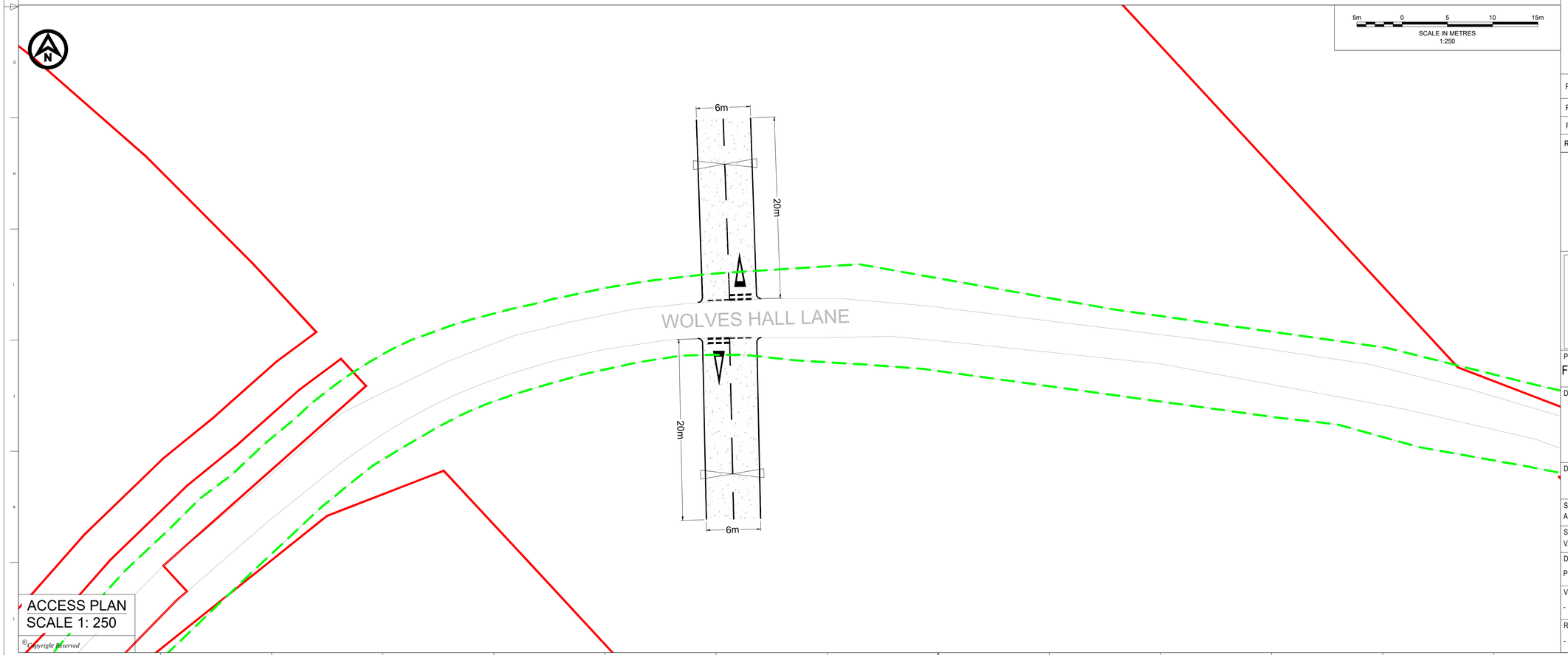


VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500



ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

DO NOT SCALE FROM THIS DRAWING

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5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

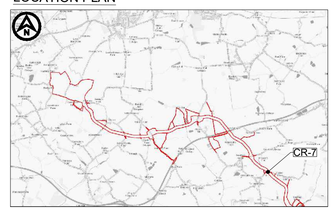
KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

CR-7	Visibility East	Visibility West
85% of Recorded Speeds (mph) (85RS)	33	
Required Y-distance SSD for 85RS (m) (DMRB)	59	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



REV	DATE	DESCRIPTION	BY	CHK	APP
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT
P01	07/08/2023	FIRST ISSUE	AA	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
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Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-7 - WOLVES HALL LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0019	P03
VE DOCUMENT NUMBER	REVISION
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RWE ECODOC NUMBER	SHEET No / REVISION
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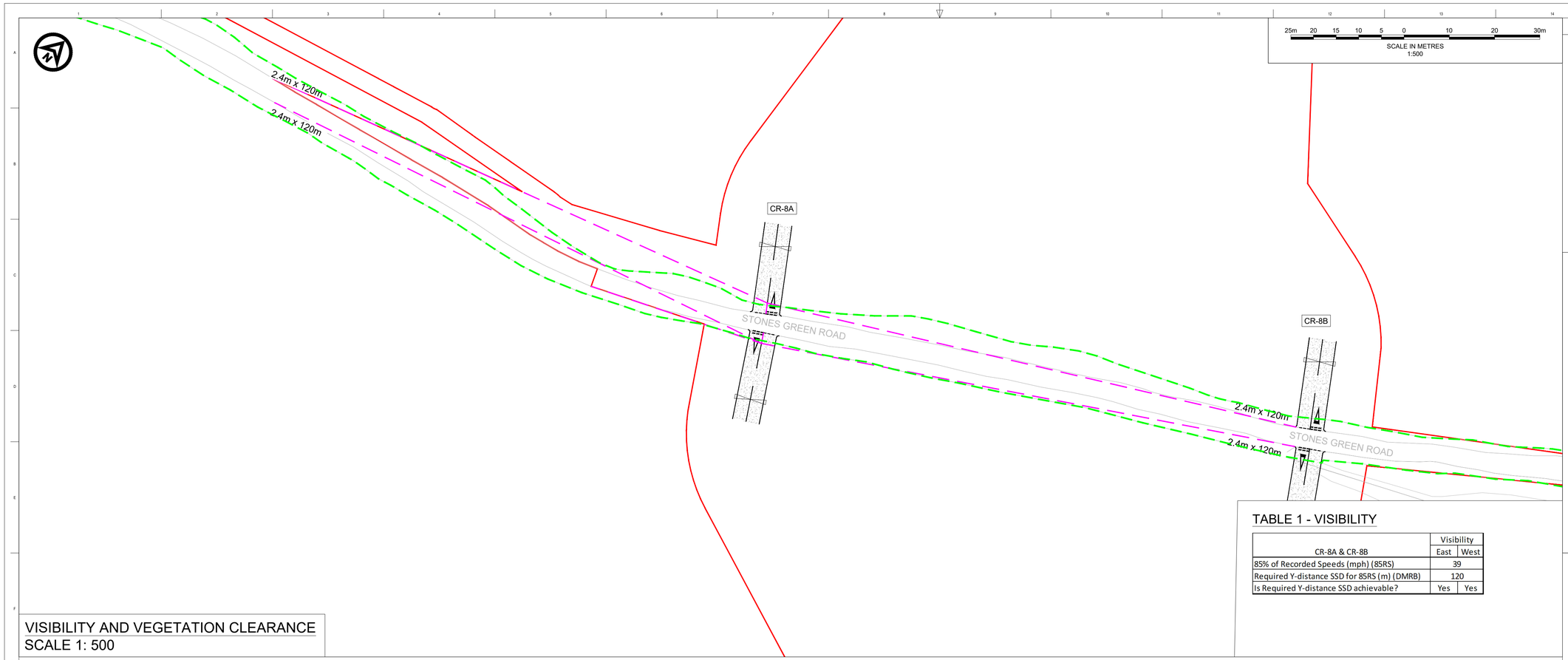
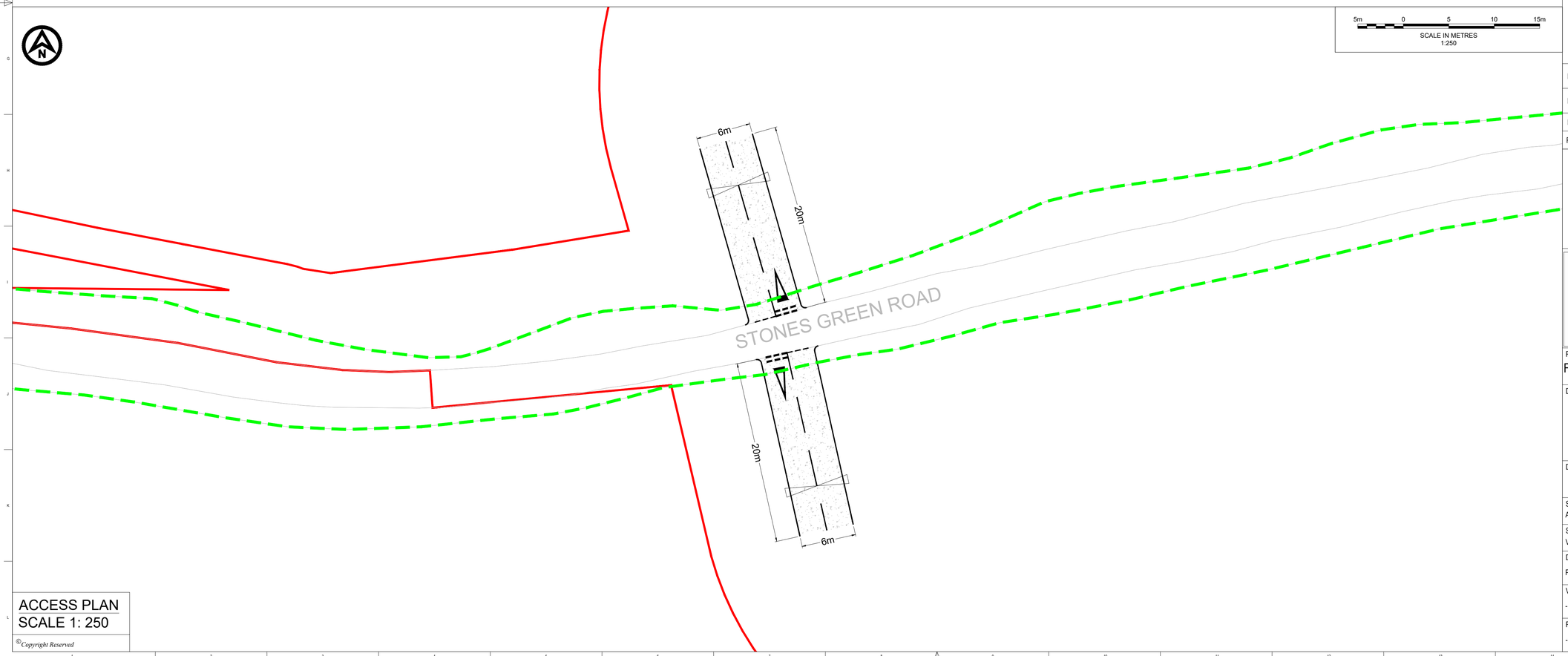


VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

TABLE 1 - VISIBILITY

CR-8A & CR-8B	Visibility	
	East	West
85% of Recorded Speeds (mph) (85RS)	39	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes



ACCESS PLAN
SCALE 1: 250

5m 0 5 10 15m
SCALE IN METRES
1:250

DO NOT SCALE FROM THIS DRAWING

NOTES
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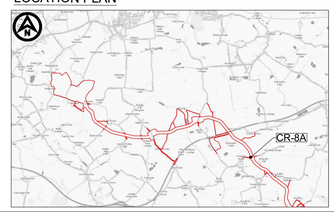
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

LOCATION PLAN



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P04	18/06/2024	UPDATED CROSSING NUMBERING	CB	SKT	SKT
P03	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT
P02	09/01/2024	UPDATE TO CROSSING NUMBERING	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
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Lynch Wood,
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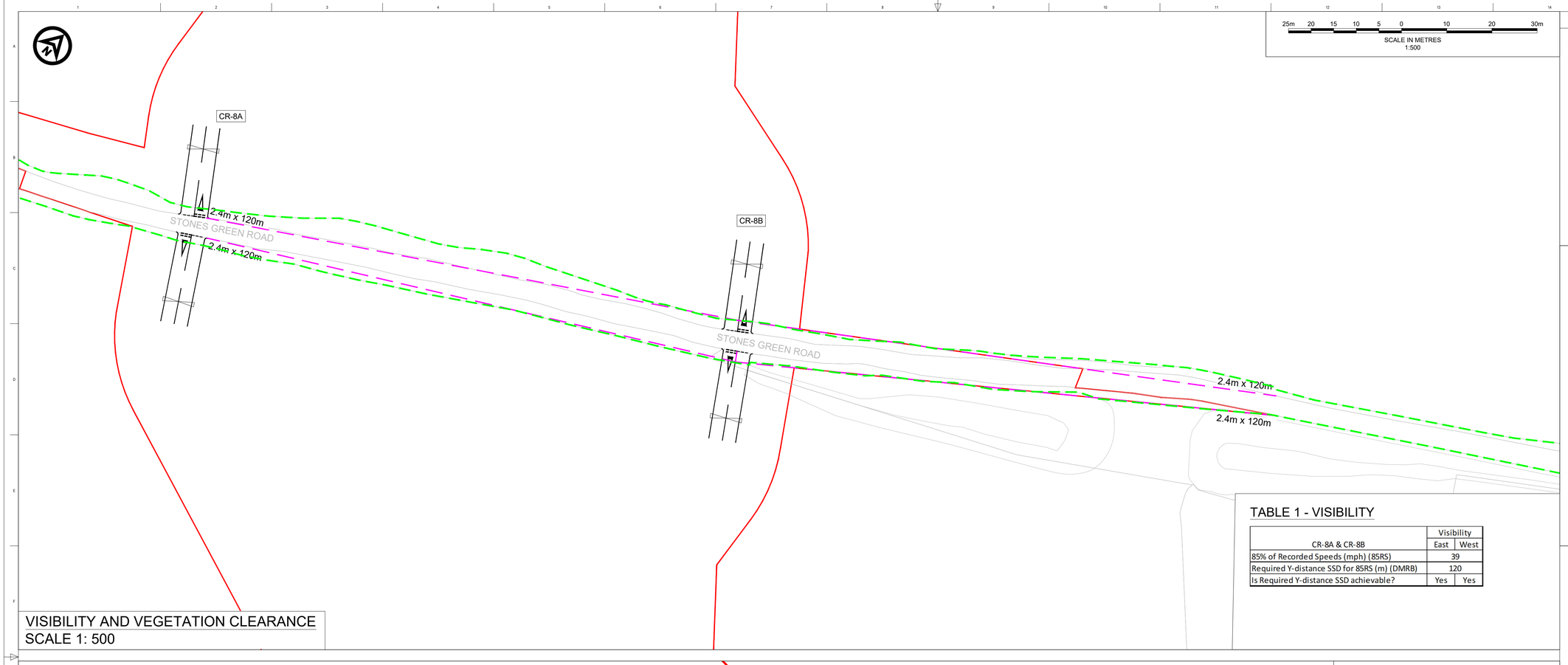
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-8A - STONES GREEN ROAD
GENERAL ARRANGEMENT

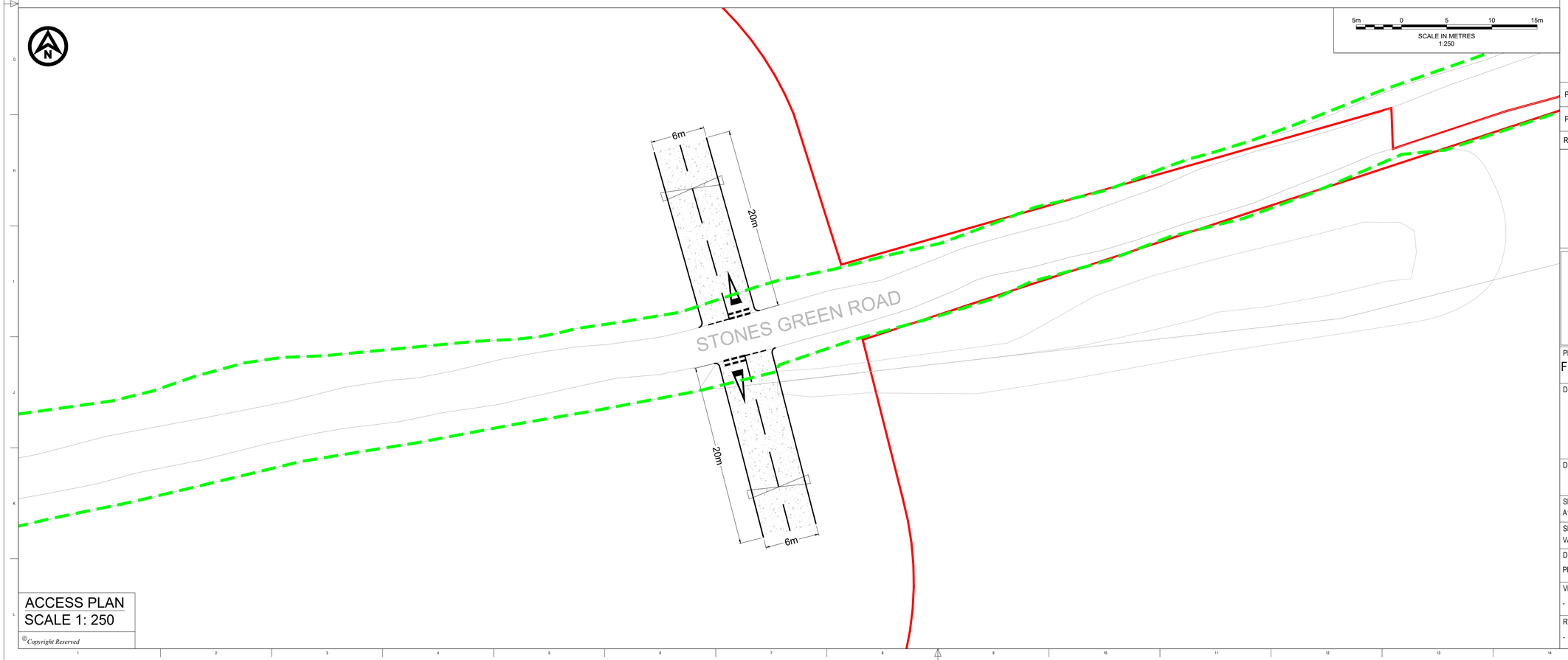
DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0014	P04
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500



ACCESS PLAN
SCALE 1: 250

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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.

KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

CR-8A & CR-8B	Visibility	
	East	West
85% of Recorded Speeds (mph) (85RS)	39	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	18/06/2024	UPDATED NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

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Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1932 569566
www.royalhaskoningdhv.com

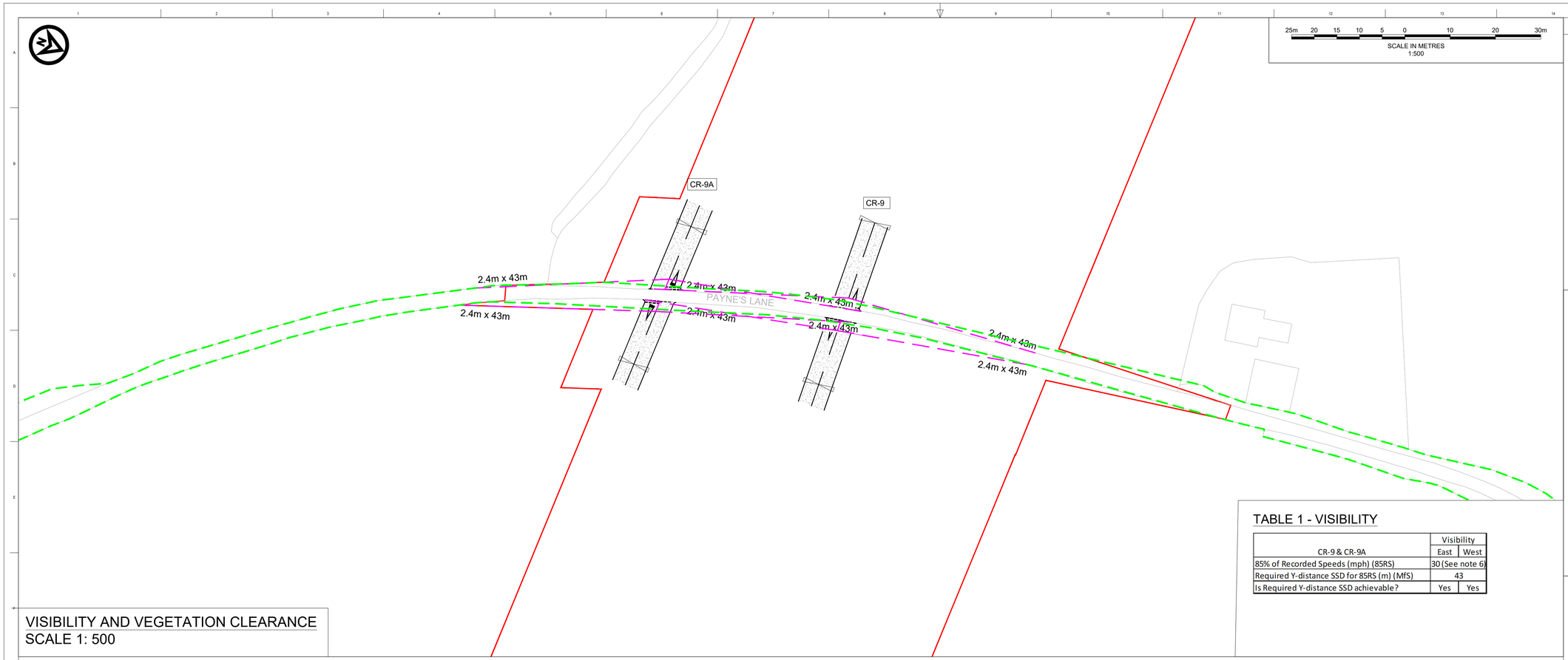
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-8B - STONES GREEN ROAD
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0020	P02
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -



25m 20 15 10 5 0 10 20 30m
SCALE IN METRES
1:500

VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

DO NOT SCALE FROM THIS DRAWING

NOTES
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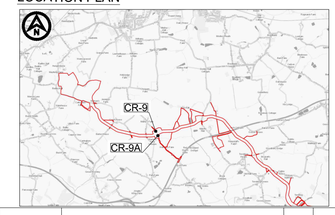
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.

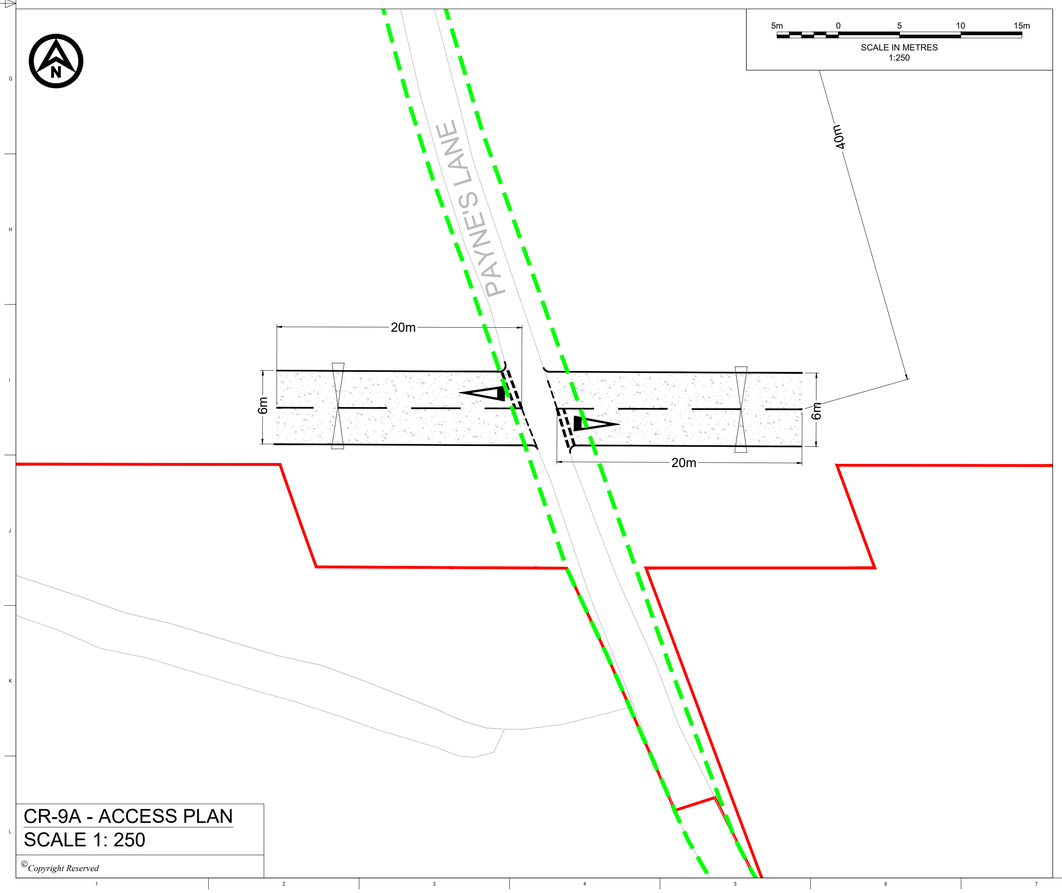
KEY
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

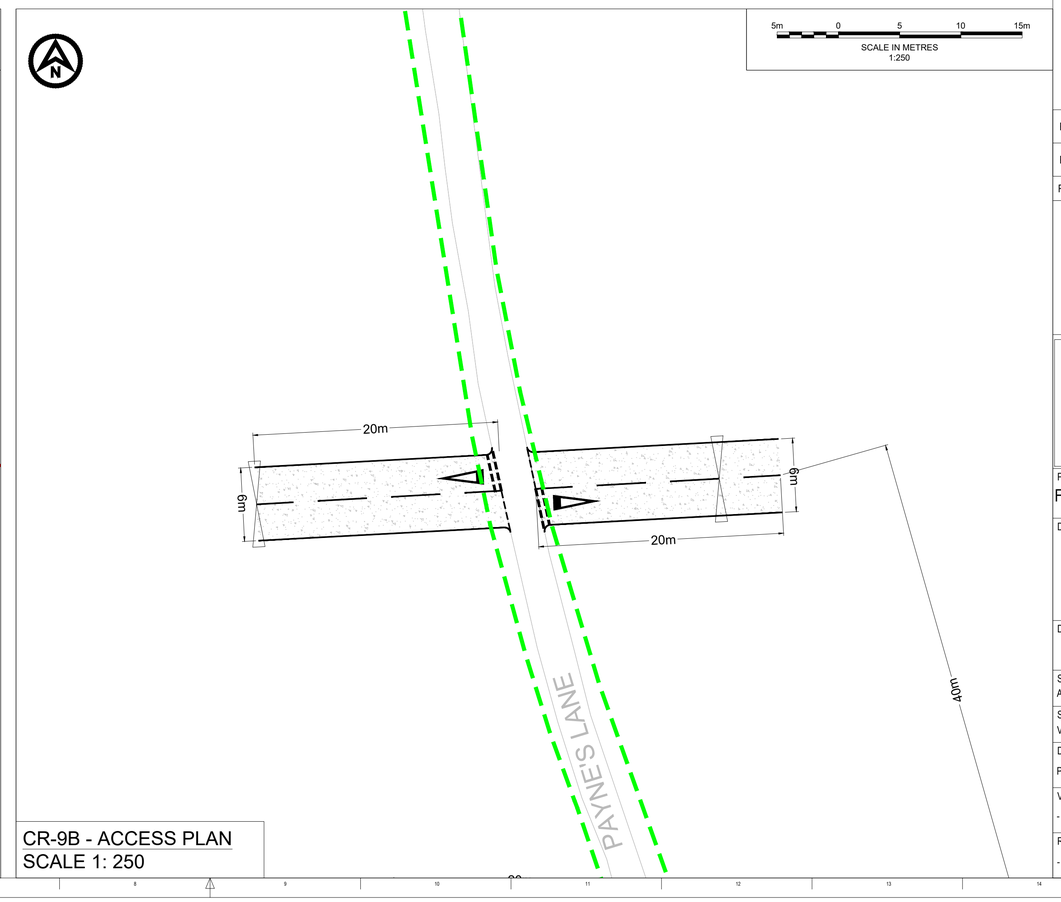
	Visibility	
CR-9 & CR-9A	East	West
85% of Recorded Speeds (mph) (85RS)	30 (See note 6)	
Required Y-distance SSD for 85RS (m) (MfS)	43	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





CR-9A - ACCESS PLAN
SCALE 1: 250



CR-9B - ACCESS PLAN
SCALE 1: 250

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	18/06/2024	UPDATED CROSSING NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

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PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

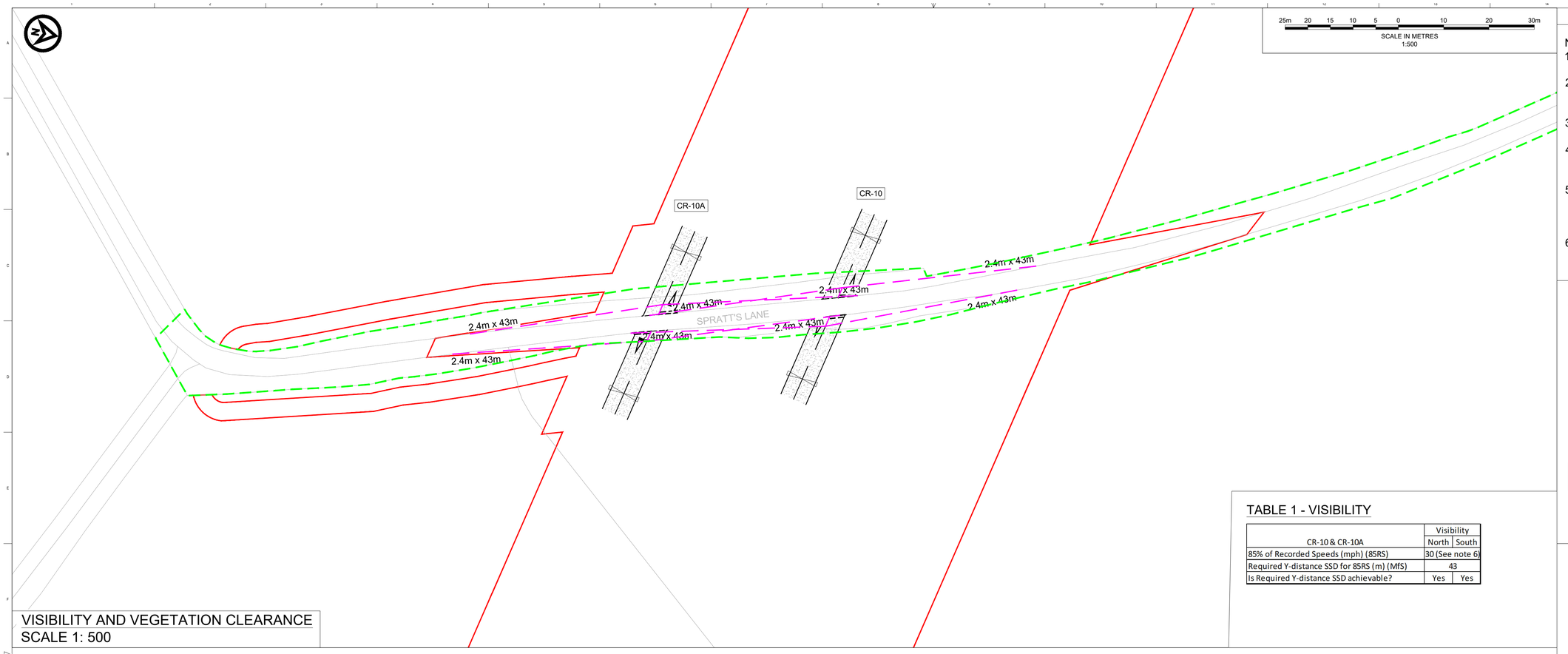
DRAWING TITLE
CR-9 & CR-9A - PAYNE'S LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0017	P03
VE DOCUMENT NUMBER	REVISION
-	-

RWE ECODOC NUMBER	SHEET No	REVISION
-	1_OF_1	-



VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500

DO NOT SCALE FROM THIS DRAWING

NOTES

1. Do not scale from this drawing. all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.

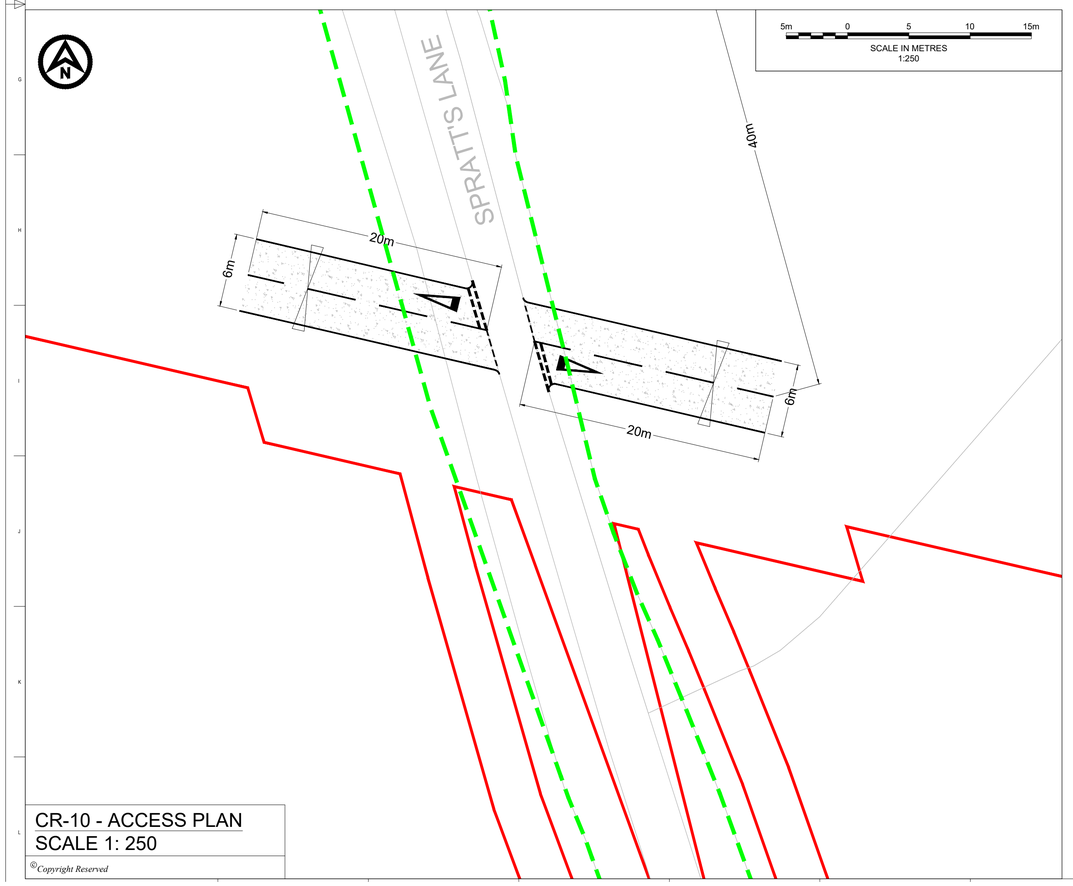
KEY

- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

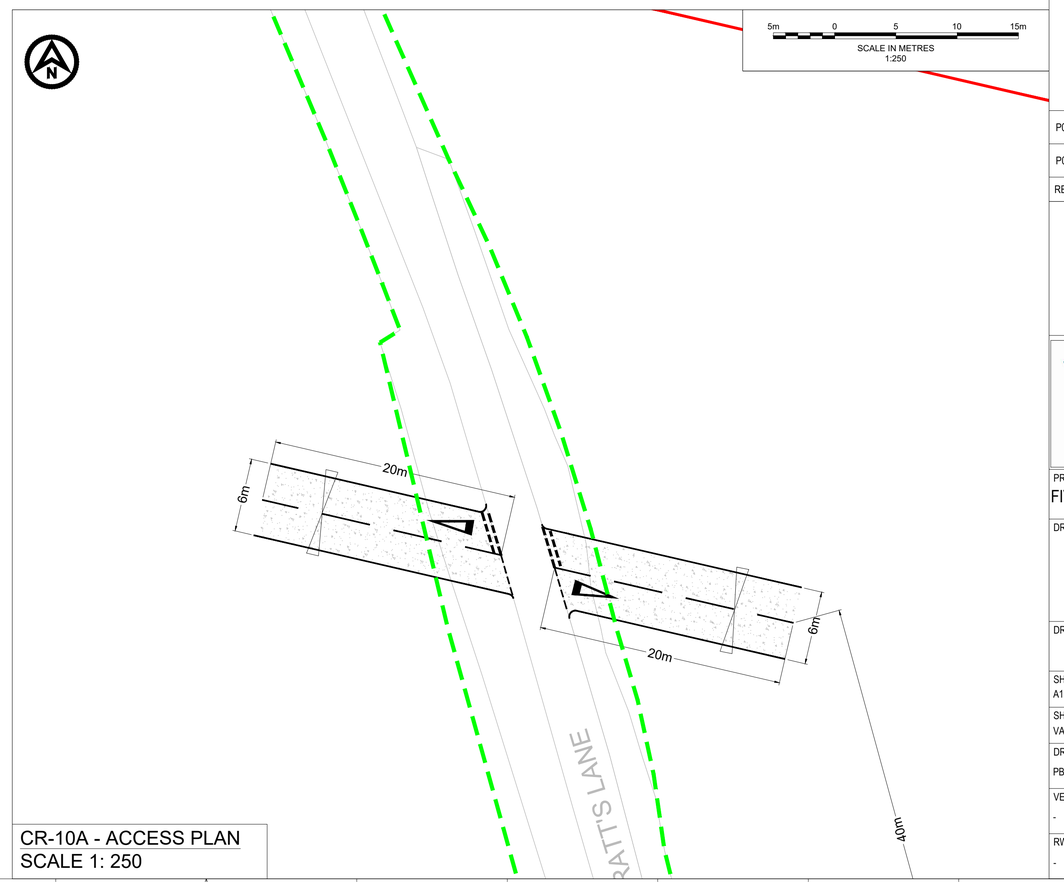
TABLE 1 - VISIBILITY

CR-10 & CR-10A	Visibility	
	North	South
85% of Recorded Speeds (mph) (85RS)	30 (See note 6)	
Required Y-distance SSD for 85RS (m) (MfS)	43	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN



CR-10 - ACCESS PLAN
SCALE 1: 250



CR-10A - ACCESS PLAN
SCALE 1: 250

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	18/06/2024	UPDATED CROSSING NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park, Lynch Wood, Peterborough PE2 6FZ
Tel +44(0)1922 555566
www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

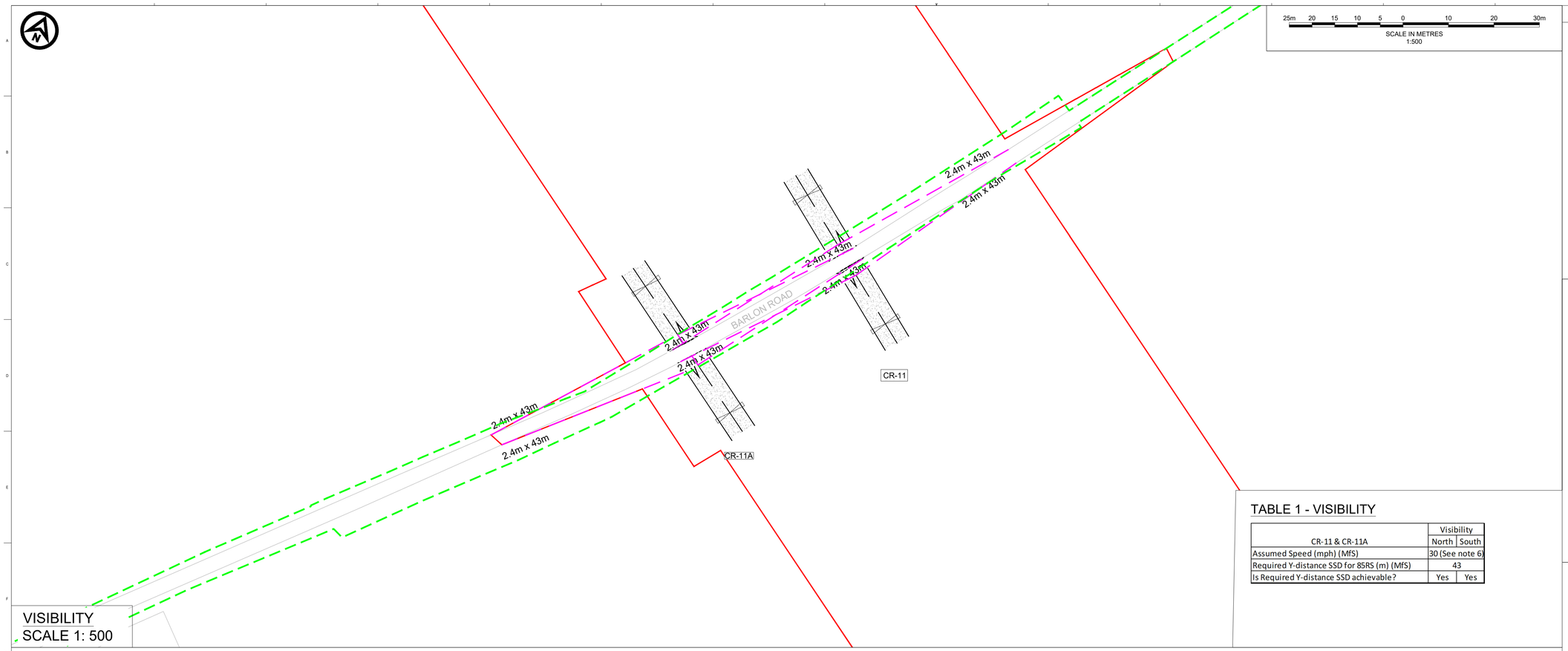
DRAWING TITLE
CR-10 & CR-10A - SPRATT'S LANE
GENERAL ARRANGEMENT

DRAWING STATUS
PLANNING

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0018	P03
VE DOCUMENT NUMBER	REVISION
-	-

RWE ECODOC NUMBER	SHEET No	REVISION
-	1_OF_1	-



VISIBILITY
SCALE 1: 500

DO NOT SCALE FROM THIS DRAWING

NOTES
1. Do not scale from this drawing. all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.

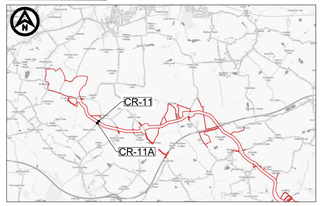
KEY

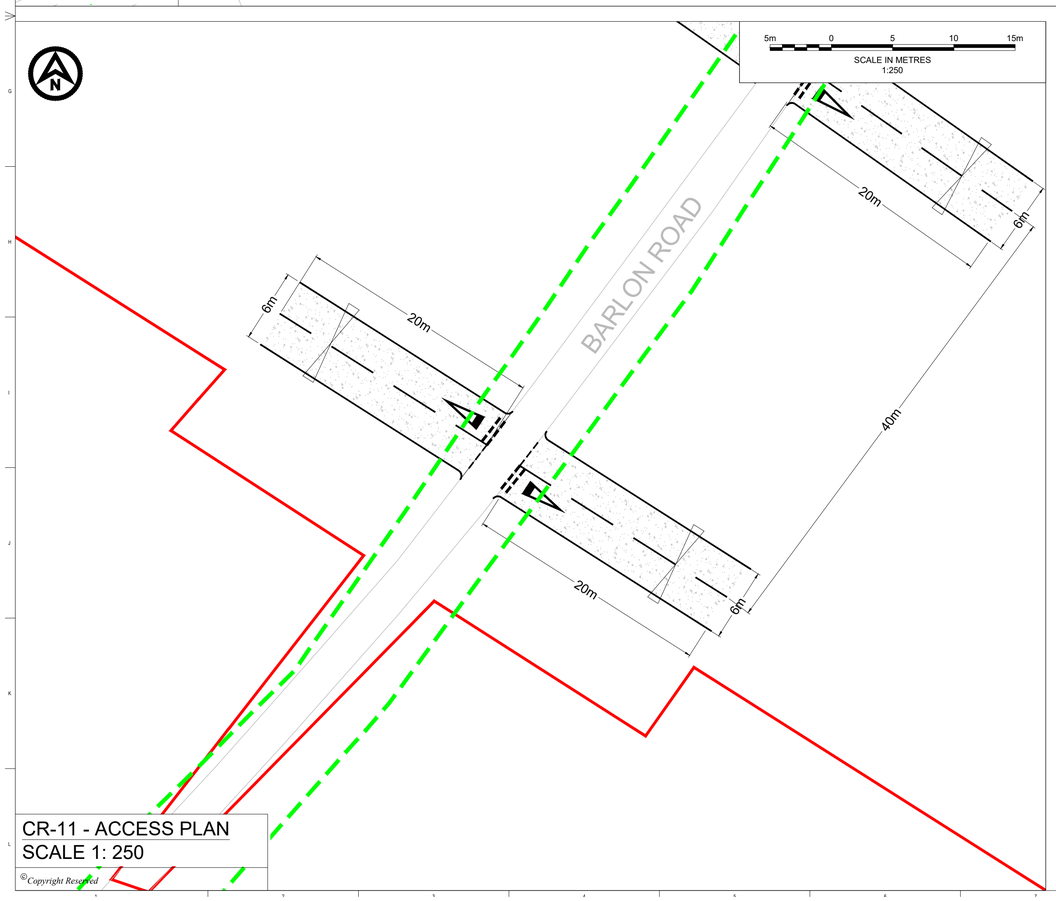
- EXISTING ARRANGEMENT
- ONSHORE RED LINE BOUNDARY
- PROPOSED GATE
- PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
- VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
- FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
- HIGHWAY BOUNDARY

TABLE 1 - VISIBILITY

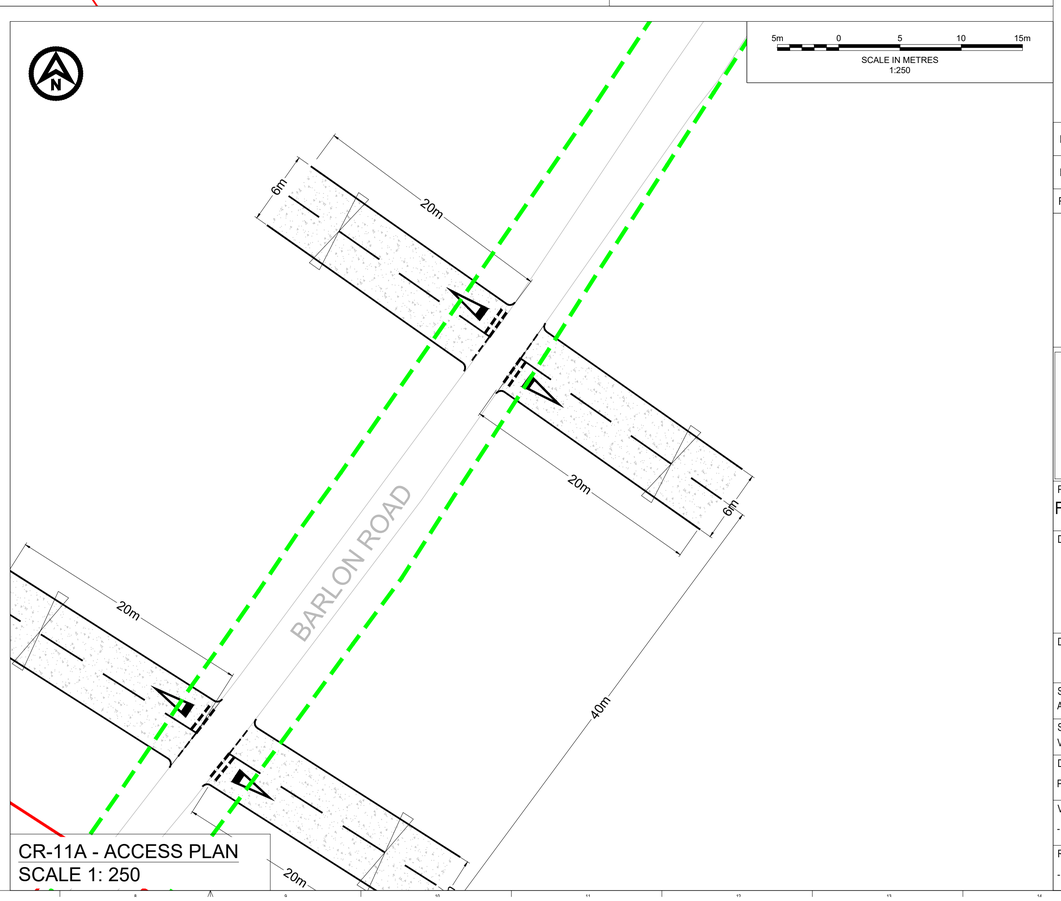
CR-11 & CR-11A	Visibility	
	North	South
Assumed Speed (mph) (MfS)	30 (See note 6)	
Required Y-distance SSD for 85RS (m) (MfS)	43	
Is Required Y-distance SSD achievable?	Yes	Yes

LOCATION PLAN





CR-11 - ACCESS PLAN
SCALE 1: 250



CR-11A - ACCESS PLAN
SCALE 1: 250

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	18/06/2024	UPDATED CROSSING NUMBERING	CB	SKT	SKT
P02	02/02/2024	ORDER LIMIT AND ROAD SAFETY AUDIT UPDATES	CB	SKT	SKT

FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm

Royal HaskoningDHV
Enhancing Society Together
Westpoint, Peterborough Business Park,
Lynch Wood,
Peterborough PE2 6FZ
Tel +44(0)1932 569586
www.royalhaskoningdhv.com

PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS

DRAWING TITLE
CR-11 & CR-11A - BARLON ROAD
GENERAL ARRANGEMENT

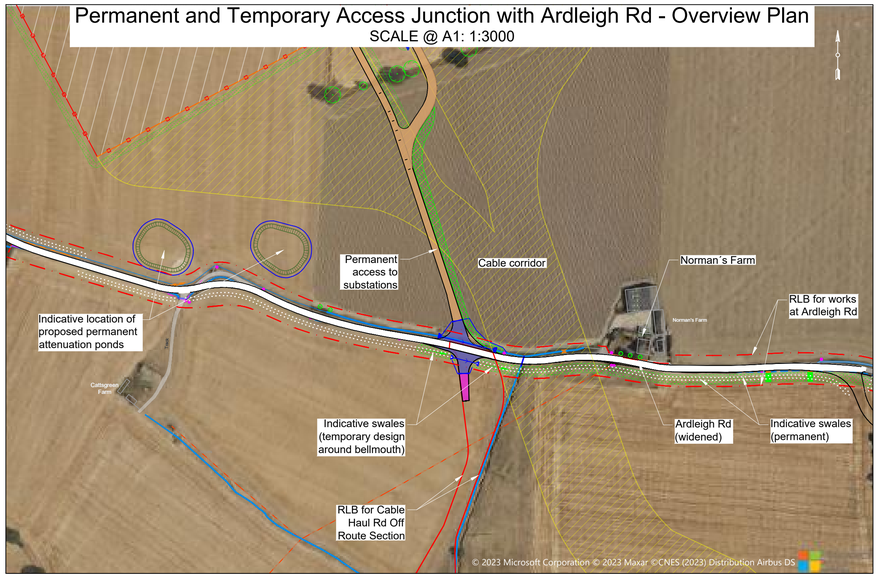
DRAWING STATUS
PLANNING

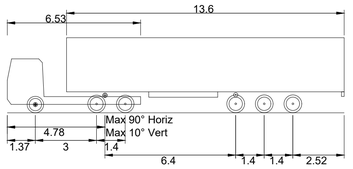
SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	AA	AA	SKT	SKT
SHEET SCALE	DATE	DATE	DATE	DATE
VARIES	07/08/2023	07/08/2023	07/08/2023	07/08/2023

DRAWING NUMBER	REVISION
PB9244-RHD-ZZ-ZZ-DR-R-0015	P03
VE DOCUMENT NUMBER	REVISION
-	-
RWE ECODOC NUMBER	SHEET No / REVISION
-	1_OF_1 / -

Permanent and Temporary Access Junction with Ardleigh Rd - Overview Plan

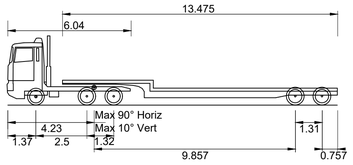
SCALE @ A1: 1:3000





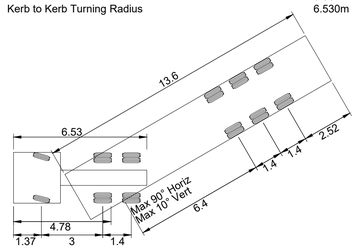
MAX. LEGAL LENGTH (UK) ARTICULATED VEHICLE (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m



LOW LOADER (16.154m)

Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m



Geometry has been checked against the bespoke vehicle models shown in the diagrams.
These models are generic and do not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier, once appointed, prior to detailed design and installation of the access.

Swept Path Analysis - Vehicles Details

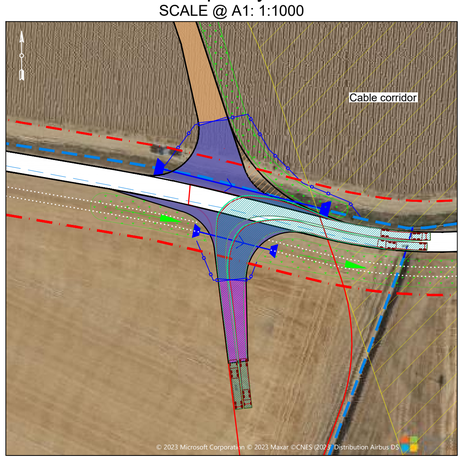
Scale 1:150

Notes (continuation)

15. Alignment/specification of fencing and gates subject to site conditions and contractor requirements. Proposed fences to tie into existing fences/hedgerows.
16. Visibility splays and stopping sight distances (SSD) have been shown indicatively and have been determined in accordance with DMRB CD123 and CD109. The junctions is assumed to be simple priority. Minimum permissible setback (X) has been assumed to be 2.4m. Visibility for a setback of 9m has also been shown. Achievable road speed at this location is assumed to be < 60mph (national speed limit for single carriageway roads) due to its narrow width. However a conservative road speed value of 60mph was applied to determine the worst case scenario for vegetation clearance / crop growth limitation. The desirable SSD of 215m is currently achievable as there is only low vegetation on the affected land plots at the moment of analysis.
17. Vegetation clearance and groundwork may be required to facilitate any necessary sight distances.
18. A temporary 40mph speed limit is recommended for safety of all road users in the vicinity of the access.
19. Only partial utilities data has been provided for this indicative design. Full PAS128 utilities surveys shall be required at later design stages.
20. Geometric design of bellmouths has been carried out following guidance in the DMRB document CD123 *Geometric design of at-grade priority and signal-controlled junctions, Section 5,* along with SPA for the relevant vehicles.

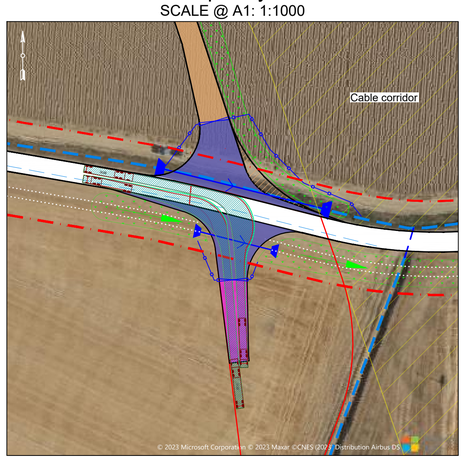
SPA - Right in/Right out movement to/from temporary bellmouth

SCALE @ A1: 1:1000



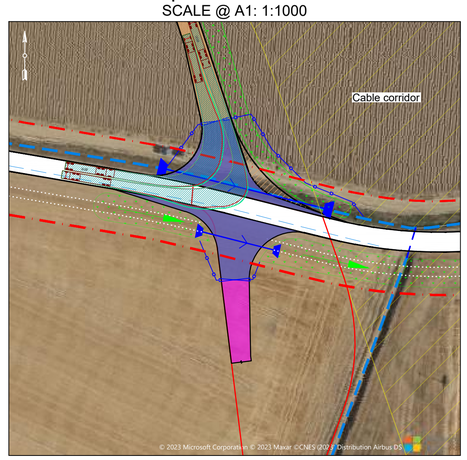
SPA - Left in/Left out movement to/from temporary bellmouth

SCALE @ A1: 1:1000



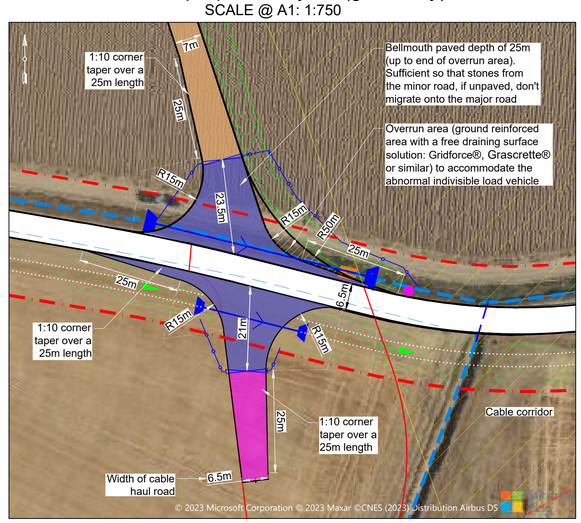
SPA - Right in/Right out movement to/from permanent bellmouth

SCALE @ A1: 1:1000



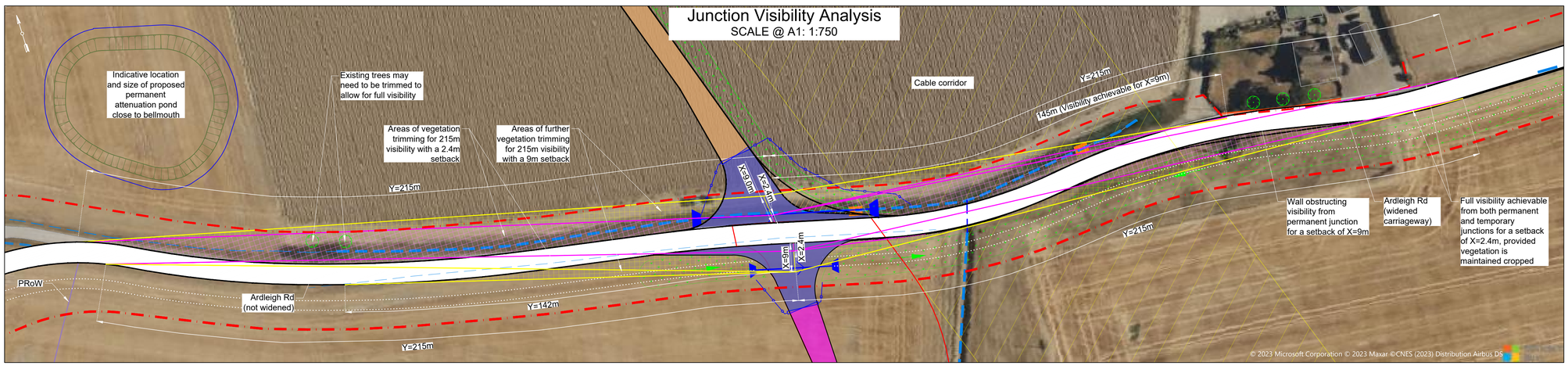
Junction proposed layout (geometry)

SCALE @ A1: 1:750



Junction Visibility Analysis

SCALE @ A1: 1:750



Notes

1. Do not scale from this drawing.
2. Dimensions in m unless otherwise specified.
3. This drawing is to be read and printed in colour.
4. This drawing is to be read in conjunction with all relevant documents and drawings.
5. No unauthorised disclosure, storage or copying.
6. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36).
7. This drawing is for development purposes only and should not be used for construction.
8. Wider improvement works design at Ardleigh Rd carried out by others.
9. Proposed arrangements shown for indicative purposes only. Dimensions and design may vary following completion of site surveys at detailed design stage.
10. Swept path analysis carried out in this drawing refer to movements in/out of the bellmouths for the design vehicles indicated: a low loader with a turning radius of 6.990m (most restrictive turning radius) and articulated vehicle of maximum legal length in the UK. for details on the SPA for the AIL - AL50 Girder 24 Axle vehicle with rear tractor, please refer to drawing 104560-MMD-00-XX-DR-CE-1016 - Permanent Access Junction with Ardleigh Road.
11. Vehicle models used for the assessments are indicative only, actual turning radii and vehicle track will depend on the precise vehicles used by the works contractor.
12. For details on the bellmouth and overrun area at the proposed permanent access, please refer to drawing 104560-MMD-00-XX-DR-CE-1016.
13. For details on the proposed permanent access to the co-located substations, please refer to drawing 104560-MMD-00-XX-DR-CE-1015.
14. Drainage features are shown indicatively only. Drainage at bellmouths to be confirmed, construction boundary may change subject to drainage strategy and available outfalls.For further details on drainage features, please refer to drawing 104560-MMD-00-XX-DR-CE-1011.

Legend:

- Cable corridor construction swathe
- Proposed edges of widened carriageway & bellmouth outline (by others)
- Proposed widened carriageway on Ardleigh Road (by others)
- Ardleigh Road construction swathe (@ scales 1:750 / 1:1000)
- Construction swathe for the cable haul road off route section
- Proposed tail of bellmouth at permanent access to substation
- Proposed paved area (tarmac) at bellmouths
- Proposed overrun area at the permanent access bellmouth
- Proposed tail of temporary bellmouth at the cable haul road
- Existing surface water ditch / watercourse (@ scales 1:750 / 1:1000)
- Assumed existing surface water ditch / watercourse (@ scales 1:750 / 1:1000)
- Assumed existing culvert below road
- Proposed permanent swale / infiltration ditch
- Proposed permanent drainage pipework / culvert
- Proposed permanent drainage headwall
- Indicative fenceline at co-located substations permanent access
- Indicative gate at co-located substations permanent access
- Visibility splays for an X=2.4m setback from stopping line
- Extents of vegetation clearance for full visibility at X=2.4m setback
- Visibility splays for an X=9m setback from stopping line
- Further extents of vegetation clearance for full visibility at X=9m setback
- Swept path - wheels (red) and vehicle body overswing (green) paths
- Envelope of vehicle body swept path
- Proposed location for a potential cycle track installation

Reference drawings

OS map
Essex County Council Private Rights of Way
Cable Route_Draft_Ardleigh_Rd_Update_Rev1_Opt.B (230628)
104560-MMD-00-XX-DR-CE-1004 - Site Layout/ Location Plan - AIS Option 2
104560-MMD-00-XX-DR-CE-1011 - Drainage Layout - Operational Phase - Opt. 2
104560-MMD-00-XX-DR-CE-1016 - Permanent Access Junction with Ardleigh Road

Rev	Date	Drawn	Description	Ch'k'd	App'd
02	15/12/2023	SAP	Ardleigh Rd widening updated w/ NG inform.	JW	AFC
01	18/10/2023	SAP	For Information	JW	AFC

Status Stamp

DRAFT

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

Co-located AIS Substations Early Design - Temporary and Permanent Access Junction with Ardleigh Road

Sheet 01 of 01

Designed	S. Amado-Pedrosa	SAP	Eng check	John Weeks	JW
Drawn	S. Amado-Pedrosa	SAP	Coordination	Andrea F. Crespo	AFC
Dwg check	John Weeks	JW	Approved	Andrea F. Crespo	AFC

MMD Project Number	Scale at A1	Security
104560-001	As Indicated	STD
Client Number		Suit. Code
004943785-02		S3
Drawing Number		Revision
104560-MMD-00-XX-DR-CE-1061		02

1:750 0 37.5m 75m
1:1000 0 50m 100m
1:3000 0 150m 300m

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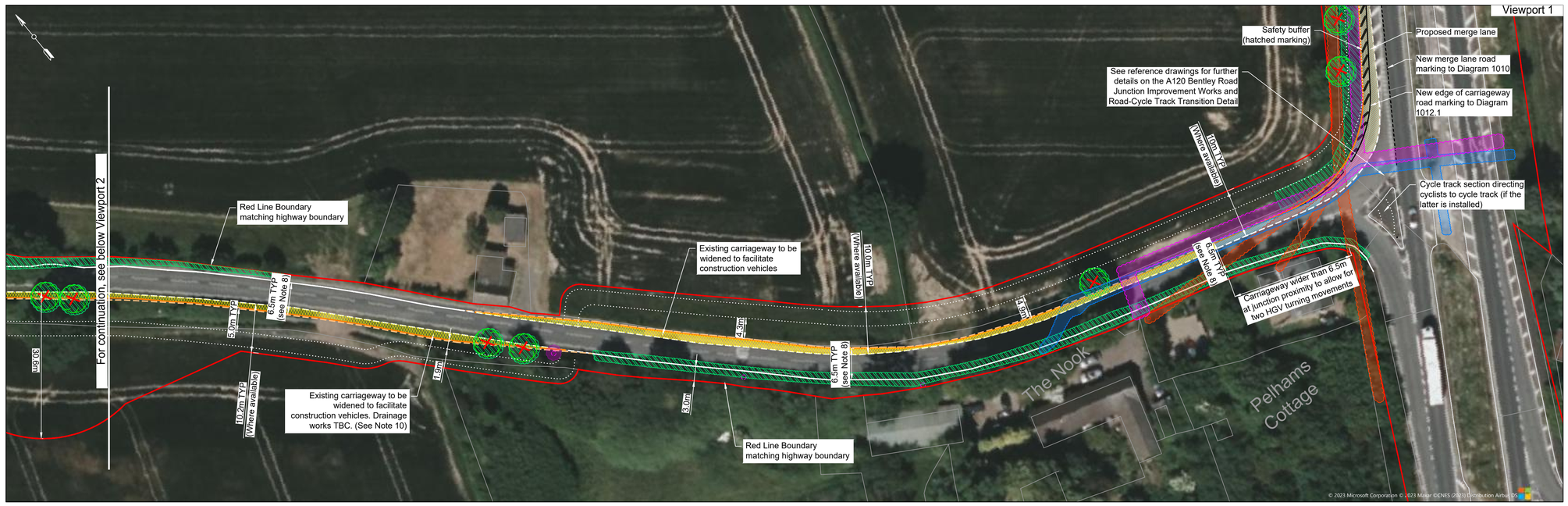
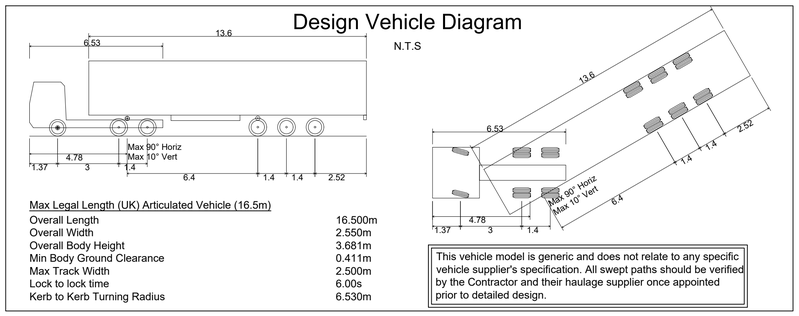
Appendix D: Highways Works Designs



Design Vehicle Diagram

N.T.S



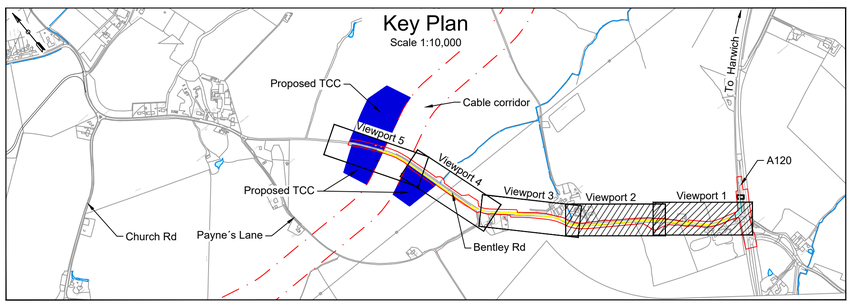
Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

This vehicle model is generic and does not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design.

Legend (continuation)

- Existing trees to be removed (subject to detailed survey)
- Assumed location of existing electricity / communication poles
- Location of existing communication pole extracted from survey
- Location of existing electricity pole extracted from survey



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Notes

1. Do not scale from this drawing.
2. All dimensions are in metres unless otherwise stated.
3. This drawing is to be read in conjunction with all relevant documents and drawings.
4. No unauthorised disclosure, storage or copying.
5. This drawing is for development purposes only and should not be used for construction. The proposed arrangements shown are for indicative purposes only. Dimensions and design may vary following completion of site surveys and the subsequent stages of design.
6. Existing carriageway widths are not sufficient along Bentley Road. Improvement / widening works are required to allow for two way HGV traffic flow. Additional enabling works and vegetation clearance / groundwork may be required.
7. AIL vehicle deliveries are expected to use both carriageway lanes and will require traffic control / pilots during movements. Additional works (not shown), i.e. removal of street furniture, vegetation and structures may be required to facilitate AIL vehicle over-swings. All swept paths should be verified by the Contractor and their haulage suppliers at the earliest opportunity to ensure clearances are suitable for the intended vehicles.
8. Existing carriageway lines have been determined using OS Mastermap data in absence of Topographical survey data. OS data is considered to be less accurate. Widening works are intended to show the concept of an increase to a 6.5m carriageway width where the installation of a segregated cycle track is included in the final arrangement. The outline of a potential carriageway widening to 6.75m (where no dedicated cycle/pedestrian provision is to be installed) is also shown as another option. The extents of the widening works and planning application boundary are therefore subject to change following detailed horizontal alignment design and receipt of Topographical data.
9. Only partial / incomplete utilities data has been provided. No clearance data is available. Where available, additional utilities have been traced from aerial imagery. Full utilities surveys shall be required at later design stages. Planning application boundaries may need to be increased where additional utilities works are required. Clearance to overhead utilities will need to be reviewed in conjunction with the relevant vehicle models.
10. Drainage works/strategy have not been considered as part of this concept design and will need to be developed in liaison with the lead local flood authority / Environment Agency (EA) and local highways authority during subsequent stages of design. Replacement and/or realignment of existing drainage may be required, existing watercourse crossings may need to be replaced and mitigation measures may be necessary to account for an increase in impermeable areas. The planning application boundary may need to be increased to incorporate these drainage works where required.

Legend:

- OS grid map feature lines
- Construction works boundary (red line boundary) at Bentley Rd
- Existing carriageway edge - OS feature line - to remain unaltered
- Existing carriageway edge - OS feature line - to be modified
- Proposed new carriageway edge (indicative) for a width of 6.5m
- Proposed carriageway widening at Bentley Rd for a width of 6.5m
- Proposed new carriageway edge (indicative) for a width of 6.75m
- Proposed location for a potential cycle track installation
- Proposed carriageway widening at junction with the A120
- Existing surface water wide ditch / watercourse to remain
- Utility diversion or undergrounding required (Comms)
- Utility diversion or undergrounding required (HV)
- Water pipe protection or diversion required
- Vegetation / trees to be trimmed (or removed if on side to be widened; subject to detailed survey)

Reference drawings

104560-MMD-00-XX-DR-CE-1028 - A120 Bentley Road Junction Improvement Works
104560-MMD-00-XX-DR-CE-1032-1 & 2 - Bentley Rd w/ Cable Haul Rd Jct & SPA (Sheets 1 & 2)
104560-MMD-00-XX-DR-CE-1033 - New Bellmouth Access at Bentley Rd Jct for AIL Haul Road Diversion
104560-MMD-00-XX-DR-CE-1034 - Bentley Rd to Ardleigh Rd AIL Haul Rd Diversion
104560-MMD-00-XX-DR-CE-1059-1 & 2 - Proposed Cross-over points for Cycle Track
Utility Report Digitised_OSGB36 (received in January 2023)
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (received 29/09/2023)
VE-NF_Draft_TCC_Locations_Rev_6 (received 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (received 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (received 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	30/11/2023	SAP	RLB & cycle track updated	JW	AFC
P02	08/09/2023	SAP	Red Line Boundary updated	JW	AFC
P01	24/04/2023	SG	Concept design for comment	JW	MB

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

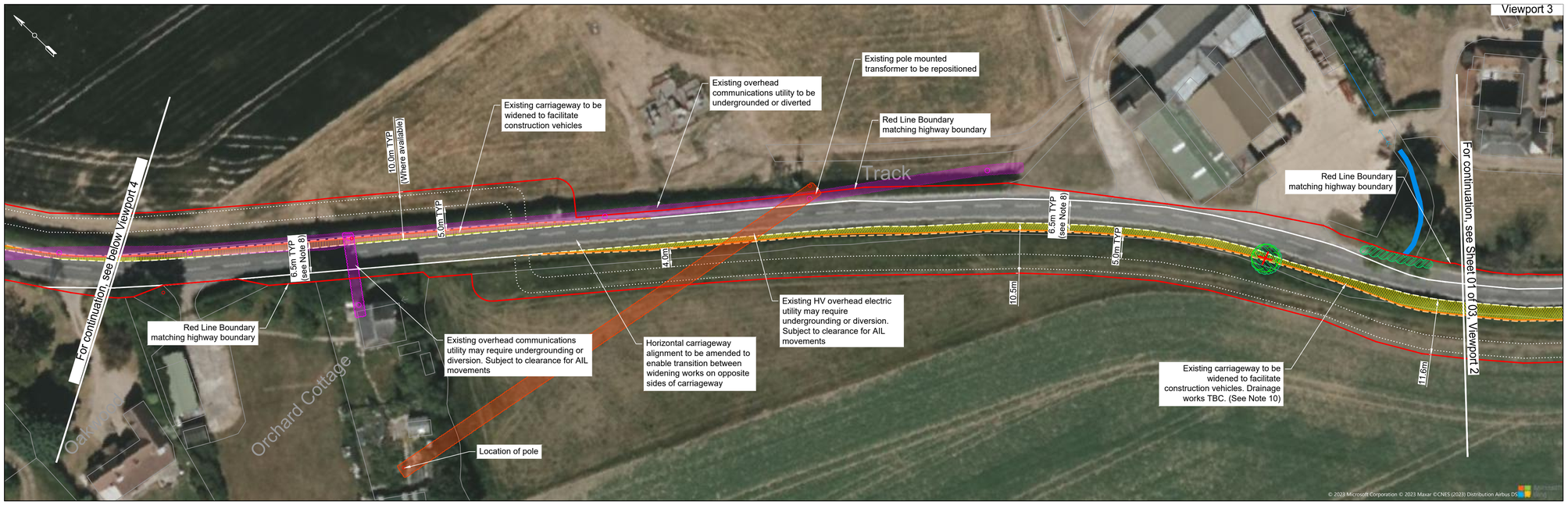
Title

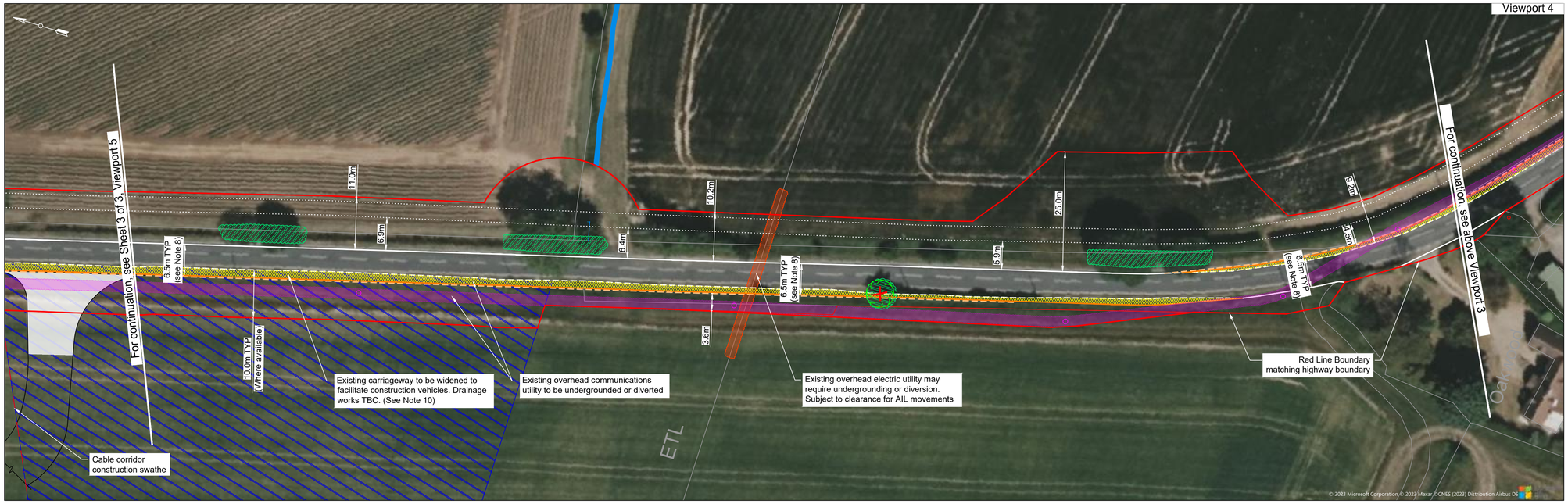
Co-located Substation Early Design Bentley Rd Improvements Layout and Red Line Boundary for works

Sheet 01 of 03

Designed	S. Goode	SG	Eng check	J. Weeks	JW
Drawn	S. Goode	SG	Coordination	J. Weeks	JW
Dwg check	S. Amado-Pedrosa	SAP	Approved	M. Barton	MB

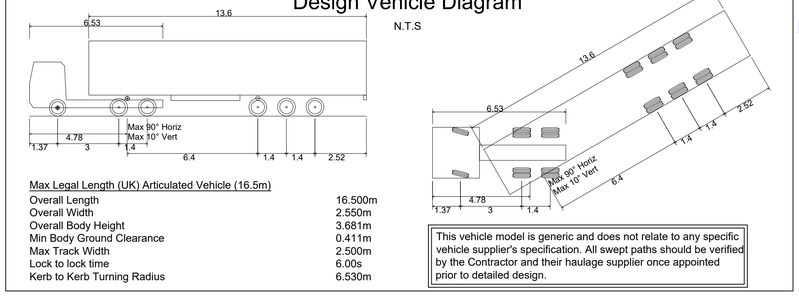
MMD Project Number 104560-001	Scale at A1 1:500	Security STD
Client Number 004786178-03		Suit. Code S3
Drawing Number 104560-MMD-00-XX-DR-CE-1031-1		Revision P03





Design Vehicle Diagram

N.T.S



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

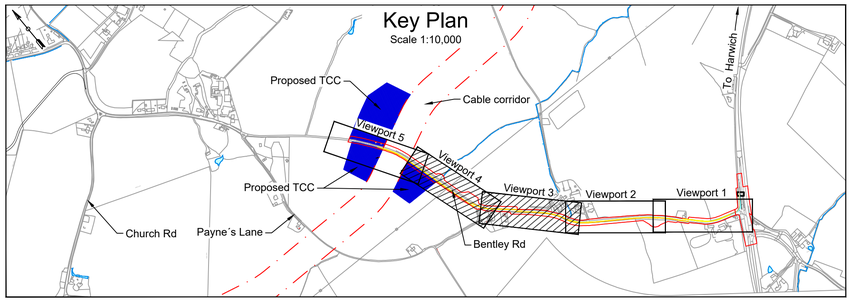
This vehicle model is generic and does not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design.

Legend (continuation)

- Proposed TCC location
- Location of existing communication pole extracted from survey
- Location of existing electricity pole extracted from survey

Key Plan

Scale 1:10,000



1:500 0 25m 50m

1:10,000 0 500m 1000m

Notes

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6. Existing carriageway widths are not sufficient along Bentley Road. Improvement / widening works are required to allow for two way HGV traffic flow. Additional enabling works and vegetation clearance / groundwork may be required.
7. AIL vehicle deliveries are expected to use both carriageway lanes and will require traffic control / pilots during movements. Additional works (not shown), i.e. removal of street furniture, vegetation and structures may be required to facilitate AIL vehicle over-swings. All swept paths should be verified by the Contractor and their haulage suppliers at the earliest opportunity to ensure clearances are suitable for the intended vehicles.
8. Existing carriageway lines have been determined using OS Mastermap data in absence of Topographical survey data. OS data is considered to be less accurate. Widening works are intended to show the concept of an increase to a 6.5m carriageway width where the installation of a segregated cycle track is included in the final arrangement. The outline of a potential carriageway widening to 6.75m (where no dedicated cycle/pedestrian provision is to be installed) is also shown as another option. The extents of the widening works and planning application boundary are therefore subject to change following detailed horizontal alignment design and receipt of Topographical data.
9. Only partial / incomplete utilities data has been provided. No clearance data is available. Where available, additional utilities have been traced from aerial imagery. Full utilities surveys shall be required at later design stages. Planning application boundaries may need to be increased where additional utilities works are required. Clearance to overhead utilities will need to be reviewed in conjunction with the relevant vehicle models.
10. Drainage works/strategy have not been considered as part of this concept design and will need to be developed in liaison with the lead local flood authority / Environment Agency (EA) and local highways authority during subsequent stages of design. Replacement and/or realignment of existing drainage may be required, existing watercourse crossings may need to be replaced and mitigation measures may be necessary to account for an increase in impermeable areas. The planning application boundary may need to be increased to incorporate these drainage works where required.

Legend:

- OS grid map feature lines
- Construction works boundary (red line boundary) at Bentley Rd
- Cable corridor construction swathe
- Existing carriageway edge - OS feature line - to remain unaltered
- Existing carriageway edge - OS feature line - to be modified
- Proposed new carriageway edge (indicative) for a width of 6.5m
- Proposed carriageway widening at Bentley Rd for a width of 6.5m
- Proposed new carriageway edge (indicative) for a width of 6.75m
- Proposed location for a potential cycle track installation
- Existing surface water wide ditch / watercourse to remain
- Utility diversion or undergrounding required (Comms)
- Utility diversion or undergrounding required (HV)
- Vegetation / trees to be trimmed (or removed if on side to be widened; subject to detailed survey)
- Existing trees to be removed (subject to detailed survey)

Reference drawings

104560-MMD-00-XX-DR-CE-1028 - A120 Bentley Road Junction Improvement Works
104560-MMD-00-XX-DR-CE-1032-1 & 2 - Bentley Rd w/ Cable Haul Rd Jct & SPA (Sheets 1 & 2)
104560-MMD-00-XX-DR-CE-1033 - New Bellmouth Access at Bentley Rd Jct for AIL Haul Road Diversion
104560-MMD-00-XX-DR-CE-1034 - Bentley Rd to Ardleigh Rd AIL Haul Rd Diversion
104560-MMD-00-XX-DR-CE-1059-1 & 2 - Proposed Cross-over points for Cycle Track
Utility Report Digitised_OSGB36 (received in January 2023)
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (received 29/09/2023)
VE-NF_Draft_TCC_Locations_Rev_6 (received 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (received 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (received 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	30/11/2023	SAP	RLB & cycle track updated	JW	AFC
P02	08/09/2023	SAP	Red Line Boundary updated	JW	AFC
P01	24/04/2023	SG	Concept design for comment	JW	MB

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

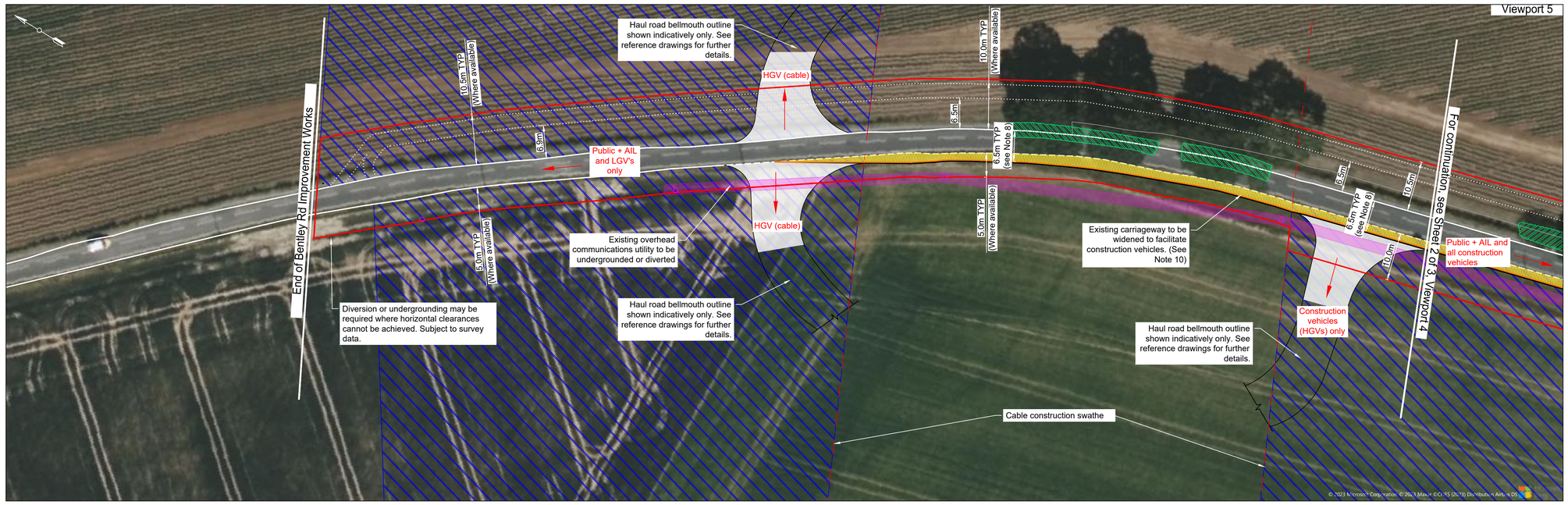
Title

Co-located Substation Early Design Bentley Rd Improvements Layout

Sheet 02 of 03

Designed	S. Goode	SG	Eng check	J. Weeks	JW
Drawn	S. Goode	SG	Coordination	J. Weeks	JW
Dwg check	S. Amado-Pedrosa	SAP	Approved	M. Barton	MB

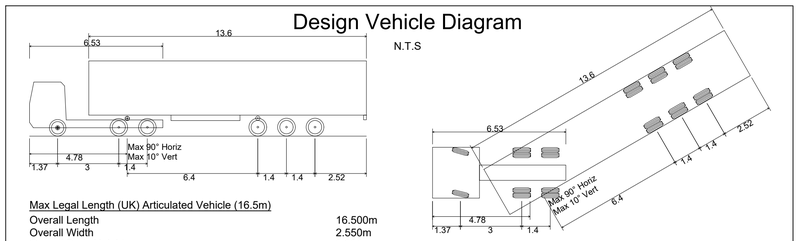
MMD Project Number 104560-001	Scale at A1 1:500	Security STD
Client Number 004786179-03		Suit. Code S3
Drawing Number 104560-MMD-00-XX-DR-CE-1031-2		Revision P03



End of sheet set

Design Vehicle Diagram

N.T.S



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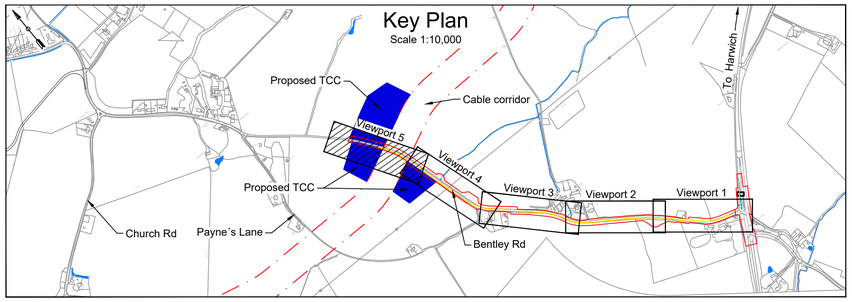
Key Plan

Scale 1:10,000



1:500 0 25m 50m

1:10,000 0 500m 1000m

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Notes

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8. Existing carriageway lines have been determined using OS Mastermap data in absence of Topographical survey data. OS data is considered to be less accurate. Widening works are intended to show the concept of an increase to a 6.5m carriageway width where the installation of a segregated cycle track is included in the final arrangement. The outline of a potential carriageway widening to 6.75m (where no dedicated cycle/pedestrian provision is to be installed) is also shown as another option. The extents of the widening works and planning application boundary are therefore subject to change following detailed horizontal alignment design and receipt of Topographical data.
9. Only partial / incomplete utilities data has been provided. No clearance data is available. Where available, additional utilities have been traced from aerial imagery. Full utilities surveys shall be required at later design stages. Planning application boundaries may need to be increased where additional utilities works are required. Clearance to overhead utilities will need to be reviewed in conjunction with the relevant vehicle models.
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Legend:

- OS grid map feature lines
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- Proposed new carriageway edge (indicative) for a width of 6.75m
- Proposed location for a potential cycle track installation
- Utility diversion or undergrounding required (Comms)
- Location of existing communication pole extracted from survey
- Vegetation / trees to be trimmed
- Proposed TCC location

Reference drawings

104560-MMD-00-XX-DR-CE-1028 - A120 Bentley Road Junction Improvement Works
104560-MMD-00-XX-DR-CE-1032-1 & 2 - Bentley Rd w/ Cable Haul Rd Jct & SPA (Sheets 1 & 2)
104560-MMD-00-XX-DR-CE-1033 - New Bellmouth Access at Bentley Rd Jct for AIL Haul Road Diversion
104560-MMD-00-XX-DR-CE-1034 - Bentley Rd to Ardleigh Rd AIL Haul Rd Diversion
104560-MMD-00-XX-DR-CE-1059-1 & 2 - Proposed Cross-over points for Cycle Track
Utility Report Digitised_OSGB36 (received in January 2023)
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (received 29/09/2023)
VE-NF_Draft_TCC_Locations_Rev_6 (received 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (received 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (received 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	30/11/2023	SAP	RLB & cycle track updated	JW	AFC
P02	08/09/2023	SAP	Red Line Boundary updated	JW	AFC
P01	24/04/2023	SG	Concept design for comment	JW	MB

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

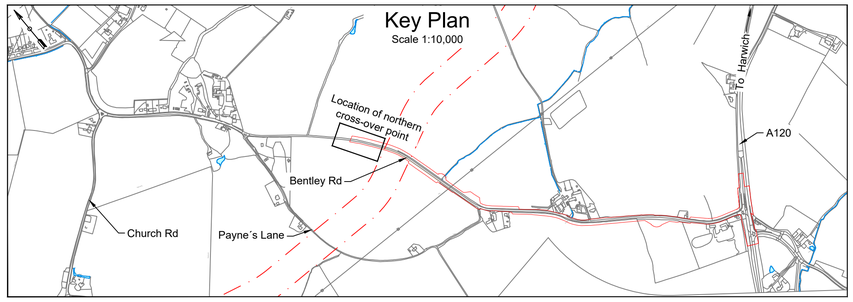
Title

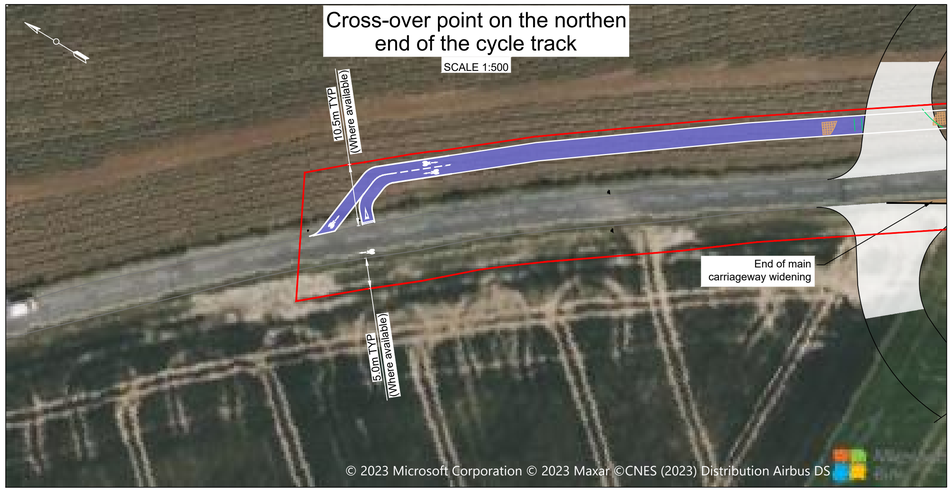
Co-located Substation Early Design Bentley Rd Improvements Layout

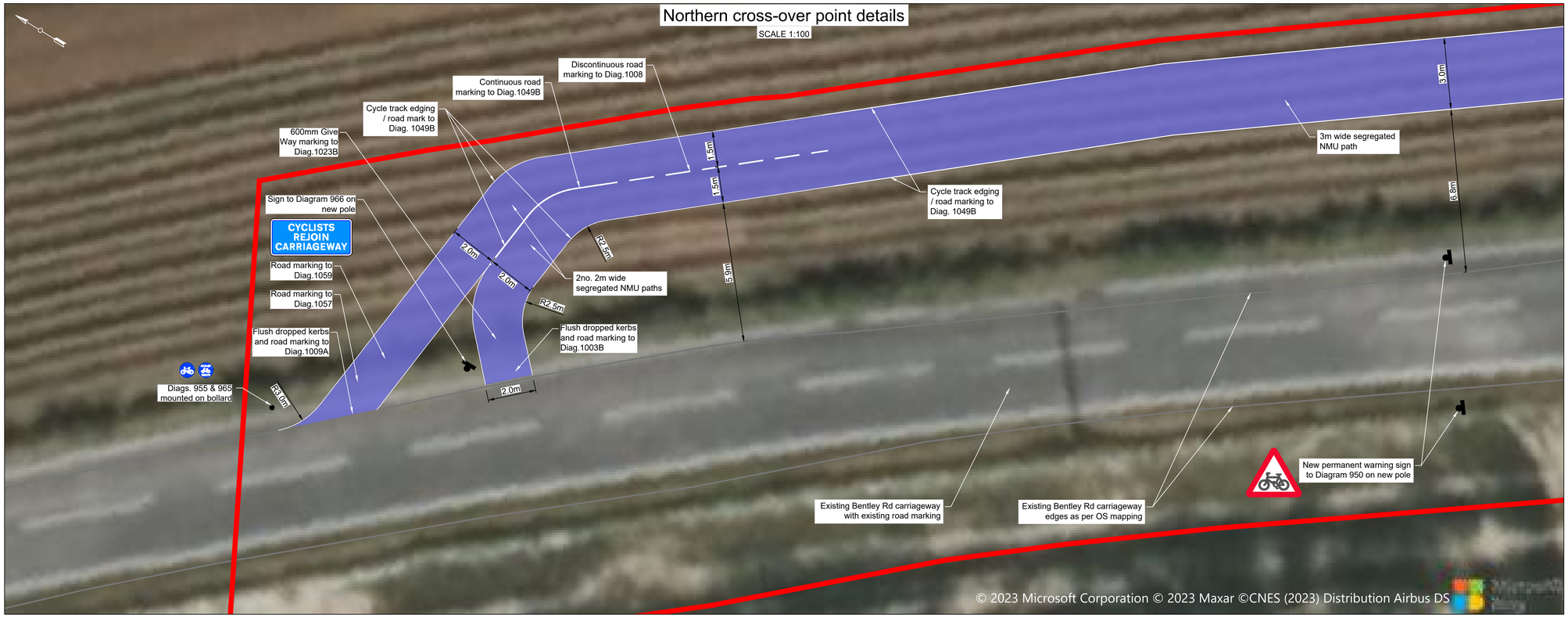
Sheet 03 of 03

Designed	S. Goode	SG	Eng check	J. Weeks	JW
Drawn	S. Goode	SG	Coordination	J. Weeks	JW
Dwg check	S. Amado-Pedrosa	SAP	Approved	M. Barton	MB

MMD Project Number 104560-001	Scale at A1 1:500	Security STD
Client Number 004786180-03		Suit. Code S3
Drawing Number 104560-MMD-00-XX-DR-CE-1031-3		Revision P03







Notes

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7. Road markings and upright signs are defined to document *The Traffic Signs and General Directions* (TSRGD) 2016.

Legend:

- Red Line Boundary for Works in Bentley Road
- Existing carriageway edges from OS mapping
- Proposed cycle track carriageway edges / road markings
- Proposed cycle track carriageway surface
- Proposed upright sign mounted on pole
- Proposed signing bollard

NOT FOR CONSTRUCTION

Reference drawings

104560-MMD-00-XX-DR-CE-1031- 1 to 3 - Bentley Road Improvements Layout and Red Line Boundary for works
104560-MMD-00-XX-DR-CE-1058 - Bentley Rd Improvements - Proposed Typical Cross Sections without /with Cycle Track
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (dated 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (dated 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (dated 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	24/11/2023	SAP	Cycle track layout updated	JW	AFC
P01	19/09/2023	SAP	Concept design for comment	JW	AFC

Status Stamp

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MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

Co-located Substation Early Design
Bentley Rd Improvements - Proposed Cross-over Points for Cycle Track
Sheet 01 of 02

Designed	S. Amado-Pedrosa	SAP	Eng check	J. Weeks	JW
Drawn	S. Amado-Pedrosa	SAP	Coordination	A. F. Crespo	AFC
Dwg check	J. Weeks	JW	Approved	A. F. Crespo	AFC

MMD Project Number	Scale at A1	Security
104560-001	As indicated	STD
Client Number		Suit. Code
004921123-02		S3
Drawing Number		Revision
104560-MMD-00-XX-DR-CE-1059-1		P02

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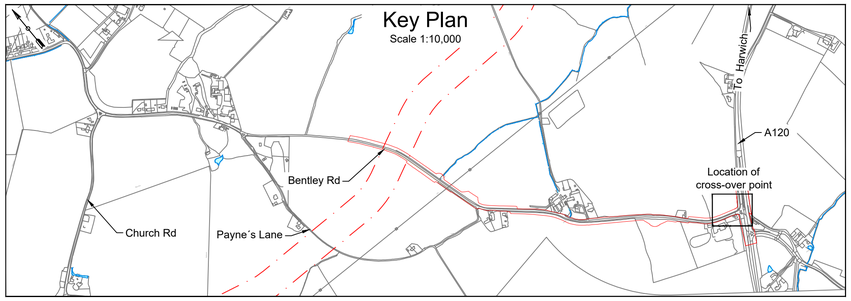
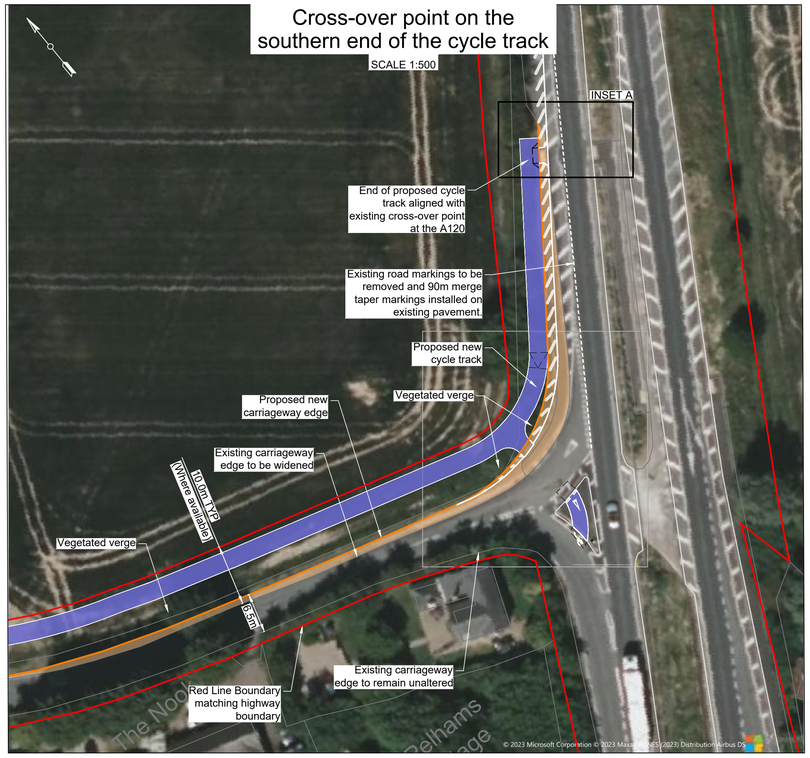
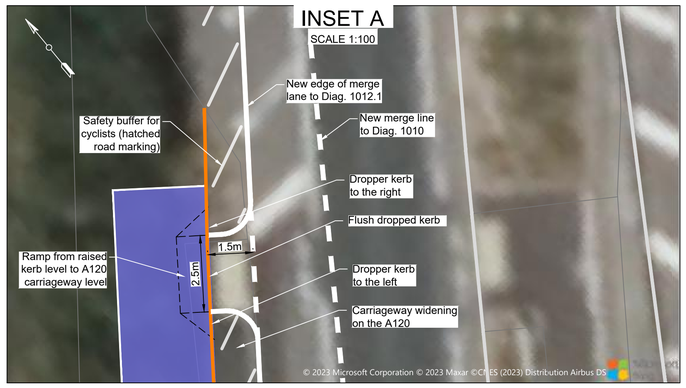
1:10,000 0 500m 1000m



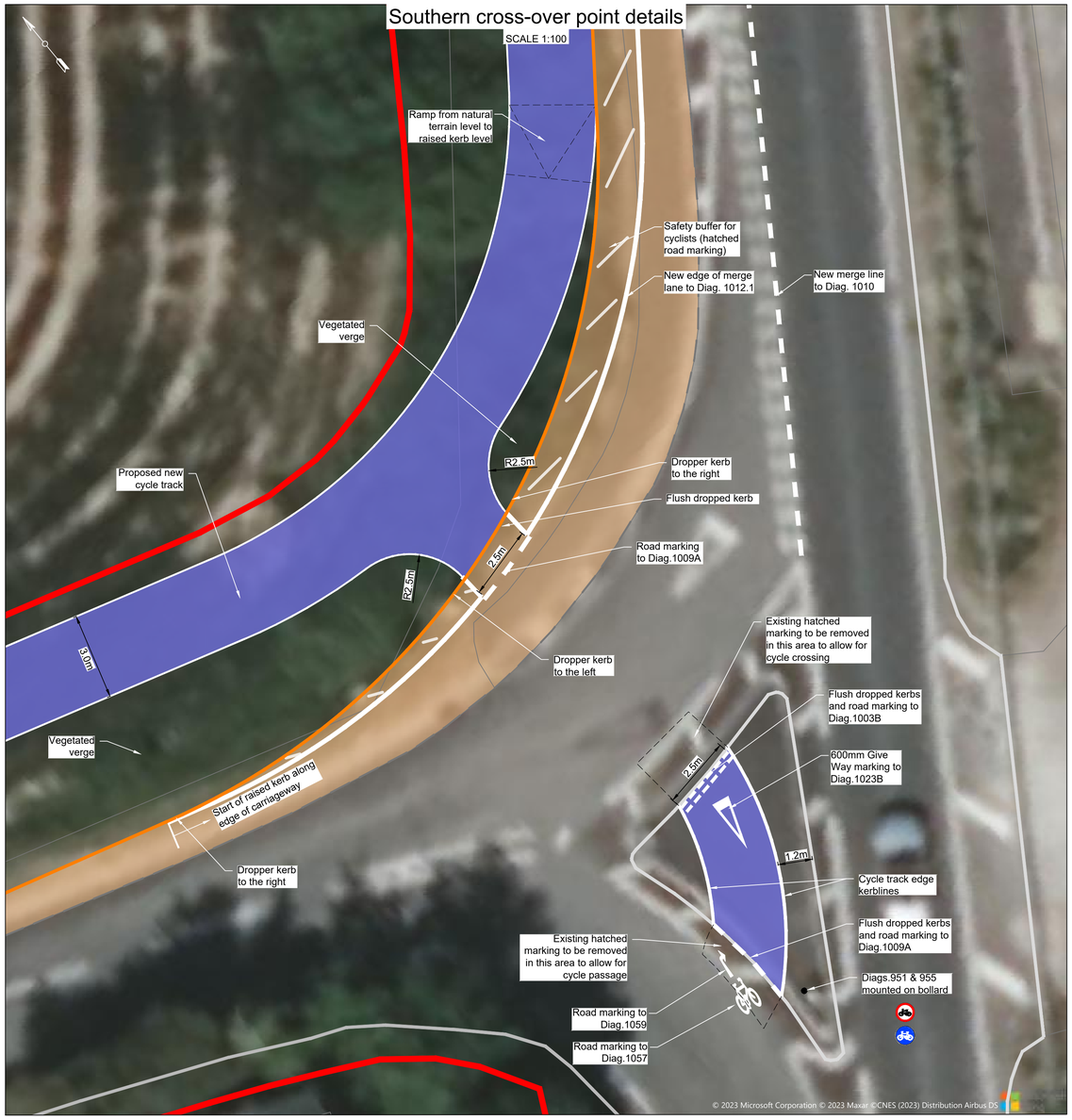
Cross-over point on the southern end of the cycle track



INSET A



Southern cross-over point details



1:20 0 1m 2m

1:500 0 25m 50m

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Notes

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7. Road markings and upright signs are defined to document *The Traffic Signs and General Directions* (TSRGD) 2016.
8. Safety buffer width at junction with the A120 is zero, since vehicles turning in/out of the junction are assumed to travel at a speed <30mph.

Legend:

- Red Line Boundary for Works in Bentley Road
- Existing carriageway edge from OS mapping to remain unaltered
- Existing carriageway edge from OS mapping to be widened
- Proposed new carriageway edge
- Proposed new carriageway widening
- Proposed cycle track carriageway edging
- Proposed cycle track carriageway surface
- Proposed signing bollard

NOT FOR CONSTRUCTION

Reference drawings

104560-MMD-00-XX-DR-CE-1031- 1 to 3 - Bentley Road Improvements Layout and Red Line Boundary for works
104560-MMD-00-XX-DR-CE-1058 - Bentley Rd Improvements - Proposed Typical Cross Sections without /with Cycle Track
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Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	24/11/2023	SAP	Cycle track layout updated	JW	AFC
P01	19/09/2023	SAP	Concept design for comment	JW	AFC

Status Stamp: PRELIMINARY

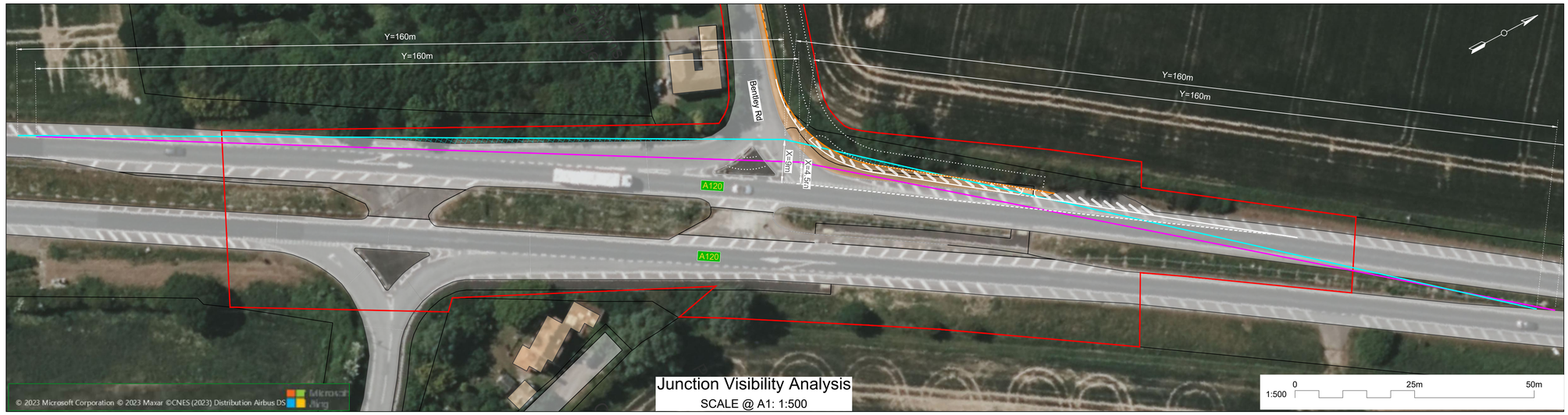
MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client: NORTH FALLS Offshore Wind Farm; FIVE ESTUARIES OFFSHORE WIND FARM

Title: Co-located Substation Early Design
Bentley Rd Improvements - Proposed Cross-over Points for Cycle Track
Sheet 02 of 02

Designed	S. Amado-Pedrosa	SAP	Eng check	J. Weeks	JW
Drawn	S. Amado-Pedrosa	SAP	Coordination	A. F. Crespo	AFC
Dwg check	J. Weeks	JW	Approved	A. F. Crespo	AFC

MMD Project Number: 104560-001	Scale at A1: As indicated	Security: STD
Client Number: 004930806-02		Suit. Code: S3
Drawing Number: 104560-MMD-00-XX-DR-CE-1059-2		Revision: P02



Junction Visibility Analysis
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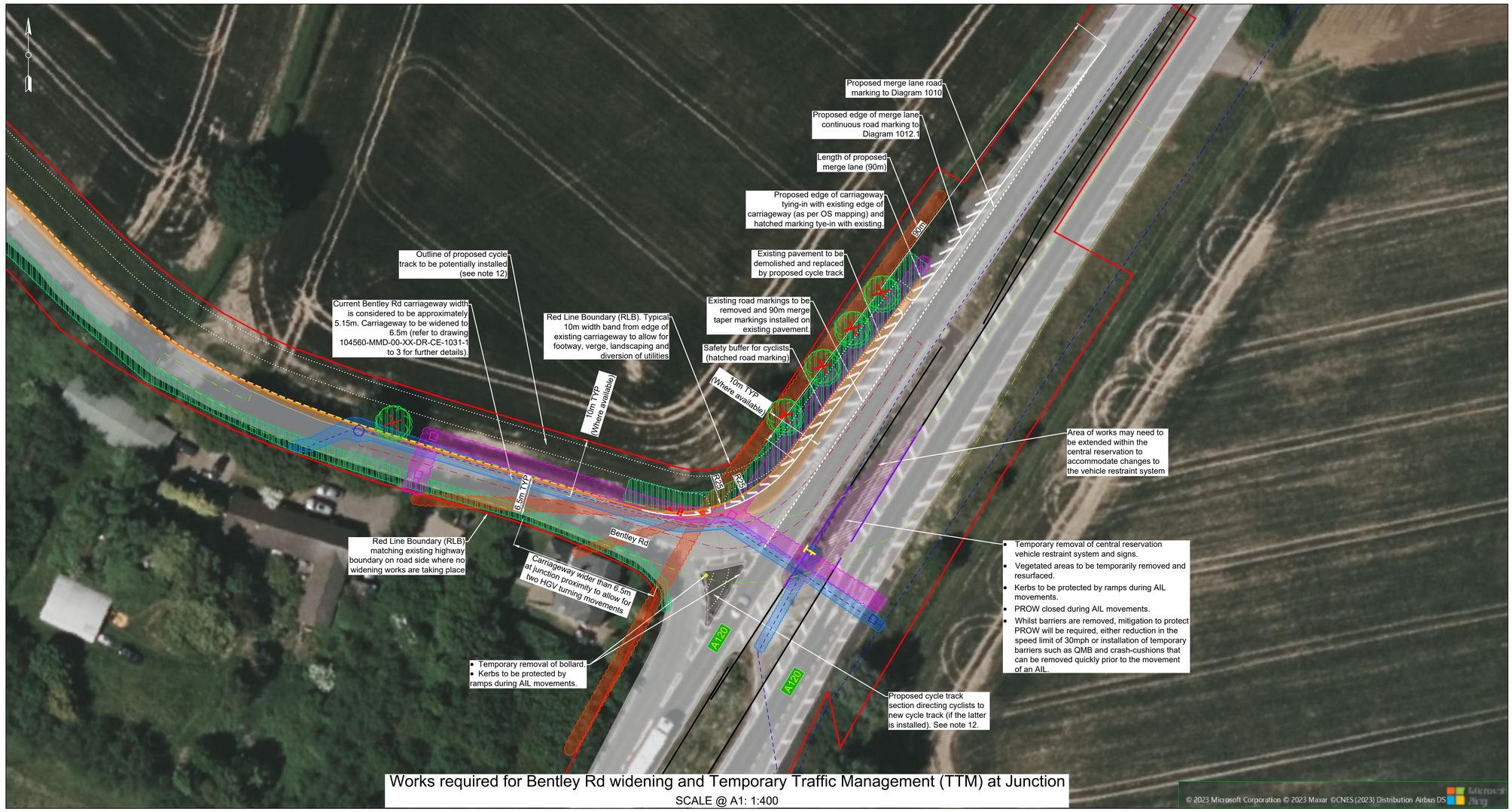
1:500



Works required for Bentley Rd widening and Temporary Traffic Management (TTM) at Junction
SCALE @ A1: 1:400

0 20m 40m
1:400

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Notes

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3. This drawing is to be printed in colour.
4. This drawing is to be read in conjunction with all relevant documents and drawings.
5. No unauthorised disclosure, storage or copying.
6. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36).
7. All levels are in meters and relate to AOD (Ordnance Survey, Newlyn).
8. The A road A120 has a 50mph (~80.5kph) speed limit applying to the dual carriageway section, where the junction with Bentley Road is located. For the purpose of visibility analysis, it has been considered a design speed of 85kph (~100kph) for the A120, as the above closer value as per DMRB, CD 109 *Highway link design*, Table 2.10. Based on Table 2.10, the desirable minimum length of visibility splays (Stopping sight distance - SSD) for a design speed of 85kph is 160m.
9. Indicative design layout based of OS grid, works may vary subject to detailed design and site survey.
10. Only partial utilities data has been provided for this indicative design, full PAS128 utilities surveys shall be required and additional land take may be required to accommodate diversions.
11. For swept path details, refer to drawings 104560-MMD-00-XX-DR-CE-1026 and 104560-MMD-00-XX-DR-CE-1027.
12. For further information on the transition detail carriageway/cycle track for the proposed cycle track, please refer to drawing 104560-MMD-00-XX-DR-CE-1059, Sheet 2.
13. Existing water utility may require diversion or protection in some areas.

Legend:

- OS grid map feature lines
- Visibility splays at 4.5m from stopping line
- Visibility splays at 9m from stopping line
- Extents of vegetation and street furniture clearance to achieve visibility requirements at X=9m
- Construction works boundary (red line boundary)
- Proposed new edge of carriageway
- Proposed permanent carriageway widening at junction
- Proposed new carriageway edge (indicative) for a width of 6.75m
- Proposed location for a potential cycle track installation
- AIL vehicle body & load swept path envelope
- Wheels swept path envelope for HGV exiting Bentley Rd
- Existing underground water pipes
- Existing road restraint system at central reservation
- Existing road restraint system elements to be temporarily removed
- Area of works in central reservation for TTM
- Existing road signs to be removed during AIL movements
- Existing road signs to be relocated for road widening
- Existing bollard to be removed during AIL movements
- Electricity pole to be relocated (location extracted from Survey)
- Utility diversion or undergrounding required (Comms)
- Utility diversion or undergrounding required (Electricity)
- Water pipe protection or diversion required
- Vegetation / trees to be trimmed (or removed if on side to be widened; subject to detailed survey)
- Existing trees to be removed (subject to detailed survey)
- Existing electricity pole (location extracted from Survey)
- Existing communications chamber/pole (location extracted from Survey)
- Existing water chambers (location extracted from Survey)

Reference drawings

104560-MMD-00-XX-DR-CE-1026 - Swept Path Analysis AIL (...) accessing Bentley Rd
104560-MMD-00-XX-DR-CE-1027 - Swept Path Analysis (...) Artic. Veh.-Two Way Traff.
104560-MMD-00-XX-DR-CE-1031-1 to 3 - Bentley Rd Improvements Layout and Red Line Boundary for works
104560-MMD-00-XX-DR-CE-1059-1 & 2 - Proposed Cross-over points for Cycle Track
Utility Report Digitised_OSGB36 (dated January 2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (dated 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (dated 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	30/11/2023	SAP	Cycle track added; road width updated	JW	AFC
P02	13/04/2023	SAP	Merge taper incorporated	JW	MB
P01	05/04/2023	SAP	Preliminary	JW	MB

Status Stamp
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MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client
NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title
A120 - Bentley Road Junction
Swept Path Analysis
Road improvements layout

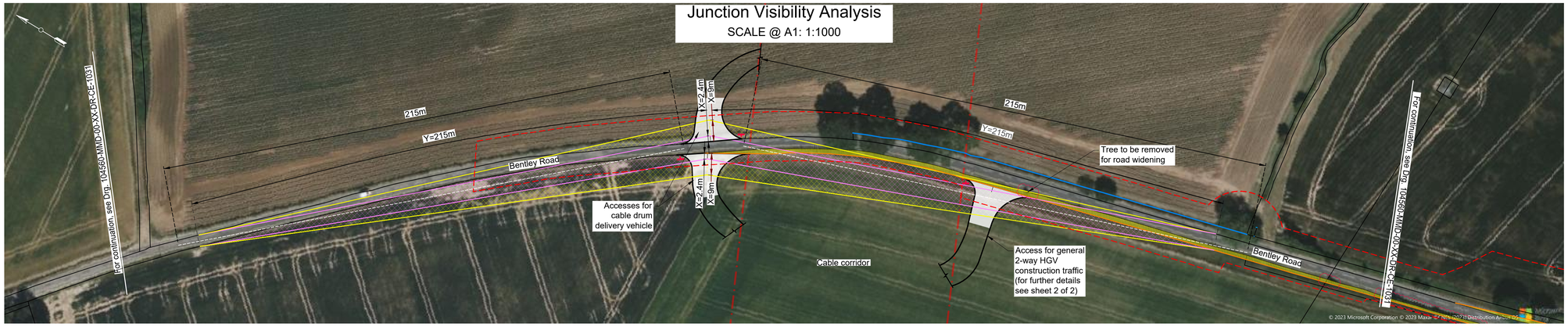
Sheet 01 of 01

Designed	S. Amado-Pedrosa	SAP	Eng check	John Weeks	JW
Drawn	S. Amado-Pedrosa	SAP	Coordination	Andrea F. Crespo	AFC
Dwg check	Ollie Jeffcock	OJ	Approved	Matthew Barton	MB

MMD Project Number	Scale at A1	Security
104560-001	As Shown	STD
Client Number		Suit. Code
004781329-03		S3
Drawing Number		Revision
104560-MMD-00-XX-DR-CE-1028		P03

Junction Visibility Analysis

SCALE @ A1: 1:1000

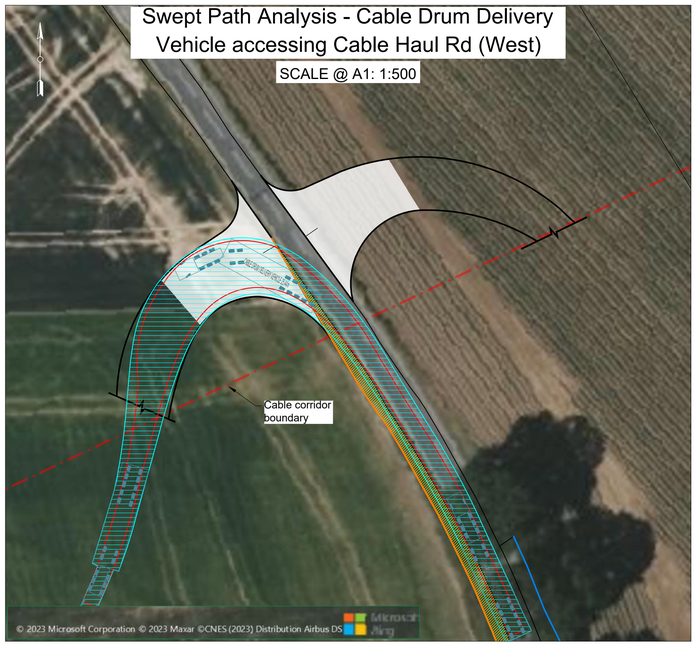


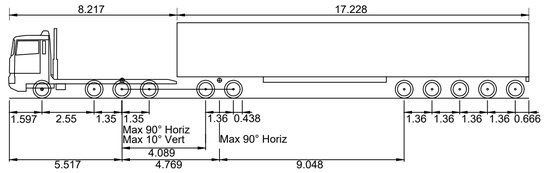
Swept Path Analysis - Cable Drum Delivery Vehicle accessing Cable Haul Rd (East)

SCALE @ A1: 1:500

Swept Path Analysis - Cable Drum Delivery Vehicle accessing Cable Haul Rd (West)

SCALE @ A1: 1:500





CABLE DRUM DELIVERY VEHICLE 25.44m

Overall Length	25.440m
Overall Width	4.500m
Overall Body Height	3.695m
Min Body Ground Clearance	0.332m
Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	14.500m

Note: Vehicles considered for the swept path analysis do not incorporate rear axles steering.

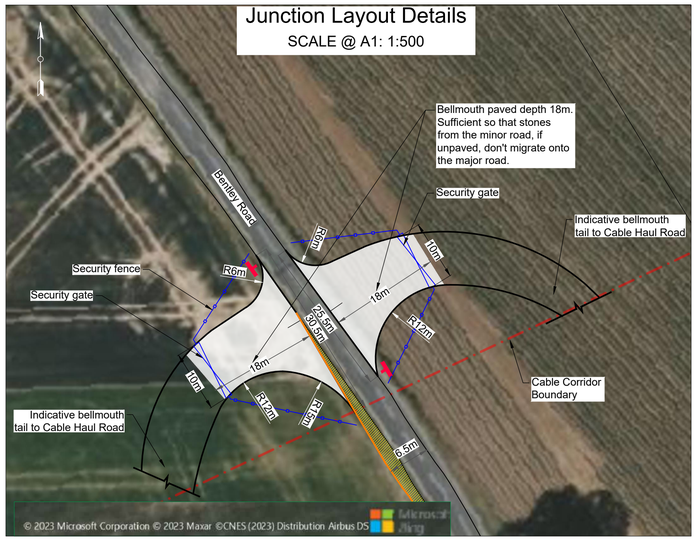
Geometry has been checked against the bespoke vehicle model shown in the diagram.
This model is generic and does not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier, once appointed, prior to detailed design and installation of the access.

Swept Path Analysis - Vehicle Details

Scale 1:150

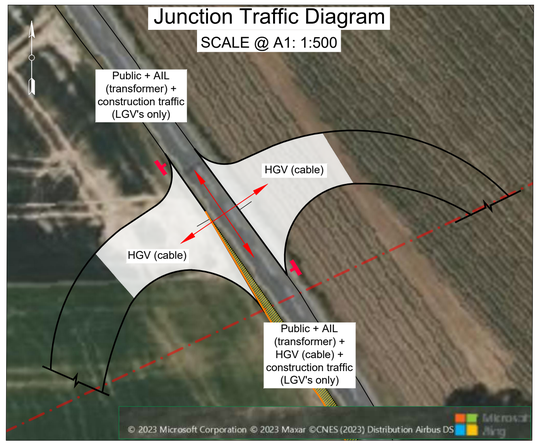
Junction Layout Details

SCALE @ A1: 1:500



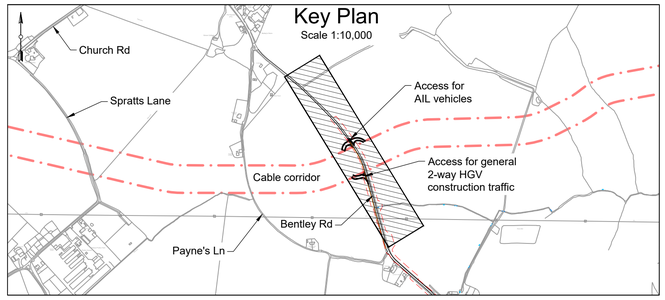
Junction Traffic Diagram

SCALE @ A1: 1:500



Key Plan

Scale 1:10,000



Notes

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4. No unauthorised disclosure, storage or copying.
5. This drawing is for development purposes only and should not be used for construction.
6. Proposed arrangements shown for indicative purposes only. Dimensions and design may vary following completion of site surveys and the detailed design.
7. Alignment/specification of fencing and gates subject to site conditions and contractor requirements. Proposed fences to tie into existing fences/hedgerows.
8. Vegetation clearance and groundwork may be required to facilitate any necessary sight distances.
9. Vehicles used in this drawing are indicative of those expected to be using this construction access. Actual turning radii and vehicle track will depend on the precise vehicles used by the works contractor.
10. Where required by the local highways authority, the proposed junction will be controlled by traffic signals designed and installed in accordance with Chapter 6 of the Traffic Signs Manual. Appropriate warning signage will be used where necessary.
11. Visibility splay of 215m either side of bellmouth used to indicate required Stopping Site Distance as per CD 109 of the DMRB for 60mph design speeds. Bentley road speed limit considered to be the national speed limit on single carriageways, that is 60mph (~96 kph).
12. A temporary 40mph speed limit is recommended for safety of all road users in the vicinity of the access.
13. Cable deliveries are expected to require use of additional lanes and will require traffic control measures.
14. For construction of the bellmouths it is anticipated that temporary traffic signals will be installed with alternate lane closures. Cables crossing the road will be installed using trenchless techniques.
15. The junction has been assessed for the cable drum delivery vehicle, the max. legal length articulated vehicle (16.5m log) and a generic low loader (16.154m long). The junction geometry has been considered suitable to accommodate the movements of the forementioned vehicles.
16. Only partial utilities data has been provided for this indicative design. Full PAS128 utilities surveys shall be required at later design stages.
17. Drainage at bellmouth to be confirmed, construction boundary may change subject to drainage strategy and available outfalls.

Legend:

- Edge of carriageway line from OS Mastermap
- New carriageway edge (indicative) at Bentley Rd
- Edge of carriageway at bellmouth accesses
- Cable corridor
- RLB for Bentley Rd works
- Vehicle chassis/wheels outline
- Vehicle body outline
- Area swept by vehicle body/overhang
- Visibility splays at X=4.5m from stopping line
- Extents of vegetation and street furniture clearance to achieve visibility requirements at X=4.5m
- Visibility splays at X=9m from stopping line
- Extents of vegetation and street furniture further clearance to achieve visibility requirements at X=9m
- Forward visibility (Length= 175m)
- Bellmouth paved carriageway
- Proposed road widening
- Proposed vertical sign to be installed
- Proposed fence
- Proposed gate at bellmouth
- Existing surface water ditch / watercourse

Reference drawings

OS Mastermap
Essex County Council Private Rights of Way
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (dated 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (dated 16/11/2023)
104560-MMD-00-XX-DR-CE-1031- 1 to 3 - Bentley Rd Improvements Layout

Rev	Date	Drawn	Description	Ch'k'd	App'd
03	24/11/2023	SAP	Forward visibility added	JW	AFC
02	26/06/2023	SAP	Cable route & bellmouth arrangement updated	JW	AFC
01	25/04/2023	SAP	Preliminary	SG	JW

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

Co-located Substation Early Design Bentley Rd with Cable Haul Rd Junction & SPA

Sheet 01 of 02

Designed	S. Amado-Pedrosa	SAP	Eng check	Sam Goode	SG
Drawn	S. Amado-Pedrosa	SAP	Coordination	John Weeks	JW
Dwg check	Sam Goode	SG	Approved	John Weeks	JW

MMD Project Number 104560-001	Scale at A1 As shown	Security STD
Client Number 004786171-03		Suit. Code S3
Drawing Number 104560-MMD-00-XX-DR-CE-1032-1		Revision 03

1:500 — 0 — 25m — 50m
1:1000 — 0 — 50m — 100m
1:10,000 — 0 — 500m — 1000m

Junction Visibility Analysis

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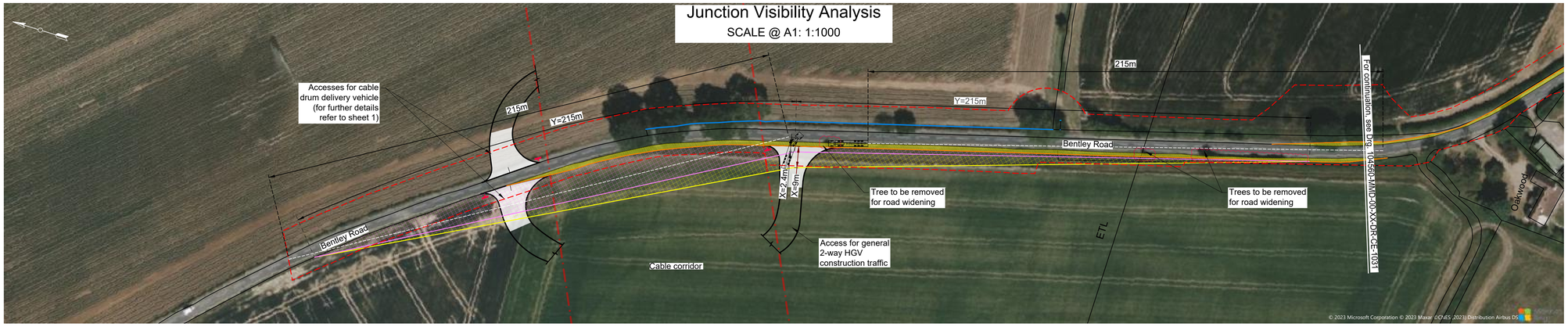
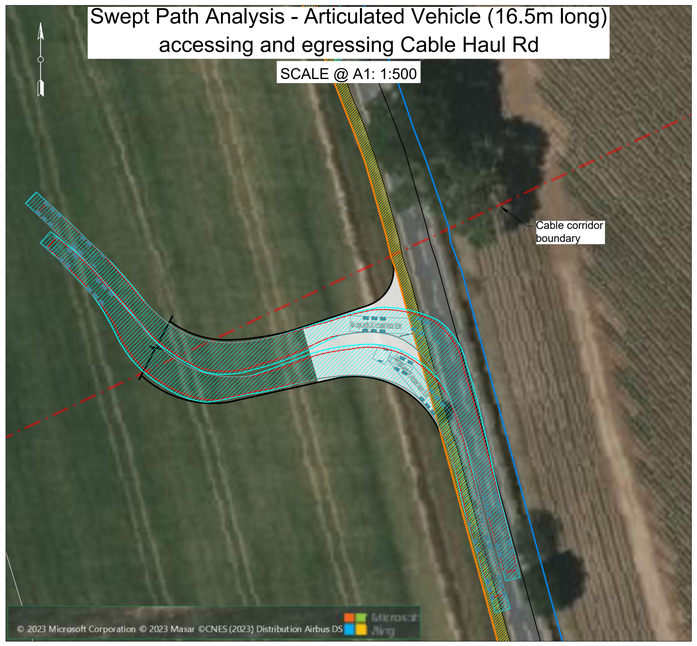
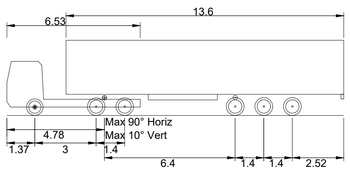


Swept Path Analysis - Articulated Vehicle (16.5m long) accessing and egressing Cable Haul Rd

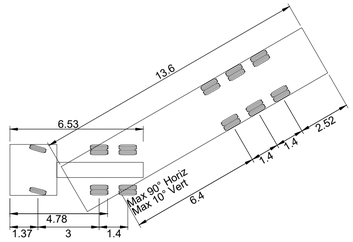
SCALE @ A1: 1:500



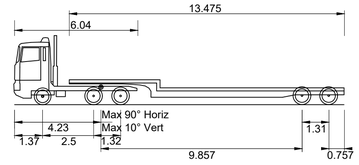


MAX. LEGAL LENGTH (UK) ARTICULATED VEHICLE (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m



Geometry has been checked against the bespoke vehicle models shown in the diagrams.
These models are generic and do not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier, once appointed, prior to detailed design and installation of the access.



LOW LOADER (16.154m)

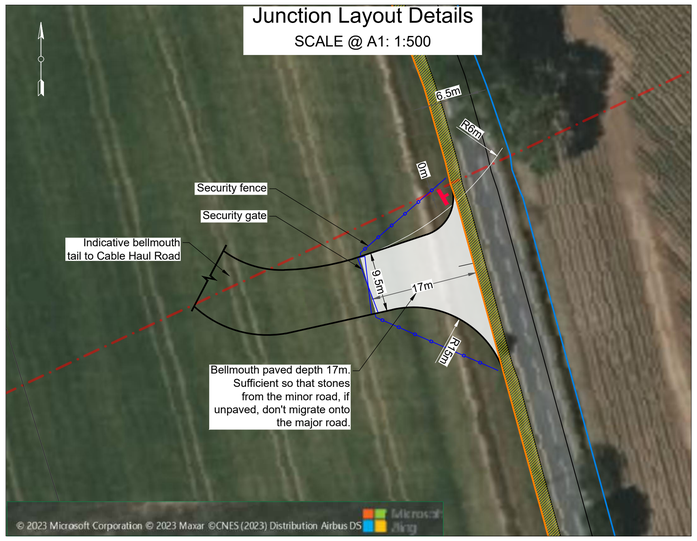
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

Swept Path Analysis - Vehicle Details

Scale 1:150

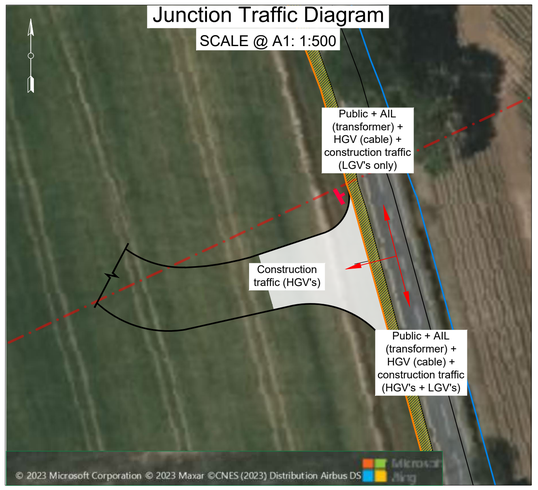
Junction Layout Details

SCALE @ A1: 1:500



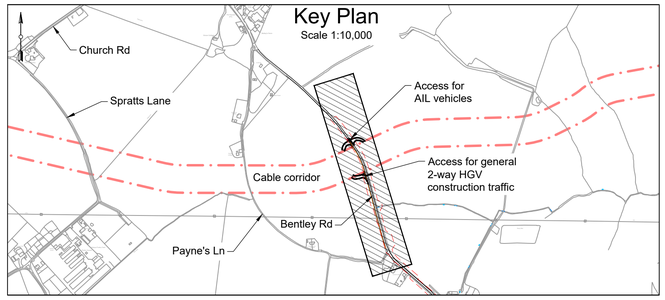
Junction Traffic Diagram

SCALE @ A1: 1:500



Key Plan

Scale 1:10,000



1:500 — 0 — 25m — 50m

1:1000 — 0 — 50m — 100m

1:10,000 — 0 — 500m — 1000m

C:\Users\AMA100030\DC\ACCDocs\Mott MacDonald\100104560 - RWE Co-location project\Project Files\MOTTMAC\C_CIV_MMD\DR\104560-MMD-00-XX-DR-CE-1032.dwg Nov 28, 2023 - 8:01PM AMA100030

Notes

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5. This drawing is for development purposes only and should not be used for construction.
6. Proposed arrangements shown for indicative purposes only. Dimensions and design may vary following completion of site surveys and the detailed design.
7. Alignment/specification of fencing and gates subject to site conditions and contractor requirements. Proposed fences to tie into existing fences/hedgerows.
8. Vegetation clearance and groundwork may be required to facilitate any necessary sight distances.
9. Vehicles used in this drawing are indicative of those expected to be using this construction access. Actual turning radii and vehicle track will depend on the precise vehicles used by the works contractor.
10. Where required by the local highways authority, the proposed junction will be controlled by traffic signals designed and installed in accordance with Chapter 6 of the Traffic Signs Manual. Appropriate warning signage will be used where necessary.
11. Visibility splay of 215m either side of bellmouth used to indicate required Stopping Site Distance as per CD 109 of the DMRB for 60mph design speeds. Bentley road speed limit considered to be the national speed limit on single carriageways, that is 60mph (~96 kph).
12. A temporary 40mph speed limit is recommended for safety of all road users in the vicinity of the access.
13. Cable deliveries are expected to require use of additional lanes and will require traffic control measures.
14. For construction of the bellmouths it is anticipated that temporary traffic signals will be installed with alternate lane closures. Cables crossing the road will be installed using trenchless techniques.
15. The junction has been assessed for the cable drum delivery vehicle, the max. legal length articulated vehicle (16.5m log) and a generic low loader (16.154m long). The junction geometry has been considered suitable to accommodate the movements of the forementioned vehicles.
16. Only partial utilities data has been provided for this indicative design. Full PAS128 utilities surveys shall be required at later design stages.
17. Drainage at bellmouth to be confirmed, construction boundary may change subject to drainage strategy and available outfalls.

Legend:

- Edge of carriageway line from OS Mastermap
- New carriageway edge (indicative) at Bentley Rd
- Edge of carriageway at bellmouth accesses
- Cable corridor
- RLB for Bentley Rd works
- Vehicle chassis/wheels outline
- Vehicle body outline
- Area swept by vehicle body/overhang
- Visibility splays at X=4.5m from stopping line
- Extents of vegetation and street furniture clearance to achieve visibility requirements at X=4.5m
- Visibility splays at X=9m from stopping line
- Extents of vegetation and street furniture further clearance to achieve visibility requirements at X=9m
- Forward visibility (Length= 175m)
- Bellmouth paved carriageway
- Proposed road widening
- Proposed vertical sign to be installed
- Proposed fence
- Proposed gate at bellmouth
- Existing surface water ditch / watercourse

Reference drawings

OS Mastermap
Essex County Council Private Rights of Way
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (dated 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (dated 16/11/2023)
104560-MMD-00-XX-DR-CE-1031- 1 to 3 - Bentley Rd Improvements Layout

Rev	Date	Drawn	Description	Ch'k'd	App'd
02	24/11/2023	SAP	Forward visibility added	JW	AFC
01	26/06/2023	SAP	Cable route & bellmouth arrangement updated	JW	AFC

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

Co-located Substation Early Design Bentley Rd with Cable Haul Rd Junction & SPA

Sheet 02 of 02

Designed	S. Amado-Pedrosa	SAP	Eng check	John Weeks	JW
Drawn	S. Amado-Pedrosa	SAP	Coordination	Andrea F. Crespo	AFC
Dwg check	John Weeks	JW	Approved	Andrea F. Crespo	AFC

MMD Project Number: 104560-001	Scale at A1: As shown	Security: STD
Client Number: 004845330-02		Suit. Code: S3
Drawing Number: 104560-MMD-00-XX-DR-CE-1032-2		Revision: 02

Notes

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2. All dimensions are in meters unless otherwise stated.
3. This drawing is to be printed in colour.
4. This drawing is to be read in conjunction with all relevant documents and drawings.
5. No unauthorised disclosure, storage or copying.
6. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36).
7. All levels are in meters and relate to AOD (Ordnance Survey, Newlyn).
8. The A road A120 has a 50mph (~80.5kph) speed limit applying to the dual carriageway section, where the junction with Bentley Road is located. For the purpose of visibility analysis, it has been considered a design speed of 85kph (~100kph) for the A120, as the above closer value as per DMRB, CD 109 *Highway link design*, Table 2.10. Based on Table 2.10, the desirable minimum length of visibility splays (Stopping sight distance - SSD) for a design speed of 85kph is 160m.
9. The visibility splay on Bentley Road are shown as what is feasible.
10. Indicative design layout based of OS grid, works may vary subject to detailed design and site survey.
11. Only partial utilities data has been provided for this indicative design, full PAS128 utilities surveys shall be required and additional land take may be required to accommodate diversions.
12. For swept path details, refer to drawings 104560-MMD-00-XX-DR-CE-1026 and 104560-MMD-00-XX-DR-CE-1027.
12. For further information on the transition detail carriageway/cycle track for the proposed cycle track, please refer to drawing 104560-MMD-00-XX-DR-CE-1059, Sheet 2.
13. Existing water utility may require diversion or protection in some areas.

Legend:

- Indicative visibility splay from property driveway
- Five Estuaries Order Limits Boundary
- North Falls Order Limits Boundary
- Proposed new edge of carriageway
- Proposed permanent carriageway widening at junction
- 2m shift of carriageway
- Cycle path

Reference drawings

104560-MMD-00-XX-DR-CE-1028 - Bentley Rd Junction SPA Road improvements
104560-MMD-00-XX-DR-CE-1064 - Early Design Bentley Rd SPA "contra-flow" Option
104560-MMD-00-XX-DR-CE-1031-1 to 3 - Bentley Rd Improvements Layout and Red Line Boundary for works
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (dated 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (dated 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	08.03.2024	AT	Issue for comment	JW	AFC
P01	23.02.2024	AT	Issue for comment	JW	AFC

Status Stamp

PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

A120 - Bentley Road Junction Alternative Alignment

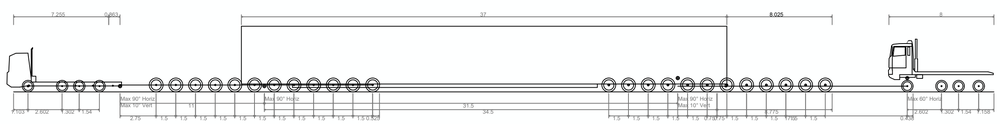
Sheet 01 of 01

Designed	A. Towse	AT	Eng check	J. Weeks	JW
Drawn	A. Towse	AT	Coordination	A. Fontaina Crespo	AFC
Dwg check	J. Weeks	JW	Approved	A. Fontaina Crespo	AFC

MMD Project Number	Scale at A1	Security
104560-001	1:500	STD

Client Number	Suit. Code
005070991-02	S3

Drawing Number	Revision
104560-MMD-00-XX-DR-CE-1065	P02



AIL- AL50 Girder 12 Axial (with rear tractor)

Overall Length	74.720m
Overall Width	6.300m
Overall Body Height	5.000m
Min Body Ground Clearance	0.337m
Max Track Width	3.000m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.550m

Geometry has been checked against a bespoke vehicle model shown in the diagram. This model is generic and does not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design and installation of the access.

Notes

1. Do not scale from this drawing
2. All dimensions are in metres unless otherwise stated
3. This drawing is to be read in conjunction with all relevant documents and drawings
4. No unauthorised disclosure, storage or copying
5. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36)
6. All levels are in meters and relate to AOD (Ordnance Survey, Newlyn)
7. Geometry has been checked against a bespoke vehicle model shown in the diagram. This model is generic and does not relate to any specific vehicle suppliers specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design and installation of the access.
8. Kerb line would need to be realigned to accommodate AIL movement requiring increased pavement widening.
9. AIL switch to contraflow position can occur between Red House Farm and the Single Lane Dual Carriageway section of the A120.

Key to symbols

- Chassis outline
- Body outline
- Swept path area by vehicle body
- OS map feature lines
- Five Estuaries Order Limits Boundary
- Proposed kerb line
- Proposed pavement widening
- Cycle path
- North Falls Order Limits Boundary

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P3	07/03/2024	AT	Issue for comment	JW	AFC
P2	23/02/2024	AT	Issue for comment	JW	AFC
P1	08/02/2024	AT	Issue for comment	JW	AFC

Status Stamp

DRAFT

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client

NORTH FALLS Offshore Wind Farm
FIVE ESTUARIES OFFSHORE WIND FARM

Title

Co-located Substation Early Design
A120 - Bentley Road Junction
Swept Path Analysis
"contra-flow" Option
Sheet 01 of 01

Designed	A. Towse	AT	Eng check	J. Weeks	JW
Drawn	A. Towse	AT	Coordination	A. Fontaina Crespo	AFC
Dwg check	J. Weeks	JW	Approved	A. Fontaina Crespo	AFC

MMD Project Number	Scale at A1	Security
104560	1:400	STD
Client Number		Suit. Code
005069954-03		S3
Drawing Number		Revision
104560-MMD-00-XX-DR-CE-1064		P3

1:400 0 20m 40m

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Appendix E: Stage 1 Road Safety Audits

Stage 1 Road Safety Audit

Five Estuaries / North Falls Wind Farm

RWE

Prepared by:

SLR Consulting Limited

Ground Floor Helmont House , Churchill Way, Cardiff,
CF10 2HE

SLR Project No.: 237699

Client Reference No: XXXX

7 November 2023

Revision: 05

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	17 October 2023	Alastair Pike	Sasha Boland	Alastair Pike
02	23 October 2023	Alastair Pike	Sasha Boland	Alastair Pike
03	25 October 2023	Alastair Pike	Sasha Boland	Alastair Pike
04	27 October 2023	Alastair Pike	Sasha Boland	Alastair Pike
05	7 November 2023	Alastair Pike	Sasha Boland	Alastair Pike

Basis of Report

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Table of Contents

Appendices

Acronyms and Abbreviations

RSA	Road Safety Audit
DMRB	Design Manual for Roads and Bridges
MfS	Manual for Streets
PIC	Personal Injury Collisions
DfS	Departures from Standards
SPA	Swept Path Analysis

1.0 Introduction

1.1 This report results from a Stage 1 Road Safety Audit carried out on Tuesday 17th October 2023. The RSA was carried out on behalf of RWE. The Overseeing Organisation for this Stage 1 is Essex County Council.

1.2 An Audit Brief was prepared by Daniel Moran of SLR Consulting Ltd on 13th September 2023. This Audit Brief was formally accepted by the Audit Team on the same date.

1.3 This Road Safety Audit team was as follows:

ALASTAIR PIKE, MICE, MCIHT, MSoRSA, HE Approved Cert. Comp.
Audit Team Leader
Head of Road Safety
SLR Consulting Ltd

Sasha Respini, BSc (Hons), MSc, MCIHT, MSoRSA
Audit Team Member
Principal Transport Planner
SLR Consulting Ltd

1.4 A site visits were undertaken by the Audit Team on Wednesday 20th September 2023, between the hours of 12:00pm and 16:00pm. The weather at the time of the visit was overcast with light rain and the carriageway surface was generally dry. Vehicular traffic levels were considered to be low. There were no pedestrian and no cyclist movements observed during this time.

1.5 Site location plans can be found at **Appendix A** of this report.

1.6 The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard, GG119 Road Safety Audit.

1.7 The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.

1.8 A table of documents submitted for this Stage 1 RSA can be found in **Appendix B**.

1.9 The scheme subject to Stage 1 RSA comprises a number of construction access junctions and haul road crossings associated with the installation of an export cable to carry power from a proposed offshore windfarm located off the coast of Essex. These access points and haul roads will be required for a period of approximately 18 months. Access have been constructed to both DMRB and MfS design standards.

1.10 Submitted design drawings have been annotated to show the locations of any problems identified during this Stage 1 RSA. These plans can be found at **Appendix C**.

1.11 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

Departures from Standards

1.12 The Audit Team were not informed of any Departure from Standards (DfS) associated with the design proposals.

2.0 Matters arising from this Stage 1 RSA

Location AC1 - B1032 - General Arrangement

2.1 No road safety problems.

Location AC1 - B1032 - Swept Path Analysis

2.2 No road safety problems.

Location AC2 - B1032 - General Arrangement

2.3 No road safety problems.

Location AC2 - B1032 - Swept Path Analysis

2.4 No road safety problems.

Location AC3 – B1033 / Thorpe Road - General Arrangement

2.5 Problem.

Location: B1033 Thorpe Road access arrangements.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

Location AC3 – B1033 / Thorpe Road – Swept Path Analysis

2.6 No road safety problems.

Location AC4 – B1035 / Tendring Road - General Arrangement

2.7 Problem.

Location: B1035 Tendring Road access arrangement.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

2.8 Problem.

Location: B1035 Tendring Road access arrangement.

Summary: The level difference between the carriageway and site could result in loss of control or side swipe type collisions.

Onsite observations found that there was a difference in levels between the existing carriageway and the new access. The steep gradient may create difficulty for large construction vehicles wishing to access Tendring Road and may in turn lead to a lack of surface friction and slow egress movements potentially creating shunt / side swipe type collisions between egressing construction vehicles and vehicles travelling on Tendring Road.

Recommendation:

It is recommended that the existing gradient be amended to an appropriate level for the restart movements of large vehicles accessing Tendring Road from the proposed site.

Location AC4 – B1035 / Tendring Road – Swept Path Analysis

2.9 No road safety problems.

Location AC5 – B1035 / Thorpe Road - General Arrangement

2.10 Problem.

Location: Thorpe Road - both sides of the proposed access.

Summary: Signage obscured by vegetation leading to shunt type collisions or collisions between vehicles and signage installations

Onsite observations found that there was limited room to mount signage posts on the edge of the carriageway without being obscured by existing vegetation. Obstruction to the signage may lead to injudicious vehicles movements at the transition point potentially leading to side swipe or shunt type collisions between vehicles.

Recommendation.

It is recommended that the vegetation is cut back and maintained and that there is appropriate clearance to traffic such that the signage does not pose an obstruction to vehicles.

2.11 Problem.

Location: Proposed access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

2.12 Problem.

Location: Proposed access.

Summary: Existing vegetation may obscure visibility splay to the west and east potentially leading to side swipe type collisions.

Onsite observations noted that the presence of existing vegetation may constitute an obstruction to the junction visibility. Design drawings show the visibility splay crossing the carriageway but does not account for the existing vegetation that overhangs at the existing field access point. Obstruction to junction visibility splays may lead to injudicious vehicles movements at the proposed junction potentially leading to side swipe type collisions between vehicles.

Recommendation:

It is recommended that the vegetation to the west and east of the site access junction be cut back and maintained such that it does not pose an obstruction to visibility splays.

Location AC5 – B1035 / Thorpe Road – Swept Path Analysis

2.13 No road safety problems.

Location AC7 – B1035 - General Arrangement

2.14 Problem.

Location: Proposed site access.

Summary: Public Right of Way (PRoW) route following the access route could lead to side swipe type collisions.

An existing PRoW was signposted at the site access. The presence of this route could create a potential conflict between pedestrians and vehicles. Vulnerable road users may be at risk of being struck by turning vehicles or may inadvertently obstruct the path of the vehicles, increasing the likelihood of collisions due to the difference in speeds between vehicles and pedestrians.

Recommendation:

It is recommended to relocate the access or divert the PRoW to avoid potential collisions between vehicles and pedestrians.

Location AC7 – B1035 – Swept Path Analysis

2.15 No road safety problems.

Location AC8 – B1035 - General Arrangement

2.16 No road safety problems.

Location AC8 – B1035 – Swept Path Analysis

2.17 No road safety problems.

Location CR1 – Little Clacton Road - General Arrangement

2.18 Problem.

Location: Proposed access.

Summary: The position of the gate could cause rear end shunts.

The position of the proposed gate does not allow a vehicle to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed locations may leave HGV's overhanging the public highway which may result in shunt / side swipe type collisions between vehicles.

Recommendation:

It is recommended that the gates are relocated further back into the site such that if a gate is closed for any reason, an HGV can still clear the public highway before stopping.

2.19 Problem.

Location: Proposed access.

Summary: The position of the gate could cause rear end shunts.

The position of the proposed gate does not allow a vehicle to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed locations may leave HGV's overhanging the public highway which may result in shunt / side swipe type collisions between vehicles.

Recommendation:

It is recommended that the gates are relocated further back into the site such that if a gate is closed for any reason, an HGV can still clear the public highway before stopping.

2.20 Problem.

Location: Proposed access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

Location CR3 – B1034 /Sneating Hall Lane - General Arrangement

2.21 Problem.

Location: General.

Summary: Low overhead cables could lead to damage to vehicles.

Onsite observations found that there were existing low hanging overhead cables parallel to the carriageway in the position of the proposed access. This could cause damage to vehicles and their occupants or could potentially cause congestion as vehicles manoeuvred around them, leading to side swipe or rear end shunt type collisions.

Recommendation:

It is recommended that a safe clearance height is provided and maintained, especially within the vicinity of the proposed site access.

2.22 Problem.

Location: B1034 / Sneating Hall Lane proposed access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along the B1034 / Sneating Hall Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.23 Problem.

Location: Proposed access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

Location CR4 – Damant's Farm Lane - General Arrangement

2.24 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along the Damant's Farm Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

Location CR5 – B1414 / Andermere Road - General Arrangement

2.25 Problem.

Location: Proposed site access.

Summary: Public Right of Way (PRoW) route following the access route could lead to side swipe type collisions.

An existing PRoW was signposted at the site access. The presence of this route could create a potential conflict between pedestrians / cyclists and vehicles. Vulnerable road users may be at risk of being struck by turning vehicles or may inadvertently obstruct the path of the vehicles, increasing the likelihood of collisions due to the difference in speeds between vehicles and pedestrians.

Recommendation:

It is recommended to relocate the access or divert the PRoW to avoid potential collisions between vehicles and pedestrians / cyclists.

2.26 Problem.

Location: Proposed site access.

Summary: The position of the gate could cause rear end shunts.

The position of the proposed gate does not allow a vehicle to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed locations may leave HGV's overhanging the public highway which may result in shunt / side swipe type collisions between vehicles.

Recommendation:

It is recommended that the gates are relocated further back into the site such that if a gate is closed for any reason, an HGV can still clear the public highway before stopping.

2.27 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along the B1414 may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

Location CR6a – Golden Lane - General Arrangement – Traffic Signals

2.28 Problem.

Location: Proposed access.

Summary: The position of the gate could cause rear end shunts.

The position of the proposed gate does not allow a vehicle to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed locations may leave HGV's overhanging the public highway which may result in shunt / side swipe type collisions between vehicles.

Recommendation:

It is recommended that the gates are relocated further back into the site such that if a gate is closed for any reason, an HGV can still clear the public highway before stopping.

Location CR6b – Golden Lane - General Arrangement – Priority

2.29 Problem.

Location: Golden Lane proposed access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Golden Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.30 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Golden Lane.

A proposed gate is shown on each priority and it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Little Clacton Road. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Golden Lane unobstructed.

2.31 Problem.

Location: Golden Lane.

Summary: Signage obscured by vegetation leading to shunt type collisions or collisions between vehicles and signage installations

Onsite observations found that there was limited room to mount signage posts on the edge of the carriageway without being obscured by existing vegetation. Obstruction to the signage may lead to injudicious vehicles movements at the transition point potentially leading to side swipe or shunt type collisions between vehicles.

Recommendation.

It is recommended that the vegetation is cut back and maintained and that there is appropriate clearance to traffic such that the signage does not pose an obstruction to vehicles.

Location CR7 – Lodge Lane - General Arrangement

2.32 Problem.

Location: Proposed access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Lodge Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.33 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Lodge Lane.

A proposed gate is shown on each priority and it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Lodge Lane. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Lodge Lane unobstructed.

2.34 Problem.

Location: Proposed site access.

Summary: The level difference between the carriageway and site could result in loss of control or side swipe type collisions.

Onsite observations found that there was a difference in levels between the existing carriageway and the new access. The steep gradient may create difficulty for large construction vehicles wishing to access Lodge Lane and may in turn lead to a lack of surface friction and slow egress movements potentially creating shunt / side swipe type collisions between egressing construction vehicles and vehicles travelling on Lodge Lane.

Recommendation:

It is recommended that the existing gradient be amended to an appropriate level for the restart movements of large vehicles accessing Lodge Lane from the proposed site.

2.35 Problem.

Location: Proposed site access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

Location CR8 P1 – Stones Green Road - General Arrangement

2.36 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Stones Green Road may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.37 Problem.

Location: Proposed site access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

2.38 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Stones Green Road.

A proposed gate is shown as it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Stones Green Road. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Stones Green Road unobstructed.

Location CR9 P1&P2 – Paynes Lane - General Arrangement

2.39 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Paynes Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.40 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Paynes Lane.

A proposed gate is shown on each priority access as it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Paynes Lane. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Paynes Lane unobstructed.

Location CR10 P1&P2 – Spratt's Lane - General Arrangement

2.41 Problem.

Location: Proposed site access

Summary: Existing passing places could be displaced due to the proposals causing shunt type collisions.

The proposed site access is in the location of existing passing places on the carriageway and if these got displaced could lead to rear end shunt type collisions due to vehicles reversing or driving off the road to allow oncoming vehicles to pass.

Recommendation

It is recommended that the either the site access or passing places are relocated so there are appropriate places for vehicles to pass on Spratt's Lane.

2.42 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Spratt's Lane may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.43 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Spratt's Lane.

A proposed gate is shown on each priority access as it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Spratt's Lane. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Spratt's Lane unobstructed.

2.44 Problem.

Location: Proposed site access.

Summary: Drainage ditches either side of the carriageway may lead to loss of control type collisions.

Onsite observations found that there were drainage ditches running alongside the carriageway in the proposed location of the site access junctions. These ditches are not shown on design drawings to be culverted. This arrangement may lead to vehicles wishing to access / egress the site dropping a wheel into the existing ditches potentially leading to loss of control type collisions.

Recommendation:

It is recommended that any access point which crossed an existing drainage facility is appropriately culverted to ensure HGV's can access the site without loss of control issues.

Location CR11 P1&P2 – Barlon Road - General Arrangement

2.45 Problem.

Location: Proposed site access.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Barlon Road may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.46 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Barlon Road.

A proposed gate is shown on each priority access as it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Barlon Road. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Barlon Road unobstructed.

Location CR12 P1&P2 – Wolves Hall Lane - General Arrangement

2.47 Problem.

Location: Proposed site access.

Summary: Visibility splays not appropriate for site conditions and may lead to side swipe type collisions.

Visibility splays of 2.4 m x 59 m in line with MfS standards for 33mph are provided to the back of the carriageway in both directions from the proposed junctions, except looking right out of the northern access where it can only be provided to the opposite side of the carriageway due to a bend. This could lead to vehicles not slowing in time for an egressing vehicle and causing a side swipe or shunt type collision.

Recommendation

It is recommended that the access / visibility splays are amended to take account for the bend in Wolves Hall Lane.

Location CR8 P2 – Stones Green Road - General Arrangement

2.48 Problem.

Location: General.

Summary: No information provided with regards to control of junctions and gates may lead to vehicles being left straddling the public highway at risk of shunt / side swipe collisions between vehicles.

Vehicles travelling along Stones Green Road may not be aware of crossing HGV movements. There are no details provided which might indicate the operation of gates and therefore no certainty that vehicles may cross the public highway unassisted. These arrangements may lead to HGV's straddling the public highway with approaching vehicles unaware of this potential hazard which may in turn lead to side swipe / shunt type collisions.

Recommendation:

It is recommended that a control measure is introduced to ensure gates are open for crossing vehicles and that approaching vehicles on the public highway are given advanced warning of the potential for HGV traffic to be crossing the public highway.

2.49 Problem.

Location: Proposed site access.

Summary: The position of the proposed gate obstructs incoming construction vehicles when closed which may lead to shunt type collisions on Stones Green Road.

A proposed gate is shown on each priority access as it is unclear from the drawings whether a construction vehicle will be able to pull off the main carriageway and wait without causing an obstruction on Stones Green Road. This arrangement may lead to shunt type collisions.

Recommendation:

It is recommended that the proposed gate is relocated to ensure that construction vehicles are able to leave Stones Green Road unobstructed.

3.0 Audit Team Statement

3.1 We certify that this Audit has been carried out in accordance with the requirements of GG119.

Road Safety Audit Team Leader

Name: [redacted]

Signed:

Position: Head of Road Safety
Organisation: SLR Consulting Ltd
Date: 7 November 2023

Road Safety Audit Team Member

Name: [redacted]

Signed:
Position: Principal Transport Planner
Organisation: SLR Consulting Ltd
Date: 7 November 2023

Appendix A Site Location Plans

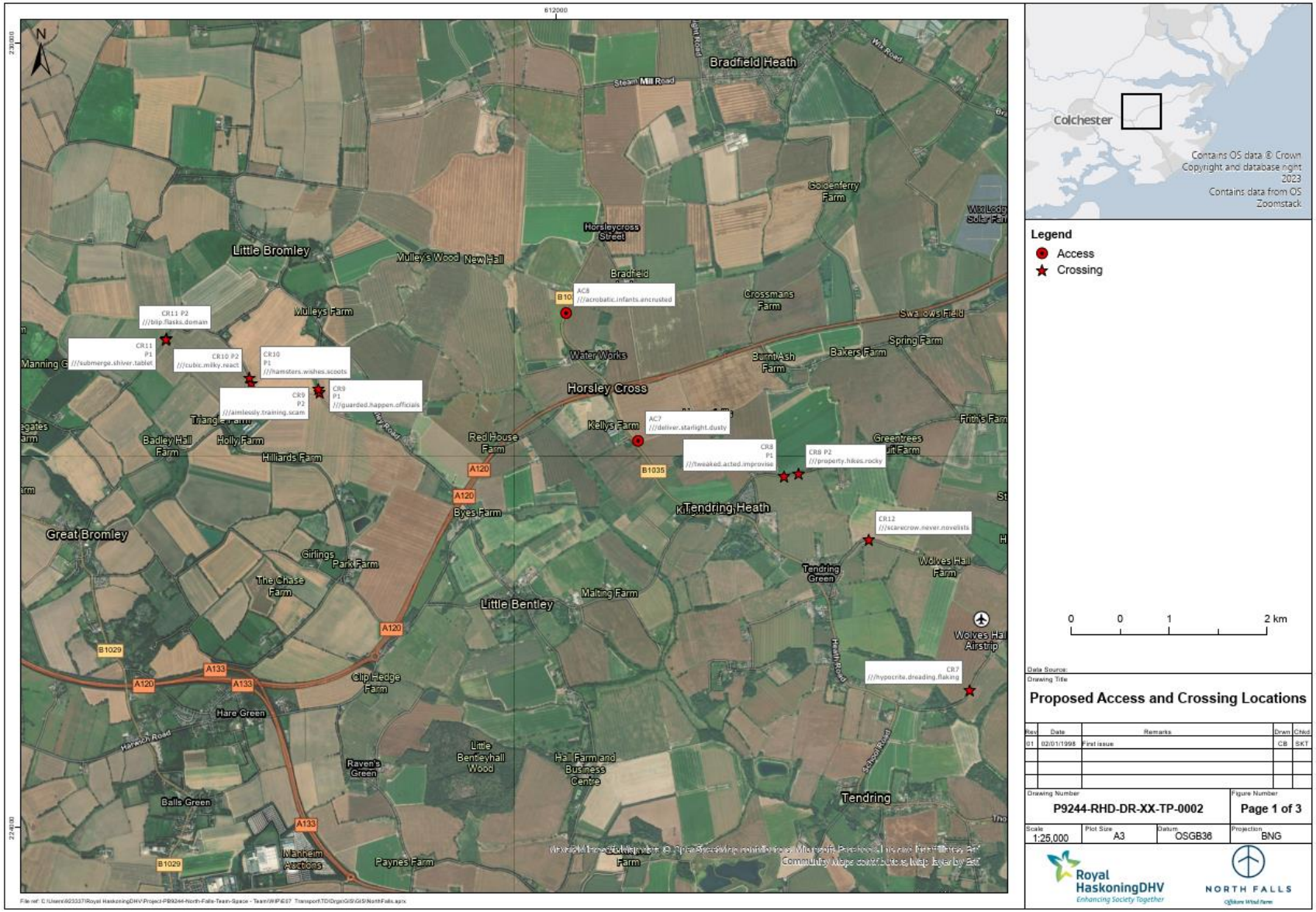
Stage 1 Road Safety Audit

Five Estuaries / North Falls Wind Farm

RWE

SLR Project No.: 237699

7 November 2023


612000
230000
224000
N
Bradfield Heath
Steam Mill Road
Little Bromley
Mulley's Wood
New Hall
Bradfield
Goldenferry Farm
Horsleycross Street
Crossmans Farm
Swallows Field
Spring Farm
Bakers Farm
Burnt Ash Farm
Water Works
Horsley Cross
Mulleys Farm
Manning G
Badley Hall Farm
Holly Farm
Hillards Farm
Triang
Red House Farm
Kelly's Farm
Greentrees
Frith's Farm
Great Bromley
Byes Farm
Tendring Heath
Girlings
Park Farm
The Chase Farm
Malting Farm
Little Bentley
Tendring Green
Wolves Hall Farm
Wolves Hall Airstrip
Clip Hedge Farm
Hare Green
Hamwich Road
Heath Road
School Road
Little Bentleyhall Wood
Hall Farm and Business Centre
Raven's Green
Balls Green
Tendring
Manheim Auctions
Paynes Farm
Farm
A120
A133
B1029
B1035
B10
CR11 P2
///blip.flasks.domain
CR11 P1
///submerge.shiver.tablet
CR10 P2
///cubic.milky.react
CR10 P1
///hamsters.wishes.scoots
CR9 P2
///aimlessly.training.scam
CR9 P1
///guarded.happen.officials
AC8
///acrobatic.infants.encrusted
AC7
///deliver.starlight.dusty
CR8 P1
///tweaked.acted.improvise
CR8 P2
///property.hikes.rocky
CR12
///scarecrow.never.novelists
CR7
///hypocrite.dreading.flaking
Colchester
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack
Legend
Access
Crossing
0 0 1 2 km
Data Source:
Drawing Title
Proposed Access and Crossing Locations
Rev Date Remarks Drwn Chkd
01 02/01/1998 First issue CB SKT
Drawing Number
P9244-RHD-DR-XX-TP-0002
Figure Number
Page 1 of 3
Scale
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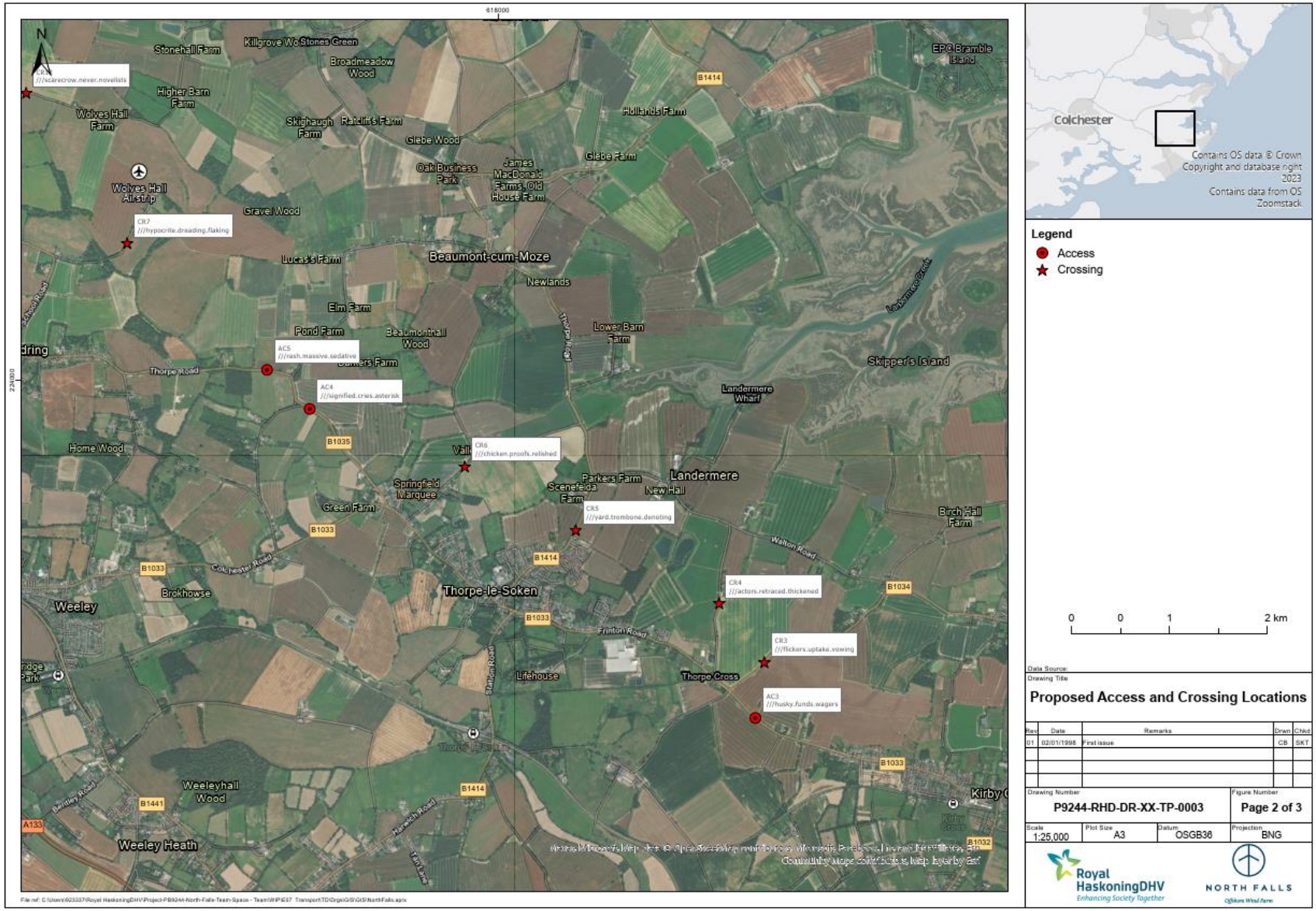
Datum
OSGB36
Projection
BNG
Royal HaskoningDHV
Enhancing Society Together
NORTH FALLS
Offshore Wind Farm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Stonehall Farm
Killgrove Wo
Stones Green
Broadmeadow Wood
EPO Bramble Island
B1414
Higher Barn Farm
Wolves Hall Farm
Skighaugh Farm
Ratcliffs Farm
Hollands Farm
Glebe Wood
Glebe Farm
Oak Business Park
James MacDonald Farms, Old House Farm
Wolves Hall Airstrip
Grave Wood
Lucas's Farm
Beaumont-cum-Moze
Newlands
Elm Farm
Pond Farm
Beaumonthall Wood
Lower Barn Farm
Skipper's Island
Landermere Wharf
Thorpe Road
B1035
Home Wood
Springfield Marquee
Parkers Farm
Scenefella Farm
Landermere
New Hall
Green Farm
B1033
Birch Hall Farm
Walton Road
B1414
Colchester Road
B1034
Brokhowse
Weeley
Thorpe-le-Soken
Frinton Road
Lifehouse
Thorpe Cross
Weeleyhall Wood
B1441
Weeley Heath
B1032
Kirby
CR1 ///scarecrow.never.novelists
CR2 ///hypocrite.dreading.flaking
AC5 ///rash.massive.sedative
AC4 ///signified.cries.asterisk
CR6 ///chicken.proofs.relished
CR5 ///yard.trombone.denoting
CR4 ///actors.retraced.thickened
CR3 ///flickers.uptake.vowing
AC3 ///husky.funds.wagers
Colchester
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack
Legend
Access
Crossing
0 0 1 2 km
Data Source:
Drawing Title
Proposed Access and Crossing Locations
Rev Date Remarks Drwn Chkd
01 02/01/1998 First issue CB SKT
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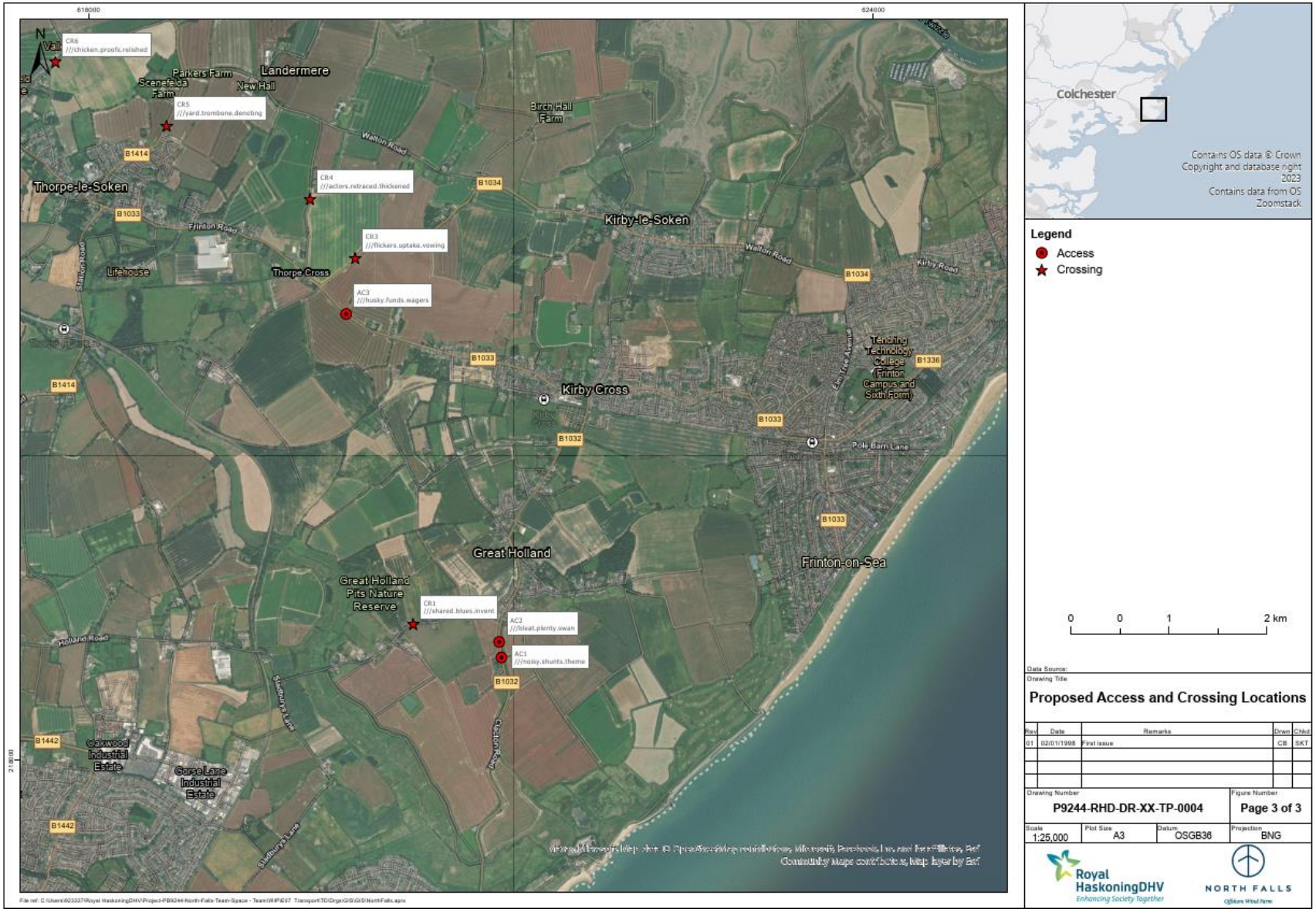
Projection BNG
Royal HaskoningDHV
Enhancing Society Together
NORTH FALLS
Offshore Wind Farm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624000
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CR6
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Vail
Parkers Farm
Landermere
Scenefields Farm
New Hall
CR5
///yard.trombone.donating
Birch Hall Farm
Walton Road
B1414
B1034
Thorpe-le-Soken
CR4
///actors.retraced.thickened
B1033
Frinton Road
Kirby-le-Soken
CR3
///flickers.uptake.vowing
Lifehouse
Thorpe Cross
AC3
///husky.funds.wagers
Kirby Road
B1336
Tendring Technology College (Frinton Campus and Sixth Form)
Kirby Cross
B1032
Pole Barn Lane
Great Holland
Frinton-on-Sea
Great Holland Pits Nature Reserve
CR1
///shared.blues.invent
AC2
///bleat.plenty.swan
AC1
///noisy.shunts.theme
Holland Road
B1442
Oakwood Industrial Estate
Gorse Lane Industrial Estate
Colchester
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack
Legend
Access
Crossing
0 0 1 2 km
Data Source:
Drawing Title
Proposed Access and Crossing Locations
Rev | Date | Remarks | Drwn | Chkd
01 | 02/01/1998 | First issue | CB | SKT
Drawing Number
P9244-RHD-DR-XX-TP-0004
Figure Number
Page 3 of 3
Scale
1:25,000
Plot Size
A3
Datum
OSGB36
Projection
BNG
Royal HaskoningDHV
Enhancing Society Together
NORTH FALLS

Appendix B Submitted Documents

Stage 1 Road Safety Audit

Five Estuaries / North Falls Wind Farm

RWE

SLR Project No.: 237699

7 November 2023

Submitted Documents

Document	Document Title
All Docs	404.05356.00010_Five Estauries_RSA Brief 230919_VE Trip Generation Access Design Accident Summary CombinedSheets PB9244-RHD-DR-ZZ-ZZ-DR-R-0012 PB9244-RHD-DR-ZZ-ZZ-DR-R-0021

Appendix C Problem Location Plans

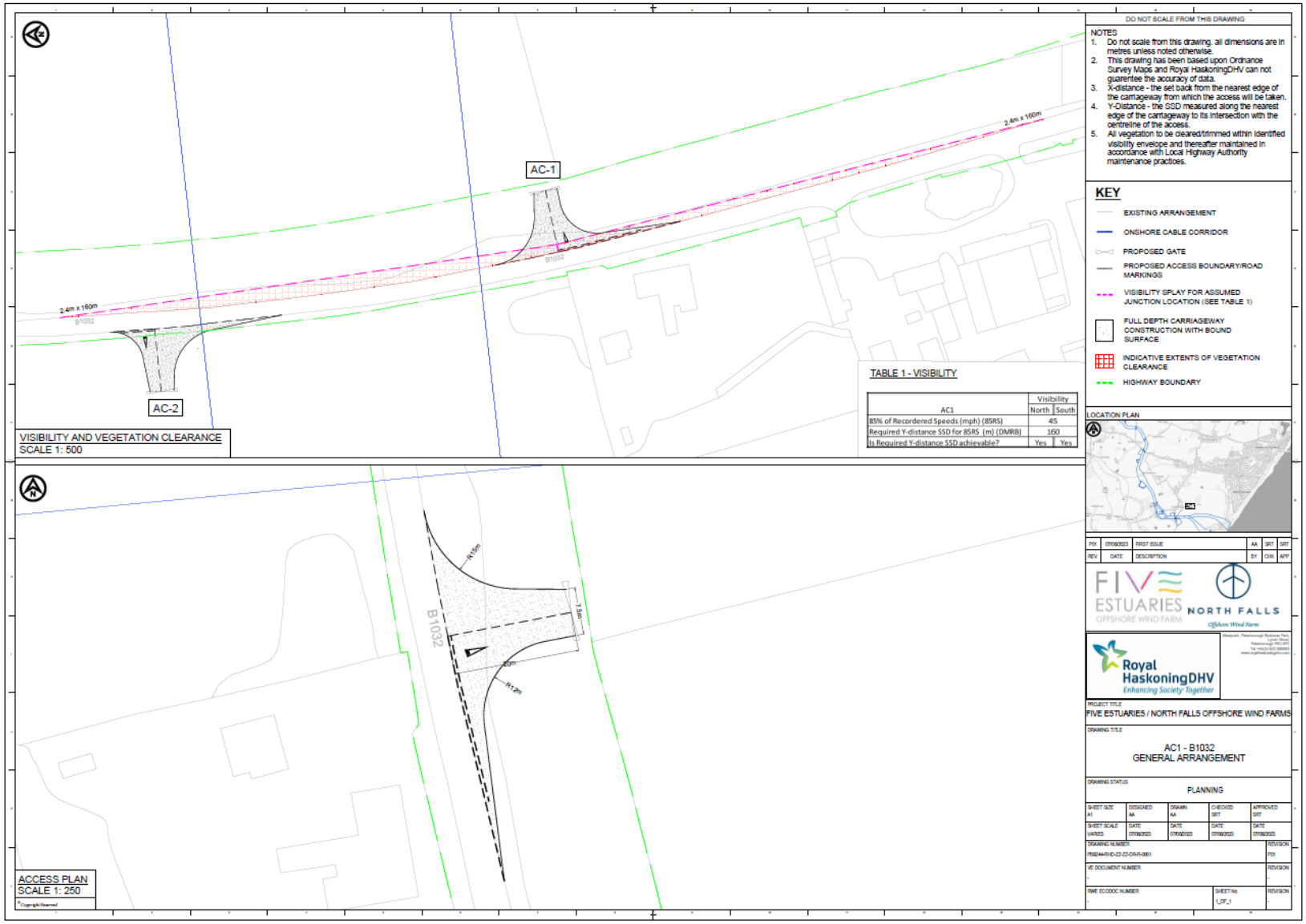
Stage 1 Road Safety Audit

Five Estuaries / North Falls Wind Farm

RWE

SLR Project No.: 237699

7 November 2023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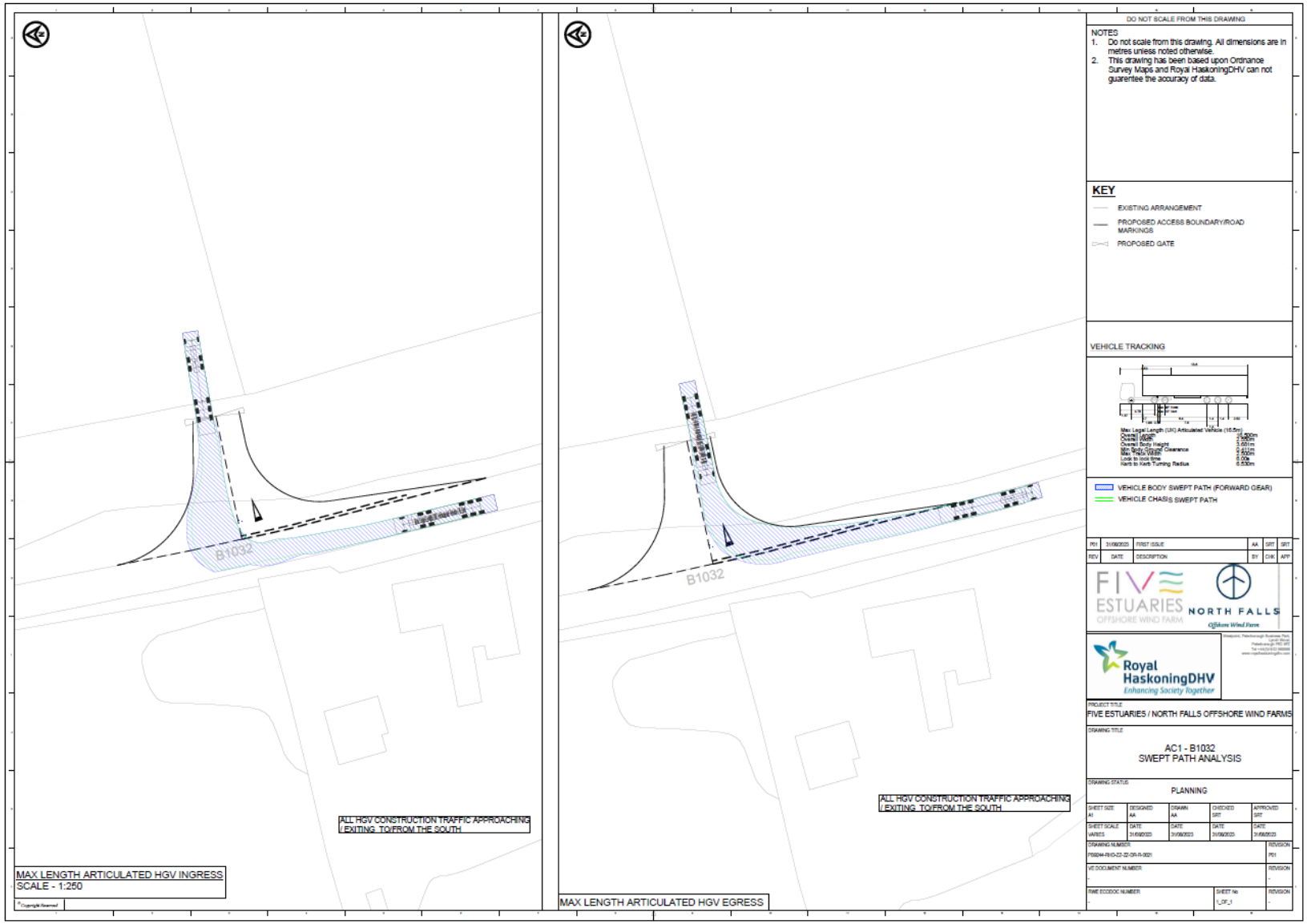
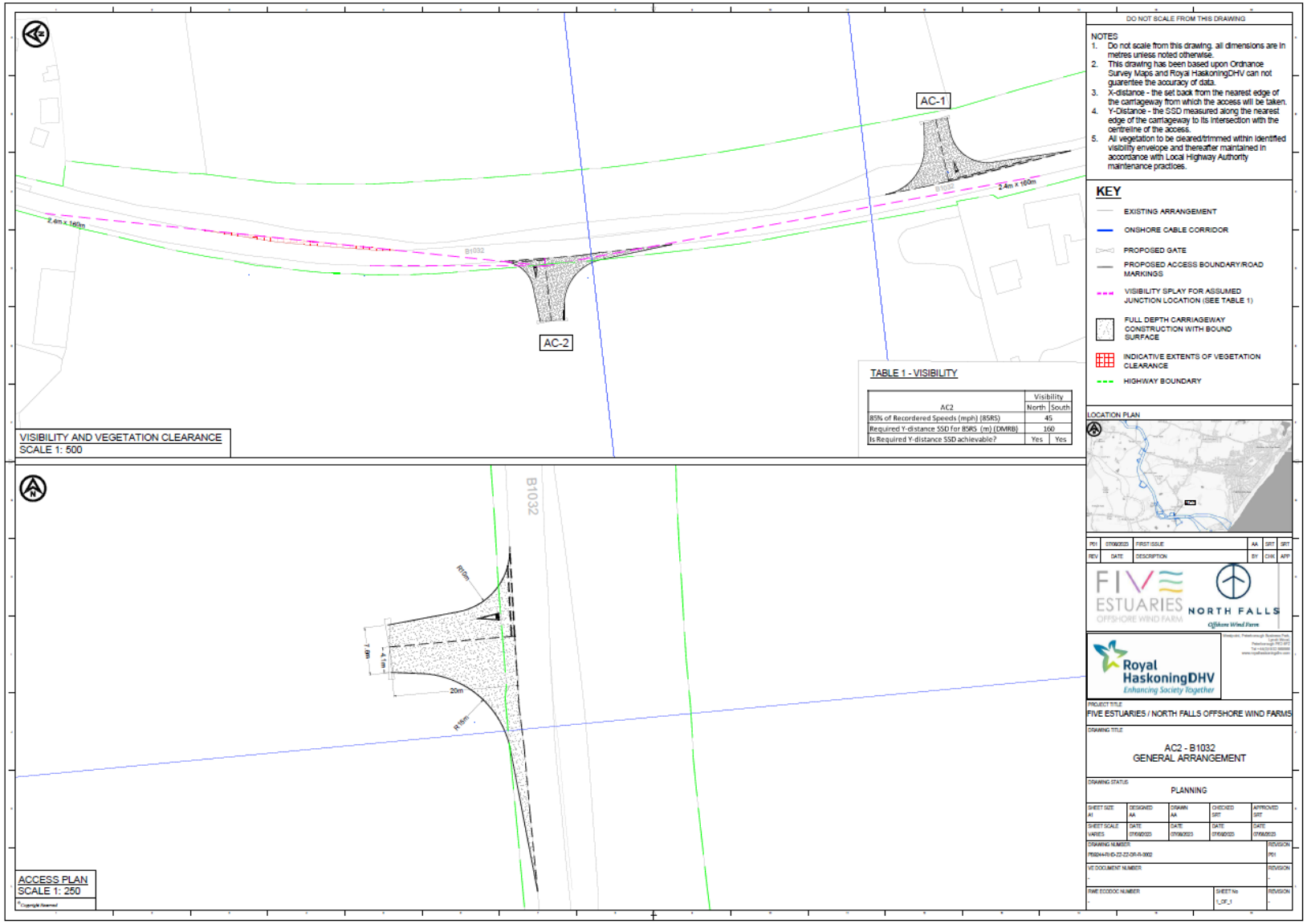
AC-2
2.4m x 160m
2.4m x 160m
B1032
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
B1032
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
AC1
Visibility
North
South
85% of Recordered Speeds (mph) (85RS)
45
Required Y-distance SSD for 85RS (m) (DMRB)
160
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
P01 07/09/2023 FIRST ISSUE AA SRT SRT
REV DATE DESCRIPTION BY CHK APP
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC1 - B1032
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING
SHEET SIZE A1
DESIGNED AA
DRAWN AA
CHECKED SRT
APPROVED SRT
SHEET SCALE VARIES
DATE 07/09/2023
DRAWING NUMBER
REVISION
P01


B1032
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV INGRESS
SCALE - 1:250
B1032
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV EGRESS
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordinance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
AC1 - B1032
SWEPT PATH ANALYSIS
PLANNING


AC-1
AC-2
B1032
2.4m x 160m
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
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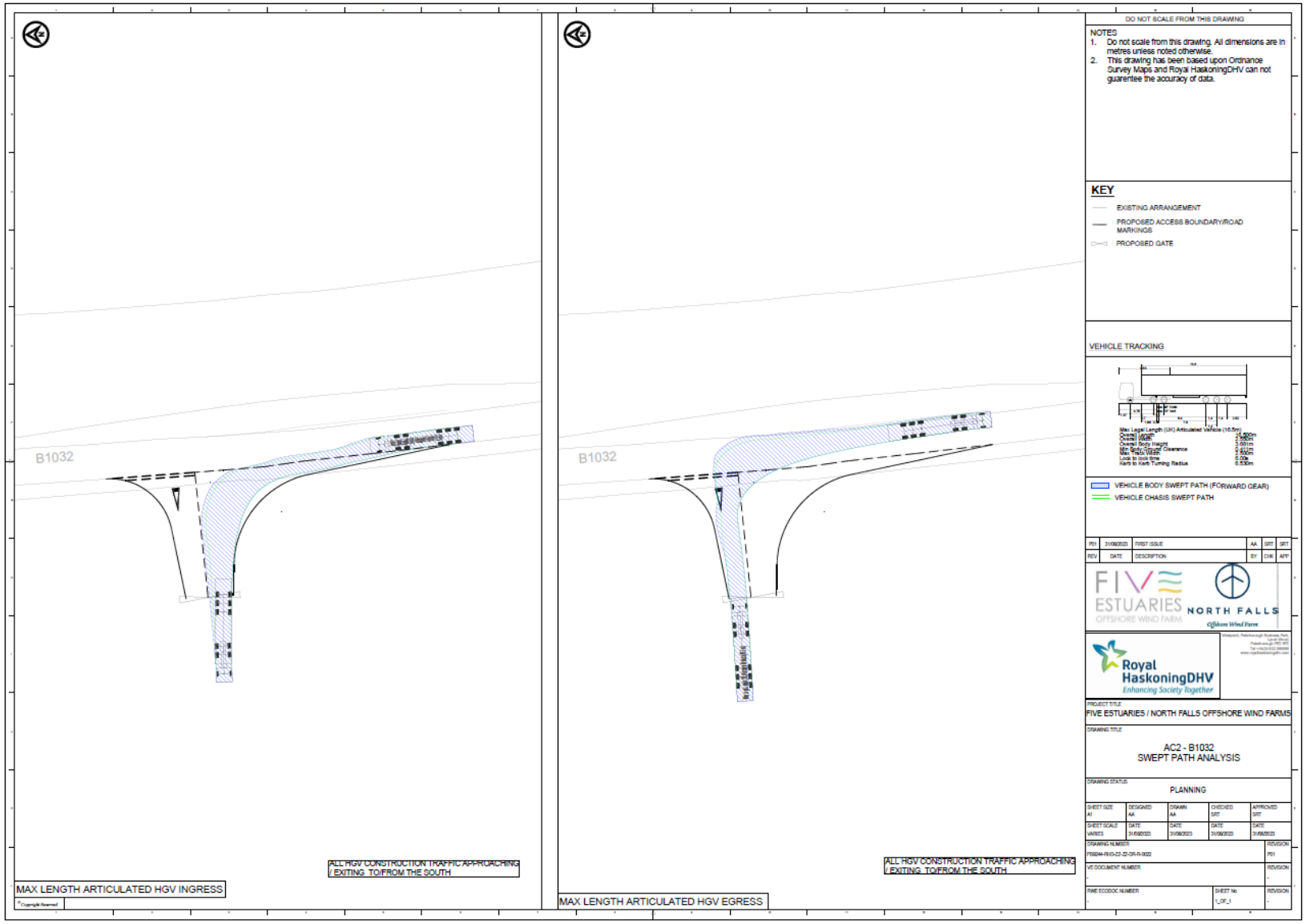
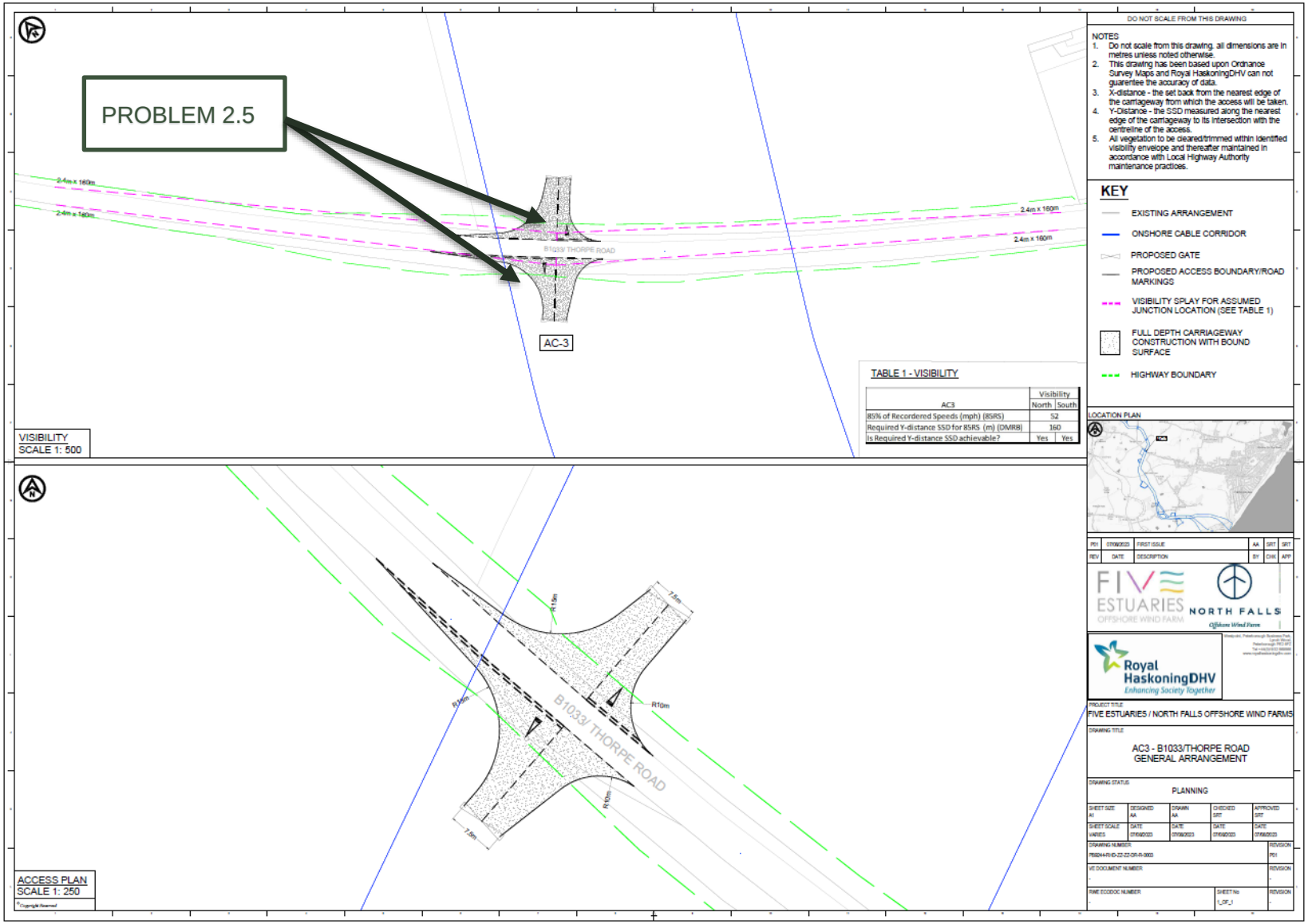
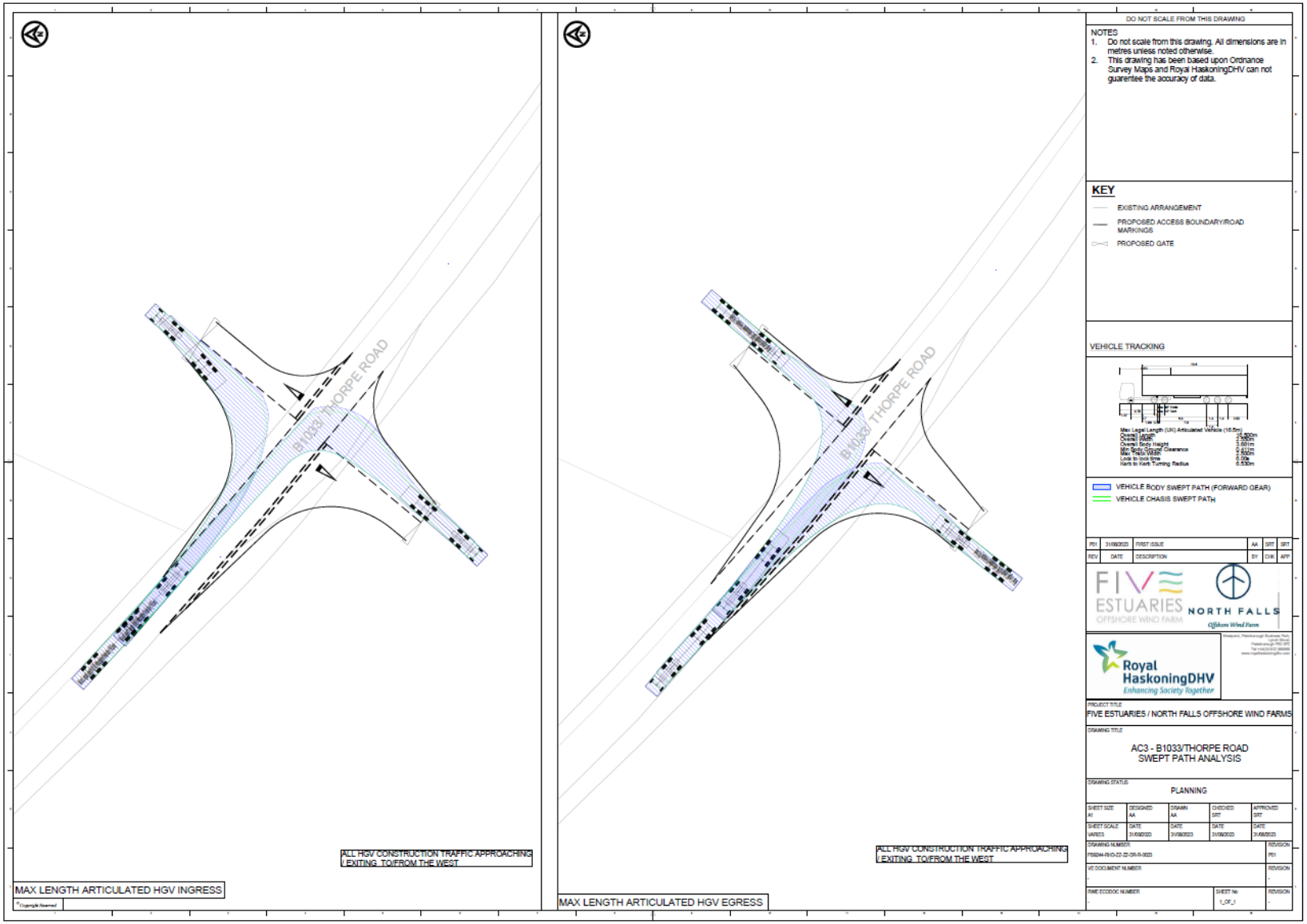
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
AC2
Visibility
North
South
85% of Recordered Speeds (mph) (85RS)
45
Required Y-distance SSD for 85RS (m) (DMRB)
160
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC2 - B1032
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


B1032
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV INGRESS
B1032
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV EGRESS
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
P01 31/08/2023 FIRST ISSUE AA GRT GRT
REV DATE DESCRIPTION BY CHK APP
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC2 - B1032
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING
SHEET SIZE A1 DESIGNED AA DRAWN AA CHECKED GRT APPROVED GRT
SHEET SCALE VARIES DATE 31/08/2023 DATE 31/08/2023 DATE 31/08/2023 DATE 31/08/2023
DRAWING NUMBER P01
VE DOCUMENT NUMBER -
REVISION -
RWE ECODOC NUMBER -
SHEET No 1_OF_1
REVISION -


PROBLEM 2.5
AC-3
VISIBILITY
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
B1033/ THORPE ROAD
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
AC3
Visibility
North
South
85% of Recordered Speeds (mph) (85RS)
52
Required Y-distance SSD for 85RS (m) (DMRB)
160
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC3 - B1033/THORPE ROAD
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


B1033/ THORPE ROAD
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE WEST
MAX LENGTH ARTICULATED HGV INGRESS
B1033/ THORPE ROAD
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE WEST
MAX LENGTH ARTICULATED HGV EGRESS
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordinance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASSIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
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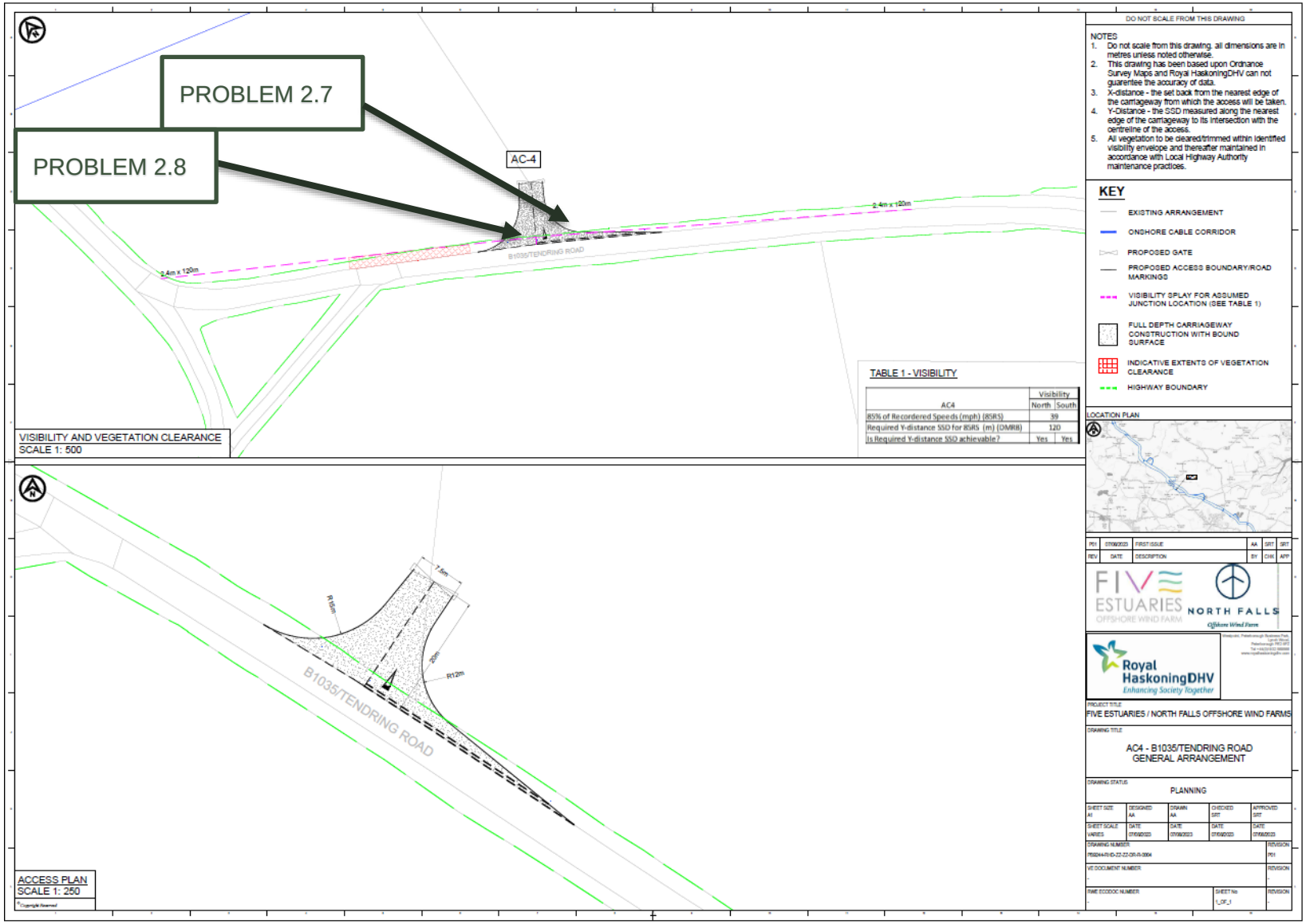
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING


PROBLEM 2.7
PROBLEM 2.8
AC-4
2.4m x 120m
B1035/TENDRING ROAD
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
TABLE 1 - VISIBILITY
AC4
Visibility
North
South
85% of Recordered Speeds (mph) (85RS)
39
Required Y-distance SSD for 85RS (m) (DMRB)
120
Is Required Y-distance SSD achievable?
Yes
Yes
ACCESS PLAN
SCALE 1: 250
B1035/TENDRING ROAD
DO NOT SCALE FROM THIS DRAWING
NOTES
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2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
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4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
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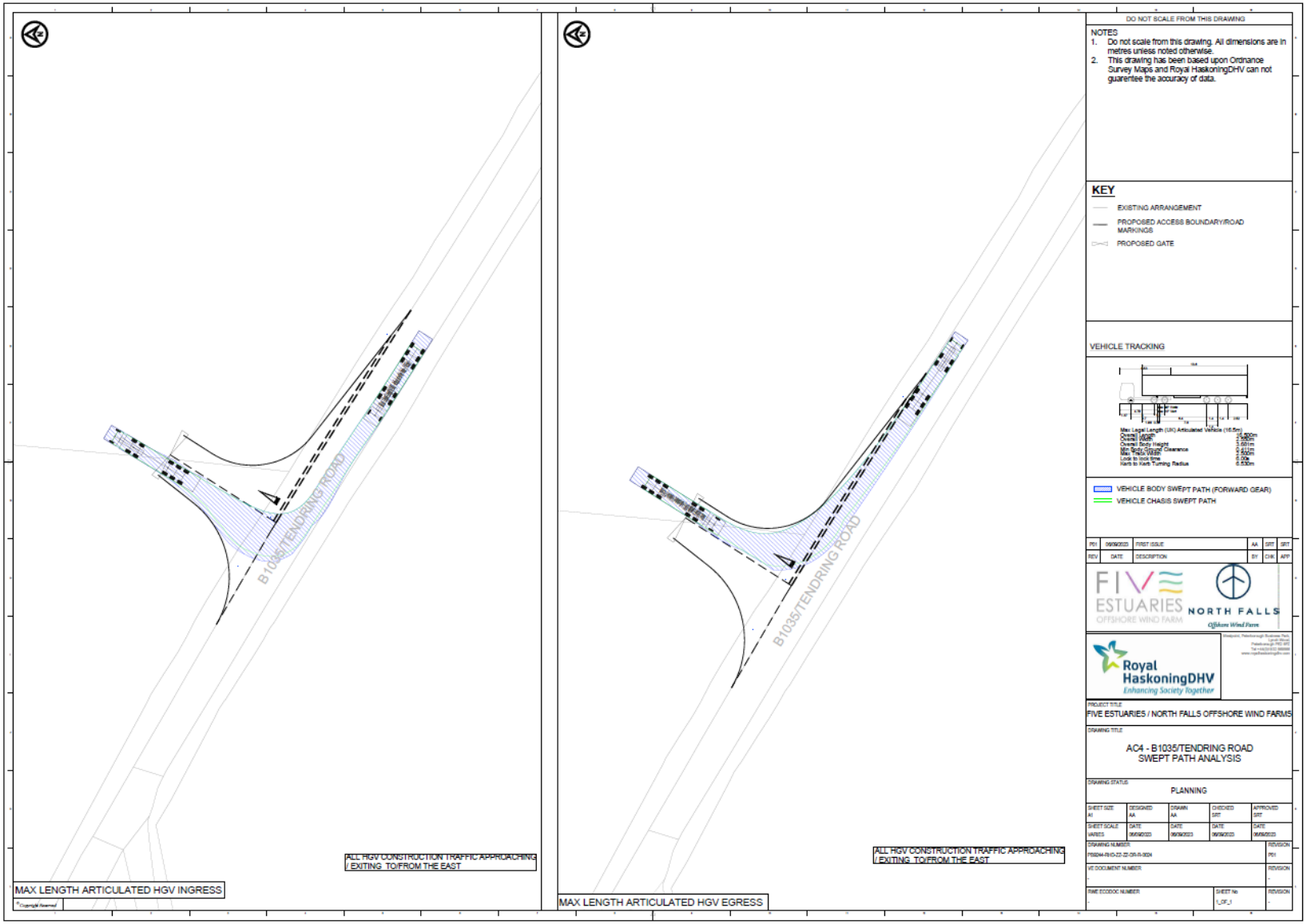
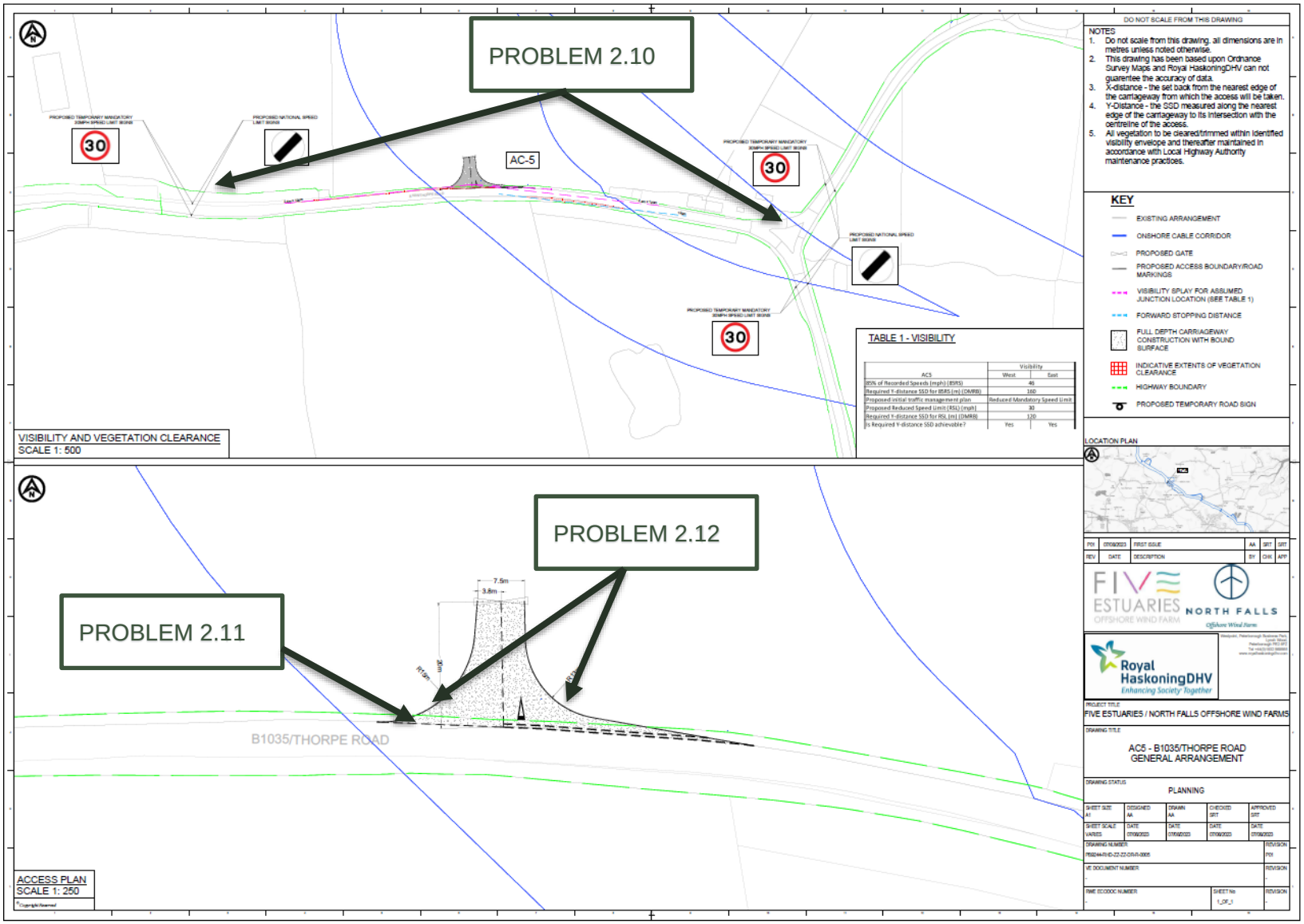
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


B1035/TENDRING ROAD
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST
MAX LENGTH ARTICULATED HGV INGRESS
B1035/TENDRING ROAD
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST
MAX LENGTH ARTICULATED HGV EGRESS
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC4 - B1035/TENDRING ROAD
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING


PROBLEM 2.10
AC-5
30
30
30
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
PROBLEM 2.12
PROBLEM 2.11
B1035/THORPE ROAD
ACCESS PLAN
SCALE 1: 250
DO NOT SCALE FROM THIS DRAWING
NOTES
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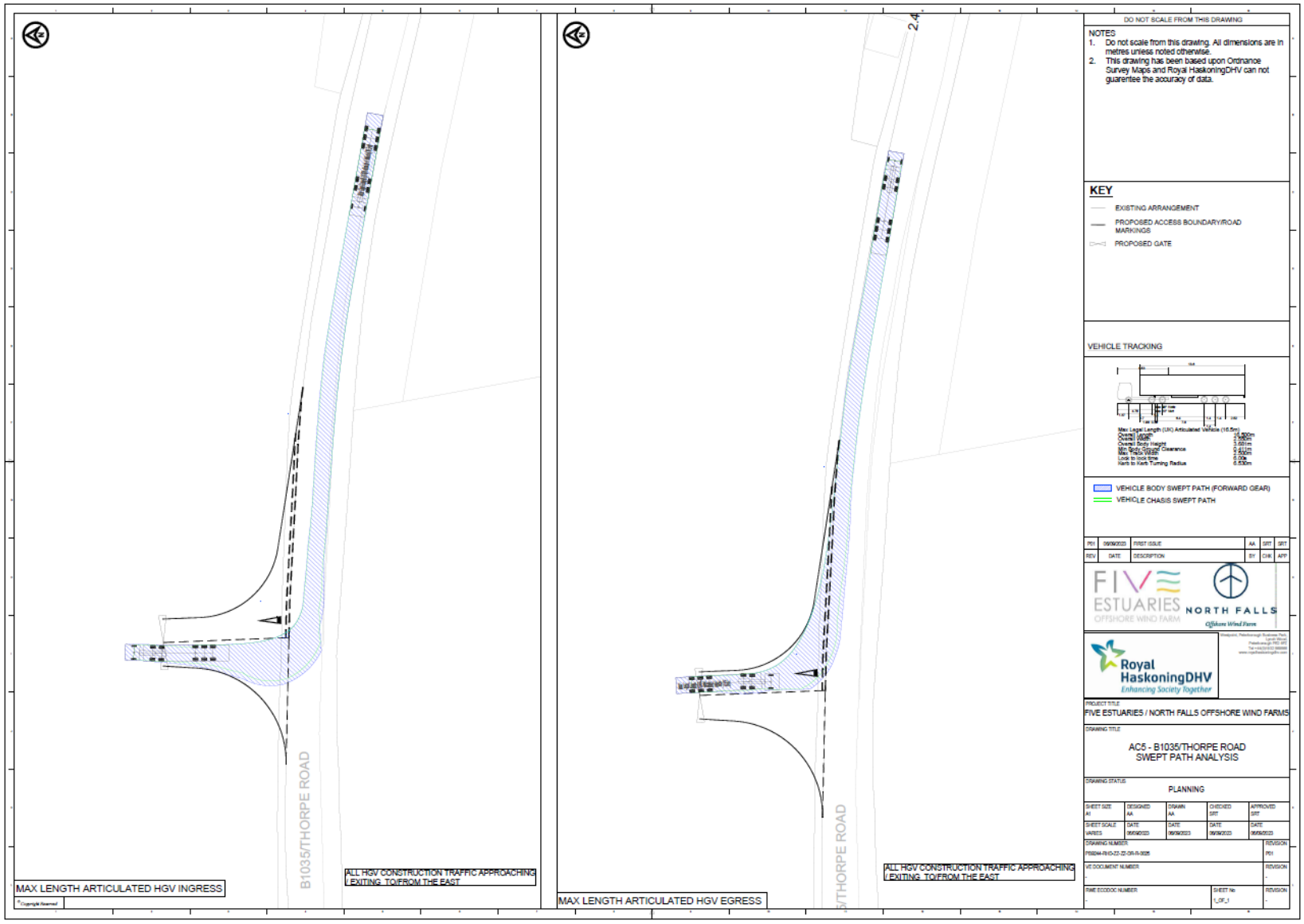
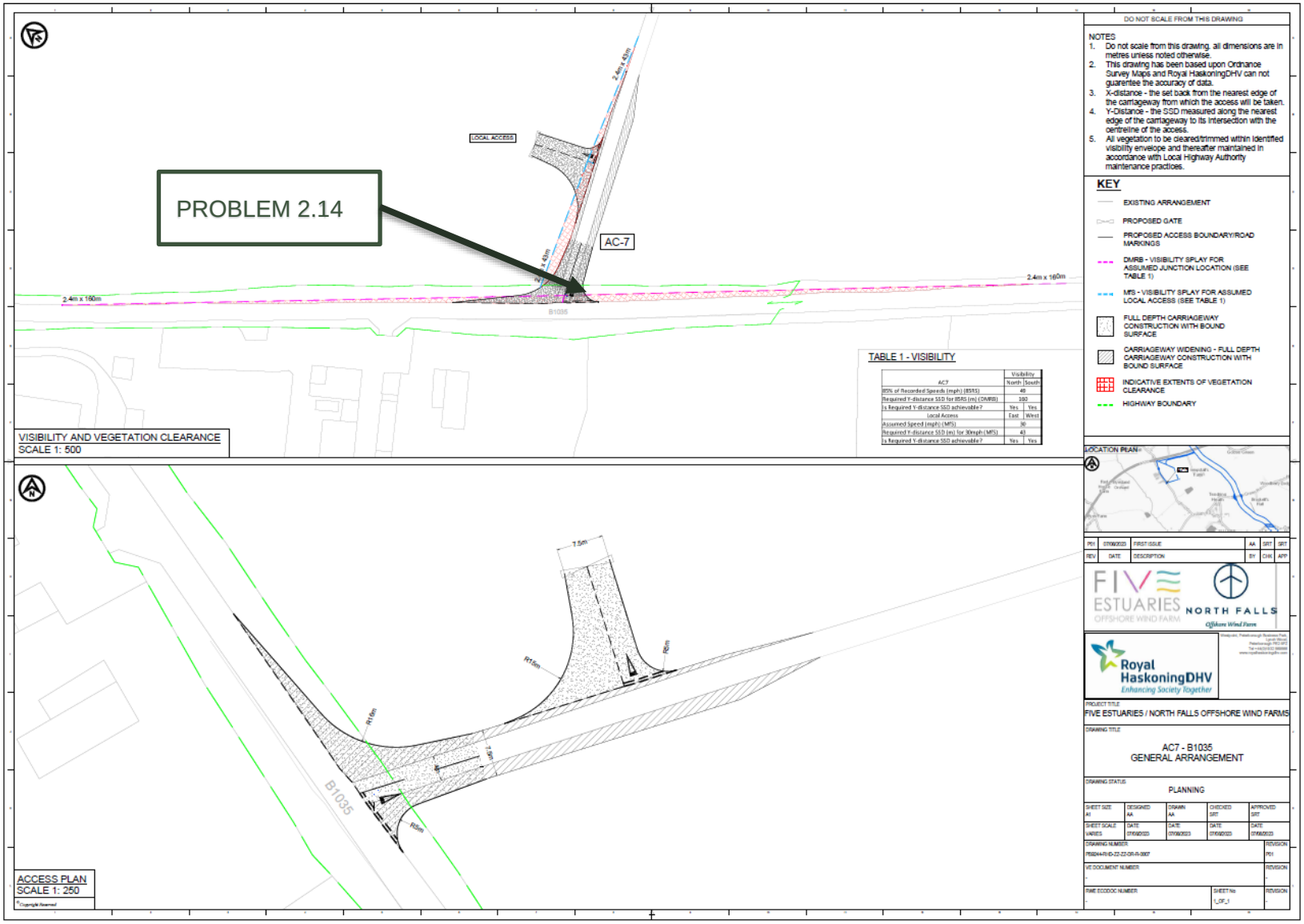
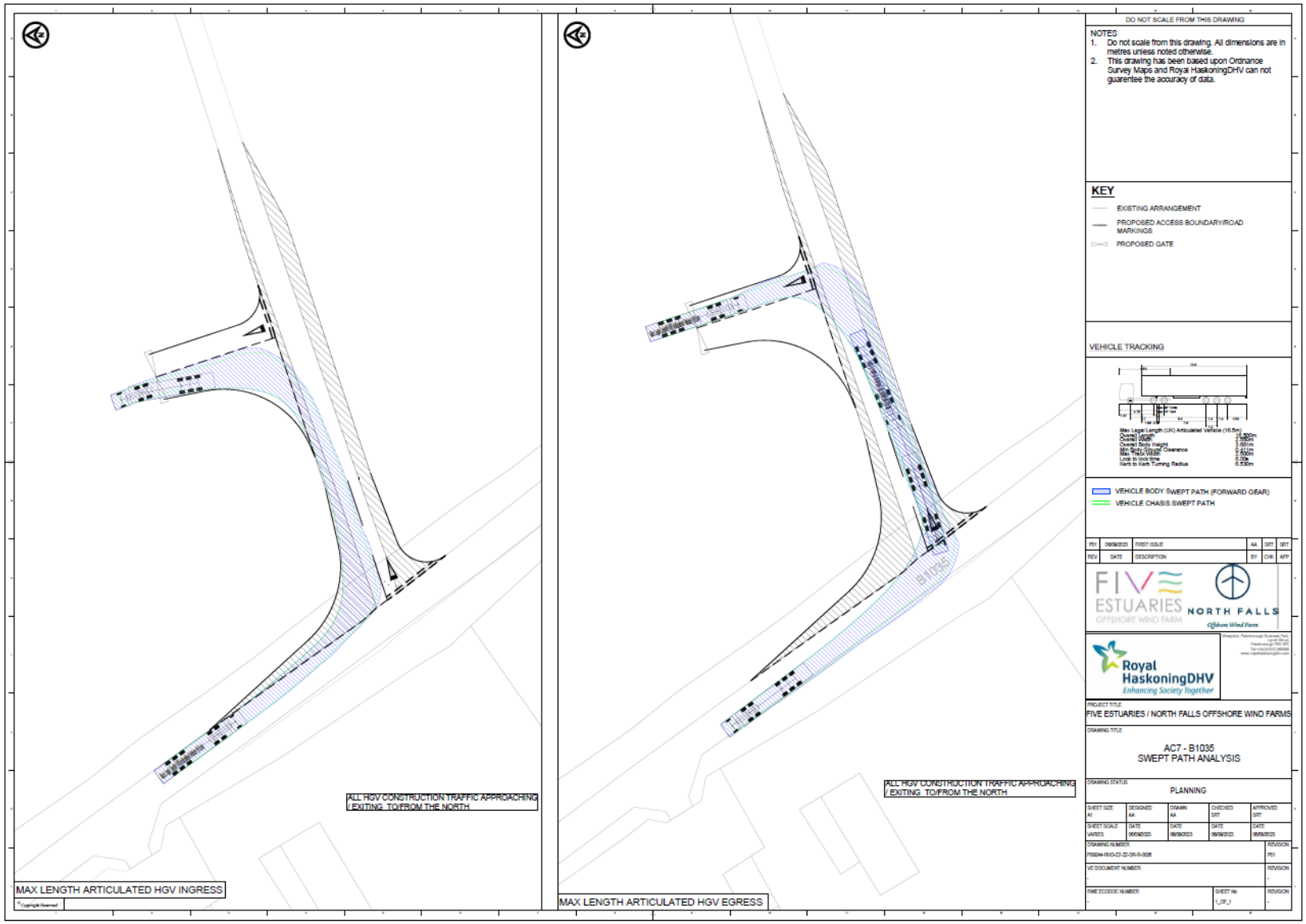
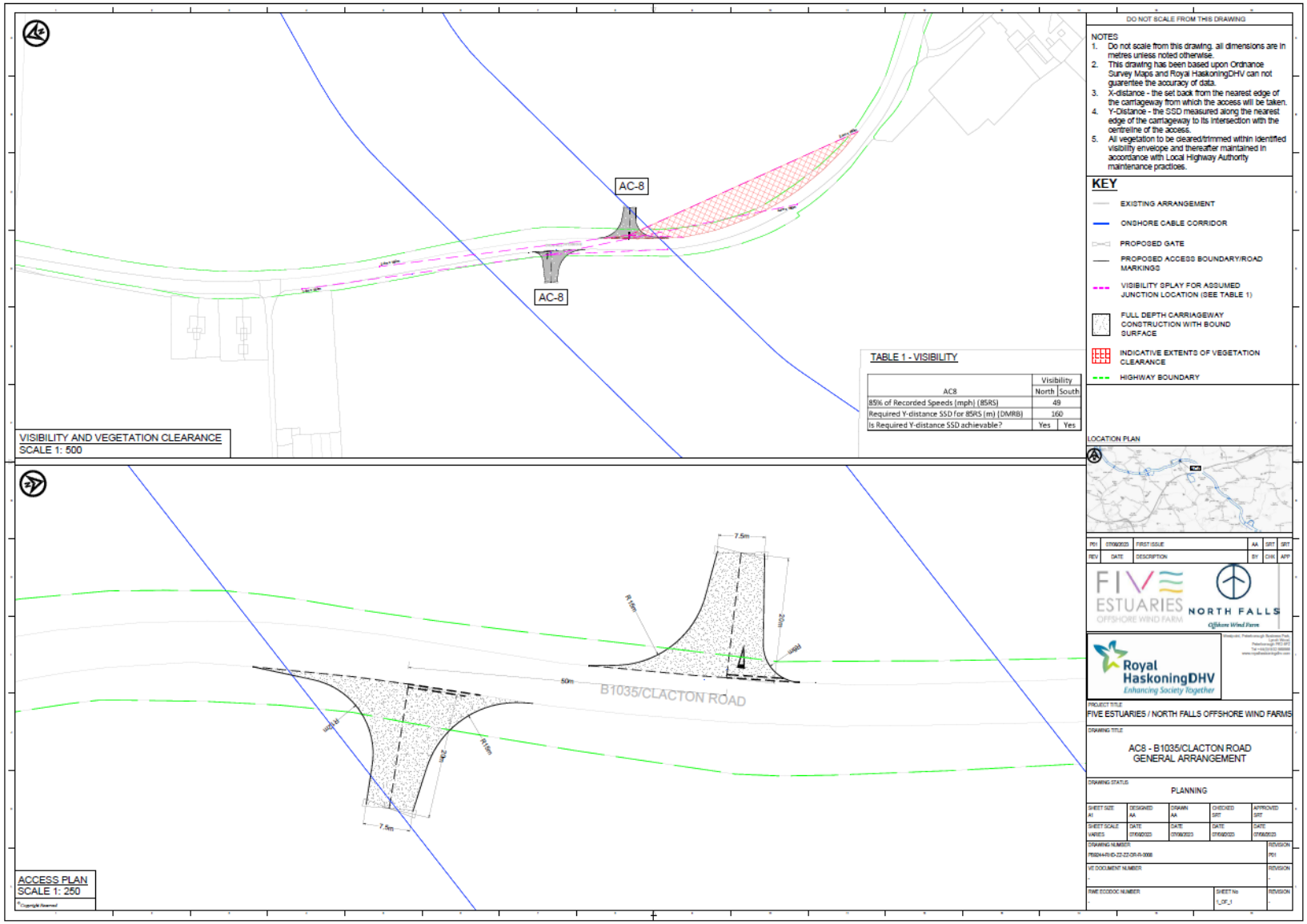
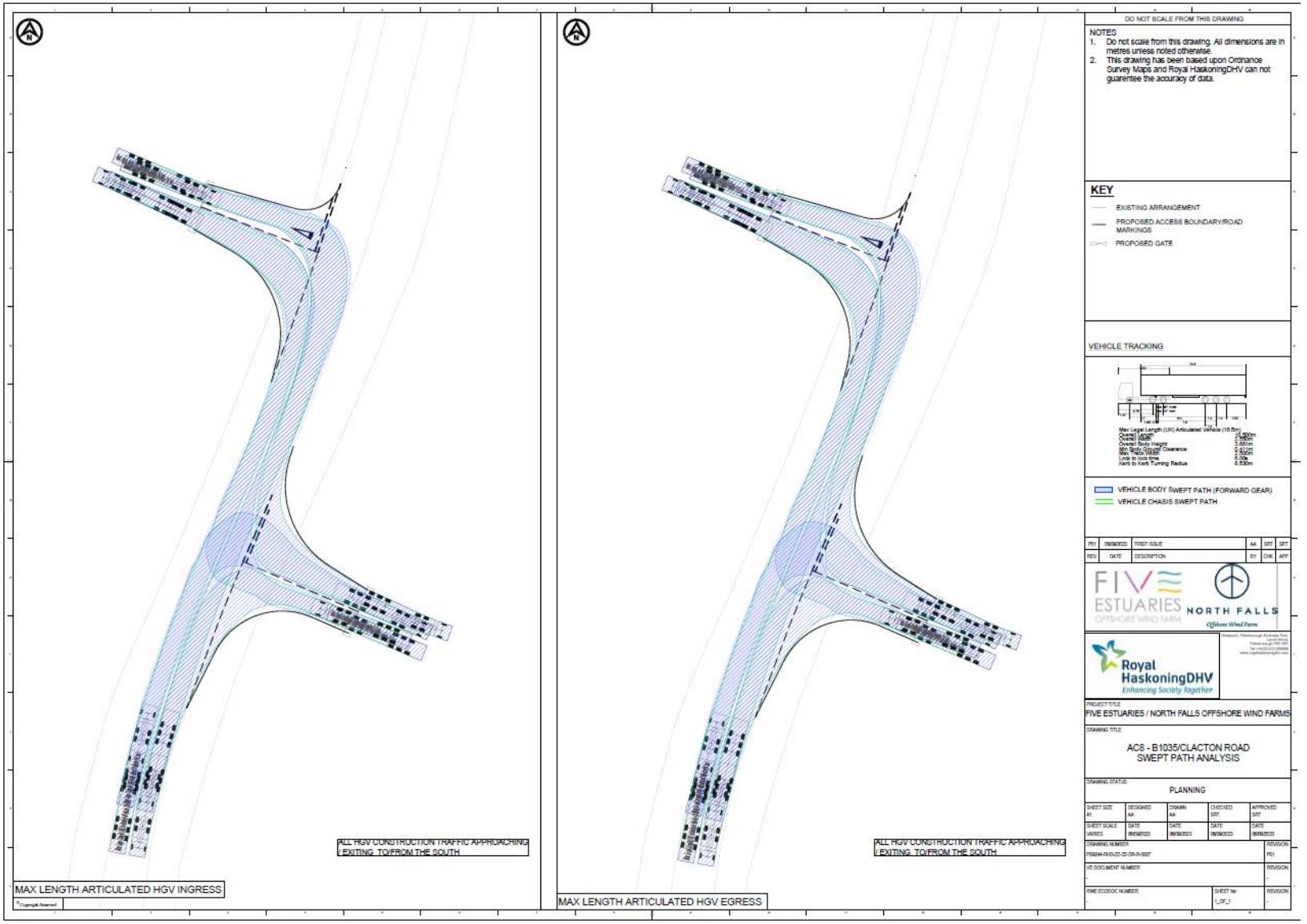
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FORWARD STOPPING DISTANCE
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
PROPOSED TEMPORARY ROAD SIGN
TABLE 1 - VISIBILITY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC5 - B1035/THORPE ROAD
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING

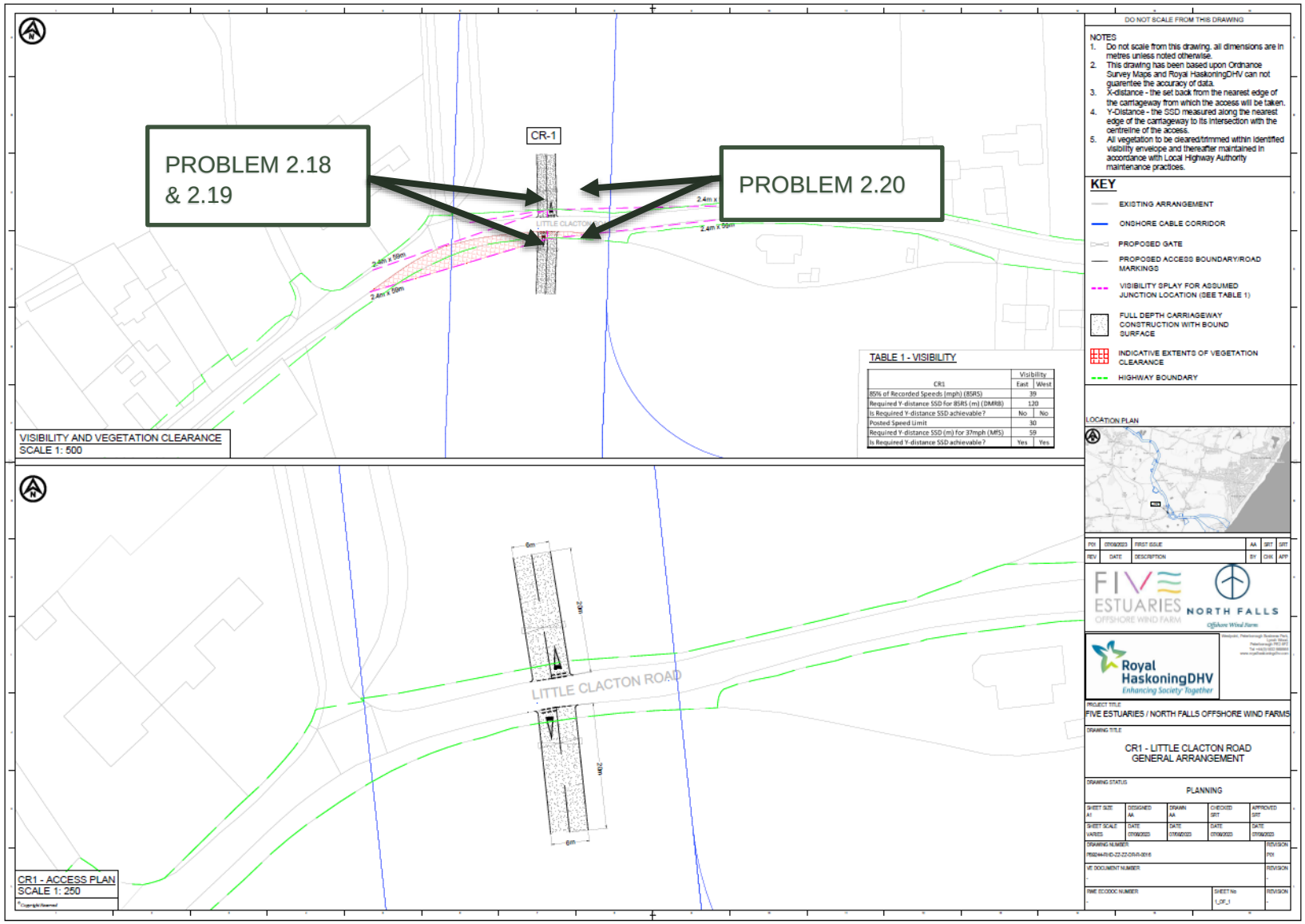

B1035/THORPE ROAD
MAX LENGTH ARTICULATED HGV INGRESS
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST
B1035/THORPE ROAD
MAX LENGTH ARTICULATED HGV EGRESS
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE EAST
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC5 - B1035/THORPE ROAD
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING


PROBLEM 2.14
AC-7
LOCAL ACCESS
2.4m x 160m
2.4m x 160m
2.4m x 43m
2.4m x 43m
B1035
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
TABLE 1 - VISIBILITY
AC7
Visibility
North
South
85% of Recorded Speeds (mph) (85%S)
40
Required Y-distance SSD for 85%S (m) (DMRB)
160
Is Required Y-distance SSD achievable?
Yes
Yes
Local Access
Visibility
East
West
Assumed Speed (mph) (MfS)
30
Required Y-distance SSD (m) for 30mph (MfS)
43
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
DMRB - VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
MfS - VISIBILITY SPLAY FOR ASSUMED LOCAL ACCESS (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
CARRIAGEWAY WIDENING - FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
P01 07/08/2023 FIRST ISSUE AA SRT SRT
REV DATE DESCRIPTION BY CHK APP
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC7 - B1035
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING
SHEET SIZE A1
DESIGNED AA
DRAWN AA
CHECKED SRT
APPROVED SRT
SHEET SCALE VARIES
DATE 07/08/2023
DRAWING NUMBER
REVISION
P01
VE DOCUMENT NUMBER
REVISION
RWE ECODOC NUMBER
SHEET No 1_OF_1
REVISION
7.5m
R15m
R10m
R8m
7.5m
B1035
ACCESS PLAN
SCALE 1: 250

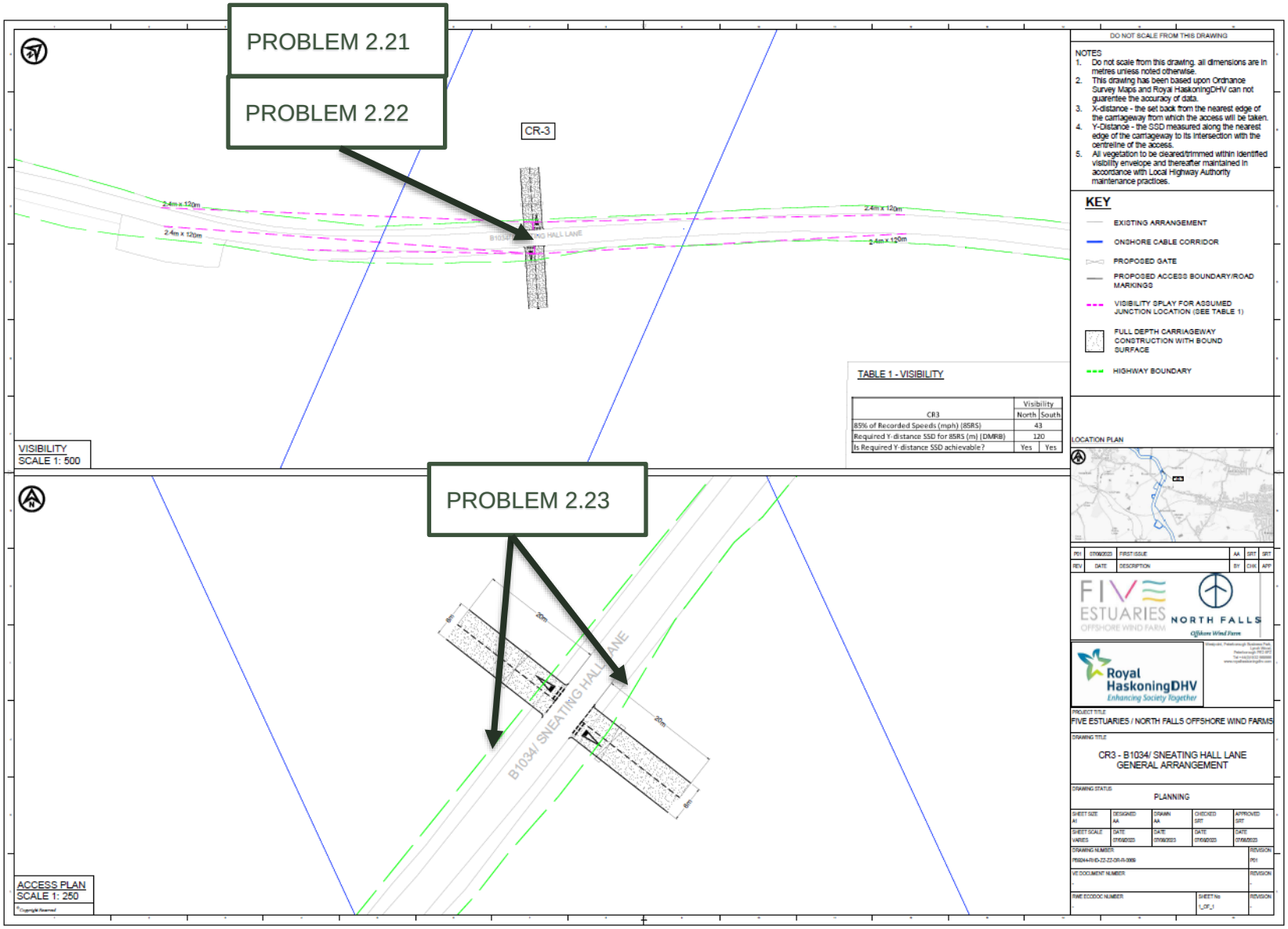

MAX LENGTH ARTICULATED HGV INGRESS
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE NORTH
MAX LENGTH ARTICULATED HGV EGRESS
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE NORTH
B1035
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC7 - B1035
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING

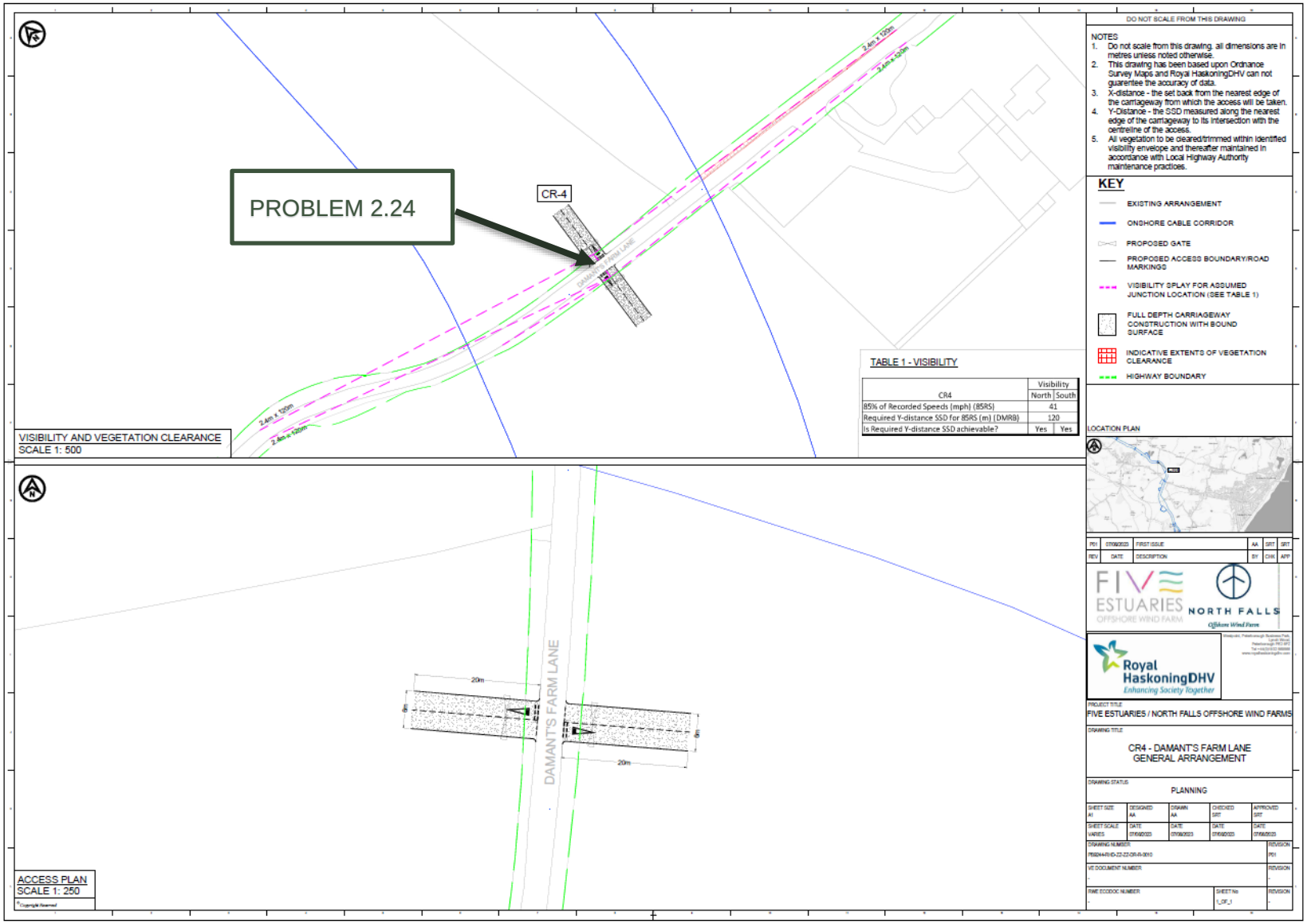

AC-8
AC-8
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
TABLE 1 - VISIBILITY
AC8
Visibility
North
South
85% of Recorded Speeds (mph) (85RS)
49
Required Y-distance SSD for 85RS (m) (DMRB)
160
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
7.5m
R15m
215m
60m
B1035/CLACTON ROAD
R15m
215m
7.5m
ACCESS PLAN
SCALE 1: 250
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
AC8 - B1035/CLACTON ROAD
GENERAL ARRANGEMENT
PLANNING

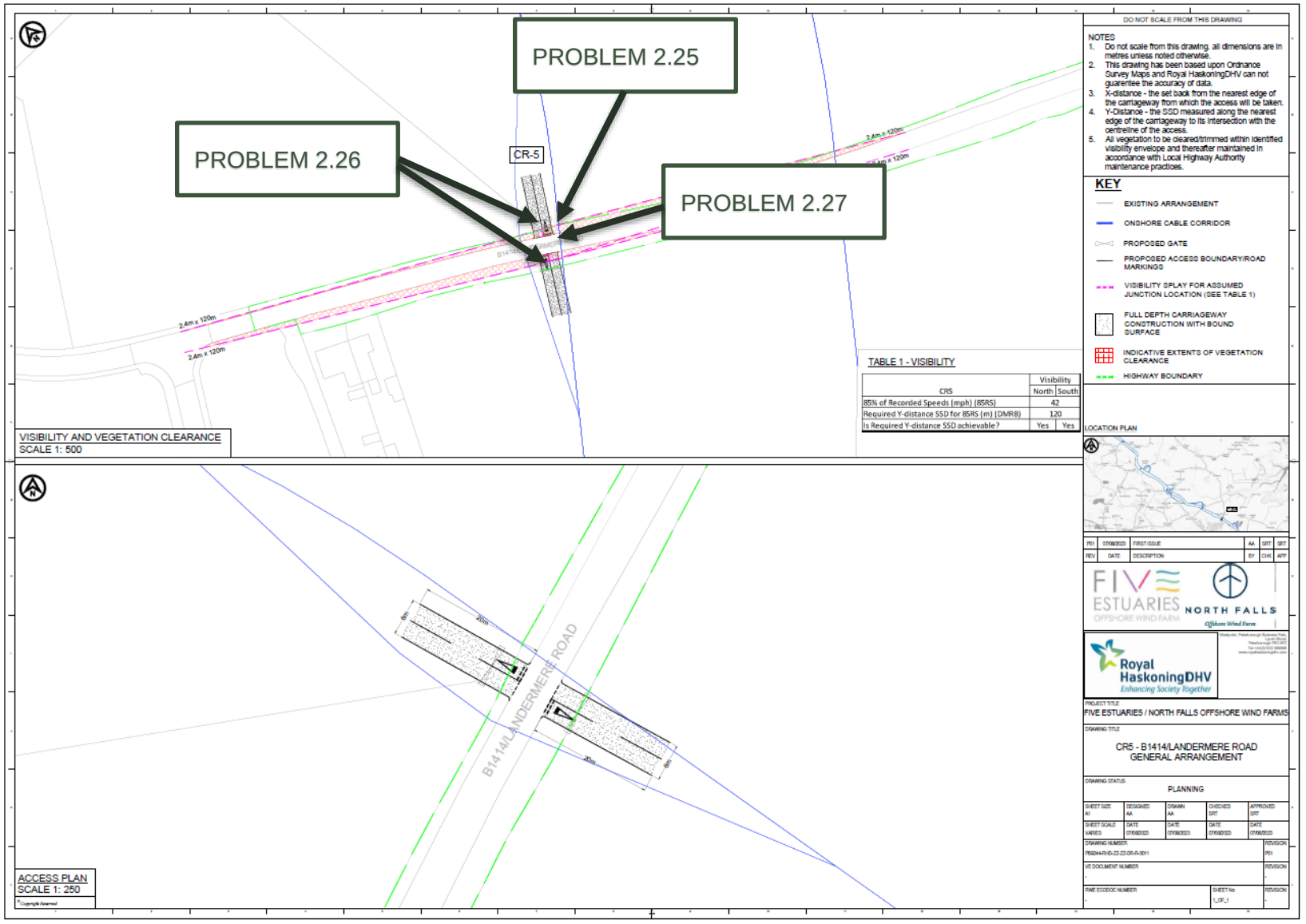

ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV INGRESS
ALL HGV CONSTRUCTION TRAFFIC APPROACHING / EXITING TO/FROM THE SOUTH
MAX LENGTH ARTICULATED HGV EGRESS
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
KEY
EXISTING ARRANGEMENT
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
PROPOSED GATE
VEHICLE TRACKING
VEHICLE BODY SWEPT PATH (FORWARD GEAR)
VEHICLE CHASIS SWEPT PATH
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
AC8 - B1035/CLACTON ROAD
SWEPT PATH ANALYSIS
DRAWING STATUS
PLANNING

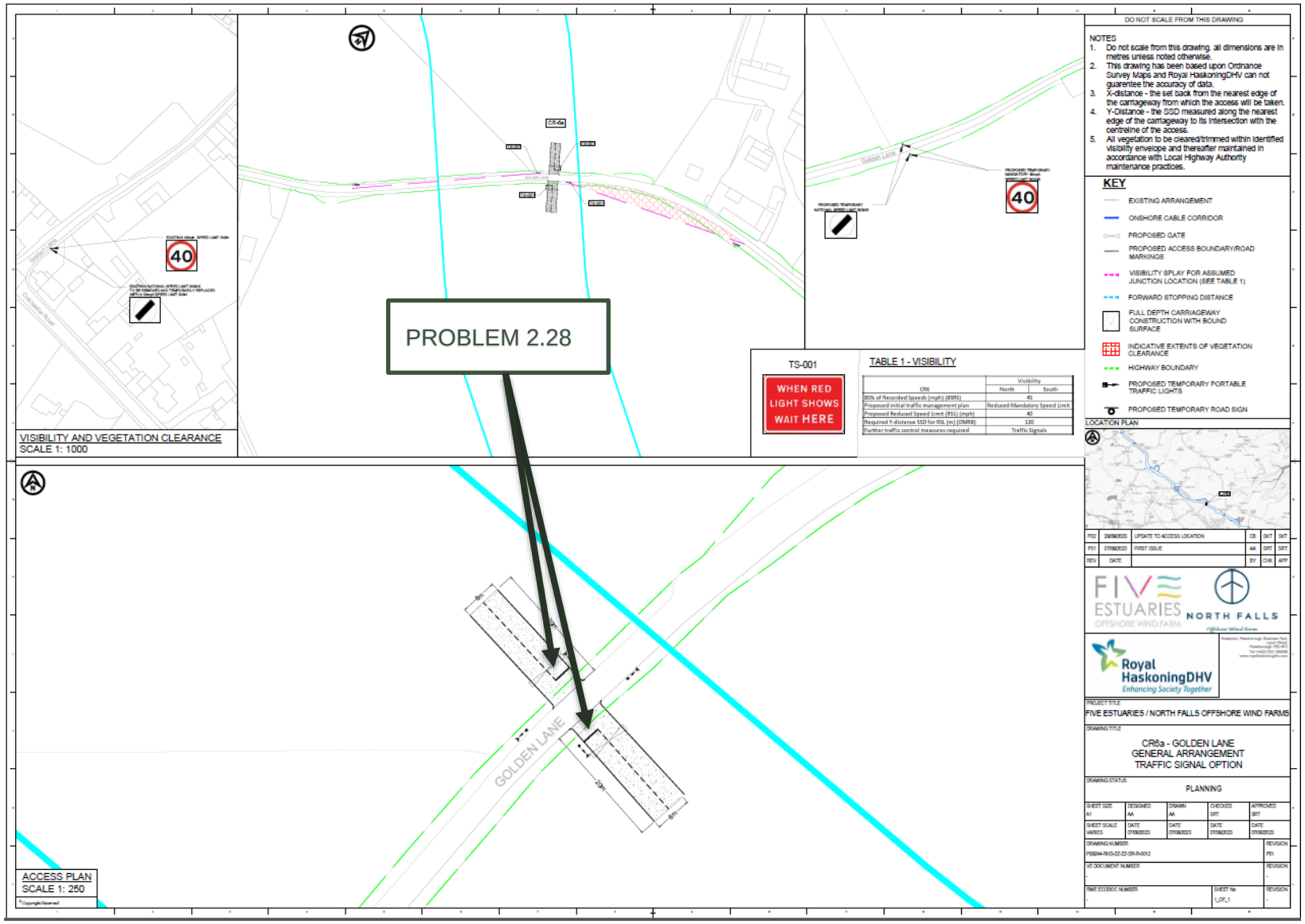


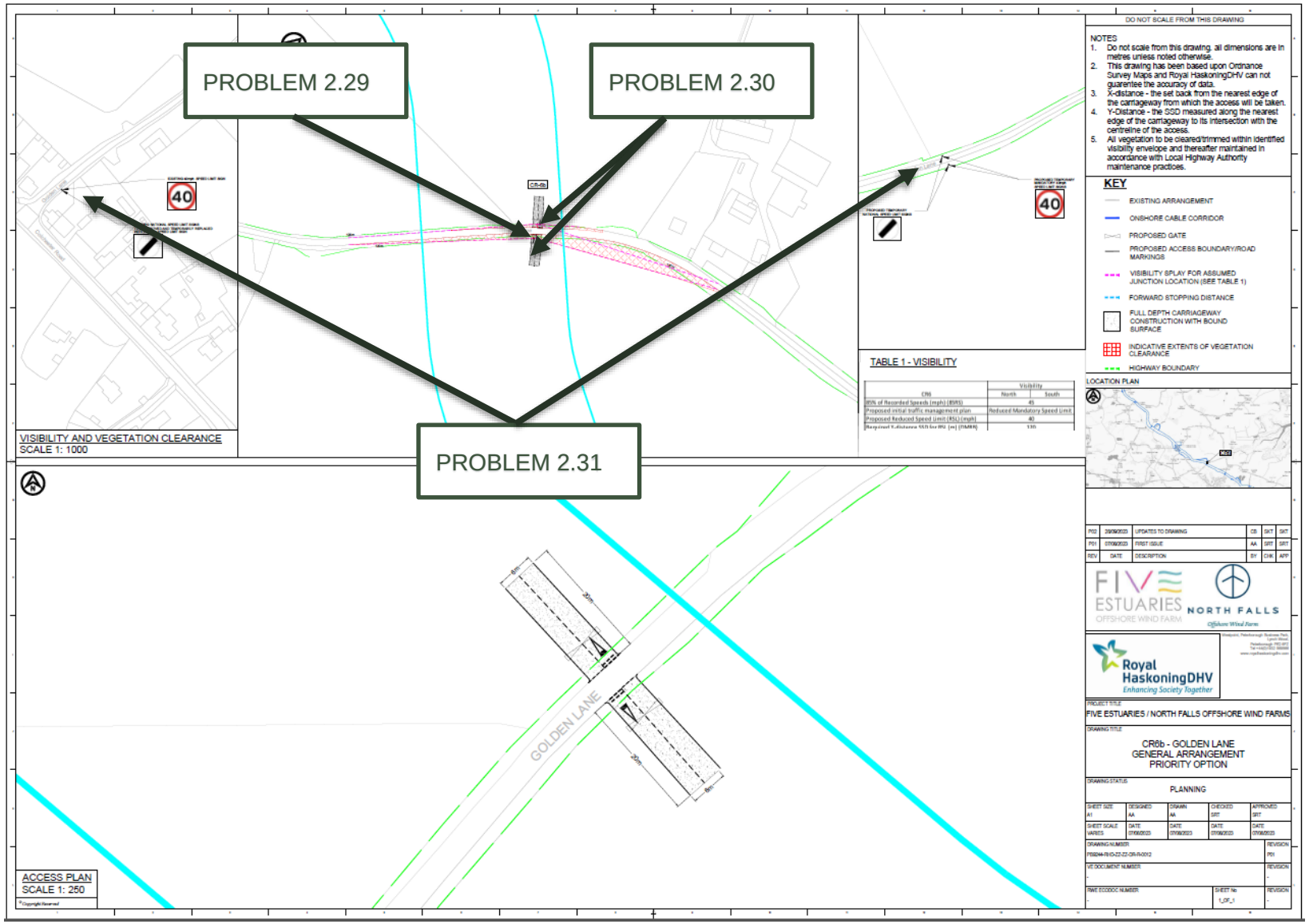
CR1	Visibility East	Visibility West
85% of Recorded Speeds (mph) (85RS)	39	
Required Y-distance SSD for 85RS (m) (DMRB)	120	
Is Required Y-distance SSD achievable?	No	No
Posted Speed Limit	30	
Required Y-distance SSD (m) for 37mph (MfS)	59	
Is Required Y-distance SSD achievable?	Yes	Yes

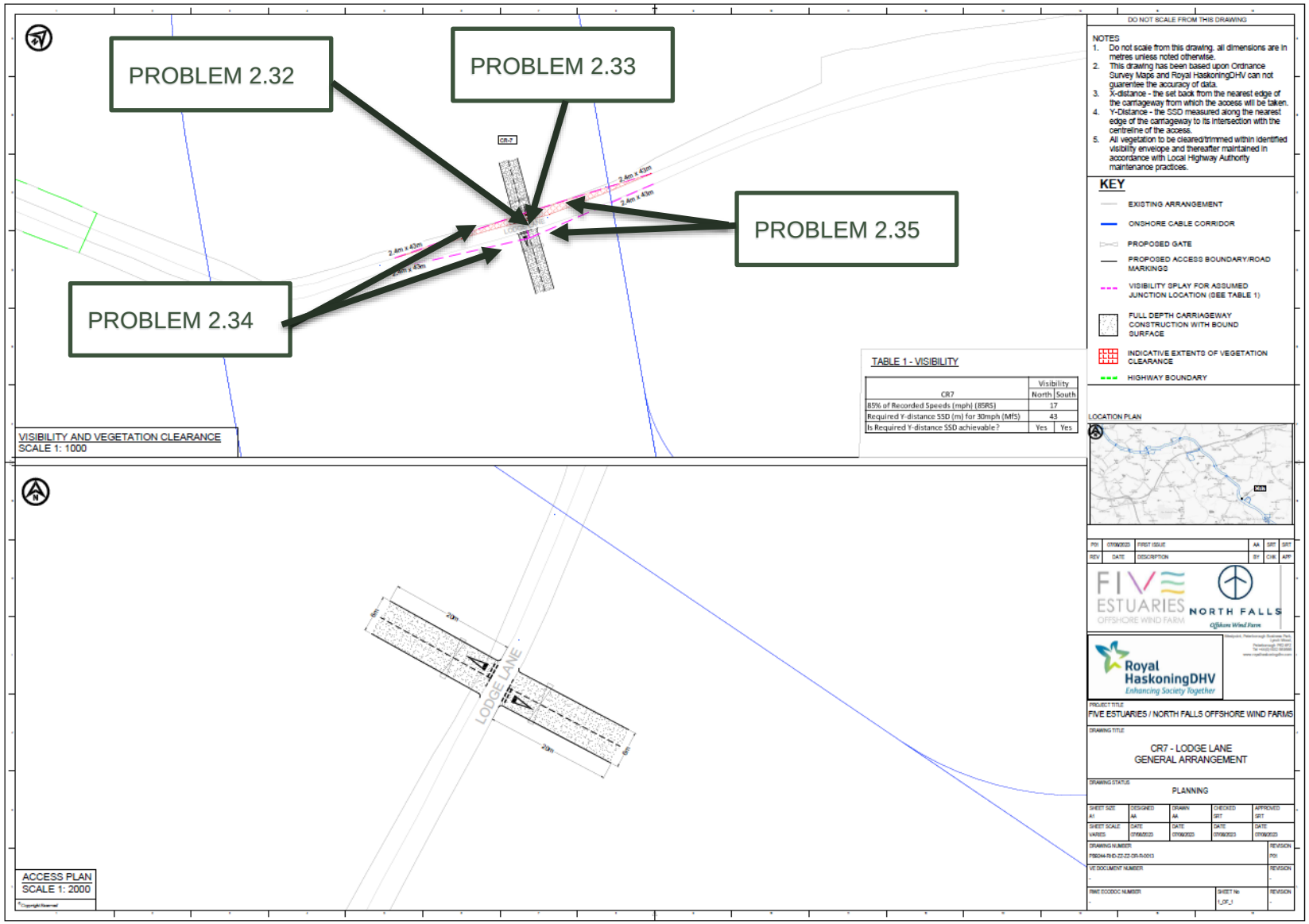

PROBLEM 2.21
PROBLEM 2.22
PROBLEM 2.23
CR-3
VISIBILITY
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
B1034/ SNEATING HALL LANE
TABLE 1 - VISIBILITY
CR3
Visibility
North
South
85% of Recorded Speeds (mph) (85RS)
43
Required Y-distance SSD for 85RS (m) (DMRB)
120
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR3 - B1034/ SNEATING HALL LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING

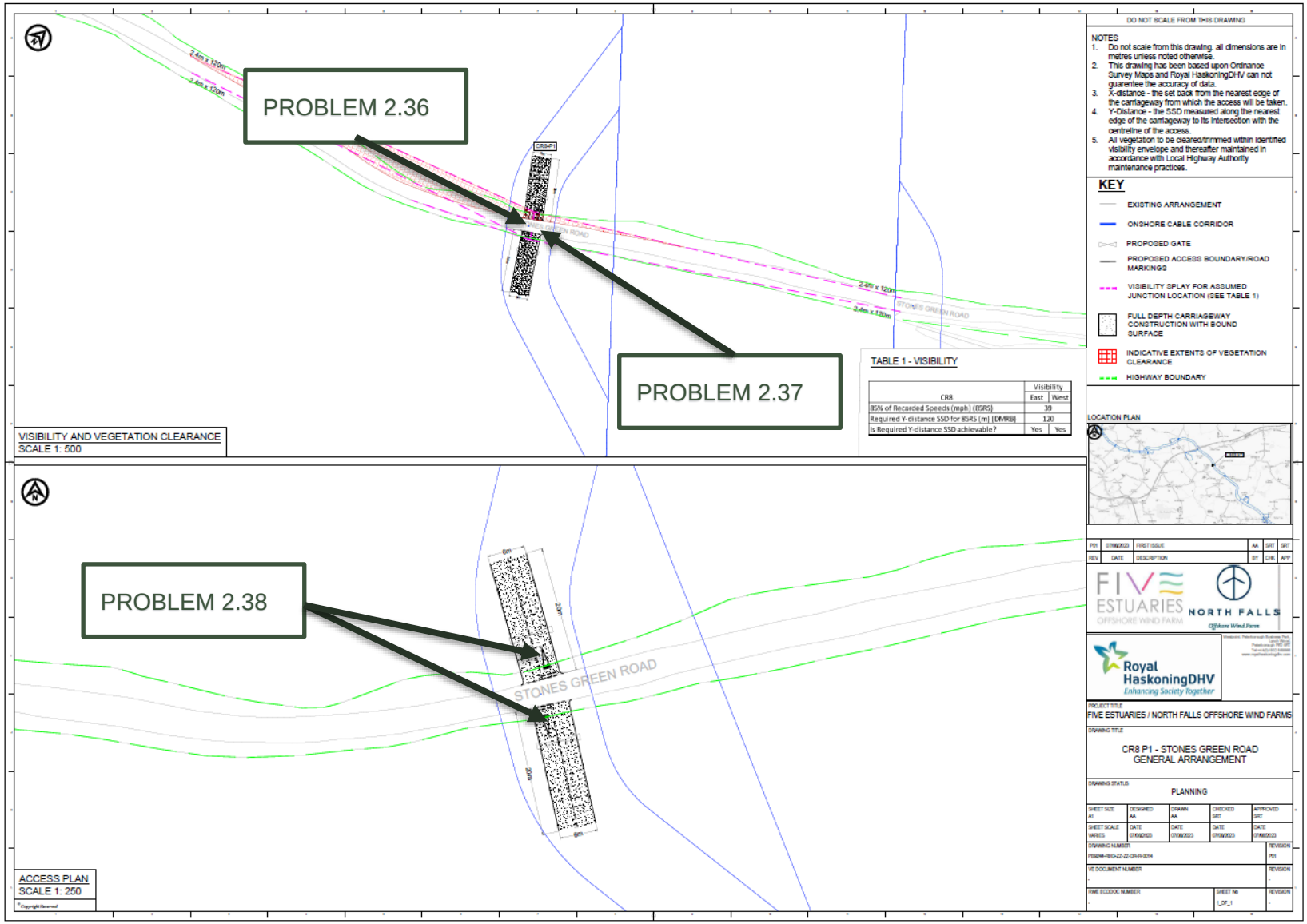

PROBLEM 2.24
CR-4
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
DAMANT'S FARM LANE
20m
20m
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing. all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
CR4
Visibility
North
South
85% of Recorded Speeds (mph) (85RS)
41
Required Y-distance SSD for 85RS (m) (DMRB)
120
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR4 - DAMANT'S FARM LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING

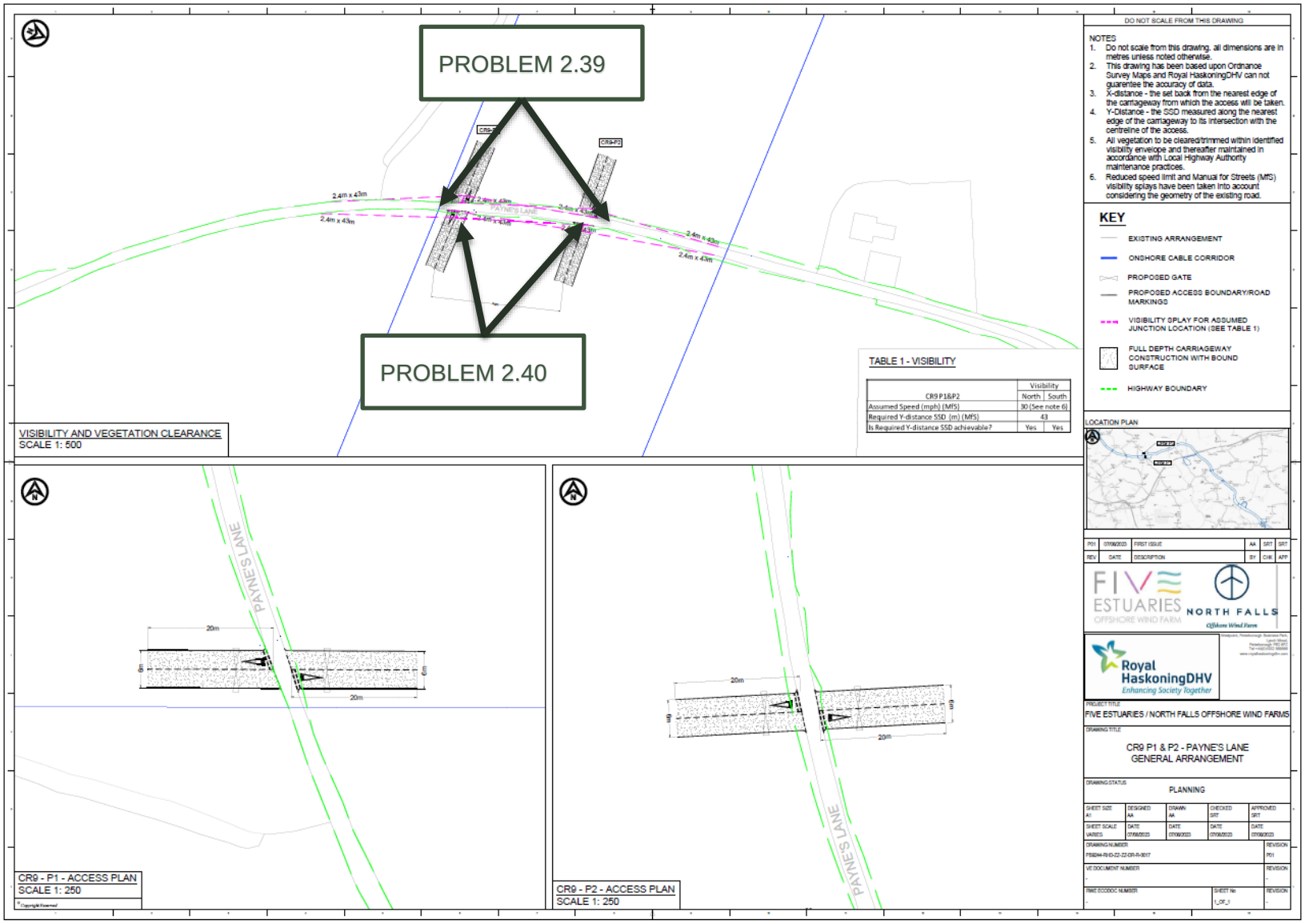

PROBLEM 2.25
PROBLEM 2.26
PROBLEM 2.27
CR-5
2.4m x 120m
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
B1414/LANDERMERE ROAD
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
CR5
Visibility
North
South
85% of Recorded Speeds (mph) (85RS)
42
Required Y-distance SSD for 85RS (m) (DMRB)
120
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
CR5 - B1414/LANDERMERE ROAD
GENERAL ARRANGEMENT
PLANNING

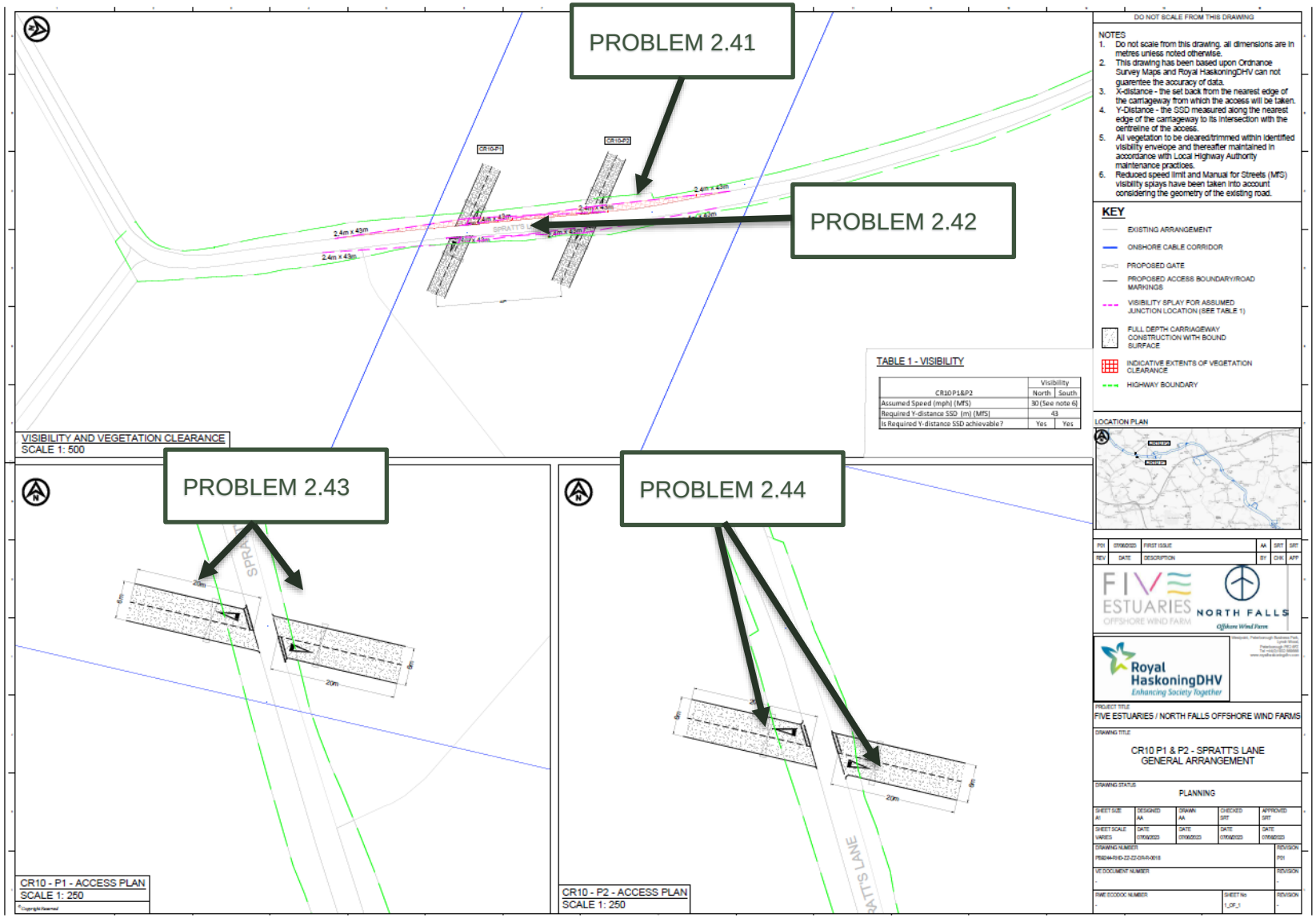

PROBLEM 2.28
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000
ACCESS PLAN
SCALE 1: 250
GOLDEN LANE
TS-001
WHEN RED LIGHT SHOWS WAIT HERE
TABLE 1 - VISIBILITY
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FORWARD STOPPING DISTANCE
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
PROPOSED TEMPORARY PORTABLE TRAFFIC LIGHTS
PROPOSED TEMPORARY ROAD SIGN
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR6a - GOLDEN LANE
GENERAL ARRANGEMENT
TRAFFIC SIGNAL OPTION
DRAWING STATUS
PLANNING

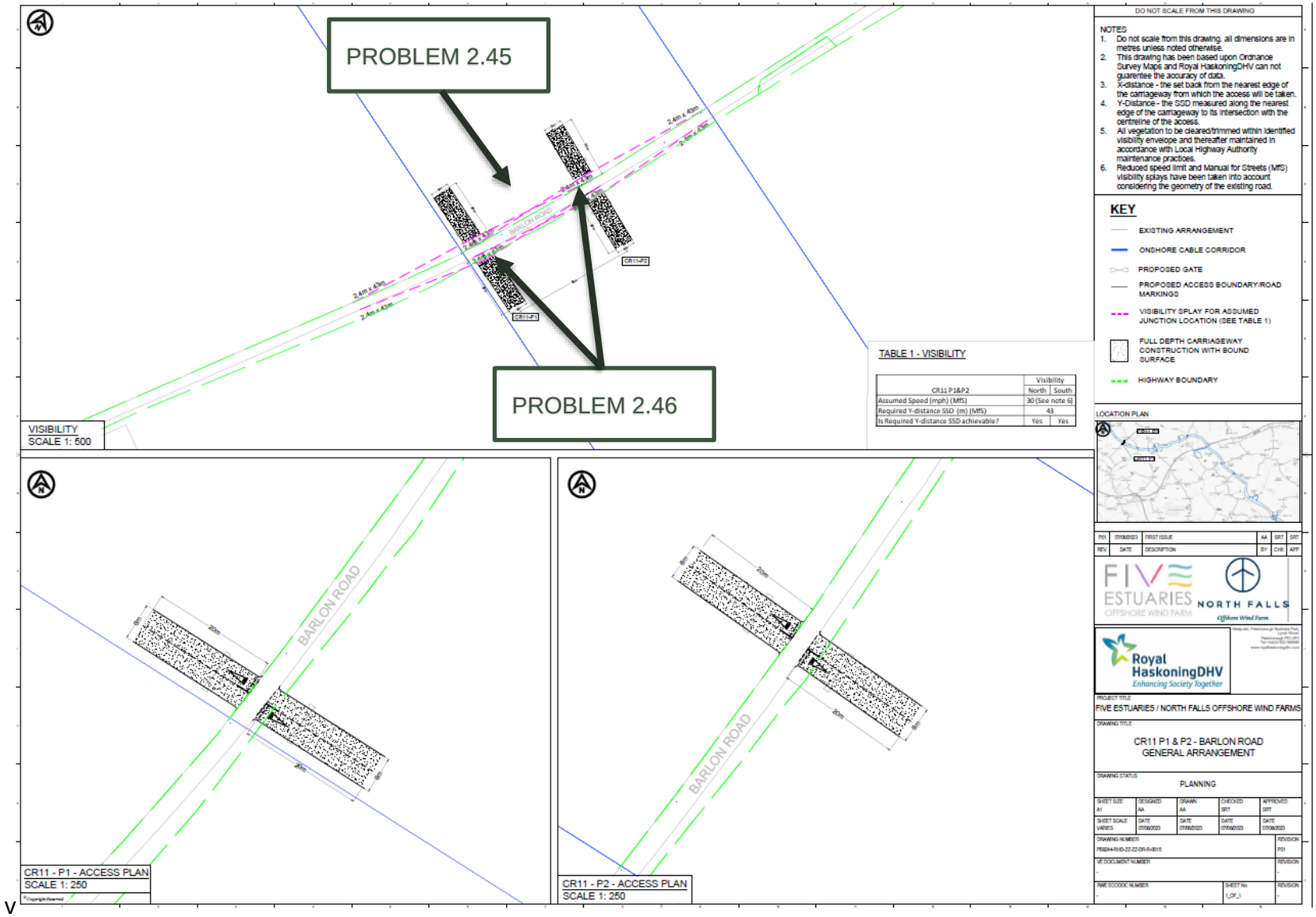

PROBLEM 2.29
PROBLEM 2.30
PROBLEM 2.31
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000
ACCESS PLAN
SCALE 1: 250
GOLDEN LANE
TABLE 1 - VISIBILITY
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FORWARD STOPPING DISTANCE
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR6b - GOLDEN LANE
GENERAL ARRANGEMENT
PRIORITY OPTION
DRAWING STATUS
PLANNING

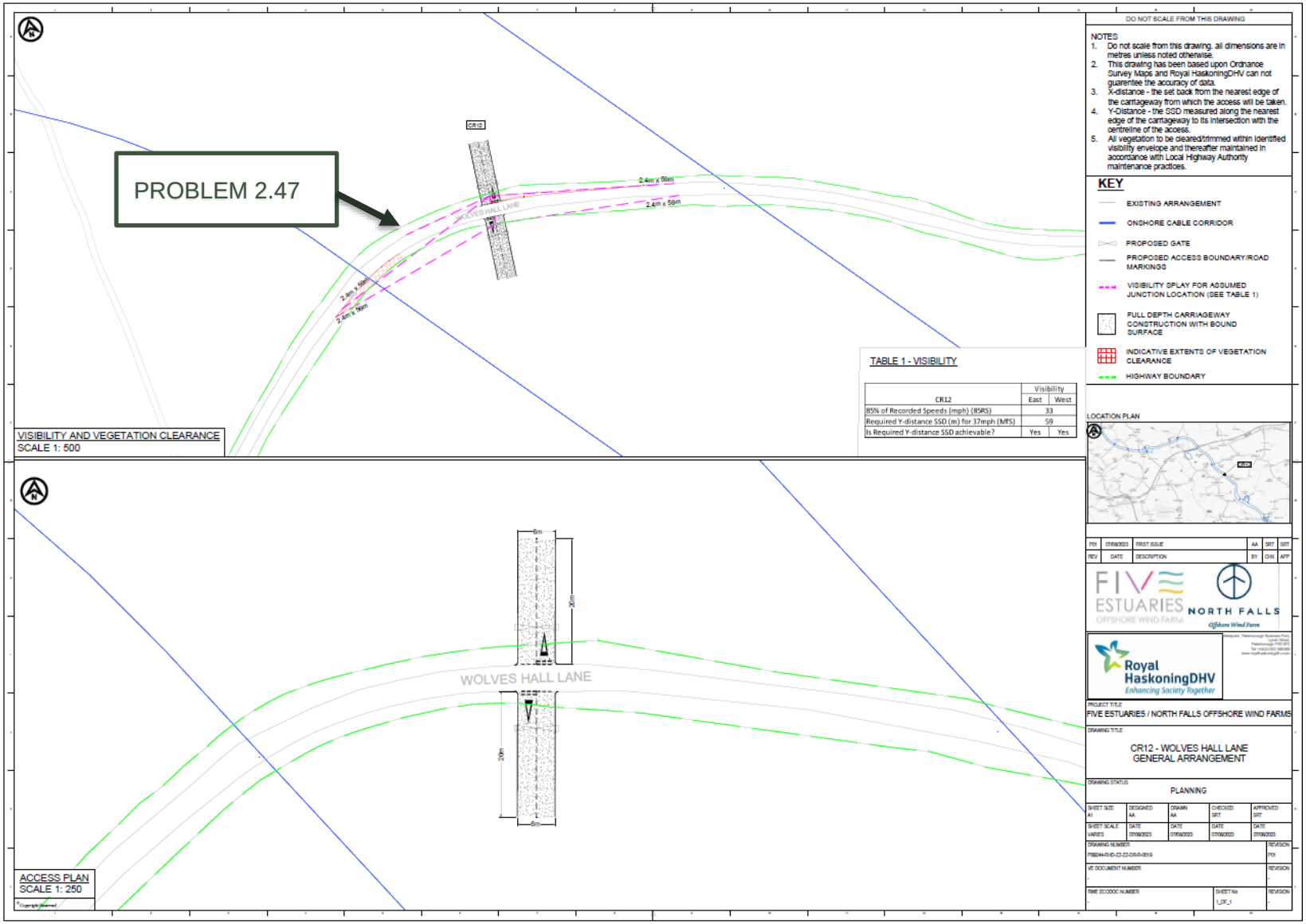

PROBLEM 2.32
PROBLEM 2.33
PROBLEM 2.35
PROBLEM 2.34
CR7
2.4m x 43m
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 1000
TABLE 1 - VISIBILITY
CR7
Visibility
North
South
B5% of Recorded Speeds (mph) (85RS)
17
Required Y-distance SSD (m) for 30mph (MfS)
43
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
LODGE LANE
20m
6m
ACCESS PLAN
SCALE 1: 2000
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR7 - LODGE LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING

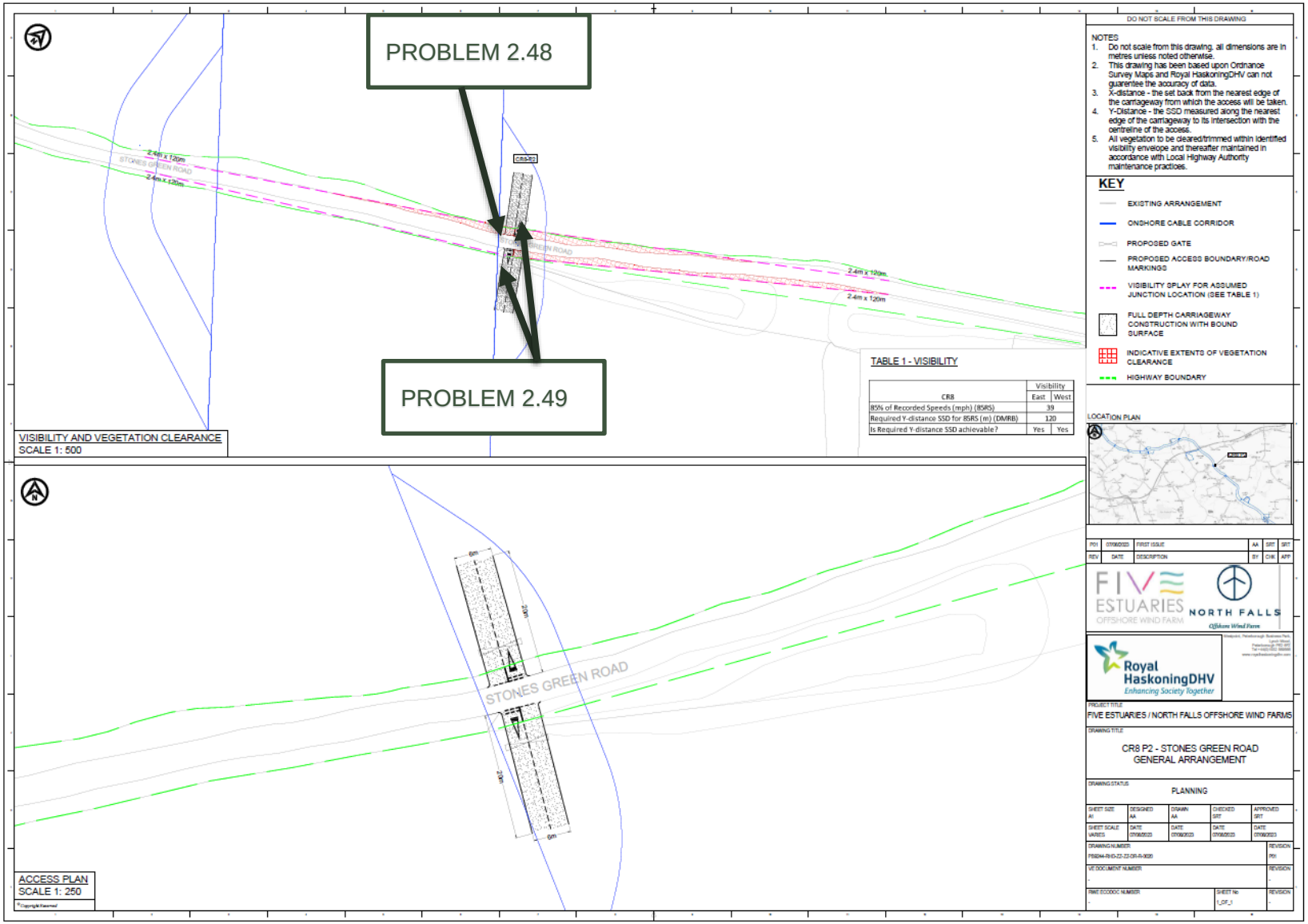

PROBLEM 2.36
PROBLEM 2.37
PROBLEM 2.38
STONES GREEN ROAD
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
TABLE 1 - VISIBILITY
CR8
Visibility
East
West
85% of Recorded Speeds (mph) (85RS)
39
Required Y-distance SSD for 85RS (m) [DMRB]
120
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR8 P1 - STONES GREEN ROAD
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


PROBLEM 2.39
PROBLEM 2.40
PAYNE'S LANE
2.4m x 43m
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
CR9 - P1 - ACCESS PLAN
SCALE 1: 250
CR9 - P2 - ACCESS PLAN
SCALE 1: 250
20m
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
HIGHWAY BOUNDARY
TABLE 1 - VISIBILITY
CR9 P1&P2
Visibility
North
South
Assumed Speed (mph) (MfS)
30 (See note 6)
Required Y-distance SSD (m) (MfS)
43
Is Required Y-distance SSD achievable?
Yes
Yes
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR9 P1 & P2 - PAYNE'S LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


PROBLEM 2.41
PROBLEM 2.42
PROBLEM 2.43
PROBLEM 2.44
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
CR10 - P1 - ACCESS PLAN
SCALE 1: 250
CR10 - P2 - ACCESS PLAN
SCALE 1: 250
TABLE 1 - VISIBILITY
CR10 P1&P2
Visibility
North
South
Assumed Speed (mph) (MfS)
30 (See note 6)
Required Y-distance SSD (m) (MfS)
43
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarentee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR10 P1 & P2 - SPRATT'S LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


PROBLEM 2.45
PROBLEM 2.46
VISIBILITY
SCALE 1: 500
BARLON ROAD
CR11-P2
CR11-P1
2.4m x 43m
TABLE 1 - VISIBILITY
CR11 P1&P2
Visibility
North
South
Assumed Speed (mph) (MfS)
30 (See note 6)
Required Y-distance SSD (m) (MfS)
43
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
6. Reduced speed limit and Manual for Streets (MfS) visibility splays have been taken into account considering the geometry of the existing road.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
HIGHWAY BOUNDARY
LOCATION PLAN
P01 07/08/2023 FIRST ISSUE AA SRT SRT
REV DATE DESCRIPTION BY CHK APP
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR11 P1 & P2 - BARLON ROAD
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING
SHEET SIZE A1
DESIGNED AA
DRAWN AA
CHECKED SRT
APPROVED SRT
SHEET SCALE VARIES
DATE 07/08/2023
DRAWING NUMBER
REVISION P01
DOCUMENT NUMBER
REVISION
RWE DOCDOC NUMBER
SHEET No 1_OF_1
REVISION
CR11 - P1 - ACCESS PLAN
SCALE 1: 250
CR11 - P2 - ACCESS PLAN
SCALE 1: 250


PROBLEM 2.47
CR12
WOLVES HALL LANE
2.4m x 59m
2.4m x 59m
2.4m x 59m
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
TABLE 1 - VISIBILITY
CR12
Visibility
East
West
85% of Recorded Speeds (mph) (85%S)
33
Required Y-distance SSD (m) for 37mph (MfS)
59
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal HaskoningDHV can not guarantee the accuracy of data.
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
WOLVES HALL LANE
ACCESS PLAN
SCALE 1: 250
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR12 - WOLVES HALL LANE
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING


PROBLEM 2.48
PROBLEM 2.49
VISIBILITY AND VEGETATION CLEARANCE
SCALE 1: 500
ACCESS PLAN
SCALE 1: 250
STONES GREEN ROAD
2.4m x 120m
CR8 P2
TABLE 1 - VISIBILITY
CR8
Visibility
East
West
85% of Recorded Speeds (mph) (85RS)
39
Required Y-distance SSD for 85RS (m) (DMRB)
120
Is Required Y-distance SSD achievable?
Yes
Yes
DO NOT SCALE FROM THIS DRAWING
NOTES
1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
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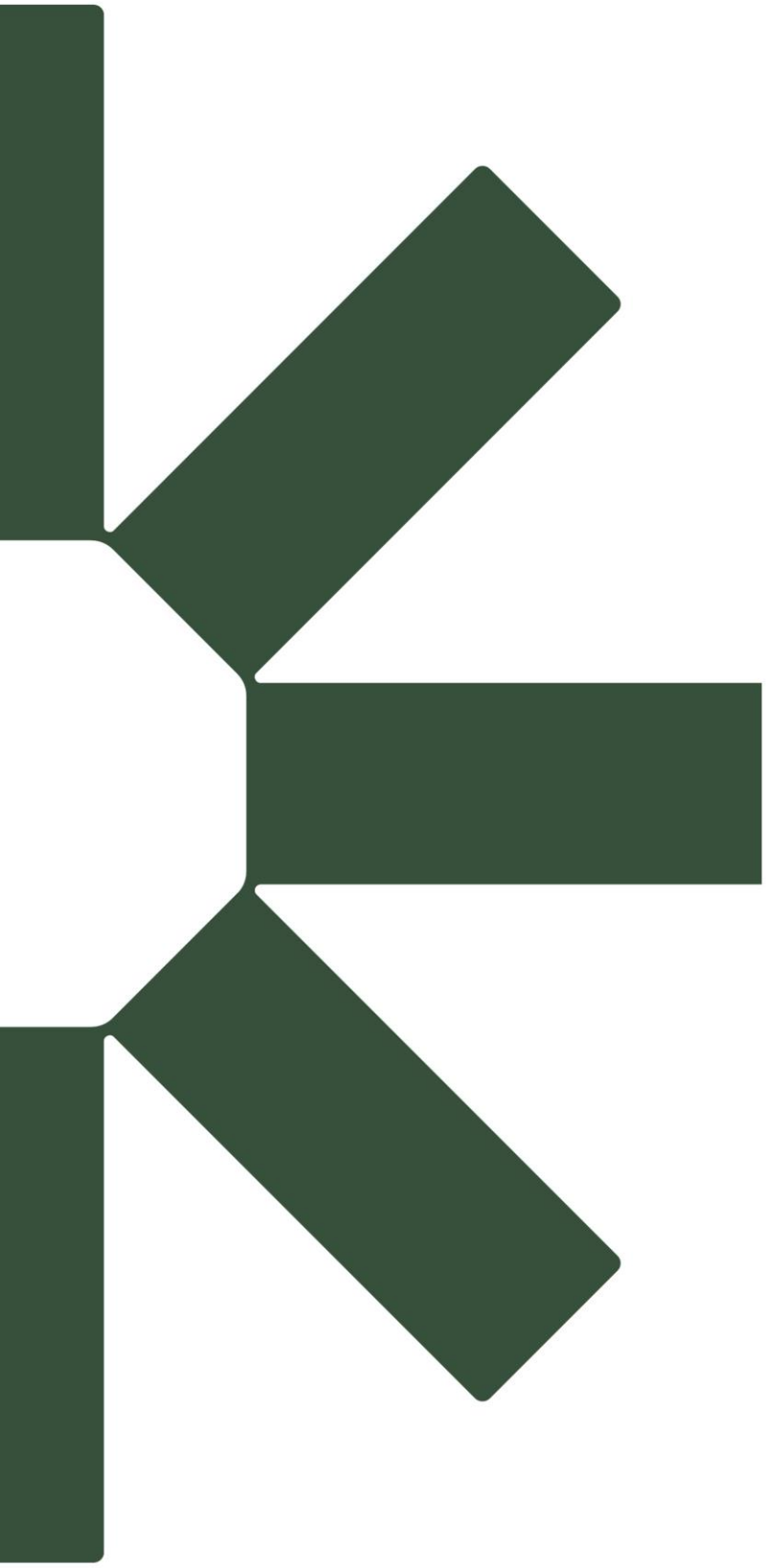
3. X-distance - the set back from the nearest edge of the carriageway from which the access will be taken.
4. Y-Distance - the SSD measured along the nearest edge of the carriageway to its intersection with the centreline of the access.
5. All vegetation to be cleared/trimmed within identified visibility envelope and thereafter maintained in accordance with Local Highway Authority maintenance practices.
KEY
EXISTING ARRANGEMENT
ONSHORE CABLE CORRIDOR
PROPOSED GATE
PROPOSED ACCESS BOUNDARY/ROAD MARKINGS
VISIBILITY SPLAY FOR ASSUMED JUNCTION LOCATION (SEE TABLE 1)
FULL DEPTH CARRIAGEWAY CONSTRUCTION WITH BOUND SURFACE
INDICATIVE EXTENTS OF VEGETATION CLEARANCE
HIGHWAY BOUNDARY
LOCATION PLAN
FIVE ESTUARIES OFFSHORE WIND FARM
NORTH FALLS Offshore Wind Farm
Royal HaskoningDHV
Enhancing Society Together
PROJECT TITLE
FIVE ESTUARIES / NORTH FALLS OFFSHORE WIND FARMS
DRAWING TITLE
CR8 P2 - STONES GREEN ROAD
GENERAL ARRANGEMENT
DRAWING STATUS
PLANNING



Making Sustainability Happen

ROAD SAFETY AUDIT – DESIGNER'S RESPONSE

Project Details

Project Title	Five Estuaries / North Falls Wind Farm
Date of Audit	7 November 2023
Document Reference and revision	237699
Prepared by	Alastair Pike and Sasha Boland of SLR
On behalf of	Five Estuaries / North Falls Wind Farm

Road Safety Audit Decision Log

Problem No.	Problem Accepted (Yes / No)	Recommended Measure Accepted (Yes / No)	Alternative Measure (describe)
2.5, 2.7, 2.11, 2.20, 2.23, 2.35, 2.37, 2.44	Yes	Yes. *Details of the design of the ditch crossings will be provided at Stage 2 as part of the detailed design process. This will include appropriate detail in regard to separation between the edge of the access/crossing and the ditch.*	n/a
2.8, 2.34	Yes	Yes. *Detailed design of the accesses will be provided at Stage 2 as part of the detailed design process. Accesses and crossings will be designed to provide a smooth and level transition.*	n/a
2.10, 2.31	Yes	Yes. *Details of the design of the signage will be provided at Stage 2 as part of the detailed design process. This will include detail of sign sizes, offsets from the edge of the highway and any foliage that may need to be cut back to improve visibility.*	n/a
2.12	Yes	Yes. *The design of access AC5 has been amended to show the vegetation to the east and west of the junction being cut back.*	n/a
2.14, 2.25	Yes	No	*The design of access AC7 and CR4 have been amended to include a segregated route for pedestrians alongside the access. This route would separate pedestrians and construction traffic.*
2.18, 2.26, 2.28, 2.30, 2.33, 2.38, 2.40, 2.43, 2.46, 2.49	Yes	Yes. *The proposed gates will be set back from the edge of the road providing space for a HGV to wait off the highway in the event that the gates are closed.*	n/a
2.21	Yes	Yes. *The detailed design drawings to be provide at Stage 2 will include detail of all statutory undertaker plant and necessary accommodation works.*	n/a
2.22, 2.24, 2.27, 2.29, 2.32, 2.36, 2.39, 2.42, 2.45, 2.48	Yes	Yes. *The proposed gates will be set back from the edge of the road providing space for a HGV to wait off the highway in the event that the gates are closed.*	n/a
2.41	Yes	No	*It is accepted that one of the crossings is located*

ROAD SAFETY AUDIT – DESIGNER'S RESPONSE

Problem No.	Problem Accepted (Yes / No)	Recommended Measure Accepted (Yes / No)	Alternative Measure (describe)
			'on top of' an existing informal passing place. The crossing would therefore remove this passing place. There are however passing places approximately 50m north and south of this crossing. The final design of the crossing will include surfacing/verge details showing how the passing place will be removed for the duction of construction.
2.47	Yes	Yes. *The design of CR12 has been amened to show visibility splay drawn to the northern side of the road.*	n/a

Design Organisation and Overseeing Organisation statements

On behalf of the design organisation I certify that:

The RSA actions identified in response to the road safety audit problems in the road safety audit have been discussed and agreed with the Overseeing Organisation

Name	*SKT*
Signed	*SKT*
Position	*Asscociate Director*
Organisation	*Royal HaskoningDHV*
Date	*08.11.2023*

Please submit this completed Designer's Response to the Local Highway Authority, in conjunction with the associated Road Safety Audit.

Stage 1 Road Safety Audit

Ardleigh Road / Bentley Road, Five Estuaries Wind Farm

RWE

Prepared by:

SLR Consulting Limited

Ground Floor Helmont House , Churchill Way, Cardiff,
CF10 2HE

SLR Project No.: 425.002196.00001

Client Reference No: XXXX

27 November 2023

Revision: 01

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	27 November 2023	Sasha Respini	Alastair Pike	Alastair Pike
	Click to enter a date.			

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with RWE (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

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Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

Table of Contents

Appendices

Acronyms and Abbreviations

RSA	Road Safety Audit
DMRB	Design Manual for Roads and Bridges
MfS	Manual for Streets
PIC	Personal Injury Collisions
DfS	Departures from Standards
SPA	Swept Path Analysis

1.0 Introduction

1.1 This report results from a Stage 1 Road Safety Audit carried out on Monday 27th November 2023. The RSA was carried out on behalf of RWE. The Overseeing Organisation for this Stage 1 is Essex County Council.

1.2 An Audit Brief was prepared by Daniel Moran of SLR Consulting Ltd on 13th September 2023. This Audit Brief was formally accepted by the Audit Team on the same date.

1.3 This Road Safety Audit team was as follows:

Sasha Respini, BSc (Hons), MSc, MCIHT, MSoRSA
Audit Team Leader
Principal Transport Planner
SLR Consulting Ltd

ALASTAIR PIKE, MICE, MCIHT, MSoRSA, HE Approved Cert. Comp.
Audit Team Member
Head of Road Safety
SLR Consulting Ltd

1.4 A site visit was undertaken by the Audit Team on Thursday 09th November 2023, between the hours of 13:00 and 14:30. The weather at the time of the visit was overcast and the carriageway surface was generally dry. Vehicular traffic levels were considered to be low. There were no pedestrian and no cyclist movements observed during this time.

1.5 Site location plans can be found at **Appendix A** of this report.

1.6 The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard, GG119 Road Safety Audit.

1.7 The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.

1.8 A table of documents submitted for this Stage 1 RSA can be found in **Appendix B**.

1.9 The scheme subject to Stage 1 RSA for both Ardleigh Road and Bentley Road comprises a construction access junction and haul road crossings associated with the installation of an export cable to carry power from a proposed offshore windfarm located off the coast of Essex. This access point and haul road are located on Ardleigh Road, Little Bentley and will be required for a period of approximately 18 months.

1.10 Submitted design drawings have been annotated to show the locations of any problems identified during this Stage 1 RSA. These plans can be found at **Appendix C**.

1.11 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

Departures from Standards

1.12 The Audit Team were not informed of any Departure from Standards (DfS) associated with the design proposals.

2.0 Matters arising from this Stage 1 RSA

004943785-01-MOT - Co-located Substations Early Design – Permanent and Temporary Access Junction with Ardleigh Road

2.1 Problem.

Location: Site access.

Summary: Overhead cables may lead to damage to infrastructure, vehicles and occupants.

Onsite observations noted that the presence of overhead cables that cross Ardleigh Road in various locations in the vicinity of the proposed development. The vertical alignment of proposed HGV access movements may lead to damage to infrastructure or damage to vehicles and injury to occupants.

Recommendation:

It is recommended that the vertical assessment is carried out for the appropriate vehicle types to ensure no conflict remains.

2.2 Problem.

Location: Site access.

Summary: Westbound HGV egress does not allow for two way working for large vehicles potentially leading to shunt or head on type collisions.

The proposed access swept path analysis shows a vehicle both egressing and accessing the proposed junction from the west. This location does not support the two-way movements of HGV's and this movement may in turn lead to head on or shunt type collisions between vehicles.

Recommendation:

It is recommended that all HGV access should be controlled such that opposing vehicles meet to the east of the access junction.

2.3 Problem.

Location: Site haul road.

Summary: There is no tolerance for HGVs when turning into / out of the site access which may lead to loss of control type collisions.

The vehicle tracking demonstrates no additional tolerance in surfaced width for HGVs at the site access and along the haul road track. This arrangement does not allow any room for manoeuvre along the track and relies on a perfect HGV turn each time. This proposed arrangement may lead to loss of control type collisions.

Recommendation:

It is recommended that the proposed haul road is widened to allow more width for large construction vehicles.

104560-MMD-00-XX-DR-CE-1032-1

2.4 Problem.

Location: Site access.

Summary: At a 9m setback, existing trees may obscure the visibility splay potentially leading to side swipe type collisions.

Onsite observations noted that the presence of existing vegetation may constitute an obstruction to the junction visibility. Obstruction to visibility splays may lead to injudicious vehicle movements at the proposed junction leading to side swipe collisions between vehicles.

Recommendation:

It is recommended that the trees be cut back and maintained as such that it does not pose an obstruction to the visibility splays.

2.5 Problem.

Location: Site access.

Summary: The position of the gate could cause rear end shunts.

The position of the proposed gate is set back 18m and does not allow the largest vehicle (25m) to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed location could leave HGVs overhanging the public highway which may result in shunt / side swipe type collisions.

Recommendation:

It is recommended that the gates are relocated further back into the site such that if a gate is closed for whatever reason, an HGV can still clear the public highway before stopping.

2.6 Problem.

Location: Site haul road.

Summary: There is no tolerance for HGVs when turning into / out of the site access which may lead to loss of control type collisions.

The vehicle tracking demonstrates no additional tolerance in surfaced width for HGVs at the site access and along the haul road track. This arrangement does not allow any room for manoeuvre along the track and relies on a perfect HGV turn each time. This proposed arrangement may lead to loss of control type collisions.

Recommendation:

It is recommended that the proposed haul road is widened to allow more width for large construction vehicles.

2.7 Problem.

Location: Internal site.

Summary: No turning area is provided to allow vehicles to turn and egress the site in a forward gear, may lead to side swipe type collisions.

It is not clear from the supplied drawings whether a construction compound, or similar, will be provided on the site to allow for vehicles to turn within the site, this could compel drivers to reverse from the site onto the public highway which could lead to obscured visibility and side swipe type collisions.

Recommendation:

It is recommended that a turning area for large construction vehicles is provided within the site boundary during the construction works to ensure vehicles can access and egress the site in a forward gear.

104560-MMD-00-XX-DR-CE-1032-2

2.8 Problem.

Location: Proposed site access.

Summary: The level difference between the carriageway and site could result in loss of control or side swipe type collisions.

Onsite observations found that there was a difference in levels between the existing carriageway and the new access. An excessive gradient may create difficulty for large construction vehicles wishing to access Lodge Lane and may in turn lead to a lack of surface friction and slow egress movements potentially creating shunt / side swipe type collisions between egressing construction vehicles and vehicles travelling on Bentley Road.

Recommendation:

It is recommended that the existing gradient be amended to an appropriate level for the restart movements of large vehicles accessing Bentley Road from the proposed site.

3.0 Audit Team Statement

3.1 We certify that this Audit has been carried out in accordance with the requirements of GG119.

Road Safety Audit Team Leader

Name: [redacted]

Signed:
Position: Principal Transport Planner
Organisation: SLR Consulting Ltd
Date: 27 November 2023

Road Safety Audit Team Member

Name: [redacted]

Signed:

Position: Head of Road Safety
Organisation: SLR Consulting Ltd
Date: 27 November 2023

Appendix A Site Location Plans

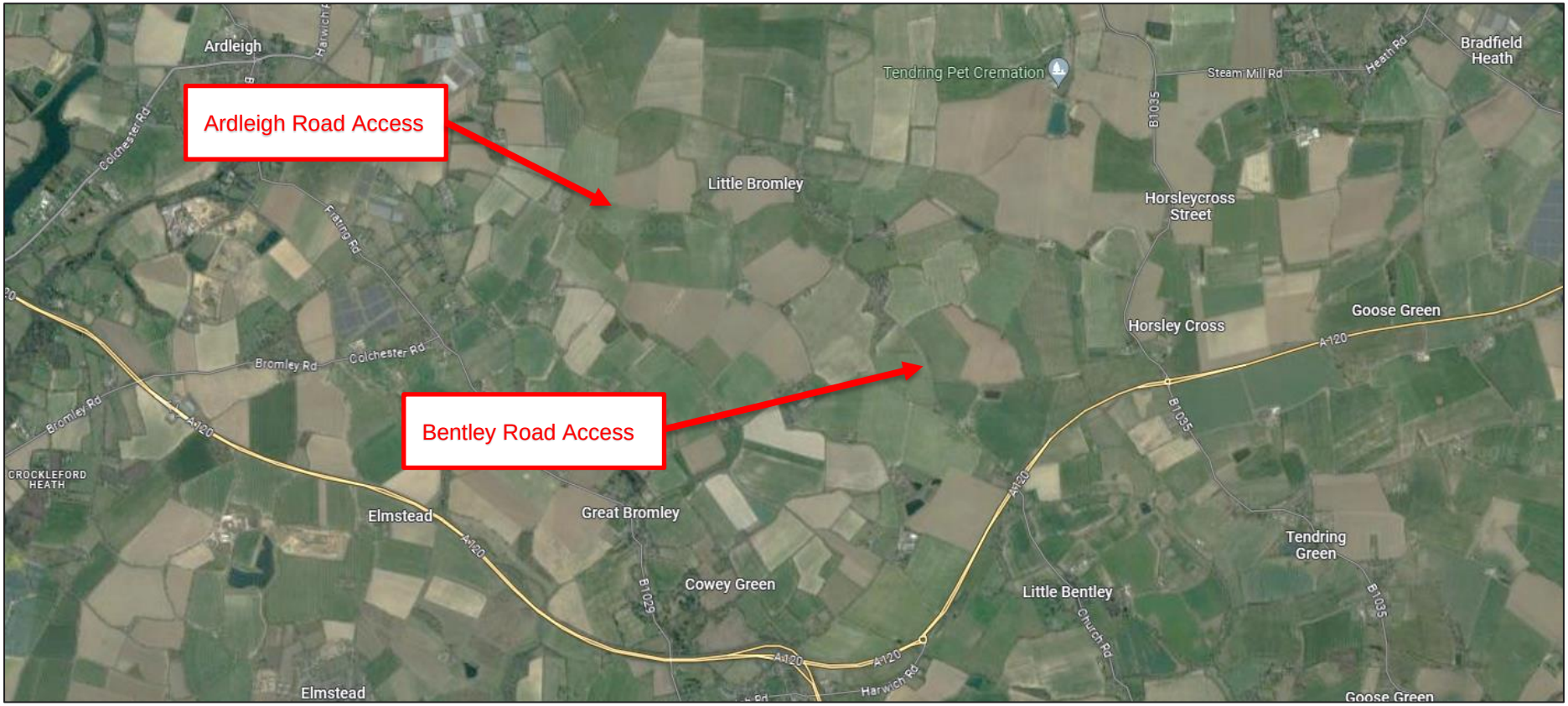
Stage 1 Road Safety Audit

Ardleigh Road / Bentley Road, Five Estuaries Wind Farm

RWE

SLR Project No.: 425.002196.00001

27 November 2023


Ardleigh Road Access
Bentley Road Access
Ardleigh
Tendring Pet Cremation
Steam Mill Rd
Heath Rd
Bradfield Heath
B1035
Colchester Rd
Little Bromley
Horsleycross Street
Horsley Cross
Goose Green
A120
Bromley Rd
Colchester Rd
Frating Rd
CROCKLEFORD HEATH
Elmstead
Great Bromley
Cowey Green
B1029
Little Bentley
Church Rd
Tendring Green
Harwich Rd
Elmstead
Goose Green

Appendix B Submitted Documents

Stage 1 Road Safety Audit

Ardleigh Road / Bentley Road, Five Estuaries Wind Farm

RWE

SLR Project No.: 425.002196.00001

27 November 2023

Submitted Documents

Document	Document Title
Design Drawings	104560-MMD-00-XX-DR-CE-1032-1 004943785-01-MOT - Co-located Substations Early Design – Permanent and Temporary Access Junction with Ardleigh Road 104560-MMD-00-XX-DR-CE-1032-1 104560-MMD-00-XX-DR-CE-1032-2

Appendix C Problem Location Plans

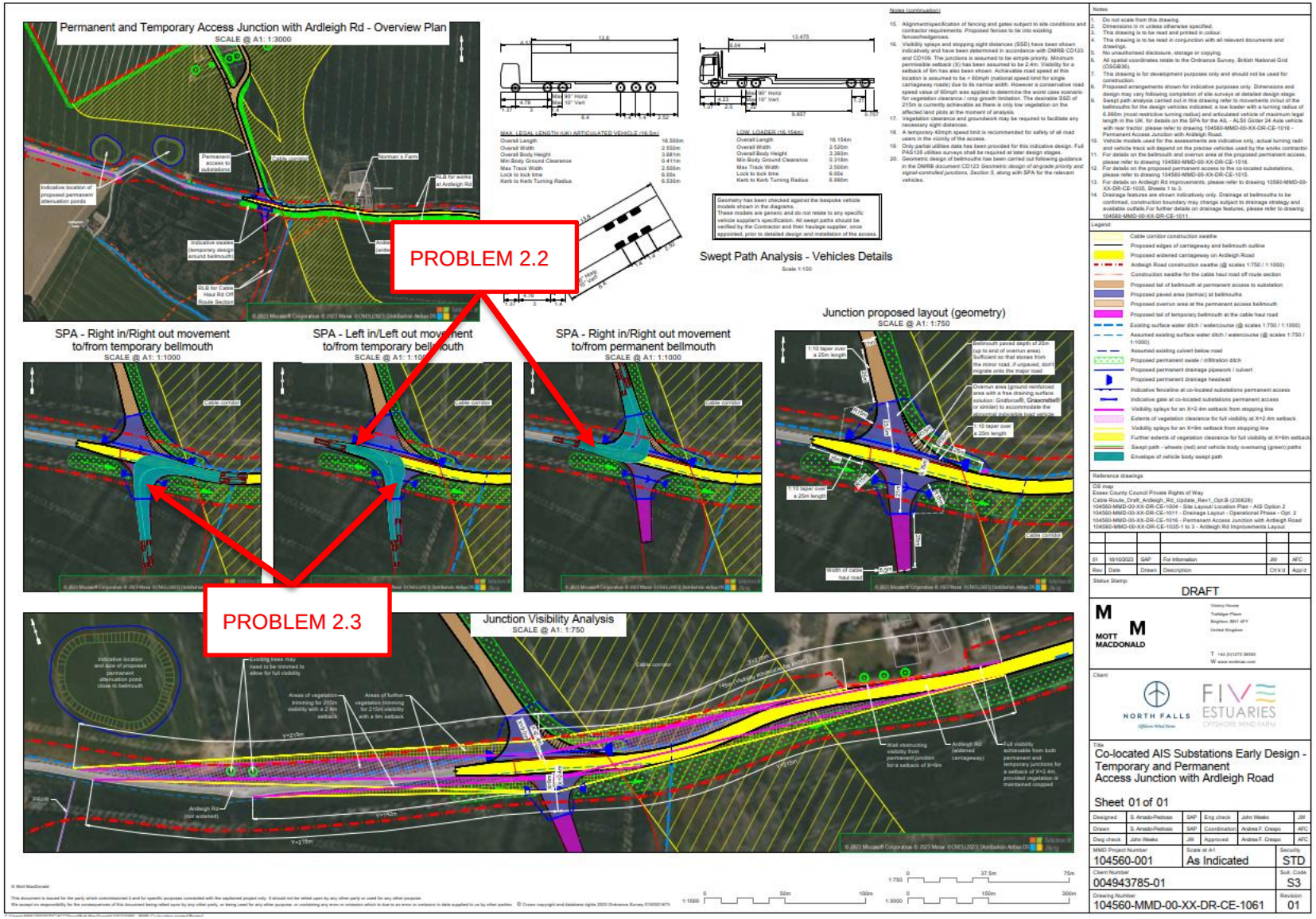
Stage 1 Road Safety Audit

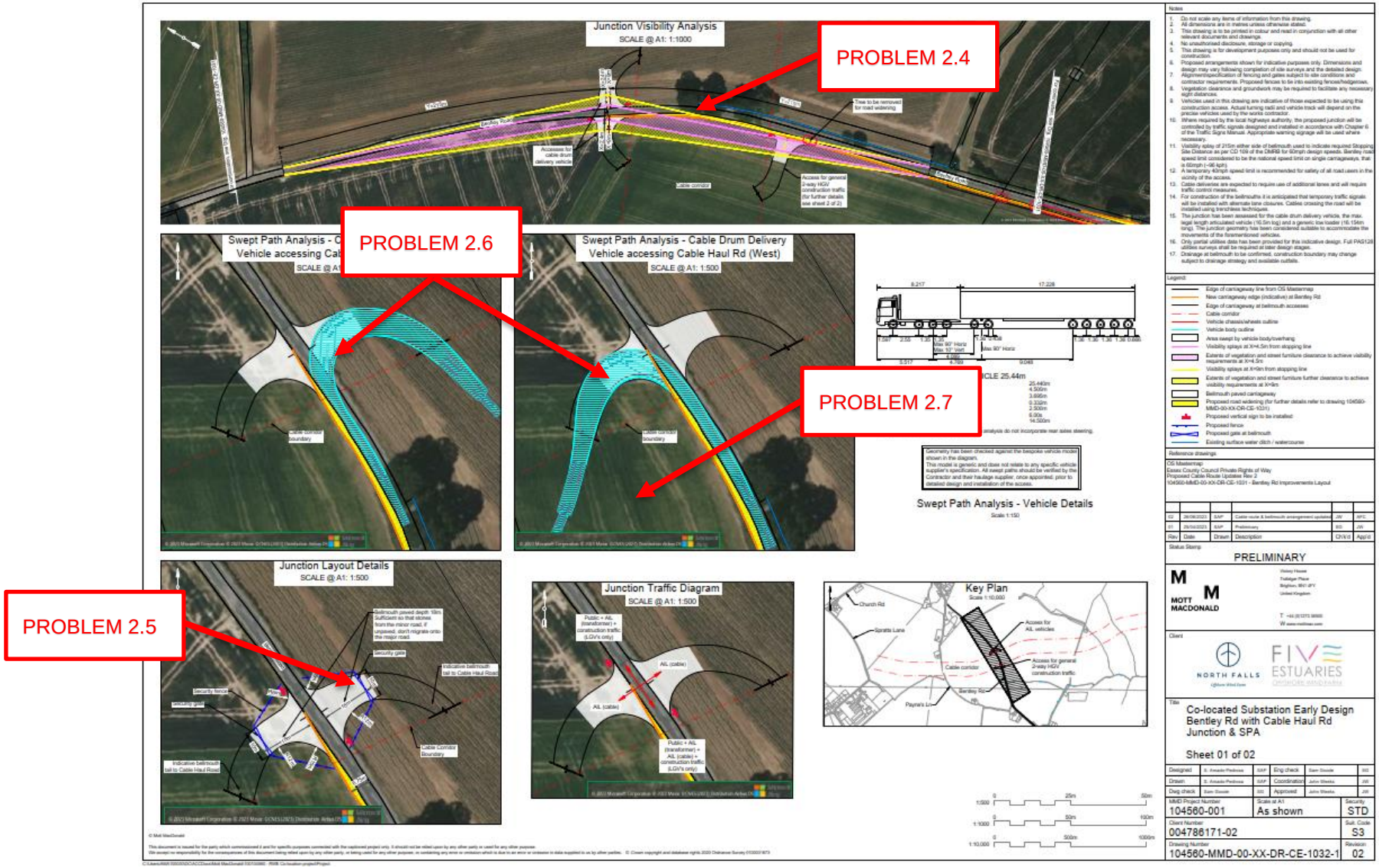
Ardleigh Road / Bentley Road, Five Estuaries Wind Farm

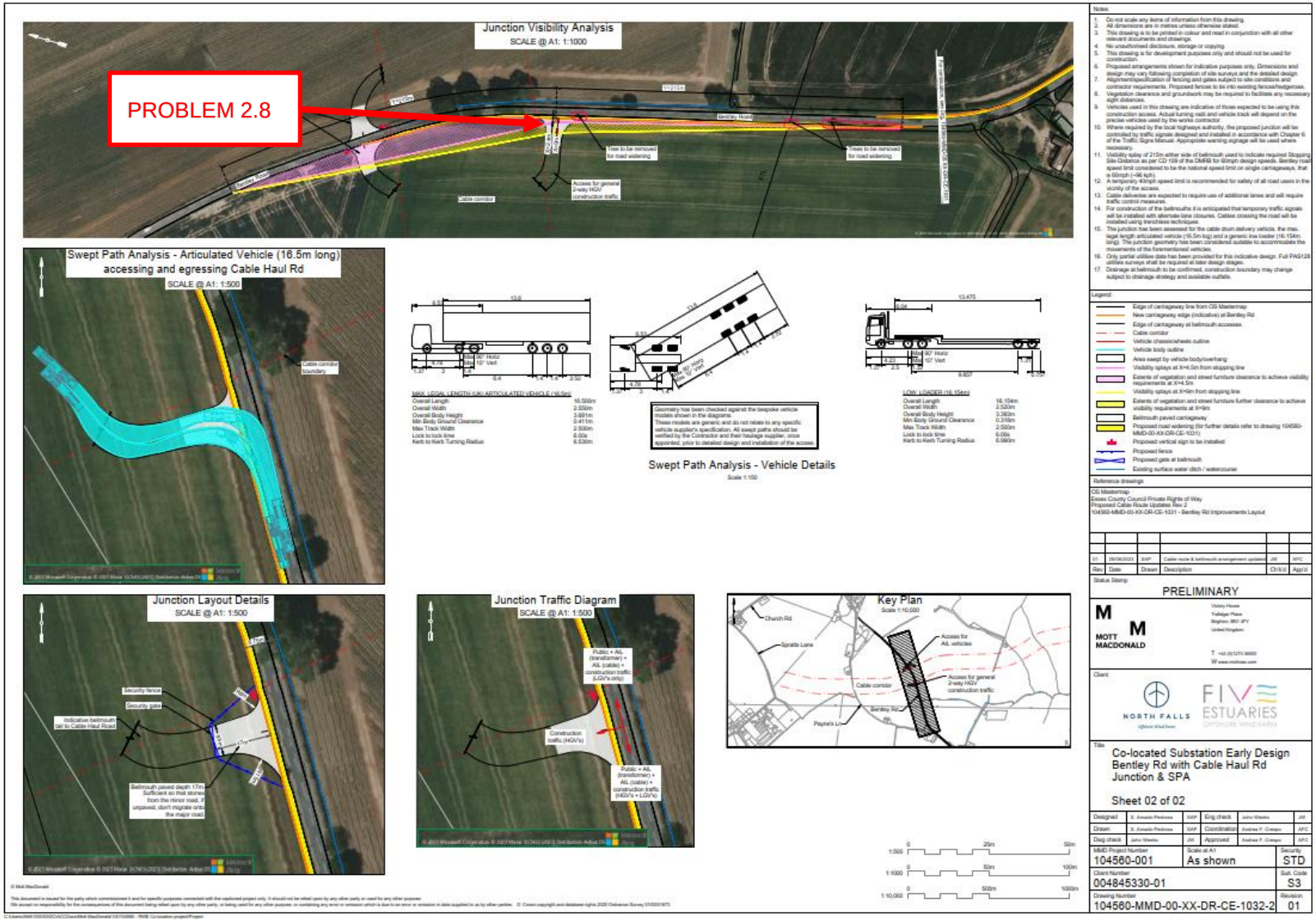
RWE

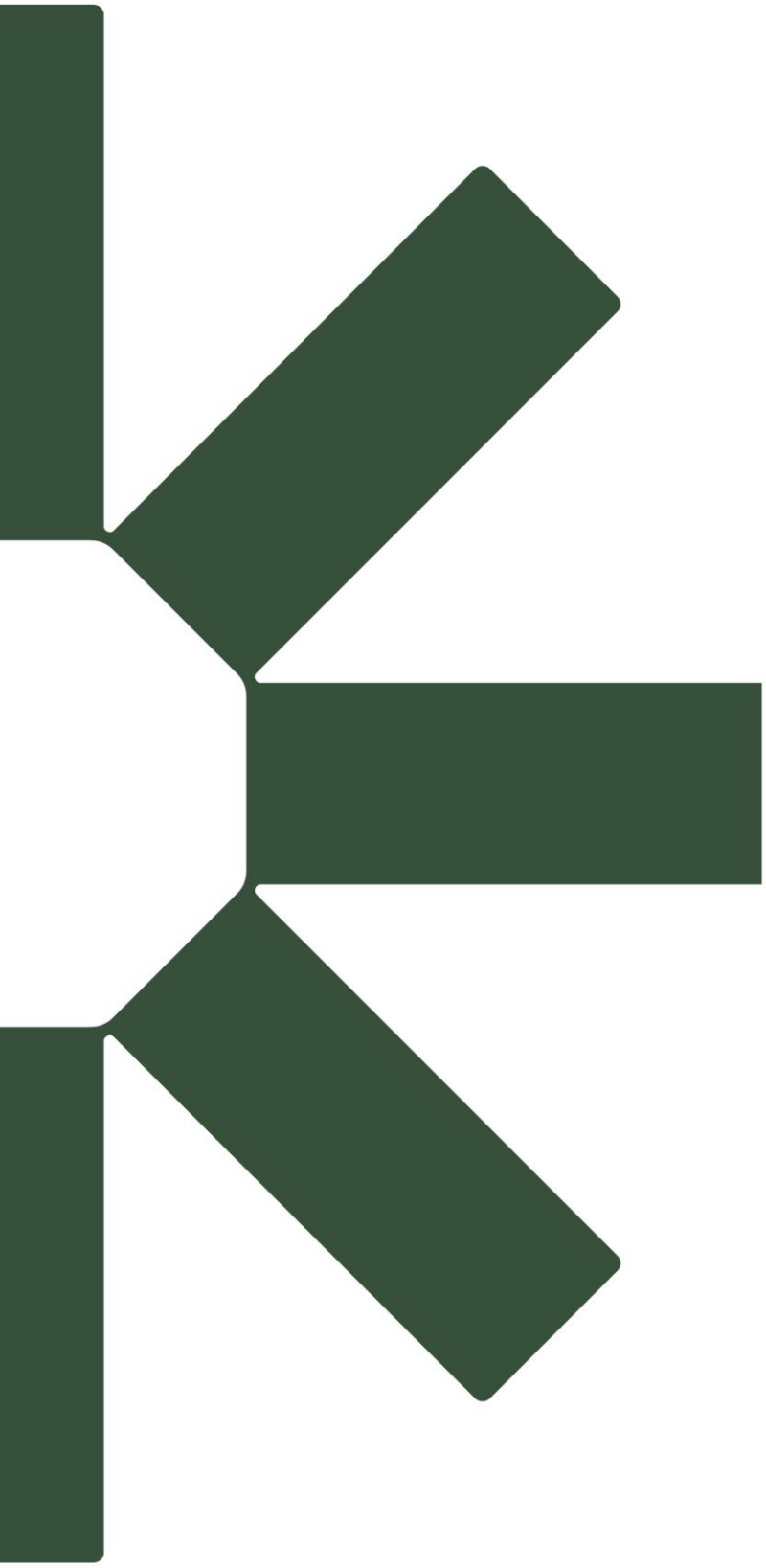
SLR Project No.: 425.002196.00001

27 November 2023


Permanent and Temporary Access Junction with Ardleigh Rd - Overview Plan
SCALE @ A1: 1:3000
PROBLEM 2.2
Swept Path Analysis - Vehicles Details
SPA - Right in/Right out movement to/from temporary bellmouth
SCALE @ A1: 1:1000
SPA - Left in/Left out movement to/from temporary bellmouth
SCALE @ A1: 1:1000
SPA - Right in/Right out movement to/from permanent bellmouth
SCALE @ A1: 1:1000
Junction proposed layout (geometry)
SCALE @ A1: 1:750
PROBLEM 2.3
Junction Visibility Analysis
SCALE @ A1: 1:750
DRAFT
Co-located AIS Substations Early Design - Temporary and Permanent Access Junction with Ardleigh Road
Sheet 01 of 01
104560-001
As Indicated
STD
004943785-01
S3
104560-MMD-00-XX-DR-CE-1061
01


PROBLEM 2.4
PROBLEM 2.6
PROBLEM 2.7
PROBLEM 2.5
Junction Visibility Analysis
SCALE @ A1: 1:1000
Swept Path Analysis - Cable Drum Delivery Vehicle accessing Cable Haul Rd (West)
SCALE @ A1: 1:500
Swept Path Analysis - Vehicle Details
Junction Layout Details
SCALE @ A1: 1:500
Junction Traffic Diagram
SCALE @ A1: 1:500
Key Plan
PRELIMINARY
Co-located Substation Early Design
Bentley Rd with Cable Haul Rd
Junction & SPA
Sheet 01 of 02
104560-001
As shown
STD
004786171-02
S3
104560-MMD-00-XX-DR-CE-1032-1
02


PROBLEM 2.8
Junction Visibility Analysis
SCALE @ A1: 1:1000
Swept Path Analysis - Articulated Vehicle (16.5m long) accessing and egressing Cable Haul Rd
SCALE @ A1: 1:500
Swept Path Analysis - Vehicle Details
Junction Layout Details
SCALE @ A1: 1:500
Junction Traffic Diagram
SCALE @ A1: 1:500
Key Plan
PRELIMINARY
Co-located Substation Early Design
Bentley Rd with Cable Haul Rd
Junction & SPA
Sheet 02 of 02
104560-001
As shown
STD
004845330-01
S3
104560-MMD-00-XX-DR-CE-1032-2
01



Making Sustainability Happen

Contractor Coversheet

Project Name:	FE_NF_Mott Macdonald Co-Located Substation Studies	**Package No:**	PROJECTCODE 12 - Electrical Systems

Document Title:	Co-located AIS Substations Early Design - Ardleigh Road Junction - Audit Response Report
Classification:	Confidential

Contractor Doc. No:	104560-MMD-00-XX-RP-HE-1062	**Contractor Revision:**	01
Date:	20/12/2023	**Pages:**	17

Employer Doc. No:	005014244 -01	**Employer Revision:**	NA
Document Status:	Preliminary		
Reason for Issue	Review		

MOTT MACDONALD

Co-Located Substation Early Design - Ardleigh Road Junction

Stage 1 RSA Designer's Response

December 2023

Confidential

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Mott MacDonald
Victory House
Trafalgar Place
Brighton BN1 4FY
United Kingdom

T +44 (0)1273 365000
mottmac.com

Co-Located Substation Early Design - Ardleigh Road Junction

Stage 1 RSA Designer's Response

December 2023

Confidential

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
01	20/12/2023	Sonia A. Pedrosa	John Weeks	Andrea F. Crespo	First Issue for Comment

Document reference: 104560 | 104560-MMD-00-XX-RP-HE-1062 | 01 | 005014244-01

Information class: Standard

Contents

Tables

Figures

Tables – Appendices

1 Introduction

This Road Safety Audit Response Report documents considered responses aligned with road safety 'problems' and 'recommendations' defined through the Stage 1 Road Safety Audit process.

1.1 Overview

This report documents original Stage 1 Road Safety Audit (RSA) 'problems' and 'recommendations' for the Ardleigh Road junction design defined by the SLR Consulting Ltd. Road Safety Audit Team and includes formally considered RSA responses developed by Mott MacDonald Designers.

The audit was carried out by SLR Consulting Ltd at the request of RWE, the Client and Project Sponsor. The Overseeing Organisation for this Stage 1 is Essex County Council.

The scheme subject to Stage 1 RSA comprises a construction access junction and haul road crossings associated with the installation of an export cable to carry power from a proposed offshore windfarm located off the coast of Essex. This access point and haul road are located on Ardleigh Road, Little Bromley and will be required for a period of approximately 18 months.

The Road Safety Audit was originally carried out with reference to the supplied Road Safety Audit Brief prepared by SLR Consulting Ltd on 13th September 2023 and formally accepted by the Audit Team on the same date. The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard, GG119 Road Safety Audit.

A site visit was undertaken by the Audit Team on Thursday 09th November 2023, between the hours of 14:00 and 14:30. The weather at the time of the visit was overcast and the carriageway surface was generally dry. Vehicular traffic levels were considered to be low. There were no pedestrian and no cyclist movements observed during this time.

The Road Safety Audit comprised an examination of the documentation and drawings listed in **Appendix A**. Accompanying drawings indicating the location of identified safety related issues are provided in **Appendix B** and **C**.

Figure 1.1 shows the location of the accesses included in scheme in a local context.

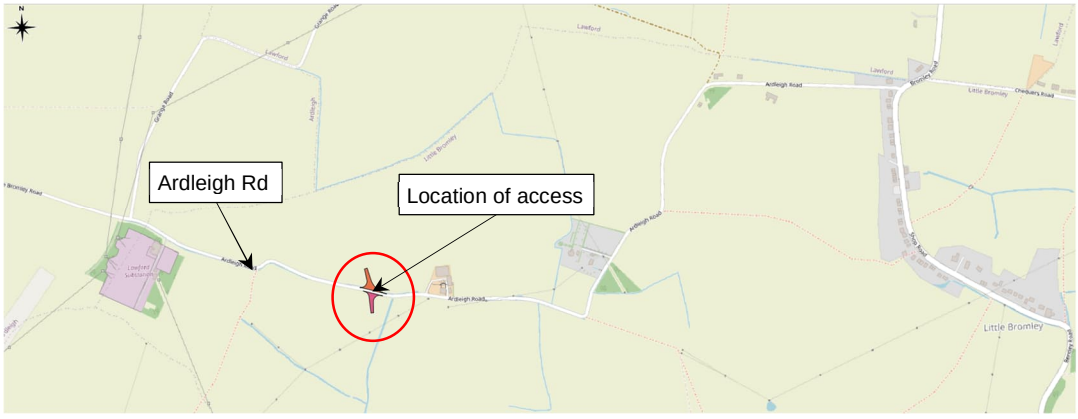


Figure 1.1. Location of the proposed Ardleigh Rd Junction

Source: Mott MacDonald based on OpenStreetMap

1.2 Relevant Parties

Project Sponsor: **RWE**

Client: **RWE**

Designer: **Mott MacDonald**

The Road Safety Audit Team consisted of:

Sasha Respini	BSc (Hons), MSc, MCIHT, MSoRSA Audit Team Leader Principal Transport Planner SLR Consulting Ltd
Alastair Pike	MICE, MCIHT, MSoRSA, HE Approved Cert. Comp. Audit Team Member Head of Road Safety SLR Consulting Ltd

The Road Safety Audit Designer Response has been prepared by:

John Weeks	Design Lead for Bentley Road Improvement Works and Access Junction to the Haul Road, Mott MacDonald
Sonia A. Pedrosa	Design Team Member for Bentley Road Improvement Works and Access Junction to the Haul Road, Mott MacDonald

The client representatives are:

Emmanuelle Bassey	Civil Engineering Lead, RWE
Ian Maclean	Engineering Manager, RWE

1.3 Report Structure

- **Section 2** comprises of a 'Road Safety Audit Decision Log'.
- **Section 3** includes audit response statements.

2 Road Safety Audit Decision Log

This section presents a road safety audit decision log, incorporating ‘Designer Responses’ to all identified problems and recommendations from the Stage 1 RSA; see **Table 2.1**.

Table 2.1: Road Safety Audit Decision Log

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
PROBLEMS IDENTIFIED AND ALIGNED RECOMMENDATIONS FROM STAGE 1 RSA						
Scheme: Ardleigh Road Junction						
Drawing 104560-MMD-00-XX-DR-CE-1061_Rev01						
2.1	Location: Site Access (Temporary Access Junction with Ardleigh Rd) Summary: Overhead cables may lead to damage to infrastructure, vehicles and occupants. Onsite observations noted the presence of overhead cables that cross Ardleigh Road in various locations in the vicinity of the proposed development. The vertical alignment of proposed HGV access movements may lead to damage to infrastructure or damage to vehicles and injury to occupants.	It is recommended that the vertical assessment is carried out for the appropriate vehicle types to ensure no conflict remains.	• RSA problem and recommendation agreed. • This matter will be appraised further as an integral part of the detailed design process, when full PAS128 utilities surveys are to be obtained, and drawings detailing diversion or undergrounding (and/or further measures required) of utilities in the vicinity of the proposed access junction and crossing will be developed to take due account of the safety problem and the aligned recommendation. • A wider utility diversion / undergrounding assessment would need to be carried out by the third party in charge of the Ardleigh Rd improvement works design at the scheme detailed design stage, when full PAS128 utilities surveys shall be completed. Coordination between Mott MacDonald and that third party may be required. • Notes 9 and 19 in drawing 104560-MMD-00-XX-DR-CE-1061_Rev01 are intended to account for this matter: • Note 9. «Proposed arrangements shown for indicative purposes only. Dimensions and design may vary following completion of site surveys at detailed design stage». • Note 19. «Only partial utilities data has been provided for this indicative design. Full PAS128 utilities surveys shall be required at later design stages».	TBC	TBC	This matter will be appraised further as an integral part of the detailed design process, when full PAS128 utilities surveys are to be obtained, and drawings detailing diversion or undergrounding of utilities in the vicinity of the proposed access junction and crossing will be developed to take due account of the safety problem and the aligned recommendation (TBC).
2.2	Location: Site Access (Temporary Access Junction with Ardleigh Rd). Refer to Appendix B. Summary: Westbound HGV egress does not allow for two-way working for large vehicles potentially leading to shunt or head on type collisions. The proposed access swept path analysis shows a vehicle both egressing and accessing the proposed junction from the west. This location does not support the two-way movements of HGV's and this movement may in turn lead to head on or shunt type collisions between vehicles.	It is recommended that all HGV access should be controlled such that opposing vehicles meet to the east of the access junction.	• RSA problem acknowledged but recommendation dismissed due to it being outdated after recent changes to design. • Developers have agreed with third party stakeholders to continue the Ardleigh Rd improvement works (which include carriageway widening) to the west of the Five Estuaries & North Falls co-located substation access (i.e., site access). Ardleigh Rd Junction proposed layout has been updated to adjust to the new proposed edges of carriageway and it is allowing now for HGV two-way movements west of the junction. • RSA problem solved in drawing 104560-MMD-00-XX-DR-CE-1061_Rev02 (refer to Appendix C). Swept path analysis (SPA) at the updated Ardleigh Rd Junction layout shows that there are no issues with two-way movements West of the junction.	TBC	TBC	RSA problem no longer relevant after recent design updates, as shown in drawing 104560-MMD-00-XX-DR-CE-1061_Rev02 (refer to Appendix C). Swept path analysis (SPA) at the updated Ardleigh Rd Junction layout shows that there are no issues with two-way movements West of the junction in latest design anymore (TBC).
2.3	Location: Site Haul Road Access (Temporary Access Junction with Ardleigh Rd). Refer to Appendix B. Summary: There is no tolerance for HGVs when turning into / out of the site access which may lead to loss of control type collisions. The vehicle tracking demonstrates no additional tolerance in surfaced width for HGVs at the site access and along the haul road track. This arrangement does not allow any room for manoeuvre along the track and relies on a perfect HGV turn each time. This proposed arrangement may lead to loss of control type collisions.	It is recommended that the proposed haul road is widened to allow more width for large construction vehicles.	• RSA problem and recommendation acknowledged and partially agreed, since simultaneous HGV access and egress movements from/to either to the West or East of Ardleigh Road are expected to occur on the odd occasion. The majority of HGV movements at the concerned junction are expected to be crossing movements from the cable haul road to the co-located permanent access and vice versa. HGVs working at third party substation development are not expected to be using the co-located substation cable haul road. Current design represents a compromise between safety for manoeuvres, design of bellmouth compliant with standard (CD123, Section 5) and minimisation of total area of bellmouth, along with minimisation of land-take and volumes of material required to construct the junction. • Also, please note that the SPA shown in drawing 104560-MMD-00-XX-DR-CE-1061_Rev01 is not making full use of the junction surface since it is not using the corner taper at the permanent access bellmouth north of Ardleigh Rd. This shall be updated by the designer in drawing 104560-MMD-00-XX-DR-CE-1061_Rev02, showing greater easiness for manoeuvring.	TBC	TBC	Designer to update vehicles swept paths accessing/egressing Ardleigh Rd East leg in drawing 104560-MMD-00-XX-DR-CE-1061_Rev02, making use of the full junction surface so that manoeuvring of vehicles appears less constrained. (TBC)

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
			• Also please note that vehicle models used to perform the SPA (low loaders) are conservative and representing the worst case scenario since they have the greatest requirement for turning radius (6.99m). The overall maximum vehicle width is 2.55m (Max. legal length articulated vehicle), as shown in vehicle details, which means that a two-way movement will need a road width greater than 5.1m. Ardleigh Rd proposed widened carriageway width of 6.5m satisfies this condition although the SPA drawn appears tight in the drawings. We can conclude that if the swept path fits within the carriageway limits with these conservative vehicle models (as it does), room is to be sufficient in reality. • Note 12 in drawing 104560-MMD-00-XX-DR-CE-1061_Rev01 («Vehicle models used for the assessments are indicative only, actual turning radii and vehicle track will depend on the precise vehicles used by the works contractor») and disclaimer shown in Vehicle Details («These models are generic and do not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier, once appointed, prior to detailed design and installation of the access») were included as caveats in relation to this matter.			

3 Audit Response Statements

This section summarises the RSA process status and provides response statements from Mott MacDonald as designers and RWE (as Project Sponsor and Client) consistent with the Design Manual for Roads and Bridges (DMRB) Road Safety Audit guidelines contained within document GG119 Road Safety Audit.

Design Organisation Statement

On behalf of the Design Organisation, we certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Project Sponsor / Client.**	
Name:	John Weeks
Signed:	
Position:	Highways Design Lead
Organisation:	Mott MacDonald
Date:	

Project Sponsor / Client Statement

On behalf of the Project Sponsor / Client I certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Design Organisation; and** **The agreed RSA actions will be progressed.**	
Name:	
Signed:	
Position:	
Organisation:	RWE
Date:	

Appendices

A. Documents and Drawings Referenced

Table A.1: Documents and Drawings Referenced

Ref.	Title	Date
RSA1: 425.002196.00001	Stage 1 Road Safety Audit - Ardleigh Road, Five Estuaries Wind Farm_Rev01	27/11/2023
Design Drawing: 104560-MMD-00-XX-DR-CE-1061_Rev01 (Client No. 004943785-01)	Co-located Substations Early Design – Permanent and Temporary Access Junction with Ardleigh Road_Rev01	18/10/2023
Design Drawing: 104560-MMD-00-XX-DR-CE-1061_Rev02 (Client No. 004943785-02)	Co-located Substations Early Design – Permanent and Temporary Access Junction with Ardleigh Road_Rev02	15/12/2023

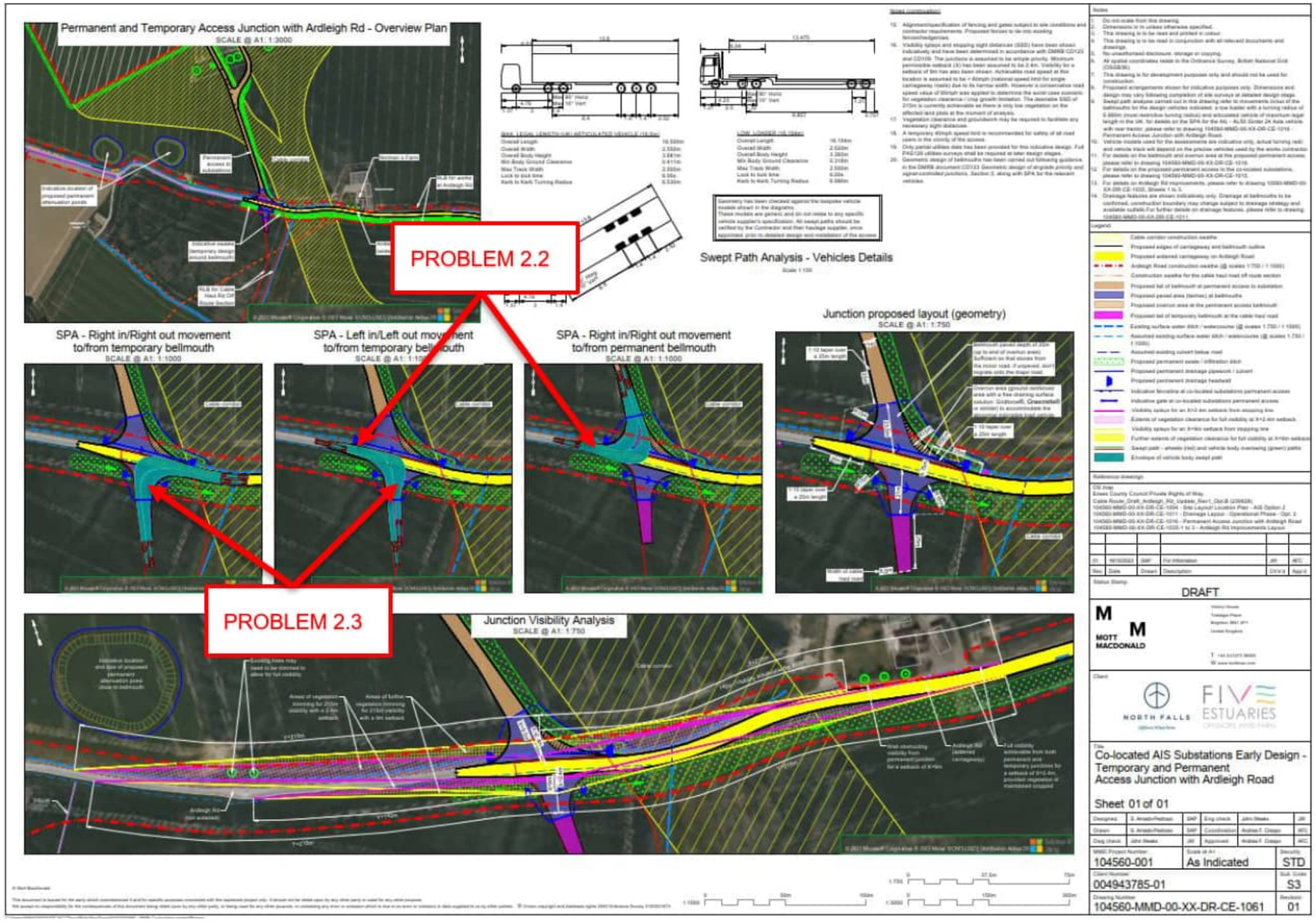
Source: Mott MacDonald

B. Key Plan - Drawing subjected to Stage 1 RSA

Drawing 104560-MMD-00-XX-DR-CE-1061_Rev01

RWE
Stage 1 Road Safety Audit

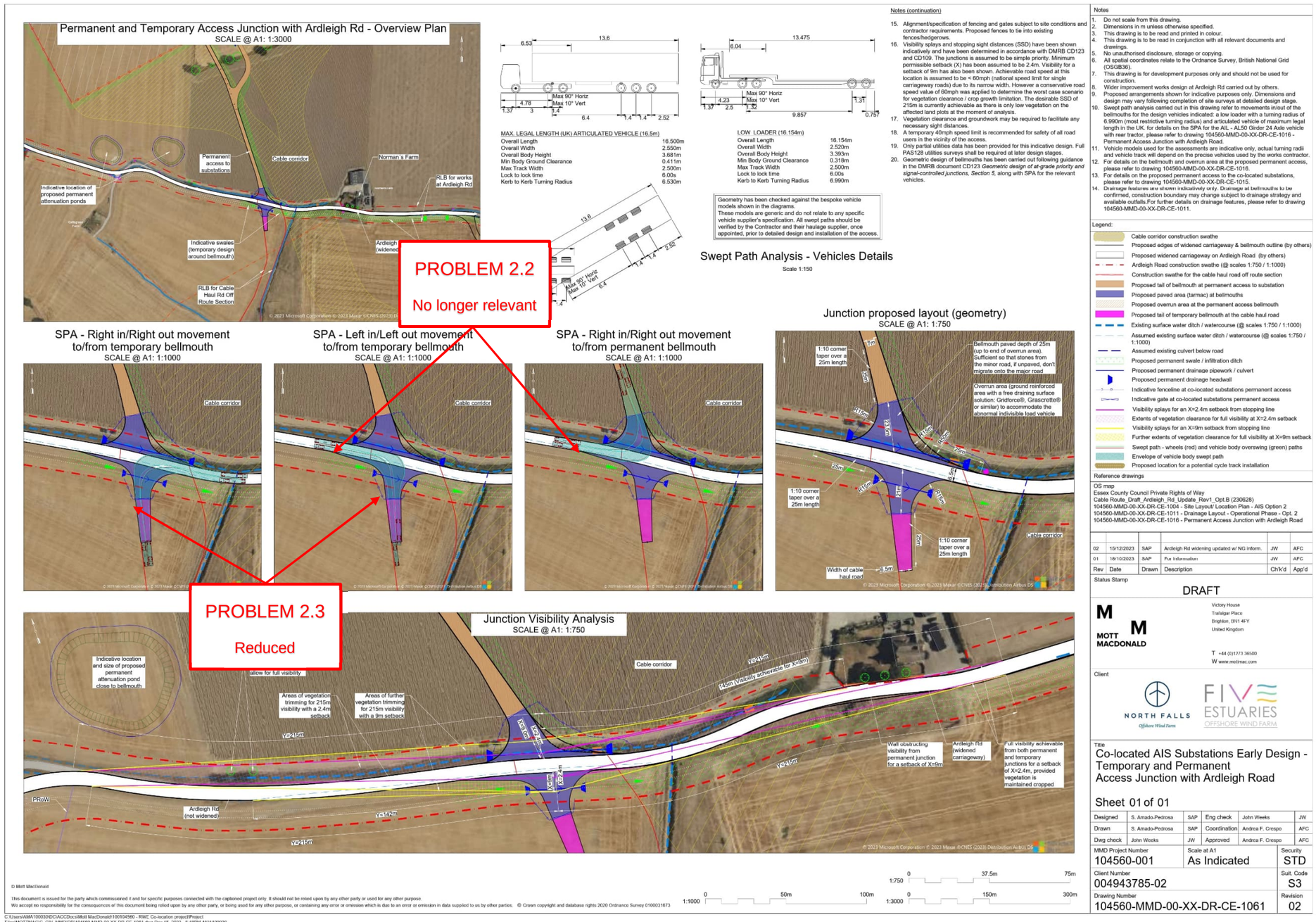
27 November 2023
SLR Project No.: 425.002196.00001



(Source: SLR Consulting, Stage 1 RSA Audit, Problem Location Plan, SLR Project No.:425.002196.00001)

C. Key Plan – Drawing incorporating latest design decisions previous to receiving Stage 1 RSA report

Drawing 104560-MMD-00-XX-DR-CE-1061_Rev02



(Source: Mott MacDonald based on SLR Consulting, Stage 1 RSA Audit, Problem Location Plan, SLR Project No.:425.002196.00001)

Contractor Coversheet

Project Name:	FE_NF_Mott Macdonald Co-Located Substation Studies	**Package No:**	PROJECTCODE 12 - Electrical Systems

Document Title:	Co-located AIS Substations Early Design - Bentley Road Junction - Audit Response Report
Classification:	Confidential

Contractor Doc. No:	104560-MMD-00-XX-RP-HE-1063	**Contractor Revision:**	01
Date:	20/12/2023	**Pages:**	18

Employer Doc. No:	005016415 - 01	**Employer Revision:**	NA
Document Status:	Preliminary		
Reason for Issue	Review		

MOTT MACDONALD

Co-Located Substation Early Design - Bentley Road

Stage 1 RSA Designer's Response

December 2023

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Mott MacDonald
Victory House
Trafalgar Place
Brighton BN1 4FY
United Kingdom

T +44 (0)1273 365000
mottmac.com

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Stage 1 RSA Designer's Response

December 2023

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Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
01	20/12/2023	Sonia A. Pedrosa	John Weeks	Andrea F. Crespo	First Comment for Issue

Document reference: 104560 | 104560-MMD-00-XX-RP-HE-1063 | 01 | 005016415-01

Information class: Standard

Contents

Tables

Figures

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The Road Safety Audit comprised an examination of the documentation and drawings listed in **Appendix A**. An accompanying drawing indicating the location of identified safety related issues is provided in **Appendix B.**

Figure 1.1 shows the location of accesses included in scheme in a local context.

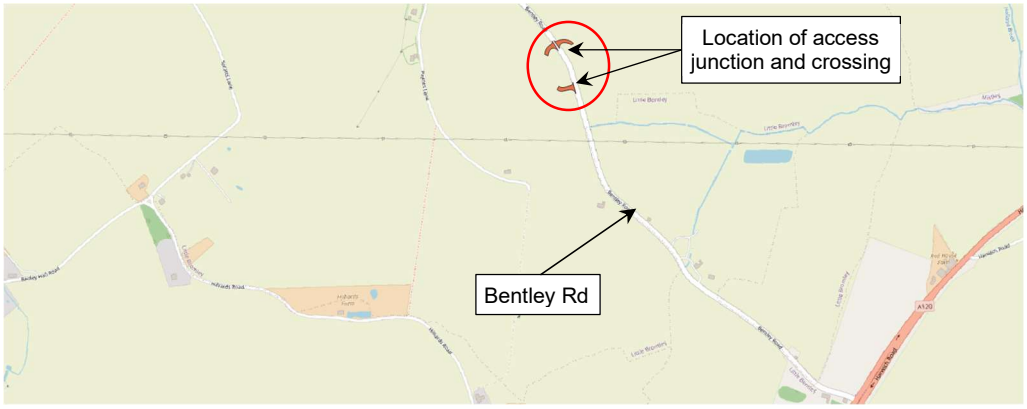

Figure 1.1. Location of the proposed Bentley Rd Junction and crossing
Source: Mott MacDonald based on OpenStreetMap

1.2 Relevant Parties

Project Sponsor: **RWE**

Client: **RWE**

Designer: **Mott MacDonald**

The Road Safety Audit Team consisted of:

Sasha Respini	BSc (Hons), MSc, MCIHT, MSoRSA Audit Team Leader Principal Transport Planner SLR Consulting Ltd
Alastair Pike	MICE, MCIHT, MSoRSA, HE Approved Cert. Comp. Audit Team Member Head of Road Safety SLR Consulting Ltd

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Table 2.1: Road Safety Audit Decision Log

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
PROBLEMS IDENTIFIED AND ALIGNED RECOMMENDATIONS FROM STAGE 1 RSA						
Scheme: Bentley Road Junction and crossing						
Drawing 104560-MMD-00-XX-DR-CE-1032-1_Rev02						
2.1	Location: Site Access (Temporary Access Junction with Bentley Rd). Refer to Appendix B. Summary: At a 9m setback, existing trees may obscure the visibility splay potentially leading to side swipe type collisions. Onsite observations noted that the presence of existing vegetation may constitute an obstruction to the junction visibility. Obstruction to visibility splays may lead to injudicious vehicle movements at the proposed junction leading to side swipe collisions between vehicles.	It is recommended that the trees be cut back and maintained as such that it does not pose an obstruction to the visibility splays.	• RSA problem and recommendation acknowledged but not agreed since it is not considered that these trees have an impact on the visibility clearance areas. The visibility splay with a 9m setback on the eastern side of Bentley Rd (northern side of Bentley Rd on drawing 104560-MMD-00-XX-DR-CE-1032-1) only captures a small area of road verge west of these existing trees, to run across the road to the other verge side west of Bentley Rd (South of Bentley Rd in drawing 104560-MMD-00-XX-DR-CE-1032-1). Cutting back or trimming the trees will not produce any changes to visibility. Trees are located on the southeast of the road and will cast shadow during most part of the day unless they are totally cut. • In drawing 104560-MMD-00-XX-DR-CE-1031-3 for the same scheme (refer to Appendix C in this document), it is indicated the trimming of these existing trees to facilitate passage of vehicles, which will also help with general visibility. • No designer action proposed.	TBC	TBC	No action (TBC).
2.2	Location: Site Access (Temporary Haul Road crossing at Bentley Rd). Refer to Appendix B. Summary: The position of the gate could cause rear end shunts. The position of the proposed gate is set back 18m and does not allow the largest vehicle (25m) to fully clear the main carriageway when waiting. There is no detail provided that shows the proposed operation of the gate features. Should they be closed for any reason their proposed location could leave HGVs overhanging the public highway which may result in shunt / side swipe type collisions.	It is recommended that the gates are relocated further back into the site such that if a gate is closed for whatever reason, an HGV can still clear the public highway before stopping.	• RSA problem and recommendation agreed. • Design drawing will be amended in accord.	TBC	TBC	Design drawing will be amended consistent with RSA recommendation (TBC).
2.3	Location: Site Haul Road Access (Temporary Access Junction with Bentley Rd). Refer to Appendix B. Summary: There is no tolerance for HGVs when turning into / out of the site access which may lead to loss of control type collisions. The vehicle tracking demonstrates no additional tolerance in surfaced width for HGVs at the site access and along the haul road track. This arrangement does not allow any room for manoeuvre along the track and relies on a perfect HGV turn each time. This proposed arrangement may lead to loss of control type collisions.	It is recommended that the proposed haul road is widened to allow more width for large construction vehicles.	• RSA problem and recommendation acknowledged but partially agreed since it is not considered to constitute a significant safety concern at this stage for the following reasons: • The turning movements of the cable drum delivery HGV from Bentley Rd onto the cable haul road are expected to occur on the odd occasion. Cable Drum delivery is considered to be a non-Special Order abnormal load movement and will be subject to agreement with the LHA and Police through the ESDAL system, as a controlled movement they will be timed with other deliveries so as not to be impeded. Majority of cable drum delivery HGV movements at the crossing are expected to be crossing movements from the cable haul road on one side of Bentley Rd to the cable haul road on the other side. The current design represents a compromise between safety for manoeuvres, design of bellmouth compliant with standard (CD123, Section 5) and minimisation of total area of bellmouth, along with minimisation of land-take and volumes of material required to construct the junction. • Also please note that the swept path hatched area in drawing 104560-MMD-00-XX-DR-CE-1032-1 corresponds to the vehicle body envelope and not to the vehicle chassis envelope. For clarity, drawing to be updated to show that the hatched area corresponding to the vehicle chassis envelope, instead of the vehicle body	TBC	TBC	• Designer to update vehicle swept path hatched areas to enhance vehicle chassis envelope as well as vehicle body envelope, showing that vehicle turning movements fit within the bellmouth outlines. The chassis envelope line will be brought forward in the drawing for clarity. (TBC)

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
			envelope, fits within the bellmouth outlines. The chassis envelope line will be brought forward in the drawing for clarity. • Also please note that vehicle models used to perform the SPA are conservative and representing a worst case scenario. We can conclude that if the vehicle chassis swept path fits within the carriageway limits with these conservative vehicle models (as it does), room is to be sufficient in reality. • Note 9 in drawing 104560-MMD-00-XX-DR-CE-1032-1_Rev02 («Vehicles used in this drawing are indicative of those expected to be using this construction access. Actual turning radii and vehicle track will depend on the precise vehicles used by the works contractor») and disclaimer shown in Vehicle Details («This model is generic and do not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier, once appointed, prior to detailed design and installation of the access») were included as caveats in relation to this matter.			
2.4	Location: Internal site. Refer to Appendix B. Summary: No turning area is provided to allow vehicles to turn and egress the site in a forward gear, may lead to side swipe type collisions. It is not clear from the supplied drawings whether a construction compound, or similar, will be provided on the site to allow for vehicles to turn within the site, this could compel drivers to reverse from the site onto the public highway which could lead to obscured visibility and side swipe type collisions.	It is recommended that a turning area for large construction vehicles is provided within the site boundary during the construction works to ensure vehicles can access and egress the site in a forward gear	• RSA problem and recommendation acknowledged and partially agreed. • Construction compound areas, which would allow for vehicle turning movements, are shown in drawing 104560-MMD-00-XX-DR-CE-1031-3 for the same scheme (refer to Appendix C in this document). • Drawing 104560-MMD-00-XX-DR-CE-1032-1_Rev02 to be updated to show the construction compound areas for clarity.	TBC	TBC	Designer to update drawing 104560-MMD-00-XX-DR-CE-1032-1_Rev02 to show the construction compound areas for clarity (TBC)
Drawing 104560-MMD-00-XX-DR-CE-1032-2_Rev01						
2.5	Location: Proposed site access. Refer to Appendix B. Summary: The level difference between the carriageway and site could result in loss of control or side swipe type collisions. Onsite observations found that there was a difference in levels between the existing carriageway and the new access. An excessive gradient may create difficulty for large construction vehicles wishing to access Lodge Lane and may in turn lead to a lack of surface friction and slow egress movements potentially creating shunt / side swipe type collisions between egressing construction vehicles and vehicles travelling on Bentley Road.	It is recommended that the existing gradient be amended to an appropriate level for the restart movements of large vehicles accessing Bentley Road from the proposed site	• RSA problem and recommendation agreed. • This matter will be appraised further as an integral part of the detailed design process and drawings developed to take due account of the safety problem and the aligned recommendation.	TBC	TBC	This matter will be appraised further as an integral part of the detailed design process and drawings developed to take due account of the safety problem and the aligned recommendation. (TBC)

3 Audit Response Statements

This section summarises the RSA process status and provides response statements from Mott MacDonald as designers and RWE (as Project Sponsor and Client) consistent with the Design Manual for Roads and Bridges (DMRB) Road Safety Audit guidelines contained within document GG119 Road Safety Audit.

Design Organisation Statement

On behalf of the Design Organisation, we certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Project Sponsor / Client.**	
Name:	John Weeks
Signed:	
Position:	Highways Design Lead
Organisation:	Mott MacDonald
Date:	

Project Sponsor / Client Statement

On behalf of the Project Sponsor / Client I certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Design Organisation; and** **The agreed RSA actions will be progressed.**	
Name:	
Signed:	
Position:	
Organisation:	RWE
Date:	

Appendices

A. Documents and Drawings Referenced

Table A.1: Documents and Drawings Referenced

Ref.	Title	Date
RSA1: 237699	Stage 1 Road Safety Audit - Bentley Road, Five Estuaries Wind Farm_Rev01	13/11/2023
Design Drawing: 104560-MMD-00-XX-DR-CE-1032-1_Rev02 (Client No. 004786171-02)	Co-located Substation Early Design – Bentley Rd with Cable Haul Rd Junction & SPA_Sheet 1 of 2 Rev01	26/06/2023
Design Drawing: 104560-MMD-00-XX-DR-CE-1032-2_Rev1 (Client No. 004845330-01)	Co-located Substation Early Design – Bentley Rd with Cable Haul Rd Junction & SPA_Sheet 2 of 2 Rev01	26/06/2023
Design Drawing: 104560-MMD-00-XX-DR-CE-1031-_Rev3 (Client No. 004786180-03)	Co-located Substation Early Design – Bentley Rd improvement works_Sheet 3 of 3 Rev03	30/11/2023

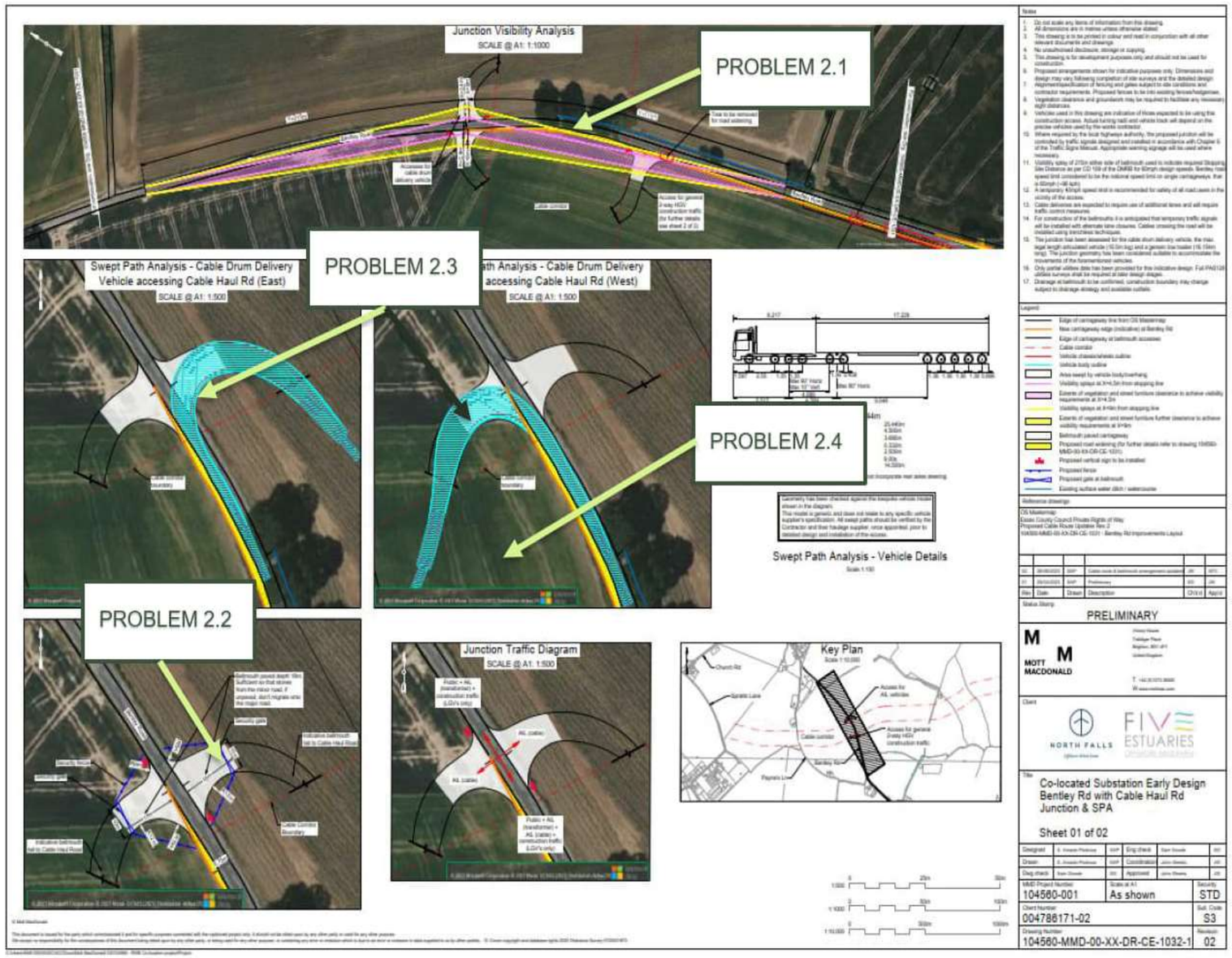
Source: Mott MacDonald

B. Key Plans - Drawings subjected to Stage 1 RSA

Drawing 104560-MMD-00-XX-DR-CE-1032-1_Rev02

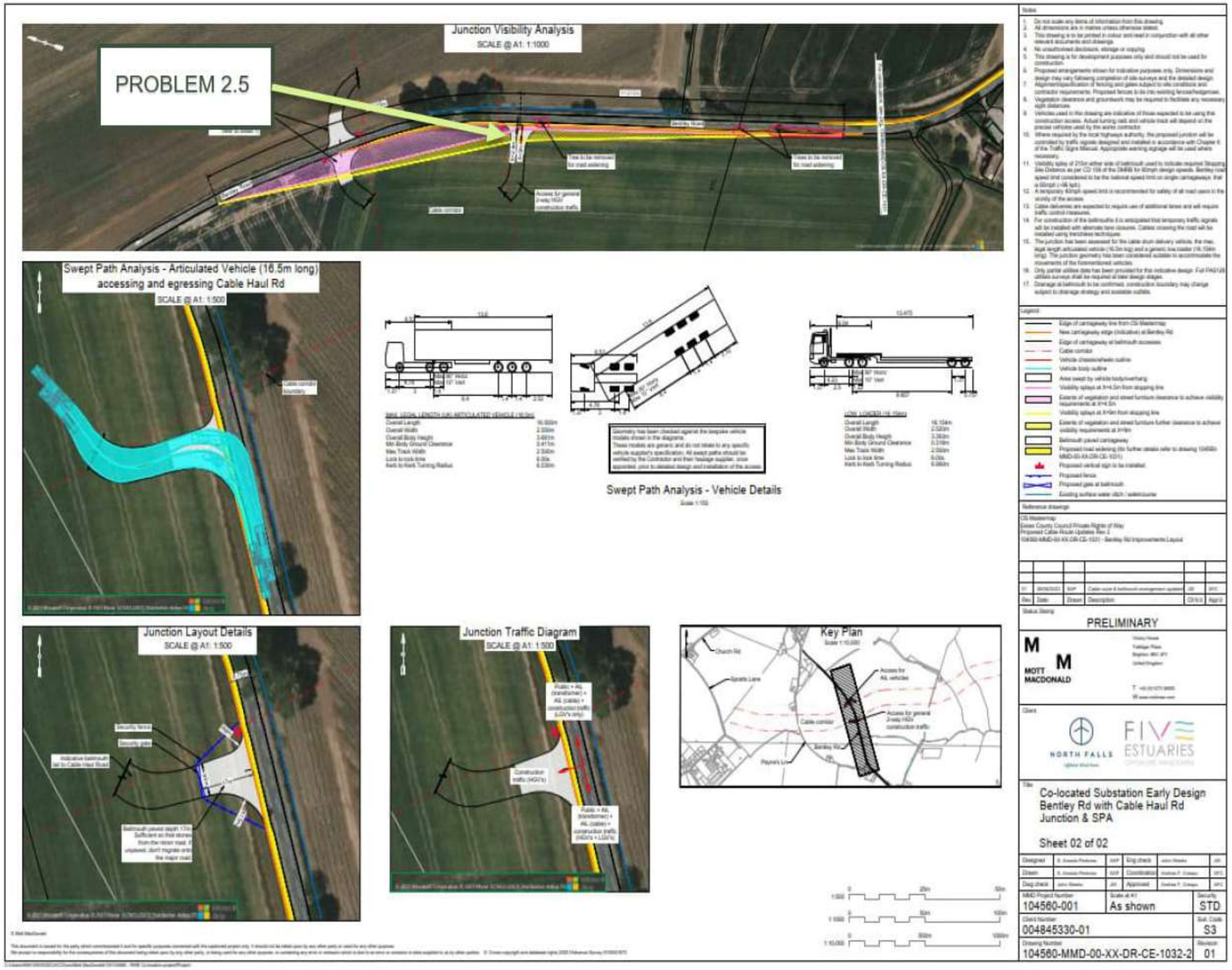
RWE
Stage 1 Road Safety Audit

13 November 2023
SLR Project No.: 237699



(Source: "SLR Consulting, Stage 1 RSA Audit, Problem Location Plan, SLR Project No.:237699")

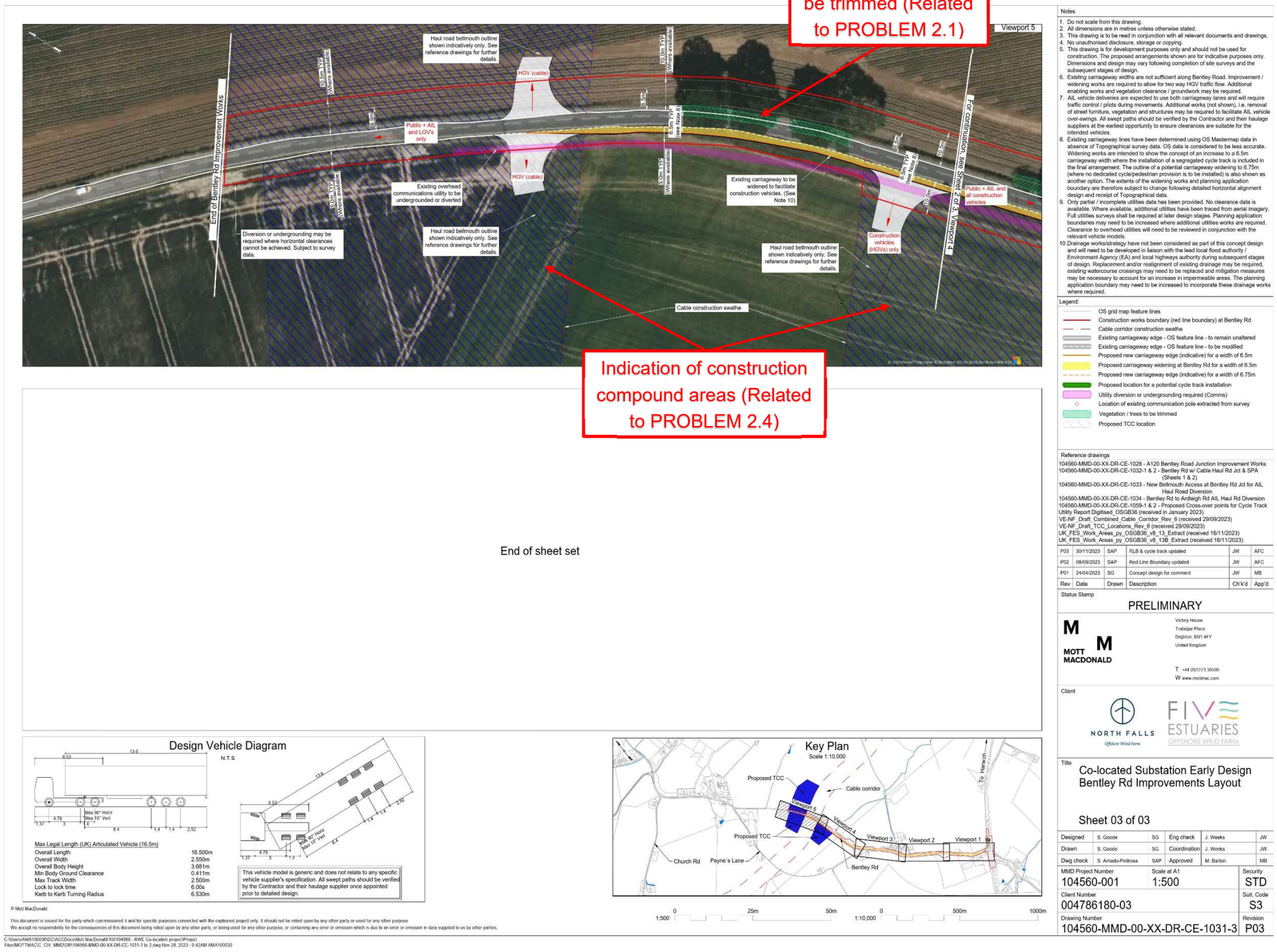
Drawing 104560-MMD-00-XX-DR-CE-1032-2_Rev01



(Source: "SLR Consulting, Stage 1 RSA Audit, Problem Location Plan, SLR Project No.:237699")

C. Additional Key Plans for completeness of information (Not subjected to Stage 1 RSA)

Drawing 104560-MMD-00-XX-DR-CE-1031-3_Rev03



Notes

1. Do not scale from this drawing.
2. All dimensions are in metres unless otherwise stated.
3. This drawing is to be read in conjunction with all relevant documents and drawings.
4. No unauthorised disclosure, storage or copying.
5. This drawing is for development purposes only and should not be used for construction. The proposed arrangements shown are for indicative purposes only. Dimensions and design may vary following completion of site surveys and the subsequent stages of design.
6. Existing carriageway widths are not sufficient along Bentley Road. Improvement / widening works are required to allow for two way HGV traffic flow. Additional enabling works and vegetation clearance / groundwork may be required.
7. AIL vehicle deliveries are expected to use both carriageway lanes and will require traffic control / pilots during movements. Additional works (not shown), i.e. removal of street furniture, vegetation and structures may be required to facilitate AIL vehicle over-swings. All swept paths should be verified by the Contractor and their haulage suppliers at the earliest opportunity to ensure clearances are suitable for the intended vehicles.
8. Existing carriageway lines have been determined using OS Mastermap data in absence of Topographical survey data. OS data is considered to be less accurate. Widening works are intended to show the concept of an increase to a 6.5m carriageway width where the installation of a segregated cycle track is included in the final arrangement. The outline of a potential carriageway widening to 6.75m (where no dedicated cycle/pedestrian provision is to be installed) is also shown as another option. The extents of the widening works and planning application boundary are therefore subject to change following detailed horizontal alignment design and receipt of Topographical data.
9. Only partial / incomplete utilities data has been provided. No clearance data is available. Where available, additional utilities have been traced from aerial imagery. Full utilities surveys shall be required at later design stages. Planning application boundaries may need to be increased where additional utilities works are required. Clearance to overhead utilities will need to be reviewed in conjunction with the relevant vehicle models.
10. Drainage works/strategy have not been considered as part of this concept design and will need to be developed in liaison with the lead local flood authority / Environment Agency (EA) and local highways authority during subsequent stages of design. Replacement and/or realignment of existing drainage may be required, existing watercourse crossings may need to be replaced and mitigation measures may be necessary to account for an increase in impermeable areas. The planning application boundary may need to be increased to incorporate these drainage works where required.

Legend:

- OS grid map feature lines
- Construction works boundary (red line boundary) at Bentley Rd
- Cable corridor construction swathe
- Existing carriageway edge - OS feature line - to remain unaltered
- Existing carriageway edge - OS feature line - to be modified
- Proposed new carriageway edge (indicative) for a width of 6.5m
- Proposed carriageway widening at Bentley Rd for a width of 6.5m
- Proposed new carriageway edge (indicative) for a width of 6.75m
- Proposed location for a potential cycle track installation
- Utility diversion or undergrounding required (Comms)
- Location of existing communication pole extracted from survey
- Vegetation / trees to be trimmed
- Proposed TCC location

Reference drawings

104560-MMD-00-XX-DR-CE-1028 - A120 Bentley Road Junction Improvement Works
104560-MMD-00-XX-DR-CE-1032-1 & 2 - Bentley Rd w/ Cable Haul Rd Jct & SPA (Sheets 1 & 2)
104560-MMD-00-XX-DR-CE-1033 - New Bellmouth Access at Bentley Rd Jct for AIL Haul Road Diversion
104560-MMD-00-XX-DR-CE-1034 - Bentley Rd to Ardleigh Rd AIL Haul Rd Diversion
104560-MMD-00-XX-DR-CE-1059-1 & 2 - Proposed Cross-over points for Cycle Track
Utility Report Digitised_OSGB36 (received in January 2023)
VE-NF_Draft_Combined_Cable_Corridor_Rev_6 (received 29/09/2023)
VE-NF_Draft_TCC_Locations_Rev_6 (received 29/09/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13_Extract (received 16/11/2023)
UK_FES_Work_Areas_py_OSGB36_v8_13B_Extract (received 16/11/2023)

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	30/11/2023	SAP	RLB & cycle track updated	JW	AFC
P02	08/09/2023	SAP	Red Line Boundary updated	JW	AFC
P01	24/04/2023	SG	Concept design for comment	JW	MB

Status Stamp: PRELIMINARY

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 38500
W www.mottmac.com

Client: NORTH FALLS Offshore Wind Farm; FIVE ESTUARIES OFFSHORE WIND FARM

Title: Co-located Substation Early Design
Bentley Rd Improvements Layout

Sheet 03 of 03

Designed	S. Goode	SG	Eng check	J. Weeks	JW
Drawn	S. Goode	SG	Coordination	J. Weeks	JW
Dwg check	S. Amado-Pedrosa	SAP	Approved	M. Barton	MB

MMD Project Number	Scale at A1	Security
104560-001	1:500	STD
Client Number		Suit. Code
004786180-03		S3
Drawing Number		Revision
104560-MMD-00-XX-DR-CE-1031-3		P03

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(Source: "Mott MacDonald")

Contractor Coversheet

Project Name:	FE_NF_Mott Macdonald Co-Located Substation Studies	**Package No:**	PROJECTCODE12 - Electrical Systems

Document Title:	Co-Located Substation Early Design - A120-Bentley Road Junction Stage 1 RSA Designer's Response
Classification:	Confidential

Contractor Doc. No:	104560-MMD-00-XX-RP-HE-1087	**Contractor Revision:**	01
Date:	19/12/2024	**Pages:**	20

Employer Doc. No:	005587690-01	**Employer Revision:**	01
Document Status:	Design		
Reason for Issue	For Review		

MOTT MACDONALD

Co-Located Substation Early Design - A120-Bentley Road Junction

Stage 1 RSA Designer's Response

December 2024

Confidential

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Mott MacDonald
Victory House
Trafalgar Place
Brighton BN1 4FY
United Kingdom

T +44 (0)1273 365000
mottmac.com

Co-Located Substation Early Design - A120-Bentley Road Junction

Stage 1 RSA Designer's Response

December 2024

Confidential

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
01	19/12/2024	Sonia A. Pedrosa	John Weeks	Andrea F. Crespo	First Issue for Comment

Document reference: 104560 | 104560-MMD-00-XX-RP-HE-1087 | 01 | 005587690-01

Information class: Standard

Contents

Tables

Figures

Tables – Appendices

1 Introduction

This Road Safety Audit Response Report documents considered responses aligned with road safety 'problems' and 'recommendations' defined through the Stage 1 Road Safety Audit process.

1.1 Overview

This report documents original Stage 1 Road Safety Audit (RSA) 'problems' and 'recommendations' for the A120-Bentley Road junction design defined by the SLR Consulting Ltd. Road Safety Audit Team and includes formally considered RSA responses developed by Mott MacDonald Designers.

The audit was carried out by SLR Consulting Ltd on behalf of Five Estuaries Offshore Wind Farm Ltd., one of the Project Sponsors. The Overseeing Organisation for this Stage 1 RSA is National Highways.

The scheme subject to Stage 1 RSA comprises the reconditioning of the existing A120-Bentley Rd Junction to enable its use by high volumes of construction traffic due to the works related to the installation of haul roads, an export cable carrying power from a proposed offshore windfarm located off the coast of Essex and the construction of the two associated co-located substations. The A120-Bentley Road junction will undergo a series of improvements with the aim of reducing the detrimental impacts of heavy construction traffic to the Strategic Road Network.

These improvements will remain in place after the substation works have concluded and broadly include:

- the carriageway widening on the northern side of both Bentley Road and the A120,
- the realignment of a section of the Bentley Rd approach/exit arm,
- the installation of a merge lane at the A120 to facilitate vehicles' incorporation,
- the relocation and reconditioning of the existing traffic island at the junction,
- the improvement of the existing NMU track section and its extension along Bentley Rd (and beyond the junction), also implementing a safer cycle cross-over at the junction.

An Audit Brief was prepared by John Weeks of Mott MacDonald on the 1st October 2024, being formally accepted by the Audit Team on the same date. The Road Safety Audit was originally carried out with reference to the supplied Road Safety Audit Brief. The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard, GG119 Road Safety Audit.

A site visit was undertaken by the Audit Team on Thursday 14th November 2024, between the hours of 13:00 and 14:30. The weather at the time of the visit was overcast and the carriageway surface was generally dry. Vehicular traffic levels were considered to be low. There were no pedestrian and no cyclist movements observed during this time.

The Road Safety Audit comprised an examination of the documentation and drawings listed in **Appendix A**. Accompanying drawings indicating the location of identified safety related issues are provided in **Appendix B**.

Figure 1.1 below shows the location of the accesses included in the scheme in a local context.

Figure 1.1. Location of the proposed A120-Bentley Rd Junction

Source: Mott MacDonald based on OpenStreetMap

1.2 Relevant Parties

Project Sponsor: **RWE (Five Estuaries Offshore Wind Farm Ltd.)**

Client: **RWE (Five Estuaries Offshore Wind Farm Ltd.)**

Designer: **Mott MacDonald**

The Road Safety Audit Team consisted of:

Alastair Pike	MICE, MCIHT, MSoRSA, HE Approved Cert. Comp. Audit Team Leader Head of Road Safety SLR Consulting Ltd
Ben Finch	Audit Team Member Senior Transport Planner SLR Consulting Ltd
Ross Corbyn	Audit Team Observer Senior Road Safety Engineer National Highways
Kelly Milburn	Audit Team Observer Spatial Planning Manager National Highways

The Road Safety Audit Designer Response has been prepared by:

John Weeks	Design Lead for the A120-Bentley Road Junction Improvement Works, Mott MacDonald
Sonia A. Pedrosa	Design Team Member for the A120-Bentley Road Junction Improvement Works, Mott MacDonald

The client representatives are:

Emmanuelle Bassey	Civil Engineering Lead, RWE
Alice Maynard	Engineering Manager, RWE

1.3 Report Structure

- **Section 2** comprises of a 'Road Safety Audit Decision Log'.
- **Section 3** includes audit response statements.

2 Road Safety Audit Decision Log

This section presents a road safety audit decision log, incorporating ‘Designer Responses’ to all identified problems and recommendations from the Stage 1 RSA; see **Table 2.1**.

Table 2.1: Road Safety Audit Decision Log

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
PROBLEMS IDENTIFIED AND ALIGNED RECOMMENDATIONS FROM STAGE 1 RSA						
Scheme: A120/Bentley Road Junction						
Drawing 104560-MMD-00-XX-DR-CE-1070_Rev01						
2.1	Location: A120/Bentley Rd Junction. Summary: Lack of hazard warning tactile paving provided at dropped kerbs leading to the NMU route may lead to collisions between NMUs and vehicular traffic. Design drawings show an extension of the NMU route adjacent to the A120. An existing splitter island will be amended with dropped kerbs and road markings to allow NMU users to leave the A120 Northwest bound. This design is not shown complete with hazard warning tactile paving that would alert NMUs particularly those with visual impairments that they are about to enter the vehicular carriageway. This arrangement may in turn lead to collisions between NMUs and vehicular traffic.	It is recommended that any access points to the vehicular carriageway are provided with the appropriate tactile paving installations.	• RSA problem acknowledged but recommendation partially dismissed due to the crossover movement only being allowed to northbound cycles and cycle access points to/from the carriageway not requiring the installation of tactile pavement. • To provide greater clarity to the crossing movements allowed at this crossover point and to improve safety, both for pedestrians and cycles, a segregated shared use section of the NMU track is to be added along the area of concern to direct pedestrians away from the crossover. Tactile pavement is to be installed at the start and end of this segregated shared use section of the NMU track, in line with the Department for Transport document: *Guidance on the Use of Tactile Paving Surfaces,* Section 5. Ladder tactile pavement shall be installed at the start/end of the pedestrian way within the NMU track for a depth of 2.4m each, and width of 1.5m (width of the pedestrian way). Tramline tactile pavement shall be installed at the start/end of the cycle way within the NMU track for a depth of 2.4m each, and width of 2m (width of the cycle way). The ladder and tramline tactile pavement will assist vision impaired people. Diagrams 956 & 957 mounted on bollards and installed at the start/end of the segregated shared use section of the NMU track would also assist all other users. The installation of Diagrams 956 & 957 is a recommendation within *Guidance on the Use of Tactile Paving Surfaces,* Section 5 and LTN 1/20 paragraph 9.4.3, however their installation shall be discussed with the ECC LHA to avoid sign clutter. The segregated shared use NMU track will direct pedestrians away from the crossover point at the junction, greatly reducing the risk of pedestrians trying to cross. It is also proposed that the carriageway at the cycle area of the segregated shared use NMU track is surfaced in a different colour than the rest of the NMU track, to make it more conspicuous to all users. • Additionally, the corner radii at the NMU track leg leading to the trafficked carriageway have been reduced to R=1m and the leg width, to 2.5m, except at the corner radii, to reduce comfort at making the turn. Edge of lane road markings have been proposed at the intersection of this leg with the NMU mainline cycle track and directional arrow road markings to emphasize the one-way character of this cycle track leg. • This matter will be appraised further, in conjunction with the Local Highways Authority, as an integral part of the detailed design process, when bespoke signing and road marking drawings and specifications are to be agreed and produced for the preferred solution.	To be populated by the Audit Team	To be populated by the Client / Project Sponsor	This matter will be appraised further, in conjunction with the Local Highways Authority, as an integral part of the detailed design process, when bespoke signing and road marking drawings and specifications are to be produced for the agreed preferred solution. All measures to increase safety, described at the Design Organisation Response column, to be added to drawing 104560-MMD-00-XX-DR-CE-1070_Rev02.
Drawing 104560-MMD-00-XX-DR-CE-1066_Rev02						
2.2	Location: A120/Bentley Rd Junction. Summary: Overrun of Exceptional 74.720m HGV into NMU corridor. Design drawings show swept path analysis of a multi axle drawbar HGV entering Bentley Road from the A120. The analysis drawing indicates that the body of this exceptional HGV will over sail the new NMU route as the vehicle turns from the A120 onto Bentley Road. This	It is recommended that banks persons are used where HGVs are required to make turns along the route to ensure that pedestrians and vulnerable road users are separated from large vehicle turning movements.	• RSA problem acknowledged and recommendation agreed. • The use of banks persons is implicit within the Temporary Traffic Management measures to be agreed with the Local Highways Authority. These TTM measures shall be detailed at a later stage of the project. • A note specifying the use of banks persons shall be added to drawing 104560-MMD-00-XX-DR-CE-1066_Rev03 for clarity.	To be populated by the Audit Team	To be populated by the Client / Project Sponsor	A note specifying the use of banks persons shall be added to drawing 104560-MMD-00-XX-DR-CE-1066_Rev03 for clarity. TTM measures shall be detailed and agreed with the LHA at a later stage of the project.

Ref.	RSA Problem	RSA Recommendation	Design Organisation Response	Audit Team Supplementary Comment	Client / Project Sponsor Comment	Agreed RSA action
	arrangement may lead to collisions between exceptional HGVs and NMU's on the shared use path.					

3 Audit Response Statements

This section summarises the RSA process status and provides response statements from Mott MacDonald as designers and RWE (as Project Sponsor and Client) consistent with the Design Manual for Roads and Bridges (DMRB) Road Safety Audit guidelines contained within document GG119 Road Safety Audit.

Design Organisation Statement

On behalf of the Design Organisation, we certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Project Sponsor / Client.**	
Name:	John Weeks
Signed:	[redacted]
Position:	Highways Design Lead
Organisation:	Mott MacDonald
Date:	19/12/2024

Project Sponsor / Client Statement

On behalf of the Project Sponsor / Client I certify that: **The RSA actions identified in response to the Road Safety Audit problems in this Road Safety Audit have been discussed and agreed with the Design Organisation; and** **The agreed RSA actions will be progressed.**	
Name:	
Signed:	
Position:	
Organisation:	RWE
Date:	

Appendices

A. Documents and Drawings Referenced

Table A.1: Documents and Drawings Referenced

Ref.	Title	Date
Stage 1 RSA: 402.065339.00001	Stage 1 Road Safety Audit – A120 / Bentley Rd, Five Estuaries Wind Farm_Rev01	20/11/2024
Design Drawing: 104560-MMD-00-XX-DR-CE-1066_Rev02 (Client No. 005108632-02)	Co-located Substations Early Design – A120-Bentley Road Junction – Alternative alignment Swept Path Analysis (SPA)_Rev02	08/03/2024
Design Drawing: 104560-MMD-00-XX-DR-CE-1070_Rev01 (Client No. 005395305-01)	Co-located Substations Early Design – Bentley Rd Improvements – Proposed Cross-over point for the NMU path at the junction for the proposed new Bentley Rd alignment_Rev01	27/09/2024
RSA Brief Document	240118_Bentley Road-A120 Stage 1 RSA Brief	21/08/2024

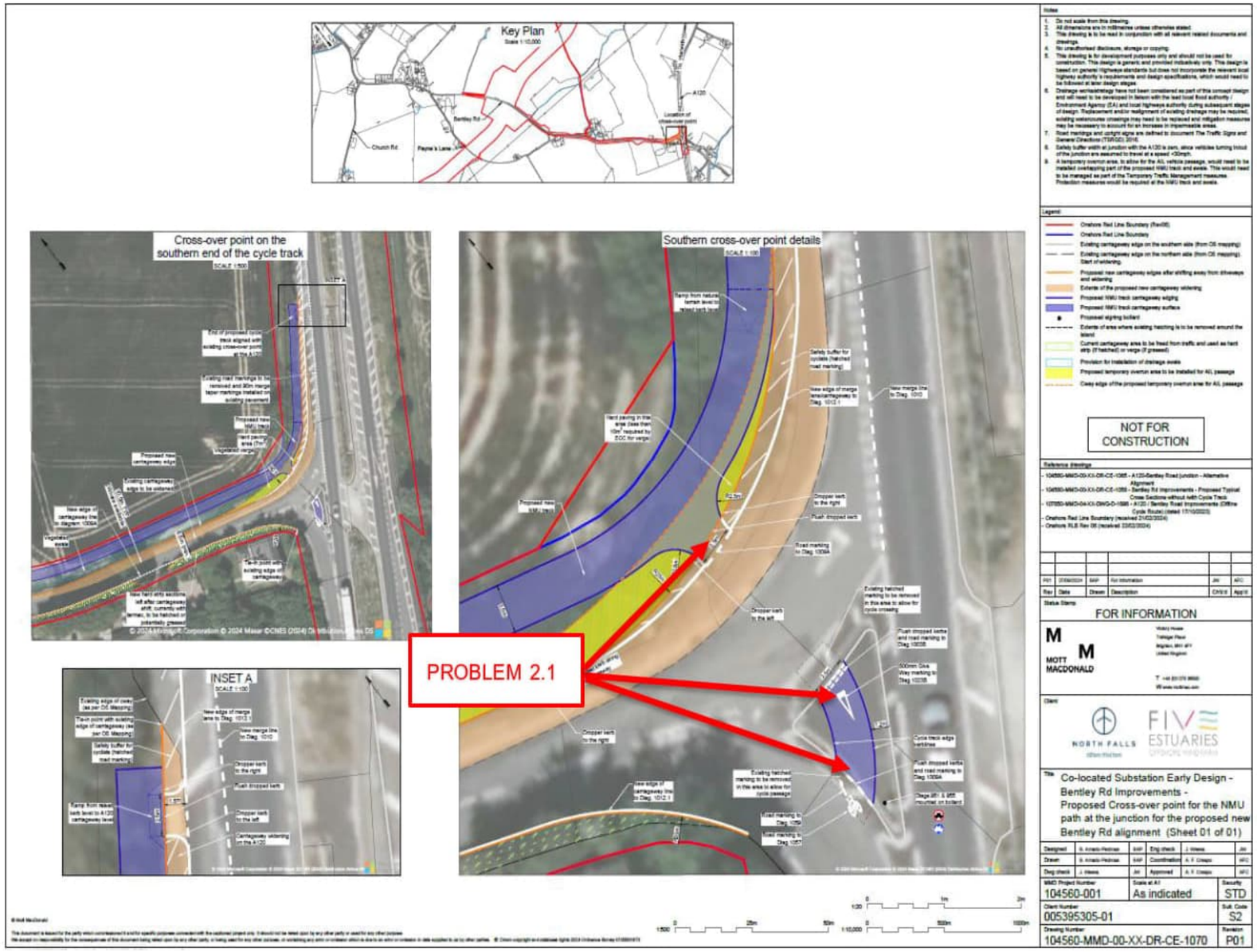
Source: Mott MacDonald

B. Key Plan - Drawing subjected to Stage 1 RSA

Drawing 104560-MMD-00-XX-DR-CE-1070_Rev01

Five Estuaries Offshore Wind Farm
Stage 1 Road Safety Audit

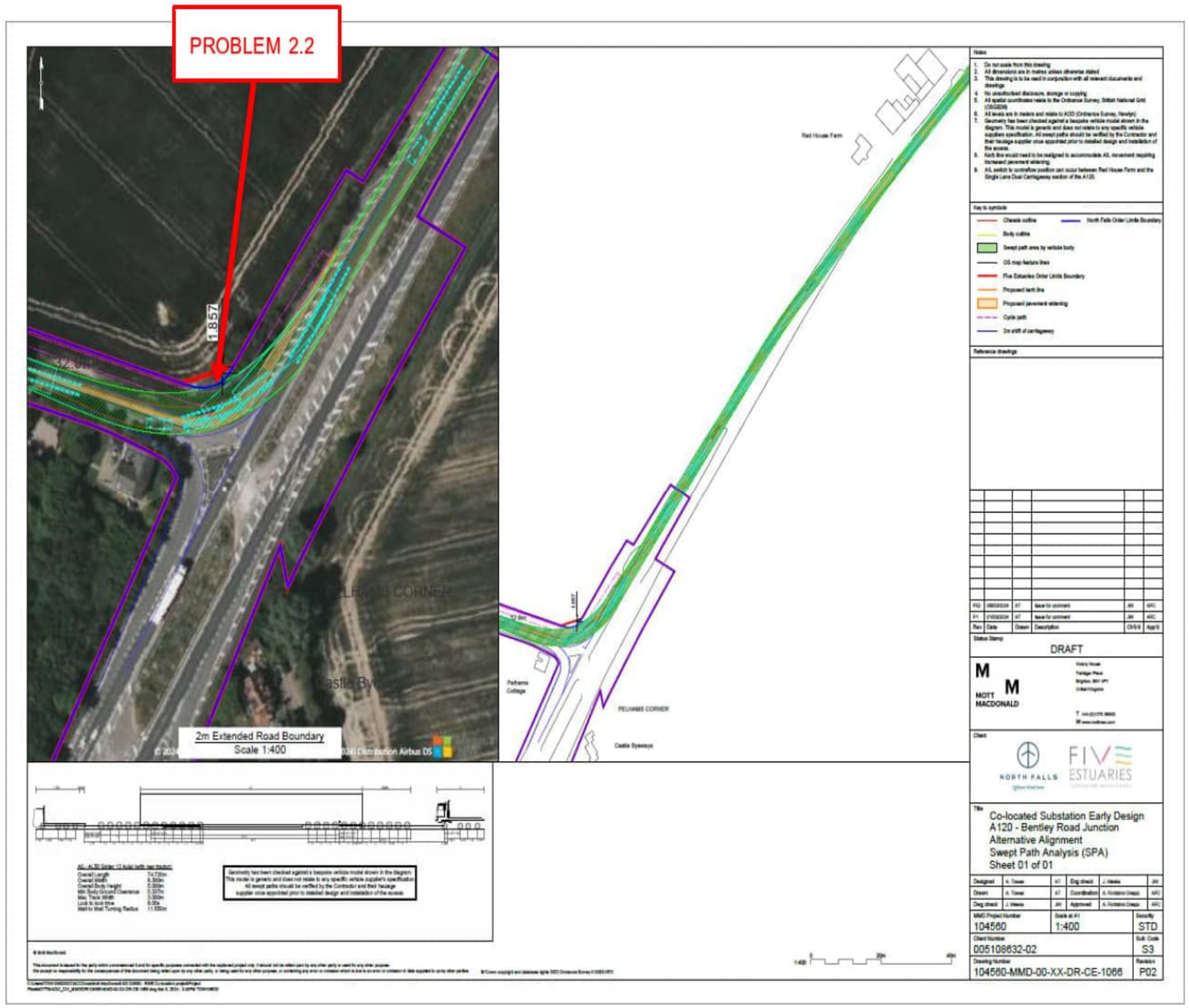
20 November 2024
SLR Project No.: 402.065339.00001



C-1

(Source: SLR Consulting, Stage 1 RSA Audit, Problem Location Plan C-1, SLR Project No.:402.065339.00001)

Drawing 104560-MMD-00-XX-DR-CE-1066_Rev02

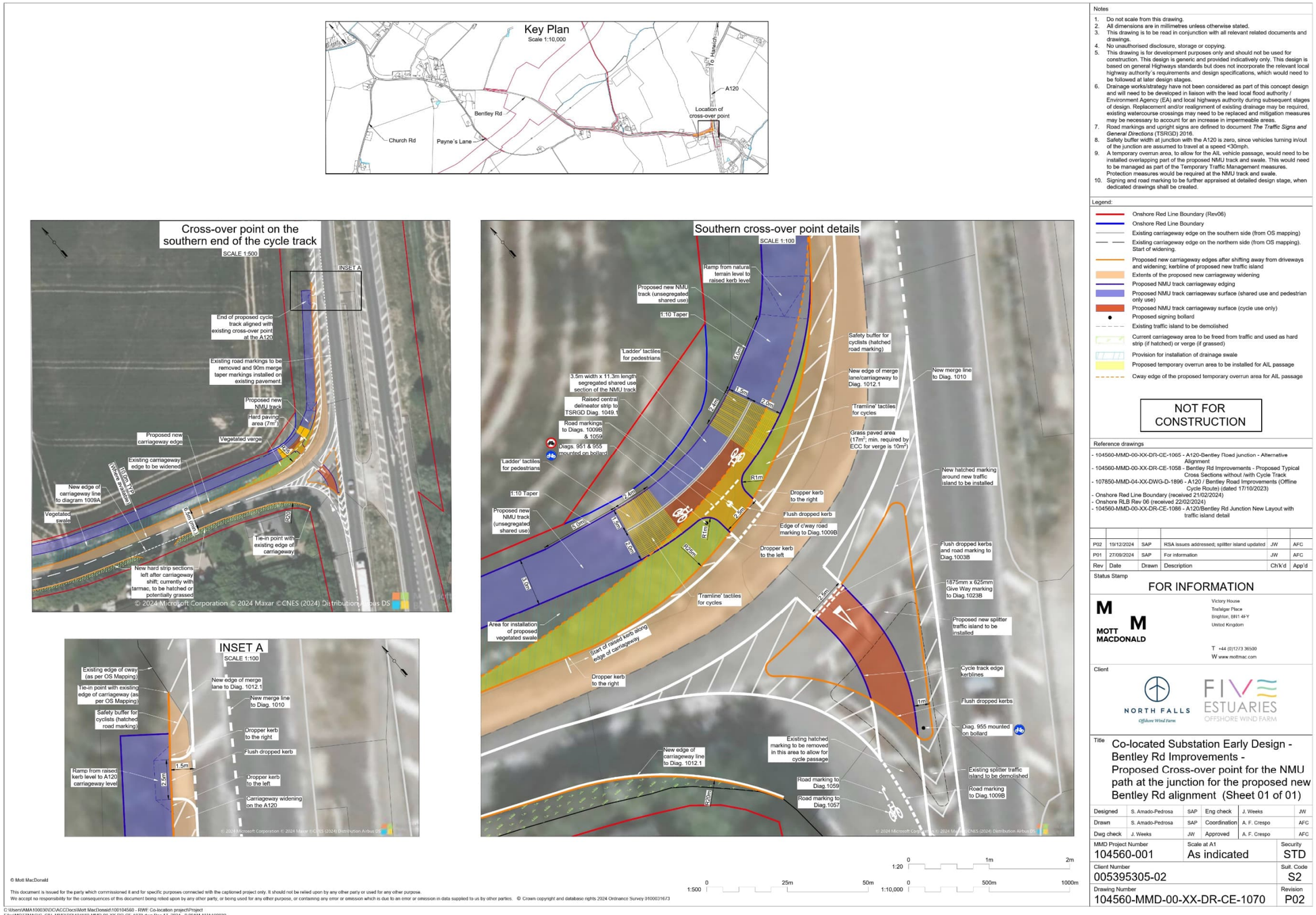


C-2

(Source: SLR Consulting, Stage 1 RSA Audit, Problem Location Plan C-2, SLR Project No.:402.065339.00001)

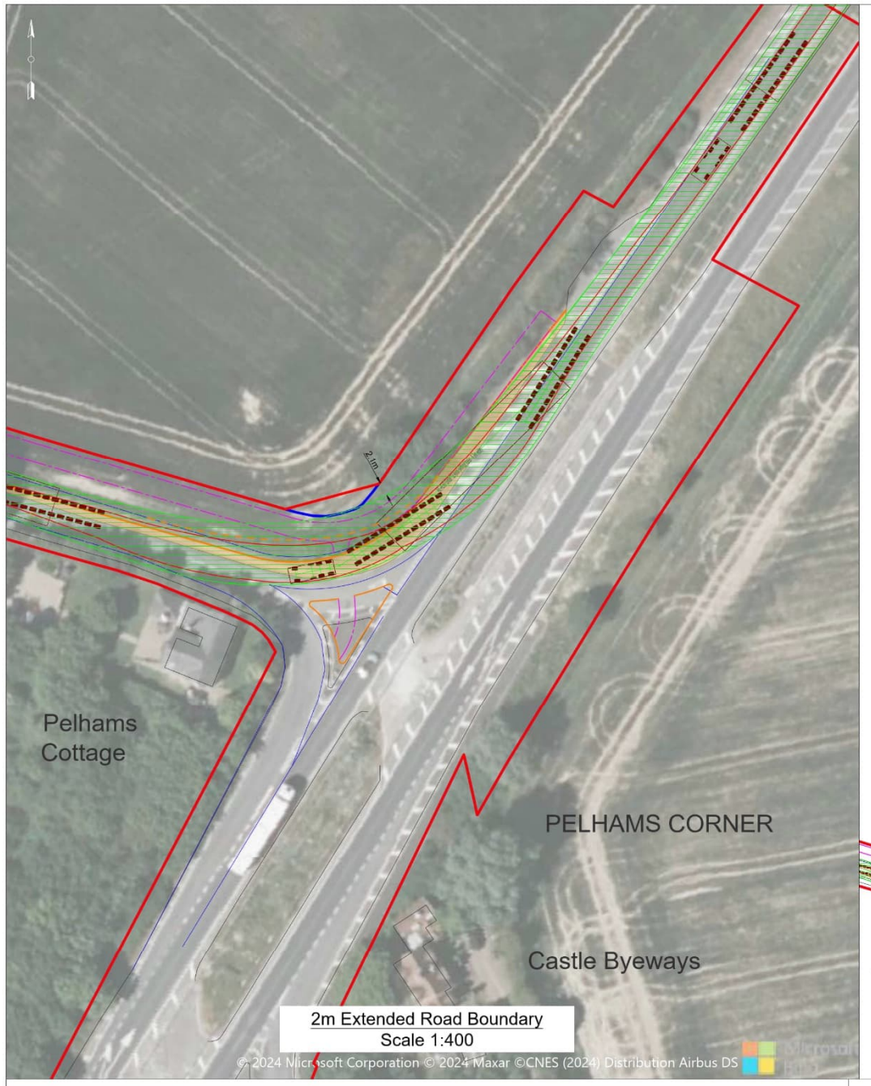
C. Key Plan – Drawings incorporating addressed Stage 1 RSA comments

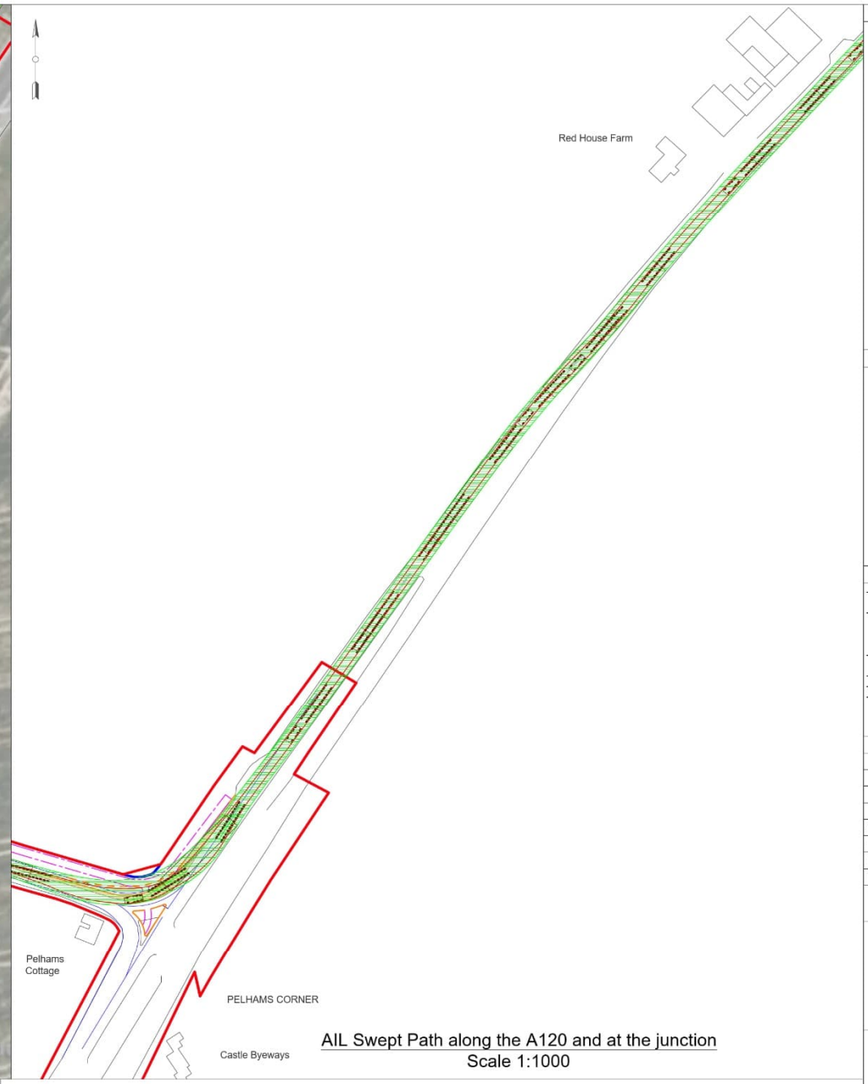
Drawing 104560-MMD-00-XX-DR-CE-1070_Rev02



(Source: Mott MacDonald, Stage 1 RSA Audit Response)

Drawing 104560-MMD-00-XX-DR-CE-1066_Rev03





AIL- AL50 Girder 12 Axial (with rear tractor)

Overall Length	74.720m
Overall Width	6.300m
Overall Body Height	5.000m
Min Body Ground Clearance	0.337m
Max Track Width	3.000m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.550m

Geometry has been checked against a bespoke vehicle model shown in the diagram. This model is generic and does not relate to any specific vehicle supplier's specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design and installation of the access.

Notes

1. Do not scale from this drawing
2. All dimensions are in metres unless otherwise stated
3. This drawing is to be read in conjunction with all relevant documents and drawings
4. No unauthorised disclosure, storage or copying
5. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36)
6. All levels are in meters and relate to AOD (Ordnance Survey, Newlyn)
7. Geometry has been checked against a bespoke vehicle model shown in the diagram. This model is generic and does not relate to any specific vehicle suppliers specification. All swept paths should be verified by the Contractor and their haulage supplier once appointed prior to detailed design and installation of the access.
8. Kerb line would need to be realigned to accommodate AIL movement requiring increased pavement widening.
9. AIL switch to contraflow position can occur between Red House Farm and the Single Lane Dual Carriageway section of the A120.
10. Banks persons shall be used where the AIL is required to make turns along the route to ensure that pedestrians and vulnerable road users are separated from large vehicle turning movements.

Key to symbols

- OS map feature lines
- North Falls Order Limits Boundary
- Five Estuaries Order Limits Boundary
- Chassis outline
- Body outline
- Swept path area by vehicle body
- Proposed kerb line / edge of carriageway
- Proposed overrun area
- Proposed pavement widening
- NMU track
- New edges of carriageway/lane after the 2m shift in front of driveways

Reference drawings

- 104560-MMD-00-XX-DR-CE-1065 - A120-Bentley Road junction - Alternative Alignment
- 104560-MMD-00-XX-DR-CE-1070 - Co-located Substation Early design - Bentley Rd Improvements - Proposed Cross-over point for the NMU path at the junction for the proposed new Bentley Rd alignment
- 107850-MMD-04-XX-DWG-D-1896 - A120 / Bentley Road Improvements (Offline Cycle Route) (dated 17/10/2023)
- Onshore Red Line Boundary (received 21/02/2024)
- Onshore RLB Rev 06 (received 22/02/2024)
- 104560-MMD-00-XX-DR-CE-1086 - A120/Bentley Rd Junction New Layout with traffic island detail

Rev	Date	Drawn	Description	Ch'k'd	App'd
P03	19/12/2024	SAP	RSA issues addressed; splitter island updated	JW	AFC
P02	08/03/2024	AT	Issue for comment	JW	AFC
P1	01/03/2024	AT	Issue for comment	JW	AFC

Status Stamp: FOR REVIEW AND COMMENT

MOTT MACDONALD
Victory House
Trafalgar Place
Brighton, BN1 4FY
United Kingdom
T +44 (0)1273 36500
W www.mottmac.com

Client: NORTH FALLS Offshore Wind Farm; FIVE ESTUARIES OFFSHORE WIND FARM

Title: Co-located Substation Early Design
A120 - Bentley Road Junction
Alternative Alignment
Swept Path Analysis (SPA)
Sheet 01 of 01

Designed	A. Towse	AT	Eng check	J. Weeks	JW
Drawn	A. Towse	AT	Coordination	A. Fontaina Crespo	AFC
Dwg check	J. Weeks	JW	Approved	A. Fontaina Crespo	AFC

MMD Project Number: 104560	Scale at A1: 1:400	Security: STD
Client Number: 005108632-03		Suit. Code: S3
Drawing Number: 104560-MMD-00-XX-DR-CE-1066		Revision: P03

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1:1000 0 50m 100m

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(Source: Mott MacDonald, Stage 1 RSA Audit Response)

NORTH FALLS

Offshore Wind Farm

HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

To contact please email contact@northfallsoffshore.com

North Falls Offshore Wind Farm Limited Registered Address: Windmill Hill Business Park, Whitehill Way, Swindon, Wiltshire, SN5 6PB, United Kingdom

Registered in England and Wales Company Number: 12435947